Schema documentation for PSResource.xsd

march 12, 2012

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Legend: *Import*, *Include*, *Redefine*, *Cycle detected*

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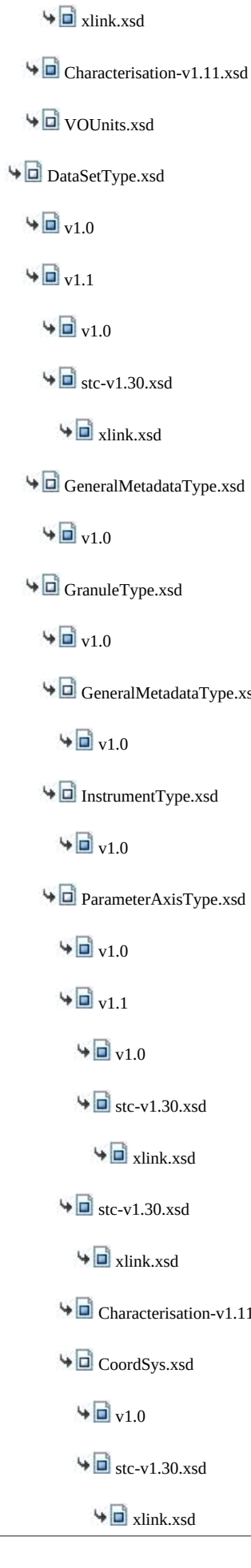
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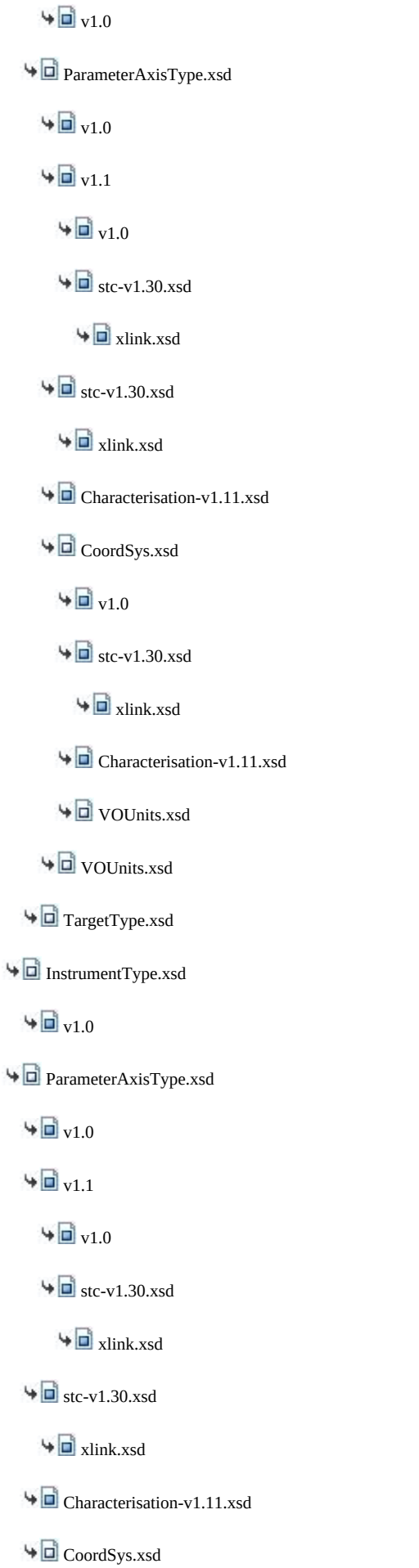
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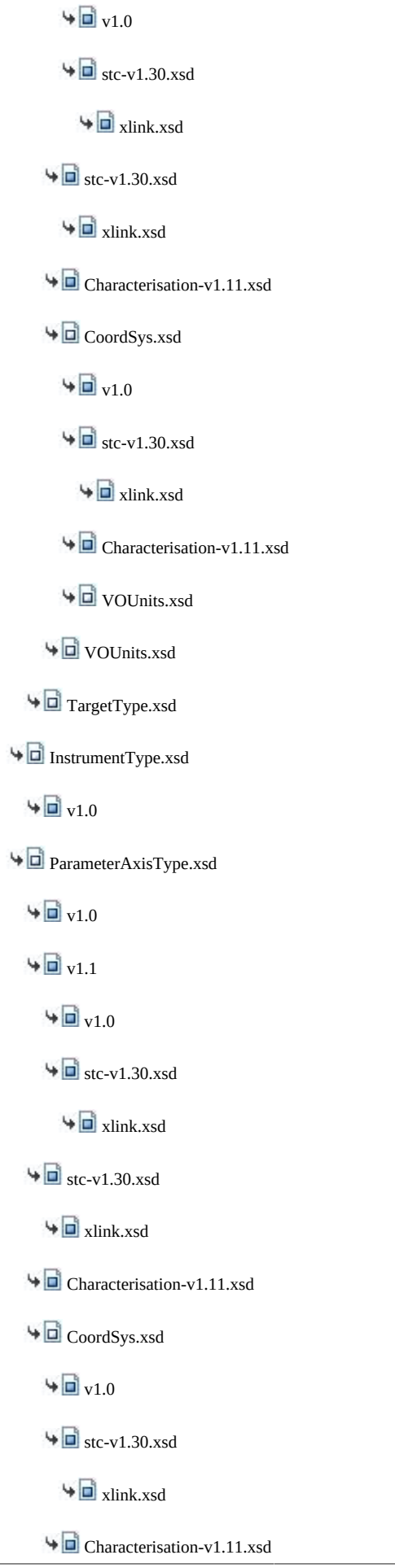
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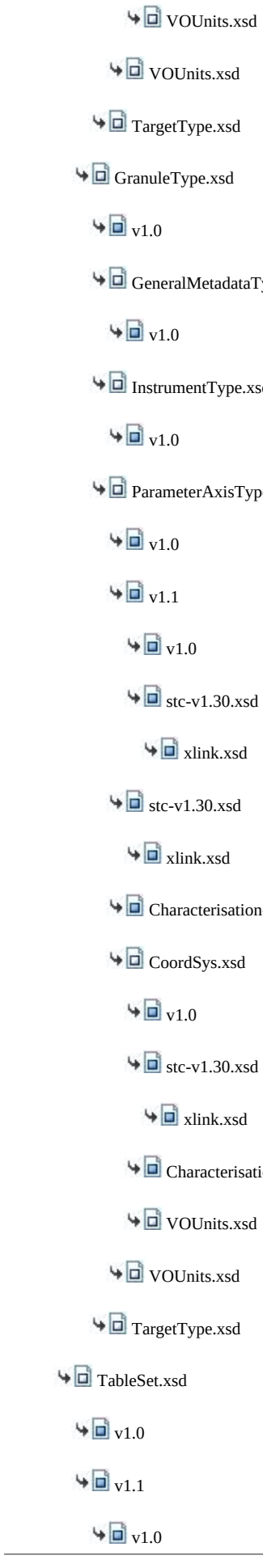
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TargetType.xsd

VOUnits.xsd

Namespace: "http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"

Schema(s)

Main schema `PSResource.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`PSR-DM XML schema provides a means of encoding planetary science resource metadata. It is designed as an extension of the IVOA's VODataService schema.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `CoordSys.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of several metadata elements used to define the coordinate system and type, the resolution, the coverage, the sampling in dataset and granule description.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `VOUnits.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: definition of units metadata elements. To be replaced by IVOA's VOUnits schema.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `DataSetType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of DataSetType metadata element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `GeneralMetadataType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: definition of the psr:GeneralMetadataType element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `GranuleType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of psr:GranuleType metadata elements.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `InstrumentType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of InstrumentType metadata element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `ParameterAxisType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of DataSetAxisType metadata element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `TargetType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of TargetType and ListOfTargets metadata elements.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `ParamHTTP.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of ResourceType metadata element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

Included schema `ResourceType.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: declaration of ResourceType metadata element.`
Properties	attribute form default: `unqualified` element form default: `qualified` version: `1.0`

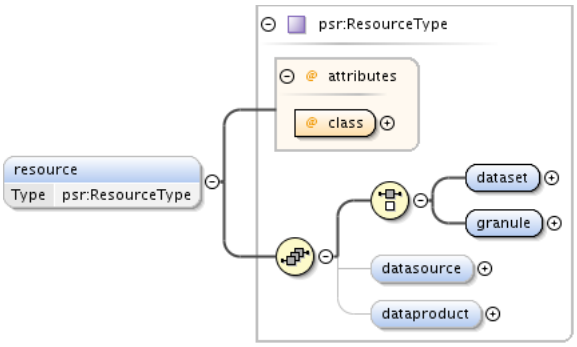
Included schema `TableSet.xsd`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Planetary Science Data Model: definition of the 'tableset' complex type.`
Properties	attribute form default: `unqualified` element form default: `qualified`

	version:	1.0

Element(s)

Element psr:DataCollection / psr:resource

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The definition of the resource as a dataset or a granule.
Diagram	
Type	psr:ResourceType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	(psr:dataset | psr:granule) , psr:datasource{0,1} , psr:dataproduct{0,1}
Children	psr:dataproduct, psr:dataset, psr:datasource, psr:granule
Instance	<psr:resource class="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:dataset id="">{1,1}</psr:dataset> <psr:granule id="" table-id="">{1,1}</psr:granule> <psr:datasource>{0,1}</psr:datasource> <psr:dataproduct>{0,1}</psr:dataproduct> </psr:resource>

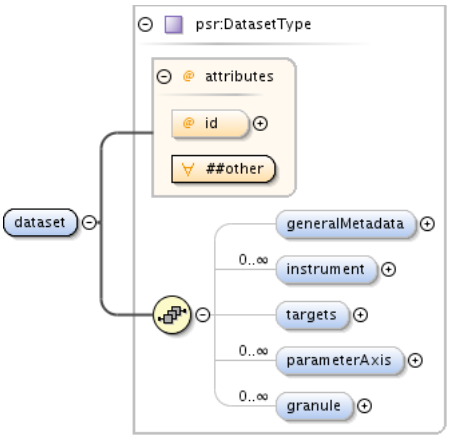
Attributes

QName	Type	Fixed	Default	Use
class	psr:ResourceClassType			required
	The key which identify the class of the resource, a dataset or a granule			

Source

```
<xs:element name="resource" type="psr:ResourceType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>The definition of the resource as a dataset or a granule.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ResourceType / psr:dataset

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Define the dataset as a whole in terms of rights, format, reader.
Diagram	

Type	psr:DatasetType
Properties	content: complex minOccurs: 1 maxOccurs: 1
Model	psr:generalMetadata{0,1} , psr:instrument* , psr:targets{0,1} , psr:parameterAxis* , psr:granule*
Children	psr:generalMetadata, psr:granule, psr:instrument, psr:parameterAxis, psr:targets
Instance	<psr:dataset id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:generalMetadata created="" status="" updated="">{0,1}</psr:generalMetadata> <psr:instrument id="">{0,unbounded}</psr:instrument> <psr:targets>{0,1}</psr:targets> <psr:parameterAxis parameterAxis-id="">{0,unbounded}</psr:parameterAxis> <psr:granule id="" table-id="">{0,unbounded}</psr:granule> </psr:dataset>

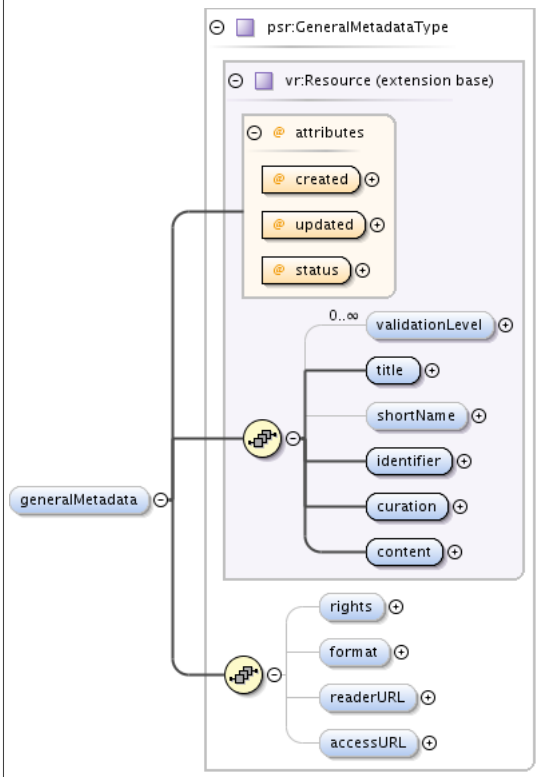
Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	Token providing a unique identifier to the dataset. It could be a numeric value or a short string.			

Source

```
<xs:element name="dataset" type="psr:DatasetType" minOccurs="1" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Define the dataset as a whole in terms of rights, format, reader.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:DatasetType / psr:generalMetadata

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	General information about the dataset in terms of rights, format, readerURL, accesURL, ...
Diagram	
Type	psr:GeneralMetadataType
Type hierarchy	• vr:Resource

	• psr:GeneralMetadataType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , psr:rights{0,1} , psr:format{0,1} , psr:readerURL{0,1} , psr:accessURL{0,1}
Children	content, curation, identifier, psr:accessURL, psr:format, psr:readerURL, psr:rights, shortName, title, validationLevel
Instance	<psr:generalMetadata created="" status="" updated="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <validationLevel validatedBy="">{0,unbounded}</validationLevel> <title>{1,1}</title> <shortName>{0,1}</shortName> <identifier>{1,1}</identifier> <curation>{1,1}</curation> <content>{1,1}</content> <psr:rights>{0,1}</psr:rights> <psr:format compressed="false">{0,1}</psr:format> <psr:readerURL>{0,1}</psr:readerURL> <psr:accessURL use="">{0,1}</psr:accessURL> </psr:generalMetadata>

Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

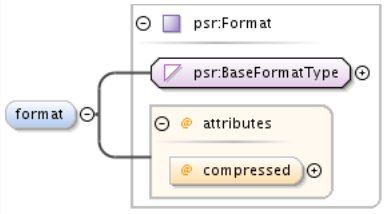
```
<xs:element name="generalMetadata" type="psr:GeneralMetadataType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>General information about the dataset in terms of rights, format, readerURL,
 accesURL, ...</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:GeneralMetadataType / psr:rights

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	vr:Rights
Properties	content: simple minOccurs: 0 maxOccurs: 1
Facets	enumeration public — unrestricted, public access is allowed without authentication. enumeration secure — authenticated, public access is allowed. enumeration proprietary — only proprietary access is allowed with authentication.
Source	<xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation>

```
  </xs:annotation>
</xs:element>
```

Element psr:GeneralMetadataType / psr:format

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:Format

Type hierarchy	• xs:string
	  • psr:BaseFormatType
	  • psr:Format

Properties	content: complex minOccurs: 0 maxOccurs: 1

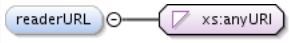
Attributes

QName	Type	Fixed	Default	Use
compressed	xs:boolean		false	optional

Source

```
<xs:element name="format" type="psr:Format" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
</xs:element>
```

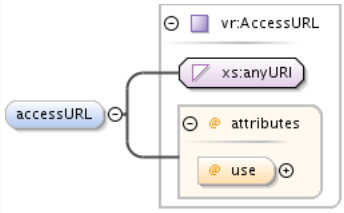
Element psr:GeneralMetadataType / psr:readerURL

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	URL where to download a reader compliant with the dataset.
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0 maxOccurs: 1

Source

```
<xs:element name="readerURL" type="xs:anyURI" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>URL where to download a reader compliant with the dataset.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:GeneralMetadataType / psr:accessURL

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	URL where to acces the dataset.
Diagram	
Type	vr:AccessURL

Properties	content:	complex
	minOccurs:	0
	maxOccurs:	1

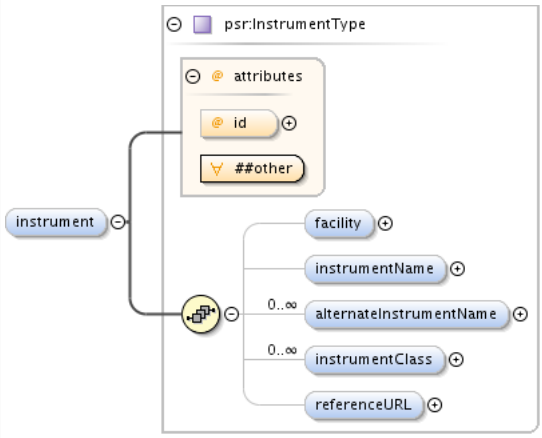
Attributes

QName	Type	Fixed	Default	Use
use	restriction of xs:NMTOKEN			optional
	A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.			

Source

```
<xs:element name="accessURL" type="vr:AccessURL" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>URL where to acces the dataset.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:DatasetType / psr:instrument

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The definition of the instrument used to acquire the data (if relevant).
Diagram	
Type	psr:InstrumentType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:facility{0,1} , psr:instrumentName{0,1} , psr:alternateInstrumentName* , psr:instrumentClass* , psr:referenceURL{0,1}
Children	psr:alternateInstrumentName, psr:facility, psr:instrumentClass, psr:instrumentName, psr:referenceURL

Instance

```
<psr:instrument id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <psr:facility class="" ivo-id="">{0,1}</psr:facility>
  <psr:instrumentName ivo-id="">{0,1}</psr:instrumentName>
  <psr:alternateInstrumentName>{0,unbounded}</psr:alternateInstrumentName>
  <psr:instrumentClass>{0,unbounded}</psr:instrumentClass>
  <psr:referenceURL use="">{0,1}</psr:referenceURL>
</psr:instrument>
```

Attributes

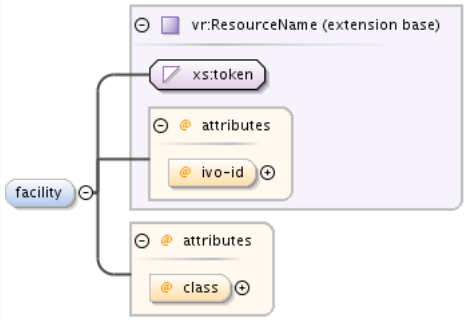
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	A key which identify the instrument used to collect the data contain or managed by a resource.			

Source

```
<xs:element name="instrument" type="psr:InstrumentType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>The definition of the instrument used to acquire the data (if relevant).</
xs:documentation>
  </xs:annotation>
```

```
</xs:element>
```

Element psr:InstrumentType / psr:facility

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Name of the facility where the physical parameter was acquired.
Diagram	
Type	extension of vr:ResourceName
Type hierarchy	• xs:token • vr:ResourceName

Properties

content:	complex
minOccurs:	0
maxOccurs:	1

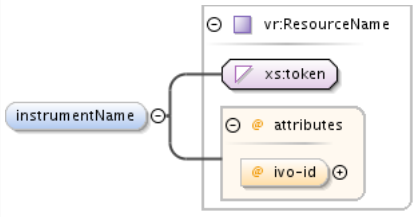
Attributes

QName	Type	Fixed	Default	Use
class	psr:FacilityClassType			optional
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source

```
<xs:element name="facility" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Name of the facility where the physical parameter was acquired.</
xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="vr:ResourceName">
        <xs:attribute name="class" type="psr:FacilityClassType"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element psr:InstrumentType / psr:instrumentName

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Name of the instrument.
Diagram	
Type	vr:ResourceName

Properties

content:	complex
minOccurs:	0
maxOccurs:	1

Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional

	QName	Type	Fixed	Default	Use
		The URI form of the IVOA identifier for the resource refered to			
Source	<xs:element name="instrumentName" type="vr:ResourceName" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Name of the instrument.</xs:documentation> </xs:annotation> </xs:element>				

Element psr:InstrumentType / psr:alternateInstrumentName

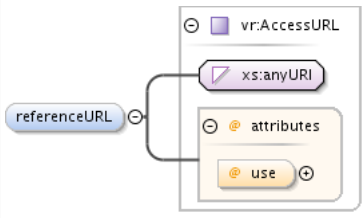
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Alternate name of the instrument.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Source	<xs:element name="alternateInstrumentName" type="xs:string" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Alternate name of the instrument.</xs:documentation> </xs:annotation> </xs:element>

Element psr:InstrumentType / psr:instrumentClass

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Class of the instrument, as defined in the psr:InstrumentClassList
Diagram	
Type	psr:InstrumentClassList
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Facets	enumeration: Antenna enumeration: CCD enumeration: Chaneltron enumeration: Coronograph enumeration: DoubleSphere enumeration: DustDetector enumeration: Electron Drift Instrument enumeration: Electrostatic Drift Instrument enumeration: Electrostatic Analyser enumeration: Energetic Particle Instrument enumeration: Faraday Cup enumeration: Flux Feedback enumeration: Fourier Transform Spectrograph enumeration: Geiger-Mueller Tube enumeration: Grating Spectrometer enumeration: Imager enumeration: Imaging Spectrometer enumeration: Interferometer

	enumeration	Ion Chamber
	enumeration	Ion Drift
	enumeration	Langmuir Probe
	enumeration	Long wire
	enumeration	Magnetometer
	enumeration	Mass Spectrometer
	enumeration	Micro Channel Plate
	enumeration	Multispectral imager
	enumeration	Neutral Atom imager
	enumeration	Neutral Particle Detector
	enumeration	Plasma Spectrometer
	enumeration	Particle Correlator
	enumeration	Particle Detector
	enumeration	Photometer
	enumeration	Photopolarimeter
	enumeration	Platform
	enumeration	Proportional Counter
	enumeration	Quadrispherical Analyser
	enumeration	Radar
	enumeration	Radio Receiver
	enumeration	Resonance Sounder
	enumeration	Retarding Potential Analyser
	enumeration	Riometer
	enumeration	Scintillation Detector
	enumeration	Search Coil
	enumeration	Sounder
	enumeration	Spacecraft Potential Control
	enumeration	Spectral Power Receiver
	enumeration	Spectrometer
	enumeration	Spectro Imager
	enumeration	Time of Flight
	enumeration	Unspecified
	enumeration	Waveform receiver
Source	<xs:element name="instrumentClass" type="psr:InstrumentClassList" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Class of the instrument, as defined in the psr:InstrumentClassList</xs:documentation> </xs:annotation> </xs:element>	

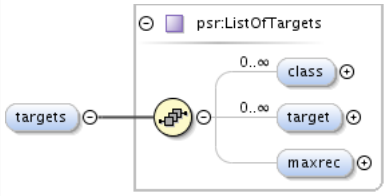
Element psr:InstrumentType / psr:referenceURL

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The URL that can be used to get information about the instrument.
Diagram	

Type	vr:AccessURL
Properties	content: complex minOccurs: 0 maxOccurs: 1
Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **use** | restriction of xs:NMTOKEN | | | optional A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.

Source	`<xs:element name="referenceURL" type="vr:AccessURL" minOccurs="0" maxOccurs="1">`
	`<xs:annotation>`
	`<xs:documentation>The URL that can be used to get information about the instrument.</xs:documentation>`
	`</xs:annotation>`
	`</xs:element>`

Element psr:DatasetType / psr:targets

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines the targets to which the dataset or the product applies to. Multiple combinations can be defined, mixing type and name elements.
Diagram	
Type	psr:ListOfTargets
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:class* , psr:target* , psr:maxrec{0,1}
Children	psr:class, psr:maxrec, psr:target

Instance	`<psr:targets xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`<psr:class>{0,unbounded}</psr:class>`
	`<psr:target id="">{0,unbounded}</psr:target>`
	`<psr:maxrec>{0,1}</psr:maxrec>`
	`</psr:targets>`

Source	`<xs:element name="targets" type="psr:ListOfTargets" minOccurs="0" maxOccurs="1">`
	`<xs:annotation>`
	`<xs:documentation>Defines the targets to which the dataset or the product applies to. Multiple combinations can be defined, mixing type and name elements.</xs:documentation>`
	`</xs:annotation>`
	`</xs:element>`

Element psr:ListOfTargets / psr:class

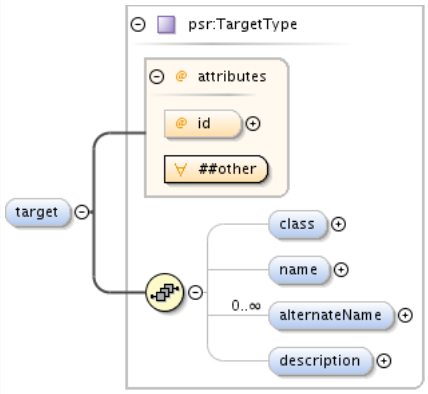
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Target class as defined by the Planetary Science data model
Diagram	
Type	psr:TargetClass
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Facets	enumeration asteroid

	enumeration	comet
	enumeration	dust
	enumeration	dwarfplanet
	enumeration	exoplanet
	enumeration	feature
	enumeration	galaxy
	enumeration	ipm
	enumeration	meteorite
	enumeration	nebula
	enumeration	planet
	enumeration	region
	enumeration	ring
	enumeration	sample
	enumeration	satellite
	enumeration	sky
	enumeration	spacecraft
	enumeration	spacejunk
	enumeration	star

Source

```
<xs:element name="class" type="psr:TargetClass" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Target class as defined by the Planetary Science data model</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ListOfTargets / psr:target

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Official or usual name of the target as defined by IAU.
Diagram	

Type	psr:TargetType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:class{0,1} , psr:name{0,1} , psr:alternateName* , psr:description{0,1}
Children	psr:alternateName, psr:class, psr:description, psr:name

Instance

```
<psr:target id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <psr:class>{0,1}</psr:class>
  <psr:name>{0,1}</psr:name>
  <psr:alternateName>{0,unbounded}</psr:alternateName>
  <psr:description>{0,1}</psr:description>
</psr:target>
```

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://				

	QName	Type	Fixed	Default	Use
	voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
	id	xs:token			optional
		A key which identify the instrument used to collect the data contain or managed by a resource.			

Source

```
<xs:element name="target" type="psr:TargetType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Official or usual name of the target as defined by IAU.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:TargetType / psr:class

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Target class as defined by the Planetary Science data model	
Diagram		
Type	psr:TargetClass	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	asteroid
	enumeration	comet
	enumeration	dust
	enumeration	dwarfplanet
	enumeration	exoplanet
	enumeration	feature
	enumeration	galaxy
	enumeration	ipm
	enumeration	meteorite
	enumeration	nebula
	enumeration	planet
	enumeration	region
	enumeration	ring
	enumeration	sample
	enumeration	satellite
	enumeration	sky
	enumeration	spacecraft
	enumeration	spacejunk
	enumeration	star

Source

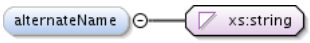
```
<xs:element name="class" type="psr:TargetClass" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Target class as defined by the Planetary Science data model</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:TargetType / psr:name

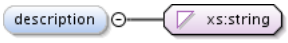
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Official or usual name of the target as defined by IAU.	
Diagram		
Type	xs:string	
Properties	content:	simple

	minOccurs: 0 maxOccurs: 1
Source	<xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Official or usual name of the target as defined by IAU.</xs:documentation> </xs:annotation> </xs:element>

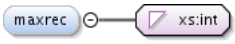
Element psr:TargetType / psr:alternateName

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Alternate name of the target.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Source	<xs:element name="alternateName" type="xs:string" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Alternate name of the target.</xs:documentation> </xs:annotation> </xs:element>

Element psr:TargetType / psr:description

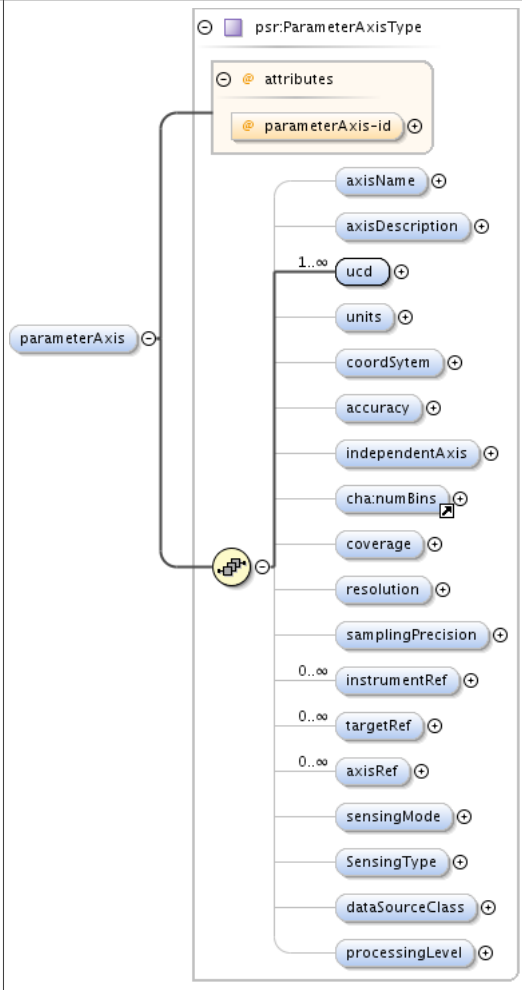
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Free description of the target (e.g. crater name, magnetospheric region, ...)
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Free description of the target (e.g. crater name, magnetospheric region, ...)</xs:documentation> </xs:annotation> </xs:element>

Element psr:ListOfTargets / psr:maxrec

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Maximum number of targets of the resource. This is not necessarily the exact number of targets contained in the resource, but rather the approximate maximum number of targets. If unknown or if it is not fix with time, put zero.
Diagram	
Type	xs:int
Properties	content: simple minOccurs: 0 maxOccurs: 1 default: 0
Source	<xs:element name="maxrec" type="xs:int" minOccurs="0" maxOccurs="1" default="0"> <xs:annotation> <xs:documentation>Maximum number of targets of the resource. This is not necessarily the exact number of targets contained in the resource, but rather the approximate maximum number of targets. If unknown or if it is not fix with time, put zero.</xs:documentation>

```
  </xs:annotation>
</xs:element>
```

Element `psr:DatasetType / psr:parameterAxis`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Defines the ... TBC`
Diagram	
Type	psr:ParameterAxisType
Properties	content: `complex` minOccurs: `0` maxOccurs: `unbounded`
Model	psr:axisName{0,1} , psr:axisDescription{0,1} , psr:ucd+ , psr:units{0,1} , psr:coordSytem{0,1} , psr:accuracy{0,1} , psr:independentAxis{0,1} , cha:numBins{0,1} , psr:coverage{0,1} , psr:resolution{0,1} , psr:samplingPrecision{0,1} , psr:instrumentRef* , psr:targetRef* , psr:axisRef* , psr:sensingMode{0,1} , psr:SensingType{0,1} , psr:dataSourceClass{0,1} , psr:processingLevel{0,1}
Children	cha:numBins, psr:SensingType, psr:accuracy, psr:axisDescription, psr:axisName, psr:axisRef, psr:coordSytem, psr:coverage, psr:dataSourceClass, psr:independentAxis, psr:instrumentRef, psr:processingLevel, psr:resolution, psr:samplingPrecision, psr:sensingMode, psr:targetRef, psr:ucd, psr:units

Instance	`<psr:parameterAxis parameterAxis-id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <psr:axisName>{0,1}</psr:axisName>`
	`  <psr:axisDescription>{0,1}</psr:axisDescription>`
	`  <psr:ucd>{1,unbounded}</psr:ucd>`
	`  <psr:units>{0,1}</psr:units>`
	`  <psr:coordSytem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSytem>`
	`  <psr:accuracy>{0,1}</psr:accuracy>`
	`  <psr:independentAxis>{0,1}</psr:independentAxis>`
	`  <cha:numBins>{0,1}</cha:numBins>`
	`  <psr:coverage>{0,1}</psr:coverage>`

```
  <psr:resolution>{0,1}</psr:resolution>
  <psr:samplingPrecision>{0,1}</psr:samplingPrecision>
  <psr:instrumentRef>{0,unbounded}</psr:instrumentRef>
  <psr:targetRef>{0,unbounded}</psr:targetRef>
  <psr:axisRef>{0,unbounded}</psr:axisRef>
  <psr:sensingMode>{0,1}</psr:sensingMode>
  <psr:SensingType>{0,1}</psr:SensingType>
  <psr:dataSourceClass>{0,1}</psr:dataSourceClass>
  <psr:processingLevel>{0,1}</psr:processingLevel>
</psr:parameterAxis>
```

Attributes

QName	Type	Fixed	Default	Use
parameterAxis-id	xs:string			optional

Source

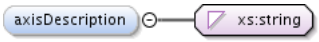
```
<xs:element name="parameterAxis" type="psr:ParameterAxisType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Defines the ... TBC</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ParameterAxisType / psr:axisName

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1

Source	`<xs:element name="axisName" type="xs:string" minOccurs="0" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>TBD</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:axisDescription

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1

Source	`<xs:element name="axisDescription" type="xs:string" minOccurs="0" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>TBD</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:ucd

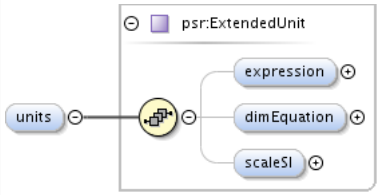
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	restriction of xs:string
Properties	content: simple maxOccurs: unbounded
Facets	enumeration em

	enumeration	em.elec
	enumeration	em.mag
	enumeration	pw
	enumeration	pw.elec
	enumeration	pw.mag
	enumeration	phot
	enumeration	part
	enumeration	part.elec
	enumeration	part.elec.1-20keV
	enumeration	part.ions
	enumeration	part.neut
	enumeration	dc
	enumeration	dc.elec
	enumeration	dc.mag
	enumeration	model

Source

```
<xs:element name="ucd" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="em"/>
      <xs:enumeration value="em.elec"/>
      <xs:enumeration value="em.mag"/>
      <xs:enumeration value="pw"/>
      <xs:enumeration value="pw.elec"/>
      <xs:enumeration value="pw.mag"/>
      <xs:enumeration value="phot"/>
      <xs:enumeration value="part"/>
      <xs:enumeration value="part.elec"/>
      <xs:enumeration value="part.elec.1-20keV"/>
      <xs:enumeration value="part.ions"/>
      <xs:enumeration value="part.neut"/>
      <xs:enumeration value="dc"/>
      <xs:enumeration value="dc.elec"/>
      <xs:enumeration value="dc.mag"/>
      <xs:enumeration value="model"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

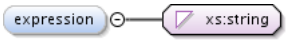
Element psr:ParameterAxisType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

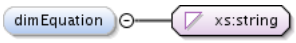
Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation> </xs:annotation> </xs:element>

Element psr:ExtendedUnit / psr:expression

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Expression of the unit (TBD).
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="expression" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Expression of the unit (TBD).</xs:documentation> </xs:annotation> </xs:element>

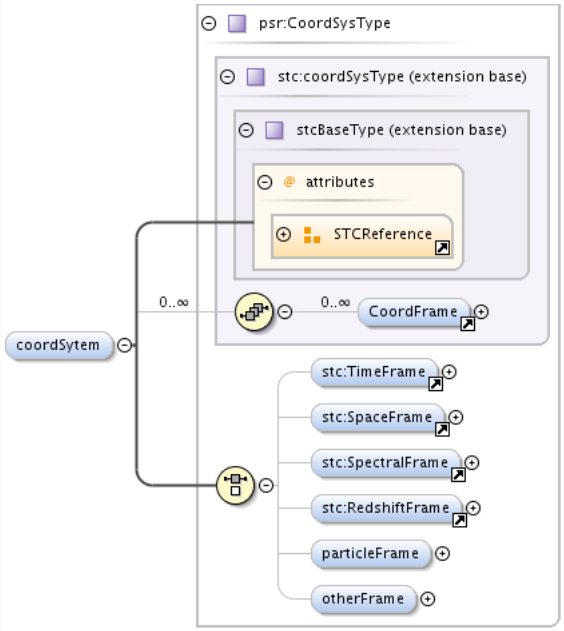
Element psr:ExtendedUnit / psr:dimEquation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Dimensional equation representation of the unit, formatted as a string where M is mass, L is length, T is time, K is temperature, and Q electric charge. For ease of notation , the caret "^" indicating powers of ten can be removed - as is customary in Dimentional Analysis practices - resulting in expressions like the following, which are equivalent: "ML-1T-3" and "ML^-1T^-3"
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="dimEquation" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Dimensional equation representation of the unit, formatted as a string where M is mass, L is length, T is time, K is temperature, and Q electric charge. For ease of notation , the caret "^" indicating powers of ten can be removed - as is customary in Dimentional Analysis practices - resulting in expressions like the following, which are equivalent: "ML-1T-3" and "ML^-1T^-3"</xs:documentation> </xs:annotation> </xs:element>

Element psr:ExtendedUnit / psr:scaleSI

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Scale system of the unit.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="scaleSI" type="xs:string" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Scale system of the unit.</xs:documentation> </xs:annotation> </xs:element>

Element `psr:ParameterAxisType / psr:coordSytem`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSytem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="</stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame> </psr:coordSytem>

Attributes

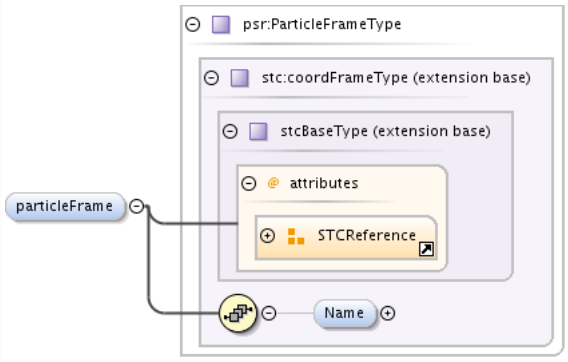
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="coordSytem" type="psr:CoordSysType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `psr:CoordSysType / psr:particleFrame`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ParticleFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • psr:ParticleFrameType

Properties	content: `complex` minOccurs: `0`
Model	Name{0,1}
Children	Name

Instance	`<psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <stc:Name>{0,1}</stc:Name>`
	`</psr:particleFrame>`

Attributes

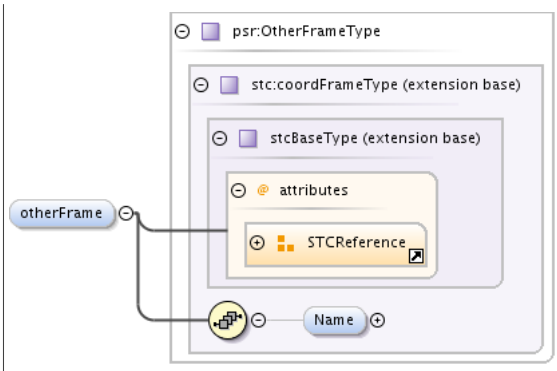
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleFrame" type="psr:ParticleFrameType" minOccurs="0"/>
```

Element `psr:CoordSysType / psr:otherFrame`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:OtherFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • psr:OtherFrameType

Properties	content: complex minOccurs: 0
Model	Name{0,1}
Children	Name

Instance	`<psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <stc:Name>{0,1}</stc:Name>`
	`</psr:otherFrame>`

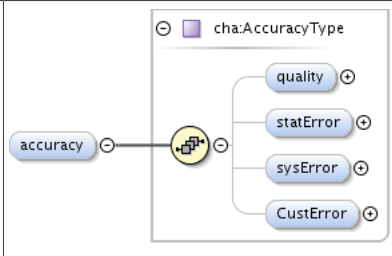
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="otherFrame" type="psr:OtherFrameType" minOccurs="0"/>
```

Element `psr:ParameterAxisType / psr:accuracy`

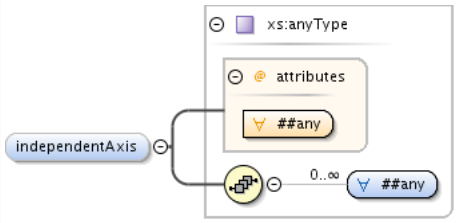
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Global accuracy description of the axis
Diagram	
Type	cha:AccuracyType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError
Instance	`<psr:accuracy xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`

```
  <cha:quality>{0,1}</cha:quality>
  <cha:statError>{0,1}</cha:statError>
  <cha:sysError>{0,1}</cha:sysError>
  <cha:CustError>{0,1}</cha:CustError>
</psr:accuracy>
```

Source

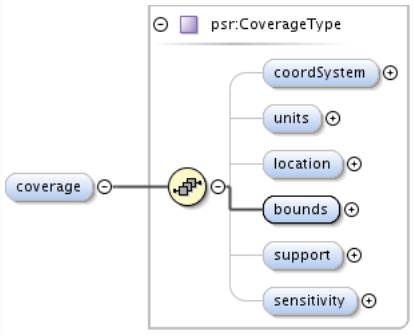
```
<xs:element name="accuracy" type="cha:AccuracyType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Global accuracy description of the axis</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ParameterAxisType / psr:independentAxis

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Indicates wether the axis is independent or not from the other axes. The Observable axis has a false independentAxis "value". Type : boolean
Diagram	
Properties	minOccurs: 0 maxOccurs: 1
Source	


```
<xs:element name="independentAxis" type="xs:anyType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Indicates wether the axis is independent or not from the other axes. The
 Observable axis has a false independentAxis "value". Type : boolean</xs:documentation>
  </xs:annotation>
</xs:element>
```

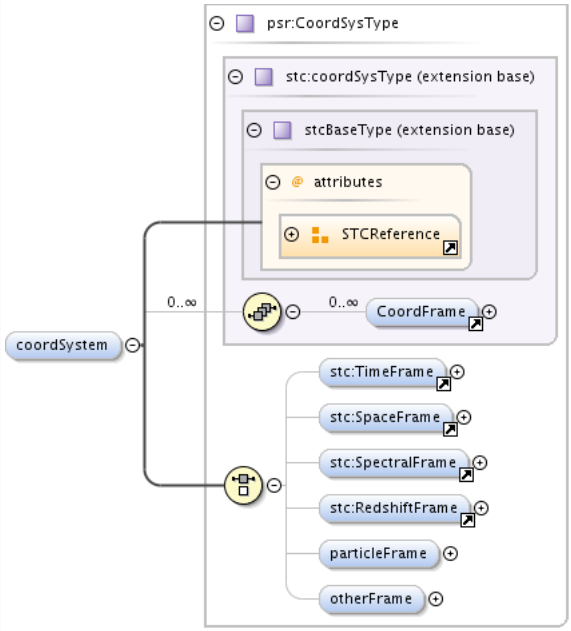
Element psr:ParameterAxisType / psr:coverage

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:CoverageType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:location{0,1} , psr:bounds , psr:support{0,1} , psr:sensitivity{0,1}
Children	psr:bounds, psr:coordSystem, psr:location, psr:sensitivity, psr:support, psr:units
Instance	


```
<psr:coverage xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:coordSystem>
  <psr:units>{0,1}</psr:units>
  <psr:location>{0,1}</psr:location>
  <psr:bounds>{1,1}</psr:bounds>
  <psr:support>{0,1}</psr:support>
  <psr:sensitivity>{0,1}</psr:sensitivity>
</psr:coverage>
```

Source	<xs:element name="coverage" type="psr:CoverageType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation> </xs:annotation> </xs:element>

Element psr:CoverageType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

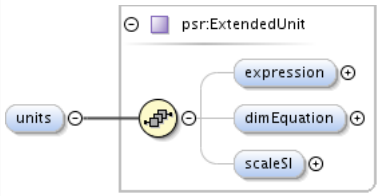
Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http:/ voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:coordSystem>

Attributes

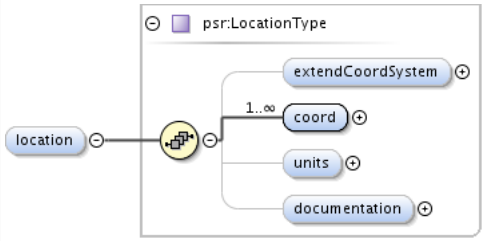
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional

	QName	Type	Fixed	Default	Use
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>				

Element psr:CoverageType / psr:units

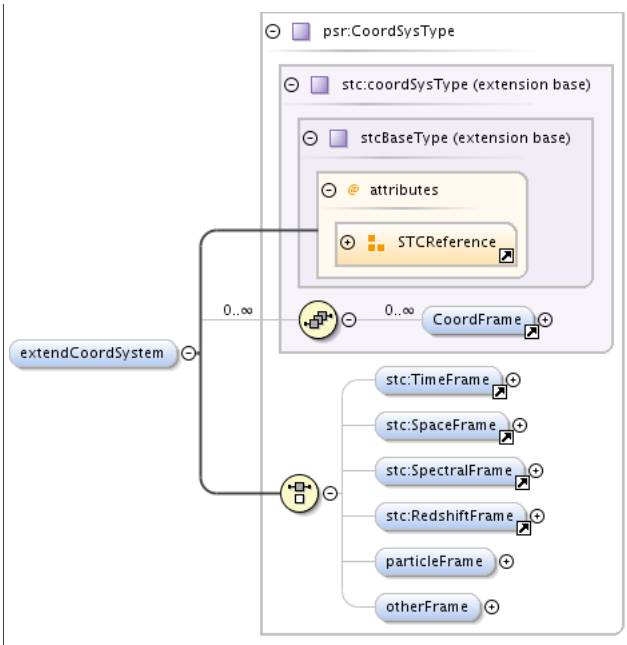
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>

Element psr:CoverageType / psr:location

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Typical value on one axis
Diagram	
Type	psr:LocationType
Properties	content: complex minOccurs: 0
Model	psr:extendCoordSystem{0,1} , psr:coord+ , psr:units{0,1} , psr:documentation{0,1}
Children	psr:coord, psr:documentation, psr:extendCoordSystem, psr:units
Instance	<psr:location xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:coord coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1</psr:coord> <psr:units>{0,1}</psr:units> <psr:documentation>{0,1}</psr:documentation> </psr:location>
Source	<xs:element name="location" type="psr:LocationType" minOccurs="0"> <xs:annotation> <xs:documentation>Typical value on one axis</xs:documentation> </xs:annotation> </xs:element>

Element psr:LocationType / psr:extendCoordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:extendCoordSystem>

Attributes

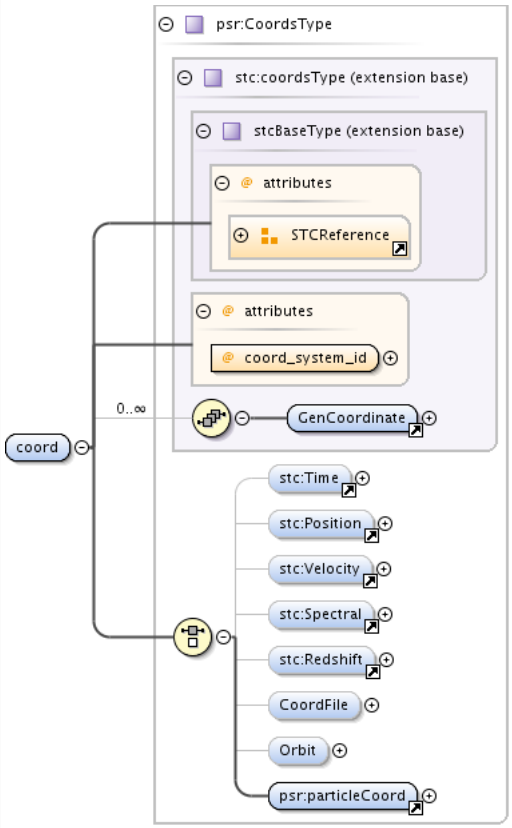
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

Element psr:LocationType / psr:coord

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordsType

Type hierarchy	• stcBaseType
	  • coordsType
	  • psr:CoordsType

Properties	content: complex maxOccurs: unbounded
Model	GenCoordinate , (Time{0,1} | Position{0,1} | Velocity{0,1} | Spectral{0,1} | Redshift{0,1} | psr:CoordFile{0,1} | psr:Orbit{0,1} | psr:particleCoord)
Children	GenCoordinate, Position, Redshift, Spectral, Time, Velocity, psr:CoordFile, psr:Orbit, psr:particleCoord
Instance	<psr:coord coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmln voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">... stc:GenCoordinate> <stc:Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple stc:Time> <stc:Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}... stc:Position> <stc:Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}... stc:Velocity> <stc:Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="si stc:Spectral> <stc:Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="si stc:Redshift> <psr:CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1 psr:CoordFile> <psr:Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:Orbit> <psr:particleCoord frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">... psr:particleCoord> </psr:coord>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

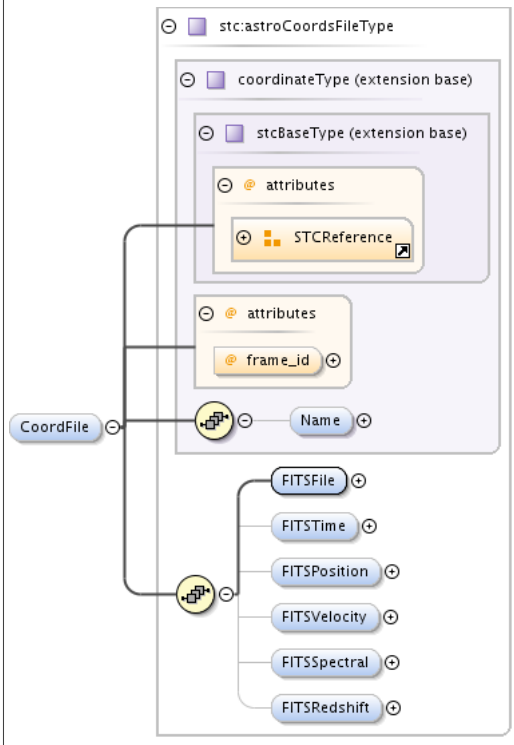
```
<xs:element name="coord" type="psr:CoordsType" maxOccurs="unbounded"/>
```

Element `psr:CoordsType / psr:CoordFile`

Namespace: http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations: `Some or all coordinate values may be given in file`

Diagram



Type: astroCoordsFileType

Type hierarchy:

- stcBaseType
  - coordinateType
    - astroCoordsFileType

Properties

content:	`complex`
minOccurs:	`0`
nillable:	`true`

Model: Name{0,1} , FITSFile , FITSTime{0,1} , FITSPosition{0,1} , FITSVelocity{0,1} , FITSSpectral{0,1} , FITSRedshift{0,1}

Children: FITSFile, FITSPosition, FITSRedshift, FITSSpectral, FITSTime, FITSVelocity, Name

Instance

```
<psr:CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:p
voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <stc:Name>{0,1}</stc:Name>
  <stc:FITSFile hdu_name="" hdu_num="">{1,1}</stc:FITSFile>
  <stc:FITSTime>{0,1}</stc:FITSTime>
  <stc:FITSPosition>{0,1}</stc:FITSPosition>
  <stc:FITSVelocity>{0,1}</stc:FITSVelocity>
  <stc:FITSSpectral>{0,1}</stc:FITSSpectral>
  <stc:FITSRedshift>{0,1}</stc:FITSRedshift>
</psr:CoordFile>
```

Attributes

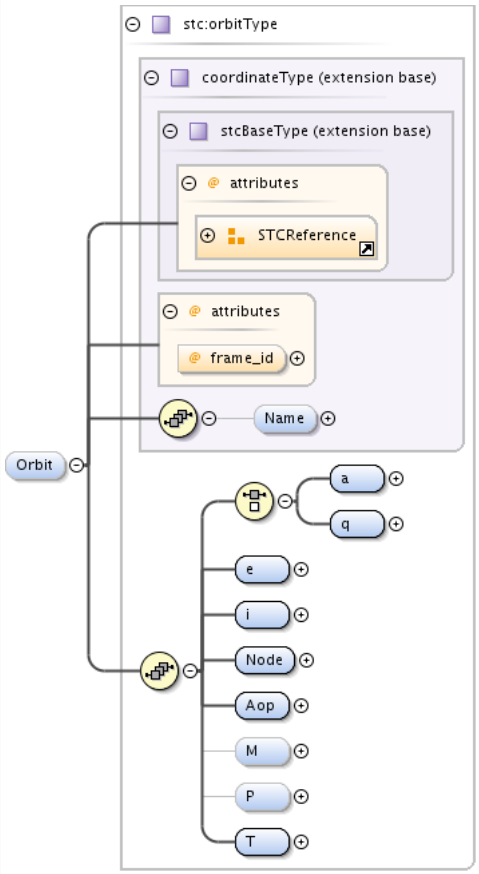
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	ID_type	xs:string			optional
	frame_id	xs:IDREF			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CoordFile" type="stc:astroCoordsFileType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Some or all coordinate values may be given in file</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:CoordsType / psr:Orbit

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Orbit specified by orbital elements
Diagram	
Type	orbitType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • orbitType

Properties	content: complex minOccurs: 0 nillable: true
Model	Name{0,1} , (a | q) , e , i , Node , Aop , M{0,1} , P{0,1} , T
Children	Aop, M, Name, Node, P, T, a, e, i, q

Instance

```
<psr:Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="
voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <stc:Name>{0,1}</stc:Name>
  <stc:a gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:a>
  <stc:q gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:q>
  <stc:e gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:e>
  <stc:i gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:i>
  <stc:Node gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
stc:Node>
  <stc:Aop gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral
stc:Aop>
  <stc:M gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:M>
  <stc:P gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
stc:P>
  <stc:T>{1,1}</stc:T>
</psr:Orbit>
```

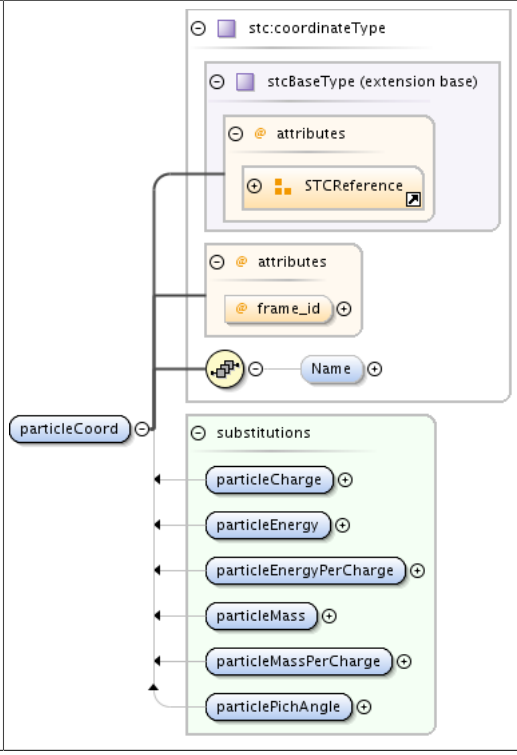
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Orbit" type="stc:orbitType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Orbit specified by orbital elements</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `psr:particleCoord`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	

Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType
Properties	content: complex abstract: true
Substitution Group	• psr:particleEnergy • psr:particleMass • psr:particleCharge • psr:particlePichAngle • psr:particleEnergyPerCharge • psr:particleMassPerCharge
Used by	Complex Type psr:CoordsType
Model	Name{0,1}
Children	Name
Instance	<psr:particleCoord frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xml voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> </psr:particleCoord>

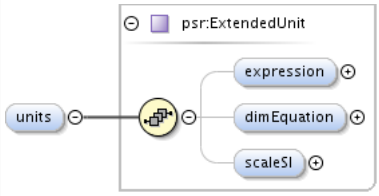
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

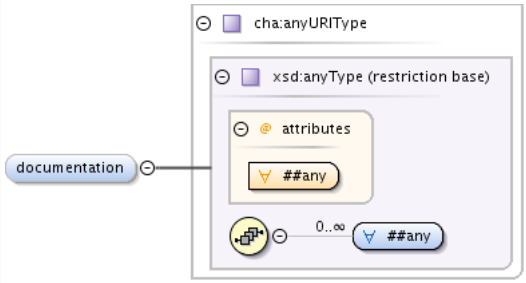
Source

```
<xs:element abstract="true" name="particleCoord" type="stc:coordinateType">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
</xs:element>
```

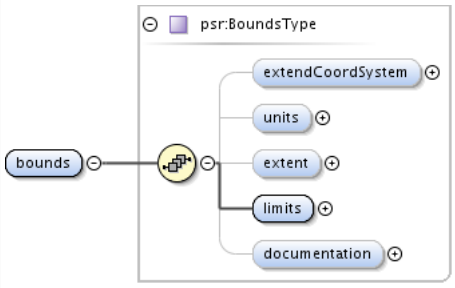
Element psr:LocationType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>

Element psr:LocationType / psr:documentation

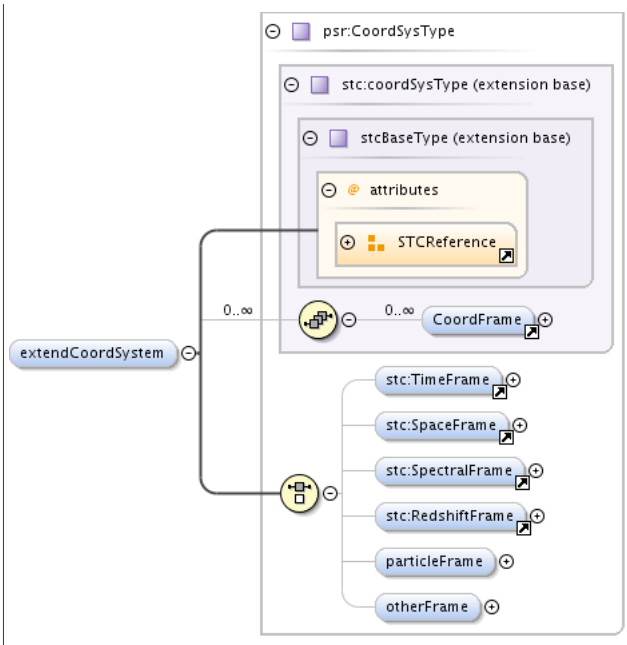
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The typical coordinate value Type: stc:astroCoordsType
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>The typical coordinate value Type: stc:astroCoordsType</xs:documentation> </xs:annotation> </xs:element>

Element psr:CoverageType / psr:bounds

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The limits of the observation on this axis
Diagram	
Type	psr:BoundsType
Properties	content: complex minOccurs: 1
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:extent{0,1} , psr:limits , psr:documentation{0,1}
Children	psr:documentation, psr:extendCoordSystem, psr:extent, psr:limits, psr:units
Instance	<psr:bounds xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:units>{0,1}</psr:units> <psr:extent gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect</psr:extent> <psr:limits>{1,1}</psr:limits> <psr:documentation>{0,1}</psr:documentation> </psr:bounds>
Source	<xs:element name="bounds" type="psr:BoundsType" minOccurs="1"> <xs:annotation> <xs:documentation>The limits of the observation on this axis</xs:documentation> </xs:annotation> </xs:element>

Element psr:BoundsType / psr:extendCoordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:extendCoordSystem>

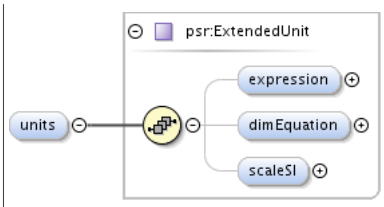
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>

Element psr:BoundsType / psr:units

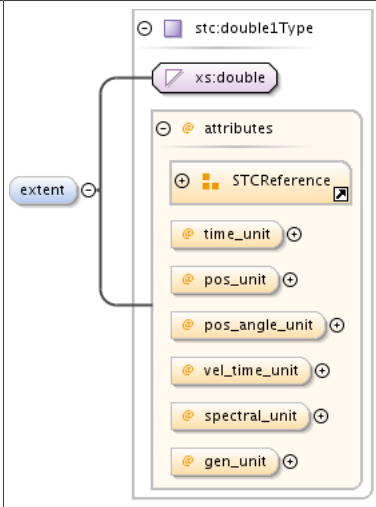
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

Element psr:BoundsType / psr:extent

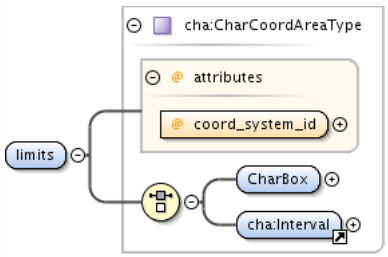
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	`<xs:element name="extent" type="stc:double1Type" minOccurs="0"/>`

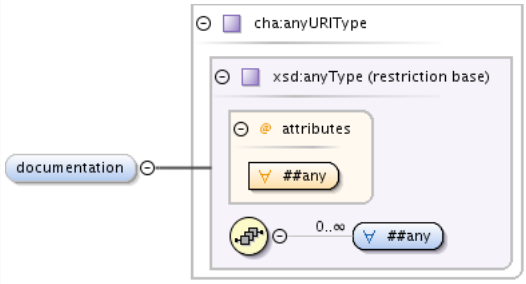
Element psr:BoundsType / psr:limits

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The actual values defining the bounds. 2 possible types : a cha:CharBox which is a customised STC:Coordinate with mandatory value and size or an STC:Interval
Diagram	
Type	cha:CharCoordAreaType
Type hierarchy	• stcBaseType • cha:CharCoordAreaType
Properties	content: complex
Model	cha:CharBox | cha:Interval
Children	cha:CharBox, cha:Interval

Instance	`<psr:limits xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:CharBox>{1,1}</cha:CharBox>`
	`  <cha:Interval>{1,1}</cha:Interval>`
	`</psr:limits>`

Source	`<xs:element name="limits" type="cha:CharCoordAreaType">`
	`  <xs:annotation>`
	`  <xs:documentation>The actual values defining the bounds. 2 possible types : a cha:CharBox which is a customised STC:Coordinate with mandatory value and size or an STC:Interval</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

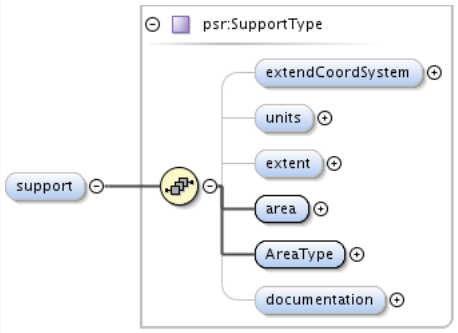
Element psr:BoundsType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A document to mention how the bounds are defined.
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

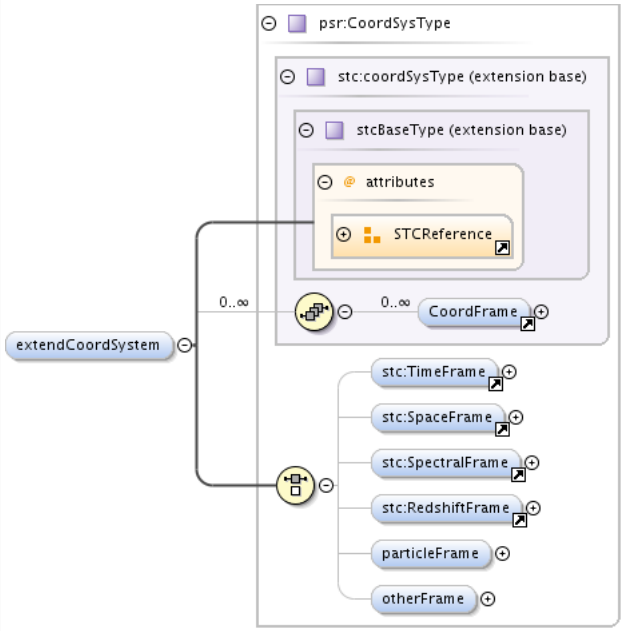
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>A document to mention how the bounds are defined.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:CoverageType / psr:support

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	Describes the area where measurements are effectively present and interpretable
Diagram	
Type	psr:SupportType
Properties	content: complex minOccurs: 0
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:extent{0,1} , psr:area , psr:AreaType , psr:documentation{0,1}
Children	psr:AreaType, psr:area, psr:documentation, psr:extendCoordSystem, psr:extent, psr:units
Instance	<psr:support xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:units>{0,1}</psr:units> <psr:extent gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect <psr:area coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1, <psr:AreaType>{1,1}</psr:AreaType> <psr:documentation>{0,1}</psr:documentation> </psr:support>
Source	<xs:element name="support" type="psr:SupportType" minOccurs="0"> <xs:annotation> <xs:documentation>Describes the area where measurements are effectively present and interpretable</xs:documentation> </xs:annotation> </xs:element>

Element psr:SupportType / psr:extendCoordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType
Type hierarchy	• stcBaseType

	• coordSysType • psr:CoordSysType
Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:extendCoordSystem>

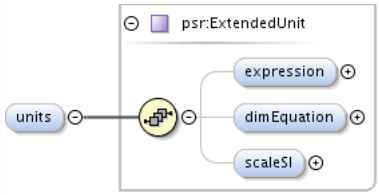
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

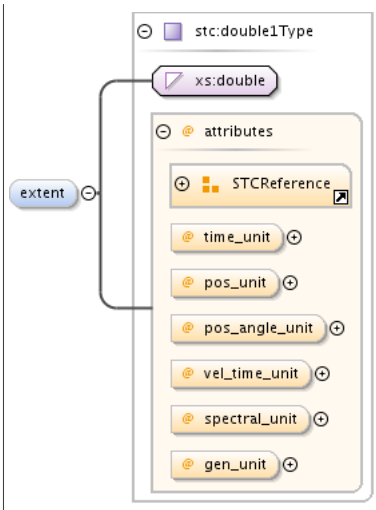
```
<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

Element psr:SupportType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>

Element psr:SupportType / psr:extent

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0

Attributes

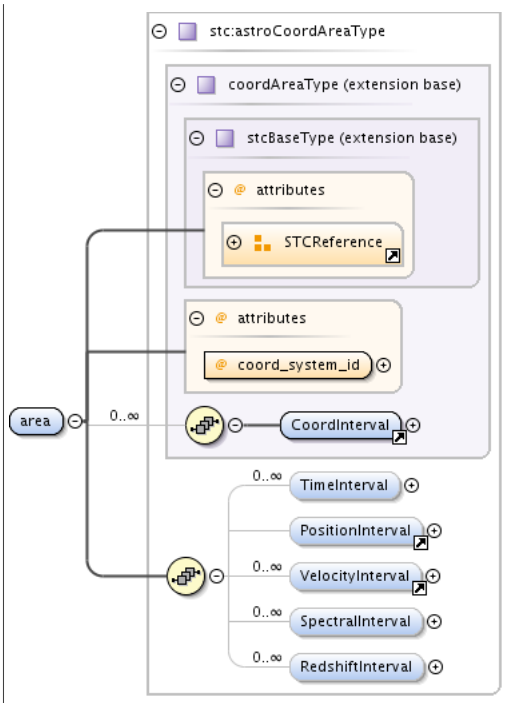
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="extent" type="stc:double1Type" minOccurs="0"/>
```

Element `psr:SupportType / psr:area`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines the effective covered region

Diagram	
Type	astroCoordAreaType

Type hierarchy	• stcBaseType
	  • coordAreaType
	  • astroCoordAreaType

Properties	content: complex
Model	CoordInterval , TimeInterval* , PositionInterval{0,1} , VelocityInterval* , SpectralInterval* , RedshiftInterval*
Children	CoordInterval, PositionInterval, RedshiftInterval, SpectralInterval, TimeInterval, VelocityInterval
Instance	<psr:area coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_ stc:CoordInterval> <stc:TimeInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_t stc:TimeInterval> <stc:PositionInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDR stc:PositionInterval> <stc:VelocityInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDR stc:VelocityInterval> <stc:SpectralInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDR stc:SpectralInterval> <stc:RedshiftInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDR stc:RedshiftInterval> </psr:area>

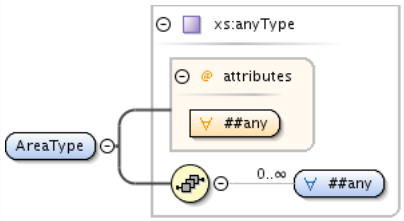
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

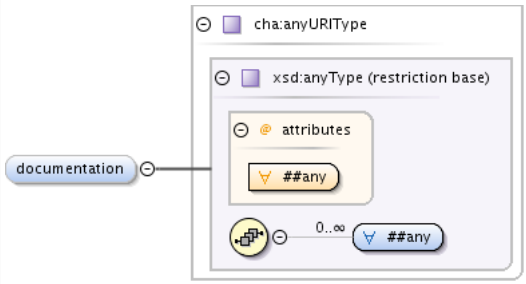
Source

```
<xs:element name="area" type="stc:astroCoordAreaType">
  <xs:annotation>
    <xs:documentation>Defines the effective covered region</xs:documentation>
  </xs:annotation>
</xs:element>
```

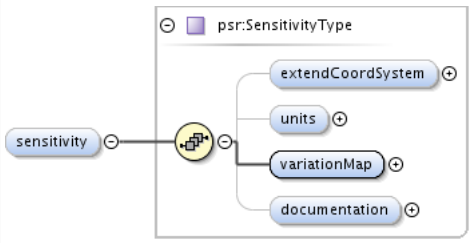
Element psr:SupportType / psr:AreaType

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Gives the name of the region shape Type: predefined string in {Circle, Polygon, Box, ...}
Diagram	
Source	<xs:element name="AreaType" type="xs:anyType"> <xs:annotation> <xs:documentation>Gives the name of the region shape Type: predefined string in {Circle, Polygon, Box, ...}</xs:documentation> </xs:annotation> </xs:element>

Element psr:SupportType / psr:documentation

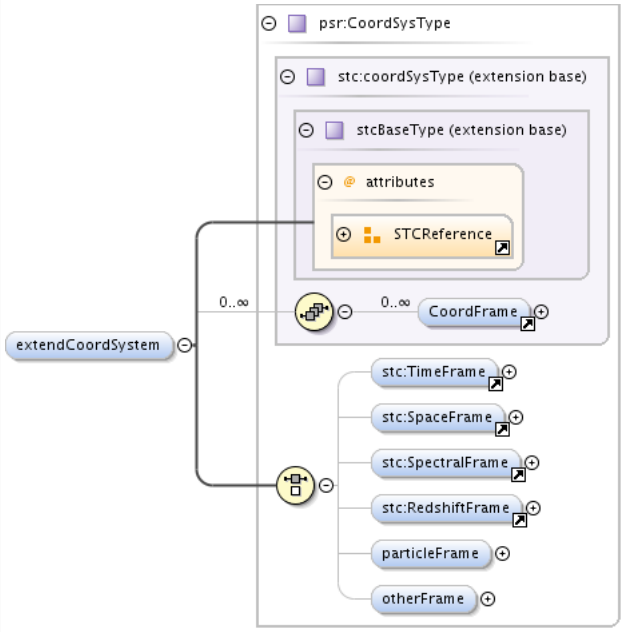
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Some text about the Support region definition Type: any URI type
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>Some text about the Support region definition Type: any URI type</xs:documentation> </xs:annotation> </xs:element>

Element psr:CoverageType / psr:sensitivity

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	encodes the variability of response along the axis
Diagram	
Type	psr:SensitivityType
Properties	content: complex minOccurs: 0
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:variationMap , psr:documentation{0,1}

Children	psr:documentation, psr:extendCoordSystem, psr:units, psr:variationMap
Instance	<psr:sensitivity xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:units>{0,1}</psr:units> <psr:variationMap>{1,1}</psr:variationMap> <psr:documentation>{0,1}</psr:documentation> </psr:sensitivity>
Source	<xs:element name="sensitivity" type="psr:SensitivityType" minOccurs="0"> <xs:annotation> <xs:documentation>encodes the variability of response along the axis</xs:documentation> </xs:annotation> </xs:element>

Element psr:SensitivityType / psr:extendCoordSystem

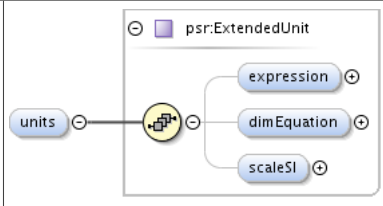
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V </stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame> </psr:extendCoordSystem>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>`				

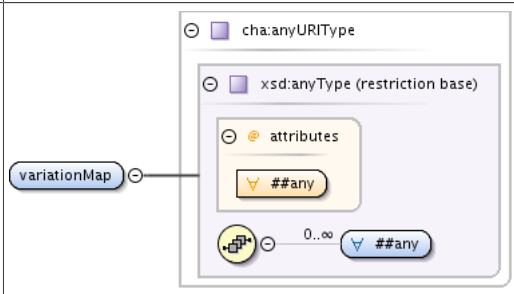
Element psr:SensitivityType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

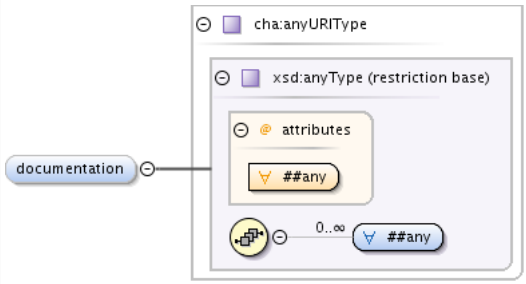
Element psr:SensitivityType / psr:variationMap

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Encodes the variability of the response along the axis
Diagram	
Type	cha:anyURIType
Properties	content: complex

Source	`<xs:element name="variationMap" type="cha:anyURIType">`
	`  <xs:annotation>`
	`  <xs:documentation>Encodes the variability of the response along the axis</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

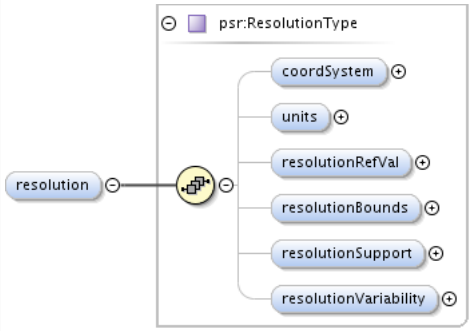
Element psr:SensitivityType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	Documents the purpose, type and encoding of sensitivity information Type: URL
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>Documents the purpose, type and encoding of sensitivity information Type: URL</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:resolution

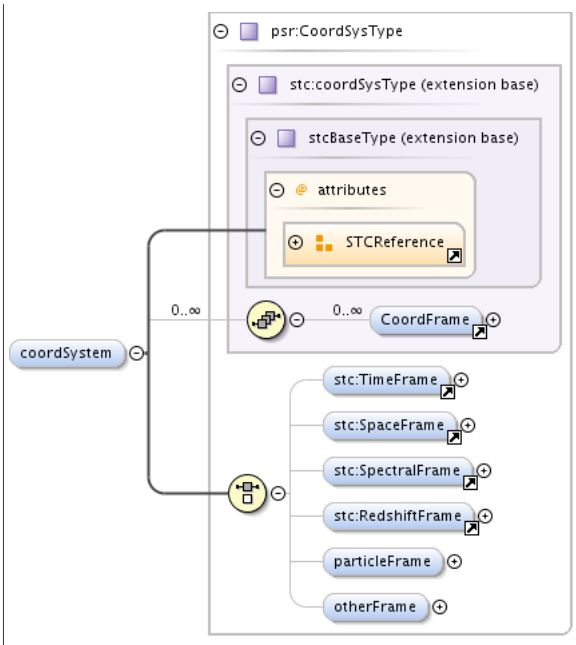
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:ResolutionType
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:resolutionRefVal{0,1} , psr:resolutionBounds{0,1} , psr:resolutionSupport{0,1} , psr:resolutionVariability{0,1}
Children	psr:coordSystem, psr:resolutionBounds, psr:resolutionRefVal, psr:resolutionSupport, psr:resolutionVariability, psr:units

Instance	`<psr:resolution xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem>`
	`  <psr:units>{0,1}</psr:units>`
	`  <psr:resolutionRefVal>{0,1}</psr:resolutionRefVal>`
	`  <psr:resolutionBounds>{0,1}</psr:resolutionBounds>`
	`  <psr:resolutionSupport>{0,1}</psr:resolutionSupport>`
	`  <psr:resolutionVariability>{0,1}</psr:resolutionVariability>`
	`</psr:resolution>`

Source	`<xs:element name="resolution" type="psr:ResolutionType" minOccurs="0" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>TBD</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ResolutionType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame> </psr:coordSystem>

Attributes

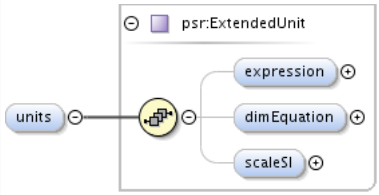
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

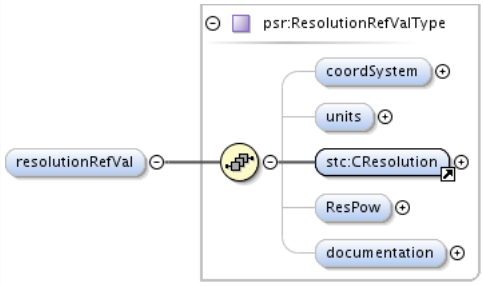
```
<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

Element psr:ResolutionType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

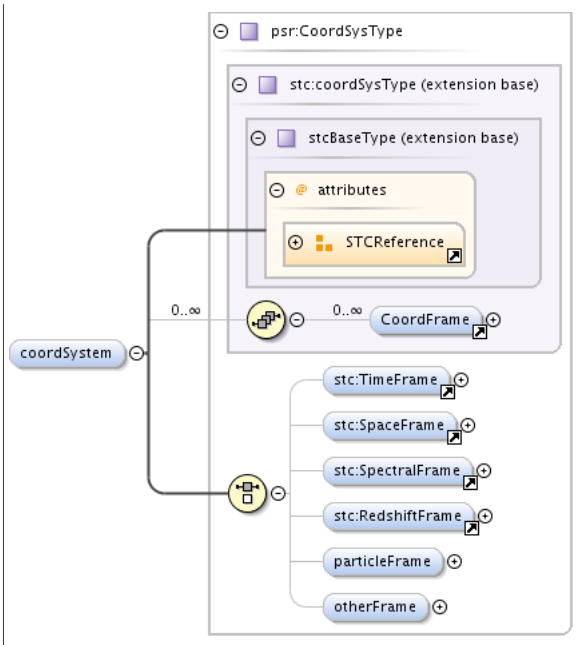
Annotations	This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"> <xs:annotation> <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.</xs:documentation> </xs:annotation> </xs:element>

Element psr:ResolutionType / psr:resolutionRefVal

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ResolutionRefValType
Properties	content: complex minOccurs: 0
Model	psr:coordSystem{0,1} , psr:units{0,1} , CResolution , psr:ResPow{0,1} , psr:documentation{0,1}
Children	CResolution, psr:ResPow, psr:coordSystem, psr:documentation, psr:units
Instance	<psr:resolutionRefVal xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem> <psr:units>{0,1}</psr:units> <stc:CResolution>{1,1}</stc:CResolution> <psr:ResPow gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect psr:ResPow> <psr:documentation>{0,1}</psr:documentation> </psr:resolutionRefVal>
Source	<xs:element name="resolutionRefVal" type="psr:ResolutionRefValType" minOccurs="0"/>

Element psr:ResolutionRefValType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame> </psr:coordSystem>

Attributes

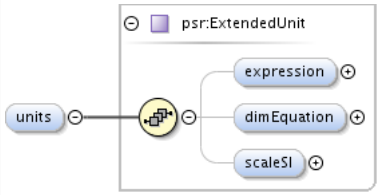
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

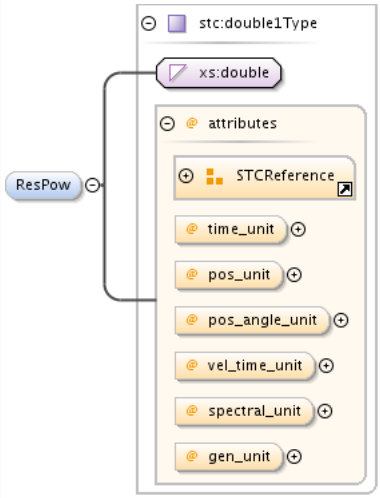
```
<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

Element psr:ResolutionRefValType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"> <xs:annotation> <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.</xs:documentation> </xs:annotation> </xs:element>

Element psr:ResolutionRefValType / psr:ResPow

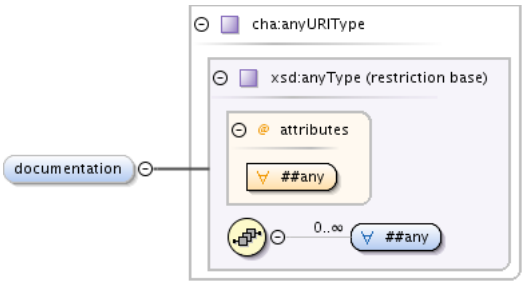
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional

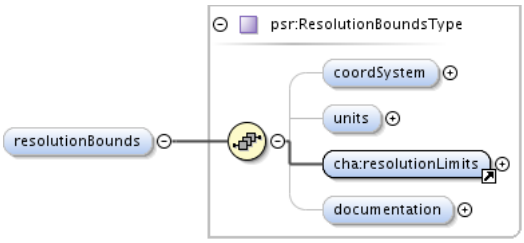
	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="ResPow" type="stc:double1Type" minOccurs="0"/>`				

Element psr:ResolutionRefValType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines and explains how this reference value for resolution has been estimated Type: URL.
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>Defines and explains how this reference value for resolution has been estimated Type: URL.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ResolutionType / psr:resolutionBounds

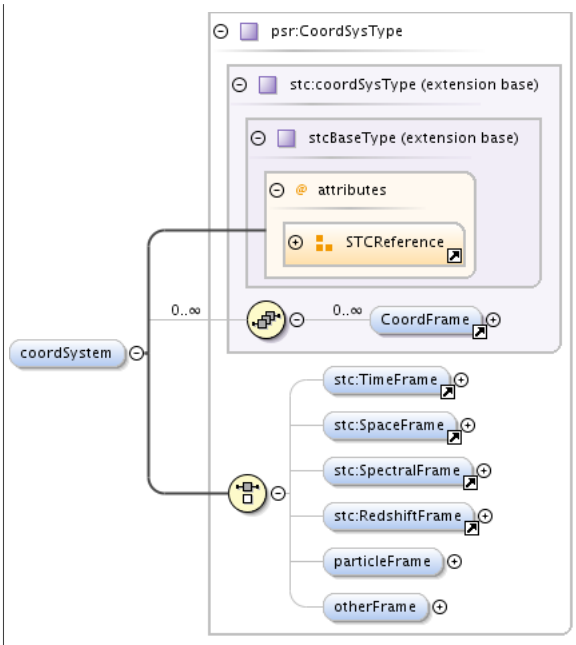
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ResolutionBoundsType
Properties	content: complex minOccurs: 0
Model	psr:coordSystem{0,1} , psr:units{0,1} , cha:resolutionLimits , psr:documentation{0,1}
Children	cha:resolutionLimits, psr:coordSystem, psr:documentation, psr:units

Instance	`<psr:resolutionBounds xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem>`
	`  <psr:units>{0,1}</psr:units>`
	`  <cha:resolutionLimits>{1,1}</cha:resolutionLimits>`
	`  <psr:documentation>{0,1}</psr:documentation>`
	`</psr:resolutionBounds>`

Source	`<xs:element name="resolutionBounds" type="psr:ResolutionBoundsType" minOccurs="0"/>`

Element psr:ResolutionBoundsType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame

Instance	`<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`<stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame>`
	`<stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame>`
	`<stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame>`
	`<stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame>`
	`<stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V</stc:RedshiftFrame>`
	`<psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame>`
	`<psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame>`
	`</psr:coordSystem>`

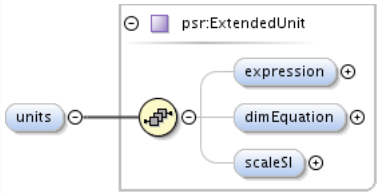
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

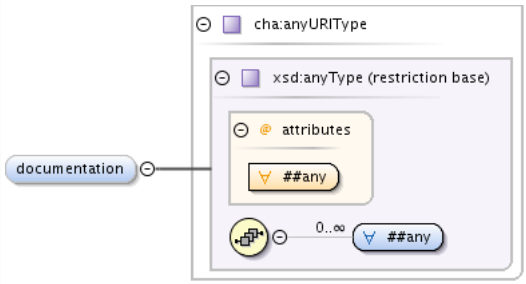
Source	`<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>`

Element `psr:ResolutionBoundsType / psr:units`

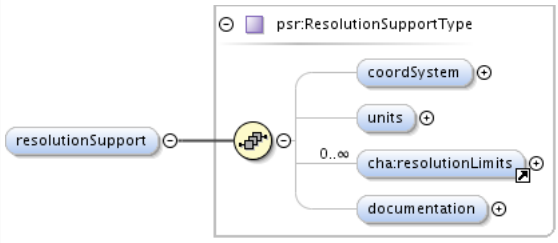
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"> <xs:annotation> <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.</xs:documentation> </xs:annotation> </xs:element>

Element psr:ResolutionBoundsType / psr:documentation

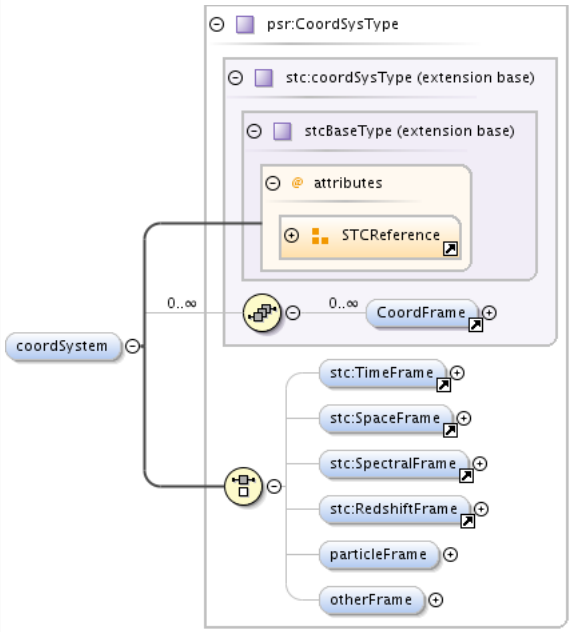
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines and explains how this resolution has been estimated
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>Defines and explains how this resolution has been estimated</xs:documentation> </xs:annotation> </xs:element>

Element psr:ResolutionType / psr:resolutionSupport

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ResolutionSupportType

Properties	content:	complex
	minOccurs:	0
Model	psr:coordSystem{0,1} , psr:units{0,1} , cha:resolutionLimits* , psr:documentation{0,1}	
Children	cha:resolutionLimits, psr:coordSystem, psr:documentation, psr:units	
Instance	<psr:resolutionSupport xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem> <psr:units>{0,1}</psr:units> <cha:resolutionLimits>{0,unbounded}</cha:resolutionLimits> <psr:documentation>{0,1}</psr:documentation> </psr:resolutionSupport>	
Source	<xs:element name="resolutionSupport" type="psr:ResolutionSupportType" minOccurs="0"/>	

Element psr:ResolutionSupportType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="</stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame>

	`</psr:coordSystem>`

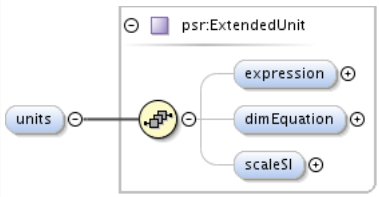
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

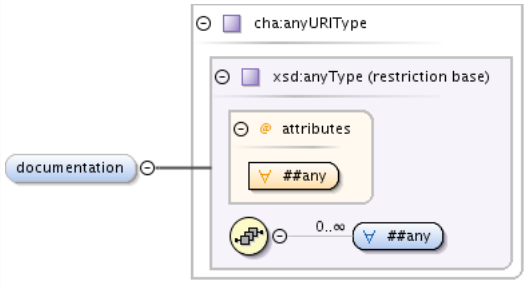
Element `psr:ResolutionSupportType / psr:units`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.`
Diagram	
Type	psr:ExtendedUnit
Properties	content: `complex` minOccurs: `0`
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

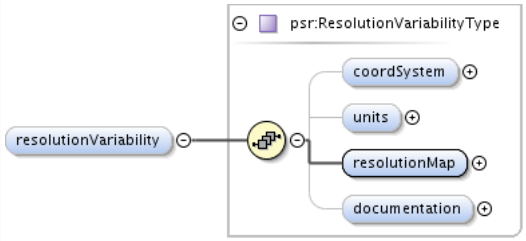
Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `psr:ResolutionSupportType / psr:documentation`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Defines and explains how this resolution has been estimated` `Type: URL.`
Diagram	
Type	cha:anyURIType
Properties	content: `complex` minOccurs: `0`
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`

```
  <xs:annotation>
    <xs:documentation>Defines and explains how this resolution has been estimated Type: URL.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

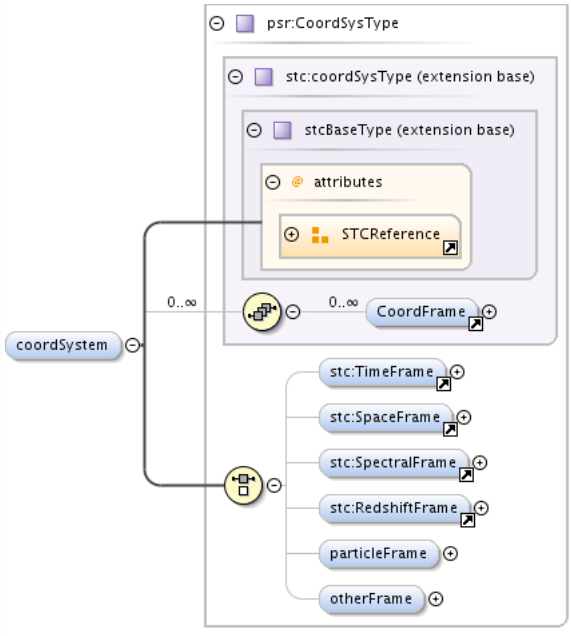
Element psr:ResolutionType / psr:resolutionVariability

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ResolutionVariabilityType
Properties	content: complex minOccurs: 0
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:resolutionMap , psr:documentation{0,1}
Children	psr:coordSystem, psr:documentation, psr:resolutionMap, psr:units

Instance	`<psr:resolutionVariability xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem>`
	`  <psr:units>{0,1}</psr:units>`
	`  <psr:resolutionMap>{1,1}</psr:resolutionMap>`
	`  <psr:documentation>{0,1}</psr:documentation>`
	`</psr:resolutionVariability>`

Source	`<xs:element name="resolutionVariability" type="psr:ResolutionVariabilityType" minOccurs="0"/>`

Element psr:ResolutionVariabilityType / psr:coordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex

	minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http:/ voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="\ stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:coordSystem>

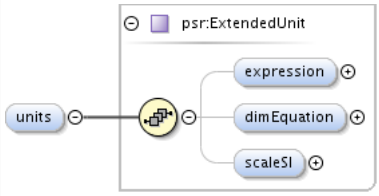
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

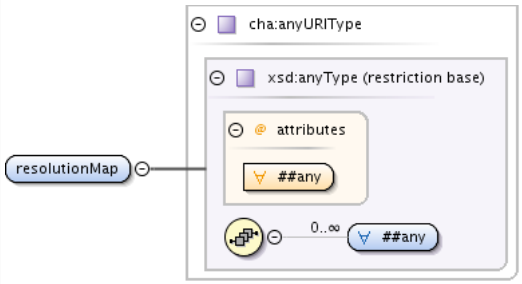
```
<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

Element psr:ResolutionVariabilityType / psr:units

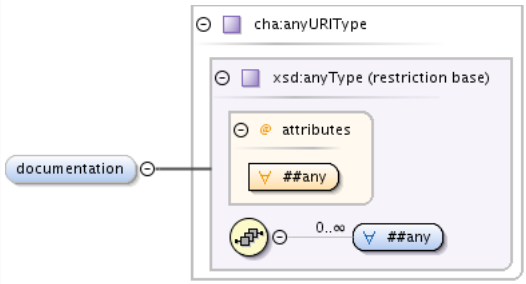
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"> <xs:annotation> <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs from the "unit" element of characterizationAxisType.</xs:documentation> </xs:annotation> </xs:element>

Element psr:ResolutionVariabilityType / psr:resolutionMap

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

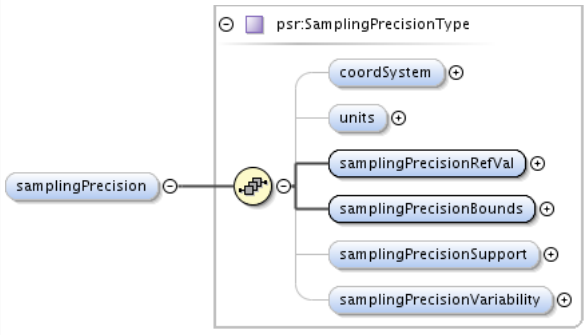
Diagram	
Type	cha:anyURIType
Properties	content: complex
Source	`<xs:element name="resolutionMap" type="cha:anyURIType"/>`

Element psr:ResolutionVariabilityType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines and explains how this resolution has been estimated Type: URL.
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

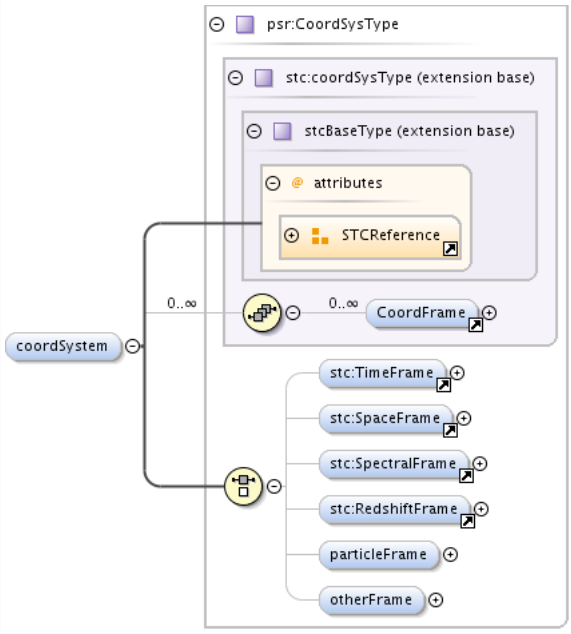
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>Defines and explains how this resolution has been estimated Type: URL.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:samplingPrecision

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	psr:SamplingPrecisionType
Properties	content: complex minOccurs: 0 maxOccurs: 1

Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:samplingPrecisionRefVal , psr:samplingPrecisionBounds , psr:samplingPrecisionSupport{0,1} , psr:samplingPrecisionVariability{0,1}
Children	psr:coordSystem, psr:samplingPrecisionBounds, psr:samplingPrecisionRefVal, psr:samplingPrecisionSupport, psr:samplingPrecisionVariability, psr:units
Instance	<psr:samplingPrecision xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:coordSystem> <psr:units>{0,1}</psr:units> <psr:samplingPrecisionRefVal>{1,1}</psr:samplingPrecisionRefVal> <psr:samplingPrecisionBounds>{1,1}</psr:samplingPrecisionBounds> <psr:samplingPrecisionSupport>{0,1}</psr:samplingPrecisionSupport> <psr:samplingPrecisionVariability>{0,1}</psr:samplingPrecisionVariability> </psr:samplingPrecision>
Source	<xs:element name="samplingPrecision" type="psr:SamplingPrecisionType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation> </xs:annotation> </xs:element>

Element `psr:SamplingPrecisionType / psr:coordSystem`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:coordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http:/ voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="\ </stc:RedshiftFrame>

```
  <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:particleFrame>
  <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:otherFrame>
</psr:coordSystem>
```

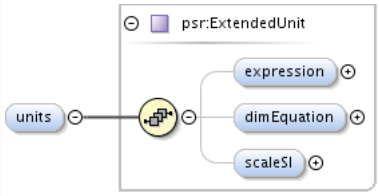
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
```

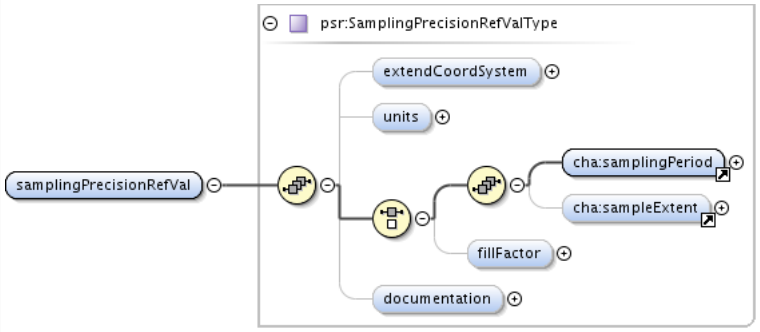
Element psr:SamplingPrecisionType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

Element psr:SamplingPrecisionType / psr:samplingPrecisionRefVal

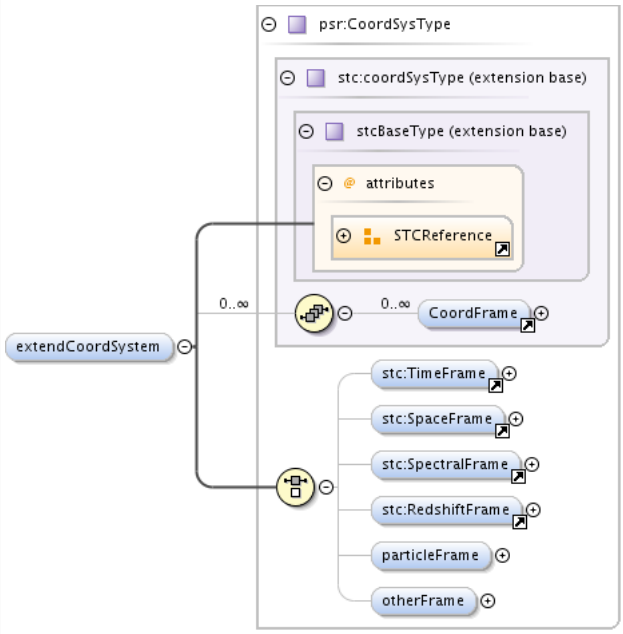
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:SamplingPrecisionRefValType
Properties	content: complex
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , ((cha:samplingPeriod , cha:sampleExtent{0,1}) | psr:fillFactor{0,1}) , psr:documentation{0,1}
Children	cha:sampleExtent, cha:samplingPeriod, psr:documentation, psr:extendCoordSystem, psr:fillFactor, psr:units
Instance	`<psr:samplingPrecisionRefVal xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`

```
  <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:extendCoordSystem>
  <psr:units>{0,1}</psr:units>
  <cha:samplingPeriod>{1,1}</cha:samplingPeriod>
  <cha:sampleExtent>{0,1}</cha:sampleExtent>
  <psr:fillFactor>{0,1}</psr:fillFactor>
  <psr:documentation>{0,1}</psr:documentation>
</psr:samplingPrecisionRefVal>
```

Source

```
<xs:element name="samplingPrecisionRefVal" type="psr:SamplingPrecisionRefValType"/>
```

Element `psr:SamplingPrecisionRefValType / psr:extendCoordSystem`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: `complex` minOccurs: `0`
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame

Instance

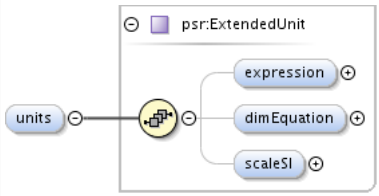
```
<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="
voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</
stc:CoordFrame>
  <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
stc:TimeFrame>
  <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
stc:SpaceFrame>
  <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
stc:SpectralFrame>
  <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="V
stc:RedshiftFrame>
  <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:particleFrame>
  <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:otherFrame>
</psr:extendCoordSystem>
```

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>`				

Element `psr:SamplingPrecisionRefValType / psr:units`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

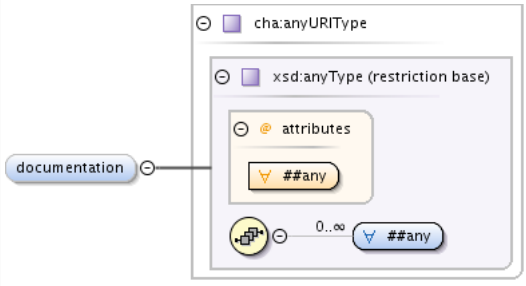
Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

Element `psr:SamplingPrecisionRefValType / psr:fillFactor`

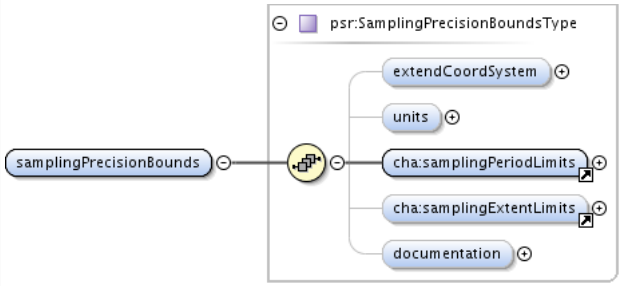
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	xs:double
Properties	content: simple minOccurs: 0
Source	`<xs:element name="fillFactor" type="xs:double" minOccurs="0"/>`

Element `psr:SamplingPrecisionRefValType / psr:documentation`

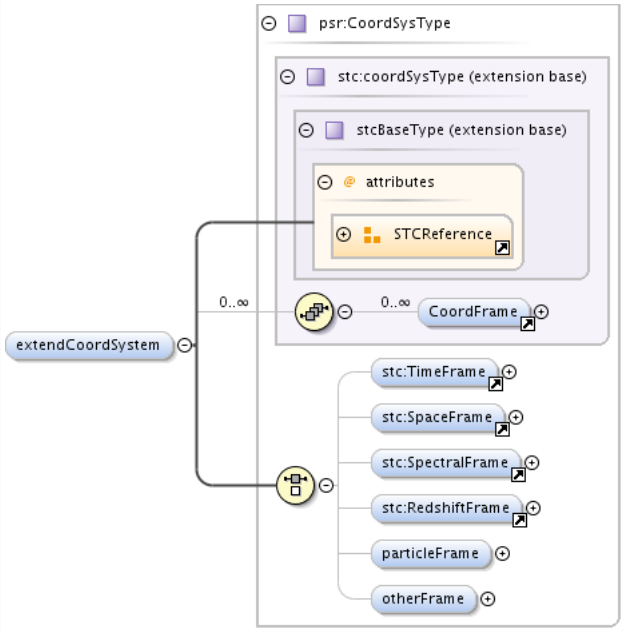
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Explains how the fill factor is estimated . Type: URI
Diagram	
Type	cha:anyURIType
Properties	content: complex

	minOccurs: 0
Source	<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>Explains how the fill factor is estimated . Type: URI</xs:documentation> </xs:annotation> </xs:element>

Element psr:SamplingPrecisionType / psr:samplingPrecisionBounds

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:SamplingPrecisionBoundsType
Properties	content: complex minOccurs: 1
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , cha:samplingPeriodLimits , cha:samplingExtentLimits{0,1} , psr:documentation{0,1}
Children	cha:samplingExtentLimits, cha:samplingPeriodLimits, psr:documentation, psr:extendCoordSystem, psr:units
Instance	<psr:samplingPrecisionBounds xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:units>{0,1}</psr:units> <cha:samplingPeriodLimits>{1,1}</cha:samplingPeriodLimits> <cha:samplingExtentLimits>{0,1}</cha:samplingExtentLimits> <psr:documentation>{0,1}</psr:documentation> </psr:samplingPrecisionBounds>
Source	<xs:element name="samplingPrecisionBounds" type="psr:SamplingPrecisionBoundsType" minOccurs="1"/>

Element psr:SamplingPrecisionBoundsType / psr:extendCoordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

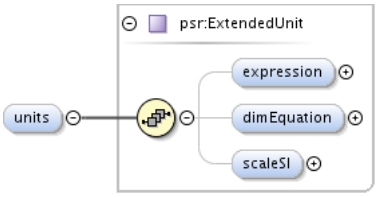
Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:extendCoordSystem>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

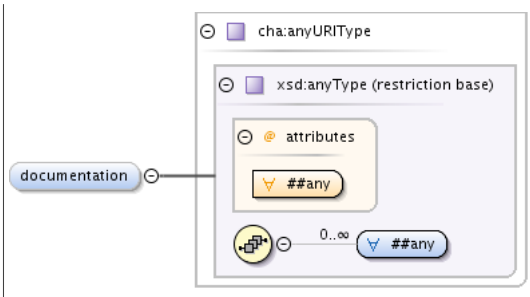
Source: `<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>`

Element psr:SamplingPrecisionBoundsType / psr:units

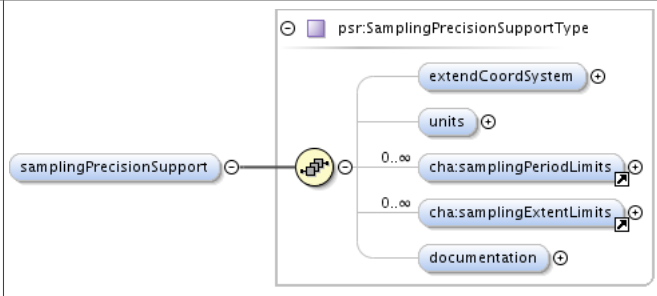
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Instance	<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:units>
Source	<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>

Element psr:SamplingPrecisionBoundsType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

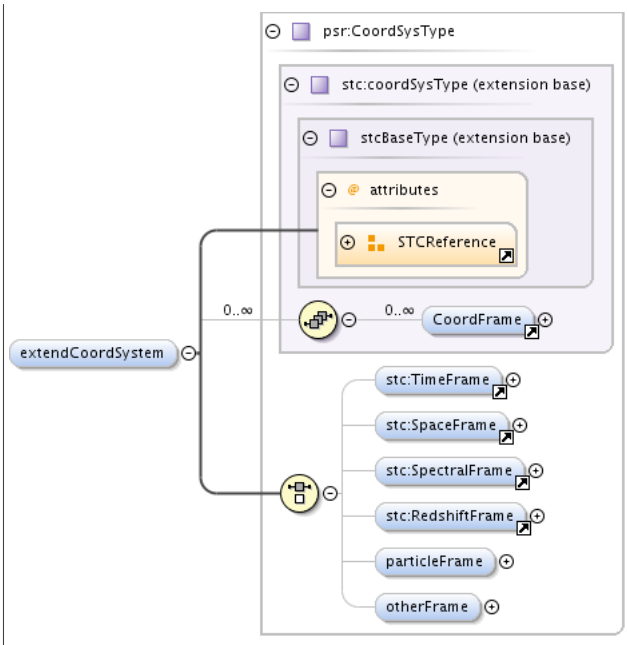
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"/>`

Element psr:SamplingPrecisionType / psr:samplingPrecisionSupport

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:SamplingPrecisionSupportType
Properties	content: complex minOccurs: 0
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , cha:samplingPeriodLimits* , cha:samplingExtentLimits* , psr:documentation{0,1}
Children	cha:samplingExtentLimits, cha:samplingPeriodLimits, psr:documentation, psr:extendCoordSystem, psr:units
Instance	`<psr:samplingPrecisionSupport xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"><psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem><psr:units>{0,1}</psr:units><cha:samplingPeriodLimits>{0,unbounded}</cha:samplingPeriodLimits><cha:samplingExtentLimits>{0,unbounded}</cha:samplingExtentLimits><psr:documentation>{0,1}</psr:documentation></psr:samplingPrecisionSupport>`
Source	`<xs:element name="samplingPrecisionSupport" type="psr:SamplingPrecisionSupportType" minOccurs="0"/>`

Element psr:SamplingPrecisionSupportType / psr:extendCoordSystem

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</ stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" stc:RedshiftFrame> <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ psr:otherFrame> </psr:extendCoordSystem>

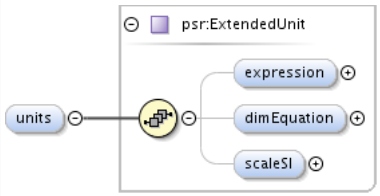
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>

Element psr:SamplingPrecisionSupportType / psr:units

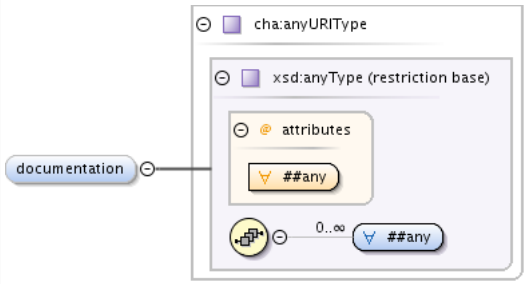
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

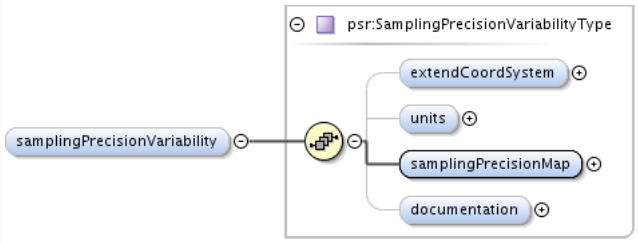
Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

Element psr:SamplingPrecisionSupportType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

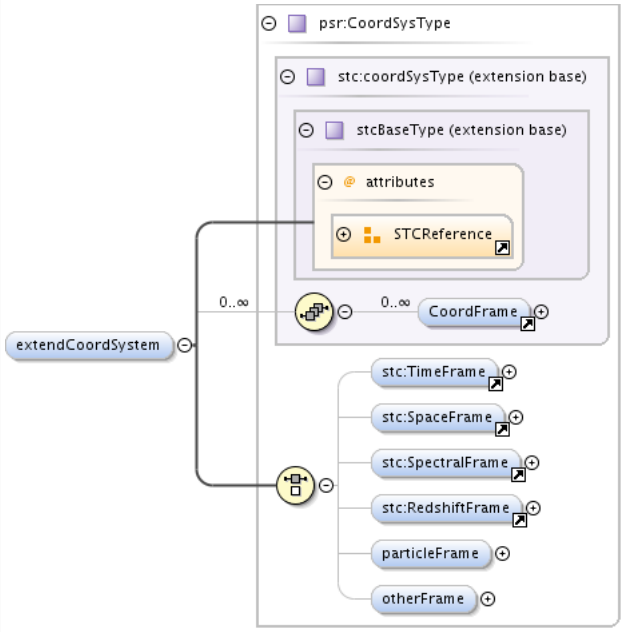
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:SamplingPrecisionType / psr:samplingPrecisionVariability

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:SamplingPrecisionVariabilityType
Properties	content: complex minOccurs: 0
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:samplingPrecisionMap , psr:documentation{0,1}

Children	psr:documentation, psr:extendCoordSystem, psr:samplingPrecisionMap, psr:units
Instance	<psr:samplingPrecisionVariability xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:extendCoordSystem> <psr:units>{0,1}</psr:units> <psr:samplingPrecisionMap>{1,1}</psr:samplingPrecisionMap> <psr:documentation>{0,1}</psr:documentation> </psr:samplingPrecisionVariability>
Source	<xs:element name="samplingPrecisionVariability" type="psr:SamplingPrecisionVariabilityType" minOccurs="0"/>

Element `psr:SamplingPrecisionVariabilityType / psr:extendCoordSystem`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:CoordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

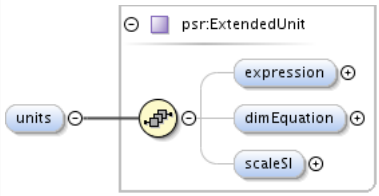
Properties	content: complex minOccurs: 0
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame
Instance	<psr:extendCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr=" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordFrame> <stc:TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:TimeFrame> <stc:SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpaceFrame> <stc:SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:SpectralFrame> <stc:RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type=" <psr:particleFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:particleFrame> <psr:otherFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</psr:otherFrame> </psr:extendCoordSystem>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>`				

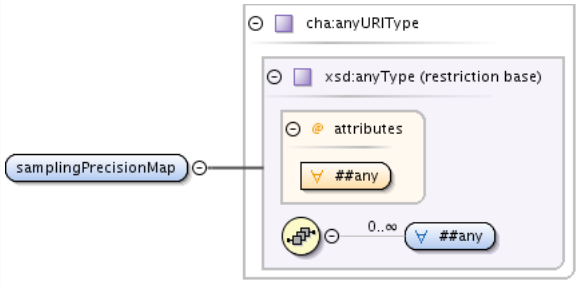
Element psr:SamplingPrecisionVariabilityType / psr:units

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	psr:ExtendedUnit
Properties	content: complex minOccurs: 0
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI

Instance	`<psr:units xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:expression>{0,1}</psr:expression>`
	`  <psr:dimEquation>{0,1}</psr:dimEquation>`
	`  <psr:scaleSI>{0,1}</psr:scaleSI>`
	`</psr:units>`

Source	`<xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`

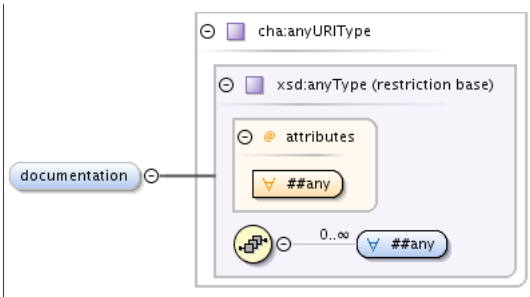
Element psr:SamplingPrecisionVariabilityType / psr:samplingPrecisionMap

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type
Diagram	
Type	cha:anyURIType
Properties	content: complex

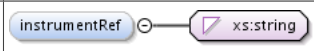
Source	`<xs:element name="samplingPrecisionMap" type="cha:anyURIType">`
	`  <xs:annotation>`
	`  <xs:documentation>This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:SamplingPrecisionVariabilityType / psr:documentation

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	`<xs:element name="documentation" type="cha:anyURIType" minOccurs="0"/>`

Element psr:ParameterAxisType / psr:instrumentRef

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	List of Instruments used for this parameter. They are referenced by their "instrument-id" as defined in the corresponding "Instrument" element.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: unbounded

Source	`<xs:element name="instrumentRef" type="xs:string" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:documentation>List of Instruments used for this parameter. They are referenced by their`
	`"instrument-id" as defined in the corresponding "Instrument" element.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:targetRef

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	List of Targets corresponding to this parameter. They are referenced by their "target-id" as defined in the corresponding "Target" element.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: unbounded

Source	`<xs:element name="targetRef" type="xs:string" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:documentation>List of Targets corresponding to this parameter. They are referenced by their`
	`"target-id" as defined in the corresponding "Target" element.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:ParameterAxisType / psr:axisRef

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	List of Axis used for this parameter. They are referenced by their "axis-id" as defined in the corresponding "Axis" element.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

	maxOccurs:	unbounded
Source	<xs:element name="axisRef" type="xs:string" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>List of Axis used for this parameter. They are referenced by their "axis-id" as defined in the corresponding "Axis" element.</xs:documentation> </xs:annotation> </xs:element>	

Element psr:ParameterAxisType / psr:sensingMode

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	TBD	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	remote
	enumeration	in situ
	enumeration	both
Source	<xs:element name="sensingMode" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="remote"/> <xs:enumeration value="in situ"/> <xs:enumeration value="both"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:ParameterAxisType / psr:SensingType

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	TBD	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	active
	enumeration	passive
	enumeration	both
Source	<xs:element name="SensingType" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>TBD</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="active"/> <xs:enumeration value="passive"/> <xs:enumeration value="both"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:ParameterAxisType / psr:dataSourceClass

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

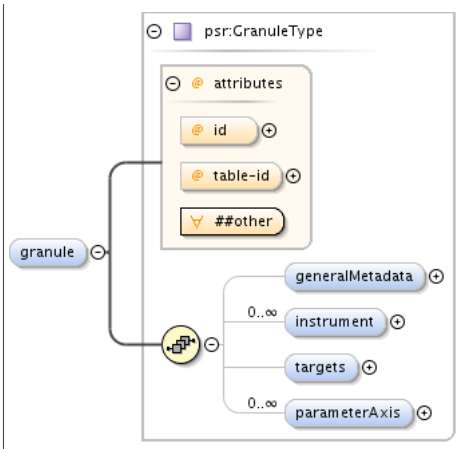
Annotations	Source of the parameter, i.e from measurement, model, or mixed.
Diagram	
Type	restriction of xs:string
Properties	content: simple minOccurs: 0 maxOccurs: 1
Facets	enumeration measurement enumeration model enumeration mixed
Source	<xs:element name="dataSourceClass" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Source of the parameter, i.e from measurement, model, or mixed.</ xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="measurement"/> <xs:enumeration value="model"/> <xs:enumeration value="mixed"/> </xs:restriction> </xs:simpleType> </xs:element>

Element psr:ParameterAxisType / psr:processingLevel

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Level of processing of the data.
Diagram	
Type	restriction of xs:string
Properties	content: simple minOccurs: 0
Facets	enumeration raw (compressed telemetry data) enumeration uncalibrated (uncompressed telemetry data) enumeration partially calibrated (partially calibrated data) enumeration calibrated (fully calibrated data) enumeration derived
Source	<xs:element name="processingLevel" minOccurs="0"> <xs:annotation> <xs:documentation>Level of processing of the data.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="raw (compressed telemetry data)"/> <xs:enumeration value="uncalibrated (uncompressed telemetry data)"/> <xs:enumeration value="partially calibrated (partially calibrated data)"/> <xs:enumeration value="calibrated (fully calibrated data)"/> <xs:enumeration value="derived"/> </xs:restriction> </xs:simpleType> </xs:element>

Element psr:DatasetType / psr:granule

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Define the granule (or product) in terms of rights, format, reader.

Diagram	
Type	psr:GranuleType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:generalMetadata{0,1} , psr:instrument* , psr:targets{0,1} , psr:parameterAxis*
Children	psr:generalMetadata, psr:instrument, psr:parameterAxis, psr:targets

Instance	`<psr:granule id="" table-id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`<psr:generalMetadata created="" status="" updated="">{0,1}</psr:generalMetadata>`
	`<psr:instrument id="">{0,unbounded}</psr:instrument>`
	`<psr:targets>{0,1}</psr:targets>`
	`<psr:parameterAxis parameterAxis-id="">{0,unbounded}</psr:parameterAxis>`
	`</psr:granule>`

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	Token providing a unique identifier to the granule. It could be a numeric value or a short string.			
table-id	xs:token			optional
	Token pointing to a unique identifier of a table in a tableset element. It could be a numeric value or a short string.			

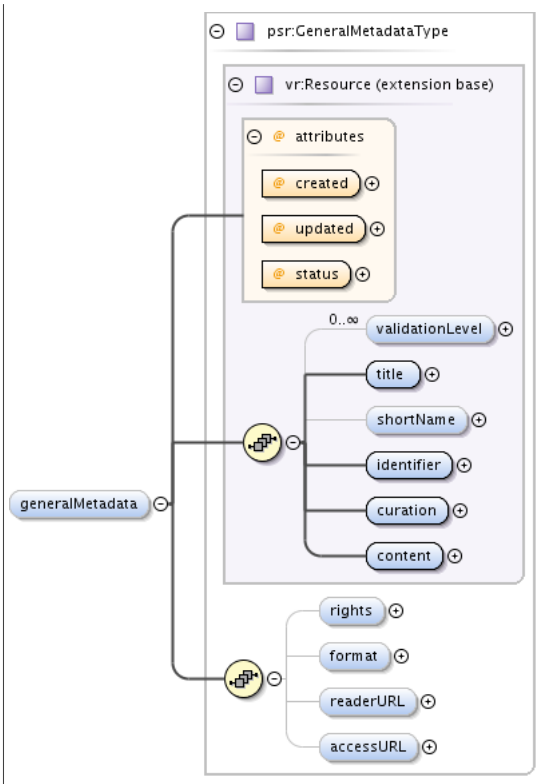
Source

```
<xs:element name="granule" type="psr:GranuleType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Define the granule (or product) in terms of rights, format, reader.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:GranuleType / psr:generalMetadata

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	General information about the dataset in terms of rights, format, readerURL, accesURL, ...

Diagram



Type: psr:GeneralMetadataType

Type hierarchy:
- vr:Resource
  - psr:GeneralMetadataType

Properties

content:	complex
minOccurs:	0
maxOccurs:	1

Model: validationLevel* , title , shortName{0,1} , identifier , curation , content , psr:rights{0,1} , psr:format{0,1} , psr:readerURL{0,1} , psr:accessURL{0,1}

Children: content, curation, identifier, psr:accessURL, psr:format, psr:readerURL, psr:rights, shortName, title, validationLevel

Instance

```
<psr:generalMetadata created="" status="" updated="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <validationLevel validatedBy="">{0,unbounded}</validationLevel>
  <title>{1,1}</title>
  <shortName>{0,1}</shortName>
  <identifier>{1,1}</identifier>
  <curation>{1,1}</curation>
  <content>{1,1}</content>
  <psr:rights>{0,1}</psr:rights>
  <psr:format compressed="false">{0,1}</psr:format>
  <psr:readerURL>{0,1}</psr:readerURL>
  <psr:accessURL use="">{0,1}</psr:accessURL>
</psr:generalMetadata>
```

Attributes

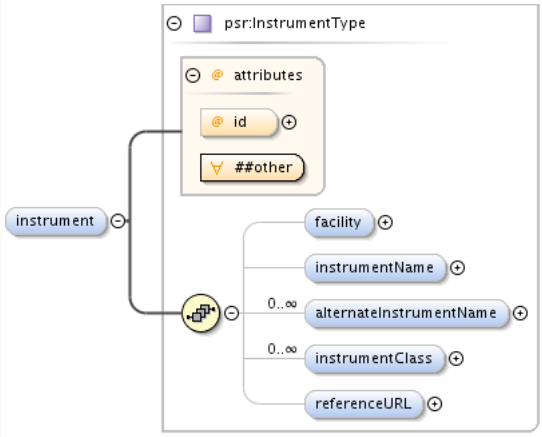
QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated.			

	QName	Type	Fixed	Default	Use
		This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:element name="generalMetadata" type="psr:GeneralMetadataType" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>General information about the dataset in terms of rights, format, readerURL,
 accesURL, ...</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:GranuleType / psr:instrument

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The definition of the instrument used to acquire the data (if relevant).
Diagram	
Type	psr:InstrumentType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:facility{0,1} , psr:instrumentName{0,1} , psr:alternateInstrumentName* , psr:instrumentClass* , psr:referenceURL{0,1}
Children	psr:alternateInstrumentName, psr:facility, psr:instrumentClass, psr:instrumentName, psr:referenceURL

Instance

```
<psr:instrument id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <psr:facility class="" ivo-id="">{0,1}</psr:facility>
  <psr:instrumentName ivo-id="">{0,1}</psr:instrumentName>
  <psr:alternateInstrumentName>{0,unbounded}</psr:alternateInstrumentName>
  <psr:instrumentClass>{0,unbounded}</psr:instrumentClass>
  <psr:referenceURL use="">{0,1}</psr:referenceURL>
</psr:instrument>
```

Attributes

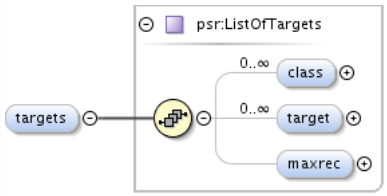
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	A key which identify the instrument used to collect the data contain or managed by a resource.			

Source

```
<xs:element name="instrument" type="psr:InstrumentType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>The definition of the instrument used to acquire the data (if relevant).</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:GranuleType / psr:targets

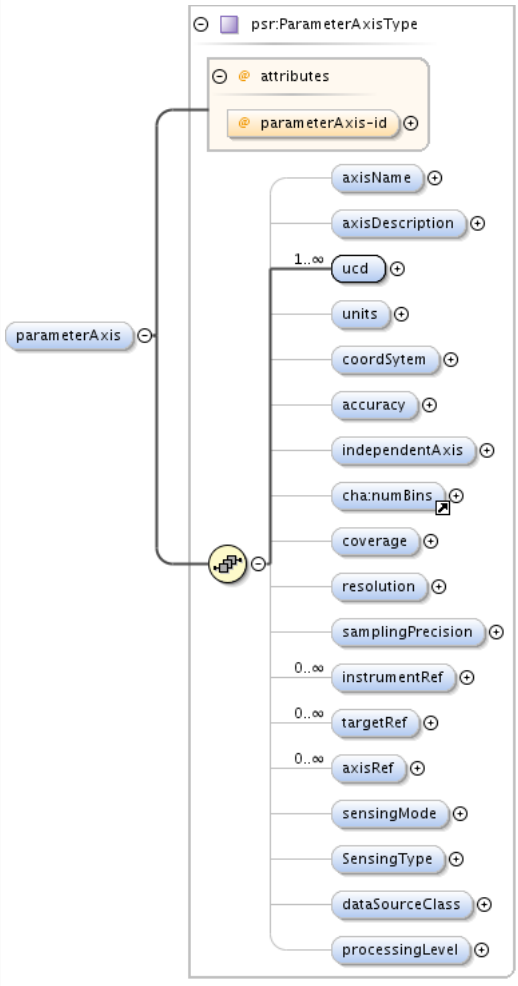
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines the targets to which the dataset or the product applies to. Multiple combinations can be defined, mixing type and name elements.

Diagram	
Type	psr:ListOfTargets
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:class* , psr:target* , psr:maxrec{0,1}
Children	psr:class, psr:maxrec, psr:target

Instance	`<psr:targets xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:class>{0,unbounded}</psr:class>`
	`  <psr:target id="">{0,unbounded}</psr:target>`
	`  <psr:maxrec>{0,1}</psr:maxrec>`
	`</psr:targets>`

Source	`<xs:element name="targets" type="psr:ListOfTargets" minOccurs="0" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>Defines the targets to which the dataset or the product applies to. Multiple combinations can be defined, mixing type and name elements.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `psr:GranuleType / psr:parameterAxis`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines the ... TBC
Diagram	

Type	psr:ParameterAxisType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:axisName{0,1} , psr:axisDescription{0,1} , psr:ucd+ , psr:units{0,1} , psr:coordSytem{0,1} , psr:accuracy{0,1} , psr:independentAxis{0,1} , cha:numBins{0,1} , psr:coverage{0,1} , psr:resolution{0,1} , psr:samplingPrecision{0,1} , psr:instrumentRef* , psr:targetRef* , psr:axisRef* , psr:sensingMode{0,1} , psr:SensingType{0,1} , psr:dataSourceClass{0,1} , psr:processingLevel{0,1}
Children	cha:numBins, psr:SensingType, psr:accuracy, psr:axisDescription, psr:axisName, psr:axisRef, psr:coordSytem, psr:coverage, psr:dataSourceClass, psr:independentAxis, psr:instrumentRef, psr:processingLevel, psr:resolution, psr:samplingPrecision, psr:sensingMode, psr:targetRef, psr:ucd, psr:units

Instance

```
<psr:parameterAxis parameterAxis-id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/
v1.0" xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">
  <psr:axisName>{0,1}</psr:axisName>
  <psr:axisDescription>{0,1}</psr:axisDescription>
  <psr:ucd>{1,unbounded}</psr:ucd>
  <psr:units>{0,1}</psr:units>
  <psr:coordSytem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
psr:coordSytem>
  <psr:accuracy>{0,1}</psr:accuracy>
  <psr:independentAxis>{0,1}</psr:independentAxis>
  <cha:numBins>{0,1}</cha:numBins>
  <psr:coverage>{0,1}</psr:coverage>
  <psr:resolution>{0,1}</psr:resolution>
  <psr:samplingPrecision>{0,1}</psr:samplingPrecision>
  <psr:instrumentRef>{0,unbounded}</psr:instrumentRef>
  <psr:targetRef>{0,unbounded}</psr:targetRef>
  <psr:axisRef>{0,unbounded}</psr:axisRef>
  <psr:sensingMode>{0,1}</psr:sensingMode>
  <psr:SensingType>{0,1}</psr:SensingType>
  <psr:dataSourceClass>{0,1}</psr:dataSourceClass>
  <psr:processingLevel>{0,1}</psr:processingLevel>
</psr:parameterAxis>
```

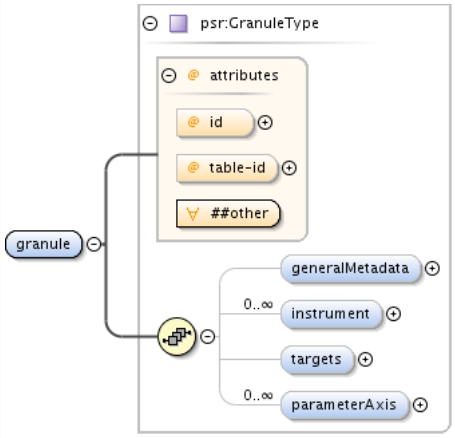
Attributes

QName	Type	Fixed	Default	Use
parameterAxis-id	xs:string			optional

Source

```
<xs:element name="parameterAxis" type="psr:ParameterAxisType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>Defines the ... TBC</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ResourceType / psr:granule

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Define the granule (or product) in terms of rights, format, reader.
Diagram	
Type	psr:GranuleType
Properties	content: complex minOccurs: 1 maxOccurs: 1

Model	psr:generalMetadata{0,1} , psr:instrument* , psr:targets{0,1} , psr:parameterAxis*
Children	psr:generalMetadata, psr:instrument, psr:parameterAxis, psr:targets
Instance	<psr:granule id="" table-id="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:generalMetadata created="" status="" updated="">{0,1}</psr:generalMetadata> <psr:instrument id="">{0,unbounded}</psr:instrument> <psr:targets>{0,1}</psr:targets> <psr:parameterAxis parameterAxis-id="">{0,unbounded}</psr:parameterAxis> </psr:granule>

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	Token providing a unique identifier to the granule. It could be a numeric value or a short string.			
table-id	xs:token			optional
	Token pointing to a unique identifier of a table in a tableset element. It could be a numeric value or a short string.			

Source

```
<xs:element name="granule" type="psr:GranuleType" minOccurs="1" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Define the granule (or product) in terms of rights, format, reader.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:ResourceType / psr:datasource

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the sources of the resource, e.g. observational or lab or ...
Diagram	
Type	restriction of xs:string

Properties

content:	simple
minOccurs:	0
maxOccurs:	1

Facets

enumeration	observational
enumeration	laboratory
enumeration	simulation
enumeration	mixed

Source

```
<xs:element name="datasource" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Definition of the sources of the resource, e.g. observational or lab or ...</
xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="observational"/>
      <xs:enumeration value="laboratory"/>
      <xs:enumeration value="simulation"/>
      <xs:enumeration value="mixed"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

Element psr:ResourceType / psr:dataproduct

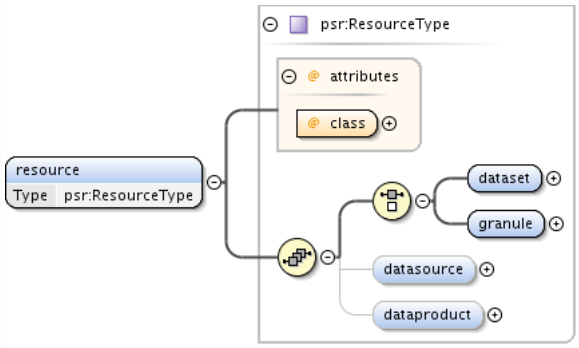
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the high level scientific organization of the data product being considered.
Diagram	

Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	image
	enumeration	spectrum
	enumeration	dynamic_spectrum
	enumeration	spectral_cube
	enumeration	profile
	enumeration	volume
	enumeration	movie
	enumeration	cube
	enumeration	timeseries
	enumeration	catalogue
	enumeration	spatial_vector

Source

```
<xs:element name="dataproduct" minOccurs="0" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>Definition of the high level scientific organization of the data product being
 considered.</xs:documentation>
  </xs:annotation>
  <xs:simpleType>
    <xs:restriction base="xs:string">
      <xs:enumeration value="image"/>
      <xs:enumeration value="spectrum"/>
      <xs:enumeration value="dynamic_spectrum"/>
      <xs:enumeration value="spectral_cube"/>
      <xs:enumeration value="profile"/>
      <xs:enumeration value="volume"/>
      <xs:enumeration value="movie"/>
      <xs:enumeration value="cube"/>
      <xs:enumeration value="timeseries"/>
      <xs:enumeration value="catalogue"/>
      <xs:enumeration value="spatial_vector"/>
    </xs:restriction>
  </xs:simpleType>
</xs:element>
```

Element psr:DataService / psr:resource

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The class of the resource, to be defined as a dataset or a granule.
Diagram	

Type	psr:ResourceType	
Properties	content:	complex
	minOccurs:	1
	maxOccurs:	1
Model	(psr:dataset | psr:granule) , psr:datasource{0,1} , psr:dataproduct{0,1}	
Children	psr:dataproduct, psr:dataset, psr:datasource, psr:granule	
Instance	<psr:resource class="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:dataset id="">{1,1}</psr:dataset>	

```
  <psr:granule id="" table-id="">{1,1}</psr:granule>
  <psr:datasource>{0,1}</psr:datasource>
  <psr:dataproduct>{0,1}</psr:dataproduct>
</psr:resource>
```

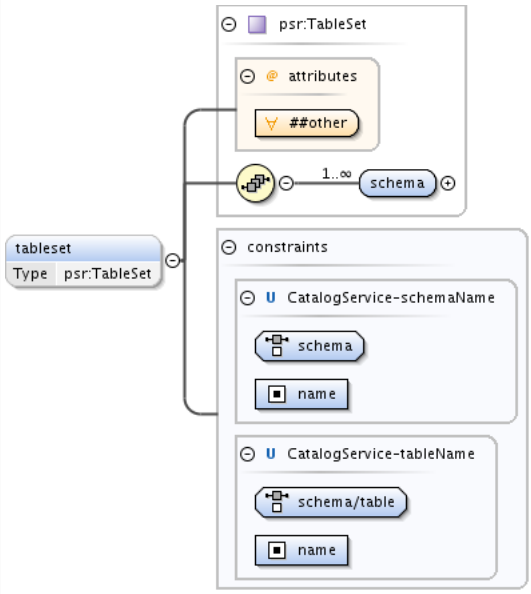
Attributes

QName	Type	Fixed	Default	Use
class	psr:ResourceClassType			required
	The key which identify the class of the resource, a dataset or a granule			

Source

```
<xs:element name="resource" type="psr:ResourceType" minOccurs="1" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>The class of the resource, to be defined as a dataset or a granule.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:DataService / psr:tableset

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A description of the tables that are accessible through this service. Each schema name and each table name must be unique within this tableset. This element is an extended clone of the vs:tableset element which allows a more precise definition of the table parameters.
Diagram	
Type	psr:TableSet
Properties	content: complex minOccurs: 0 maxOccurs: 1
Model	psr:schema+
Children	psr:schema

Instance

```
<psr:tableset xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">
  <psr:schema>{1,unbounded}</psr:schema>
</psr:tableset>
```

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				

Source

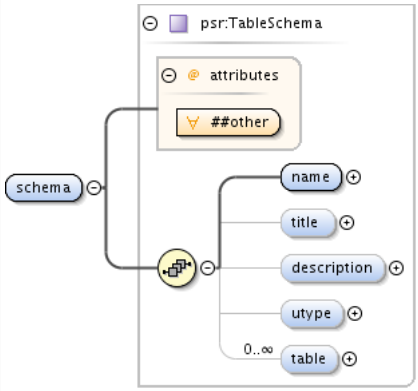
```
<xs:element name="tableset" type="psr:TableSet" minOccurs="0" maxOccurs="1">
  <xs:annotation>
```

```
    <xs:documentation>A description of the tables that are accessible through this service.</
xs:documentation>
    <xs:documentation>Each schema name and each table name must be unique within this tableset.</
xs:documentation>
    <xs:documentation>This element is an extended clone of the vs:tableset element which allows a
 more precise definition of the table parameters.</xs:documentation>
  </xs:annotation>
  <xs:unique name="CatalogService-schemaName">
    <xs:selector xpath="schema"/>
    <xs:field xpath="name"/>
  </xs:unique>
  <xs:unique name="CatalogService-tableName">
    <xs:selector xpath="schema/table"/>
    <xs:field xpath="name"/>
  </xs:unique>
</xs:element>
```

Element `psr:TableSet / psr:schema`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	`A named description of a set of logically related tables of parameters.`
	
	`The name given by the "name" child element must be unique within this TableSet instance. If there is only one schema in this set and/or there's no locally appropriate name to provide, the name can be set to "default".`
	
	`This aggregation does not need to map to an actual database, catalog, or schema, though the publisher may choose to aggregate along such designations, or particular service protocol may recommend it.`

Diagram	
Type	psr:TableSchema
Properties	content: `complex` minOccurs: `1` maxOccurs: `unbounded`
Model	psr:name , psr:title{0,1} , psr:description{0,1} , psr:utype{0,1} , psr:table*
Children	psr:description, psr:name, psr:table, psr:title, psr:utype

Instance	`<psr:schema xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:name>{1,1}</psr:name>`
	`  <psr:title>{0,1}</psr:title>`
	`  <psr:description>{0,1}</psr:description>`
	`  <psr:utype>{0,1}</psr:utype>`
	`  <psr:table id="" type="">{0,unbounded}</psr:table>`
	`</psr:schema>`

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				

Source

```
<xs:element name="schema" type="psr:TableSchema" minOccurs="1" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A named description of a set of logically related tables of parameters.</
xs:documentation>
```

```
    <xs:documentation>The name given by the "name" child element must be unique within this TableSet
 instance. If there is only one schema in this set and/or there's no locally appropriate name to
 provide, the name can be set to "default".</xs:documentation>
    <xs:documentation>This aggregation does not need to map to an actual database, catalog, or
 schema, though the publisher may choose to aggregate along such designations, or particular service
 protocol may recommend it.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:TableSchema / psr:name

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A name for the set of tables. This is used to uniquely identify the table set among several table sets. If a title is not present, this name can be used for display purposes. If there is no appropriate logical name associated with this set, the name should be explicitly set to "default".
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 1 maxOccurs: 1

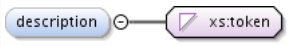
Source	`<xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>A name for the set of tables.</xs:documentation>`
	`  <xs:documentation>This is used to uniquely identify the table set among several table sets. If a title is not present, this name can be used for display purposes.</xs:documentation>`
	`  <xs:documentation>If there is no appropriate logical name associated with this set, the name should be explicitly set to "default".</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:TableSchema / psr:title

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	a descriptive, human-interpretable name for the table set. This is used for display purposes. There is no requirement regarding uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset; otherwise, the resource title could be used instead).
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

Source	`<xs:element name="title" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>a descriptive, human-interpretable name for the table set.</xs:documentation>`
	`  <xs:documentation>This is used for display purposes. There is no requirement regarding uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset; otherwise, the resource title could be used instead).</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element psr:TableSchema / psr:description

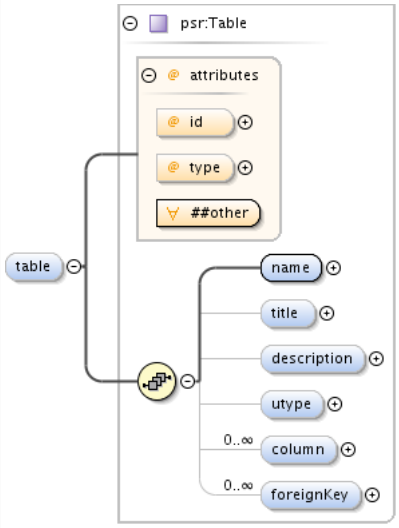
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A free text description of the tableset that should explain in general how all of the tables are related.
Diagram	

Type	xs:token
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="description" type="xs:token" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>A free text description of the tableset that should explain in general how all of the tables are related.</xs:documentation> </xs:annotation> </xs:element>

Element psr:TableSchema / psr:utype

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	an identifier for a concept in a data model that the data in this schema as a whole represent. The format defined in the VOTable standard is strongly recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the data in this schema as a whole represent.</xs:documentation> <xs:documentation>The format defined in the VOTable standard is strongly recommended.</xs:documentation> </xs:annotation> </xs:element>

Element psr:TableSchema / psr:table

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A description of one of the tables that makes up the set. The table names for the table should be unique.
Diagram	
Type	psr:Table
Properties	content: complex minOccurs: 0 maxOccurs: unbounded

Model	psr:name , psr:title{0,1} , psr:description{0,1} , psr:utype{0,1} , psr:column* , psr:foreignKey*
Children	psr:column, psr:description, psr:foreignKey, psr:name, psr:title, psr:utype
Instance	<psr:table id="" type="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:name>{1,1}</psr:name> <psr:title>{0,1}</psr:title> <psr:description>{0,1}</psr:description> <psr:utype>{0,1}</psr:utype> <psr:column id="" std="">{0,unbounded}</psr:column> <psr:foreignKey>{0,unbounded}</psr:foreignKey> </psr:table>

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	Token providing a unique identifier to the tableset. It could be a numeric value or a short string. It could be used to link a granule and the description of its content (in terms of columns of data).			
type	xs:string			optional
	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.			

Source

```
<xs:element name="table" type="psr:Table" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A description of one of the tables that makes up the set.</xs:documentation>
    <xs:documentation>The table names for the table should be unique.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:Table / psr:name

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	the fully qualified name of the table. This name should include all catalog or schema prefixes needed to sufficiently uniquely distinguish it in a query. In general, the format of the qualified name may depend on the context; however, when the table is intended to be queryable via ADQL, then the catalog and schema qualifiers are delimited from the table name with dots (.).
Diagram	
Type	xs:token

Properties

content:	simple
minOccurs:	1
maxOccurs:	1

Source

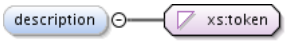
```
<xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>the fully qualified name of the table. This name should include all catalog or
 schema prefixes needed to sufficiently uniquely distinguish it in a query.</xs:documentation>
    <xs:documentation>In general, the format of the qualified name may depend on the context;
 however, when the table is intended to be queryable via ADQL, then the catalog and schema
 qualifiers are delimited from the table name with dots (.).</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:Table / psr:title

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Annotations	a descriptive, human-interpretable name for the table. This is used for display purposes. There is no requirement regarding uniqueness.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="title" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>a descriptive, human-interpretable name for the table.</xs:documentation> <xs:documentation>This is used for display purposes. There is no requirement regarding uniqueness.</xs:documentation> </xs:annotation> </xs:element>

Element psr:Table / psr:description

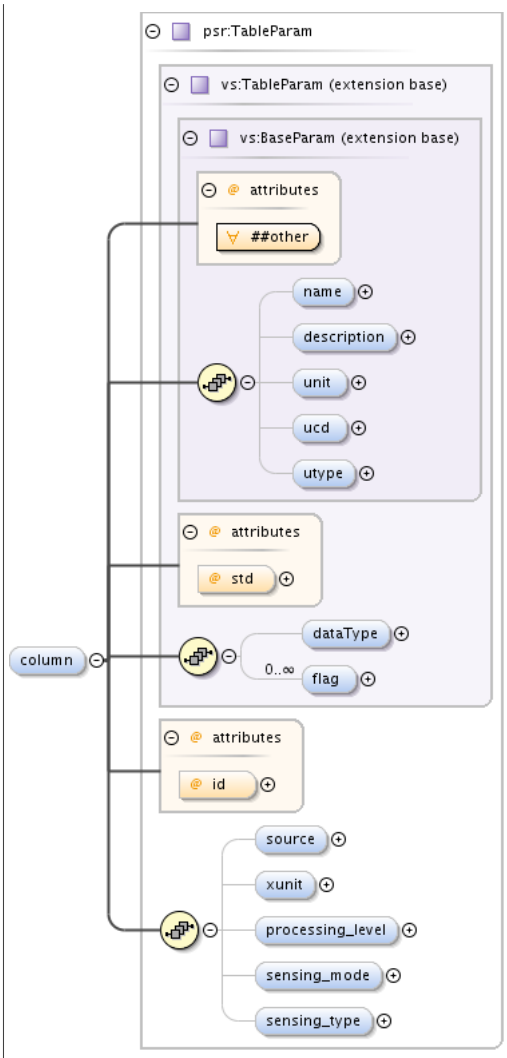
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	a free-text description of the table's contents
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="description" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>a free-text description of the table's contents</xs:documentation> </xs:annotation> </xs:element>

Element psr:Table / psr:utype

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	an identifier for a concept in a data model that the data in this table represent. The format defined in the VOTable standard is highly recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the data in this table represent.</xs:documentation> <xs:documentation>The format defined in the VOTable standard is highly recommended.</xs:documentation> </xs:annotation> </xs:element>

Element psr:Table / psr:column

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	a description of a table column.

Diagram	
Type	psr:TableParam

Type hierarchy	• vs:BaseParam
	  • vs:TableParam
	  • psr:TableParam

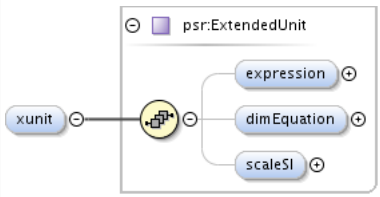
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1} , flag* , psr:source{0,1} , psr:xunit{0,1} , psr:processing_level{0,1} , psr:sensing_mode{0,1} , psr:sensing_type{0,1}
Children	dataType, description, flag, name, psr:processing_level, psr:sensing_mode, psr:sensing_type, psr:source, psr:xunit, ucd, unit, utype
Instance	<psr:column id="" std="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <name>{0,1}</name> <description>{0,1}</description> <unit>{0,1}</unit> <ucd>{0,1}</ucd> <utype>{0,1}</utype> <dataType arraysize="1" delim=" " extendedSchema="" extendedType="">{0,1}</dataType> <flag>{0,unbounded}</flag> <psr:source>{0,1}</psr:source> <psr:xunit>{0,1}</psr:xunit> <psr:processing_level>{0,1}</psr:processing_level> <psr:sensing_mode>{0,1}</psr:sensing_mode> <psr:sensing_type>{0,1}</psr:sensing_type> </psr:column>

Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
	id	xs:token			optional
		Token providing a unique identifier to the parameter. It could be a numeric value or a short string.			
	std	xs:boolean			optional
		If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.			
Source	<xs:element name="column" type="psr:TableParam" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>a description of a table column.</xs:documentation> </xs:annotation> </xs:element>				

Element psr:TableParam / psr:source

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Source of the parameter, i.e from measurement, model, or mixed.	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	measurement
	enumeration	model
	enumeration	mixed
Source	<xs:element name="source" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Source of the parameter, i.e from measurement, model, or mixed.</ xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="measurement"/> <xs:enumeration value="model"/> <xs:enumeration value="mixed"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:TableParam / psr:xunit

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Defines the unit by an expression or a dimensional equation and a scale system. For simple unit (e.g. int, float), prefer the vs:unit element.	
Diagram		
Type	psr:ExtendedUnit	
Properties	content:	complex
	minOccurs:	0

	maxOccurs:	1
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}	
Children	psr:dimEquation, psr:expression, psr:scaleSI	
Instance	<psr:xunit xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <psr:expression>{0,1}</psr:expression> <psr:dimEquation>{0,1}</psr:dimEquation> <psr:scaleSI>{0,1}</psr:scaleSI> </psr:xunit>	
Source	<xs:element name="xunit" type="psr:ExtendedUnit" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Defines the unit by an expression or a dimensional equation and a scale system. For simple unit (e.g. int, float), prefer the vs:unit element.</xs:documentation> </xs:annotation> </xs:element>	

Element psr:TableParam / psr:processing_level

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Processing level (TBD). Raw = compressed telemetry data, Uncalibrated = uncompressed telemetry data, Partially calibrated = partially calibrated data, Calibrated = fully calibrated data	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	raw
	enumeration	uncalibrated
	enumeration	partially calibrated
	enumeration	calibrated
	enumeration	derived
Source	<xs:element name="processing_level" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Processing level (TBD). Raw = compressed telemetry data, Uncalibrated = uncompressed telemetry data, Partially calibrated = partially calibrated data, Calibrated = fully calibrated data</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="raw"/> <xs:enumeration value="uncalibrated"/> <xs:enumeration value="partially calibrated"/> <xs:enumeration value="calibrated"/> <xs:enumeration value="derived"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:TableParam / psr:sensing_mode

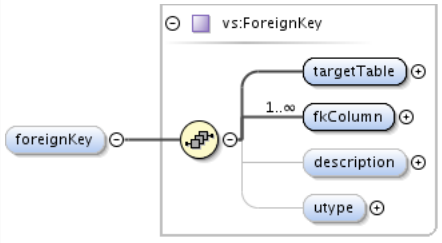
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Sensing mode (TBD)	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	remote
	enumeration	in situ

	enumeration	both
Source	<xs:element name="sensing_mode" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Sensing mode (TBD)</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="remote"/> <xs:enumeration value="in situ"/> <xs:enumeration value="both"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:TableParam / psr:sensing_type

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	Sensing type (TBD)	
Diagram		
Type	restriction of xs:string	
Properties	content:	simple
	minOccurs:	0
	maxOccurs:	1
Facets	enumeration	active
	enumeration	passive
	enumeration	both
Source	<xs:element name="sensing_type" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Sensing type (TBD)</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="active"/> <xs:enumeration value="passive"/> <xs:enumeration value="both"/> </xs:restriction> </xs:simpleType> </xs:element>	

Element psr:Table / psr:foreignKey

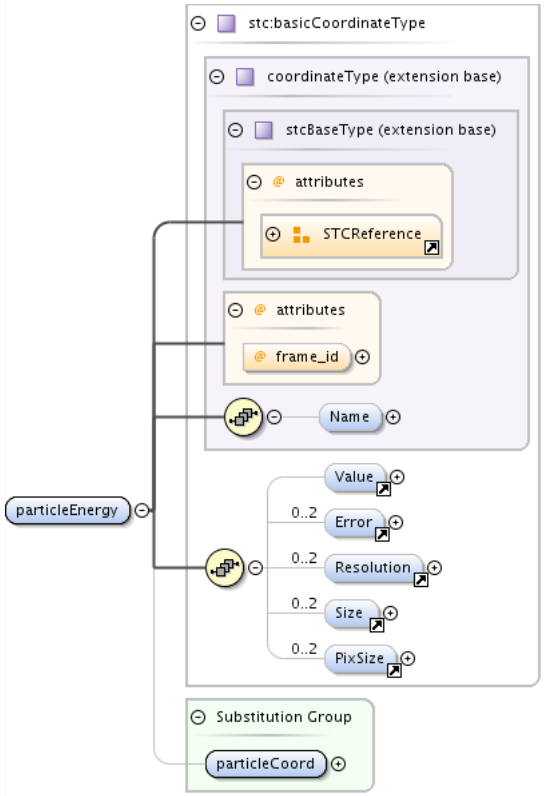
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0	
Annotations	a description of a foreign keys, one or more columns from the current table that can be used to join with another table.	
Diagram		
Type	vs:ForeignKey	
Properties	content:	complex
	minOccurs:	0
	maxOccurs:	unbounded
Model	targetTable , fkColumn+ , description{0,1} , utype{0,1}	
Children	description, fkColumn, targetTable, utype	
Instance	<psr:foreignKey xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <targetTable>{1,1}</targetTable> <fkColumn>{1,unbounded}</fkColumn>	

```
  <description>{0,1}</description>
  <utype>{0,1}</utype>
</psr:foreignKey>
```

Source

```
<xs:element name="foreignKey" type="vs:ForeignKey" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>a description of a foreign keys, one or more columns from the current table
 that can be used to join with another table.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `psr:particleEnergy`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

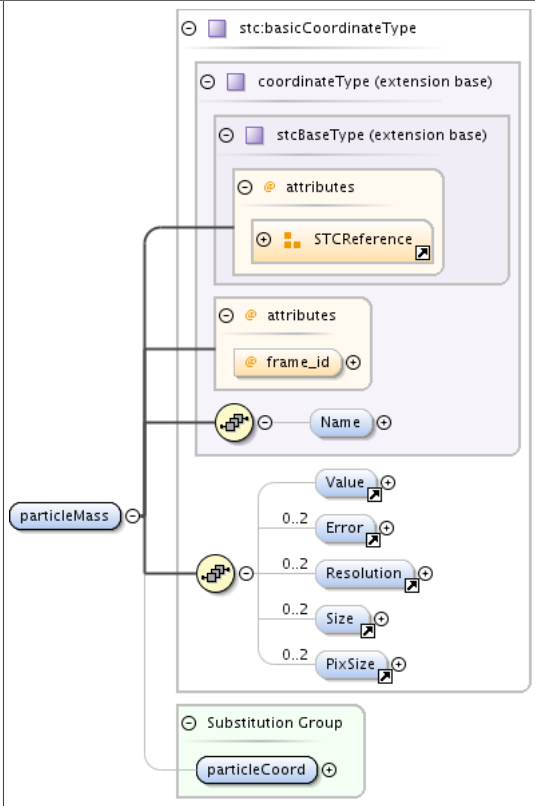
Properties	content: complex
Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<psr:particleEnergy frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Value> <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Error> <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" s stc:Resolution> <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra stc:Size> <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec stc:PixSize> </psr:particleEnergy>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	frame_id	xs:IDREF			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleEnergy" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element `psr:particleMass`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Properties	content: complex
Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Instance	`<psr:particleMass frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xml`
	`voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <stc:Name>{0,1}</stc:Name>`
	`  <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr`
	`stc:Value>`
	`  <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr`
	`stc:Error>`

```
  <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" s
stc:Resolution>
  <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
stc:Size>
  <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec
stc:PixSize>
</psr:particleMass>
```

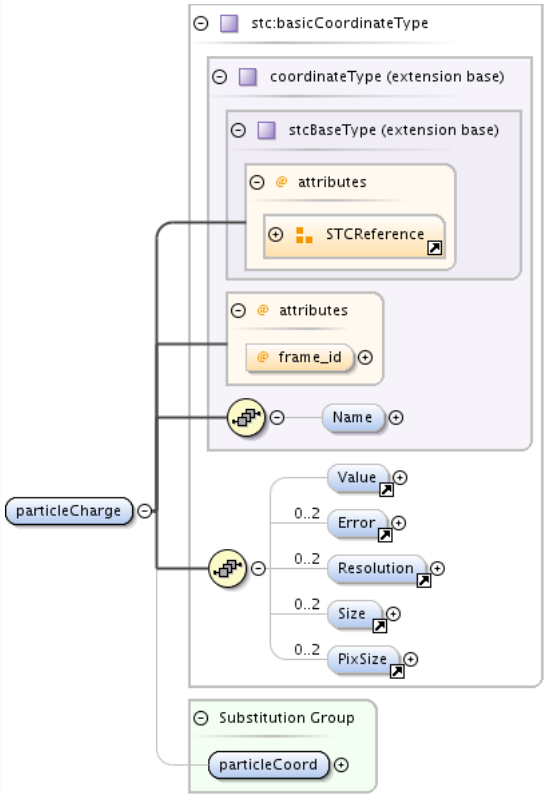
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleMass" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element `psr:particleCharge`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Properties	content: complex
Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Instance	<psr:particleCharge frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Value> <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Error> <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" s stc:Resolution> <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra stc:Size> <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec stc:PixSize> </psr:particleCharge>

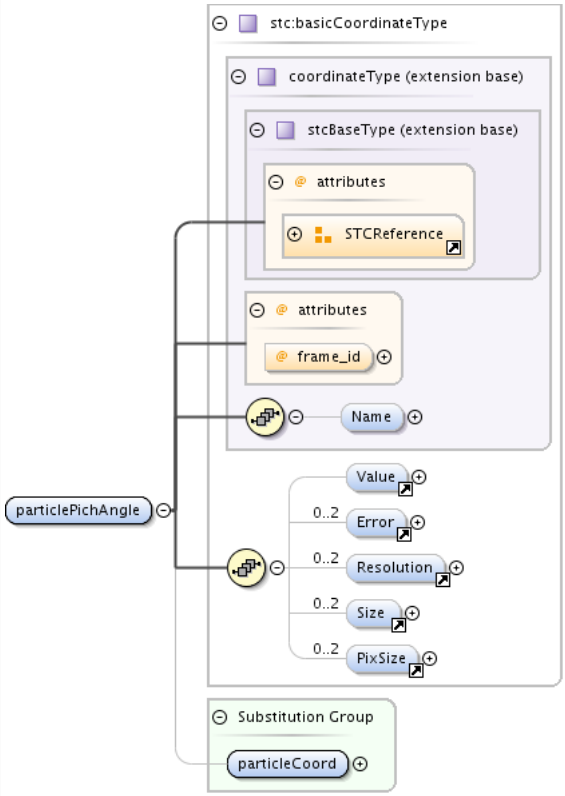
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleCharge" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element `psr:particlePichAngle`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Properties	content: complex

Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<psr:particlePichAngle frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Value> <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Error> <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" stc:Resolution> <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra stc:Size> <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec stc:PixSize> </psr:particlePichAngle>

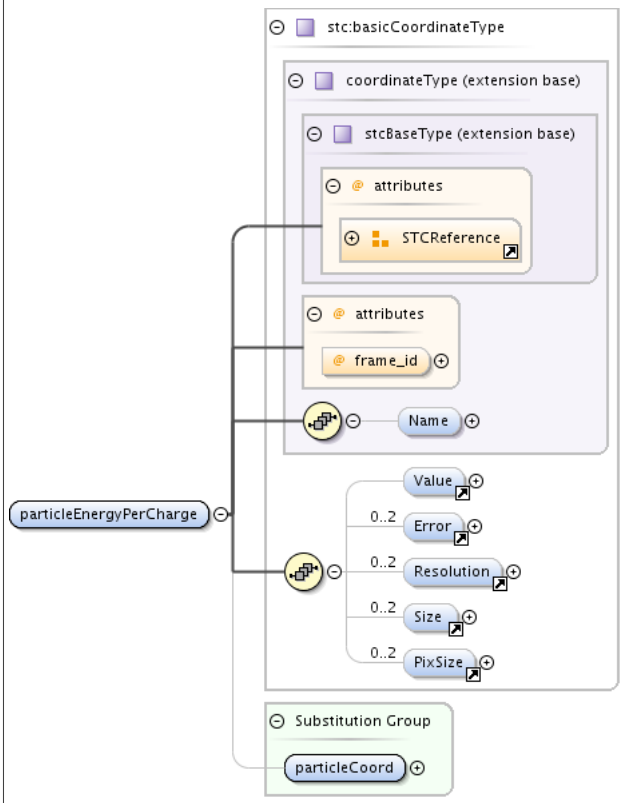
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particlePichAngle" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element `psr:particleEnergyPerCharge`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Properties	content: complex
Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<psr:particleEnergyPerCharge frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Value> <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Error> <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" s stc:Resolution> <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra stc:Size> <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec stc:PixSize> </psr:particleEnergyPerCharge>

Attributes

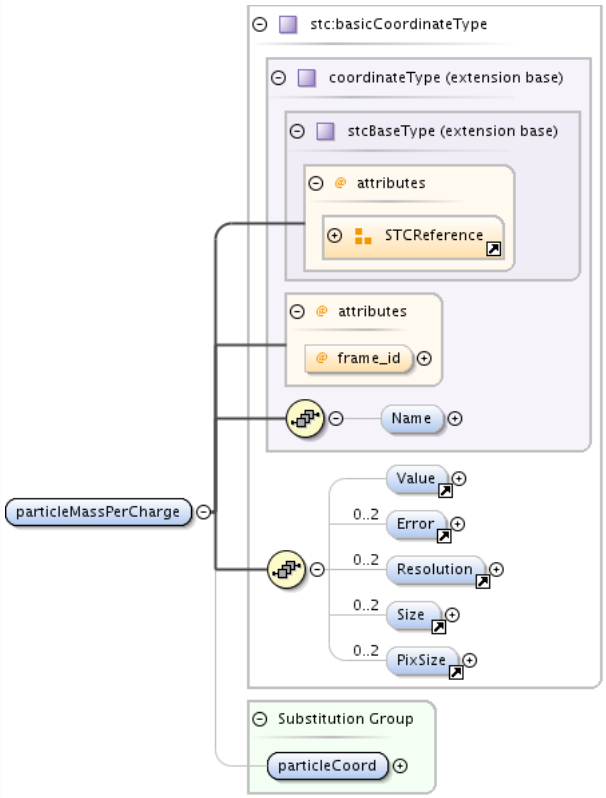
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleEnergyPerCharge" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element psr:particleMassPerCharge

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Properties	content: complex
Substitution Group Affiliation	• psr:particleCoord
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<psr:particleMassPerCharge frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" uc voparis-europlanet.obspm.fr/xml/PSR/v1.0" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:Name>{0,1}</stc:Name> <stc:Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Value> <stc:Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectr stc:Error> <stc:Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" s stc:Resolution> <stc:Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra stc:Size> <stc:PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec stc:PixSize> </psr:particleMassPerCharge>

Attributes

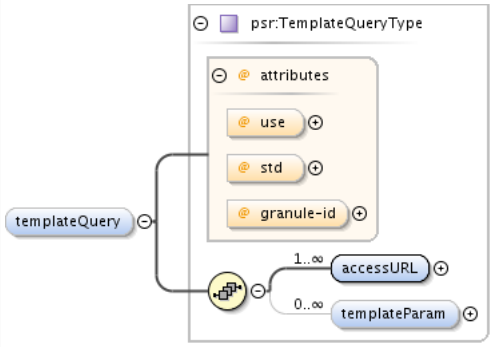
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="particleMassPerCharge" substitutionGroup="psr:particleCoord"
 type="stc:basicCoordinateType"/>
```

Element psr:ParamHTTP / psr:templateQuery

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A description of a template query to access to the data through a service.
Diagram	
Type	psr:TemplateQueryType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	psr:accessURL+ , psr:templateParam*
Children	psr:accessURL, psr:templateParam

Instance	`<psr:templateQuery granule-id="" std="true" use="optional" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0">`
	`  <psr:accessURL use="">{1,unbounded}</psr:accessURL>`
	`  <psr:templateParam std="true" use="optional">{0,unbounded}</psr:templateParam>`
	`</psr:templateQuery>`

Attributes

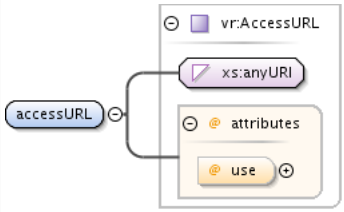
QName	Type	Fixed	Default	Use
granule-id	xs:token			optional
	Token pointing to a unique identifier of a granule. It could be a numeric value or a short string.			
std	xs:boolean		true	optional
	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.			
use	vs:ParamUse		optional	optional
	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".			

Source

```
<xs:element name="templateQuery" type="psr:TemplateQueryType" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A description of a template query to access to the data through a service.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element psr:TemplateQueryType / psr:accessURL

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The URL (or base URL) that a client uses to access the service. How this URL is to be interpreted and used depends on the specific Interface subclass When more than one URL is given, each represents an

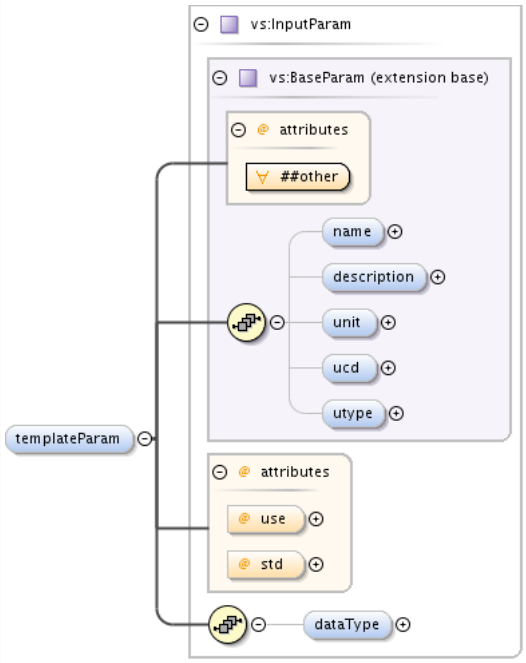
	alternative (i.e. mirror) endpoint whose behavior is identical to all the other accessURLs listed. Editor's note: this element assumes that all registered services are inherently web based.
Diagram	
Type	vr:AccessURL
Properties	content: complex minOccurs: 1 maxOccurs: unbounded

Attributes	QName	Type	Fixed	Default	Use
	use	restriction of xs:NMTOKEN			optional
		A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.			

Source

```
<xs:element name="accessURL" type="vr:AccessURL" minOccurs="1" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>The URL (or base URL) that a client uses to access the service. How this URL
 is to be interpreted and used depends on the specific Interface subclass</xs:documentation>
    <xs:documentation>When more than one URL is given, each represents an alternative (i.e. mirror)
 endpoint whose behavior is identical to all the other accessURLs listed.</xs:documentation>
    <xs:documentation>Editor's note: this element assumes that all registered services are
 inherently web based.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `psr:TemplateQueryType / psr:templateParam`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A description of the value of an input parameter (provided as ${parameter_name}) which must be substituted to provide a name=value argument to the service.
Diagram	
Type	vs:InputParam

Type hierarchy	• vs:BaseParam • vs:InputParam
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1}
Children	dataType, description, name, ucd, unit, utype
Instance	<psr:templateParam std="true" use="optional" xmlns:psr="http://voparis-europlanet.obspm.fr/xml/PSR/v1.0"> <name>{0,1}</name> <description>{0,1}</description> <unit>{0,1}</unit> <ucd>{0,1}</ucd> <utype>{0,1}</utype> <dataType arraysize="1" delim=" " extendedSchema="" extendedType="">{0,1}</dataType> </psr:templateParam>

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
std	xs:boolean		true	optional
	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.			
use	vs:ParamUse		optional	optional
	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".			

Source

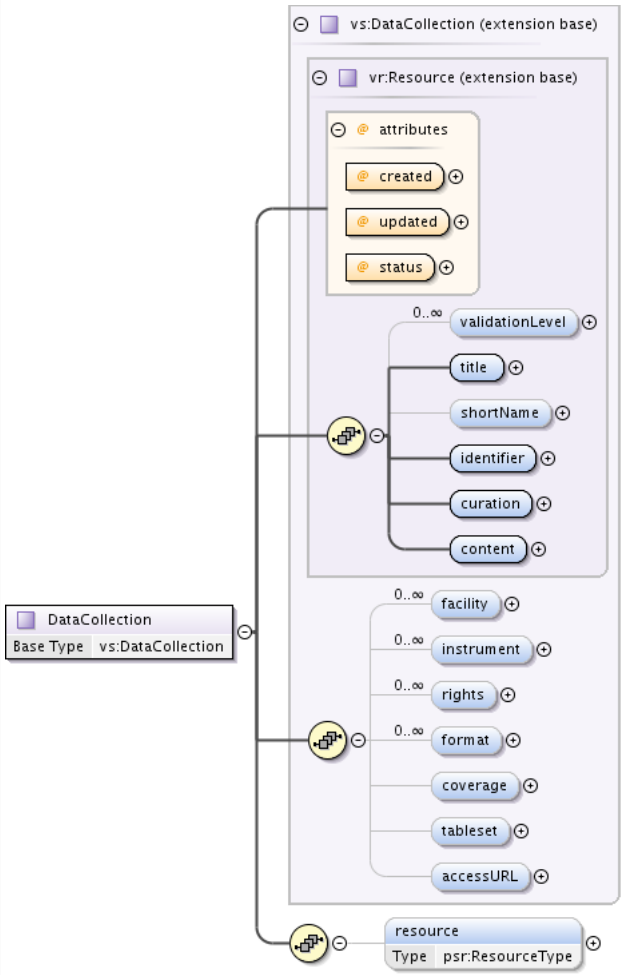
```
<xs:element name="templateParam" type="vs:InputParam" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A description of the value of an input parameter (provided as
 ${parameter_name}) which must be substituted to provide a name=value argument to the service.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Complex Type(s)

Complex Type `psr:DataCollection`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A logical grouping of data which, in general, is composed of one or more accessible datasets. A collection can contain any combination of images, spectra, catalogs, or other data. (A dataset is a collection of digitally-encoded data that is normally accessible as a single unit, e.g. a file.)

Diagram



Type

extension of vs:DataCollection

Type hierarchy

- vr:Resource
  - vs:DataCollection
    - psr:DataCollection

Model

validationLevel* , title , shortName{0,1} , identifier , curation , content , facility* , instrument* , rights* , format* , coverage{0,1} , tableset{0,1} , accessURL{0,1} , psr:resource{0,1}

Children

accessURL, content, coverage, curation, facility, format, identifier, instrument, psr:resource, rights, shortName, tableset, title, validationLevel

Attributes

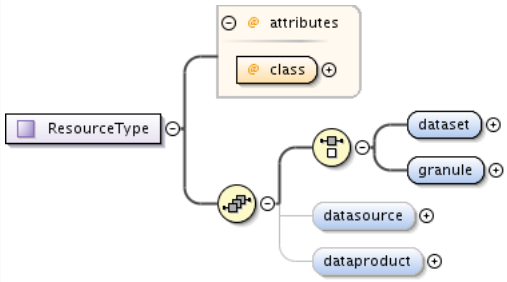
QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="DataCollection">
```

```
  <xs:annotation>
    <xs:documentation>A logical grouping of data which, in general, is composed of one or more
 accessible datasets. A collection can contain any combination of images, spectra, catalogs, or
 other data. (A dataset is a collection of digitally-encoded data that is normally accessible as a
 single unit, e.g. a file.)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:DataCollection">
      <xs:sequence>
        <xs:element name="resource" type="psr:ResourceType" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>The definition of the resource as a dataset or a granule.</
xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:ResourceType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the different types of resources: dataset or granule.
Diagram	
Used by	Elements psr:DataCollection/psr:resource, psr:DataService/psr:resource
Model	(psr:dataset | psr:granule) , psr:datasource{0,1} , psr:dataproduct{0,1}
Children	psr:dataproduct, psr:dataset, psr:datasource, psr:granule

Attributes

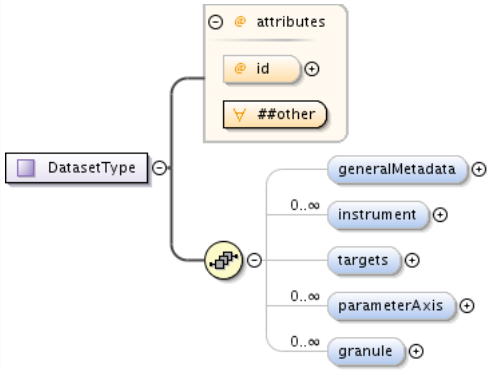
QName	Type	Fixed	Default	Use
class	psr:ResourceClassType			required
	The key which identify the class of the resource, a dataset or a granule			

Source

```
<xs:complexType name="ResourceType">
  <xs:annotation>
    <xs:documentation>Definition of the different types of resources: dataset or granule.</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:choice>
      <xs:element name="dataset" type="psr:DatasetType" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>Define the dataset as a whole in terms of rights, format, reader.</
xs:documentation>
        </xs:annotation>
      </xs:element>
      <xs:element name="granule" type="psr:GranuleType" minOccurs="1" maxOccurs="1">
        <xs:annotation>
          <xs:documentation>Define the granule (or product) in terms of rights, format, reader.</
xs:documentation>
        </xs:annotation>
      </xs:element>
    </xs:choice>
    <xs:element name="datasource" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Definition of the sources of the resource, e.g. observational or lab
 or ...</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="observational"/>
          <xs:enumeration value="laboratory"/>
          <xs:enumeration value="simulation"/>
          <xs:enumeration value="mixed"/>
```

```
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="dataproduct" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Definition of the high level scientific organization of the data product
 being considered.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="image"/>
          <xs:enumeration value="spectrum"/>
          <xs:enumeration value="dynamic_spectrum"/>
          <xs:enumeration value="spectral_cube"/>
          <xs:enumeration value="profile"/>
          <xs:enumeration value="volume"/>
          <xs:enumeration value="movie"/>
          <xs:enumeration value="cube"/>
          <xs:enumeration value="timeseries"/>
          <xs:enumeration value="catalogue"/>
          <xs:enumeration value="spatial_vector"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="class" type="psr:ResourceClassType" use="required">
    <xs:annotation>
      <xs:documentation>The key which identify the class of the resource, a dataset or a granule</
xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

Complex Type `psr:DatasetType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Definition of a dataset.`
Diagram	
Used by	Element psr:ResourceType/psr:dataset
Model	psr:generalMetadata{0,1} , psr:instrument* , psr:targets{0,1} , psr:parameterAxis* , psr:granule*
Children	psr:generalMetadata, psr:granule, psr:instrument, psr:parameterAxis, psr:targets

Attributes

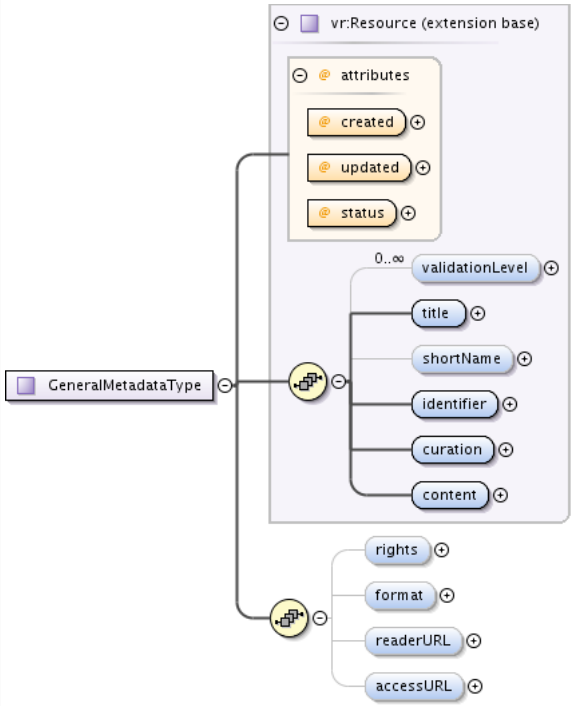
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	`Token providing a unique identifier to the dataset. It could be a numeric value or a short string.`			

Source

```
<xs:complexType name="DatasetType">
  <xs:annotation>
    <xs:documentation>Definition of a dataset.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="generalMetadata" type="psr:GeneralMetadataType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>General information about the dataset in terms of rights, format,
 readerURL, accesURL, ...</xs:documentation>
```

```
      </xs:annotation>
    </xs:element>
    <xs:element name="instrument" type="psr:InstrumentType" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>The definition of the instrument used to acquire the data (if relevant).</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="targets" type="psr:ListOfTargets" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Defines the targets to which the dataset or the product applies to.
 Multiple combinations can be defined, mixing type and name elements.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="parameterAxis" type="psr:ParameterAxisType" minOccurs="0"
 maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Defines the ... TBC</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="granule" type="psr:GranuleType" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Define the granule (or product) in terms of rights, format, reader.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="id" type="xs:token">
    <xs:annotation>
      <xs:documentation>Token providing a unique identifier to the dataset. It could be a numeric
 value or a short string.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:GeneralMetadataType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Defines the generala metadata elements of the dataset
Diagram	
Type	extension of vr:Resource
Type hierarchy	• vr:Resource • psr:GeneralMetadataType
Used by	Elements psr:DatasetType/psr:generalMetadata, psr:GranuleType/psr:generalMetadata

Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , psr:rights{0,1} , psr:format{0,1} , psr:readerURL{0,1} , psr:accessURL{0,1}
Children	content, curation, identifier, psr:accessURL, psr:format, psr:readerURL, psr:rights, shortName, title, validationLevel

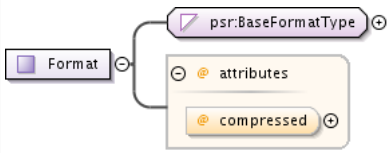
Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="GeneralMetadataType">
  <xs:annotation>
    <xs:documentation>Defines the generala metadata elements of the dataset</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Resource">
      <xs:sequence>
        <xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>TBD</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="format" type="psr:Format" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>TBD</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="readerURL" type="xs:anyURI" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>URL where to download a reader compliant with the dataset.</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="accessURL" type="vr:AccessURL" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>URL where to acces the dataset.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

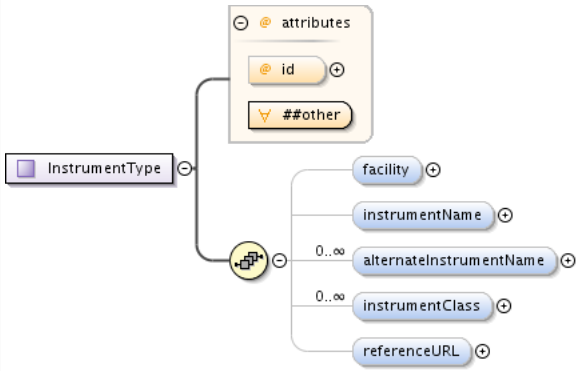
Complex Type `psr:Format`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the format of the data within the dataset or granule.
Diagram	
Type	extension of psr:BaseFormatType

Type hierarchy	• xs:string
	  • psr:BaseFormatType
	  • psr:Format

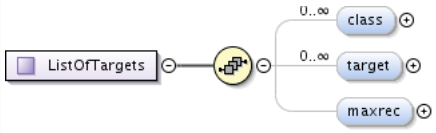
Used by	Element	psr:GeneralMetadataType/psr:format			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	compressed	xs:boolean		false	optional
Source	<xs:complexType name="Format"> <xs:annotation> <xs:documentation>Definition of the format of the data within the dataset or granule.</xs:documentation> </xs:annotation> <xs:simpleContent> <xs:extension base="psr:BaseFormatType"> <xs:attribute name="compressed" type="xs:boolean" default="false"/> </xs:extension> </xs:simpleContent> </xs:complexType>				

Complex Type `psr:InstrumentType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0				
Annotations	Definition of the Instrument used to acquire the data collection.				
Diagram					
Used by	Elements	psr:DatasetType/psr:instrument, psr:GranuleType/psr:instrument			
Model	psr:facility{0,1} , psr:instrumentName{0,1} , psr:alternateInstrumentName* , psr:instrumentClass* , psr:referenceURL{0,1}				
Children	psr:alternateInstrumentName, psr:facility, psr:instrumentClass, psr:instrumentName, psr:referenceURL				
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
	id	xs:token			optional
		A key which identify the instrument used to collect the data contain or managed by a resource.			
Source	<xs:complexType name="InstrumentType"> <xs:annotation> <xs:documentation>Definition of the Instrument used to acquire the data collection.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="facility" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Name of the facility where the physical parameter was acquired.</xs:documentation> </xs:annotation> <xs:complexType> <xs:complexContent> <xs:extension base="vr:ResourceName"> <xs:attribute name="class" type="psr:FacilityClassType"/> </xs:extension> </xs:complexContent> </xs:complexType> </xs:element> <xs:element name="instrumentName" type="vr:ResourceName" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>Name of the instrument.</xs:documentation> </xs:annotation> </xs:element>				

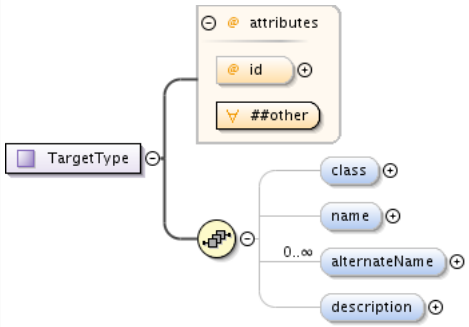
```
    <xs:element name="alternateInstrumentName" type="xs:string" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Alternate name of the instrument.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="instrumentClass" type="psr:InstrumentClassList" minOccurs="0"
 maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Class of the instrument, as defined in the psr:InstrumentClassList</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="referenceURL" type="vr:AccessURL" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>The URL that can be used to get information about the instrument.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="id" type="xs:token">
    <xs:annotation>
      <xs:documentation>A key which identify the instrument used to collect the data contain or
 managed by a resource.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:ListOfTargets`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of targets to which the dataset or the product applies to. It can be an unbounded list of classes or targets. The approximate number of targets of the resource can be provided by using the 'maxrec' element.
Diagram	
Used by	Elements psr:DatasetType/psr:targets, psr:GranuleType/psr:targets
Model	psr:class* , psr:target* , psr:maxrec{0,1}
Children	psr:class, psr:maxrec, psr:target
Source	<xs:complexType name="ListOfTargets"> <xs:annotation> <xs:documentation>Definition of targets to which the dataset or the product applies to. It can be an unbounded list of classes or targets. The approximate number of targets of the resource can be provided by using the 'maxrec' element.</xs:documentation> </xs:annotation> <xs:sequence minOccurs="1"> <xs:element name="class" type="psr:TargetClass" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Target class as defined by the Planetary Science data model</xs:documentation> </xs:annotation> </xs:element> <xs:element name="target" type="psr:TargetType" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>Official or usual name of the target as defined by IAU.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="maxrec" type="xs:int" minOccurs="0" maxOccurs="1" default="0"> <xs:annotation> <xs:documentation>Maximum number of targets of the resource. This is not necessarily the exact number of targets contained in the resource, but rather the approximate maximum number of targets. If unknown or if it is not fix with time, put zero.</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType>

Complex Type `psr:TargetType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of a target.

Diagram	
Used by	Element psr:ListOfTargets/psr:target
Model	psr:class{0,1} , psr:name{0,1} , psr:alternateName* , psr:description{0,1}
Children	psr:alternateName, psr:class, psr:description, psr:name

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	A key which identify the instrument used to collect the data contain or managed by a resource.			

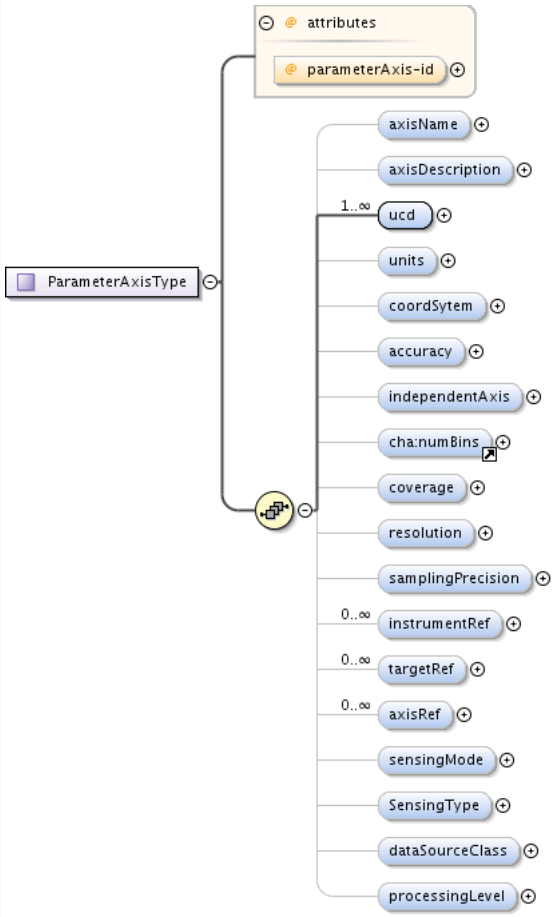
Source

```
<xs:complexType name="TargetType">
  <xs:annotation>
    <xs:documentation>Definition of a target.</xs:documentation>
  </xs:annotation>
  <xs:sequence minOccurs="1">
    <xs:element name="class" type="psr:TargetClass" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Target class as defined by the Planetary Science data model</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="name" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Official or usual name of the target as defined by IAU.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="alternateName" type="xs:string" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Alternate name of the target.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Free description of the target (e.g. crater name, magnetospheric
 region, ...)</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="id" type="xs:token">
    <xs:annotation>
      <xs:documentation>A key which identify the instrument used to collect the data contain or
 managed by a resource.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:ParameterAxisType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the parameter axis of a dataset.

Diagram



Used by

Elements psr:DatasetType/psr:parameterAxis, psr:GranuleType/psr:parameterAxis

Model

psr:axisName{0,1} , psr:axisDescription{0,1} , psr:ucd+ , psr:units{0,1} , psr:coordSytem{0,1} , psr:accuracy{0,1} , psr:independentAxis{0,1} , cha:numBins{0,1} , psr:coverage{0,1} , psr:resolution{0,1} , psr:samplingPrecision{0,1} , psr:instrumentRef* , psr:targetRef* , psr:axisRef* , psr:sensingMode{0,1} , psr:SensingType{0,1} , psr:dataSourceClass{0,1} , psr:processingLevel{0,1}

Children

cha:numBins, psr:SensingType, psr:accuracy, psr:axisDescription, psr:axisName, psr:axisRef, psr:coordSytem, psr:coverage, psr:dataSourceClass, psr:independentAxis, psr:instrumentRef, psr:processingLevel, psr:resolution, psr:samplingPrecision, psr:sensingMode, psr:targetRef, psr:ucd, psr:units

Attributes

QName	Type	Fixed	Default	Use
parameterAxis-id	xs:string			optional

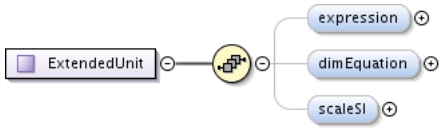
Source

```
<xs:complexType name="ParameterAxisType">
  <xs:annotation>
    <xs:documentation>Definition of the parameter axis of a dataset.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="axisName" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="axisDescription" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="ucd" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="em"/>
          <xs:enumeration value="em.elec"/>
          <xs:enumeration value="em.mag"/>
          <xs:enumeration value="pw"/>
          <xs:enumeration value="pw.elec"/>
```

```
          <xs:enumeration value="pw.mag"/>
          <xs:enumeration value="phot"/>
          <xs:enumeration value="part"/>
          <xs:enumeration value="part.elec"/>
          <xs:enumeration value="part.elec.1-20keV"/>
          <xs:enumeration value="part.ions"/>
          <xs:enumeration value="part.neut"/>
          <xs:enumeration value="dc"/>
          <xs:enumeration value="dc.elec"/>
          <xs:enumeration value="dc.mag"/>
          <xs:enumeration value="model"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="coordSytem" type="psr:CoordSysType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="accuracy" type="cha:AccuracyType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Global accuracy description of the axis</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="independentAxis" type="xs:anyType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Indicates wether the axis is independent or not from the other axes. The
 Observable axis has a false independentAxis "value". Type : boolean</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element ref="cha:numBins" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Number of bins for this axis. Type : array of 1 2 or 3 integers</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="coverage" type="psr:CoverageType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="resolution" type="psr:ResolutionType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="samplingPrecision" type="psr:SamplingPrecisionType" minOccurs="0"
 maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="instrumentRef" type="xs:string" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>List of Instruments used for this parameter. They are referenced by their
 "instrument-id" as defined in the corresponding "Instrument" element.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="targetRef" type="xs:string" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>List of Targets corresponding to this parameter. They are referenced by
 their "target-id" as defined in the corresponding "Target" element.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="axisRef" type="xs:string" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>List of Axis used for this parameter. They are referenced by their "axis-
id" as defined in the corresponding "Axis" element.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="sensingMode" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="remote"/>
          <xs:enumeration value="in situ"/>
```

```
          <xs:enumeration value="both"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="SensingType" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>TBD</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="active"/>
          <xs:enumeration value="passive"/>
          <xs:enumeration value="both"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="dataSourceClass" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Source of the parameter, i.e from measurement, model, or mixed.</
xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="measurement"/>
          <xs:enumeration value="model"/>
          <xs:enumeration value="mixed"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
    <xs:element name="processingLevel" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Level of processing of the data.</xs:documentation>
      </xs:annotation>
      <xs:simpleType>
        <xs:restriction base="xs:string">
          <xs:enumeration value="raw (compressed telemetry data)"/>
          <xs:enumeration value="uncalibrated (uncompressed telemetry data)"/>
          <xs:enumeration value="partially calibrated (partially calibrated data)"/>
          <xs:enumeration value="calibrated (fully calibrated data)"/>
          <xs:enumeration value="derived"/>
        </xs:restriction>
      </xs:simpleType>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="parameterAxis-id" type="xs:string"/>
</xs:complexType>
```

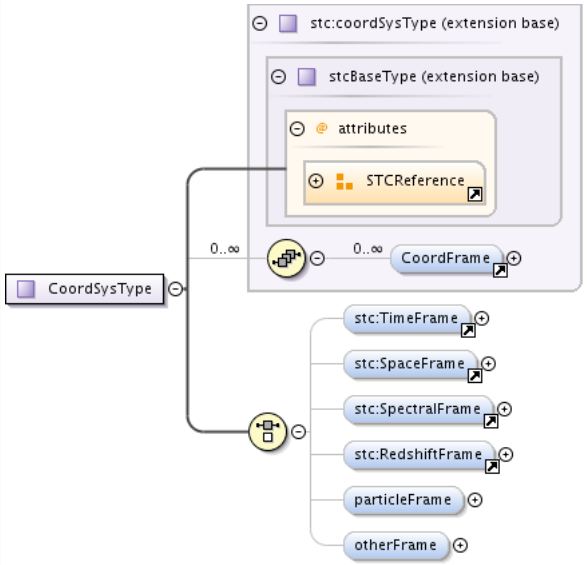
Complex Type `psr:ExtendedUnit`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Definition of the extended unit type.`
Diagram	
Used by	Elements: psr:BoundsType/psr:units, psr:CoverageType/psr:units, psr:LocationType/psr:units, psr:ParameterAxisType/psr:units, psr:ResolutionBoundsType/psr:units, psr:ResolutionRefValType/psr:units, psr:ResolutionSupportType/psr:units, psr:ResolutionType/psr:units, psr:ResolutionVariabilityType/psr:units, psr:SamplingPrecisionBoundsType/psr:units, psr:SamplingPrecisionRefValType/psr:units, psr:SamplingPrecisionSupportType/psr:units, psr:SamplingPrecisionType/psr:units, psr:SamplingPrecisionVariabilityType/psr:units, psr:SensitivityType/psr:units, psr:SupportType/psr:units, psr:TableParam/psr:xunit
Model	psr:expression{0,1} , psr:dimEquation{0,1} , psr:scaleSI{0,1}
Children	psr:dimEquation, psr:expression, psr:scaleSI
Source	

```
<xs:complexType name="ExtendedUnit">
  <xs:annotation>
    <xs:documentation>Definition of the extended unit type.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="expression" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Expression of the unit (TBD).</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
    <xs:element name="dimEquation" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Dimensional equation representation of the unit, formatted as a string
 where M is mass, L is length, T is time, K is temperature, and Q electric charge. For ease of
 notation , the caret "^" indicating powers of ten can be removed - as is customary in Dimentional
 Analysis practices - resulting in expressions like the following, which are equivalent: "ML-1T-3"
 and "ML^-1T^-3"</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="scaleSI" type="xs:string" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Scale system of the unit.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:CoordSysType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	extension of coordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • psr:CoordSysType

Used by	Elements: psr:BoundsType/psr:extendCoordSystem, psr:CoverageType/psr:coordSystem, psr:LocationType/psr:extendCoordSystem, psr:ParameterAxisType/psr:coordSytem, psr:ResolutionBoundsType/psr:coordSystem, psr:ResolutionRefValType/psr:coordSystem, psr:ResolutionSupportType/psr:coordSystem, psr:ResolutionType/psr:coordSystem, psr:ResolutionVariabilityType/psr:coordSystem, psr:SamplingPrecisionBoundsType/psr:extendCoordSystem, psr:SamplingPrecisionRefValType/psr:extendCoordSystem, psr:SamplingPrecisionSupportType/psr:extendCoordSystem, psr:SamplingPrecisionType/psr:coordSystem, psr:SamplingPrecisionVariabilityType/psr:extendCoordSystem, psr:SensitivityType/psr:extendCoordSystem, psr:SupportType/psr:extendCoordSystem
Model	CoordFrame* , (TimeFrame{0,1} | SpaceFrame{0,1} | SpectralFrame{0,1} | RedshiftFrame{0,1} | psr:particleFrame{0,1} | psr:otherFrame{0,1})
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame, psr:otherFrame, psr:particleFrame

Attributes

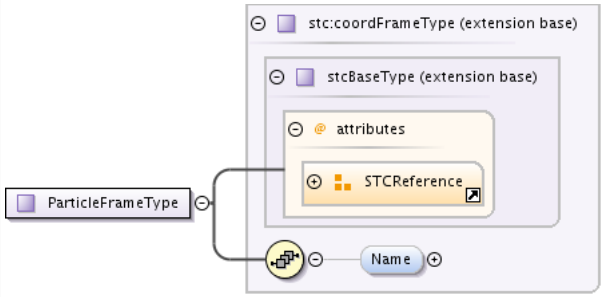
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional

	QName	Type	Fixed	Default	Use
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="CoordSysType">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stc:coordSysType">
      <xs:choice>
        <xs:element ref="stc:TimeFrame" minOccurs="0"/>
        <xs:element ref="stc:SpaceFrame" minOccurs="0"/>
        <xs:element ref="stc:SpectralFrame" minOccurs="0"/>
        <xs:element ref="stc:RedshiftFrame" minOccurs="0"/>
        <xs:element name="particleFrame" type="psr:ParticleFrameType" minOccurs="0"/>
        <xs:element name="otherFrame" type="psr:OtherFrameType" minOccurs="0"/>
      </xs:choice>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:ParticleFrameType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Type	extension of coordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • psr:ParticleFrameType

Used by	Element psr:CoordSysType/psr:particleFrame
Model	Name{0,1}
Children	Name

Attributes

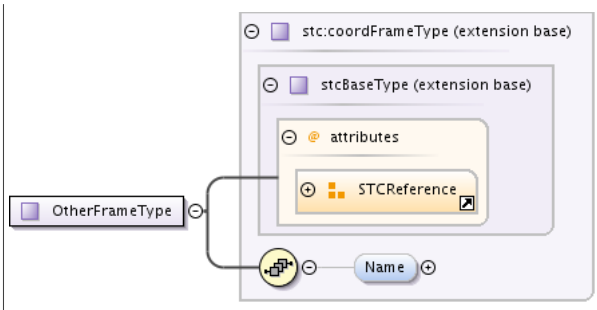
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="ParticleFrameType">
  <xs:complexContent>
    <xs:extension base="stc:coordFrameType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:OtherFrameType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Type	extension of coordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • psr:OtherFrameType

Used by	Element psr:CoordSysType/psr:otherFrame
Model	Name{0,1}
Children	Name

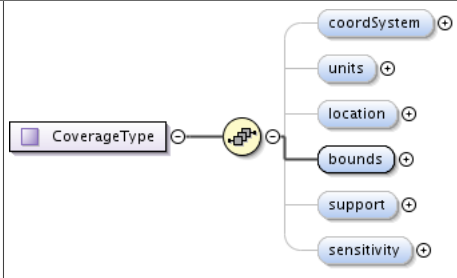
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="OtherFrameType">
  <xs:complexContent>
    <xs:extension base="stc:coordFrameType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:CoverageType`

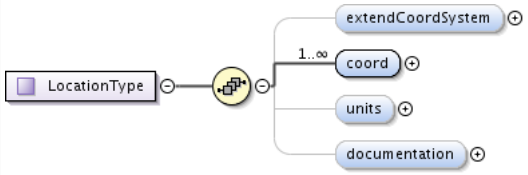
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This element defines the coverage of the axis, ie, either: - location (for single point axis) - lower and upper limits - support area - sensitivity map
Diagram	
Used by	Element psr:ParameterAxisType/psr:coverage
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:location{0,1} , psr:bounds , psr:support{0,1} , psr:sensitivity{0,1}
Children	psr:bounds, psr:coordSystem, psr:location, psr:sensitivity, psr:support, psr:units

Source

```
<xs:complexType name="CoverageType">
  <xs:annotation>
    <xs:documentation>This element defines the coverage of the axis, ie, either: - location (for
 single point axis) - lower and upper limits - support area - sensitivity map</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>
    <xs:element name="location" type="psr:LocationType" minOccurs="0">
      <xs:annotation>
```

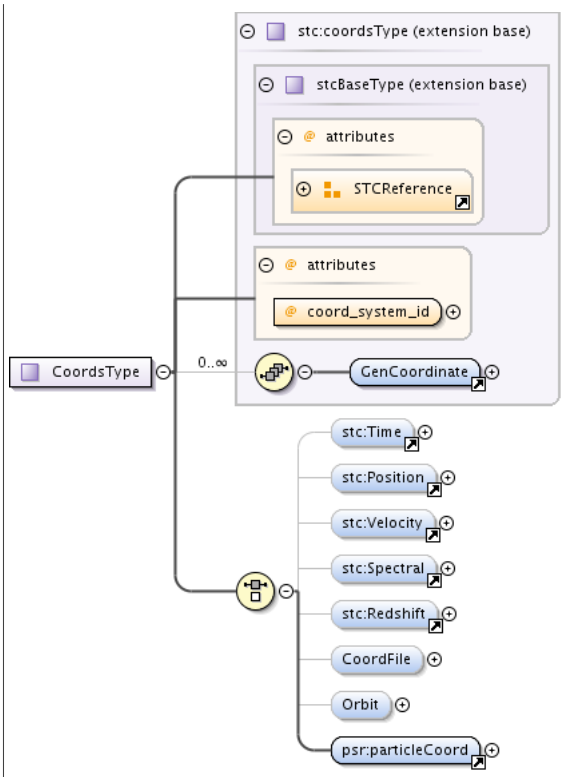
```
        <xs:documentation>Typical value on one axis</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="bounds" type="psr:BoundsType" minOccurs="1">
      <xs:annotation>
        <xs:documentation>The limits of the observation on this axis</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="support" type="psr:SupportType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Describes the area where measurements are effectively present and
 interpretable</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="sensitivity" type="psr:SensitivityType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>encodes the variability of response along the axis</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:LocationType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:CoverageType/psr:location
Model	psr:extendCoordSystem{0,1} , psr:coord+ , psr:units{0,1} , psr:documentation{0,1}
Children	psr:coord, psr:documentation, psr:extendCoordSystem, psr:units
Source	<xs:complexType name="LocationType"> <xs:sequence> <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/> <xs:element name="coord" type="psr:CoordsType" maxOccurs="unbounded"/> <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/> <xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>The typical coordinate value Type: stc:astroCoordsType</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType>

Complex Type `psr:CoordsType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD

Diagram	
Type	extension of coordsType

Type hierarchy	• stcBaseType
	  • coordsType
	  • psr:CoordsType

Used by	Element psr:LocationType/psr:coord
Model	GenCoordinate , (Time{0,1} | Position{0,1} | Velocity{0,1} | Spectral{0,1} | Redshift{0,1} | psr:CoordFile{0,1} | psr:Orbit{0,1} | psr:particleCoord)
Children	GenCoordinate, Position, Redshift, Spectral, Time, Velocity, psr:CoordFile, psr:Orbit, psr:particleCoord

Attributes

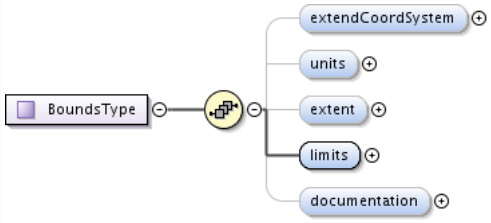
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="CoordsType">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stc:coordsType">
      <xs:choice>
        <xs:element ref="stc:Time" minOccurs="0"/>
        <xs:element ref="stc:Position" minOccurs="0"/>
        <xs:element ref="stc:Velocity" minOccurs="0"/>
        <xs:element ref="stc:Spectral" minOccurs="0"/>
        <xs:element ref="stc:Redshift" minOccurs="0"/>
        <xs:element name="CoordFile" type="stc:astroCoordsFileType" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Some or all coordinate values may be given in file</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="Orbit" type="stc:orbitType" nillable="true" minOccurs="0">
```

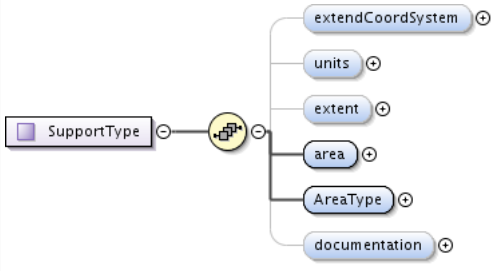
```
          <xs:annotation>
            <xs:documentation>Orbit specified by orbital elements</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element ref="psr:particleCoord"/>
      </xs:choice>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:BoundsType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:CoverageType/psr:bounds
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:extent{0,1} , psr:limits , psr:documentation{0,1}
Children	psr:documentation, psr:extendCoordSystem, psr:extent, psr:limits, psr:units

Source	<pre><xs:complexType name="BoundsType">
	  <xs:sequence>
	    <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>
	    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>
	    <xs:element name="extent" type="stc:double1Type" minOccurs="0"/>
	    <xs:element name="limits" type="cha:CharCoordAreaType">
	      <xs:annotation>
	        <xs:documentation>The actual values defining the bounds. 2 possible types : a cha:CharBox
	 which is a customised STC:Coordinate with mandatory value and size or an STC:Interval</
	xs:documentation>
	      </xs:annotation>
	    </xs:element>
	    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">
	      <xs:annotation>
	        <xs:documentation>A document to mention how the bounds are defined.</xs:documentation>
	      </xs:annotation>
	    </xs:element>
	  </xs:sequence>
	</xs:complexType></pre>

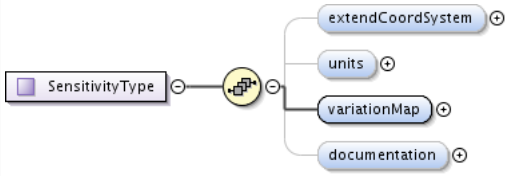
Complex Type `psr:SupportType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:CoverageType/psr:support
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:extent{0,1} , psr:area , psr:AreaType , psr:documentation{0,1}
Children	psr:AreaType, psr:area, psr:documentation, psr:extendCoordSystem, psr:extent, psr:units

Source	<pre><xs:complexType name="SupportType">
	  <xs:sequence>
	    <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>
	    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>
	    <xs:element name="extent" type="stc:double1Type" minOccurs="0"/>
	    <xs:element name="area" type="stc:astroCoordAreaType">
	      <xs:annotation>
	        <xs:documentation>Defines the effective covered region</xs:documentation>
	      </xs:annotation></pre>

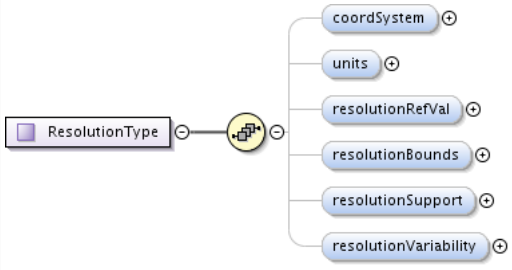
```
    </xs:element>
    <xs:element name="AreaType" type="xs:anyType">
      <xs:annotation>
        <xs:documentation>Gives the name of the region shape Type: predefined string in {Circle,
 Polygon, Box, ...}</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Some text about the Support region definition Type: any URI type</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:SensitivityType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:CoverageType/psr:sensitivity
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:variationMap , psr:documentation{0,1}
Children	psr:documentation, psr:extendCoordSystem, psr:units, psr:variationMap

Source	<pre><xs:complexType name="SensitivityType">
	  <xs:sequence>
	    <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>
	    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>
	    <xs:element name="variationMap" type="cha:anyURIType">
	      <xs:annotation>
	        <xs:documentation>Encodes the variability of the response along the axis</xs:documentation>
	      </xs:annotation>
	    </xs:element>
	    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">
	      <xs:annotation>
	        <xs:documentation>Documents the purpose, type and encoding of sensitivity information Type:
	 URL</xs:documentation>
	      </xs:annotation>
	    </xs:element>
	  </xs:sequence>
	</xs:complexType></pre>

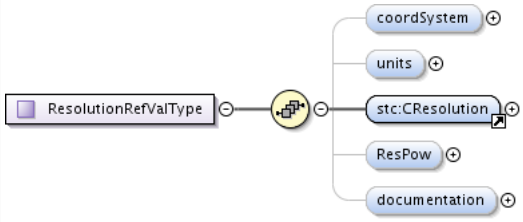
Complex Type `psr:ResolutionType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This element defines the resolution of the axis (ie: the integration or exposure time for temporal axis, the integration bandwidth for spectral axis...), in terms of: - Reference value (eg median) - Lower and upper bounds - resolution map
Diagram	
Used by	Element psr:ParameterAxisType/psr:resolution
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:resolutionRefVal{0,1} , psr:resolutionBounds{0,1} , psr:resolutionSupport{0,1} , psr:resolutionVariability{0,1}
Children	psr:coordSystem, psr:resolutionBounds, psr:resolutionRefVal, psr:resolutionSupport, psr:resolutionVariability, psr:units

Source	<pre><xs:complexType name="ResolutionType">
	  <xs:annotation></pre>

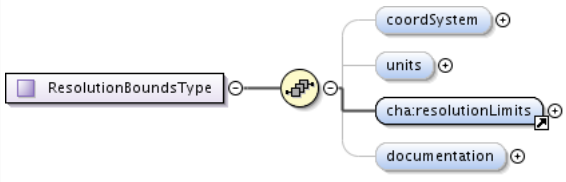
```
    <xs:documentation>This element defines the resolution of the axis (ie: the integration or
 exposure time for temporal axis, the integration bandwidth for spectral axis...), in terms of: -
 Reference value (eg median) - Lower and upper bounds - resolution map</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>
    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">
      <xs:annotation>
        <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs
 from the "unit" element of characterizationAxisType.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="resolutionRefVal" type="psr:ResolutionRefValType" minOccurs="0"/>
    <xs:element name="resolutionBounds" type="psr:ResolutionBoundsType" minOccurs="0"/>
    <xs:element name="resolutionSupport" type="psr:ResolutionSupportType" minOccurs="0"/>
    <xs:element name="resolutionVariability" type="psr:ResolutionVariabilityType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:ResolutionRefValType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:ResolutionType/psr:resolutionRefVal
Model	psr:coordSystem{0,1} , psr:units{0,1} , CResolution , psr:ResPow{0,1} , psr:documentation{0,1}
Children	CResolution, psr:ResPow, psr:coordSystem, psr:documentation, psr:units

Source	`<xs:complexType name="ResolutionRefValType">`
	`  <xs:sequence>`
	`    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>`
	`    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">`
	`      <xs:annotation>`
	`        <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs`
	` from the "unit" element of characterizationAxisType.</xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`    <xs:element ref="stc:CResolution"/>`
	`    <xs:element name="ResPow" type="stc:double1Type" minOccurs="0"/>`
	`    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`      <xs:annotation>`
	`        <xs:documentation>Defines and explains how this reference value for resolution has been`
	` estimated Type: URL.</xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`  </xs:sequence>`
	`</xs:complexType>`

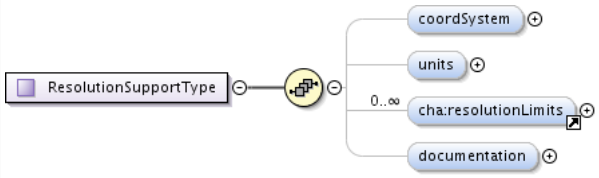
Complex Type `psr:ResolutionBoundsType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:ResolutionType/psr:resolutionBounds
Model	psr:coordSystem{0,1} , psr:units{0,1} , cha:resolutionLimits , psr:documentation{0,1}
Children	cha:resolutionLimits, psr:coordSystem, psr:documentation, psr:units

Source	`<xs:complexType name="ResolutionBoundsType">`
	`  <xs:sequence>`
	`    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>`
	`    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">`

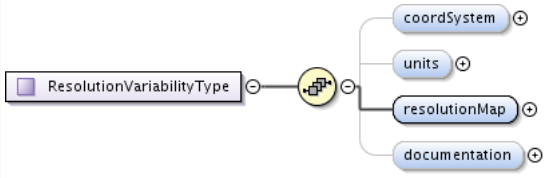
```
      <xs:annotation>
        <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs
 from the "unit" element of characterizationAxisType.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element ref="cha:resolutionLimits"/>
    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Defines and explains how this resolution has been estimated</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:ResolutionSupportType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:ResolutionType/psr:resolutionSupport
Model	psr:coordSystem{0,1} , psr:units{0,1} , cha:resolutionLimits* , psr:documentation{0,1}
Children	cha:resolutionLimits, psr:coordSystem, psr:documentation, psr:units

Source	`<xs:complexType name="ResolutionSupportType">`
	`  <xs:sequence>`
	`    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>`
	`    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">`
	`      <xs:annotation>`
	`        <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs`
	` from the "unit" element of characterizationAxisType.</xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`    <xs:element ref="cha:resolutionLimits" minOccurs="0" maxOccurs="unbounded"/>`
	`    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`      <xs:annotation>`
	`        <xs:documentation>Defines and explains how this resolution has been estimated Type: URL.</`
	`xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`  </xs:sequence>`
	`</xs:complexType>`

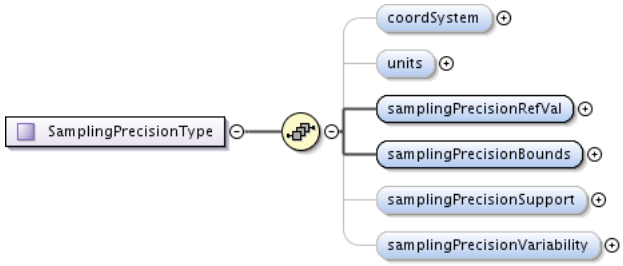
Complex Type `psr:ResolutionVariabilityType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:ResolutionType/psr:resolutionVariability
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:resolutionMap , psr:documentation{0,1}
Children	psr:coordSystem, psr:documentation, psr:resolutionMap, psr:units

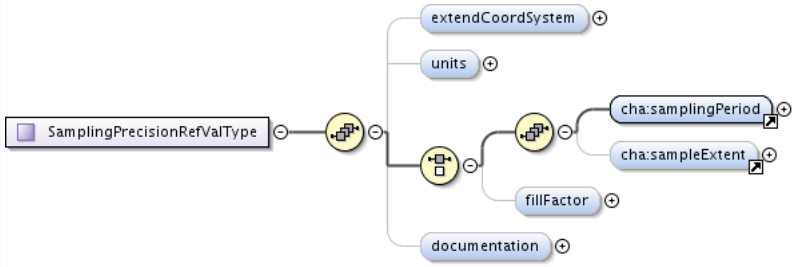
Source	`<xs:complexType name="ResolutionVariabilityType">`
	`  <xs:sequence>`
	`    <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/>`
	`    <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0">`
	`      <xs:annotation>`
	`        <xs:documentation>This "Units" element is defined from VOUnits documentation. It differs`
	` from the "unit" element of characterizationAxisType.</xs:documentation>`
	`      </xs:annotation>`
	`    </xs:element>`
	`    <xs:element name="resolutionMap" type="cha:anyURIType"/>`
	`    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`      <xs:annotation>`

```
        <xs:documentation>Defines and explains how this resolution has been estimated Type: URL.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type psr:SamplingPrecisionType

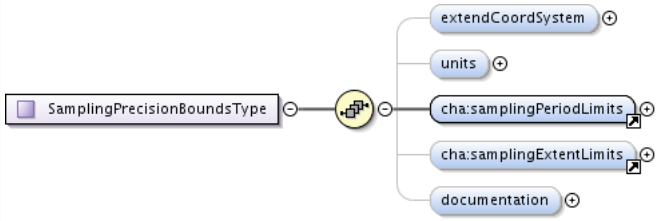
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This element defines the Sampling of the axis in terms of either : - sampling rate reference value - Lower and upper limits - sampling variability map.
Diagram	
Used by	Element psr:ParameterAxisType/psr:samplingPrecision
Model	psr:coordSystem{0,1} , psr:units{0,1} , psr:samplingPrecisionRefVal , psr:samplingPrecisionBounds , psr:samplingPrecisionSupport{0,1} , psr:samplingPrecisionVariability{0,1}
Children	psr:coordSystem, psr:samplingPrecisionBounds, psr:samplingPrecisionRefVal, psr:samplingPrecisionSupport, psr:samplingPrecisionVariability, psr:units
Source	<xs:complexType name="SamplingPrecisionType"> <xs:annotation> <xs:documentation>This element defines the Sampling of the axis in terms of either : - sampling rate reference value - Lower and upper limits - sampling variability map.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="coordSystem" type="psr:CoordSysType" minOccurs="0"/> <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/> <xs:element name="samplingPrecisionRefVal" type="psr:SamplingPrecisionRefValType"/> <xs:element name="samplingPrecisionBounds" type="psr:SamplingPrecisionBoundsType" minOccurs="1"/> > <xs:element name="samplingPrecisionSupport" type="psr:SamplingPrecisionSupportType" minOccurs="0"/> <xs:element name="samplingPrecisionVariability" type="psr:SamplingPrecisionVariabilityType" minOccurs="0"/> </xs:sequence> </xs:complexType>

Complex Type psr:SamplingPrecisionRefValType

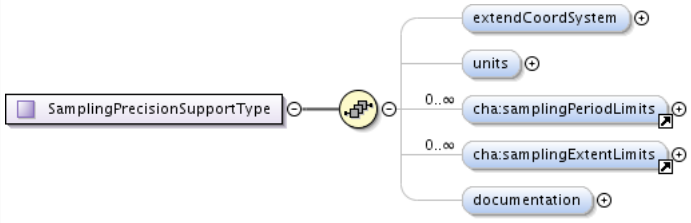
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:SamplingPrecisionType/psr:samplingPrecisionRefVal
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , ((cha:samplingPeriod , cha:sampleExtent{0,1}) | psr:fillFactor{0,1}) , psr:documentation{0,1}
Children	cha:sampleExtent, cha:samplingPeriod, psr:documentation, psr:extendCoordSystem, psr:fillFactor, psr:units
Source	<xs:complexType name="SamplingPrecisionRefValType"> <xs:sequence> <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/> <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/> <xs:choice> <xs:sequence> <xs:element ref="cha:samplingPeriod"/>

```
        <xs:element ref="cha:sampleExtent" minOccurs="0"/>
      </xs:sequence>
      <xs:element name="fillFactor" type="xs:double" minOccurs="0"/>
    </xs:choice>
    <xs:element name="documentation" type="cha:anyURIType" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Explains how the fill factor is estimated . Type: URI</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `psr:SamplingPrecisionBoundsType`

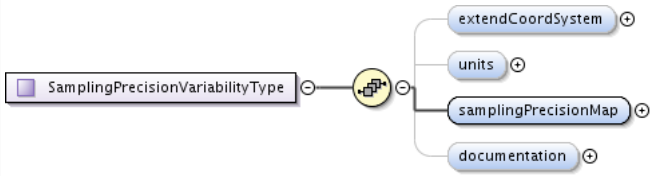
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:SamplingPrecisionType/psr:samplingPrecisionBounds
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , cha:samplingPeriodLimits , cha:samplingExtentLimits{0,1} , psr:documentation{0,1}
Children	cha:samplingExtentLimits, cha:samplingPeriodLimits, psr:documentation, psr:extendCoordSystem, psr:units
Source	<xs:complexType name="SamplingPrecisionBoundsType"> <xs:sequence> <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/> <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/> <xs:element ref="cha:samplingPeriodLimits"/> <xs:element ref="cha:samplingExtentLimits" minOccurs="0"/> <xs:element name="documentation" type="cha:anyURIType" minOccurs="0"/> </xs:sequence> </xs:complexType>

Complex Type `psr:SamplingPrecisionSupportType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:SamplingPrecisionType/psr:samplingPrecisionSupport
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , cha:samplingPeriodLimits* , cha:samplingExtentLimits* , psr:documentation{0,1}
Children	cha:samplingExtentLimits, cha:samplingPeriodLimits, psr:documentation, psr:extendCoordSystem, psr:units
Source	<xs:complexType name="SamplingPrecisionSupportType"> <xs:sequence> <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/> <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/> <xs:element ref="cha:samplingPeriodLimits" minOccurs="0" maxOccurs="unbounded"/> <xs:element ref="cha:samplingExtentLimits" minOccurs="0" maxOccurs="unbounded"/> <xs:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xs:annotation> <xs:documentation>A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType>

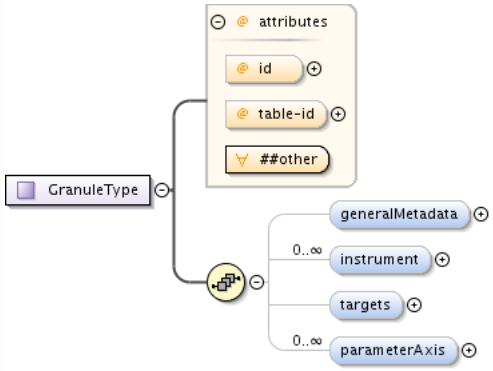
Complex Type `psr:SamplingPrecisionVariabilityType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0

Diagram	
Used by	Element psr:SamplingPrecisionType/psr:samplingPrecisionVariability
Model	psr:extendCoordSystem{0,1} , psr:units{0,1} , psr:samplingPrecisionMap , psr:documentation{0,1}
Children	psr:documentation, psr:extendCoordSystem, psr:samplingPrecisionMap, psr:units

Source	`<xs:complexType name="SamplingPrecisionVariabilityType">`
	`  <xs:sequence>`
	`  <xs:element name="extendCoordSystem" type="psr:CoordSysType" minOccurs="0"/>`
	`  <xs:element name="units" type="psr:ExtendedUnit" minOccurs="0"/>`
	`  <xs:element name="samplingPrecisionMap" type="cha:anyURIType">`
	`  <xs:annotation>`
	`  <xs:documentation>This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="documentation" type="cha:anyURIType" minOccurs="0"/>`
	`  </xs:sequence>`
	`</xs:complexType>`

Complex Type `psr:GranuleType`

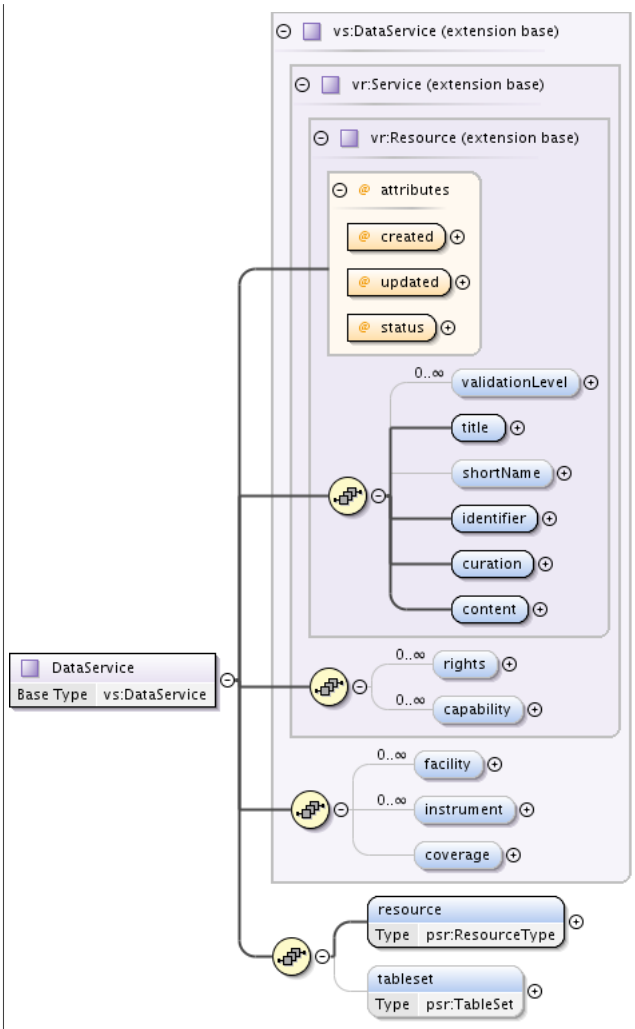
Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of a granule.
Diagram	
Used by	Elements psr:DatasetType/psr:granule, psr:ResourceType/psr:granule
Model	psr:generalMetadata{0,1} , psr:instrument* , psr:targets{0,1} , psr:parameterAxis*
Children	psr:generalMetadata, psr:instrument, psr:parameterAxis, psr:targets
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'** / / / / **id** / xs:token / / / optional Token providing a unique identifier to the granule. It could be a numeric value or a short string. **table-id** / xs:token / / / optional Token pointing to a unique identifier of a table in a tableset element. It could be a numeric value or a short string.

Source	`<xs:complexType name="GranuleType">`
	`  <xs:annotation>`
	`  <xs:documentation>Definition of a granule.</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:sequence>`
	`  <xs:element name="generalMetadata" type="psr:GeneralMetadataType" minOccurs="0" maxOccurs="1">`
	`  <xs:annotation>`

```
        <xs:documentation>General information about the dataset in terms of rights, format,
 readerURL, accesURL, ...</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="instrument" type="psr:InstrumentType" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>The definition of the instrument used to acquire the data (if relevant).</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="targets" type="psr:ListOfTargets" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>Defines the targets to which the dataset or the product applies to.
 Multiple combinations can be defined, mixing type and name elements.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="parameterAxis" type="psr:ParameterAxisType" minOccurs="0"
 maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Defines the ... TBC</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="id" type="xs:token">
    <xs:annotation>
      <xs:documentation>Token providing a unique identifier to the granule. It could be a numeric
 value or a short string.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="table-id" type="xs:token">
    <xs:annotation>
      <xs:documentation>Token pointing to a unique identifier of a table in a tableset element. It
 could be a numeric value or a short string.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:DataService`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A service that interacts with astronomical data through one or more specified tables.

Diagram	
Type	extension of vs:DataService
Type hierarchy	• vr:Resource • vr:Service • vs:DataService • psr:DataService
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , rights* , capability* , facility* , instrument* , coverage{0,1} , psr:resource , psr:tableset{0,1}
Children	capability, content, coverage, curation, facility, identifier, instrument, psr:resource, psr:tableset, rights, shortName, title, validationLevel

Attributes

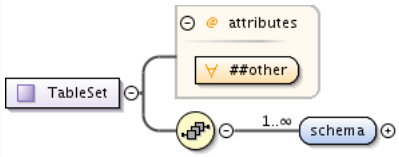
QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least			

	QName	Type	Fixed	Default	Use
		accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="DataService">
  <xs:annotation>
    <xs:documentation>A service that interacts with astronomical data through one or more specified
 tables.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:DataService">
      <xs:sequence>
        <xs:element name="resource" type="psr:ResourceType" minOccurs="1" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>The class of the resource, to be defined as a dataset or a granule.</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="tableset" type="psr:TableSet" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>A description of the tables that are accessible through this
 service.</xs:documentation>
            <xs:documentation>Each schema name and each table name must be unique within this
 tableset.</xs:documentation>
            <xs:documentation>This element is an extended clone of the vs:tableset element which
 allows a more precise definition of the table parameters.</xs:documentation>
          </xs:annotation>
          <xs:unique name="CatalogService-schemaName">
            <xs:selector xpath="schema"/>
            <xs:field xpath="name"/>
          </xs:unique>
          <xs:unique name="CatalogService-tableName">
            <xs:selector xpath="schema/table"/>
            <xs:field xpath="name"/>
          </xs:unique>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:TableSet`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	This complex type is a clone of the TableSet type of VODataService schema, extended to fit the requirements of the planetology science. This type defines the parameters of the sets of tables hosted by the resource. A ParameterSet is composed of one or more schemes. Each schema name and each table name must be unique within this ParameterSet.
Diagram	
Used by	Element psr:DataService/psr:tableset
Model	psr:schema+
Children	psr:schema

Attributes

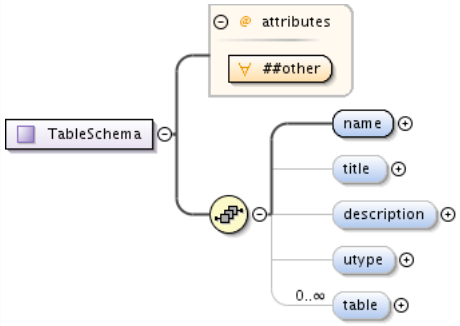
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				

Source

```
<xs:complexType name="TableSet">
  <xs:annotation>
    <xs:documentation>This complex type is a clone of the TableSet type of VODataService schema,
 extended to fit the requirements of the planetology science. This type defines the parameters of
 the sets of tables hosted by the resource.</xs:documentation>
    <xs:documentation>A ParameterSet is composed of one or more schemes. Each schema name and each
 table name must be unique within this ParameterSet.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
```

```
    <xs:element name="schema" type="psr:TableSchema" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A named description of a set of logically related tables of parameters.</
xs:documentation>
        <xs:documentation>The name given by the "name" child element must be unique within this
 TableSet instance. If there is only one schema in this set and/or there's no locally appropriate
 name to provide, the name can be set to "default".</xs:documentation>
        <xs:documentation>This aggregation does not need to map to an actual database, catalog, or
 schema, though the publisher may choose to aggregate along such designations, or particular service
 protocol may recommend it.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:TableSchema`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A detailed description of a logically-related set of tables of parameters.
Diagram	
Used by	Element psr:TableSet/psr:schema
Model	psr:name , psr:title{0,1} , psr:description{0,1} , psr:utype{0,1} , psr:table*
Children	psr:description, psr:name, psr:table, psr:title, psr:utype

Attributes

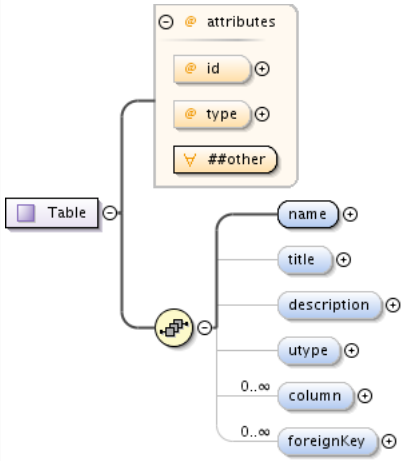
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				

Source

```
<xs:complexType name="TableSchema">
  <xs:annotation>
    <xs:documentation>A detailed description of a logically-related set of tables of parameters.</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>A name for the set of tables.</xs:documentation>
        <xs:documentation>This is used to uniquely identify the table set among several table sets.
 If a title is not present, this name can be used for display purposes.</xs:documentation>
        <xs:documentation>If there is no appropriate logical name associated with this set, the name
 should be explicitly set to "default".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="title" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a descriptive, human-interpretable name for the table set.</
xs:documentation>
        <xs:documentation>This is used for display purposes. There is no requirement regarding
 uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset;
 otherwise, the resource title could be used instead).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>A free text description of the tableset that should explain in general how
 all of the tables are related.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
```

```
        <xs:documentation>an identifier for a concept in a data model that the data in this schema
 as a whole represent.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is strongly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="table" type="psr:Table" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A description of one of the tables that makes up the set.</
xs:documentation>
        <xs:documentation>The table names for the table should be unique.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:Table`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Diagram	
Used by	Element psr:TableSchema/psr:table
Model	psr:name , psr:title{0,1} , psr:description{0,1} , psr:utype{0,1} , psr:column* , psr:foreignKey*
Children	psr:column, psr:description, psr:foreignKey, psr:name, psr:title, psr:utype

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://voparis-europlanet.obspm.fr/xml/PSR/v1.0'				
id	xs:token			optional
	Token providing a unique identifier to the tableset. It could be a numeric value or a short string. It could be used to link a granule and the description of its content (in terms of columns of data).			
type	xs:string			optional
	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.			

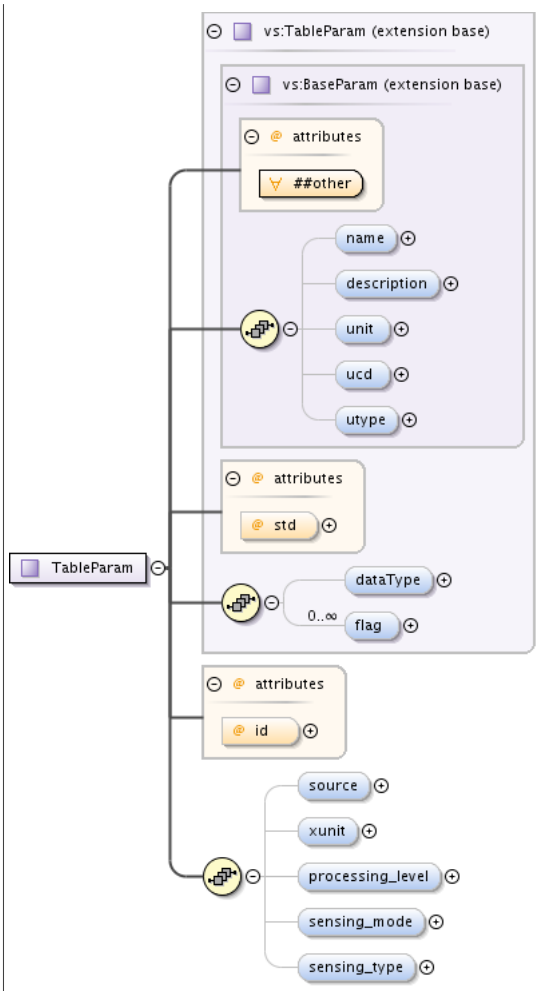
Source

```
<xs:complexType name="Table">
  <xs:sequence>
    <xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>the fully qualified name of the table. This name should include
 all catalog or schema prefixes needed to sufficiently uniquely distinguish it in a query.</
xs:documentation>
        <xs:documentation>In general, the format of the qualified name may depend on the context;
 however, when the table is intended to be queryable via ADQL, then the catalog and schema
 qualifiers are delimited from the table name with dots (.).</xs:documentation>
      </xs:annotation>
```

```
    </xs:element>
    <xs:element name="title" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a descriptive, human-interpretable name for the table.</xs:documentation>
        <xs:documentation>This is used for display purposes. There is no requirement regarding
 uniqueness.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a free-text description of the table's contents</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>an identifier for a concept in a data model that the data in this table
 represent.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is highly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="column" type="psr:TableParam" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a description of a table column.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="foreignKey" type="vs:ForeignKey" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a description of a foreign keys, one or more columns from the current
 table that can be used to join with another table.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="id" type="xs:token">
    <xs:annotation>
      <xs:documentation>Token providing a unique identifier to the tableset. It could be a numeric
 value or a short string. It could be used to link a granule and the description of its content (in
 terms of columns of data).</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="type" type="xs:string">
    <xs:annotation>
      <xs:documentation>a name for the role this table plays. Recognized values include "output",
 indicating this table is output from a query; "base_table", indicating a table whose records
 represent the main subjects of its schema; and "view", indicating that the table represents a
 useful combination or subset of other tables. Other values are allowed.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `psr:TableParam`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	A description of a table parameter having a complex data type.

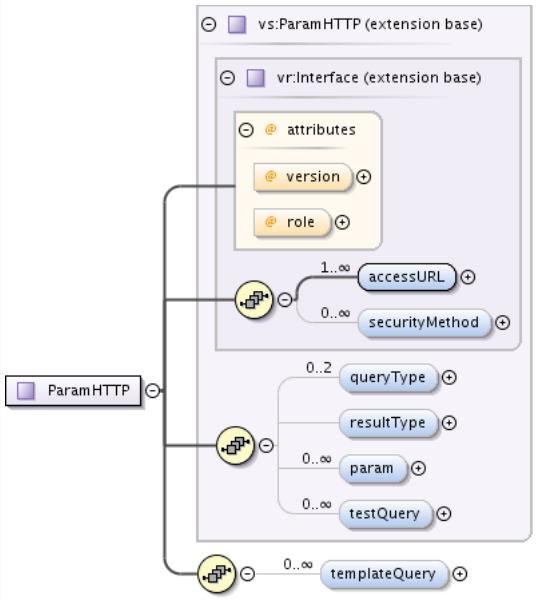
<table>
<tr><td>Diagram</td><td> 
</td></tr>
<tr><td>Type</td><td>extension of vs:TableParam</td></tr>
<tr><td>Type hierarchy</td><td>• vs:BaseParam
• vs:TableParam
• psr:TableParam</td></tr>
<tr><td>Used by</td><td>Element psr:Table/psr:column</td></tr>
<tr><td>Model</td><td>name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1} , flag* , psr:source{0,1} , psr:xunit{0,1} , psr:processing_level{0,1} , psr:sensing_mode{0,1} , psr:sensing_type{0,1}</td></tr>
<tr><td>Children</td><td>dataType, description, flag, name, psr:processing_level, psr:sensing_mode, psr:sensing_type, psr:source, psr:xunit, ucd, unit, utype</td></tr>
<tr><td>Attributes</td><td>
<table>
<tr><th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr>
<tr><td>ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'</td><td></td><td></td><td></td><td></td></tr>
<tr><td>id</td><td>xs:token</td><td></td><td></td><td>optional</td></tr>
<tr><td></td><td colspan="4">Token providing a unique identifier to the parameter. It could be a numeric value or a short string.</td></tr>
<tr><td>std</td><td>xs:boolean</td><td></td><td></td><td>optional</td></tr>
<tr><td></td><td colspan="4">If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.</td></tr>
</table>
</td></tr>
<tr><td>Source</td><td><pre>
<xs:complexType name="TableParam">
  <xs:annotation>
    <xs:documentation>A description of a table parameter having a complex data type.</
xs:documentation>
  </xs:annotation>
</pre></td></tr>
</table>

```
  <xs:complexContent>
    <xs:extension base="vs:TableParam">
      <xs:sequence>
        <xs:element name="source" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>Source of the parameter, i.e from measurement, model, or mixed.</
xs:documentation>
          </xs:annotation>
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="measurement"/>
              <xs:enumeration value="model"/>
              <xs:enumeration value="mixed"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="xunit" type="psr:ExtendedUnit" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>Defines the unit by an expression or a dimensional equation and a
 scale system. For simple unit (e.g. int, float), prefer the vs:unit element.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="processing_level" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>Processing level (TBD). Raw = compressed telemetry data, Uncalibrated
 = uncompressed telemetry data, Partially calibrated = partially calibrated data, Calibrated = fully
 calibrated data</xs:documentation>
          </xs:annotation>
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="raw"/>
              <xs:enumeration value="uncalibrated"/>
              <xs:enumeration value="partially calibrated"/>
              <xs:enumeration value="calibrated"/>
              <xs:enumeration value="derived"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="sensing_mode" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>Sensing mode (TBD)</xs:documentation>
          </xs:annotation>
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="remote"/>
              <xs:enumeration value="in situ"/>
              <xs:enumeration value="both"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
        <xs:element name="sensing_type" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>Sensing type (TBD)</xs:documentation>
          </xs:annotation>
          <xs:simpleType>
            <xs:restriction base="xs:string">
              <xs:enumeration value="active"/>
              <xs:enumeration value="passive"/>
              <xs:enumeration value="both"/>
            </xs:restriction>
          </xs:simpleType>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="id" type="xs:token">
        <xs:annotation>
          <xs:documentation>Token providing a unique identifier to the parameter. It could be a
 numeric value or a short string.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `psr:ParamHTTP`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Extends the VODataService 'ParamHTTP' element. To be used as the type of the interface of the capability metadata element.

Diagram



Type

extension of vs:ParamHTTP

Type hierarchy

- vr:Interface
  - vs:ParamHTTP
    - psr:ParamHTTP

Model

accessURL+ , securityMethod* , queryType{0,2} , resultType{0,1} , param* , testQuery* , psr:templateQuery*

Children

accessURL, param, psr:templateQuery, queryType, resultType, securityMethod, testQuery

Attributes

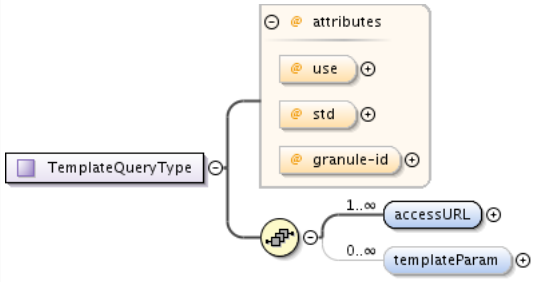
QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
version	xs:string		1.0	optional
	The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:complexType name="ParamHTTP">
  <xs:annotation>
    <xs:documentation>Extends the VODataService 'ParamHTTP' element. To be used as the type of the
 interface of the capability metadata element.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:ParamHTTP">
      <xs:sequence>
        <xs:element name="templateQuery" type="psr:TemplateQueryType" minOccurs="0"
 maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>A description of a template query to access to the data through a
 service.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
```

```
</xs:complexType>
```

Complex Type psr:TemplateQueryType

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Description of a template query to access to the data through a service. To be used within the interface of the capability metadata element to describe how to request the service.
Diagram	
Used by	Element psr:ParamHTTP/psr:templateQuery
Model	psr:accessURL+ , psr:templateParam*
Children	psr:accessURL, psr:templateParam

Attributes

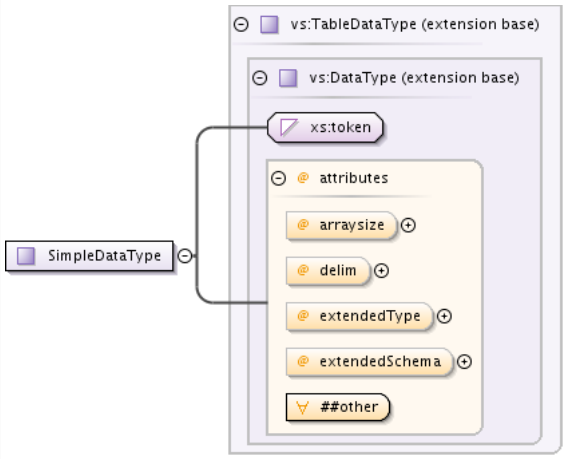
QName	Type	Fixed	Default	Use
granule-id	xs:token			optional
	Token pointing to a unique identifier of a granule. It could be a numeric value or a short string.			
std	xs:boolean		true	optional
	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.			
use	vs:ParamUse		optional	optional
	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".			

Source

```
<xs:complexType name="TemplateQueryType">
  <xs:annotation>
    <xs:documentation>Description of a template query to access to the data through a service. To
 be used within the interface of the capability metadata element to describe how to request the
 service.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="accessURL" type="vr:AccessURL" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>The URL (or base URL) that a client uses to access the service. How this
 URL is to be interpreted and used depends on the specific Interface subclass</xs:documentation>
        <xs:documentation>When more than one URL is given, each represents an alternative (i.e.
 mirror) endpoint whose behavior is identical to all the other accessURLs listed.</xs:documentation>
        <xs:documentation>Editor's note: this element assumes that all registered services are
 inherently web based.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="templateParam" type="vs:InputParam" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A description of the value of an input parameter (provided as
 ${parameter_name}) which must be substituted to provide a name=value argument to the service.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="use" type="vs:ParamUse" default="optional">
    <xs:annotation>
      <xs:documentation>An indication of whether this parameter is required to be provided for the
 application or service to work properly.</xs:documentation>
      <xs:documentation>Allowed values are "required" and "optional".</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="std" type="xs:boolean" default="true">
    <xs:annotation>
```

```
      <xs:documentation>If true, the meaning and behavior of this parameter is reserved and
 defined by a standard interface. If false, it represents an implementation-specific parameter that
 effectively extends the behavior of the service or application.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="granule-id" type="xs:token">
    <xs:annotation>
      <xs:documentation>Token pointing to a unique identifier of a granule. It could be a numeric
 value or a short string.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

Complex Type `psr:SimpleDataType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	`Definition of the abstract element vs:TableDataType`
Diagram	
Type	extension of vs:TableDataType
Type hierarchy	• xs:token • vs:DataType • vs:TableDataType • psr:SimpleDataType

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional

	`the shape of the array that constitutes the value`
	
	`the default is "1"; i.e. the value is a scalar.`			

delim	xs:string			optional

	`the string that is used to delimit elements of an array value when arraysize is not "1".`
	
	`Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=",").`
	
	`the default is " "; i.e. the values are delimited by spaces.`			

extendedSchema	xs:anyURI			optional

	`An identifier for the schema that the value given by the extended attribute is drawn from.`
	
	`This attribute is normally ignored if the extendedType attribute is not present.`			

extendedType	xs:string			optional
	`The data value represented by this type can be`			

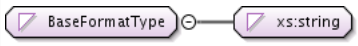
	QName	Type	Fixed	Default	Use
		interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.			

Source

```
<xs:complexType name="SimpleDataType">
  <xs:annotation>
    <xs:documentation>Definition of the abstract element vs:TableDataType</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:TableDataType"/>
  </xs:complexContent>
</xs:complexType>
```

Simple Type(s)

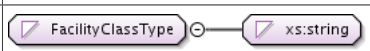
Simple Type `psr:BaseFormatType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Format of data.
Diagram	
Type	restriction of xs:string
Facets	enumeration votable enumeration html enumeration ascii enumeration cdf enumeration cdpp enumeration fits enumeration native enumeration netcdf enumeration pds
Used by	Complex Type psr:Format

Source

```
<xs:simpleType name="BaseFormatType">
  <xs:annotation>
    <xs:documentation>Format of data.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="votable"/>
    <xs:enumeration value="html"/>
    <xs:enumeration value="ascii"/>
    <xs:enumeration value="cdf"/>
    <xs:enumeration value="cdpp"/>
    <xs:enumeration value="fits"/>
    <xs:enumeration value="native"/>
    <xs:enumeration value="netcdf"/>
    <xs:enumeration value="pds"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `psr:FacilityClassType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	TBD
Diagram	
Type	restriction of xs:string
Facets	enumeration Spacecraft

	enumeration	LaboratoryExperiment
	enumeration	FieldAnalog
	enumeration	GroundBasedTelescope
	enumeration	Simulation
Used by	Attribute	psr:InstrumentType/psr:facility/@class

Source

```
<xs:simpleType name="FacilityClassType">
  <xs:annotation>
    <xs:documentation>TBD</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="Spacecraft"/>
    <xs:enumeration value="LaboratoryExperiment"/>
    <xs:enumeration value="FieldAnalog"/>
    <xs:enumeration value="GroundBasedTelescope"/>
    <xs:enumeration value="Simulation"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `psr:InstrumentClassList`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	The list is including generic types of instruments (TBC)
Diagram	
Type	restriction of xs:string

Facets

enumeration	Antenna
enumeration	CCD
enumeration	Chaneltron
enumeration	Coronograph
enumeration	DoubleSphere
enumeration	DustDetector
enumeration	Electron Drift Instrument
enumeration	Electrostatic Drift Instrument
enumeration	Electrostatic Analyser
enumeration	Energetic Particle Instrument
enumeration	Faraday Cup
enumeration	Flux Feedback
enumeration	Fourier Transform Spectrograph
enumeration	Geiger-Mueller Tube
enumeration	Grating Spectrometer
enumeration	Imager
enumeration	Imaging Spectrometer
enumeration	Interferometer
enumeration	Ion Chamber
enumeration	Ion Drift
enumeration	Langmuir Probe
enumeration	Long wire
enumeration	Magnetometer
enumeration	Mass Spectrometer
enumeration	Micro Channel Plate
enumeration	Multispectral imager
enumeration	Neutral Atom imager
enumeration	Neutral Particle Detector

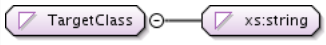
	enumeration	Plasma Spectrometer
	enumeration	Particle Correlator
	enumeration	Particle Detector
	enumeration	Photometer
	enumeration	Photopolarimeter
	enumeration	Platform
	enumeration	Proportional Counter
	enumeration	Quadrispherical Analyser
	enumeration	Radar
	enumeration	Radio Receiver
	enumeration	Resonance Sounder
	enumeration	Retarding Potential Analyser
	enumeration	Riometer
	enumeration	Scintillation Detector
	enumeration	Search Coil
	enumeration	Sounder
	enumeration	Spacecraft Potential Control
	enumeration	Spectral Power Receiver
	enumeration	Spectrometer
	enumeration	Spectro Imager
	enumeration	Time of Flight
	enumeration	Unspecified
	enumeration	Waveform receiver
Used by	Element	psr:InstrumentType/psr:instrumentClass

Source

```
<xs:simpleType name="InstrumentClassList">
  <xs:annotation>
    <xs:documentation>The list is including generic types of instruments (TBC)</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="Antenna"/>
    <xs:enumeration value="CCD"/>
    <xs:enumeration value="Chaneltron"/>
    <xs:enumeration value="Coronograph"/>
    <xs:enumeration value="DoubleSphere"/>
    <xs:enumeration value="DustDetector"/>
    <xs:enumeration value="Electron Drift Instrument"/>
    <xs:enumeration value="Electrostatic Drift Instrument"/>
    <xs:enumeration value="Electrostatic Analyser"/>
    <xs:enumeration value="Energetic Particle Instrument"/>
    <xs:enumeration value="Faraday Cup"/>
    <xs:enumeration value="Flux Feedback"/>
    <xs:enumeration value="Fourier Transform Spectrograph"/>
    <xs:enumeration value="Geiger-Mueller Tube"/>
    <xs:enumeration value="Grating Spectrometer"/>
    <xs:enumeration value="Imager"/>
    <xs:enumeration value="Imaging Spectrometer"/>
    <xs:enumeration value="Interferometer"/>
    <xs:enumeration value="Ion Chamber"/>
    <xs:enumeration value="Ion Drift"/>
    <xs:enumeration value="Langmuir Probe"/>
    <xs:enumeration value="Long wire"/>
    <xs:enumeration value="Magnetometer"/>
    <xs:enumeration value="Mass Spectrometer"/>
    <xs:enumeration value="Micro Channel Plate"/>
    <xs:enumeration value="Multispectral imager"/>
    <xs:enumeration value="Neutral Atom imager"/>
    <xs:enumeration value="Neutral Particle Detector"/>
    <xs:enumeration value="Plasma Spectrometer"/>
    <xs:enumeration value="Particle Correlator"/>
    <xs:enumeration value="Particle Detector"/>
    <xs:enumeration value="Photometer"/>
    <xs:enumeration value="Photopolarimeter"/>
    <xs:enumeration value="Platform"/>
```

```
    <xs:enumeration value="Proportional Counter"/>
    <xs:enumeration value="Quadrispherical Analyser"/>
    <xs:enumeration value="Radar"/>
    <xs:enumeration value="Radio Receiver"/>
    <xs:enumeration value="Resonance Sounder"/>
    <xs:enumeration value="Retarding Potential Analyser"/>
    <xs:enumeration value="Riometer"/>
    <xs:enumeration value="Scintillation Detector"/>
    <xs:enumeration value="Search Coil"/>
    <xs:enumeration value="Sounder"/>
    <xs:enumeration value="Spacecraft Potential Control"/>
    <xs:enumeration value="Spectral Power Receiver"/>
    <xs:enumeration value="Spectrometer"/>
    <xs:enumeration value="Spectro Imager"/>
    <xs:enumeration value="Time of Flight"/>
    <xs:enumeration value="Unspecified"/>
    <xs:enumeration value="Waveform receiver"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `psr:TargetClass`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Enumarated list of target types as defined by the Planetary Science data model
Diagram	
Type	restriction of xs:string
Facets	enumeration asteroid enumeration comet enumeration dust enumeration dwarfplanet enumeration exoplanet enumeration feature enumeration galaxy enumeration ipm enumeration meteorite enumeration nebula enumeration planet enumeration region enumeration ring enumeration sample enumeration satellite enumeration sky enumeration spacecraft enumeration spacejunk enumeration star
Used by	Elements psr:ListOfTargets/psr:class, psr:TargetType/psr:class
Source	

```
<xs:simpleType name="TargetClass">
  <xs:annotation>
    <xs:documentation>Enumarated list of target types as defined by the Planetary Science data
 model</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration id="ast" value="asteroid"/>
    <xs:enumeration id="com" value="comet"/>
    <xs:enumeration id="dus" value="dust"/>
    <xs:enumeration id="dwa" value="dwarfplanet"/>
    <xs:enumeration id="exo" value="exoplanet"/>
    <xs:enumeration id="fea" value="feature"/>
    <xs:enumeration id="gal" value="galaxy"/>
    <xs:enumeration id="ipm" value="ipm"/>
    <xs:enumeration id="met" value="meteorite"/>
    <xs:enumeration id="neb" value="nebula"/>
    <xs:enumeration id="ppl" value="planet"/>
```

```
    <xs:enumeration id="reg" value="region"/>
    <xs:enumeration id="rin" value="ring"/>
    <xs:enumeration id="sam" value="sample"/>
    <xs:enumeration id="sat" value="satellite"/>
    <xs:enumeration id="sky" value="sky"/>
    <xs:enumeration id="spc" value="spacecraft"/>
    <xs:enumeration id="spj" value="spacejunk"/>
    <xs:enumeration id="sta" value="star"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `psr:ResourceClassType`

Namespace	http://voparis-europlanet.obspm.fr/xml/PSR/v1.0
Annotations	Definition of the classes of resources
Diagram	
Type	restriction of xs:string
Facets	enumeration: dataset enumeration: granule
Used by	Attribute: psr:ResourceType/@class

Source	<pre><xs:simpleType name="ResourceClassType">
	  <xs:annotation>
	  <xs:documentation>Definition of the classes of resources</xs:documentation>
	  </xs:annotation>
	  <xs:restriction base="xs:string">
	  <xs:enumeration value="dataset"/>
	  <xs:enumeration value="granule"/>
	  </xs:restriction>
	</xs:simpleType></pre>

Namespace: "http://www.ivoa.net/xml/VOResource/v1.0"

Schema(s)

Imported schema `v1.0`

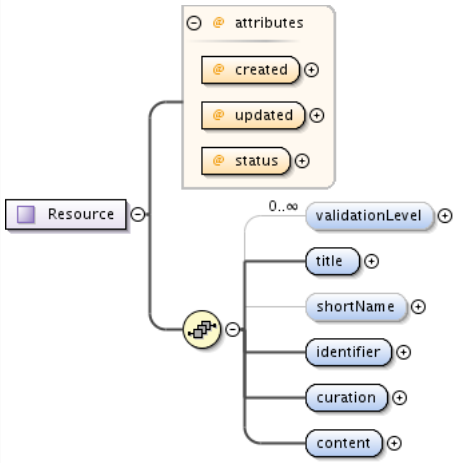
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	Implementation of an XML Schema describing a resource to be used in the Virtual Observatory Project. Based on "Resource Metadata for the Virtual Observatory", Version 0.8, February 2002 by Bob Hanisch et al.
Properties	attribute form default: unqualified element form default: unqualified version: 1.02

Complex Type(s)

Complex Type `vr:Resource`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	Any entity or component of a VO application that is describable and identifiable by a IVOA Identifier.

Diagram



Used by

Complex Types psr:GeneralMetadataType, vr:Organisation, vr:Service, vs:DataCollection, vs:StandardSTC

Model

validationLevel* , title , shortName{0,1} , identifier , curation , content

Children

content, curation, identifier, shortName, title, validationLevel

Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

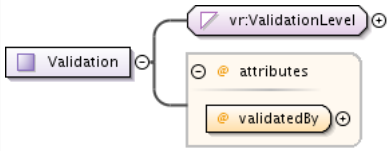
Source

```
<xs:complexType name="Resource">
  <xs:annotation>
    <xs:documentation>Any entity or component of a VO application that is describable and
 identifiable by a IVOA Identifier.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="validationLevel" type="vr:Validation" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A numeric grade describing the quality of the resource description, when
 applicable, to be used to indicate the confidence an end-user can put in the resource as part of a
 VO application or research study.</xs:documentation>
        <xs:documentation>See vr:ValidationLevel for an explanation of the allowed levels.</
xs:documentation>
        <xs:documentation>Note that when this resource is a Service, this grade applies to the
 core set of metadata. Capability and interface metadata, as well as the compliance of the service
 with the interface standard, is rated by validationLevel tag in the capability element (see the
 vr:Service complex type).</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="title" type="xs:token">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Title</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>the full name given to the resource</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="shortName" type="vr:ShortName" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a short name or abbreviation given to the resource.</xs:documentation>
        <xs:documentation>This name will be used where brief annotations for the resource name are
 required. Applications may use to refer to this resource in a compact display.</xs:documentation>
```

```
        <xs:documentation>One word or a few letters is recommended. No more than sixteen characters
 are allowed.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="identifier" type="vr:IdentifierURI">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Identifier</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>Unambiguous reference to the resource conforming to the IVOA standard for
 identifiers</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="curation" type="vr:Curation">
      <xs:annotation>
        <xs:documentation>Information regarding the general curation of the resource</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="content" type="vr:Content">
      <xs:annotation>
        <xs:documentation>Information regarding the general content of the resource</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="created" type="xs:dateTime" use="required">
    <xs:annotation>
      <xs:documentation>The UTC date and time this resource metadata description was created.</
xs:documentation>
      <xs:documentation>This timestamp must not be in the future. This time is not required to be
 accurate; it should be at least accurate to the day. Any insignificant time fields should be set to
 zero.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="updated" type="xs:dateTime" use="required">
    <xs:annotation>
      <xs:documentation>The UTC date this resource metadata description was last updated.</
xs:documentation>
      <xs:documentation>This timestamp must not be in the future. This time is not required to be
 accurate; it should be at least accurate to the day. Any insignificant time fields should be set to
 zero.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="status" use="required">
    <xs:annotation>
      <xs:documentation>a tag indicating whether this resource is believed to be still actively
 maintained.</xs:documentation>
    </xs:annotation>
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="active">
          <xs:annotation>
            <xs:documentation>resource is believed to be currently maintained, and its description
 is up to date (default).</xs:documentation>
          </xs:annotation>
        </xs:enumeration>
        <xs:enumeration value="inactive">
          <xs:annotation>
            <xs:documentation>resource is apparently not being maintained at the present.</
xs:documentation>
          </xs:annotation>
        </xs:enumeration>
        <xs:enumeration value="deleted">
          <xs:annotation>
            <xs:documentation>resource publisher has explicitly deleted the resource.</
xs:documentation>
          </xs:annotation>
        </xs:enumeration>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:complexType>
```

Complex Type `vr:Validation`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	a validation stamp combining a validation level and the ID of the validator.

Diagram	
Type	extension of vr:ValidationLevel
Type hierarchy	• xs:integer • vr:ValidationLevel • vr:Validation
Used by	Elements vr:Capability/validationLevel, vr:Resource/validationLevel

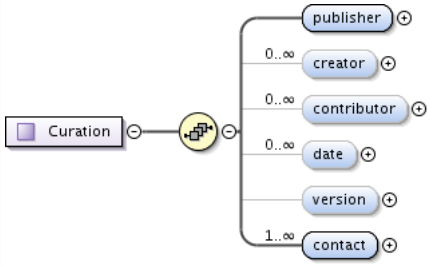
Attributes

QName	Type	Fixed	Default	Use
validatedBy	vr:IdentifierURI			required
	The IVOA ID of the registry or organisation that assigned the validation level.			

Source

```
<xs:complexType name="Validation">
  <xs:annotation>
    <xs:documentation>a validation stamp combining a validation level and the ID of the validator.</
xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="vr:ValidationLevel">
      <xs:attribute name="validatedBy" type="vr:IdentifierURI" use="required">
        <xs:annotation>
          <xs:documentation>The IVOA ID of the registry or organisation that assigned the validation
 level.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vr:Curation`

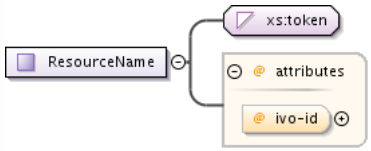
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	Information regarding the general curation of a resource
Diagram	
Used by	Element vr:Resource/curation
Model	publisher , creator* , contributor* , date* , version{0,1} , contact+
Children	contact, contributor, creator, date, publisher, version

Source

```
<xs:complexType name="Curation">
  <xs:annotation>
    <xs:documentation>Information regarding the general curation of a resource</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="publisher" type="vr:ResourceName">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Publisher</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>Entity (e.g. person or organisation) responsible for making the resource
 available</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="creator" type="vr:Creator" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Creator</vm:dcterm>
```

```
        </xs:appinfo>
        <xs:documentation>The entity (e.g. person or organisation) primarily responsible for
 creating the content or constitution of the resource.</xs:documentation>
        <xs:documentation>A logo need only be provided for the first occurance. When multiple logos
 are supplied via multiple creator elements, the application is free to choose which to use.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="contributor" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Contributor</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>Entity responsible for contributions to the content of the resource</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="date" type="vr:Date" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Date</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>Date associated with an event in the life cycle of the resource.</
xs:documentation>
        <xs:documentation>This will typically be associated with the creation or availability
 (i.e., most recent release or version) of the resource. Use the role attribute to clarify.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="version" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>Label associated with creation or availablilty of a version of a
 resource.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="contact" type="vr:Contact" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>Information that can be used for contacting someone with regard to this
 resource.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `vr:ResourceName`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	the name of a potentially registered resource. That is, the entity referred to may have an associated identifier.
Diagram	
Type	extension of xs:token
Used by	Elements: psr:InstrumentType/psr:facility, psr:InstrumentType/psr:instrumentName, vr:Contact/name, vr:Creator/name, vr:Curation/contributor, vr:Curation/publisher, vr:Organisation/facility, vr:Organisation/instrument, vr:Relationship/relatedResource, vs:DataCollection/facility, vs:DataCollection/instrument, vs:DataService/facility, vs:DataService/instrument

Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source

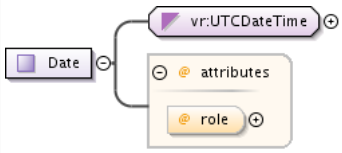
```
<xs:complexType name="ResourceName">
  <xs:annotation>
    <xs:documentation>the name of a potentially registered resource. That is, the entity referred to
 may have an associated identifier.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:token">
      <xs:attribute name="ivo-id" type="vr:IdentifierURI">
        <xs:annotation>
          <xs:documentation>The URI form of the IVOA identifier for the resource refered to</
xs:documentation>
        </xs:annotation>
```

```
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vr:Creator`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	The entity (e.g. person or organisation) primarily responsible for creating something
Diagram	
Used by	Element vr:Curation/creator
Model	name , logo{0,1}
Children	logo, name
Source	<xs:complexType name="Creator"> <xs:annotation> <xs:documentation>The entity (e.g. person or organisation) primarily responsible for creating something</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="name" type="vr:ResourceName"> <xs:annotation> <xs:documentation>the name or title of the creating person or organization</xs:documentation> <xs:documentation>Users of the creation should use this name in subsequent credits and acknowledgements.</xs:documentation> </xs:annotation> </xs:element> <xs:element name="logo" type="xs:anyURI" minOccurs="0"> <xs:annotation> <xs:documentation>URL pointing to a graphical logo, which may be used to help identify the information source</xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType>

Complex Type `vr:Date`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	extension of vr:UTCDateTime
Type hierarchy	• xs:anySimpleType • vr:UTCDateTime • vr:Date
Used by	Element vr:Curation/date

Attributes

QName	Type	Fixed	Default	Use
role	xs:string		representative	optional

A string indicating what the date refers to.

While this vocabulary is uncontrolled, recognized strings include "creation", indicating the date that the resource itself was created, and "update", indicating when the resource was updated last. The default value, "representative", means that the date is a rough representation of the time coverage of the resource.

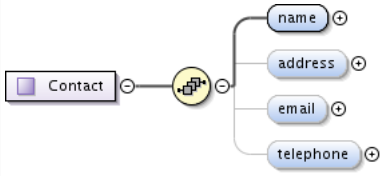
Note that this date refers to the resource; dates describing the metadata description of the resource are handled by the "created" and "updated" attributes of the Resource

	QName	Type	Fixed	Default	Use
		element.			

Source

```
<xs:complexType name="Date">
  <xs:simpleContent>
    <xs:extension base="vr:UTCDateTime">
      <xs:attribute name="role" type="xs:string" default="representative">
        <xs:annotation>
          <xs:documentation>A string indicating what the date refers to.</xs:documentation>
          <xs:documentation>While this vocabulary is uncontrolled, recognized strings include
 "creation", indicating the date that the resource itself was created, and "update", indicating when
 the resource was updated last. The default value, "representative", means that the date is a rough
 representation of the time coverage of the resource.</xs:documentation>
          <xs:documentation>Note that this date refers to the resource; dates describing the
 metadata description of the resource are handled by the "created" and "updated" attributes of the
 Resource element.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vr:Contact`

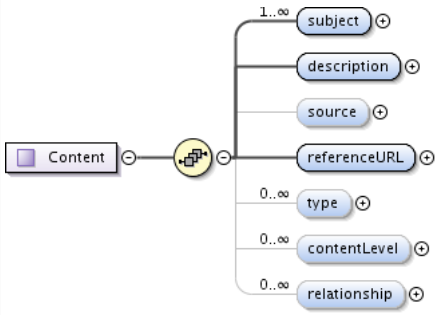
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	Information that can be used for contacting someone
Diagram	
Used by	Element vr:Curation/contact
Model	name , address{0,1} , email{0,1} , telephone{0,1}
Children	address, email, name, telephone

Source

```
<xs:complexType name="Contact">
  <xs:annotation>
    <xs:documentation>Information that can be used for contacting someone</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="name" type="vr:ResourceName">
      <xs:annotation>
        <xs:documentation>the name or title of the contact person.</xs:documentation>
        <xs:documentation>This can be a person's name, e.g. "John P. Jones" or a group, "Archive
 Support Team".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="address" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the contact mailing address</xs:documentation>
        <xs:documentation>All components of the mailing address are given in one string, e.g. "3700
 San Martin Drive, Baltimore, MD 21218 USA".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="email" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the contact email address</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="telephone" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the contact telephone number</xs:documentation>
        <xs:documentation>Complete international dialing codes should be given, e.g.
 "+1-410-338-1234".</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `vr:Content`

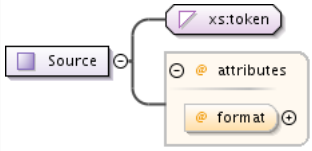
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	Information regarding the general content of a resource

Diagram	
Used by	Element vr:Resource/content
Model	subject+ , description , source{0,1} , referenceURL , type* , contentLevel* , relationship*
Children	contentLevel, description, referenceURL, relationship, source, subject, type

Source	`<xs:complexType name="Content">`
	`  <xs:annotation>`
	`  <xs:documentation>Information regarding the general content of a resource</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:sequence>`
	`  <xs:element name="subject" type="xs:token" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Subject</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>a topic, object type, or other descriptive keywords about the resource.</xs:documentation>`
	`  <xs:documentation>Terms for Subject should be drawn from the IAU Astronomy Thesaurus (http://msowww.anu.edu.au/library/thesaurus/).</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="description" type="xs:token">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Description</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>An account of the nature of the resource</xs:documentation>`
	`  <xs:documentation>The description may include but is not limited to an abstract, table of contents, reference to a graphical representation of content or a free-text account of the content.</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="source" type="vr:Source" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Source</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>a bibliographic reference from which the present resource is derived or extracted.</xs:documentation>`
	`  <xs:documentation>This is intended to point to an article in the published literature. An ADS Bibcode is recommended as a value when available.</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="referenceURL" type="xs:anyURI">`
	`  <xs:annotation>`
	`  <xs:documentation>URL pointing to a human-readable document describing this resource.</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="type" type="vr:Type" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Type</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>Nature or genre of the content of the resource</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="contentLevel" type="vr:ContentLevel" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Subject</vm:dcterm>`
	`  <vm:dcterm>Subject.ContentLevel</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>Description of the content level or intended audience</xs:documentation>`
	`  </xs:annotation>`
	`  </xs:element>`
	`  <xs:element name="relationship" type="vr:Relationship" minOccurs="0" maxOccurs="unbounded">`

```
      <xs:annotation>
        <xs:documentation>a description of a relationship to another resource.</xs:documentation>
        <xs:documentation>Because this element's type is abstract, an xsi:type must be to indicate
 the set of relationship types that are valid.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `vr:Source`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	extension of xs:token
Used by	Element vr:Content/source

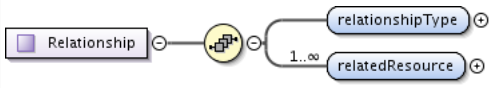
Attributes

QName	Type	Fixed	Default	Use
format	xs:string			optional
	The reference format. Recognized values include "bibcode", referring to a standard astronomical bibcode (http://cdsweb.u-strasbg.fr/simbad/refcode.html).			

Source

```
<xs:complexType name="Source">
  <xs:simpleContent>
    <xs:extension base="xs:token">
      <xs:attribute name="format" type="xs:string">
        <xs:annotation>
          <xs:documentation>The reference format. Recognized values include "bibcode", referring
 to a standard astronomical bibcode (http://cdsweb.u-strasbg.fr/simbad/refcode.html).</
xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vr:Relationship`

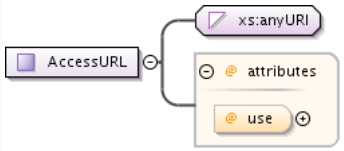
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A description of the relationship between one resource and one or more other resources.
Diagram	
Used by	Element vr:Content/relationship
Model	relationshipType , relatedResource+
Children	relatedResource, relationshipType

Source

```
<xs:complexType name="Relationship">
  <xs:annotation>
    <xs:documentation>A description of the relationship between one resource and one or more other
 resources.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="relationshipType" type="xs:token">
      <xs:annotation>
        <xs:documentation>the named type of relationship</xs:documentation>
        <xs:documentation>The VOResource Core specification defines a standard set of names that are
 not enforced by this schema, but are otherwise required by the spec.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="relatedResource" type="vr:ResourceName" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>the name of resource that this resource is related to.</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
  </xs:sequence>
</xs:complexType>
```

Complex Type `vr:AccessURL`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	extension of xs:anyURI
Used by	Elements: psr:GeneralMetadataType/psr:accessURL, psr:InstrumentType/psr:referenceURL, psr:TemplateQueryType/psr:accessURL, vr:Interface/accessURL, vs:DataCollection/accessURL

Attributes

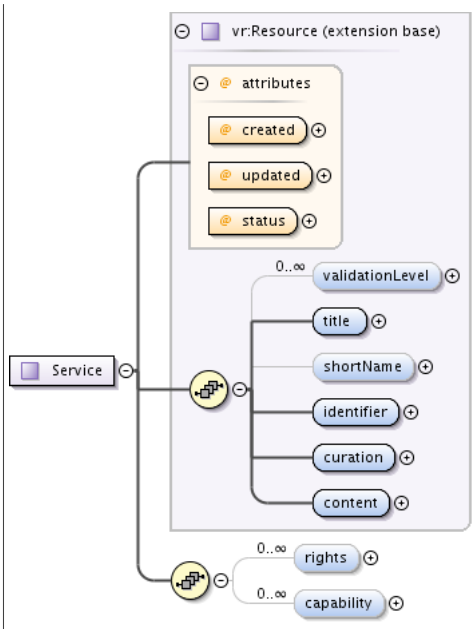
QName	Type	Fixed	Default	Use
use	restriction of xs:NMTOKEN			optional
	A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.			

Source

```
<xs:complexType name="AccessURL">
  <xs:simpleContent>
    <xs:extension base="xs:anyURI">
      <xs:attribute name="use">
        <xs:annotation>
          <xs:documentation>A flag indicating whether this should be interpreted as a base URL, a
 full URL, or a URL to a directory that will produce a listing of files.</xs:documentation>
          <xs:documentation>The default value assumed when one is not given depends on the
 context.</xs:documentation>
        </xs:annotation>
        <xs:simpleType>
          <xs:restriction base="xs:NMTOKEN">
            <xs:enumeration value="full">
              <xs:annotation>
                <xs:documentation>Assume a full URL--that is, one that can be invoked directly
 without alteration. This usually returns a single document or file.</xs:documentation>
              </xs:annotation>
            </xs:enumeration>
            <xs:enumeration value="base">
              <xs:annotation>
                <xs:documentation>Assume a base URL--that is, one requiring an extra portion to be
 appended before being invoked.</xs:documentation>
              </xs:annotation>
            </xs:enumeration>
            <xs:enumeration value="dir">
              <xs:annotation>
                <xs:documentation>Assume URL points to a directory that will return a listing of
 files.</xs:documentation>
              </xs:annotation>
            </xs:enumeration>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vr:Service`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	a resource that can be invoked by a client to perform some action on its behalf.

Diagram	
Type	extension of vr:Resource
Type hierarchy	• vr:Resource • vr:Service
Used by	Complex Type vs:DataService
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , rights* , capability*
Children	capability, content, curation, identifier, rights, shortName, title, validationLevel

Attributes

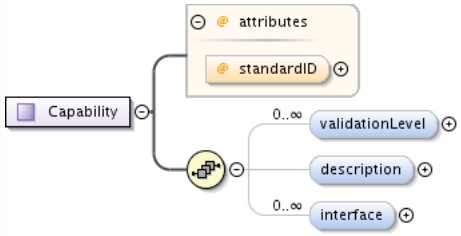
QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="Service">
  <xs:annotation>
    <xs:documentation>a resource that can be invoked by a client to perform some action on its
 behalf.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Resource">
      <xs:sequence>
        <xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Rights</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>Information about rights held in and over the resource.</
xs:documentation>
            <xs:documentation>This should be repeated for all Rights values that apply.</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="capability" type="vr:Capability" minOccurs="0" maxOccurs="unbounded">
```

```
          <xs:annotation>
            <xs:documentation>a description of a general capability of the service and how to use
 it.</xs:documentation>
            <xs:documentation>This describes a general function of the service, usually in terms of
 a standard service protocol (e.g. SIA), but not necessarily.</xs:documentation>
            <xs:documentation>A service can have many capabilities associated with it, each
 reflecting different aspects of the functionality it provides.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vr:Capability`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	a description of what the service does (in terms of context-specific behavior), and how to use it (in terms of an interface)
Diagram	
Used by	Element vr:Service/capability
Model	validationLevel* , description{0,1} , interface*
Children	description, interface, validationLevel

Attributes

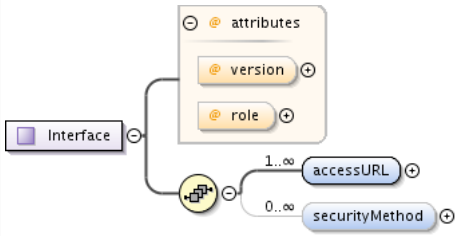
QName	Type	Fixed	Default	Use
standardID	xs:anyURI			optional
	A URI identifier for a standard service. This provides a unique way to refer to a service specification standard, such as a Simple Image Access service. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.			

Source

```
<xs:complexType name="Capability">
  <xs:annotation>
    <xs:documentation>a description of what the service does (in terms of context-specific
 behavior), and how to use it (in terms of an interface)</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="validationLevel" type="vr:Validation" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A numeric grade describing the quality of the capability description
 and interface, when applicable, to be used to indicate the confidence an end-user can put in the
 resource as part of a VO application or research study.</xs:documentation>
        <xs:documentation>See vr:ValidationLevel for an explanation of the allowed levels.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>A human-readable description of what this capability provides as part of
 the over-all service</xs:documentation>
        <xs:documentation>Use of this optional element is especially encouraged when this capability
 is non-standard and is one of several capabilities listed.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="interface" type="vr:Interface" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a description of how to call the service to access this capability</
xs:documentation>
        <xs:documentation>Since the Interface type is abstract, one must describe the interface
 using a subclass of Interface, denoting it via xsi:type.</xs:documentation>
        <xs:documentation>Multiple occurances can describe different interfaces to the logically
 same capability--i.e. data or functionality. That is, the inputs accepted and the output provides
 should be logically the same. For example, a WebBrowser interface given in addition to a WebService
```

```
 interface would simply provide an interactive, human-targeted interface to the underlying
 WebService interface.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="standardID" type="xs:anyURI">
    <xs:annotation>
      <xs:documentation>A URI identifier for a standard service.</xs:documentation>
      <xs:documentation>This provides a unique way to refer to a service specification standard,
 such as a Simple Image Access service. The use of an IVOA identifier here implies that a VOResource
 description of the standard is registered and accessible.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

Complex Type `vr:Interface`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A description of a service interface. Since this type is abstract, one must use an Interface subclass to describe an actual interface. Additional interface subtypes (beyond WebService and WebBrowser) are defined in the VODataService schema.
Diagram	
Properties	abstract: true
Used by	Element: vr:Capability/interface Complex Types: vr:WebBrowser, vr:WebService, vs:ParamHTTP
Model	accessURL+ , securityMethod*
Children	accessURL, securityMethod

Attributes

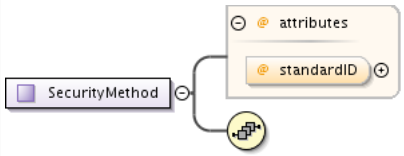
QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
version	xs:string		1.0	optional
	The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:complexType name="Interface" abstract="true">
  <xs:annotation>
    <xs:documentation>A description of a service interface.</xs:documentation>
    <xs:documentation>Since this type is abstract, one must use an Interface subclass to describe an
 actual interface.</xs:documentation>
    <xs:documentation>Additional interface subtypes (beyond WebService and WebBrowser) are defined
 in the VODataService schema.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
```

```
    <xs:element name="accessURL" type="vr:AccessURL" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>The URL (or base URL) that a client uses to access the service. How this
 URL is to be interpreted and used depends on the specific Interface subclass</xs:documentation>
        <xs:documentation>When more than one URL is given, each represents an alternative (i.e.
 mirror) endpoint whose behavior is identical to all the other accessURLs listed.</xs:documentation>
        <xs:documentation>Editor's note: this element assumes that all registered services are
 inherently web based.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="securityMethod" type="vr:SecurityMethod" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>the mechanism the client must employ to gain secure access to the
 service.</xs:documentation>
        <xs:documentation>when more than one method is listed, each one must be employed to gain
 access.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="version" type="xs:string" default="1.0">
    <xs:annotation>
      <xs:documentation>The version of a standard interface specification that this interface
 complies with. When the interface is provided in the context of a Capability element, then the
 standard being refered to is the one identified by the Capability's standardID element. If the
 standardID is not provided, the meaning of this attribute is undefined.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:attribute name="role" type="xs:NMTOKEN">
    <xs:annotation>
      <xs:documentation>A tag name the identifies the role the interface plays in the particular
 capability. If the value is equal to "std" or begins with "std:", then the interface refers to a
 standard interface defined by the standard referred to by the capability's standardID attribute.</
xs:documentation>
      <xs:documentation>For an interface complying with some registered standard (i.e. has a legal
 standardID), the role can be match against interface roles enumerated in standard resource record.
 The interface descriptions in the standard record can provide default descriptions so that such
 details need not be repeated here.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

Complex Type `vr:SecurityMethod`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	a description of a security mechanism. this type only allows one to refer to the mechanism via a URI. Derived types would allow for more metadata.
Diagram	
Used by	Element vr:Interface/securityMethod
Model	

Attributes

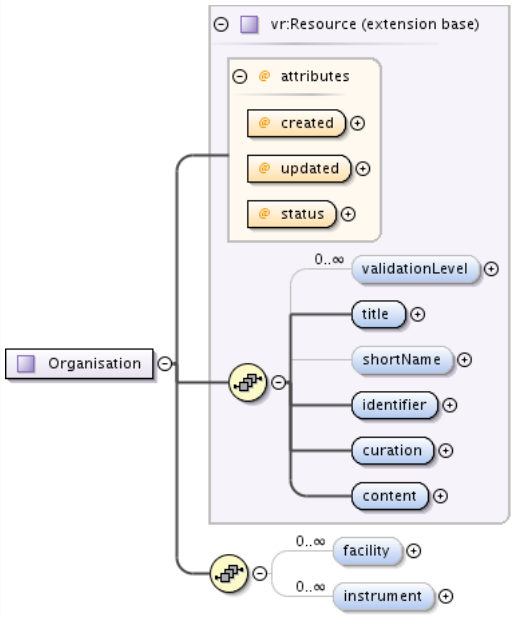
QName	Type	Fixed	Default	Use
standardID	xs:anyURI			optional
	A URI identifier for a standard security mechanism. This provides a unique way to refer to a security specification standard. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.			

Source

```
<xs:complexType name="SecurityMethod">
  <xs:annotation>
    <xs:documentation>a description of a security mechanism.</xs:documentation>
    <xs:documentation>this type only allows one to refer to the mechanism via a URI. Derived types
 would allow for more metadata.</xs:documentation>
  </xs:annotation>
  <xs:sequence/>
  <xs:attribute name="standardID" type="xs:anyURI">
    <xs:annotation>
      <xs:documentation>A URI identifier for a standard security mechanism.</xs:documentation>
```

```
      <xs:documentation>This provides a unique way to refer to a security specification standard.
 The use of an IVOA identifier here implies that a VOResource description of the standard is
 registered and accessible.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
</xs:complexType>
```

Complex Type `vr:Organisation`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A named group of one or more persons brought together to pursue participation in VO applications. According to the Resource Metadata Recommendation, organisations "can be hierarchical and range in size and scope. At a high level, an organisation could be a university, observatory, or government agency. At a finer level, it could be a specific scientific project, mission, or individual researcher." The main purpose of an organisation as a registered resource is to serve as a publisher of other resources.
Diagram	
Type	extension of vr:Resource
Type hierarchy	• vr:Resource • vr:Organisation
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , facility* , instrument*
Children	content, curation, facility, identifier, instrument, shortName, title, validationLevel

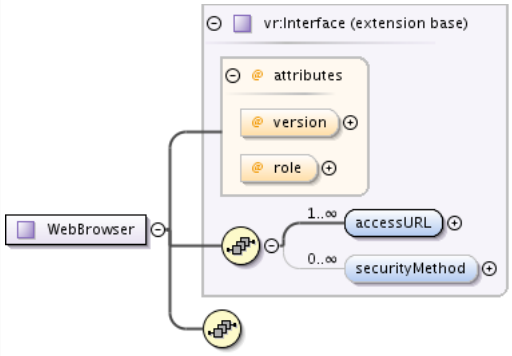
Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="Organisation">
  <xs:annotation>
    <xs:documentation>A named group of one or more persons brought together to pursue participation
 in VO applications.</xs:documentation>
    <xs:documentation>According to the Resource Metadata Recommendation, organisations "can be
 hierarchical and range in size and scope. At a high level, an organisation could be a university,
 observatory, or government agency. At a finer level, it could be a specific scientific project,
 mission, or individual researcher."</xs:documentation>
    <xs:documentation>The main purpose of an organisation as a registered resource is to serve as a
 publisher of other resources.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Resource">
      <xs:sequence>
        <xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the observatory or facility used to collect the data contained or
 managed by this resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
              <vm:dcterm>Subject.Instrument</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the Instrument used to collect the data contain or managed by a
 resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vr:WebBrowser`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A (form-based) interface intended to be accesed interactively by a user via a web browser. The accessURL represents the URL of the web form itself.
Diagram	
Type	extension of vr:Interface
Type hierarchy	• vr:Interface • vr:WebBrowser
Model	accessURL+ , securityMethod*
Children	accessURL, securityMethod

Attributes

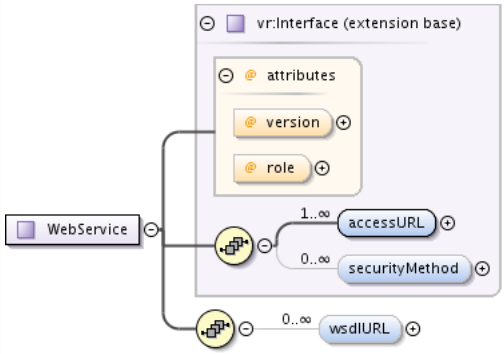
QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered			

	QName	Type	Fixed	Default	Use
		standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
	version	xs:string		1.0	optional
		The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:complexType name="WebBrowser">
  <xs:annotation>
    <xs:documentation>A (form-based) interface intended to be accesed interactively by a user via a
 web browser.</xs:documentation>
    <xs:documentation>The accessURL represents the URL of the web form itself.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Interface">
      <xs:sequence/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vr:WebService`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A Web Service that is describable by a WSDL document. The accessURL element gives the Web Service's endpoint URL.
Diagram	
Type	extension of vr:Interface
Type hierarchy	• vr:Interface • vr:WebService
Model	accessURL+ , securityMethod* , wsdlURL*
Children	accessURL, securityMethod, wsdlURL

Attributes

QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
version	xs:string		1.0	optional
	The version of a standard interface specification that this interface complies with. When the interface is			

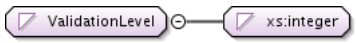
	QName	Type	Fixed	Default	Use
		provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:complexType name="WebService">
  <xs:annotation>
    <xs:documentation>A Web Service that is describable by a WSDL document.</xs:documentation>
    <xs:documentation>The accessURL element gives the Web Service's endpoint URL.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Interface">
      <xs:sequence>
        <xs:element name="wsdlURL" type="xs:anyURI" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>The location of the WSDL that describes this Web Service. If not
 provided, the location is assumed to be the accessURL with "?wsdl" appended.</xs:documentation>
            <xs:documentation>Multiple occurances should represent mirror copies of the same WSDL
 file.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Simple Type(s)

Simple Type `vr:ValidationLevel`

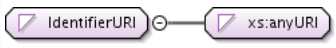
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	the allowed values for describing the resource descriptions and interfaces. See the RM (v1.1, section 4) for more guidance on the use of these values.
Diagram	
Type	restriction of xs:integer

Facets

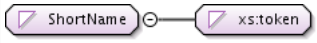
whiteSpace	collapse	
enumeration	0	The resource has a description that is stored in a registry. This level does not imply a compliant description.
enumeration	1	In addition to meeting the level 0 definition, the resource description conforms syntactically to this standard and to the encoding scheme used.
enumeration	2	In addition to meeting the level 1 definition, the resource description refers to an existing resource that has demonstrated to be functionally compliant.
enumeration	3	In addition to meeting the level 2 definition, the resource description has been inspected by a human and judged to comply semantically to this standard as well as meeting any additional minimum quality criteria (e.g., providing values for important but non-required metadata) set by the human inspector.
enumeration	4	In addition to meeting the level 3 definition, the resource description meets additional quality criteria set by the human inspector and is therefore considered an excellent description of the resource. Consequently, the resource is expected to be operate well as part of a

	VO application or research study.
Used by	Complex Type vr:Validation
Source	<xs:simpleType name="ValidationLevel"> <xs:annotation> <xs:documentation>the allowed values for describing the resource descriptions and interfaces.</xs:documentation> <xs:documentation>See the RM (v1.1, section 4) for more guidance on the use of these values.</xs:documentation> </xs:annotation> <xs:restriction base="xs:integer"> <xs:whiteSpace value="collapse"/> <xs:enumeration value="0"> <xs:annotation> <xs:documentation>The resource has a description that is stored in a registry. This level does not imply a compliant description.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="1"> <xs:annotation> <xs:documentation>In addition to meeting the level 0 definition, the resource description conforms syntactically to this standard and to the encoding scheme used.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="2"> <xs:annotation> <xs:documentation>In addition to meeting the level 1 definition, the resource description refers to an existing resource that has demonstrated to be functionally compliant.</xs:documentation> <xs:documentation>When the resource is a service, it is consider to exist and functionally compliant if use of the service accessURL responds without error when used as intended by the resource. If the service is a standard one, it must also demonstrate the response is syntactically compliant with the service standard in order to be considered functionally compliant. If the resource is not a service, then the ReferenceURL must be shown to return a document without error.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="3"> <xs:annotation> <xs:documentation>In addition to meeting the level 2 definition, the resource description has been inspected by a human and judged to comply semantically to this standard as well as meeting any additional minimum quality criteria (e.g., providing values for important but non-required metadata) set by the human inspector.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="4"> <xs:annotation> <xs:documentation>In addition to meeting the level 3 definition, the resource description meets additional quality criteria set by the human inspector and is therefore considered an excellent description of the resource. Consequently, the resource is expected to be operate well as part of a VO application or research study.</xs:documentation> </xs:annotation> </xs:enumeration> </xs:restriction> </xs:simpleType>

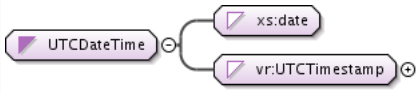
Simple Type `vr:IdentifierURI`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0	
Diagram		
Type	restriction of xs:anyURI	
Facets	pattern	ivo://[\w\d][\w\d\-_\.!~ *'\(\)\+=]{2,}(/[\w\d\-_ \.!~*'\(\)\+=]+(/[\w\d\- _\.!~*'\(\)\+=]+)*)?
Used by	Attributes	vr:ResourceName/@ivo-id, vr:Validation/@validatedBy, vs:ServiceReference/@ivo-id
	Element	vr:Resource/identifier
Source	<xs:simpleType name="IdentifierURI"> <xs:restriction base="xs:anyURI"> <xs:pattern value="ivo://[\w\d][\w\d\-_\.!~*'\(\)\+=]{2,}(/[\w\d\-_\.!~*'\(\)\+=]+(/[\w\d\-_\.!~*'\(\)\+=]+)*)?"/> </xs:restriction> </xs:simpleType>	

Simple Type vr:ShortName

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	a short name or abbreviation given to something. This name will be used where brief annotations for the resource name are required. Applications may use to refer to this resource in a compact display. One word or a few letters is recommended. No more than sixteen characters are allowed.
Diagram	
Type	restriction of xs:token
Facets	maxLength 16
Used by	Element vr:Resource/shortName
Source	<xs:simpleType name="ShortName"> <xs:annotation> <xs:documentation>a short name or abbreviation given to something.</xs:documentation> <xs:documentation>This name will be used where brief annotations for the resource name are required. Applications may use to refer to this resource in a compact display.</xs:documentation> <xs:documentation>One word or a few letters is recommended. No more than sixteen characters are allowed.</xs:documentation> </xs:annotation> <xs:restriction base="xs:token"> <xs:maxLength value="16"/> </xs:restriction> </xs:simpleType>

Simple Type vr:UTCDateTime

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A date stamp that can be given to a precision of either a day (type xs:date) or seconds (type xs:dateTime)
Diagram	
Type	union of(xs:date, vr:UTCTimestamp)
Used by	Complex Type vr:Date
Source	<xs:simpleType name="UTCDateTime"> <xs:annotation> <xs:documentation>A date stamp that can be given to a precision of either a day (type xs:date) or seconds (type xs:dateTime)</xs:documentation> </xs:annotation> <xs:union memberTypes="xs:date vr:UTCTimestamp"/> </xs:simpleType>

Simple Type vr:Type

Namespace	http://www.ivoa.net/xml/VOResource/v1.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	Other	resource that does not fall into any of the category names currently defined.
	enumeration	Archive	Collection of pointed observations
	enumeration	Bibliography	Collection of bibliographic reference, abstracts, and publications
	enumeration	Catalog	Collection of derived data, primarily in tabular form
	enumeration	Journal	Collection of scholarly publications under common editorial policy

	enumeration	Library	Collection of published materials (journals, books, etc.)
	enumeration	Simulation	Theoretical simulation or model
	enumeration	Survey	Collection of observations covering substantial and contiguous areas of the sky
	enumeration	Transformation	A service that transforms data
	enumeration	Education	Collection of materials appropriate for educational use, such as teaching resources, curricula, etc.
	enumeration	Outreach	Collection of materials appropriate for public outreach, such as press releases and photo galleries
	enumeration	EPOResource	Collection of materials that may be suitable for EPO products but which are not in final product form, as in Type Outreach or Type Education. EPOResource would apply, e.g., to archives with easily accessed preview images or to surveys with easy-to-use images.
	enumeration	Animation	Animation clips of astronomical phenomena
	enumeration	Artwork	Artists' renderings of astronomical phenomena or objects
	enumeration	Background	Background information on astronomical phenomena or objects
	enumeration	BasicData	Compilations of basic astronomical facts about objects, such as approximate distance or membership in constellation.
	enumeration	Historical	Historical information about astronomical objects
	enumeration	Photographic	Publication-quality photographs of astronomical objects
	enumeration	Press	Press releases about astronomical objects
	enumeration	Organisation	An organization that is a publisher or curator of other resources.
	enumeration	Project	A project that is a publisher or curator of other resources
	enumeration	Registry	a query service for which response is a structured description of resources.
Used by	Element	vr:Content/type	

Source

```
<xs:simpleType name="Type">
  <xs:restriction base="xs:token">
    <xs:enumeration value="Other">
      <xs:annotation>
        <xs:documentation>resource that does not fall into any of the category names currently
 defined.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Archive">
      <xs:annotation>
        <xs:documentation>Collection of pointed observations</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Bibliography">
      <xs:annotation>
        <xs:documentation>Collection of bibliographic reference, abstracts, and publications</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Catalog">
      <xs:annotation>
        <xs:documentation>Collection of derived data, primarily in tabular form</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Journal">
      <xs:annotation>
```

```
        <xs:documentation>Collection of scholarly publications under common editorial policy</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Library">
      <xs:annotation>
        <xs:documentation>Collection of published materials (journals, books, etc.)</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Simulation">
      <xs:annotation>
        <xs:documentation>Theoretical simulation or model</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Survey">
      <xs:annotation>
        <xs:documentation>Collection of observations covering substantial and contiguous areas of
 the sky</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Transformation">
      <xs:annotation>
        <xs:documentation>A service that transforms data</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Education">
      <xs:annotation>
        <xs:documentation>Collection of materials appropriate for educational use, such as teaching
 resources, curricula, etc.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Outreach">
      <xs:annotation>
        <xs:documentation>Collection of materials appropriate for public outreach, such as press
 releases and photo galleries</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="EPOResource">
      <xs:annotation>
        <xs:documentation>Collection of materials that may be suitable for EPO products but which
 are not in final product form, as in Type Outreach or Type Education. EPOResource would apply,
 e.g., to archives with easily accessed preview images or to surveys with easy-to-use images.</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Animation">
      <xs:annotation>
        <xs:documentation>Animation clips of astronomical phenomena</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Artwork">
      <xs:annotation>
        <xs:documentation>Artists' renderings of astronomical phenomena or objects</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Background">
      <xs:annotation>
        <xs:documentation>Background information on astronomical phenomena or objects</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="BasicData">
      <xs:annotation>
        <xs:documentation>Compilations of basic astronomical facts about objects, such as
 approximate distance or membership in constellation.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Historical">
      <xs:annotation>
        <xs:documentation>Historical information about astronomical objects</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Photographic">
      <xs:annotation>
        <xs:documentation>Publication-quality photographs of astronomical objects</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Press">
      <xs:annotation>
        <xs:documentation>Press releases about astronomical objects</xs:documentation>
      </xs:annotation>
```

```
    </xs:enumeration>
    <xs:enumeration value="Organisation">
      <xs:annotation>
        <xs:documentation>An organization that is a publisher or curator of other resources.</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Project">
      <xs:annotation>
        <xs:documentation>A project that is a publisher or curator of other resources</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Registry">
      <xs:annotation>
        <xs:documentation>a query service for which response is a structured description of
 resources.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

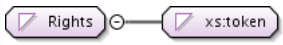
Simple Type `vr:ContentLevel`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	`General`	Resource provides information appropriate for all users
	enumeration	`Elementary Education`	Resource provides information appropriate for use in elementary education (e.g. approximate ages 6-11)
	enumeration	`Middle School Education`	Resource provides information appropriate for use in middle school education (e.g. approximate ages 11-14)
	enumeration	`Secondary Education`	Resource provides information appropriate for use in elementary education (e.g. approximate ages 14-18)
	enumeration	`Community College`	Resource provides information appropriate for use in community/junior college or early university education.
	enumeration	`University`	Resource provides information appropriate for use in university education
	enumeration	`Research`	Resource provides information appropriate for supporting scientific research.
	enumeration	`Amateur`	Resource provides information of interest to amateur astronomers.
	enumeration	`Informal Education`	Resource provides information appropriate for education at museums, planetariums, and other centers of informal learning.
Used by	Element	vr:Content/contentLevel	

Source	`<xs:simpleType name="ContentLevel">`
	`<xs:restriction base="xs:token">`
	`<xs:enumeration value="General">`
	`<xs:annotation>`
	`<xs:documentation>Resource provides information appropriate for all users</xs:documentation>`
	`</xs:annotation>`
	`</xs:enumeration>`
	`<xs:enumeration value="Elementary Education">`
	`<xs:annotation>`
	`<xs:documentation>Resource provides information appropriate for use in elementary education (e.g. approximate ages 6-11)</xs:documentation>`
	`</xs:annotation>`
	`</xs:enumeration>`
	`<xs:enumeration value="Middle School Education">`
	`<xs:annotation>`
	`<xs:documentation>Resource provides information appropriate for use in middle school education (e.g. approximate ages 11-14)</xs:documentation>`
	`</xs:annotation>`
	`</xs:enumeration>`		

```
    <xs:enumeration value="Secondary Education">
      <xs:annotation>
        <xs:documentation>Resource provides information appropriate for use in elementary education
 (e.g. approximate ages 14-18)</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Community College">
      <xs:annotation>
        <xs:documentation>Resource provides information appropriate for use in community/junior
 college or early university education.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="University">
      <xs:annotation>
        <xs:documentation>Resource provides information appropriate for use in university
 education</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Research">
      <xs:annotation>
        <xs:documentation>Resource provides information appropriate for supporting scientific
 research.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Amateur">
      <xs:annotation>
        <xs:documentation>Resource provides information of interest to amateur astronomers.</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Informal Education">
      <xs:annotation>
        <xs:documentation>Resource provides information appropriate for education at museums,
 planetariums, and other centers of informal learning.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `vr:Rights`

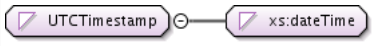
Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	restriction of xs:token
Facets	enumeration `public` — unrestricted, public access is allowed without authentication. enumeration `secure` — authenticated, public access is allowed. enumeration `proprietary` — only proprietary access is allowed with authentication.
Used by	Elements — psr:GeneralMetadataType/psr:rights, vr:Service/rights, vs:DataCollection/rights

Source

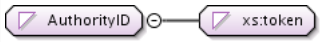
```
<xs:simpleType name="Rights">
  <xs:restriction base="xs:token">
    <xs:enumeration value="public">
      <xs:annotation>
        <xs:documentation>unrestricted, public access is allowed without authentication.</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="secure">
      <xs:annotation>
        <xs:documentation>authenticated, public access is allowed.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="proprietary">
      <xs:annotation>
        <xs:documentation>only proprietary access is allowed with authentication.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `vr:UTCTimestamp`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Annotations	A timestamp that is compliant with ISO8601 but disallows

	the use of a timezone indicator.
Diagram	
Type	restriction of xs:dateTime
Facets	pattern \d{4}-\d\d-\d\dT\d\d:\d \d:\d\d(\.\d+)?
Source	<xs:simpleType name="UTCTimestamp"> <xs:annotation> <xs:documentation>A timestamp that is compliant with ISO8601 but disallows the use of a timezone indicator.</xs:documentation> </xs:annotation> <xs:restriction base="xs:dateTime"> <xs:pattern value="\d{4}-\d\d-\d\dT\d\d:\d\d:\d\d(\.\d+)?"/> </xs:restriction> </xs:simpleType>

Simple Type `vr:AuthorityID`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	restriction of xs:token
Facets	pattern [\w\d][\w\d\-_\.!~ *'\(\)\+=]{2,}
Source	<xs:simpleType name="AuthorityID"> <xs:restriction base="xs:token"> <xs:pattern value="[\w\d][\w\d\-_\.!~*'\(\)\+=]{2,}"/> </xs:restriction> </xs:simpleType>

Simple Type `vr:ResourceKey`

Namespace	http://www.ivoa.net/xml/VOResource/v1.0
Diagram	
Type	restriction of xs:token
Facets	pattern [\w\d\-_\.!~*'\(\)\ +=]+(/[\w\d\-_\.!~ *'\(\)\+=]+)*
Source	<xs:simpleType name="ResourceKey"> <xs:restriction base="xs:token"> <xs:pattern value="[\w\d\-_\.!~*'\(\)\+=]+(/[\w\d\-_\.!~*'\(\)\+=]+)*"/> </xs:restriction> </xs:simpleType>

Namespace: "http://www.ivoa.net/xml/VODataService/v1.1"

Schema(s)

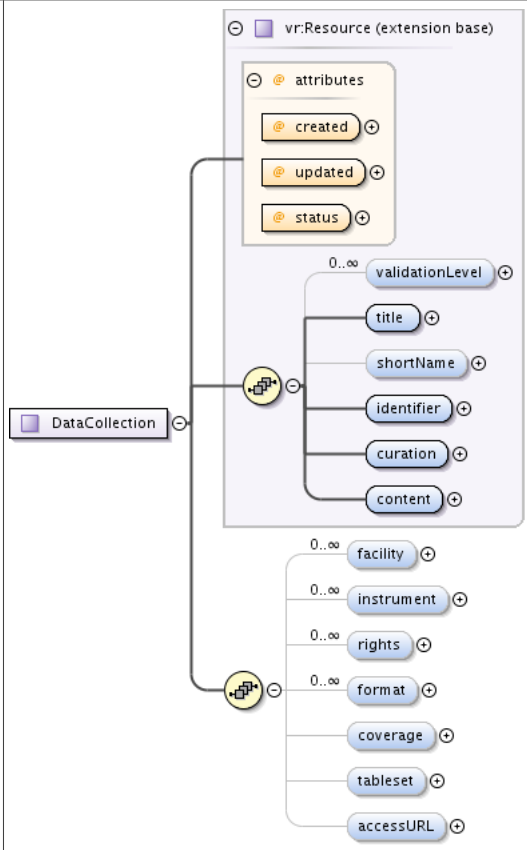
Imported schema `v1.1`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	An extension to the core resource metadata (VOResource) for describing data collections and services.
Properties	attribute form default: unqualified element form default: unqualified version: 1.1pr2

Complex Type(s)

Complex Type `vs:DataCollection`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A logical grouping of data which, in general, is composed of one or more accessible datasets. A collection can contain any combination of images, spectra, catalogs, or other data.

	(A dataset is a collection of digitally-encoded data that is normally accessible as a single unit, e.g. a file.)
Diagram	
Type	extension of vr:Resource
Type hierarchy	• vr:Resource • vs:DataCollection
Used by	Complex Type psr:DataCollection
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , facility* , instrument* , rights* , format* , coverage{0,1} , tableset{0,1} , accessURL{0,1}
Children	accessURL, content, coverage, curation, facility, format, identifier, instrument, rights, shortName, tableset, title, validationLevel

Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

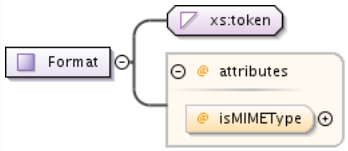
Source

```
<xs:complexType name="DataCollection">
  <xs:annotation>
    <xs:documentation>A logical grouping of data which, in general, is composed of one or more
 accessible datasets. A collection can contain any combination of images, spectra, catalogs, or
 other data.</xs:documentation>
```

```
    <xs:documentation>(A dataset is a collection of digitally-encoded data that is normally
 accessible as a single unit, e.g. a file.)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Resource">
      <xs:sequence>
        <xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the observatory or facility used to collect the data contained or
 managed by this resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
              <vm:dcterm>Subject.Instrument</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the Instrument used to collect the data contain or managed by a
 resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Rights</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>Information about rights held in and over the resource.</
xs:documentation>
            <xs:documentation>This should be repeated for all Rights values that apply.</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="format" type="vs:Format" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>The physical or digital manifestation of the information supported by
 a resource.</xs:documentation>
            <xs:documentation>MIME types should be used for network-retrievable, digital data. Non-
MIME type values are used for media that cannot be retrieved over the network--e.g. CDROM, poster,
 slides, video cassette, etc.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="coverage" type="vs:Coverage" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Extent of the content of the resource over space, time, and
 frequency.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="tableset" type="vs:TableSet" minOccurs="0">
          <xs:annotation>
            <xs:documentation>A description of the tables that are part of this collection.</
xs:documentation>
            <xs:documentation>Each schema name and each table name must be unique within this
 tableset.</xs:documentation>
          </xs:annotation>
          <xs:unique name="DataCollection-schemaName">
            <xs:selector xpath="schema"/>
            <xs:field xpath="name"/>
          </xs:unique>
          <xs:unique name="DataCollection-tableName">
            <xs:selector xpath="schema/table"/>
            <xs:field xpath="name"/>
          </xs:unique>
        </xs:element>
        <xs:element name="accessURL" type="vr:AccessURL" minOccurs="0">
          <xs:annotation>
            <xs:documentation>The URL that can be used to download the data contained in this data
 collection.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:Format`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1

Diagram	
Type	extension of xs:token
Used by	Element vs:DataCollection/format

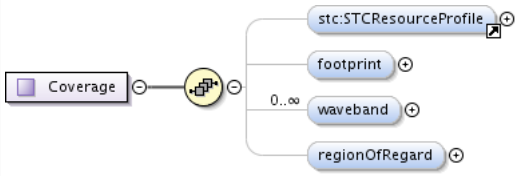
Attributes

QName	Type	Fixed	Default	Use
isMIMEType	xs:boolean		false	optional
	`if true, then the content is a MIME Type`			

Source

```
<xs:complexType name="Format">
  <xs:simpleContent>
    <xs:extension base="xs:token">
      <xs:attribute name="isMIMEType" type="xs:boolean" default="false">
        <xs:annotation>
          <xs:documentation>if true, then the content is a MIME Type</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vs:Coverage`

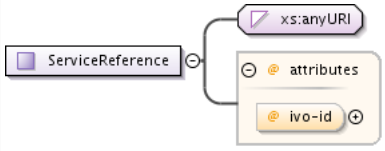
Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	`A description of how a resource's contents or behavior maps to the sky, to time, and to frequency space, including coverage and resolution.`
Diagram	
Used by	Elements vs:DataCollection/coverage, vs:DataService/coverage
Model	STCResourceProfile{0,1} , footprint{0,1} , waveband* , regionOfRegard{0,1}
Children	STCResourceProfile, footprint, regionOfRegard, waveband

Source

```
<xs:complexType name="Coverage">
  <xs:annotation>
    <xs:documentation>A description of how a resource's contents or behavior maps to the sky, to
 time, and to frequency space, including coverage and resolution.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element ref="stc:STCResourceProfile" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The STC description of the location of the resource's data (or behavior on
 data) on the sky, in time, and in frequency space, including resolution.</xs:documentation>
        <xs:documentation>In general, this description should be approximate; a more precise
 description can be provided by the footprint service.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="footprint" type="vs:ServiceReference" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a reference to a footprint service for retrieving precise and up-to-date
 description of coverage.</xs:documentation>
        <xs:documentation>the ivo-id attribute refers to a Service record that describes the
 Footprint capability. That is, the record will have a capability element describing the service.
 The resource refered to may be the current one.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="waveband" type="vs:Waveband" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Coverage.Spectral</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>a named spectral region of the electro-magnetic spectrum that the
 resource's spectral coverage overlaps with.</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
    <xs:element name="regionOfRegard" type="xs:float" minOccurs="0">
      <xs:annotation>
        <xs:appinfo>
          <vm:dcterm>Coverage.RegionOfRegard</vm:dcterm>
        </xs:appinfo>
        <xs:documentation>a single numeric value representing the angle, given in decimal
 degrees, by which a positional query against this resource should be "blurred" in order to get an
 appropriate match.</xs:documentation>
        <xs:documentation>In the case of image repositories, it might refer to a typical field-
of-view size, or the primary beam size for radio aperture synthesis data. In the case of object
 catalogs RoR should normally be the largest of the typical size of the objects, the astrometric
 errors in the positions, or the resolution of the data.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `vs:ServiceReference`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	the service URL for a potentially registerd service. That is, if an IVOA identifier is also provided, then the service is described in a registry.
Diagram	
Type	extension of xs:anyURI
Used by	Element vs:Coverage/footprint

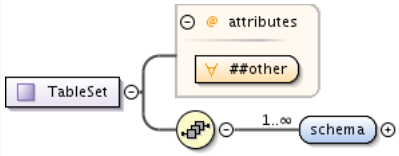
Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the service describing the capability refered to by this element.			

Source

```
<xs:complexType name="ServiceReference">
  <xs:annotation>
    <xs:documentation>the service URL for a potentially registerd service. That is, if an IVOA
 identifier is also provided, then the service is described in a registry.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:anyURI">
      <xs:attribute name="ivo-id" type="vr:IdentifierURI">
        <xs:annotation>
          <xs:documentation>The URI form of the IVOA identifier for the service describing the
 capability refered to by this element.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vs:TableSet`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	The set of tables hosted by a resource.
Diagram	
Used by	Elements vs:CatalogService/tableset, vs:DataCollection/tableset
Model	schema+
Children	schema

Attributes

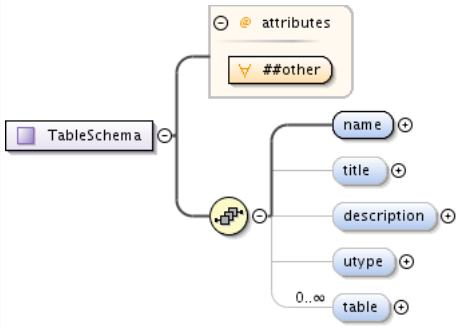
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://				

	QName	Type	Fixed	Default	Use
	www.ivoa.net/xml/VODataService/v1.1'				

Source

```
<xs:complexType name="TableSet">
  <xs:annotation>
    <xs:documentation>The set of tables hosted by a resource.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="schema" type="vs:TableSchema" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A named description of a set of logically related tables.</
xs:documentation>
        <xs:documentation>The name given by the "name" child element must be unique within this
 TableSet instance. If there is only one schema in this set and/or there's no locally appropriate
 name to provide, the name can be set to "default".</xs:documentation>
        <xs:documentation>This aggregation does not need to map to an actual database, catalog, or
 schema, though the publisher may choose to aggregate along such designations, or particular service
 protocol may recommend it.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `vs:TableSchema`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	`A detailed description of a logically-related set of tables`
Diagram	
Used by	Element vs:TableSet/schema
Model	name , title{0,1} , description{0,1} , utype{0,1} , table*
Children	description, name, table, title, utype

Attributes

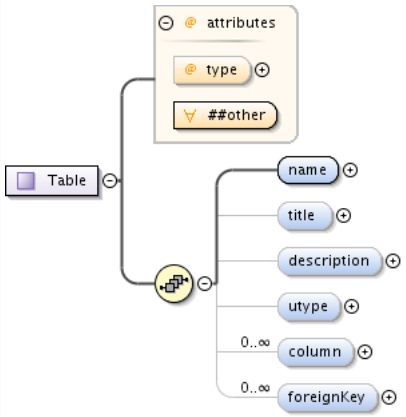
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				

Source

```
<xs:complexType name="TableSchema">
  <xs:annotation>
    <xs:documentation>A detailed description of a logically-related set of tables</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>A name for the set of tables.</xs:documentation>
        <xs:documentation>This is used to uniquely identify the table set among several table sets.
 If a title is not present, this name can be used for display purposes.</xs:documentation>
        <xs:documentation>If there is no appropriate logical name associated with this set, the name
 should be explicitly set to "default".</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="title" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a descriptive, human-interpretable name for the table set.</
xs:documentation>
        <xs:documentation>This is used for display purposes. There is no requirement regarding
 uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset;
 otherwise, the resource title could be used instead).</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
    <xs:element name="description" type="xs:token" minOccurs="0" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>A free text description of the tableset that should explain in general how
 all of the tables are related.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>an identifier for a concept in a data model that the data in this schema
 as a whole represent.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is strongly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="table" type="vs:Table" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>A description of one of the tables that makes up the set.</
xs:documentation>
        <xs:documentation>The table names for the table should be unique.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `vs:Table`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Diagram	
Used by	Element vs:TableSchema/table
Model	name , title{0,1} , description{0,1} , utype{0,1} , column* , foreignKey*
Children	column, description, foreignKey, name, title, utype

Attributes

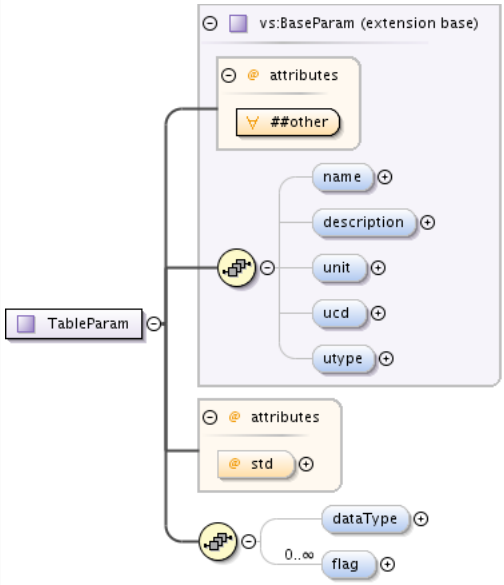
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
type	xs:string			optional
	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.			

Source

```
<xs:complexType name="Table">
  <xs:sequence>
    <xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
      <xs:annotation>
        <xs:documentation>the fully qualified name of the table. This name should include
 all catalog or schema prefixes needed to sufficiently uniquely distinguish it in a query.</
xs:documentation>
        <xs:documentation>In general, the format of the qualified name may depend on the context;
 however, when the table is intended to be queryable via ADQL, then the catalog and schema
 qualifiers are delimited from the table name with dots (.).</xs:documentation>
      </xs:annotation>
    </xs:element>
```

```
    <xs:element name="title" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a descriptive, human-interpretable name for the table.</xs:documentation>
        <xs:documentation>This is used for display purposes. There is no requirement regarding
 uniqueness.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a free-text description of the table's contents</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>an identifier for a concept in a data model that the data in this table
 represent.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is highly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="column" type="vs:TableParam" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a description of a table column.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="foreignKey" type="vs:ForeignKey" minOccurs="0" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a description of a foreign keys, one or more columns from the current
 table that can be used to join with another table.</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:attribute name="type" type="xs:string">
    <xs:annotation>
      <xs:documentation>a name for the role this table plays. Recognized values include "output",
 indicating this table is output from a query; "base_table", indicating a table whose records
 represent the main subjects of its schema; and "view", indicating that the table represents a
 useful combination or subset of other tables. Other values are allowed.</xs:documentation>
    </xs:annotation>
  </xs:attribute>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `vs:TableParam`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a description of a table parameter having a fixed data type. The allowed data type names match those supported by VOTable.
Diagram	
Type	extension of vs:BaseParam
Type hierarchy	• vs:BaseParam • vs:TableParam

Used by	Element vs:Table/column Complex Type psr:TableParam
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1} , flag*
Children	dataType, description, flag, name, ucd, unit, utype

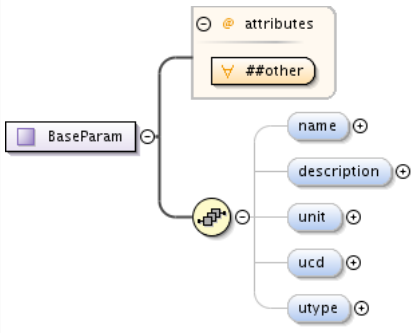
Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
std	xs:boolean			optional
	If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.			

Source

```
<xs:complexType name="TableParam">
  <xs:annotation>
    <xs:documentation>a description of a table parameter having a fixed data type.</
xs:documentation>
    <xs:documentation>The allowed data type names match those supported by VOTable.</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:BaseParam">
      <xs:sequence>
        <xs:element name="dataType" type="vs:TableDataType" minOccurs="0">
          <xs:annotation>
            <xs:documentation>a type of data contained in the column</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="flag" type="xs:token" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>a keyword representing traits of the column. Recognized values include
 "indexed", "primary", and "nullable".</xs:documentation>
            <xs:documentation>See the specification document for definitions of recognized
 keywords.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="std" type="xs:boolean">
        <xs:annotation>
          <xs:documentation>If true, the meaning and use of this parameter is reserved and defined
 by a standard model. If false, it represents a database-specific parameter that effectively extends
 beyond the standard. If not provided, then the value is unknown.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:BaseParam`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a description of a parameter that places no restriction on the parameter's data type. As the parameter's data type is usually important, schemas normally employ a sub-class of this type (e.g. Param), rather than this type directly.
Diagram	

Used by	Complex Types vs:InputParam, vs:TableParam
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1}
Children	description, name, ucd, unit, utype

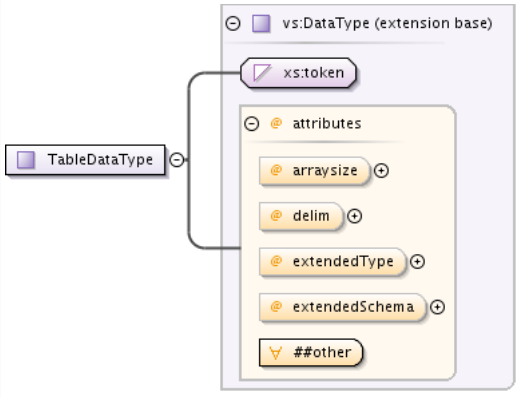
Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				

Source

```
<xs:complexType name="BaseParam">
  <xs:annotation>
    <xs:documentation>a description of a parameter that places no restriction on the parameter's
 data type.</xs:documentation>
    <xs:documentation>As the parameter's data type is usually important, schemas normally employ a
 sub-class of this type (e.g. Param), rather than this type directly.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="name" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the name of the column</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a free-text description of the column's contents</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="unit" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the unit associated with all values in the column</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="ucd" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>the name of a unified content descriptor that describes the scientific
 content of the parameter.</xs:documentation>
        <xs:documentation>There are no requirements for compliance with any particular UCD standard.
 The format of the UCD can be used to distinguish between UCD1, UCD1+, and SIA-UCD. See http://
www.ivoa.net/Documents/latest/UCDlist.html for the latest IVOA standard set.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>an identifier for a concept in a data model that the data in this schema
 represent.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is highly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
  <xs:anyAttribute namespace="##other"/>
</xs:complexType>
```

Complex Type `vs:TableDataType`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	an abstract parent for a class of data types that can be used to specify the data type of a table column.
Diagram	

Type	extension of vs:DataType

Type hierarchy	• xs:token
	  • vs:DataType
	  • vs:TableDataType

Properties	abstract: `true`
Used by	Element: vs:TableParam/dataType Complex Types: psr:SimpleDataType, vs:TAPDataType, vs:VOTableType

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
	the shape of the array that constitutes the value the default is "1"; i.e. the value is a scalar.			
delim	xs:string			optional
	the string that is used to delimit elements of an array value when arraysize is not "1". Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=","). the default is " "; i.e. the values are delimited by spaces.			
extendedSchema	xs:anyURI			optional
	An identifier for the schema that the value given by the extended attribute is drawn from. This attribute is normally ignored if the extendedType attribute is not present.			
extendedType	xs:string			optional
	The data value represented by this type can be interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.			

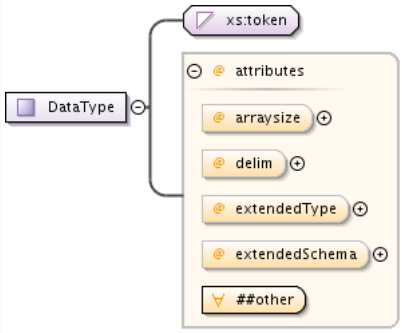
Source

```
<xs:complexType name="TableDataType" abstract="true">
  <xs:annotation>
    <xs:documentation>an abstract parent for a class of data types that can be used to specify the
 data type of a table column.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="vs:DataType"/>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vs:DataType`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a type (in the computer language sense) associated with a parameter with an arbitrary name This XML type is used as a parent for defining data types with a restricted set of names.

Diagram



Type: extension of xs:token

Used by: Complex Types — vs:SimpleDataType, vs:TableDataType

Attributes

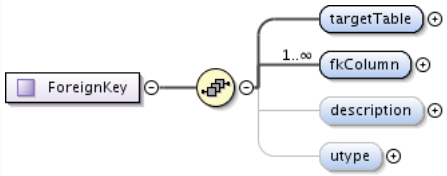
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
	the shape of the array that constitutes the value the default is "1"; i.e. the value is a scalar.			
delim	xs:string			optional
	the string that is used to delimit elements of an array value when arraysize is not "1". Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=","). the default is " "; i.e. the values are delimited by spaces.			
extendedSchema	xs:anyURI			optional
	An identifier for the schema that the value given by the extended attribute is drawn from. This attribute is normally ignored if the extendedType attribute is not present.			
extendedType	xs:string			optional
	The data value represented by this type can be interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.			

Source

```
<xs:complexType name="DataType">
  <xs:annotation>
    <xs:documentation>a type (in the computer language sense) associated with a parameter with an
 arbitrary name</xs:documentation>
    <xs:documentation>This XML type is used as a parent for defining data types with a restricted
 set of names.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:token">
      <xs:attribute name="arraysize" type="vs:ArrayShape" default="1">
        <xs:annotation>
          <xs:documentation>the shape of the array that constitutes the value</xs:documentation>
          <xs:documentation>the default is "1"; i.e. the value is a scalar.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="delim" type="xs:string" default=" ">
        <xs:annotation>
```

```
          <xs:documentation>the string that is used to delimit elements of an array value when
 arraysize is not "1".</xs:documentation>
          <xs:documentation>Unless specifically disallowed by the context, applications should allow
 optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when
 delim=",").</xs:documentation>
          <xs:documentation>the default is " "; i.e. the values are delimited by spaces.</
xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="extendedType" type="xs:string">
        <xs:annotation>
          <xs:documentation>The data value represented by this type can be interpreted as of a
 custom type identified by the value of this attribute.</xs:documentation>
          <xs:documentation>If an application does not recognize this extendedType, it should
 attempt to handle value assuming the type given by the element's value. string is a recommended
 default type.</xs:documentation>
          <xs:documentation>This element may make use of the extendedSchema attribute and/or any
 arbitrary (qualified) attribute to refine the identification of the type.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="extendedSchema" type="xs:anyURI">
        <xs:annotation>
          <xs:documentation>An identifier for the schema that the value given by the extended
 attribute is drawn from.</xs:documentation>
          <xs:documentation>This attribute is normally ignored if the extendedType attribute is not
 present.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:anyAttribute namespace="##other"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

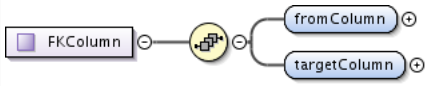
Complex Type `vs:ForeignKey`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A description of the mapping a foreign key--a set of columns from one table--to columns in another table. This definition that the foreign key is being described within the context of the table containing the key.
Diagram	
Used by	Elements psr:Table/psr:foreignKey, vs:Table/foreignKey
Model	targetTable , fkColumn+ , description{0,1} , utype{0,1}
Children	description, fkColumn, targetTable, utype
Source	

```
<xs:complexType name="ForeignKey">
  <xs:annotation>
    <xs:documentation>A description of the mapping a foreign key--a set of columns from one table--
to columns in another table.</xs:documentation>
    <xs:documentation>This definition that the foreign key is being described within the context of
 the table containing the key.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="targetTable" type="xs:token">
      <xs:annotation>
        <xs:documentation>the fully-qualified name (including catalog and schema, as applicable) of
 the table that can be joined with the table containing this foreign key.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="fkColumn" type="vs:FKColumn" minOccurs="1" maxOccurs="unbounded">
      <xs:annotation>
        <xs:documentation>a pair of column names, one from this table and one from the target table
 that should be used to join the tables in a query.</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="description" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>a free-text description of what this key points to and what the
 relationship means.</xs:documentation>
      </xs:annotation>
```

```
    </xs:element>
    <xs:element name="utype" type="xs:token" minOccurs="0">
      <xs:annotation>
        <xs:documentation>an identifier for a concept in a data model that the association enabled
 by this key represents.</xs:documentation>
        <xs:documentation>The format defined in the VOTable standard is highly recommended.</
xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

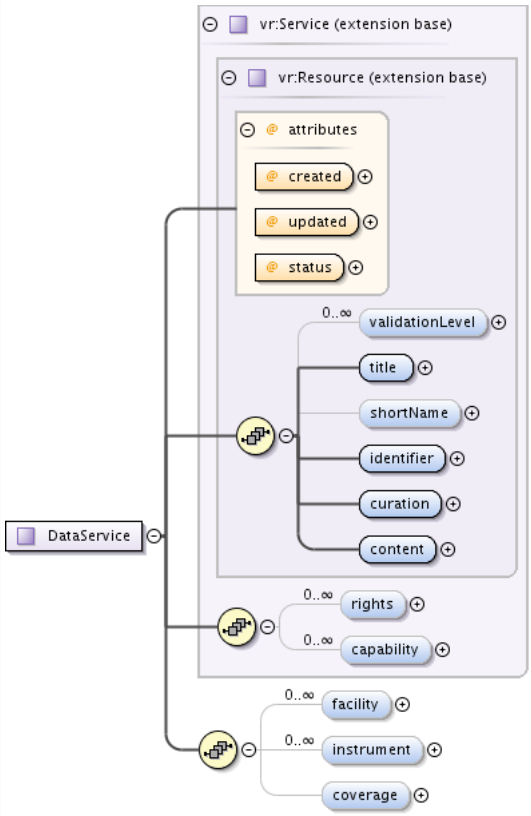
Complex Type `vs:FKColumn`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A pair of columns that are used to join two tables. To do an inner join of data from the two tables, a query should include a constraint that sets the value from the first column equal to the value in the second column. This type assumes that it is used in the context of implied source (i.e., current) and target tables, as in the ForeignKey type's fkColumn.
Diagram	
Used by	Element vs:ForeignKey/fkColumn
Model	fromColumn , targetColumn
Children	fromColumn, targetColumn
Source	<xs:complexType name="FKColumn"> <xs:annotation> <xs:documentation>A pair of columns that are used to join two tables.</xs:documentation> <xs:documentation>To do an inner join of data from the two tables, a query should include a constraint that sets the value from the first column equal to the value in the second column.</ xs:documentation> <xs:documentation>This type assumes that it is used in the context of implied source (i.e., current) and target tables, as in the ForeignKey type's fkColumn.</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="fromColumn" type="xs:token"> <xs:annotation> <xs:documentation>The unqualified name of the column from the current table.</ xs:documentation> </xs:annotation> </xs:element> <xs:element name="targetColumn" type="xs:token"> <xs:annotation> <xs:documentation>The unqualified name of the column from the target table.</ xs:documentation> </xs:annotation> </xs:element> </xs:sequence> </xs:complexType>

Complex Type `vs:DataService`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A service for accessing astronomical data

Diagram



Type: extension of vr:Service

Type hierarchy:

- vr:Resource
  - vr:Service
    - vs:DataService

Used by: Complex Types — psr:DataService, vs:CatalogService

Model: validationLevel* , title , shortName{0,1} , identifier , curation , content , rights* , capability* , facility* , instrument* , coverage{0,1}

Children: capability, content, coverage, curation, facility, identifier, instrument, rights, shortName, title, validationLevel

Attributes

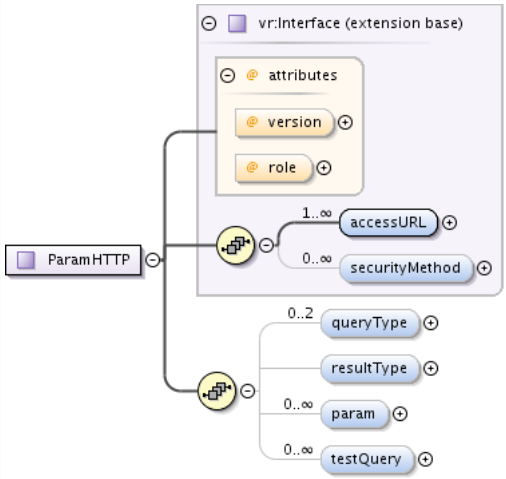
QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="DataService">
  <xs:annotation>
    <xs:documentation>A service for accessing astronomical data</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Service">
      <xs:sequence>
```

```
        <xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the observatory or facility used to collect the data contained or
 managed by this resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:appinfo>
              <vm:dcterm>Subject</vm:dcterm>
              <vm:dcterm>Subject.Instrument</vm:dcterm>
            </xs:appinfo>
            <xs:documentation>the Instrument used to collect the data contain or managed by a
 resource.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="coverage" type="vs:Coverage" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Extent of the content of the resource over space, time, and
 frequency.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:ParamHTTP`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A service invoked via an HTTP Query (either Get or Post) with a set of arguments consisting of keyword name-value pairs. Note that the URL for help with this service can be put into the Service/ReferenceURL element.
Diagram	
Type	extension of vr:Interface
Type hierarchy	• vr:Interface • vs:ParamHTTP
Used by	Complex Type psr:ParamHTTP
Model	accessURL+ , securityMethod* , queryType{0,2} , resultType{0,1} , param* , testQuery*
Children	accessURL, param, queryType, resultType, securityMethod, testQuery

Attributes

QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered			

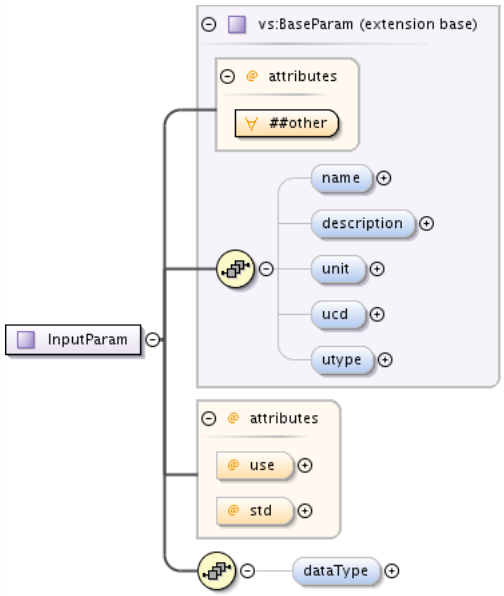
	QName	Type	Fixed	Default	Use
		standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
	version	xs:string		1.0	optional
		The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:complexType name="ParamHTTP">
  <xs:annotation>
    <xs:documentation>A service invoked via an HTTP Query (either Get or Post) with a set of
 arguments consisting of keyword name-value pairs.</xs:documentation>
    <xs:documentation>Note that the URL for help with this service can be put into the Service/
ReferenceURL element.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Interface">
      <xs:sequence>
        <xs:element name="queryType" type="vs:HTTPQueryType" minOccurs="0" maxOccurs="2">
          <xs:annotation>
            <xs:documentation>The type of HTTP request, either GET or POST.</xs:documentation>
            <xs:documentation>The service may indicate support for both GET and POST by providing 2
 queryType elements, one with GET and one with POST.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="resultType" type="xs:token" minOccurs="0" maxOccurs="1">
          <xs:annotation>
            <xs:documentation>The MIME type of a document returned in the HTTP response.</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="param" type="vs:InputParam" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>a description of a input parameter that can be provided as a
 name=value argument to the service.</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="testQuery" type="xs:string" minOccurs="0" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>an ampersand-delimited list of arguments that can be used to test this
 service interface; when provided as the input to this interface, it will produce a legal, non-null
 response.</xs:documentation>
            <xs:documentation>When the interface supports GET, then the full query URL is formed by
 the concatonation of the base URL (given by the accessURL) and the value given by this testQuery
 element.</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:InputParam`

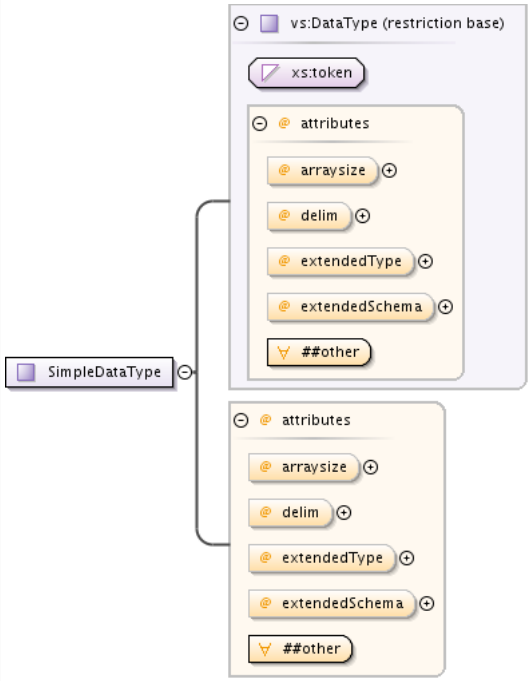
Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a description of a service or function parameter having a fixed data type. The allowed data type names do not imply a size or precise format. This type is intended to be sufficient for describing an input parameter to a simple REST service or a function written in a weakly-typed (e.g., scripting) language.

<table>
<tr><td>Diagram</td><td> 
</td></tr>
<tr><td>Type</td><td>extension of vs:BaseParam</td></tr>
<tr><td>Type hierarchy</td><td>• vs:BaseParam
• vs:InputParam</td></tr>
<tr><td>Used by</td><td>Elements psr:TemplateQueryType/psr:templateParam, vs:ParamHTTP/param</td></tr>
<tr><td>Model</td><td>name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1}</td></tr>
<tr><td>Children</td><td>dataType, description, name, ucd, unit, utype</td></tr>
<tr><td>Attributes</td><td>
<table>
<tr><th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr>
<tr><td>ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'</td><td></td><td></td><td></td><td></td></tr>
<tr><td>std</td><td>xs:boolean</td><td></td><td>true</td><td>optional</td></tr>
<tr><td></td><td colspan="4">If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.</td></tr>
<tr><td>use</td><td>vs:ParamUse</td><td></td><td>optional</td><td>optional</td></tr>
<tr><td></td><td colspan="4">An indication of whether this parameter is required to be provided for the application or service to work properly.

Allowed values are "required" and "optional".</td></tr>
</table>
</td></tr>
<tr><td>Source</td><td>
<pre>
<xs:complexType name="InputParam">
  <xs:annotation>
    <xs:documentation>a description of a service or function parameter having a fixed data type.</xs:documentation>
    <xs:documentation>The allowed data type names do not imply a size or precise format. This type is intended to be sufficient for describing an input parameter to a simple REST service or a function written in a weakly-typed (e.g., scripting) language.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:BaseParam">
      <xs:sequence>
        <xs:element name="dataType" type="vs:SimpleDataType" minOccurs="0">
          <xs:annotation>
            <xs:documentation>a type of data contained in the column</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="use" type="vs:ParamUse" default="optional">
        <xs:annotation>
          <xs:documentation>An indication of whether this parameter is required to be provided for the application or service to work properly.</xs:documentation>
          <xs:documentation>Allowed values are "required" and "optional".</xs:documentation>
</pre>
</td></tr>
</table>

```
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="std" type="xs:boolean" default="true">
        <xs:annotation>
          <xs:documentation>If true, the meaning and behavior of this parameter is reserved and
 defined by a standard interface. If false, it represents an implementation-specific parameter that
 effectively extends the behavior of the service or application.</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:SimpleDataType`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a data type restricted to a small set of names which is imprecise as to the format of the individual values. This set is intended for describing simple input parameters to a service or function.
Diagram	
Type	restriction of vs:DataType

Type hierarchy	• xs:token
	  • vs:DataType
	  • vs:SimpleDataType

Used by	Element vs:InputParam/dataType

Attributes

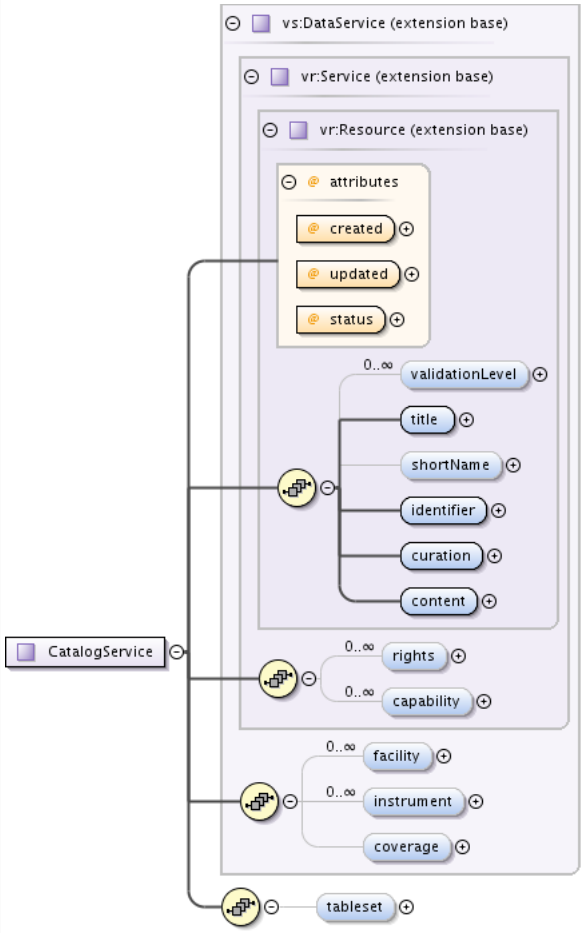
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
delim	xs:string			optional
extendedSchema	xs:anyURI			optional
extendedType	xs:string			optional

Source

```
<xs:complexType name="SimpleDataType">
  <xs:annotation>
    <xs:documentation>a data type restricted to a small set of names which is imprecise as to the
 format of the individual values.</xs:documentation>
```

```
    <xs:documentation>This set is intended for describing simple input parameters to a service or
 function.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:restriction base="vs:DataType">
      <xs:enumeration value="integer"/>
      <xs:enumeration value="real"/>
      <xs:enumeration value="complex"/>
      <xs:enumeration value="boolean"/>
      <xs:enumeration value="char"/>
      <xs:enumeration value="string"/>
      <xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>
      <xs:attribute name="delim" type="xs:string" default=" "/>
      <xs:attribute name="extendedType" type="xs:string"/>
      <xs:attribute name="extendedSchema" type="xs:anyURI"/>
      <xs:anyAttribute namespace="##other"/>
    </xs:restriction>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vs:CatalogService`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	A service that interacts with with astronomical data through one or more specified tables. A table with sky coverage typically have columns that give longitude-latitude positions in some coordinate system.
Diagram	
Type	extension of vs:DataService

Type hierarchy	• vr:Resource
	  • vr:Service
	  • vs:DataService
	  • vs:CatalogService

Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , rights* , capability* , facility* , instrument* , coverage{0,1} , tableset{0,1}
Children	capability, content, coverage, curation, facility, identifier, instrument, rights, shortName, tableset, title, validationLevel

Attributes

QName	Type	Fixed	Default	Use
created	xs:dateTime			required
	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			
status	restriction of xs:string			required
	a tag indicating whether this resource is believed to be still actively maintained.			
updated	xs:dateTime			required
	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

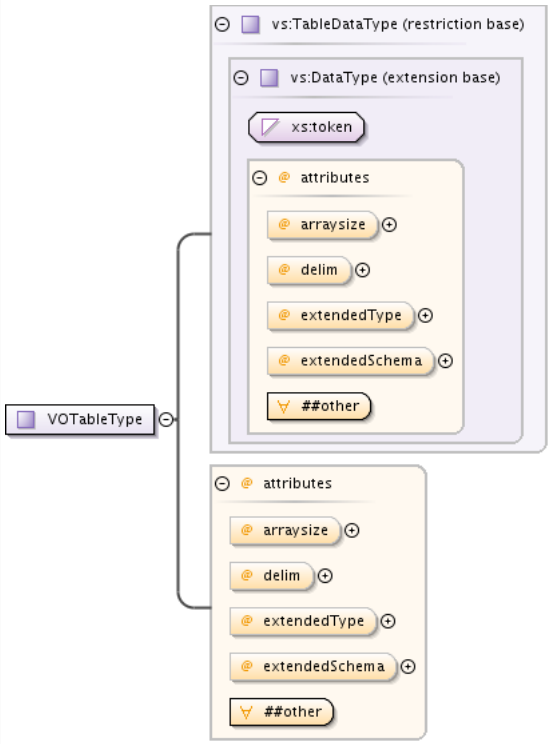
Source

```
<xs:complexType name="CatalogService">
  <xs:annotation>
    <xs:documentation>A service that interacts with with astronomical data through one or more
 specified tables.</xs:documentation>
    <xs:documentation>A table with sky coverage typically have columns that give longitude-latitude
 positions in some coordinate system.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vs:DataService">
      <xs:sequence>
        <xs:element name="tableset" type="vs:TableSet" minOccurs="0">
          <xs:annotation>
            <xs:documentation>A description of the tables that are accessible through this
 service.</xs:documentation>
            <xs:documentation>Each schema name and each table name must be unique within this
 tableset.</xs:documentation>
          </xs:annotation>
          <xs:unique name="CatalogService-schemaName">
            <xs:selector xpath="schema"/>
            <xs:field xpath="name"/>
          </xs:unique>
          <xs:unique name="CatalogService-tableName">
            <xs:selector xpath="schema/table"/>
            <xs:field xpath="name"/>
          </xs:unique>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vs:VOTableType`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a data type supported explicitly by the VOTable format

Diagram



Type

restriction of vs:TableDataType

Type hierarchy

- xs:token
  - vs:DataType
    - vs:TableDataType
      - vs:VOTableType

Attributes

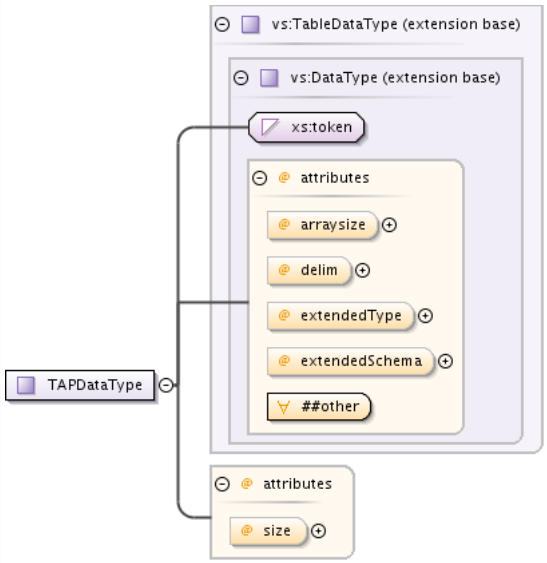
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
delim	xs:string			optional
extendedSchema	xs:anyURI			optional
extendedType	xs:string			optional

Source

```
<xs:complexType name="VOTableType">
  <xs:annotation>
    <xs:documentation>a data type supported explicitly by the VOTable format</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:restriction base="vs:TableDataType">
      <xs:enumeration value="boolean"/>
      <xs:enumeration value="bit"/>
      <xs:enumeration value="unsignedByte"/>
      <xs:enumeration value="short"/>
      <xs:enumeration value="int"/>
      <xs:enumeration value="long"/>
      <xs:enumeration value="char"/>
      <xs:enumeration value="unicodeChar"/>
      <xs:enumeration value="float"/>
      <xs:enumeration value="double"/>
      <xs:enumeration value="floatComplex"/>
      <xs:enumeration value="doubleComplex"/>
      <xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>
      <xs:attribute name="delim" type="xs:string" default=" "/>
      <xs:attribute name="extendedType" type="xs:string"/>
      <xs:attribute name="extendedSchema" type="xs:anyURI"/>
      <xs:anyAttribute namespace="##other"/>
    </xs:restriction>
  </xs:simpleContent>
```

```
</xs:complexType>
```

Complex Type vs:TAPDataType

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	an abstract parent for the specific data types supported by the Table Access Protocol.
Diagram	
Type	extension of vs:TableDataType
Type hierarchy	• xs:token • vs:DataType • vs:TableDataType • vs:TAPDataType
Properties	abstract: true
Used by	Complex Type vs:TAPType

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
	the shape of the array that constitutes the value the default is "1"; i.e. the value is a scalar.			
delim	xs:string			optional
	the string that is used to delimit elements of an array value when arraysize is not "1". Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=","). the default is " "; i.e. the values are delimited by spaces.			
extendedSchema	xs:anyURI			optional
	An identifier for the schema that the value given by the extended attribute is drawn from. This attribute is normally ignored if the extendedType attribute is not present.			
extendedType	xs:string			optional
	The data value represented by this type can be			

	QName	Type	Fixed	Default	Use
		interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.			
	size	xs:positiveInteger			optional
		the length of the fixed-length value This corresponds to the size Column attribute in the TAP_SCHEMA and can be used with data types that are defined with a length (CHAR, BINARY).			

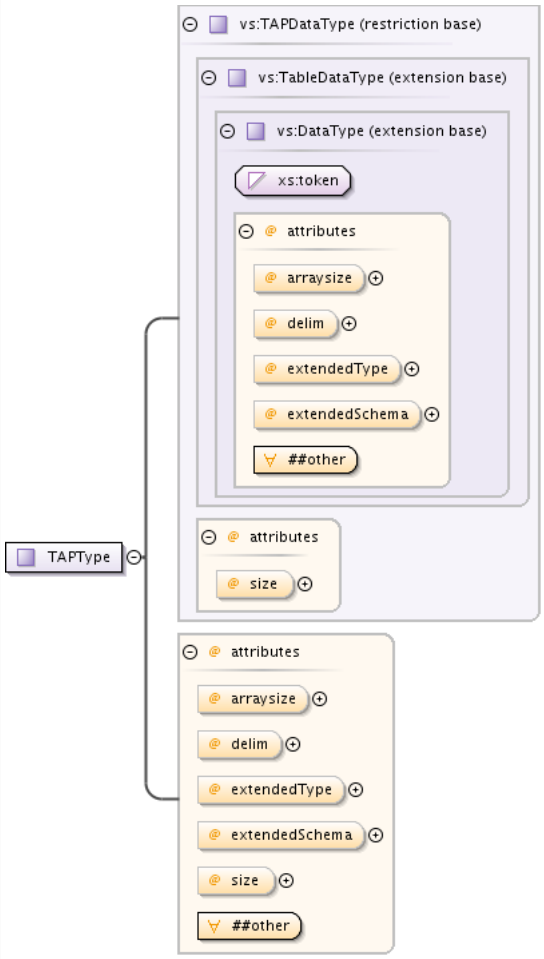
Source

```
<xs:complexType name="TAPDataType" abstract="true">
  <xs:annotation>
    <xs:documentation>an abstract parent for the specific data types supported by the Table Access
 Protocol.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="vs:TableDataType">
      <xs:attribute name="size" type="xs:positiveInteger">
        <xs:annotation>
          <xs:documentation>the length of the fixed-length value</xs:documentation>
          <xs:documentation>This corresponds to the size Column attribute in the TAP_SCHEMA and can
 be used with data types that are defined with a length (CHAR, BINARY).</xs:documentation>
        </xs:annotation>
      </xs:attribute>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type vs:TAPType

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a data type supported explicitly by the Table Access Protocol (v1.0).

Diagram



Type

restriction of vs:TAPDataType

Type hierarchy

- xs:token
  - vs:DataType
    - vs:TableDataType
      - vs:TAPDataType
        - vs:TAPType

Attributes

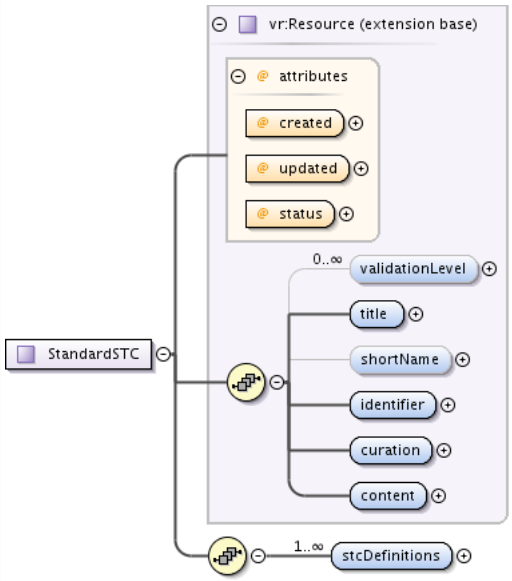
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
delim	xs:string			optional
extendedSchema	xs:anyURI			optional
extendedType	xs:string			optional
size	xs:positiveInteger			optional

Source

```
<xs:complexType name="TAPType">
  <xs:annotation>
    <xs:documentation>a data type supported explicitly by the Table Access Protocol (v1.0).</
xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:restriction base="vs:TAPDataType">
      <xs:enumeration value="BOOLEAN"/>
      <xs:enumeration value="SMALLINT"/>
      <xs:enumeration value="INTEGER"/>
      <xs:enumeration value="BIGINT"/>
      <xs:enumeration value="REAL"/>
```

```
      <xs:enumeration value="DOUBLE"/>
      <xs:enumeration value="TIMESTAMP"/>
      <xs:enumeration value="CHAR"/>
      <xs:enumeration value="VARCHAR"/>
      <xs:enumeration value="BINARY"/>
      <xs:enumeration value="VARBINARY"/>
      <xs:enumeration value="POINT"/>
      <xs:enumeration value="REGION"/>
      <xs:enumeration value="CLOB"/>
      <xs:enumeration value="BLOB"/>
      <xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>
      <xs:attribute name="delim" type="xs:string" default=" "/>
      <xs:attribute name="extendedType" type="xs:string"/>
      <xs:attribute name="extendedSchema" type="xs:anyURI"/>
      <xs:attribute name="size" type="xs:positiveInteger"/>
      <xs:anyAttribute namespace="##other"/>
    </xs:restriction>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `vs:StandardSTC`

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	a description of standard space-time coordinate systems, positions, and regions. This resource provides a mechanism for registering standard coordinate systems which other resources may reference as part of a coverage descripiton. In particular, coverage descriptions will refer to components of the STC descriptions in this resource via an IVOA identifier. It is intended that an application consuming such coverage descriptions be able to semantically interpret the identifier without resolving it. For this reason, once a standard STC description is registered with this resource type, updating the description is strongly discouraged.
Diagram	
Type	extension of vr:Resource
Type hierarchy	• vr:Resource • vs:StandardSTC
Model	validationLevel* , title , shortName{0,1} , identifier , curation , content , stcDefinitions+
Children	content, curation, identifier, shortName, stcDefinitions, title, validationLevel
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **created** / xs:dateTime / / / required The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least

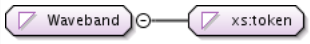
	QName	Type	Fixed	Default	Use
		accurate to the day. Any insignificant time fields should be set to zero.			
	status	restriction of xs:string			required
		a tag indicating whether this resource is believed to be still actively maintained.			
	updated	xs:dateTime			required
		The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.			

Source

```
<xs:complexType name="StandardSTC">
  <xs:annotation>
    <xs:documentation>a description of standard space-time coordinate systems, positions, and
 regions.</xs:documentation>
    <xs:documentation>This resource provides a mechanism for registering standard coordinate
 systems which other resources may reference as part of a coverage descripiton. In particular,
 coverage descriptions will refer to components of the STC descriptions in this resource via an
 IVOA identifier. It is intended that an application consuming such coverage descriptions be able
 to semantically interpret the identifier without resolving it. For this reason, once a standard
 STC description is registered with this resource type, updating the description is strongly
 discouraged.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vr:Resource">
      <xs:sequence>
        <xs:element name="stcDefinitions" type="stc:stcDescriptionType" minOccurs="1"
 maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>An STC description of coordinate systems, positions, and/or regions</
xs:documentation>
            <xs:documentation>Each system, position, and region description should have a an XML ID
 assigned to it.</xs:documentation>
            <xs:documentation>Because the STC schema sets elementFormDefault="qualified", it
 is recommended that this element specify the STC default namespace via an xmlns namespace.</
xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Simple Type(s)

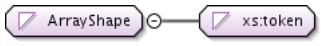
Simple Type vs:Waveband

Namespace	http://www.ivoa.net/xml/VODataService/v1.1		
Diagram			
Type	restriction of xs:token		
Facets	enumeration	Radio	wavelength >= 10 mm; frequency <= 30 GHz.
	enumeration	Millimeter	0.1 mm <= wavelength <= 10 mm; 3000 GHz >= frequency >= 30 GHz.
	enumeration	Infrared	1 micron <= wavelength <= 100 micons
	enumeration	Optical	0.3 microns <= wavelength <= 1 micon; 300 nm <= wavelength <= 1000 nm; 3000 Angstroms <= wavelength <= 10000 Angstroms
	enumeration	UV	0.1 microns <= wavelength <= 0.3 micon; 1000 nm <= wavelength <= 3000 nm; 1000 Angstroms <= wavelength <= 30000 Angstroms
	enumeration	EUV	100 Angstroms <= wavelength <= 1000 Angstroms; 12 eV <= energy <= 120 eV
	enumeration	X-ray	0.1 Angstroms <= wavelength <= 100 Angstroms; 0.12 keV <= energy <= 120 keV
	enumeration	Gamma-ray	energy >= 120 keV
Used by	Element	vs:Coverage/waveband	

Source

```
<xs:simpleType name="Waveband">
  <xs:restriction base="xs:token">
    <xs:enumeration value="Radio">
      <xs:annotation>
        <xs:documentation>wavelength >= 10 mm; frequency <= 30 GHz.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Millimeter">
      <xs:annotation>
        <xs:documentation>0.1 mm <= wavelength <= 10 mm; 3000 GHz >= frequency >= 30 GHz.</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Infrared">
      <xs:annotation>
        <xs:documentation>1 micron <= wavelength <= 100 micons</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Optical">
      <xs:annotation>
        <xs:documentation>0.3 microns <= wavelength <= 1 micon; 300 nm <= wavelength <= 1000 nm;
 3000 Angstroms <= wavelength <= 10000 Angstroms</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="UV">
      <xs:annotation>
        <xs:documentation>0.1 microns <= wavelength <= 0.3 micon; 1000 nm <= wavelength <= 3000 nm;
 1000 Angstroms <= wavelength <= 30000 Angstroms</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="EUV">
      <xs:annotation>
        <xs:documentation>100 Angstroms <= wavelength <= 1000 Angstroms; 12 eV <= energy <= 120 eV</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="X-ray">
      <xs:annotation>
        <xs:documentation>0.1 Angstroms <= wavelength <= 100 Angstroms; 0.12 keV <= energy <= 120
 keV</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="Gamma-ray">
      <xs:annotation>
        <xs:documentation>energy >= 120 keV</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

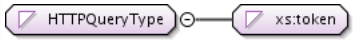
Simple Type vs:ArrayShape

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	An expression of a the shape of a multi-dimensional array of the form LxNxM... where each value between gives the integer length of the array along a dimension. An asterisk (*) as the last dimension of the shape indicates that the length of the last axis is variable or undetermined.
Diagram	
Type	restriction of xs:token
Facets	pattern ([0-9]+x)*[0-9]*[*]?
Used by	Attributes vs:DataType/@arraysize, vs:SimpleDataType/@arraysize, vs:TAPType/@arraysize, vs:VOTableType/@arraysize

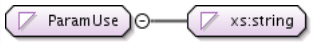
Source

```
<xs:simpleType name="ArrayShape">
  <xs:annotation>
    <xs:documentation>An expression of a the shape of a multi-dimensional array of the form LxNxM...
 where each value between gives the integer length of the array along a dimension. An asterisk
 (*) as the last dimension of the shape indicates that the length of the last axis is variable or
 undetermined.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:token">
    <xs:pattern value="([0-9]+x)*[0-9]*[*]?"/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type vs:HTTPQueryType

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Annotations	The type of HTTP request, either GET or POST.
Diagram	
Type	restriction of xs:token
Facets	enumeration GET enumeration POST
Used by	Element vs:ParamHTTP/queryType
Source	<xs:simpleType name="HTTPQueryType"> <xs:annotation> <xs:documentation>The type of HTTP request, either GET or POST.</xs:documentation> </xs:annotation> <xs:restriction base="xs:token"> <xs:enumeration value="GET"/> <xs:enumeration value="POST"/> </xs:restriction> </xs:simpleType>

Simple Type vs:ParamUse

Namespace	http://www.ivoa.net/xml/VODataService/v1.1
Diagram	
Type	restriction of xs:string
Facets	enumeration required — the parameter is required for the application or service to work properly. enumeration optional — the parameter is optional but supported by the application or service. enumeration ignored — the parameter is not supported and thus is ignored by the application or service.
Used by	Attributes psr:TemplateQueryType/@use, vs:InputParam/@use
Source	<xs:simpleType name="ParamUse"> <xs:restriction base="xs:string"> <xs:enumeration value="required"> <xs:annotation> <xs:documentation>the parameter is required for the application or service to work properly.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="optional"> <xs:annotation> <xs:documentation>the parameter is optional but supported by the application or service.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="ignored"> <xs:annotation> <xs:documentation>the parameter is not supported and thus is ignored by the application or service.</xs:documentation> </xs:annotation> </xs:enumeration> </xs:restriction> </xs:simpleType>

Namespace: "http://www.ivoa.net/xml/STC/stc-v1.30.xsd"

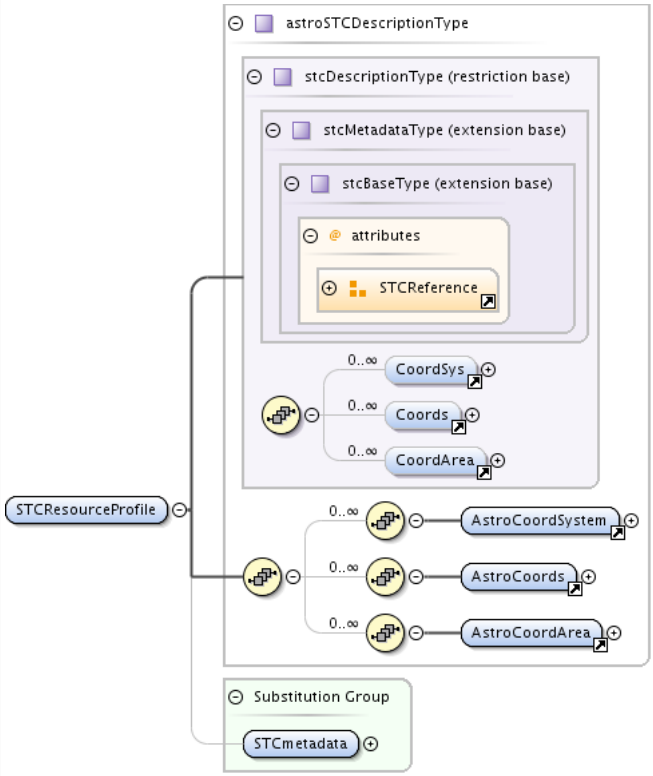
Schema(s)

Imported schema stc-v1.30.xsd

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Properties	attribute form default: unqualified element form default: qualified

Element(s)

Element `STCResourceProfile`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Describes the spatial and temporal coverage of a resource`
Diagram	
Type	astroSTCDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• STCmetadata
Used by	Complex Type vs:Coverage
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords

Instance	`<STCResourceProfile xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</AstroCoordSystem>`
	`  <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=""></AstroCoords>`
	`  <AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=""></AstroCoordArea>`
	`</STCResourceProfile>`

Attributes

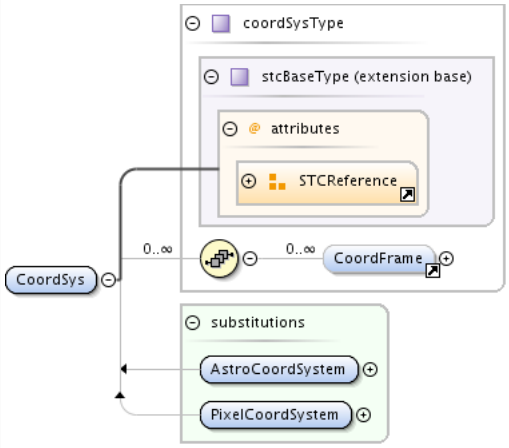
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="STCResourceProfile" type="astroSTCDescriptionType" substitutionGroup="STCmetadata"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Describes the spatial and temporal coverage of a resource</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CoordSys

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element (not abstract) of the CoordSys group
Diagram	
Type	coordSysType
Type hierarchy	• stcBaseType • coordSysType
Properties	content: complex nillable: true
Substitution Group	• AstroCoordSystem • PixelCoordSystem
Used by	Complex Type stcDescriptionType
Model	CoordFrame*
Children	CoordFrame

Instance	`<CoordSys xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</CoordFrame>`
	`</CoordSys>`

Attributes

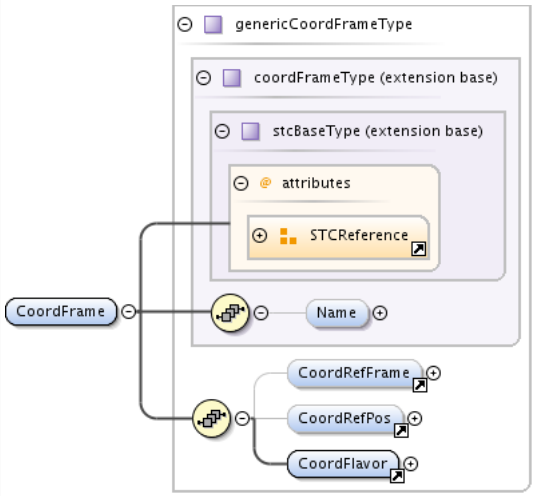
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CoordSys" type="coordSysType" nillable="true">
  <xs:annotation>
```

```
    <xs:documentation>Head element (not abstract) of the CoordSys group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CoordFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	CoordFrame substitution group head element
Diagram	
Type	genericCoordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • genericCoordFrameType

Properties	content: complex nillable: true
Used by	Complex Types: astroCoordSystemType, coordSysType, pixelCoordSystemType, psr:CoordSysType
Model	Name{0,1} , CoordRefFrame{0,1} , CoordRefPos{0,1} , CoordFlavor
Children	CoordFlavor, CoordRefFrame, CoordRefPos, Name

Instance	`<CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <CoordRefFrame ref_frame_id="">{0,1}</CoordRefFrame>`
	`  <CoordRefPos>{0,1}</CoordRefPos>`
	`  <CoordFlavor coord_naxes="2" handedness="">{1,1}</CoordFlavor>`
	`</CoordFrame>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

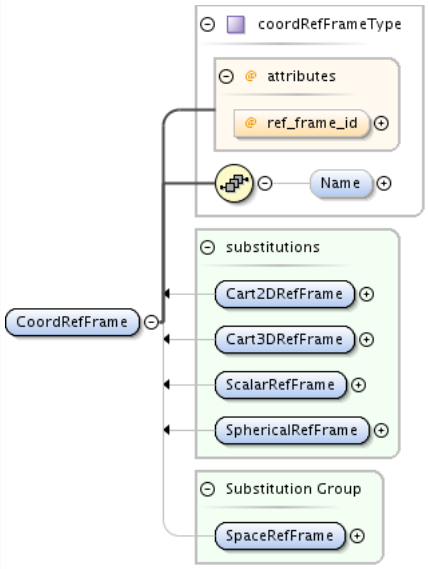
```
<xs:element name="CoordFrame" type="genericCoordFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>CoordFrame substitution group head element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element coordFrameType / Name

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name" type="xs:string" minOccurs="0"/>`

Element CoordRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element for the custom coordinate reference frame substitution group
Diagram	
Type	coordRefFrameType
Properties	content: complex
Substitution Group	• SphericalRefFrame • ScalarRefFrame • Cart2DRefFrame • Cart3DRefFrame
Substitution Group Affiliation	• SpaceRefFrame
Used by	Complex Types: genericCoordFrameType, pixelFrameType
Model	Name{0,1}
Children	Name

Instance	`<CoordRefFrame ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</CoordRefFrame>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

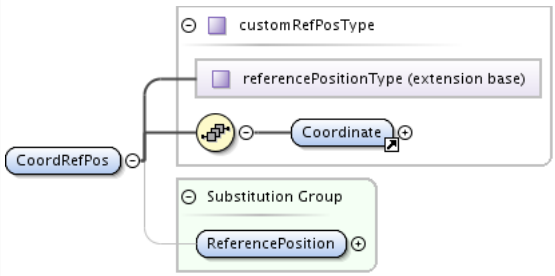
Source	`<xs:element name="CoordRefFrame" type="coordRefFrameType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>Head element for the custom coordinate reference frame substitution group</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element coordRefFrameType / Name

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name" type="xs:string" minOccurs="0"/>`

Element CoordRefPos

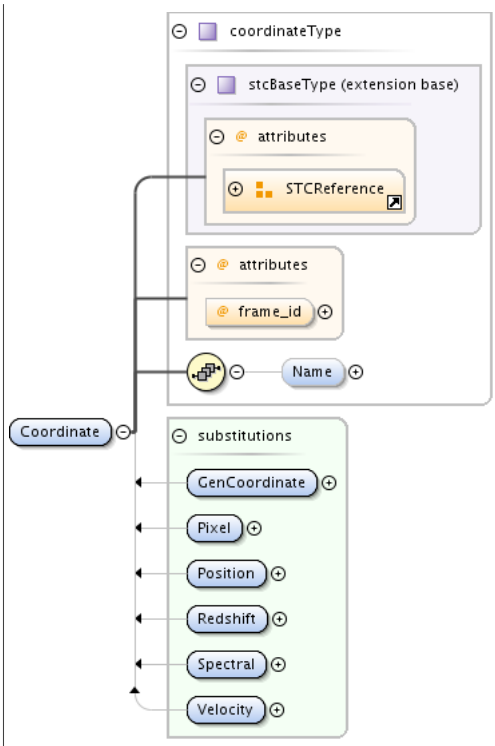
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Origin of the coordinate system, given as a position in another, known, coordinate system
Diagram	
Type	customRefPosType
Type hierarchy	• referencePositionType • customRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Used by	Complex Types: genericCoordFrameType, pixelFrameType
Model	Coordinate
Children	Coordinate

Instance	`<CoordRefPos xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Coordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</Coordinate>`
	`</CoordRefPos>`

Source	`<xs:element name="CoordRefPos" type="customRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Origin of the coordinate system, given as a position in another, known, coordinate system</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element Coordinate

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of Coordinate substitution group

Diagram	
Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType
Properties	content: `complex` nillable: `true`
Substitution Group	• GenCoordinate • StringCoordinate • ScalarCoordinate • Vector2DCoordinate • Vector3DCoordinate • Pixel • Pixel1D • Pixel2D • Pixel3D • Position • Position1D • Position2D • Position3D • Velocity • Velocity1D • Velocity2D • Velocity3D • Spectral • Redshift

Used by	Complex Type customRefPosType
Model	Name{0,1}
Children	Name
Instance	<Coordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="htt www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </Coordinate>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

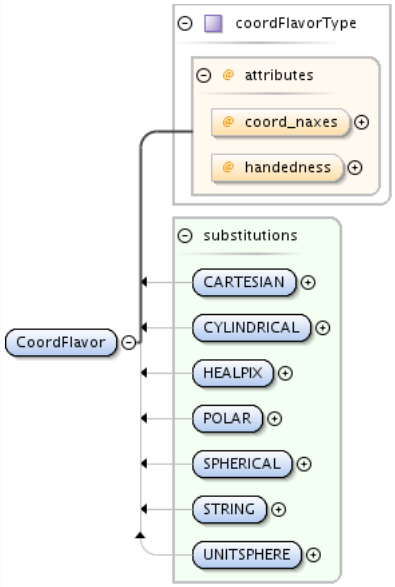
Source

```
<xs:element name="Coordinate" type="coordinateType" nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Coordinate substitution group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element coordinateType / Name

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name" type="xs:string" minOccurs="0"/>

Element CoordFlavor

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Abstract head element for the CoordFlavor substitution group
Diagram	
Type	coordFlavorType
Properties	content: complex

	abstract:	true
Substitution Group	• SPHERICAL • CARTESIAN • UNITSPHERE • POLAR • CYLINDRICAL • STRING • HEALPIX	
Used by	Complex Types	genericCoordFrameType, pixelFrameType, spaceFrameType

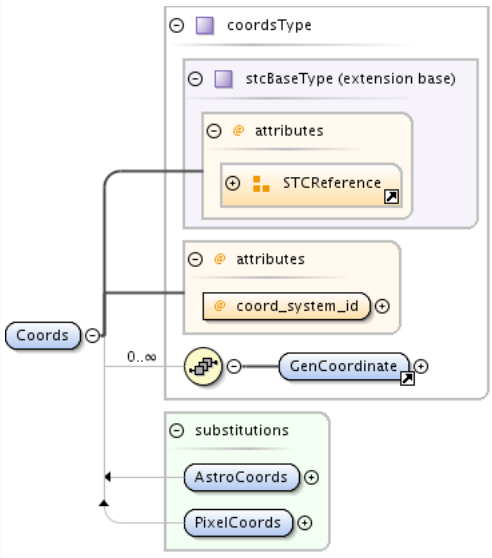
Attributes

QName	Type	Fixed	Default	Use
coord_naxes	restriction of xs:integer		2	optional
handedness	restriction of xs:string			optional

Source

```
<xs:element name="CoordFlavor" type="coordFlavorType" abstract="true">
  <xs:annotation>
    <xs:documentation>Abstract head element for the CoordFlavor substitution group</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Coords

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of Coords group (not abstract)
Diagram	
Type	coordsType
Type hierarchy	• stcBaseType • coordsType
Properties	content: complex nillable: true
Substitution Group	• AstroCoords • PixelCoords
Used by	Complex Type: stcDescriptionType
Model	GenCoordinate
Children	GenCoordinate
Instance	<Coords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns=" www.ivoa.net/xml/STC/stc-v1.30.xsd">

```
  <GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}
GenCoordinate>
</Coords>
```

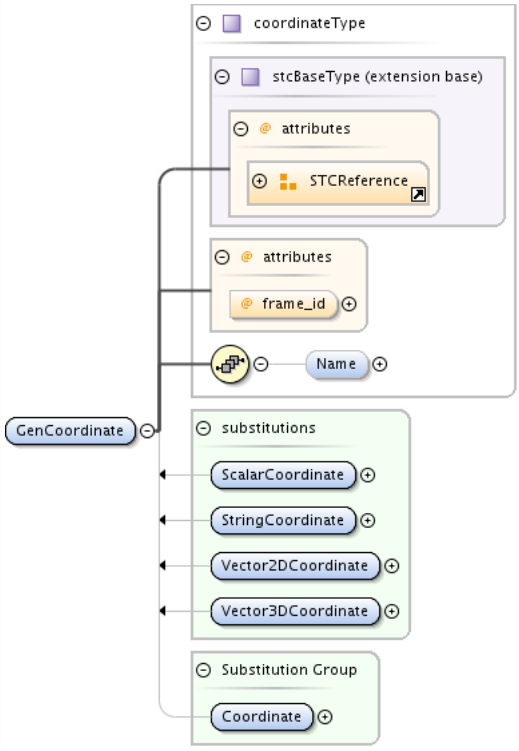
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Coords" type="coordsType" nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Coords group (not abstract)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element GenCoordinate

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of Generic coordinate substitution group
Diagram	
Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType
Properties	content: complex nillable: true
Substitution Group	• StringCoordinate • ScalarCoordinate • Vector2DCoordinate • Vector3DCoordinate

Substitution Group Affiliation	• Coordinate
Used by	Complex Types astroCoordsType, coordsType, genericRefPosType, pixelCoordsType, psr:CoordsType
Model	Name{0,1}
Children	Name
Instance	<GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </GenCoordinate>

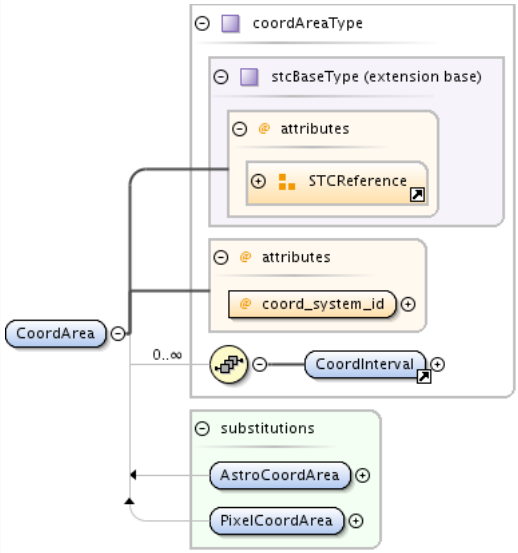
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="GenCoordinate" type="coordinateType" substitutionGroup="Coordinate"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Generic coordinate substitution group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `CoordArea`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	General coordinate area description; head element but not abstract
Diagram	
Type	coordAreaType
Type hierarchy	• stcBaseType • coordAreaType
Properties	content: complex nillable: true
Substitution Group	• AstroCoordArea • PixelCoordArea
Used by	Complex Type stcDescriptionType

Model	CoordInterval
Children	CoordInterval
Instance	<CoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmln www.ivoa.net/xml/STC/stc-v1.30.xsd"> <CoordInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type CoordInterval> </CoordArea>

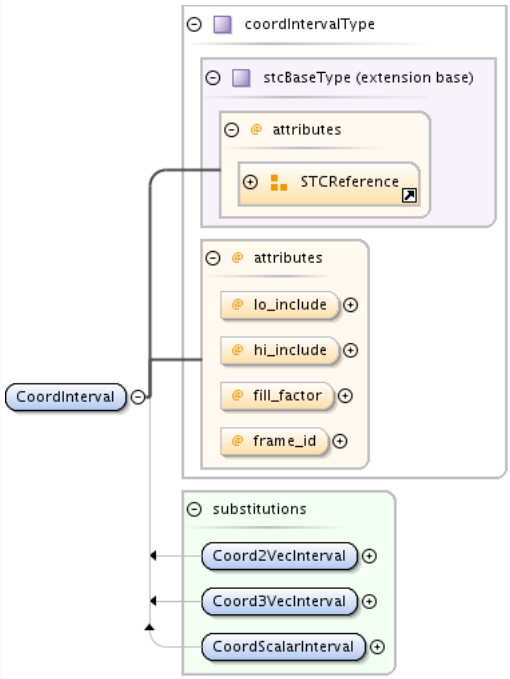
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CoordArea" type="coordAreaType" nillable="true">
  <xs:annotation>
    <xs:documentation>General coordinate area description; head element but not abstract</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `CoordInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The 1-, 2-, or 3-D coordinate interval substitution group head element; such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill factor
Diagram	
Type	coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType
Properties	content: complex nillable: true
Substitution Group	• CoordScalarInterval

	• Coord2VecInterval • Coord3VecInterval
Used by	Complex Types astroCoordAreaType, coordAreaType, pixelCoordAreaType

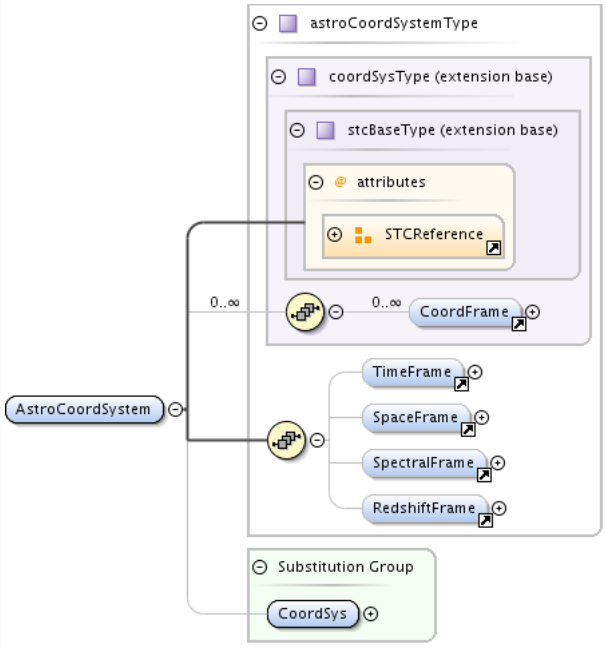
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CoordInterval" type="coordIntervalType" nillable="true">
  <xs:annotation>
    <xs:documentation>The 1-, 2-, or 3-D coordinate interval substitution group head element; such
 an element needs to contain a minimum or maximum scalar or vector value, or both; it needs to refer
 to a coordinate system; boundaries may or may not be inclusive; and it can have a fill factor</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element AstroCoordSystem

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The coordinate system definition: spatial coordinate frame and reference position; time frame and reference position; the coordinate flavor; the spectral fromae and redshift/Doppler frame; and the planetary ephemeris; an ID is required, since this is how coordinate elements are associated with their coordinate systems
Diagram	
Type	astroCoordSystemType
Type hierarchy	• stcBaseType

	• coordSysType • astroCoordSystemType
Properties	content: complex nillable: true
Substitution Group Affiliation	• CoordSys
Used by	Complex Types: STCCoordinate, STCCoordinateList, STCRegion, STCRegionList, astroSTCDescriptionType, observatoryLocationType
Model	CoordFrame* , TimeFrame{0,1} , SpaceFrame{0,1} , SpectralFrame{0,1} , RedshiftFrame{0,1}
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame

Instance

```
<AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</
CoordFrame>
  <TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
TimeFrame>
  <SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
SpaceFrame>
  <SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
SpectralFrame>
  <RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="VELO
RedshiftFrame>
</AstroCoordSystem>
```

Attributes

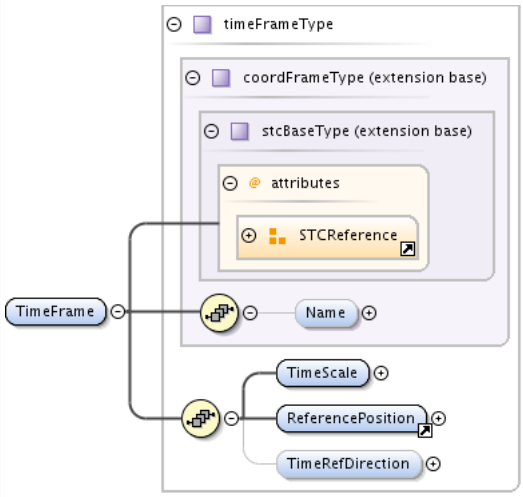
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="AstroCoordSystem" type="astroCoordSystemType" substitutionGroup="CoordSys"
 nillable="true">
  <xs:annotation>
    <xs:documentation>The coordinate system definition: spatial coordinate frame and reference
 position; time frame and reference position; the coordinate flavor; the spectral fromae and
 redshift/Doppler frame; and the planetary ephemeris; an ID is required, since this is how
 coordinate elements are associated with their coordinate systems</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element TimeFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The time coordinate reference frame

Diagram	
Type	timeFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • timeFrameType

Properties	content: complex nillable: true
Used by	Complex Types: astroCoordSystemType, psr:CoordSysType
Model	Name{0,1} , TimeScale , ReferencePosition , TimeRefDirection{0,1}
Children	Name, ReferencePosition, TimeRefDirection, TimeScale
Instance	<TimeFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <TimeScale>{1,1}</TimeScale> <ReferencePosition>{1,1}</ReferencePosition> <TimeRefDirection coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> {0,1}</TimeRefDirection> </TimeFrame>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="TimeFrame" type="timeFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>The time coordinate reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

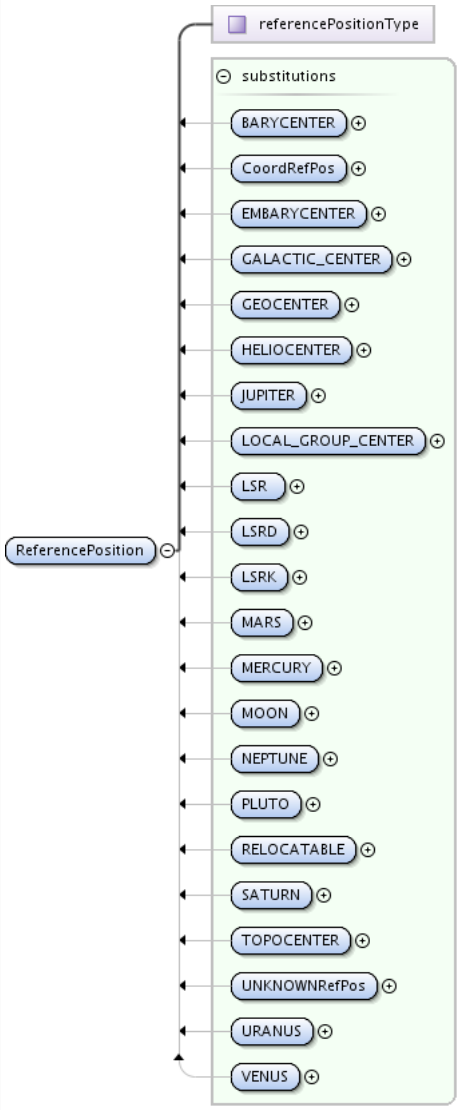
Element `timeFrameType / TimeScale`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The time reference frame consists of a time scale, a time format, and a reference time, if needed
Diagram	
Type	timeScaleType
Properties	content: simple default: TT

	nillable:	true	
Facets	enumeration	TT	Terrestrial Time; the basis for ephemerides
	enumeration	TDT	Obsolete synonym for TT
	enumeration	ET	Ephemeris Time; predecessor of, and continuous with, TT
	enumeration	TDB	Barycentric Dynamic Time:the independent variable in planetay ephemerides; time at the solar system barycenter synchronous with TT on an annual basis; sometimes called TEB
	enumeration	TEB	Barycentric Ephemeris Time: time at the solar system barycenter synchronous with TT on an annual basis; a deprecated synonym of TDB.
	enumeration	TCG	Terrestrial Coordinate Time
	enumeration	TCB	Barycentric Coordinate Time; runs slower than TDB but is consistent with physical constants
	enumeration	TAI	International Atomic Time; runs 32.184 s behind TT
	enumeration	IAT	Synonym for TAI
	enumeration	UTC	Coordinated Universal Time; currently (2006) runs 33 leapseconds behind TAI
	enumeration	GPS	Global Positioning System's time scale; runs 19 s behind TAI, 51.184 s behind TT.
	enumeration	LST	Local Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	GMST	Greenwich Mean Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	LOCAL	Only to be used for simulations in conjunction with a relocatable spatial frame
Source	<xs:element name="TimeScale" type="timeScaleType" default="TT" nillable="true"> <xs:annotation> <xs:documentation>The time reference frame consists of a time scale, a time format, and a reference time, if needed</xs:documentation> </xs:annotation> </xs:element>		

Element ReferencePosition

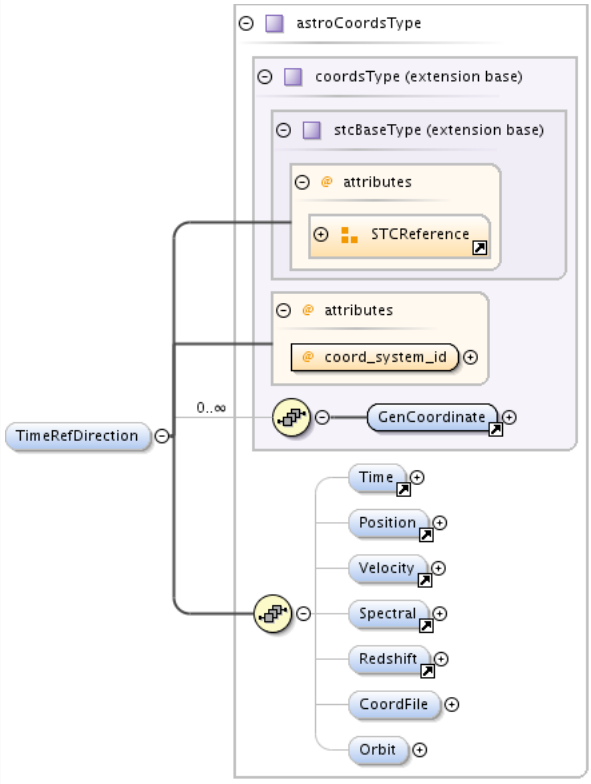
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element from the ReferencePosition substitution group: either a "known place" such as geocenter or barycenter (RefPos), or a position defined in a known coordinate system (CoordOrigin)

Diagram	
Type	referencePositionType
Properties	content: `complex` abstract: `true`
Substitution Group	• TOPOCENTER • BARYCENTER • HELIOCENTER • GEOCENTER • LSR • LSRK • LSRD • GALACTIC_CENTER • LOCAL_GROUP_CENTER • MOON • EMBARYCENTER • MERCURY • VENUS

	• MARS • JUPITER • SATURN • URANUS • NEPTUNE • PLUTO • RELOCATABLE • UNKNOWNRefPos • CoordRefPos
Used by	Complex Types redshiftFrameType, spaceFrameType, spectralFrameType, timeFrameType

Source	`<xs:element name="ReferencePosition" type="referencePositionType" abstract="true">`
	`  <xs:annotation>`
	`  <xs:documentation>Head element from the ReferencePosition substitution group: either a "known place" such as geocenter or barycenter (RefPos), or a position defined in a known coordinate system (CoordOrigin)</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `timeFrameType / TimeRefDirection`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Some time transformations (e.g., change of RefPos) depend on an assumed directonal position of the source`
Diagram	
Type	astroCoordsType

Type hierarchy	• stcBaseType
	  • coordsType
	  • astroCoordsType

Properties	content: `complex` minOccurs: `0`

Model	GenCoordinate , Time{0,1} , Position{0,1} , Velocity{0,1} , Spectral{0,1} , Redshift{0,1} , CoordFile{0,1} , Orbit{0,1}
Children	CoordFile, GenCoordinate, Orbit, Position, Redshift, Spectral, Time, Velocity
Instance	<TimeRefDirection coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd= www.ivoa.net/xml/STC/stc-v1.30.xsd"> <GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1 GenCoordinate> <Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" uc Time> <Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ Position> <Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ Velocity> <Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple Spectral> <Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple Redshift> <CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ CoordFile> <Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ Orbit> </TimeRefDirection>

Attributes

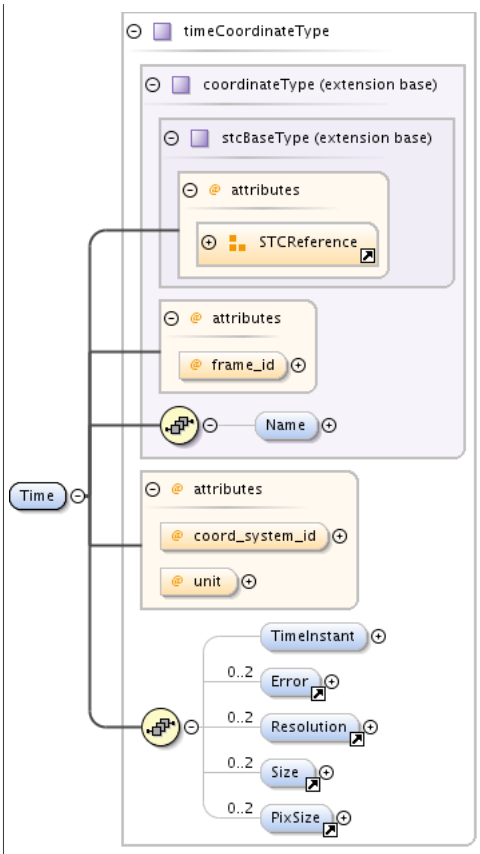
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="TimeRefDirection" type="astroCoordsType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Some time transformations (e.g., change of RefPos) depend on an assumed
 directonal position of the source</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Time`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	timeCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • timeCoordinateType

Properties	content: complex nillable: true
Used by	Complex Types: astroCoordsType, psr:CoordsType
Model	Name{0,1} , TimeInstant{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, TimeInstant

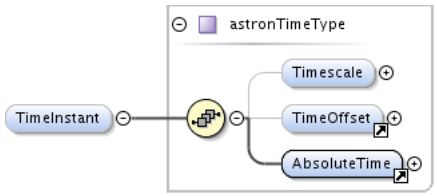
Instance	`<Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <TimeInstant>{0,1}</TimeInstant>`
	`  <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_`
	`Error>`
	`  <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spec`
	`Resolution>`
	`  <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u`
	`Size>`
	`  <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`PixSize>`
	`</Time>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional

	QName	Type	Fixed	Default	Use
	unit	timeUnitType		s	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="Time" type="timeCoordinateType" nillable="true"/>`				

Element `timeCoordinateType / TimeInstant`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	astronTimeType
Properties	content: `complex` minOccurs: `0`
Model	Timescale{0,1} , TimeOffset{0,1} , AbsoluteTime
Children	AbsoluteTime, TimeOffset, Timescale

Instance	`<TimeInstant xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Timescale>{0,1}</Timescale>`
	`  <TimeOffset xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="s">{0,1}</TimeOffset>`
	`  <AbsoluteTime>{1,1}</AbsoluteTime>`
	`</TimeInstant>`

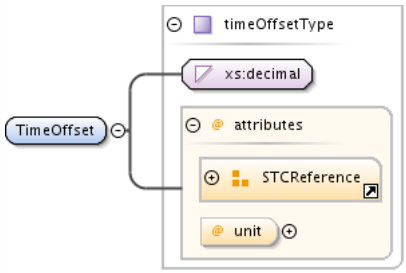
Source	`<xs:element name="TimeInstant" type="astronTimeType" minOccurs="0"/>`

Element `astronTimeType / Timescale`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	timeScaleType
Properties	content: `simple` minOccurs: `0` nillable: `true`
Facets	enumeration `TT` — Terrestrial Time; the basis for ephemerides enumeration `TDT` — Obsolete synonym for TT enumeration `ET` — Ephemeris Time; predecessor of, and continuous with, TT enumeration `TDB` — Barycentric Dynamic Time:the independent variable in planetay ephemerides; time at the solar system barycenter synchronous with TT on an annual basis; sometimes called TEB enumeration `TEB` — Barycentric Ephemeris Time: time at the solar system barycenter synchronous with TT on an annual basis; a deprecated synonym of TDB. enumeration `TCG` — Terrestrial Coordinate Time enumeration `TCB` — Barycentric Coordinate Time; runs slower than TDB but is consistent with physical constants enumeration `TAI` — International Atomic Time; runs 32.184 s behind TT enumeration `IAT` — Synonym for TAI enumeration `UTC` — Coordinated Universal Time; currently (2006) runs 33 leapseconds behind TAI enumeration `GPS` — Global Positioning System's time scale; runs 19 s behind TAI, 51.184 s behind TT.

	enumeration	LST	Local Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	GMST	Greenwich Mean Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	LOCAL	Only to be used for simulations in conjunction with a relocatable spatial frame
Source	<xs:element name="Timescale" type="timeScaleType" nillable="true" minOccurs="0"/>		

Element TimeOffset

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Actual elapsed time offset
Diagram	
Type	timeOffsetType
Properties	content: complex nillable: true
Used by	Complex Type: astronTimeType

Attributes

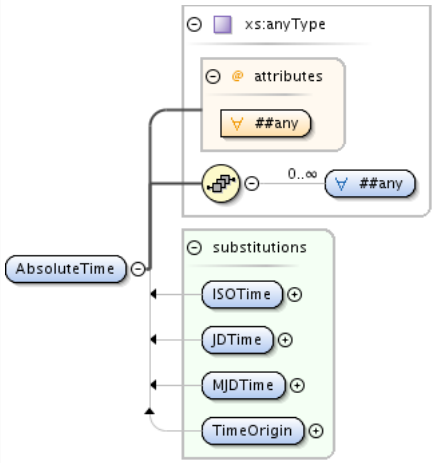
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	timeUnitType		s	optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="TimeOffset" type="timeOffsetType" nillable="true">
  <xs:annotation>
    <xs:documentation>Actual elapsed time offset</xs:documentation>
  </xs:annotation>
</xs:element>
```

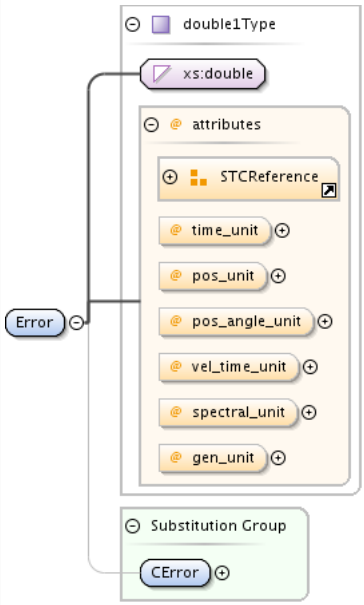
Element AbsoluteTime

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for absoluteTimeType component of astronTimeType

Diagram	
Properties	abstract: `true`
Substitution Group	• ISOTime • JDTime • MJDTime • TimeOrigin
Used by	Complex Type astronTimeType

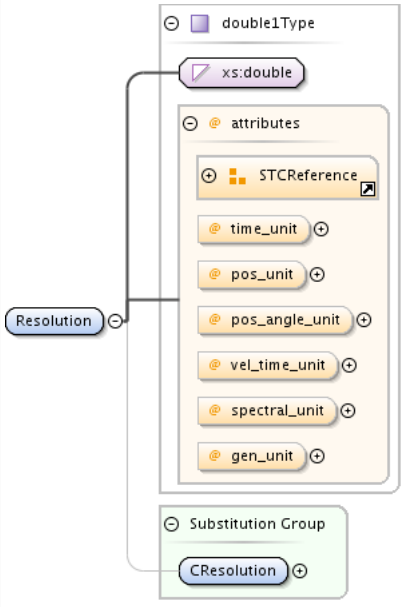
Source	`<xs:element name="AbsoluteTime" type="xs:anyType" abstract="true">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for absoluteTimeType component of astronTimeType</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Error`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• CError				
Used by	Complex Types	basicCoordinateType, posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType, timeCoordinateType, velVector1CoordinateType			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	<xs:element name="Error" type="double1Type" substitutionGroup="CError" nillable="true"> <xs:annotation> <xs:documentation>double</xs:documentation> </xs:annotation> </xs:element>				

Element `Resolution`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	double
Diagram	
Type	double1Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CResolution

Used by	Complex Types	basicCoordinateType, posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType, timeCoordinateType, velVector1CoordinateType

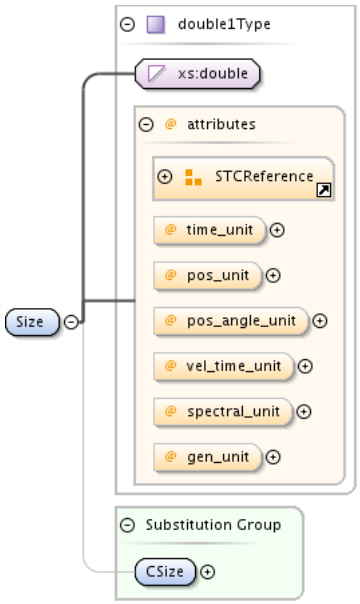
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution" type="double1Type" substitutionGroup="CResolution" nillable="true">
  <xs:annotation>
    <xs:documentation>double</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Size`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CSize
Used by	Complex Types: basicCoordinateType, posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType, timeCoordinateType, velVector1CoordinateType

Attributes

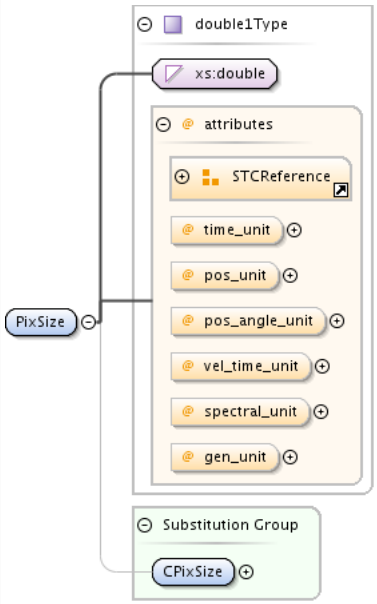
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size" type="double1Type" substitutionGroup="CSize" nillable="true">
  <xs:annotation>
    <xs:documentation>double</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixSize`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CPixSize
Used by	Complex Types: basicCoordinateType, posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType, timeCoordinateType, velVector1CoordinateType

Attributes

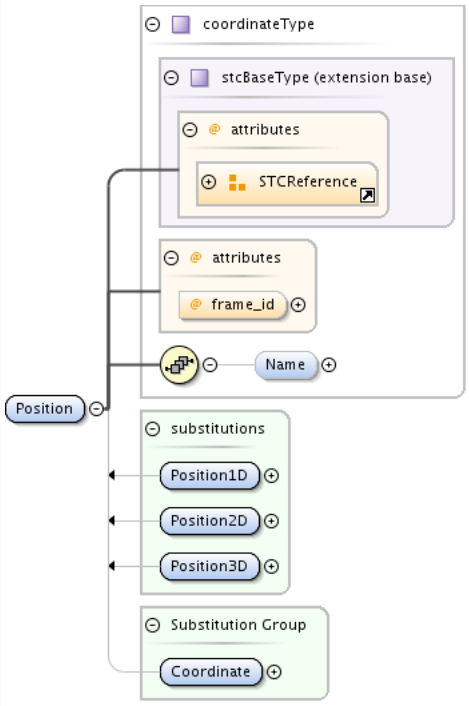
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixSize" type="double1Type" substitutionGroup="CPixSize" nillable="true">
  <xs:annotation>
    <xs:documentation>double</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Position`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Head element of Position coordinate substitution group`
Diagram	
Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType
Properties	content: `complex` nillable: `true`
Substitution Group	• Position1D • Position2D • Position3D
Substitution Group Affiliation	• Coordinate
Used by	Complex Types: astroCoordsType, psr:CoordsType

Model	Name{0,1}
Children	Name
Instance	<Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </Position>

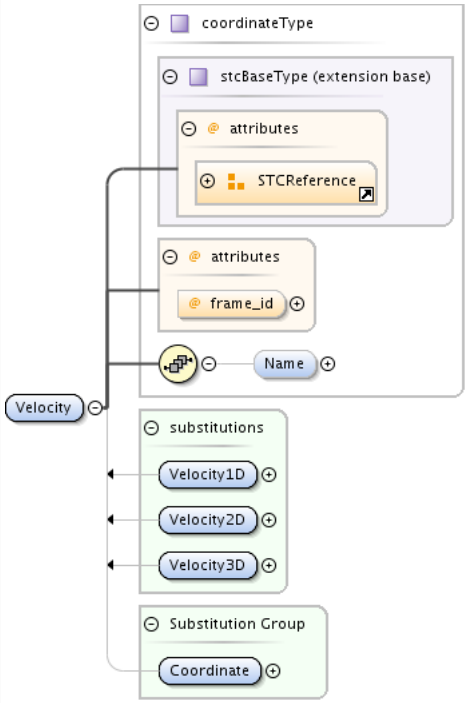
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position" type="coordinateType" substitutionGroup="Coordinate" nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Position coordinate substitution group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of Velocity coordinate substitution group
Diagram	
Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType

Properties

content:	complex
nillable:	true

Substitution Group	• Velocity1D • Velocity2D • Velocity3D

Substitution Group Affiliation	• Coordinate
Used by	Complex Types astroCoordsType, psr:CoordsType
Model	Name{0,1}
Children	Name
Instance	<Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </Velocity>

Attributes

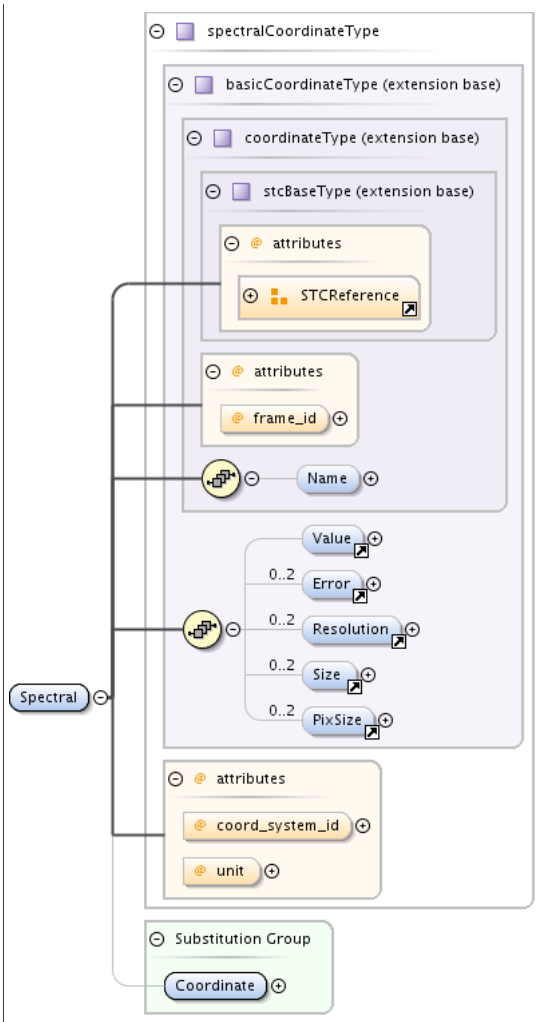
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity" type="coordinateType" substitutionGroup="Coordinate" nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Velocity coordinate substitution group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Spectral

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Spectral coordinate

Diagram	
Type	spectralCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType
	  • spectralCoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Coordinate
Used by	Complex Types: astroCoordsType, psr:CoordsType
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Value> <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Error> <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect Resolution> <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un Size> <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra PixSize>

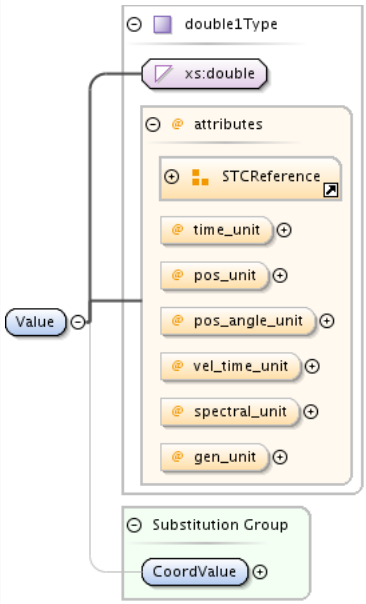
	`</Spectral>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	coord_system_id	xs:IDREF			optional
	frame_id	xs:IDREF			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	spectralUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Spectral" type="spectralCoordinateType" substitutionGroup="Coordinate"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Spectral coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Value`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double`
Diagram	

Type	double1Type	
Properties	content:	`complex`
	nillable:	`true`
Substitution Group Affiliation	• CoordValue	
Used by	Complex Types	basicCoordinateType, pixelVector1CoordinateType, posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType, velVector1CoordinateType

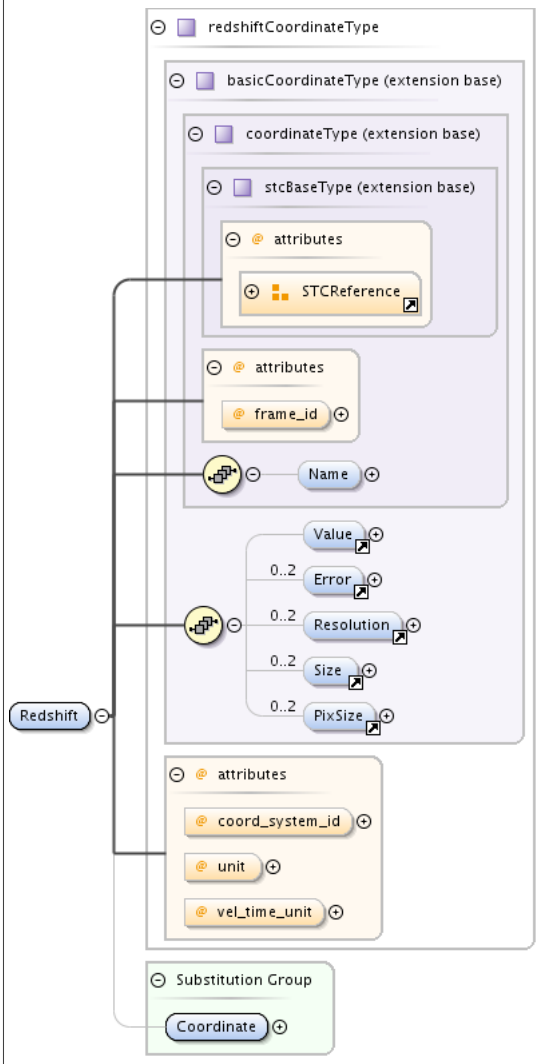
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Value" type="double1Type" substitutionGroup="CoordValue" nillable="true">
  <xs:annotation>
    <xs:documentation>double</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Redshift`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Redshift coordinate`
Diagram	
Type	redshiftCoordinateType
Type hierarchy	• stcBaseType • coordinateType

	• basicCoordinateType • redshiftCoordinateType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Coordinate
Used by	Complex Types: astroCoordsType, psr:CoordsType
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Instance

```
<Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple"
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Name>{0,1}</Name>
  <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
Value>
  <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
Error>
  <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect
Resolution>
  <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un
Size>
  <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
PixSize>
</Redshift>
```

Attributes

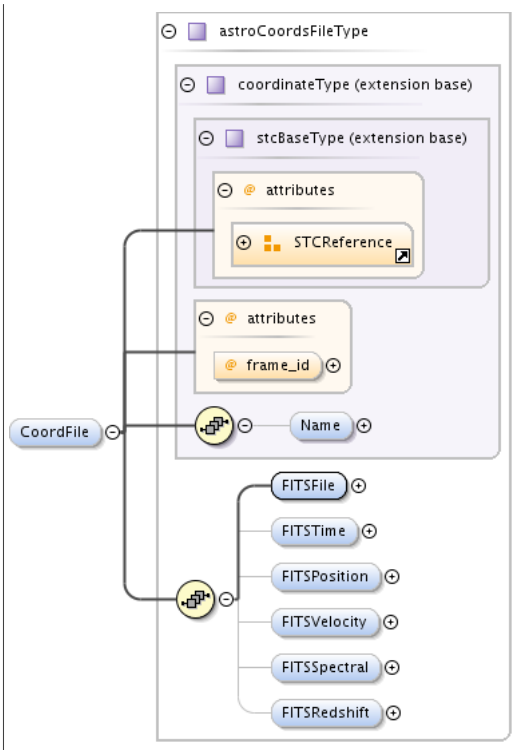
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Redshift" type="redshiftCoordinateType" substitutionGroup="Coordinate"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Redshift coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element astroCoordsType / CoordFile

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Some or all coordinate values may be given in file

Diagram	
Type	astroCoordsFileType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • astroCoordsFileType

Properties	content: complex minOccurs: 0 nillable: true
Model	Name{0,1} , FITSFile , FITSTime{0,1} , FITSPosition{0,1} , FITSVelocity{0,1} , FITSSpectral{0,1} , FITSRedshift{0,1}
Children	FITSFile, FITSPosition, FITSRedshift, FITSSpectral, FITSTime, FITSVelocity, Name

Instance	<pre><CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http
	www.ivoa.net/xml/STC/stc-v1.30.xsd">
	  <Name>{0,1}</Name>
	  <FITSFile hdu_name="" hdu_num="">{1,1}</FITSFile>
	  <FITSTime>{0,1}</FITSTime>
	  <FITSPosition>{0,1}</FITSPosition>
	  <FITSVelocity>{0,1}</FITSVelocity>
	  <FITSSpectral>{0,1}</FITSSpectral>
	  <FITSRedshift>{0,1}</FITSRedshift>
	</CoordFile></pre>

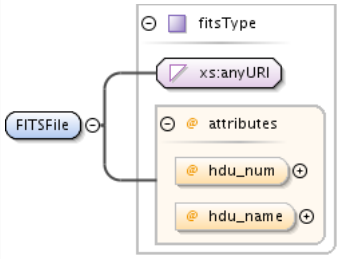
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

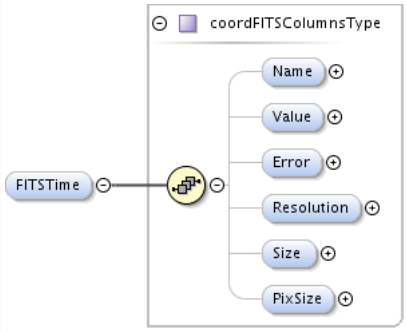
Source

```
<xs:element name="CoordFile" type="astroCoordsFileType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Some or all coordinate values may be given in file</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element astroCoordsFileType / FITSFile

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	fitsType
Properties	content: complex
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **hdu_name** / xs:string / / / optional **hdu_num** / xs:integer / / / optional
Source	`<xs:element name="FITSFile" type="fitsType"/>`

Element astroCoordsFileType / FITSTime

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordFITSColumnsType
Properties	content: complex minOccurs: 0
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value

Instance	`<FITSTime xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Value>{0,1}</Value>`
	`  <Error>{0,1}</Error>`
	`  <Resolution>{0,1}</Resolution>`
	`  <Size>{0,1}</Size>`
	`  <PixSize>{0,1}</PixSize>`
	`</FITSTime>`

Source	`<xs:element name="FITSTime" type="coordFITSColumnsType" minOccurs="0"/>`

Element coordFITSColumnsType / Name

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name" type="xs:string" minOccurs="0"/>`

Element coordFITSColumnsType / Value

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The column name for the coordinate value; comma-separated if multi-dimensional
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

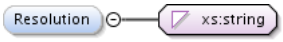
Source	`<xs:element name="Value" type="xs:string" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>The column name for the coordinate value; comma-separated if multi-dimensional</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element coordFITSColumnsType / Error

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The column name for the coordinate error; comma-separated if multi-dimensional
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

Source	`<xs:element name="Error" type="xs:string" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>The column name for the coordinate error; comma-separated if multi-dimensional</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element coordFITSColumnsType / Resolution

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The column name for the coordinate resolution; comma-separated if multi-dimensional
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

Source	`<xs:element name="Resolution" type="xs:string" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>The column name for the coordinate resolution; comma-separated if multi-dimensional</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element coordFITSColumnsType / Size

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The column name for the coordinate size; comma-separated if multi-dimensional
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

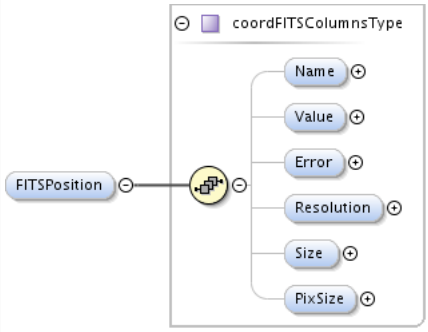
Source	`<xs:element name="Size" type="xs:string" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>The column name for the coordinate size; comma-separated if multi-dimensional</xs:documentation>`
	`  </xs:annotation>`

```
</xs:element>
```

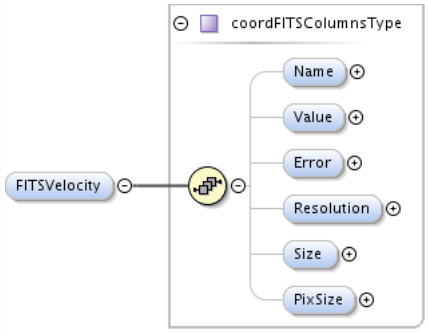
Element coordFITSColumnsType / PixSize

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The column name for the coordinate pixel size; comma-separated if multi-dimensional
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="PixSize" type="xs:string" minOccurs="0"> <xs:annotation> <xs:documentation>The column name for the coordinate pixel size; comma-separated if multi-dimensional</xs:documentation> </xs:annotation> </xs:element>

Element astroCoordsFileType / FITSPosition

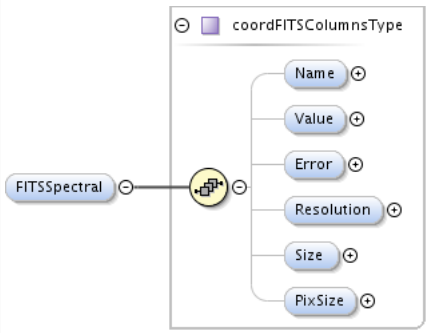
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordFITSColumnsType
Properties	content: complex minOccurs: 0
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<FITSPosition xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value>{0,1}</Value> <Error>{0,1}</Error> <Resolution>{0,1}</Resolution> <Size>{0,1}</Size> <PixSize>{0,1}</PixSize> </FITSPosition>
Source	<xs:element name="FITSPosition" type="coordFITSColumnsType" minOccurs="0"/>

Element astroCoordsFileType / FITSVelocity

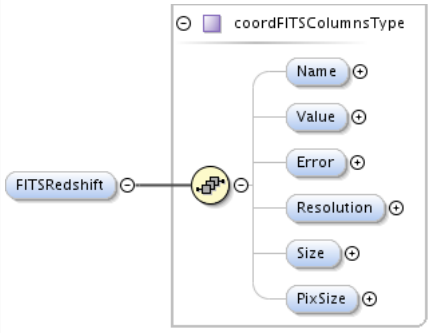
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	

Type	coordFITSColumnsType
Properties	content: complex minOccurs: 0
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<FITSVelocity xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value>{0,1}</Value> <Error>{0,1}</Error> <Resolution>{0,1}</Resolution> <Size>{0,1}</Size> <PixSize>{0,1}</PixSize> </FITSVelocity>
Source	<xs:element name="FITSVelocity" type="coordFITSColumnsType" minOccurs="0"/>

Element astroCoordsFileType / FITSSpectral

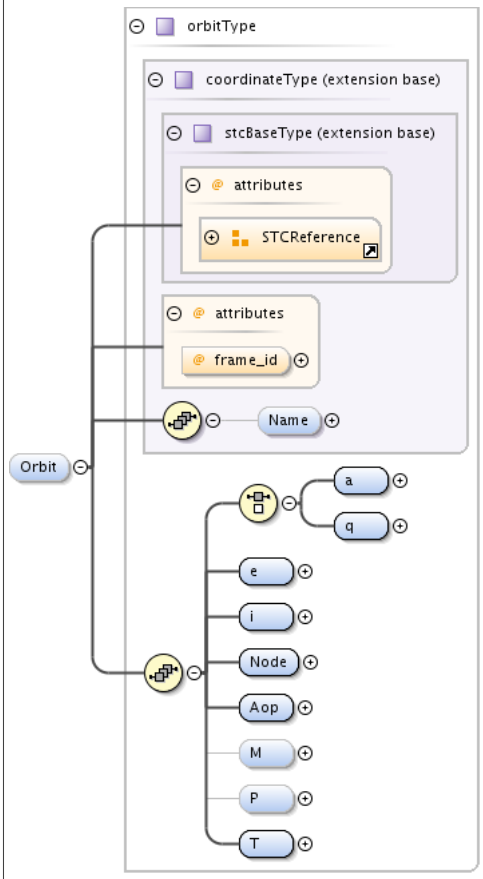
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordFITSColumnsType
Properties	content: complex minOccurs: 0
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<FITSSpectral xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value>{0,1}</Value> <Error>{0,1}</Error> <Resolution>{0,1}</Resolution> <Size>{0,1}</Size> <PixSize>{0,1}</PixSize> </FITSSpectral>
Source	<xs:element name="FITSSpectral" type="coordFITSColumnsType" minOccurs="0"/>

Element astroCoordsFileType / FITSRedshift

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordFITSColumnsType
Properties	content: complex

	minOccurs: 0
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<FITSRedshift xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value>{0,1}</Value> <Error>{0,1}</Error> <Resolution>{0,1}</Resolution> <Size>{0,1}</Size> <PixSize>{0,1}</PixSize> </FITSRedshift>
Source	<xs:element name="FITSRedshift" type="coordFITSColumnsType" minOccurs="0"/>

Element astroCoordsType / Orbit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Orbit specified by orbital elements
Diagram	
Type	orbitType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • orbitType

Properties	content: complex minOccurs: 0 nillable: true
Model	Name{0,1} , (a | q) , e , i , Node , Aop , M{0,1} , P{0,1} , T
Children	Aop, M, Name, Node, P, T, a, e, i, q
Instance	<Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <a gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit= a>

```
  <q gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit=
q>
  <e gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit=
e>
  <i gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit=
i>
  <Node gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un
Node>
  <Aop gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_uni
Aop>
  <M gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit=
M>
  <P gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit=
P>
  <T>{1,1}</T>
</Orbit>
```

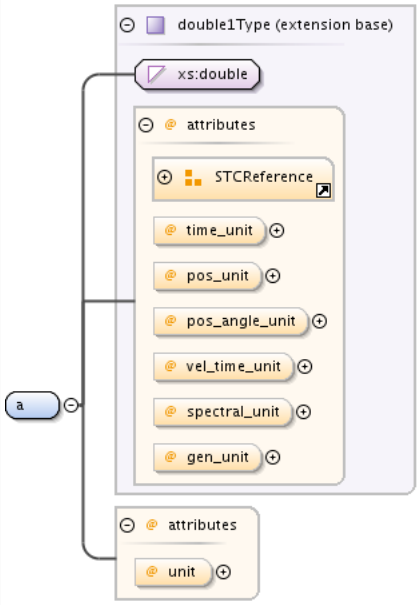
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Orbit" type="orbitType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Orbit specified by orbital elements</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `orbitType / a`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Semi-major axis for elliptical (closed) orbits (1>e>=0) only; for parabolic or hyperbolic orbits us periapsis distance q`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` nillable: `true`

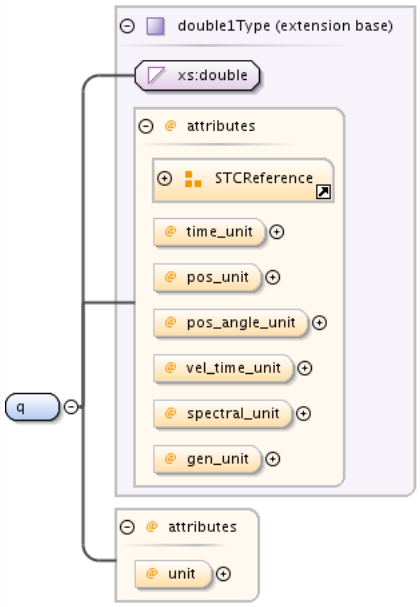
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
unit	posUnitType		AU	optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="a" nillable="true">
  <xs:annotation>
    <xs:documentation>Semi-major axis for elliptical (closed) orbits (1>e>=0) only; for parabolic or
 hyperbolic orbits us periapsis distance q</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / q`

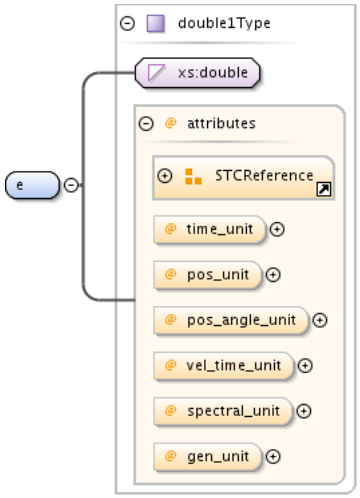
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Periapsis distance; required (instead of a) for open orbits (e>=1)`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` nillable: `true`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	unit	posUnitType		AU	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="q" nillable="true">
  <xs:annotation>
    <xs:documentation>Periapsis distance; required (instead of a) for open orbits (e>=1)</
xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / e`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Eccentricity`
Diagram	
Type	double1Type

Properties		
	content:	`complex`
	nillable:	`true`

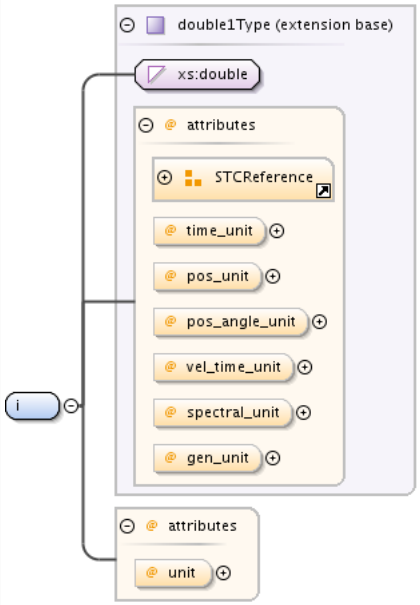
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="e" type="double1Type" nillable="true">
  <xs:annotation>
    <xs:documentation>Eccentricity</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `orbitType / i`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Inclination`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` nillable: `true`

Attributes

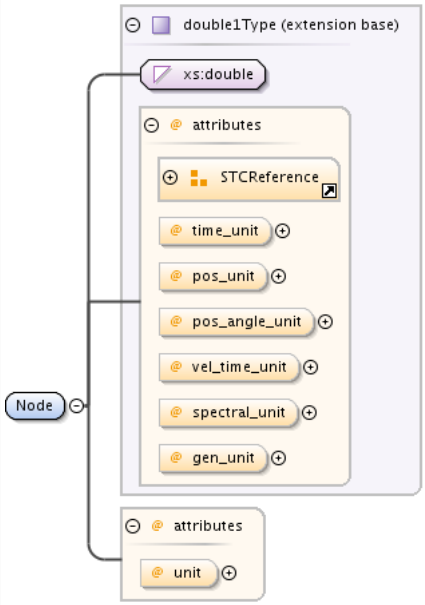
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType		deg	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="i" nillable="true">
  <xs:annotation>
    <xs:documentation>Inclination</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / Node`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Longitude of ascending node`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` nillable: `true`

Attributes

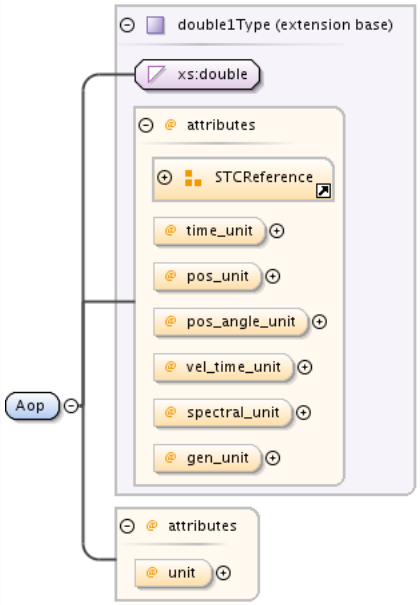
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType		deg	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Node" nillable="true">
  <xs:annotation>
    <xs:documentation>Longitude of ascending node</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / Aop`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Argument of periapsis`
Diagram	

Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` nillable: `true`

Attributes

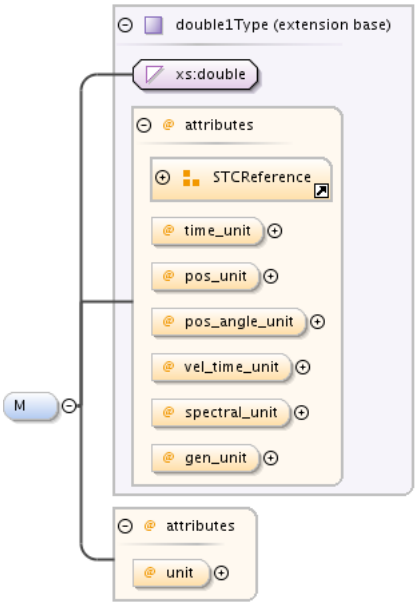
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType		deg	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Aop" nillable="true">
  <xs:annotation>
    <xs:documentation>Argument of periapsis</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / M`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Mean anomaly at time T; if absent T will refer to pericenter`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type
Properties	content: `complex` minOccurs: `0` nillable: `true`

Attributes

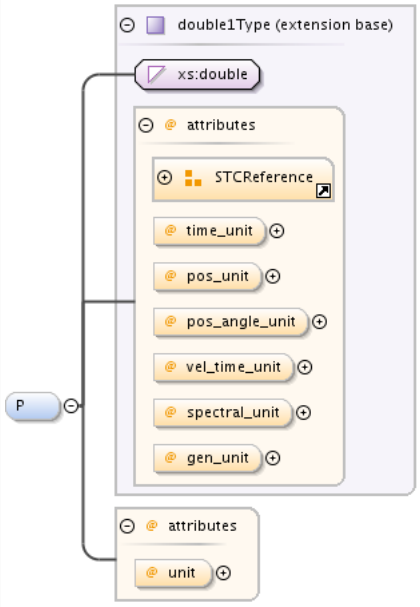
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional

	QName	Type	Fixed	Default	Use
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	unit	posUnitType		deg	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="M" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Mean anomaly at time T; if absent T will refer to pericenter</
xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element `orbitType / P`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Orbital period (redundant); for closed orbits only`
Diagram	
Type	extension of double1Type
Type hierarchy	• xs:double • double1Type

Properties

content:	`complex`
minOccurs:	`0`
nillable:	`true`

Attributes

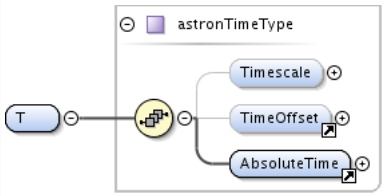
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional

	QName	Type	Fixed	Default	Use
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	unit	timeUnitType		d	optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

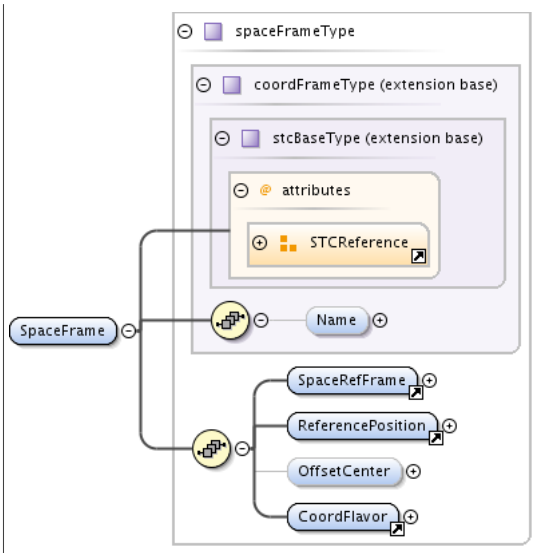
```
<xs:element name="P" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Orbital period (redundant); for closed orbits only</xs:documentation>
  </xs:annotation>
  <xs:complexType>
    <xs:complexContent>
      <xs:extension base="double1Type">
        <xs:attribute name="unit" type="timeUnitType" use="optional" default="d"/>
      </xs:extension>
    </xs:complexContent>
  </xs:complexType>
</xs:element>
```

Element orbitType / T

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Epoch of M (mean anomaly, if present) or of periapsis (if M is absent)
Diagram	
Type	astronTimeType
Properties	content: complex
Model	Timescale{0,1} , TimeOffset{0,1} , AbsoluteTime
Children	AbsoluteTime, TimeOffset, Timescale
Instance	<T xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Timescale>{0,1}</Timescale> <TimeOffset xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="s">{0,1}</TimeOffset> <AbsoluteTime>{1,1}</AbsoluteTime> </T>
Source	<xs:element name="T" type="astronTimeType"> <xs:annotation> <xs:documentation>Epoch of M (mean anomaly, if present) or of periapsis (if M is absent)</xs:documentation> </xs:annotation> </xs:element>

Element SpaceFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The spatial coordinate reference frame

Diagram	
Type	spaceFrameType
Type hierarchy	• stcBaseType • coordFrameType • spaceFrameType
Properties	content: complex nillable: true
Used by	Complex Types: astroCoordSystemType, psr:CoordSysType
Model	Name{0,1} , SpaceRefFrame , ReferencePosition , OffsetCenter{0,1} , CoordFlavor
Children	CoordFlavor, Name, OffsetCenter, ReferencePosition, SpaceRefFrame

Instance

```
<SpaceFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Name>{0,1}</Name>
  <SpaceRefFrame ref_frame_id="">{1,1}</SpaceRefFrame>
  <ReferencePosition>{1,1}</ReferencePosition>
  <OffsetCenter>{0,1}</OffsetCenter>
  <CoordFlavor coord_naxes="2" handedness="">{1,1}</CoordFlavor>
</SpaceFrame>
```

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

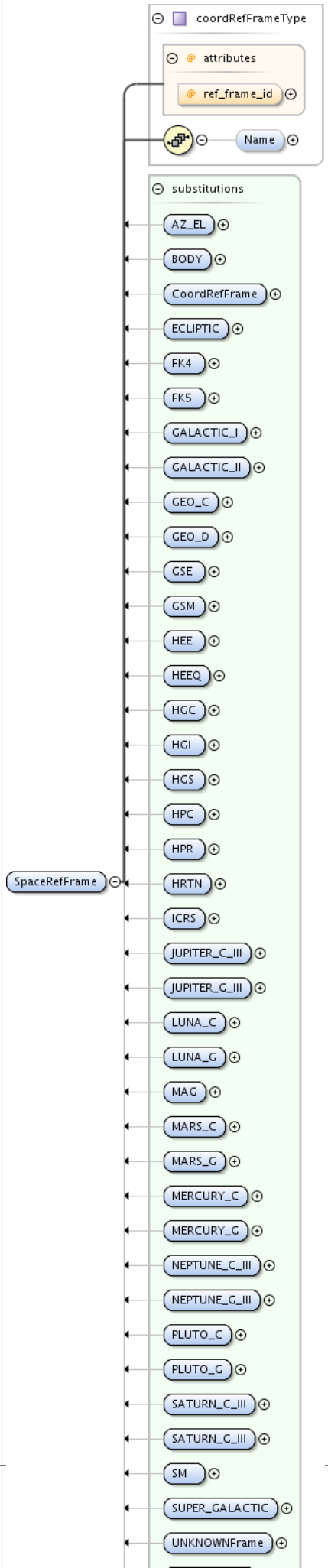
Source

```
<xs:element name="SpaceFrame" type="spaceFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>The spatial coordinate reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SpaceRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element for the Coordinate reference frame substitution group: optional equinox with either a standard reference system (ICRS, FK5, FK4) and optional standard pole (equatorial, ecliptic, galactic, etc.), or a custom frame with pole (positive Z-axis) and positive X-axis direction

Diagram


coordRefFrameType
attributes
ref_frame_id
Name
substitutions
AZ_EL
BODY
CoordRefFrame
ECLIPTIC
FK4
FK5
GALACTIC_I
GALACTIC_II
GEO_C
GEO_D
GSE
GSM
HEE
HEEQ
HGC
HGI
HGS
HPC
HPR
HRTN
ICRS
JUPITER_C_III
JUPITER_G_III
LUNA_C
LUNA_G
MAG
MARS_C
MARS_G
MERCURY_C
MERCURY_G
NEPTUNE_C_III
NEPTUNE_G_III
PLUTO_C
PLUTO_G
SATURN_C_III
SATURN_G_III
SM
SUPER_GALACTIC
UNKNOWNFrame
SpaceRefFrame

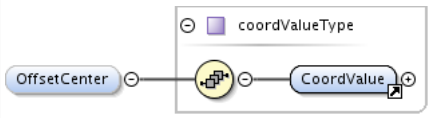
Type	coordRefFrameType	
Properties	content:	complex
	abstract:	true
Substitution Group	• ICRS • FK4 • FK5 • ECLIPTIC • GALACTIC_I • GALACTIC_II • SUPER_GALACTIC • AZ_EL • BODY • GEO_C • GEO_D • MAG • GSE • GSM • SM • HGC • HGS • HPC • HPR • HEE • HEEQ • HGI • HRTN • MERCURY_C • VENUS_C • LUNA_C • MARS_C • JUPITER_C_III • SATURN_C_III • URANUS_C_III • NEPTUNE_C_III • PLUTO_C • MERCURY_G • VENUS_G • LUNA_G • MARS_G • JUPITER_G_III	

	• SATURN_G_III • URANUS_G_III • NEPTUNE_G_III • PLUTO_G • UNKNOWNFrame • CoordRefFrame • SphericalRefFrame • ScalarRefFrame • Cart2DRefFrame • Cart3DRefFrame
Used by	Complex Type spaceFrameType
Model	Name{0,1}
Children	Name

Instance	`<SpaceRefFrame ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</SpaceRefFrame>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional
Source	`<xs:element name="SpaceRefFrame" type="coordRefFrameType" abstract="true">` `  <xs:annotation>` ` <xs:documentation>Head element for the Coordinate reference frame substitution group: optional equinox with either a standard reference system (ICRS, FK5, FK4) and optional standard pole (equatorial, ecliptic, galactic, etc.), or a custom frame with pole (positive Z-axis) and positive X-axis direction</xs:documentation>` ` </xs:annotation>` `</xs:element>`

Element spaceFrameType / OffsetCenter

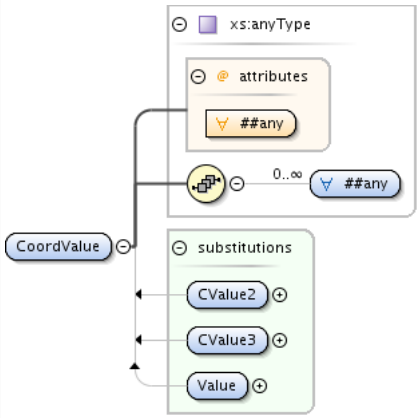
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordValueType
Properties	content: complex minOccurs: 0
Model	CoordValue
Children	CoordValue

Instance	`<OffsetCenter xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <CoordValue>{1,1}</CoordValue>`
	`</OffsetCenter>`

Source	`<xs:element name="OffsetCenter" type="coordValueType" minOccurs="0"/>`

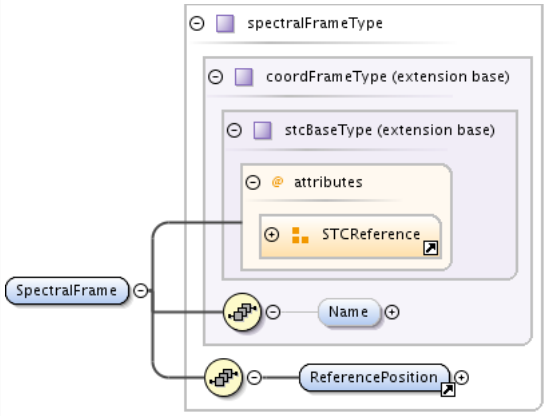
Element CoordValue

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The head element for the CoordinateValue substitution group; this only exists for a few cases where only a value is needed (as in some Region elements)

Diagram	
Properties	abstract: `true`
Substitution Group	• Value • Value2 • Curve2 • Value3 • Curve3
Used by	Complex Type coordValueType

Source	`<xs:element name="CoordValue" type="xs:anyType" abstract="true">`
	`  <xs:annotation>`
	`  <xs:documentation>The head element for the CoordinateValue substitution group; this only exists for a few cases where only a value is needed (as in some Region elements)</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `SpectralFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The reference frame for the spectral coordinate; note presence of LSR`
Diagram	
Type	spectralFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • spectralFrameType

Properties	content: `complex` nillable: `true`
Used by	Complex Types astroCoordSystemType, psr:CoordSysType
Model	Name{0,1} , ReferencePosition
Children	Name, ReferencePosition

Instance	<SpectralFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <ReferencePosition>{1,1}</ReferencePosition> </SpectralFrame>

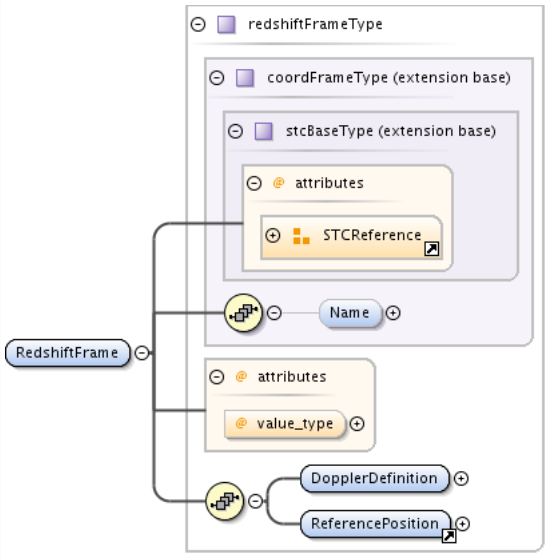
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="SpectralFrame" type="spectralFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>The reference frame for the spectral coordinate; note presence of LSR</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `RedshiftFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Contains the Doppler definitions, including whether the values are velocity or redshift (value_type)
Diagram	
Type	redshiftFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • redshiftFrameType

Properties	content: complex nillable: true
Used by	Complex Types: astroCoordSystemType, psr:CoordSysType
Model	Name{0,1} , DopplerDefinition , ReferencePosition
Children	DopplerDefinition, Name, ReferencePosition
Instance	<RedshiftFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" value_type="VELOCI www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <DopplerDefinition>{1,1}</DopplerDefinition> <ReferencePosition>{1,1}</ReferencePosition> </RedshiftFrame>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	value_type	restriction of xs:string		VELOCITY	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

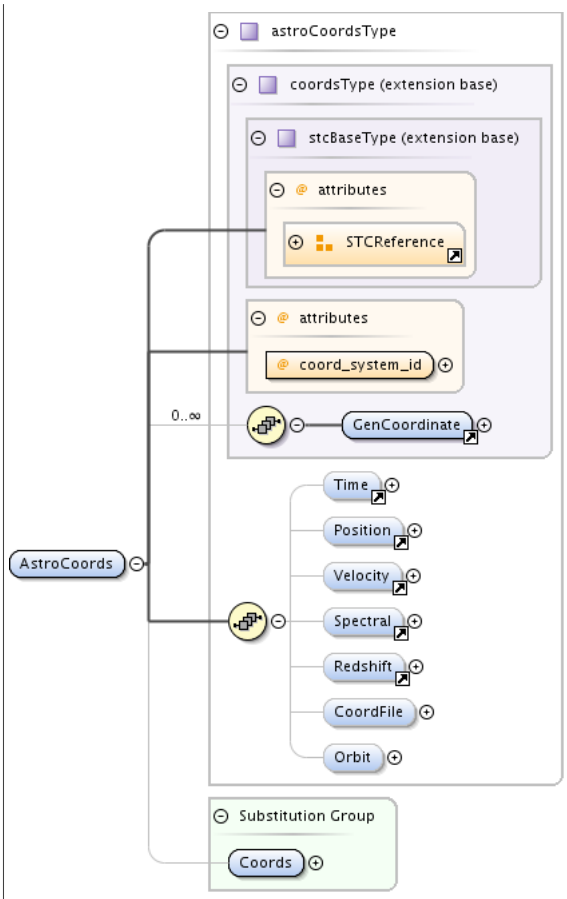
```
<xs:element name="RedshiftFrame" type="redshiftFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>Contains the Doppler definitions, including whether the values are velocity or
 redshift (value_type)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `redshiftFrameType / DopplerDefinition`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Doppler definition used: optical, radio, or pseudo-relativistic (i.e., how is a redshift converted to a velocity); the most common is optical, except when the reference is LSR (usually radio)
Diagram	
Type	dopplerDefinitionType
Properties	content: simple nillable: true
Facets	enumeration OPTICAL enumeration RADIO enumeration RELATIVISTIC
Source	<xs:element name="DopplerDefinition" type="dopplerDefinitionType" nillable="true"> <xs:annotation> <xs:documentation>The Doppler definition used: optical, radio, or pseudo-relativistic (i.e., how is a redshift converted to a velocity); the most common is optical, except when the reference is LSR (usually radio)</xs:documentation> </xs:annotation> </xs:element>

Element `AstroCoords`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The coordinate element consists either of a coordinate file or a sequence of time element, spatial coordinate element, velocity element, and redshift element; the spatial and velocity elements may be scalar or vector; it needs to refer to a coordinate system

Diagram	
Type	astroCoordsType

Type hierarchy	• stcBaseType
	  • coordsType
	  • astroCoordsType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Coords
Used by	Complex Types: STCCoordinate, STCCoordinateList, astroSTCDescriptionType, observatoryLocationType
Model	GenCoordinate , Time{0,1} , Position{0,1} , Velocity{0,1} , Spectral{0,1} , Redshift{0,1} , CoordFile{0,1} , Orbit{0,1}
Children	CoordFile, GenCoordinate, Orbit, Position, Redshift, Spectral, Time, Velocity

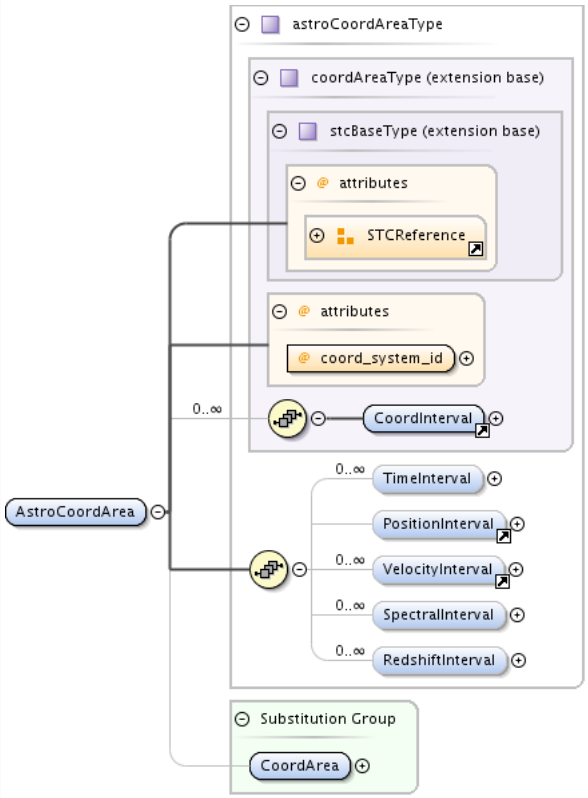
Instance	`<AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:xlink="http://www.w3.org/1999/xlink" xsi:schemaLocation="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`<GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</GenCoordinate>`
	`<Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Time>`
	`<Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Position>`
	`<Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Velocity>`
	`<Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Spectral>`
	`<Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Redshift>`
	`<CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</CoordFile>`
	`<Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</Orbit>`
	`</AstroCoords>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	coord_system_id	xs:IDREF			required
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="AstroCoords" type="astroCoordsType" substitutionGroup="Coords" nillable="true">
  <xs:annotation>
    <xs:documentation>The coordinate element consists either of a coordinate file or a sequence
 of time element, spatial coordinate element, velocity element, and redshift element; the spatial
 and velocity elements may be scalar or vector; it needs to refer to a coordinate system</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `AstroCoordArea`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Astronomical coordinate volume`
Diagram	
Type	astroCoordAreaType

Type hierarchy	• stcBaseType
	  • coordAreaType
	  • astroCoordAreaType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CoordArea

Used by	Complex Type astroSTCDescriptionType
Model	CoordInterval , TimeInterval* , PositionInterval{0,1} , VelocityInterval* , SpectralInterval* , RedshiftInterval*
Children	CoordInterval, PositionInterval, RedshiftInterval, SpectralInterval, TimeInterval, VelocityInterval
Instance	<AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <CoordInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type CoordInterval> <TimeInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type= TimeInterval> <PositionInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_t PositionInterval> <VelocityInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_t VelocityInterval> <SpectralInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_t SpectralInterval> <RedshiftInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_t RedshiftInterval> </AstroCoordArea>

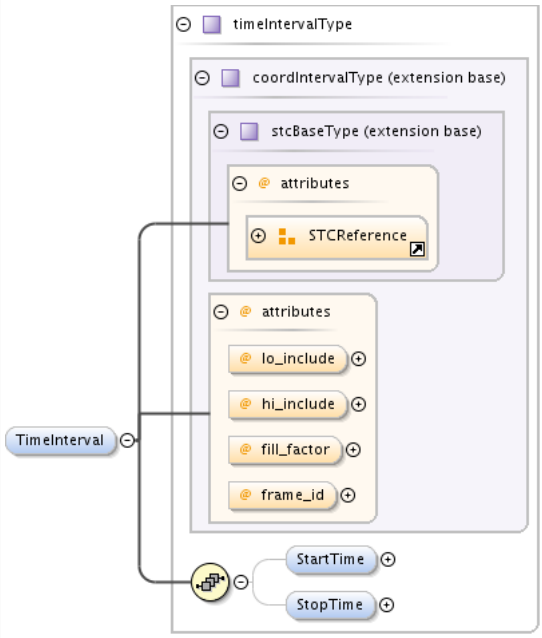
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="AstroCoordArea" type="astroCoordAreaType" substitutionGroup="CoordArea"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Astronomical coordinate volume</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `astroCoordAreaType / TimeInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	timeIntervalType
Type hierarchy	• stcBaseType • coordIntervalType

	• timeIntervalType
Properties	content: complex minOccurs: 0 maxOccurs: unbounded nillable: true
Model	StartTime{0,1} , StopTime{0,1}
Children	StartTime, StopTime
Instance	<TimeInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <StartTime>{0,1}</StartTime> <StopTime>{0,1}</StopTime> </TimeInterval>

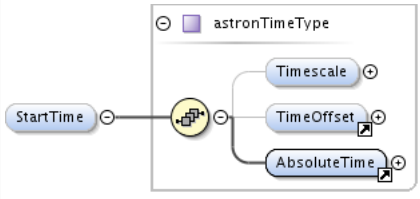
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="TimeInterval" type="timeIntervalType" nillable="true" minOccurs="0"
 maxOccurs="unbounded"/>
```

Element timeIntervalType / StartTime

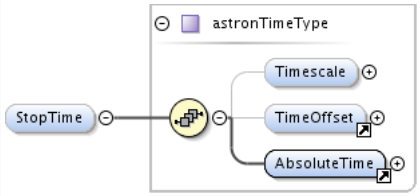
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	astronTime may be expressed in ISO8601 or as a double relative to a reference time
Diagram	
Type	astronTimeType
Properties	content: complex minOccurs: 0 nillable: true
Model	Timescale{0,1} , TimeOffset{0,1} , AbsoluteTime
Children	AbsoluteTime, TimeOffset, Timescale
Instance	<StartTime xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Timescale>{0,1}</Timescale> <TimeOffset xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="s">{0,1}</TimeOffset> <AbsoluteTime>{1,1}</AbsoluteTime> </StartTime>

Source

```
<xs:element name="StartTime" type="astronTimeType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>astronTime may be expressed in ISO8601 or as a double relative to a reference
 time</xs:documentation>
```

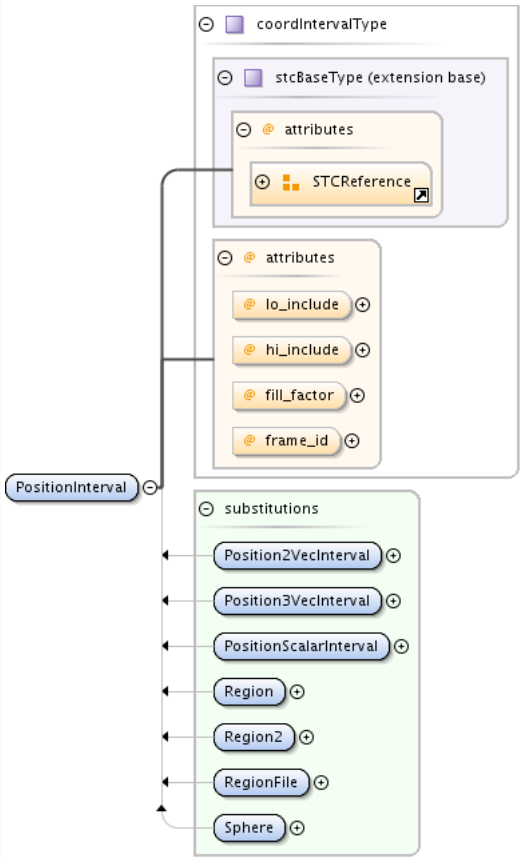
```
  </xs:annotation>
</xs:element>
```

Element timeIntervalType / StopTime

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	astronTime may be expressed in ISO8601 or as a double relative to a reference time
Diagram	
Type	astronTimeType
Properties	content: complex minOccurs: 0 nillable: true
Model	Timescale{0,1} , TimeOffset{0,1} , AbsoluteTime
Children	AbsoluteTime, TimeOffset, Timescale
Instance	<StopTime xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Timescale>{0,1}</Timescale> <TimeOffset xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="$">{0,1}</TimeOffset> <AbsoluteTime>{1,1}</AbsoluteTime> </StopTime>
Source	<xs:element name="StopTime" type="astronTimeType" nillable="true" minOccurs="0"> <xs:annotation> <xs:documentation>astronTime may be expressed in ISO8601 or as a double relative to a reference time</xs:documentation> </xs:annotation> </xs:element>

Element PositionInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The spatial (position) coordinate interval substitution group head element; such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill factor

Diagram	
Type	coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType
Properties	content: `complex` nillable: `true`
Substitution Group	• Region • Intersection • Union • Negation • Difference • AllSky • Circle • Ellipse • Polygon • Box • Sector • Convex • ConvexHull • SkyIndex • Region2 • Intersection2

- Union2
- Negation2
- Difference2
- AllSky2
- Circle2
- Ellipse2
- Polygon2
- Box2
- Sector2
- Convex2
- ConvexHull2
- SkyIndex2
- PositionScalarInterval
- Position2VecInterval
- Position3VecInterval
- Sphere
- RegionFile

Used by: Complex Type astroCoordAreaType

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

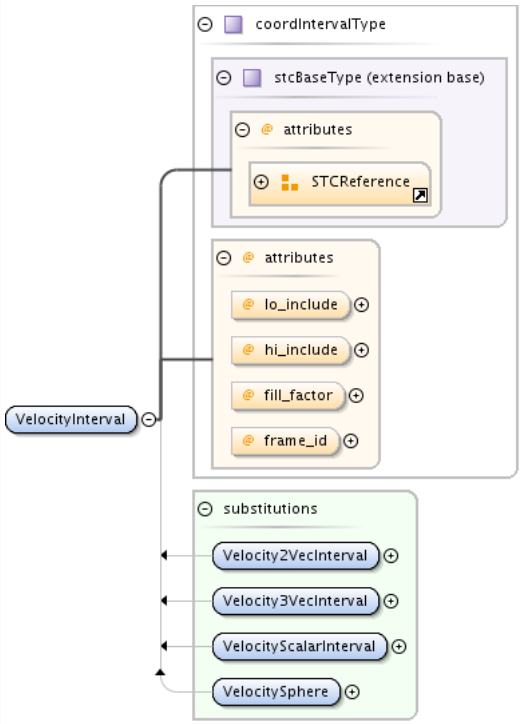
Source

```
<xs:element name="PositionInterval" type="coordIntervalType" nillable="true">
  <xs:annotation>
    <xs:documentation>The spatial (position) coordinate interval substitution group head element;
 such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs
 to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill
 factor</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `VelocityInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The spatial (velocity) coordinate interval substitution group head element; such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill factor`

Diagram



Type: coordIntervalType

Type hierarchy:
- stcBaseType
  - coordIntervalType

Properties:

content:	complex
nillable:	true

Substitution Group:
- VelocityScalarInterval
- Velocity2VecInterval
- Velocity3VecInterval
- VelocitySphere

Used by:

Complex Type	astroCoordAreaType

Attributes:

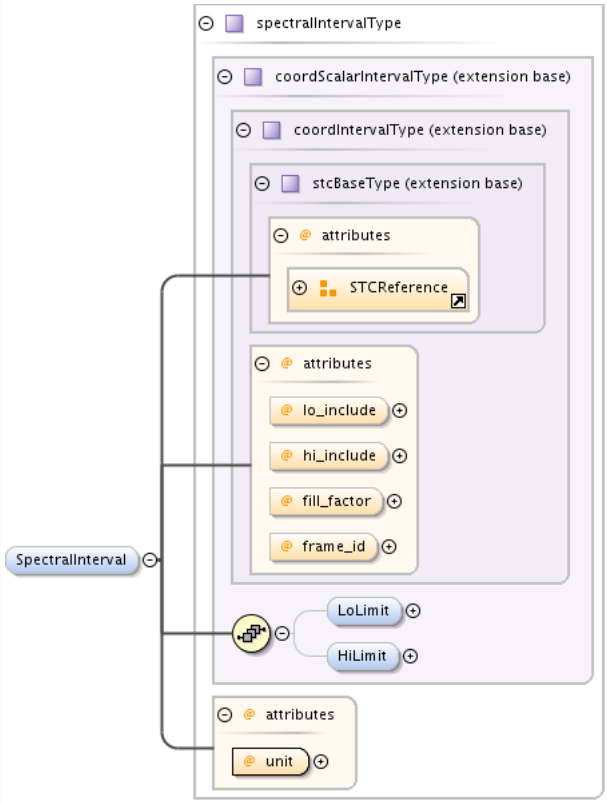
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="VelocityInterval" type="coordIntervalType" nillable="true">
  <xs:annotation>
    <xs:documentation>The spatial (velocity) coordinate interval substitution group head element;
 such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs
```

```
 to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill
 factor</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `astroCoordAreaType / SpectralInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	spectralIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coordScalarIntervalType
	  • spectralIntervalType

Properties	content: `complex` minOccurs: `0` maxOccurs: `unbounded` nillable: `true`
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

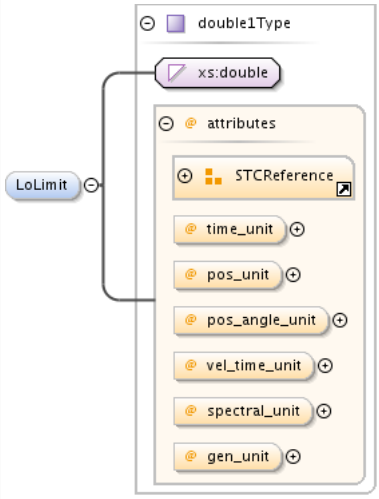
Instance	`<SpectralInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_typ`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`LoLimit>`
	`  <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`HiLimit>`
	`</SpectralInterval>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			

	QName	Type	Fixed	Default	Use
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		`Limit to be included?`			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	ucd	xs:string			optional
	unit	spectralUnitType			required
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="SpectralInterval" type="spectralIntervalType" nillable="true" minOccurs="0" maxOccurs="unbounded"/>`				

Element `coordScalarIntervalType / LoLimit`

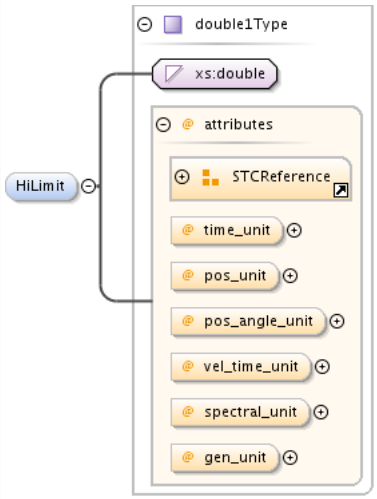
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Lower bound of interval`
Diagram	
Type	double1Type

Properties		
	content:	`complex`
	minOccurs:	`0`
	nillable:	`true`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0"> <xs:annotation> <xs:documentation>Lower bound of interval</xs:documentation> </xs:annotation> </xs:element>

Element coordScalarIntervalType / HiLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Upper bound of interval
Diagram	
Type	double1Type

Properties

content:	complex
minOccurs:	0
nillable:	true

Attributes

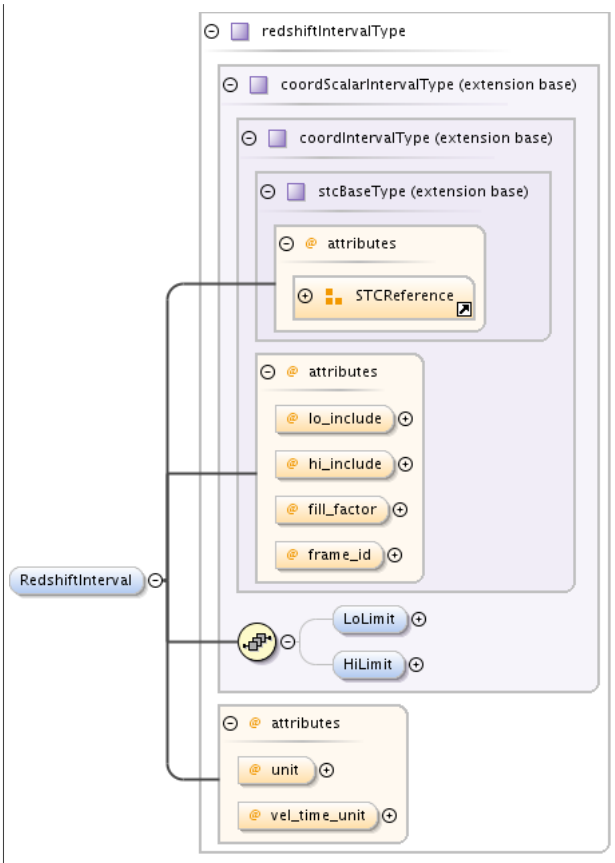
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Upper bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element astroCoordAreaType / RedshiftInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	redshiftIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coordScalarIntervalType
	  • redshiftIntervalType

Properties	content: `complex` minOccurs: `0` maxOccurs: `unbounded` nillable: `true`
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

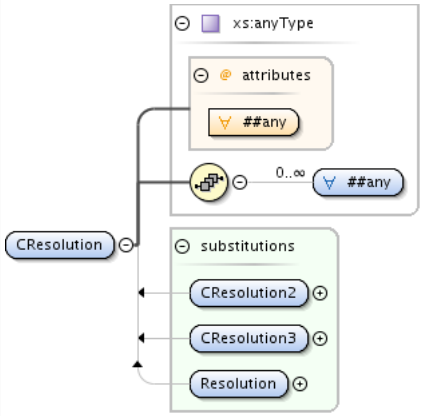
Instance	`<RedshiftInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_typ`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`LoLimit>`
	`  <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`HiLimit>`
	`</RedshiftInterval>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	<xs:element name="RedshiftInterval" type="redshiftIntervalType" nillable="true" minOccurs="0" maxOccurs="unbounded"/>				

Element CResolution

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for all types of resolutions
Diagram	
Properties	abstract: true
Substitution Group	• Resolution • Resolution2Radius • Resolution2 • Resolution2Matrix • Resolution3Radius • Resolution3 • Resolution3Matrix
Used by	Complex Type psr:ResolutionRefValType
Source	<xs:element name="CResolution" type="xs:anyType" abstract="true"> <xs:annotation> <xs:documentation>Substitution group for all types of resolutions</xs:documentation> </xs:annotation> </xs:element>

Element fkType / Equinox

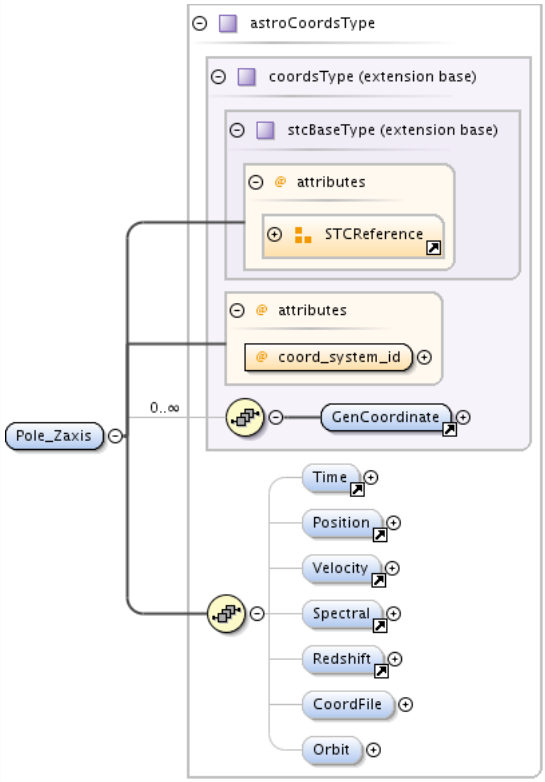
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	coordEquinoxType
Properties	content: simple nillable: true
Facets	pattern [BJ]\-?\d?\d?\d?\d\d\d\d \.\d\d?\d?

Source	<xs:element name="Equinox" type="coordEquinoxType" nillable="true"/>

Element sphericalRefFrameType / Frame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple
Source	<xs:element name="Frame" type="xs:string"/>

Element sphericalRefFrameType / Pole_Zaxis

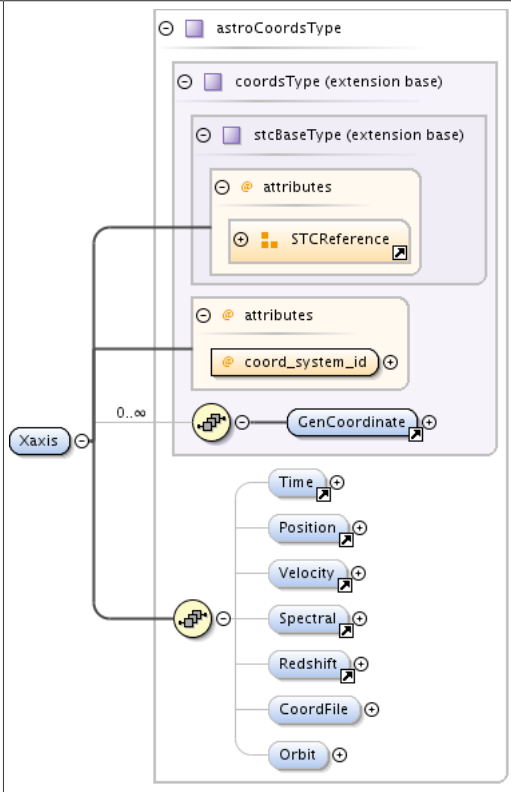
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	astroCoordsType

Type hierarchy	• stcBaseType
	  • coordsType
	  • astroCoordsType

Properties	content: complex nillable: true
Model	GenCoordinate , Time{0,1} , Position{0,1} , Velocity{0,1} , Spectral{0,1} , Redshift{0,1} , CoordFile{0,1} , Orbit{0,1}
Children	CoordFile, GenCoordinate, Orbit, Position, Redshift, Spectral, Time, Velocity
Instance	<Pole_Zaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xml www.ivoa.net/xml/STC/stc-v1.30.xsd"> <GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1} GenCoordinate> <Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" uc Time> <Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ Position> <Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</ Velocity> <Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple Spectral>

<table>
<tr><td></td><td>
<pre>
  <Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple
Redshift>
  <CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
CoordFile>
  <Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
Orbit>
</Pole_Zaxis>
</pre>
</td></tr>
<tr><td>Attributes</td><td>
<table>
<tr><th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr>
<tr><td>IDREF_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>ID_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>coord_system_id</td><td>xs:IDREF</td><td></td><td></td><td>required</td></tr>
<tr><td>id</td><td>xs:ID</td><td></td><td></td><td>optional</td></tr>
<tr><td>idref</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>ucd</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:href</td><td>xs:anyURI</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:type</td><td>restriction of xs:NMTOKEN</td><td></td><td>simple</td><td>optional</td></tr>
</table>
</td></tr>
<tr><td>Source</td><td>
<pre><xs:element name="Pole_Zaxis" type="astroCoordsType" nillable="true"/></pre>
</td></tr>
</table>

Element sphericalRefFrameType / Xaxis

<table>
<tr><td>Namespace</td><td>http://www.ivoa.net/xml/STC/stc-v1.30.xsd</td></tr>
<tr><td>Diagram</td><td> 
</td></tr>
<tr><td>Type</td><td>astroCoordsType</td></tr>
<tr><td>Type hierarchy</td><td>

stcBaseType

coordsType

astroCoordsType

</td></tr>
<tr><td>Properties</td><td>
<table>
<tr><td>content:</td><td>complex</td></tr>
<tr><td>nillable:</td><td>true</td></tr>
</table>
</td></tr>
<tr><td>Model</td><td>GenCoordinate , Time{0,1} , Position{0,1} , Velocity{0,1} , Spectral{0,1} , Redshift{0,1} , CoordFile{0,1} , Orbit{0,1}</td></tr>
<tr><td>Children</td><td>CoordFile, GenCoordinate, Orbit, Position, Redshift, Spectral, Time, Velocity</td></tr>
<tr><td>Instance</td><td>
<pre><Xaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="h
www.ivoa.net/xml/STC/stc-v1.30.xsd"></pre>
</td></tr>
</table>

```
  <GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}
GenCoordinate>
  <Time coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" uc
Time>
  <Position frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
Position>
  <Velocity frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
Velocity>
  <Spectral coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple
Spectral>
  <Redshift coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple
Redshift>
  <CoordFile frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
CoordFile>
  <Orbit frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</
Orbit>
</Xaxis>
```

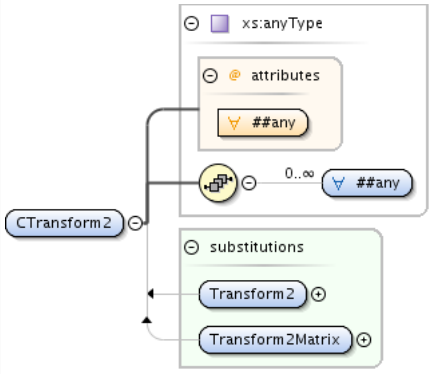
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Xaxis" type="astroCoordsType" nillable="true"/>
```

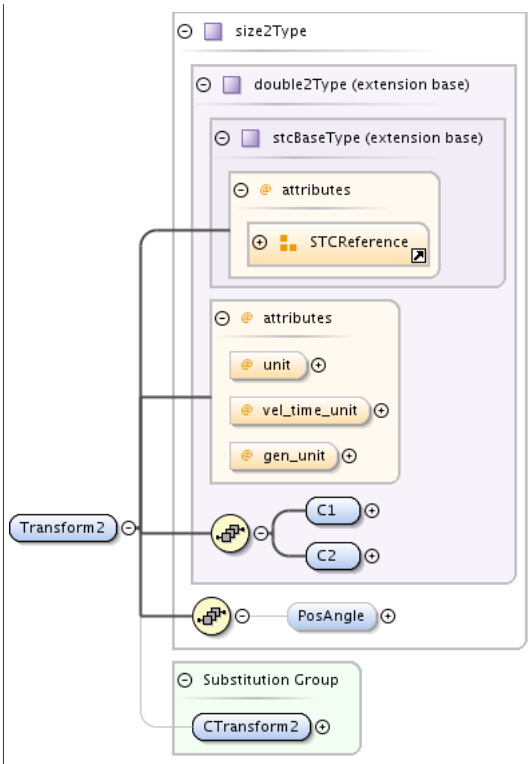
Element `CTransform2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Substitution group for a 2-D mapping`
Diagram	
Properties	abstract: `true`
Substitution Group	• Transform2 • Transform2Matrix
Used by	Complex Type cart2DRefFrameType
Source	


```
<xs:element name="CTransform2" type="xs:anyType" abstract="true">
  <xs:annotation>
    <xs:documentation>Substitution group for a 2-D mapping</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Transform2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`size2Type mapping element: 2 doubles with optional position angle`

Diagram	
Type	size2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CTransform2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Instance	`<Transform2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" ve`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de`
	`PosAngle>`
	`</Transform2>`

Attributes

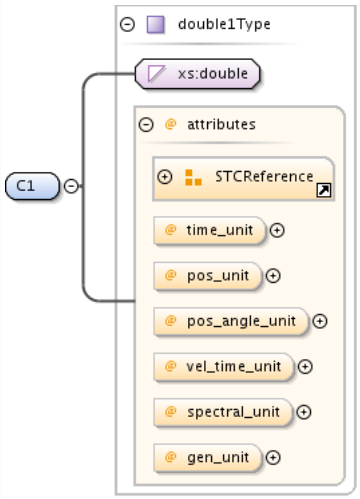
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Transform2" type="size2Type" substitutionGroup="CTransform2" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>size2Type mapping element: 2 doubles with optional position angle</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element double2Type / C1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double1Type
Properties	content: complex nillable: true

Attributes

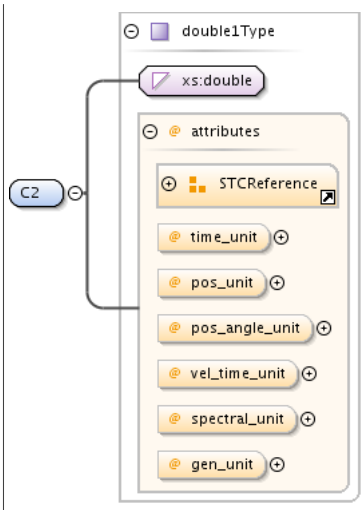
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="C1" type="double1Type" nillable="true"/>
```

Element double2Type / C2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double1Type
Properties	content: complex nillable: true

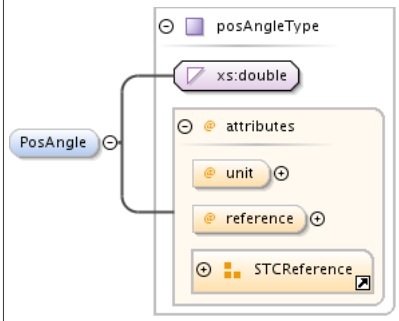
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="C2" type="double1Type" nillable="true"/>
```

Element `size2Type / PosAngle`

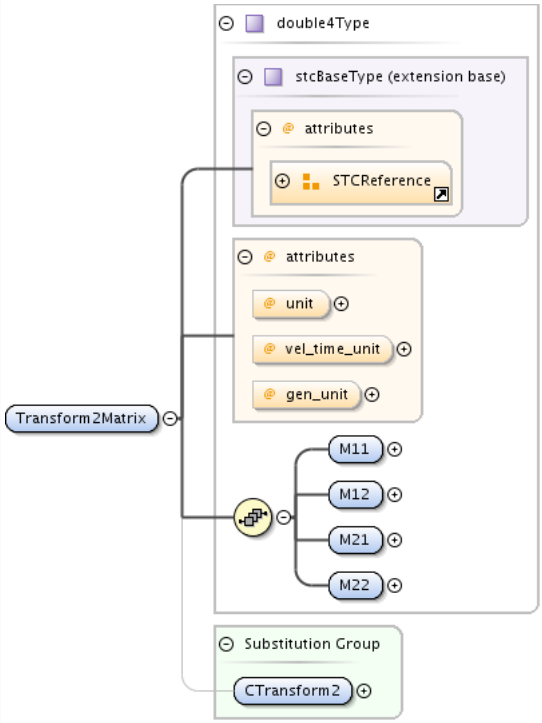
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	posAngleType
Properties	content: complex minOccurs: 0 nillable: true

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	reference	posAngleReferenceType		X	optional
	ucd	xs:string			optional
	unit	angleUnitType		deg	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PosAngle" type="posAngleType" nillable="true" minOccurs="0"/>
```

Element `Transform2Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2x2 matrix mapping element`
Diagram	
Type	double4Type
Type hierarchy	• stcBaseType • double4Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CTransform2
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22

Instance	`<Transform2Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <M11>{1,1}</M11>`
	`  <M12>{1,1}</M12>`
	`  <M21>{1,1}</M21>`
	`  <M22>{1,1}</M22>`
	`</Transform2Matrix>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Transform2Matrix" type="double4Type" substitutionGroup="CTransform2"
 nillable="true">
  <xs:annotation>
    <xs:documentation>2x2 matrix mapping element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element double4Type / M11

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M11" type="xs:double" nillable="true"/>`

Element double4Type / M12

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M12" type="xs:double" nillable="true"/>`

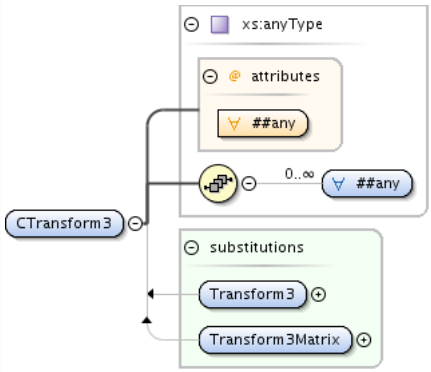
Element double4Type / M21

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M21" type="xs:double" nillable="true"/>`

Element double4Type / M22

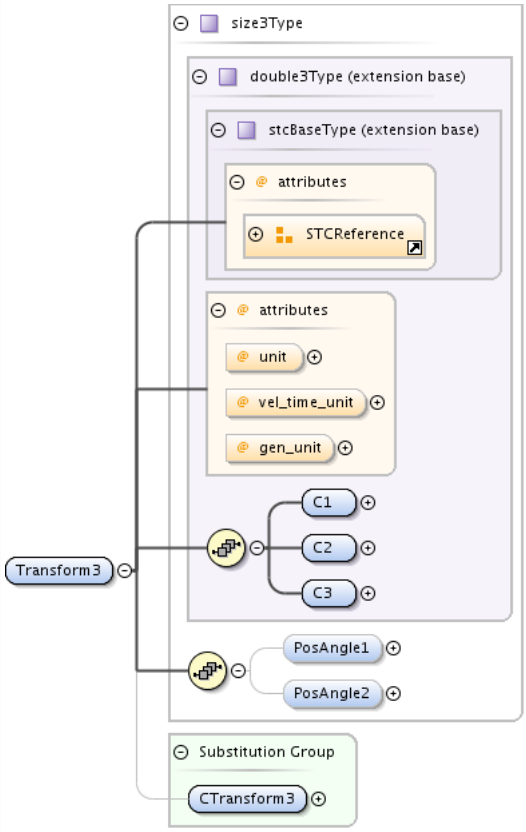
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M22" type="xs:double" nillable="true"/>`

Element `CTransform3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Substitution group for a 3-D mapping`
Diagram	
Properties	abstract: `true`
Substitution Group	• Transform3 • Transform3Matrix
Used by	Complex Type cart3DRefFrameType

Source	`<xs:element name="CTransform3" type="xs:anyType" abstract="true">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D mapping</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Transform3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`size3Type mapping element: 3 doubles with optional position angle(s)`
Diagram	
Type	size3Type

Type hierarchy	• stcBaseType
	  • double3Type
	  • size3Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CTransform3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2

Instance

```
<Transform3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" ve
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C1>
  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C2>
  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C3>
  <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="
PosAngle1>
  <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="
PosAngle2>
</Transform3>
```

Attributes

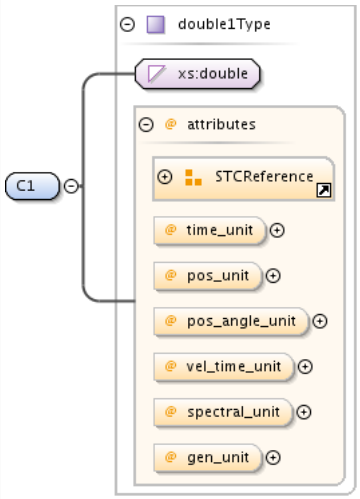
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Transform3" type="size3Type" substitutionGroup="CTransform3" nillable="true">
  <xs:annotation>
    <xs:documentation>size3Type mapping element: 3 doubles with optional position angle(s)</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element double3Type / C1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double1Type
Properties	content: complex nillable: true

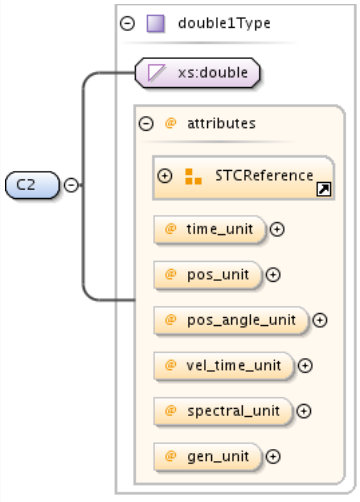
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="C1" type="double1Type" nillable="true"/>
```

Element double3Type / C2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	

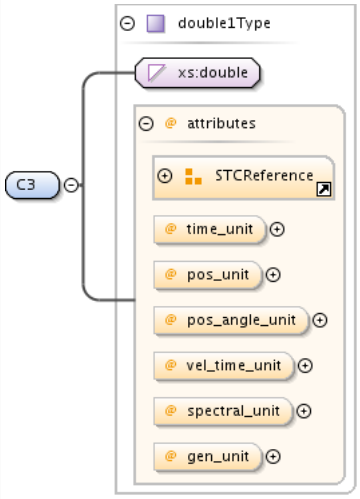
Type	double1Type
Properties	content: complex nillable: true

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="C2" type="double1Type" nillable="true"/>
```

Element double3Type / C3

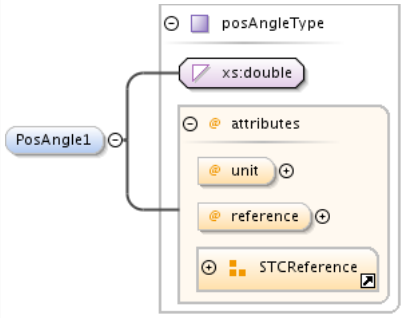
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	

Type	double1Type
Properties	content: complex nillable: true

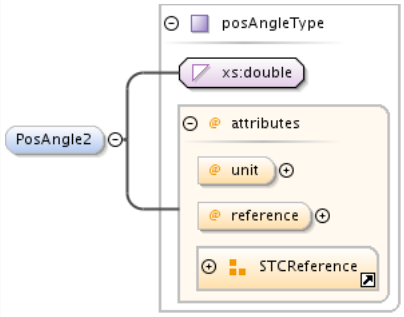
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="C3" type="double1Type" nillable="true"/>`				

Element `size3Type / PosAngle1`

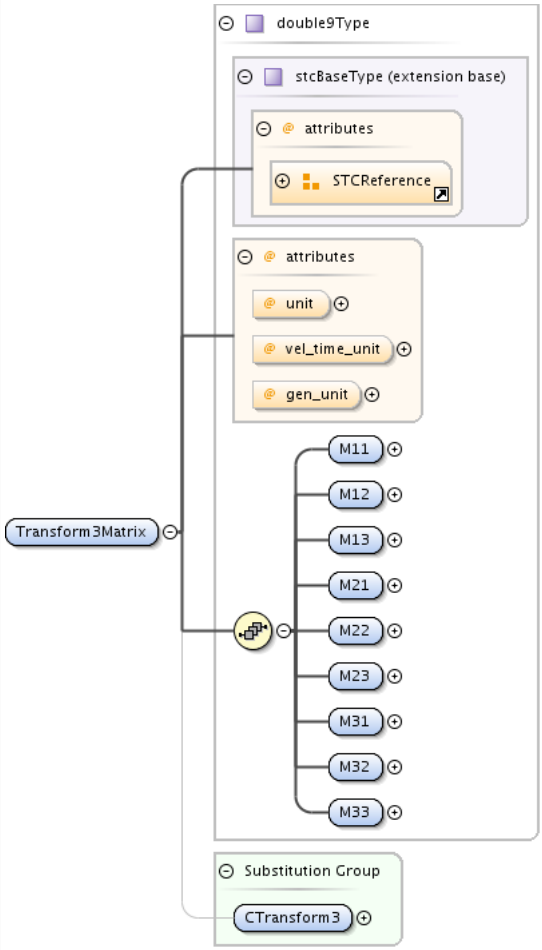
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd				
Diagram					
Type	posAngleType				
Properties	content: `complex`				
	minOccurs: `0`				
	nillable: `true`				
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	reference	posAngleReferenceType		X	optional
	ucd	xs:string			optional
	unit	angleUnitType		deg	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="PosAngle1" type="posAngleType" nillable="true" minOccurs="0"/>`				

Element `size3Type / PosAngle2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd				
Diagram					
Type	posAngleType				
Properties	content: `complex`				
	minOccurs: `0`				
	nillable: `true`				

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	reference	posAngleReferenceType		X	optional
	ucd	xs:string			optional
	unit	angleUnitType		deg	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="PosAngle2" type="posAngleType" nillable="true" minOccurs="0"/>`				

Element `Transform3Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3x3 matrix mapping element`
Diagram	
Type	double9Type
Type hierarchy	• stcBaseType • double9Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CTransform3

Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33
Instance	<Transform3Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M13>{1,1}</M13> <M21>{1,1}</M21> <M22>{1,1}</M22> <M23>{1,1}</M23> <M31>{1,1}</M31> <M32>{1,1}</M32> <M33>{1,1}</M33> </Transform3Matrix>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Transform3Matrix" type="double9Type" substitutionGroup="CTransform3"
 nillable="true">
  <xs:annotation>
    <xs:documentation>3x3 matrix mapping element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element double9Type / M11

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	<xs:element name="M11" type="xs:double" nillable="true"/>

Element double9Type / M12

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	<xs:element name="M12" type="xs:double" nillable="true"/>

Element double9Type / M13

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double

Properties	content: simple nillable: true
Source	`<xs:element name="M13" type="xs:double" nillable="true"/>`

Element double9Type / M21

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M21" type="xs:double" nillable="true"/>`

Element double9Type / M22

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M22" type="xs:double" nillable="true"/>`

Element double9Type / M23

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M23" type="xs:double" nillable="true"/>`

Element double9Type / M31

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	`<xs:element name="M31" type="xs:double" nillable="true"/>`

Element double9Type / M32

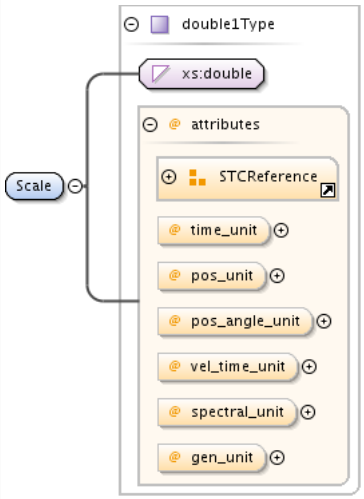
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true

Source	<xs:element name="M32" type="xs:double" nillable="true"/>

Element double9Type / M33

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:double
Properties	content: simple nillable: true
Source	<xs:element name="M33" type="xs:double" nillable="true"/>

Element cart1DRefFrameType / Scale

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double1Type
Properties	content: complex nillable: true

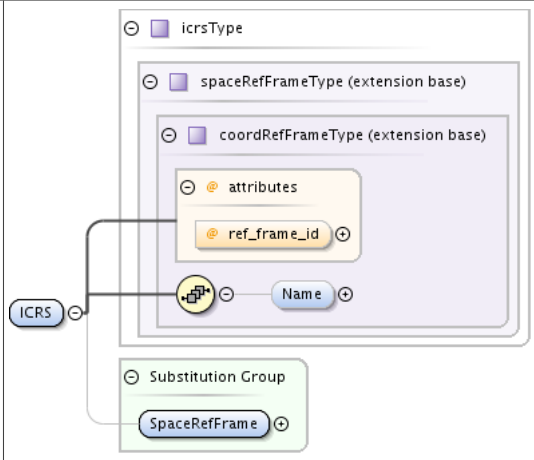
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

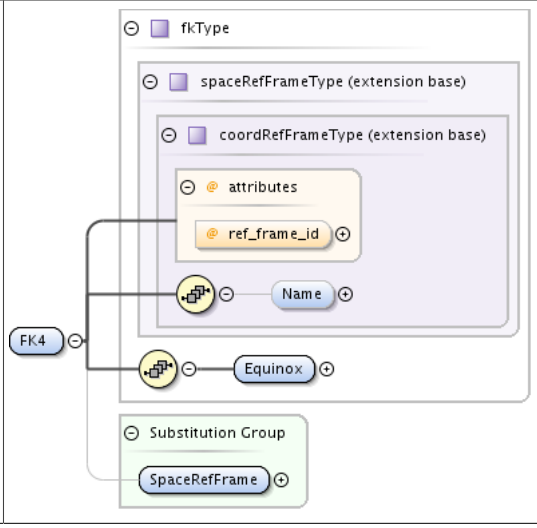
Source	<xs:element name="Scale" type="double1Type" nillable="true"/>

Element ICRS

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	The ICRS reference frame
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<ICRS ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </ICRS>
Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional
Source	<xs:element name="ICRS" type="icrsType" substitutionGroup="SpaceRefFrame"> <xs:annotation> <xs:documentation>The ICRS reference frame</xs:documentation> </xs:annotation> </xs:element>

Element FK4

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	FK4; needs a Besselian epoch
Diagram	

Type	fkType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • fkType

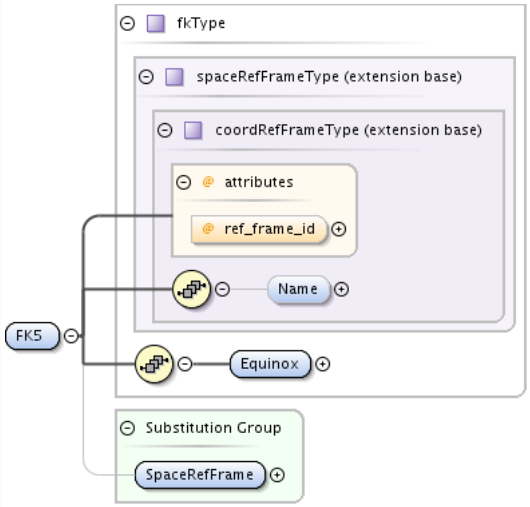
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1} , Equinox
Children	Equinox, Name

Instance	`<FK4 ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Equinox>{1,1}</Equinox>`
	`</FK4>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source	`<xs:element name="FK4" type="fkType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>FK4; needs a Besselian epoch</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element FK5

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	FK5; needs a Julian epoch
Diagram	
Type	fkType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • fkType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1} , Equinox
Children	Equinox, Name

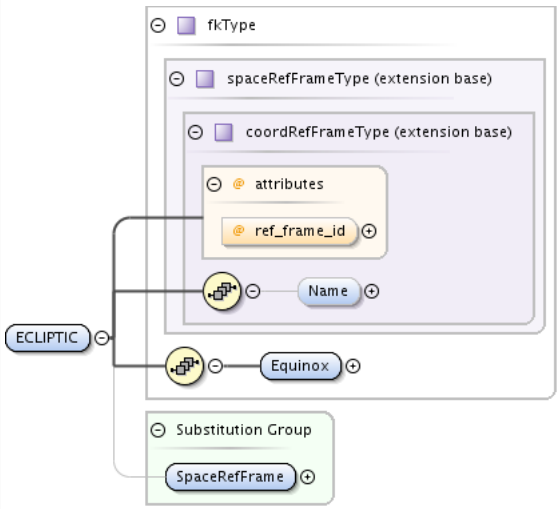
Instance	`<FK5 ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Equinox>{1,1}</Equinox>`
	`</FK5>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="FK5" type="fkType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>FK5; needs a Julian epoch</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ECLIPTIC

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Ecliptic coordinates; needs an epoch
Diagram	
Type	fkType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • fkType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1} , Equinox
Children	Equinox, Name

Instance

```
<ECLIPTIC ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Name>{0,1}</Name>
  <Equinox>{1,1}</Equinox>
</ECLIPTIC>
```

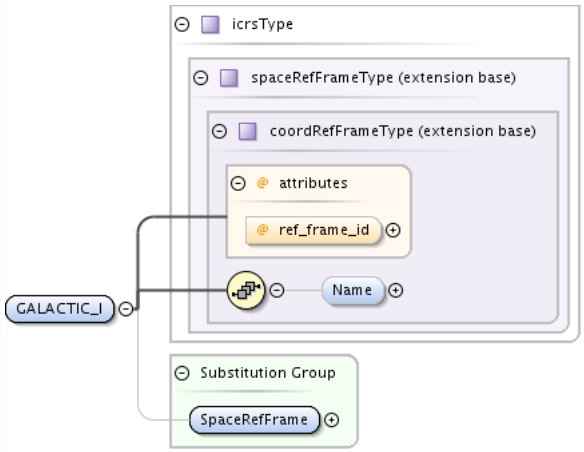
Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="ECLIPTIC" type="fkType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Ecliptic coordinates; needs an epoch</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element GALACTIC_I

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Galactic coordinates; first system

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

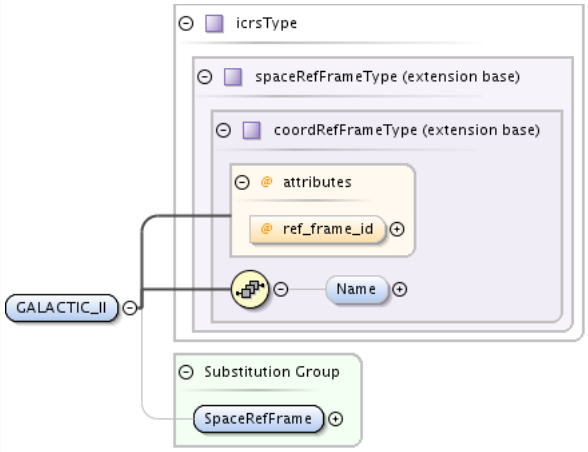
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<GALACTIC_I ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</GALACTIC_I>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="GALACTIC_I" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>Galactic coordinates; first system</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element GALACTIC_II

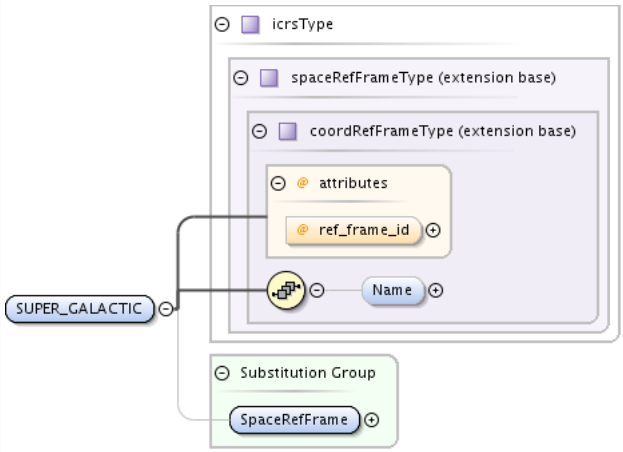
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Galactic coordinates; second system
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<GALACTIC_II ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </GALACTIC_II>

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source	<xs:element name="GALACTIC_II" type="icrsType" substitutionGroup="SpaceRefFrame"> <xs:annotation> <xs:documentation>Galactic coordinates; second system</xs:documentation> </xs:annotation> </xs:element>

Element SUPER_GALACTIC

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	SuperGalactic coordinates
Diagram	
Type	icrsType

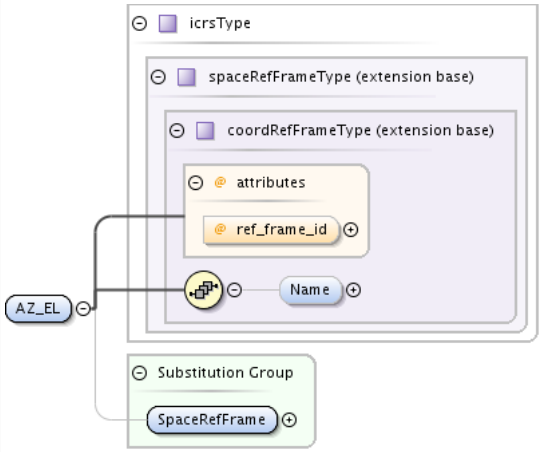
Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<SUPER_GALACTIC ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </SUPER_GALACTIC>

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source	<xs:element name="SUPER_GALACTIC" type="icrsType" substitutionGroup="SpaceRefFrame"> <xs:annotation> <xs:documentation>SuperGalactic coordinates</xs:documentation> </xs:annotation> </xs:element>

Element AZ_EL

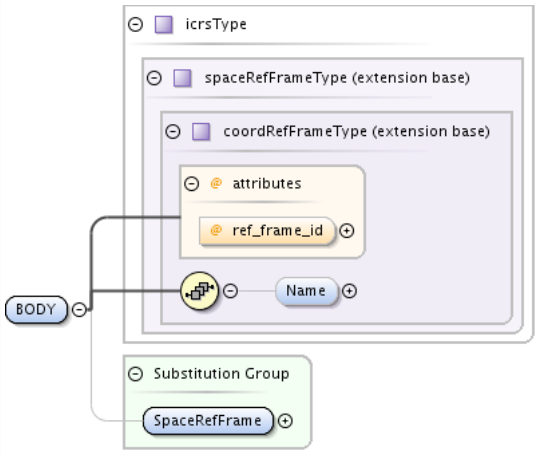
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Local Azimuth and Elevation coordinates
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<AZ_EL ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</AZ_EL>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="AZ_EL" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>Local Azimuth and Elevation coordinates</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element BODY

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Generic Body coordinates
Diagram	

Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

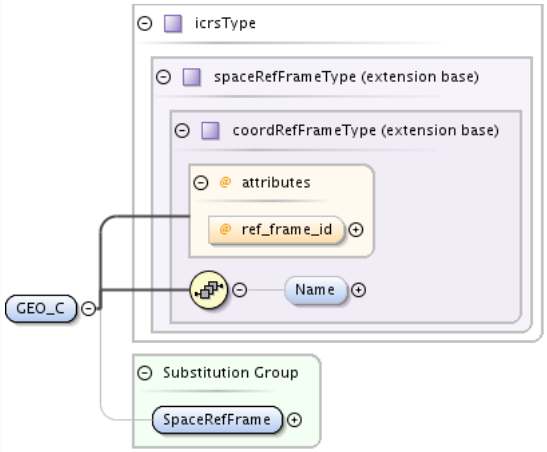
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<BODY ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</BODY>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="BODY" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>Generic Body coordinates</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element GEO_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geocentric (co-rotating) reference frame
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

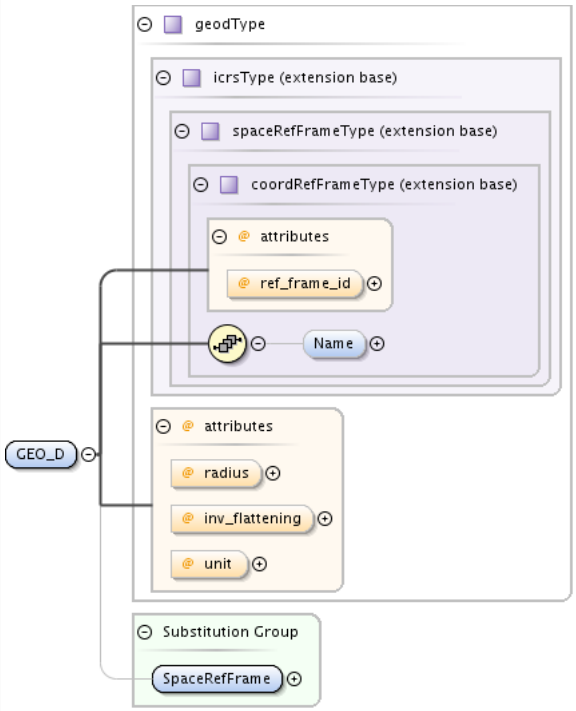
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<GEO_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</GEO_C>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional
Source	`<xs:element name="GEO_C" type="icrsType" substitutionGroup="SpaceRefFrame">`

```
  <xs:annotation>
    <xs:documentation>The Geocentric (co-rotating) reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element GEO_D

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geodetic reference frame; semi-major axis and inverse flattening may be provided to define the reference spheroid; the default is the IAU 1976 reference spheroid
Diagram	
Type	geodType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType • geodType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<GEO_D inv_flattening="298.257" radius="6378140" ref_frame_id="" unit="m" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</GEO_D>`

Attributes

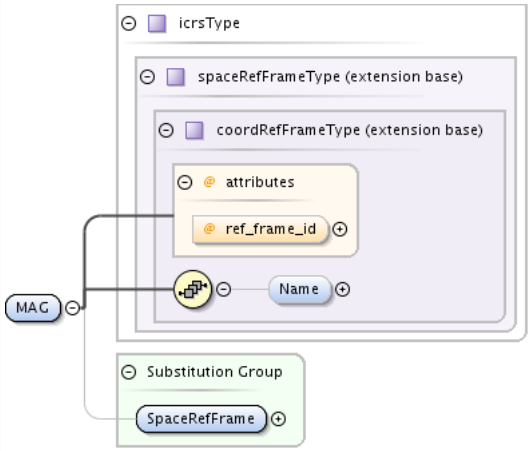
QName	Type	Fixed	Default	Use
inv_flattening	xs:double		298.257	optional
radius	xs:double		6378140	optional
ref_frame_id	xs:IDREF			optional
unit	posUnitType		m	optional

Source

```
<xs:element name="GEO_D" type="geodType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Geodetic reference frame; semi-major axis and inverse flattening may
 be provided to define the reference spheroid; the default is the IAU 1976 reference spheroid</
xs:documentation>
  </xs:annotation>
```

```
</xs:element>
```

Element MAG

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geomagnetic reference frame
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

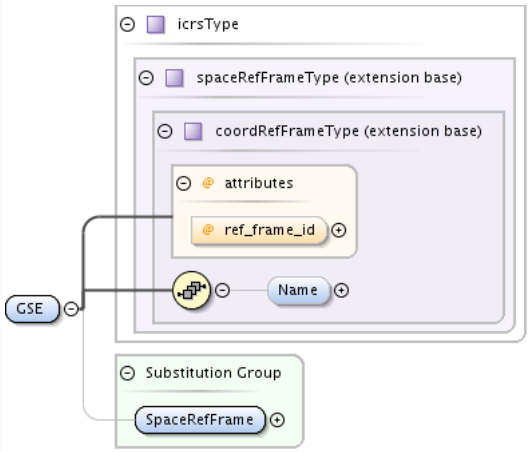
Instance	`<MAG ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</MAG>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="MAG" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The Geomagnetic reference frame</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element GSE

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geocentric Solar Ecliptic reference frame

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

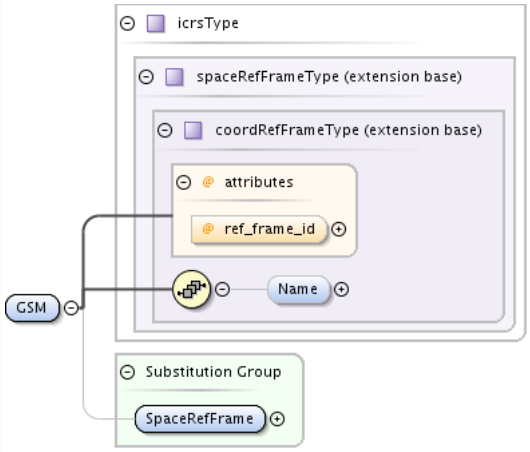
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<GSE ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</GSE>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="GSE" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The Geocentric Solar Ecliptic reference frame</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element GSM

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geocentric Solar Magnetic reference frame
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<GSM ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </GSM>

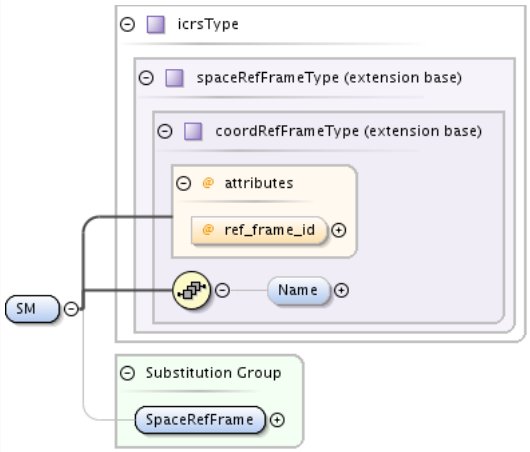
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="GSM" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Geocentric Solar Magnetic reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SM

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Solar Magnetic reference frame
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<SM ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </SM>

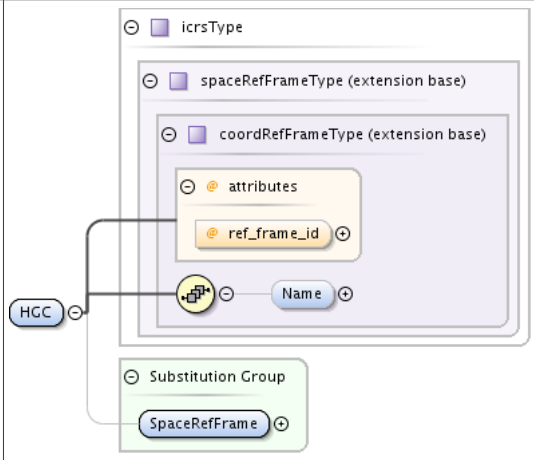
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

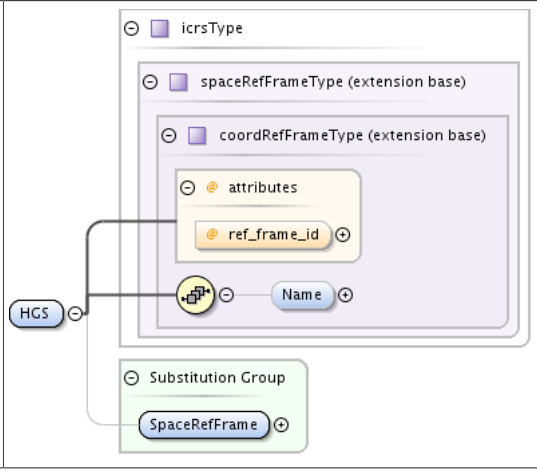
Source

```
<xs:element name="SM" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Solar Magnetic reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element HGC

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliographic (Carrington) reference frame
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<HGC ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </HGC>
Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional
Source	<xs:element name="HGC" type="icrsType" substitutionGroup="SpaceRefFrame"> <xs:annotation> <xs:documentation>The Heliographic (Carrington) reference frame</xs:documentation> </xs:annotation> </xs:element>

Element HGS

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliographic (Stonyhurst) reference frame
Diagram	

Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

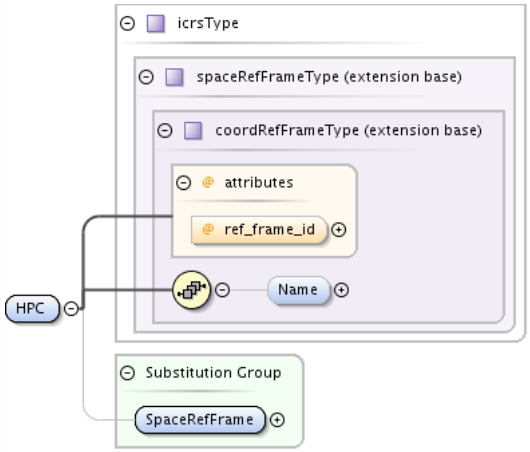
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<HGS ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</HGS>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional

Source	`<xs:element name="HGS" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The Heliographic (Stonyhurst) reference frame</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element HPC

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Helio-projective Cartesian reference frame (2-D or 3-D)
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

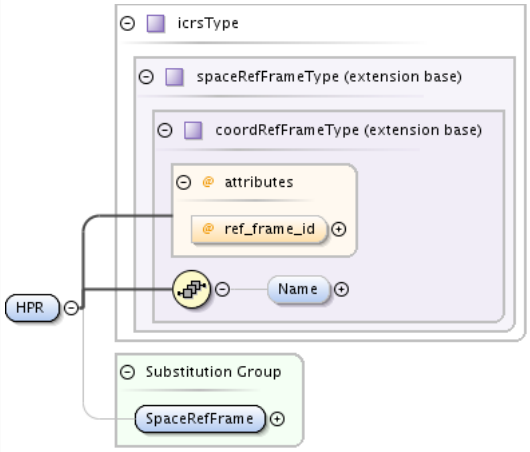
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<HPC ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</HPC>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional
Source	`<xs:element name="HPC" type="icrsType" substitutionGroup="SpaceRefFrame">`

```
  <xs:annotation>
    <xs:documentation>The Helio-projective Cartesian reference frame (2-D or 3-D)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element HPR

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Helio-projective Polar reference frame (2-D)
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

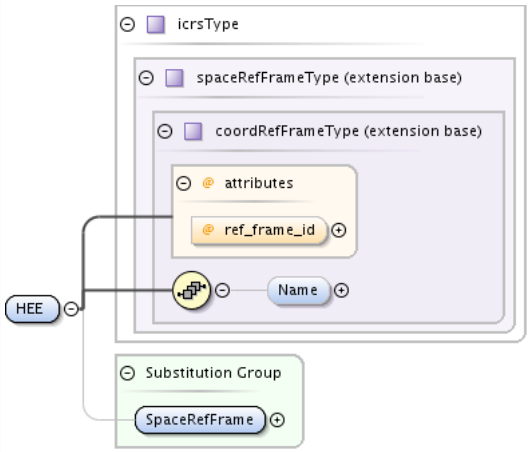
Instance	`<HPR ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</HPR>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="HPR" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The Helio-projective Polar reference frame (2-D)</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element HEE

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliocentric Earth Ecliptic reference frame

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

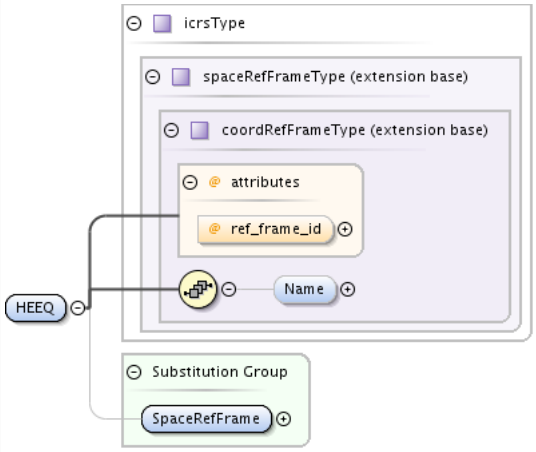
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<HEE ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</HEE>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="HEE" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The Heliocentric Earth Ecliptic reference frame</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element HEEQ

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliocentric Earth Equatorial reference frame
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<HEEQ ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </HEEQ>

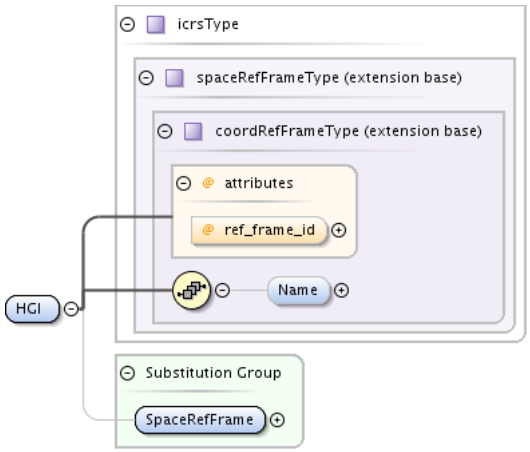
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="HEEQ" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Heliocentric Earth Equatorial reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element HGI

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliographic Inertial reference frame
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<HGI ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </HGI>

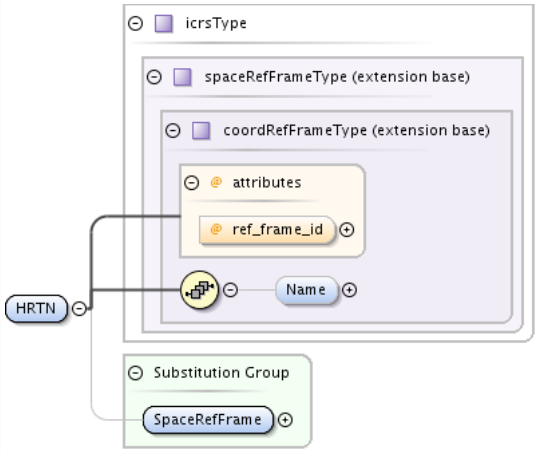
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="HGI" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Heliographic Inertial reference frame</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element HRTN

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Heliocentric Radial-Tangential-Normal coordinates
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<HRTN ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </HRTN>

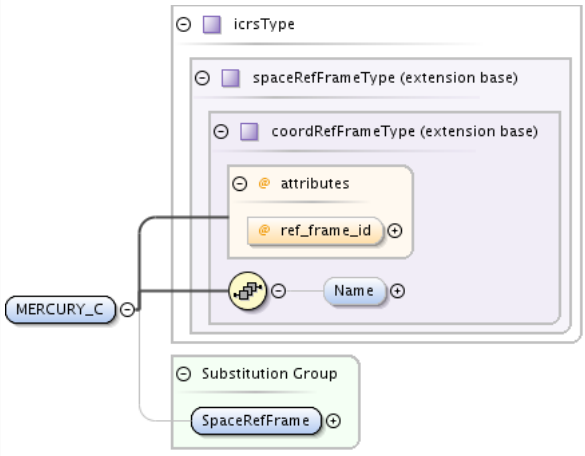
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="HRTN" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The Heliocentric Radial-Tangential-Normal coordinates</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element MERCURY_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Mercury
Diagram	

Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

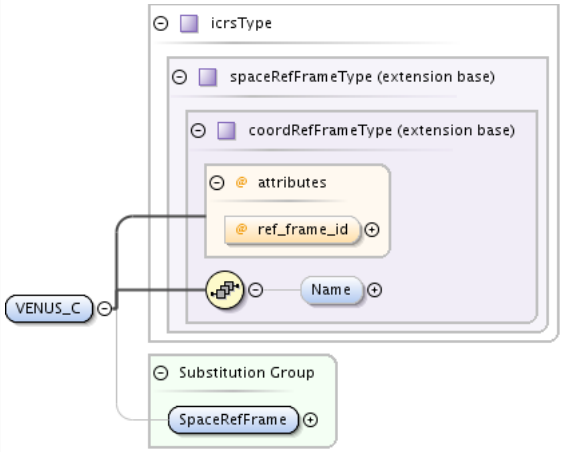
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<MERCURY_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</MERCURY_C>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source	`<xs:element name="MERCURY_C" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetocentric reference frame anchored on Mercury</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element VENUS_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Venus
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

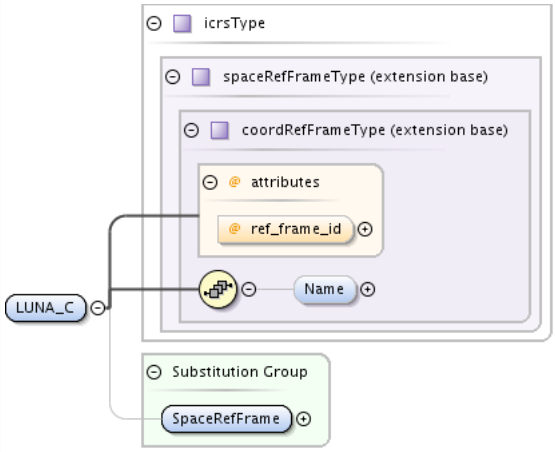
Instance	`<VENUS_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</VENUS_C>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source	`<xs:element name="VENUS_C" type="icrsType" substitutionGroup="SpaceRefFrame">`

```
  <xs:annotation>
    <xs:documentation>The planetocentric reference frame anchored on Venus</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element LUNA_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The lunacentric reference frame anchored on the moon
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

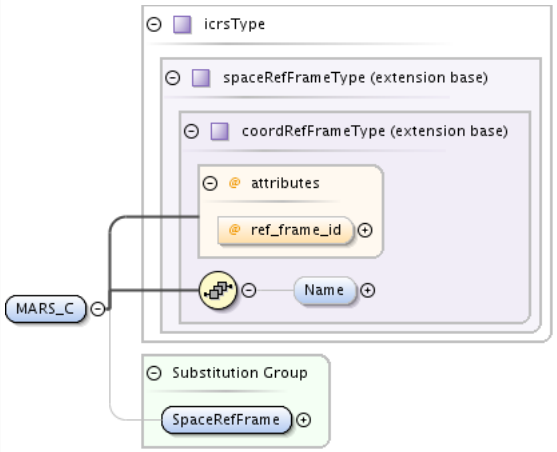
Instance	`<LUNA_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</LUNA_C>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="LUNA_C" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The lunacentric reference frame anchored on the moon</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element MARS_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Mars

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

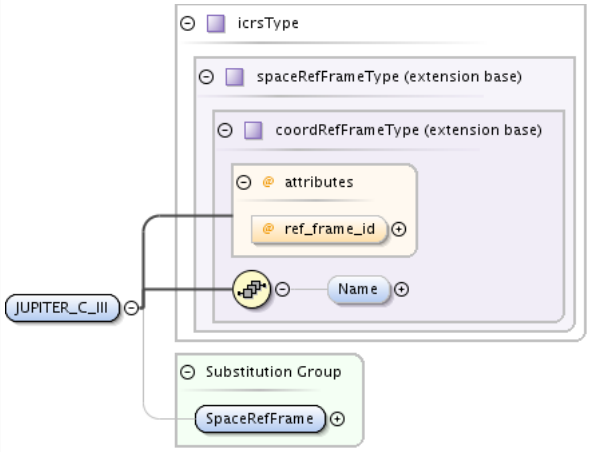
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<MARS_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</MARS_C>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="MARS_C" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetocentric reference frame anchored on Mars</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element JUPITER_C_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Jupiter
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<JUPITER_C_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </JUPITER_C_III>

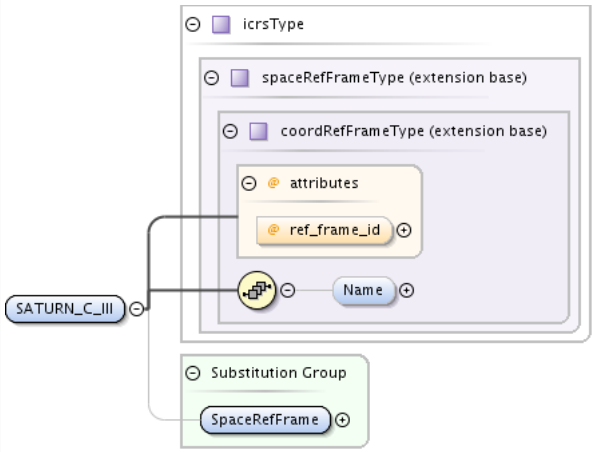
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="JUPITER_C_III" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The planetocentric reference frame anchored on Jupiter</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SATURN_C_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Saturn
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name
Instance	<SATURN_C_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </SATURN_C_III>

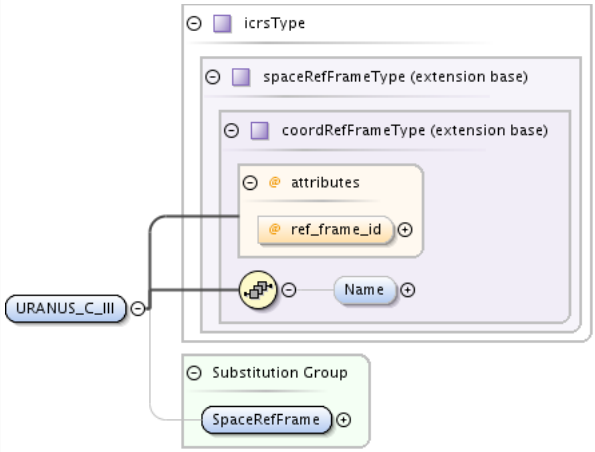
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="SATURN_C_III" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The planetocentric reference frame anchored on Saturn</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element URANUS_C_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Uranus
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<URANUS_C_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</URANUS_C_III>`

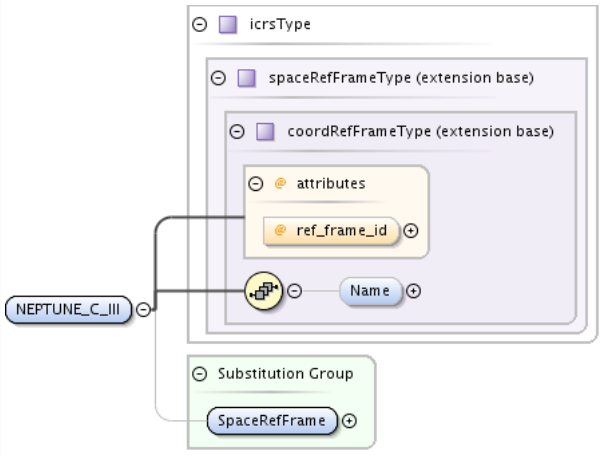
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="URANUS_C_III" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The planetocentric reference frame anchored on Uranus</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element NEPTUNE_C_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Neptune
Diagram	

Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

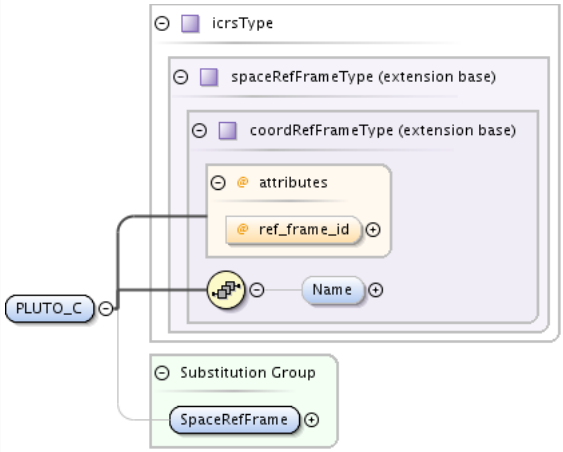
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<NEPTUNE_C_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</NEPTUNE_C_III>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional

Source	`<xs:element name="NEPTUNE_C_III" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetocentric reference frame anchored on Neptune</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element PLUTO_C

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetocentric reference frame anchored on Pluto
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

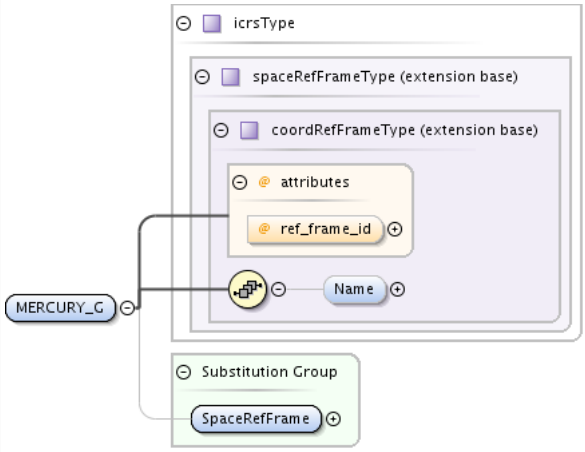
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<PLUTO_C ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</PLUTO_C>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional
Source	`<xs:element name="PLUTO_C" type="icrsType" substitutionGroup="SpaceRefFrame">`

```
  <xs:annotation>
    <xs:documentation>The planetocentric reference frame anchored on Pluto</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element MERCURY_G

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Mercury
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

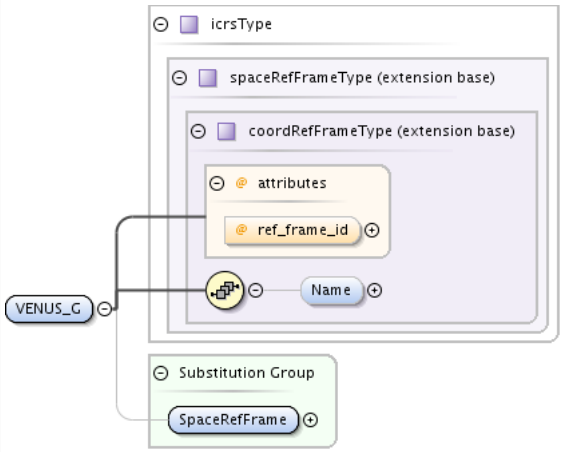
Instance	`<MERCURY_G ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</MERCURY_G>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional

Source	`<xs:element name="MERCURY_G" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetographic reference frame anchored on Mercury</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element VENUS_G

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Venus

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

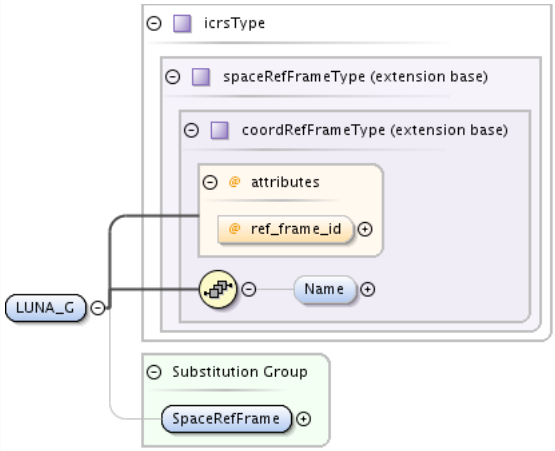
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<VENUS_G ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</VENUS_G>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="VENUS_G" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetographic reference frame anchored on Venus</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element LUNA_G

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The lunagraphic reference frame anchored on the moon
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

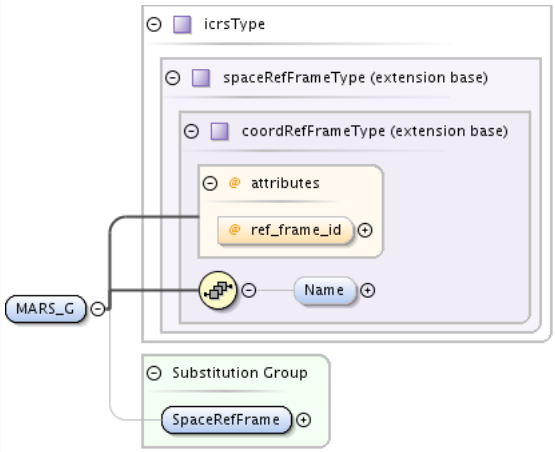
Instance	`<LUNA_G ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</LUNA_G>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="LUNA_G" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The lunagraphic reference frame anchored on the moon</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element MARS_G

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Mars
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

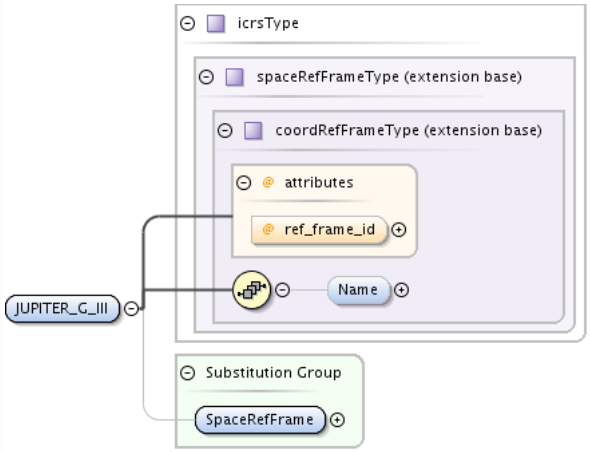
Instance	`<MARS_G ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</MARS_G>`

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="MARS_G" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The planetographic reference frame anchored on Mars</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element JUPITER_G_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Jupiter
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<JUPITER_G_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</JUPITER_G_III>`

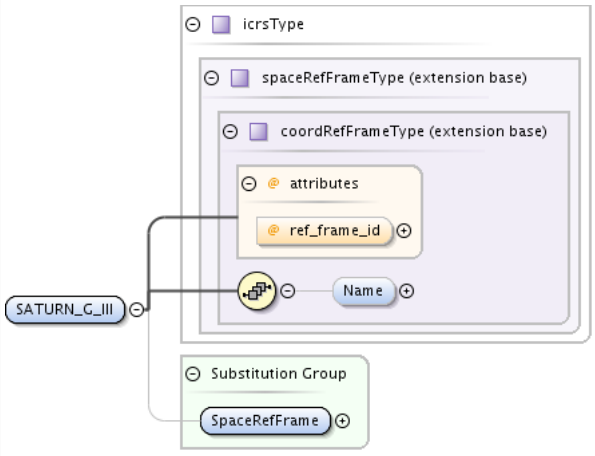
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="JUPITER_G_III" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>The planetographic reference frame anchored on Jupiter</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SATURN_G_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Saturn
Diagram	

Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

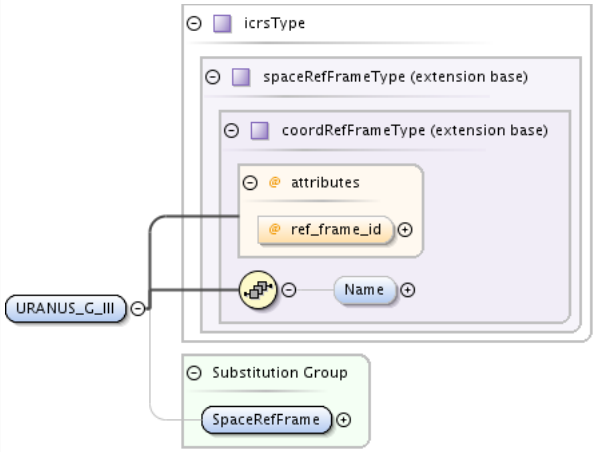
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<SATURN_G_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</SATURN_G_III>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional

Source	`<xs:element name="SATURN_G_III" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetographic reference frame anchored on Saturn</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element URANUS_G_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Uranus
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

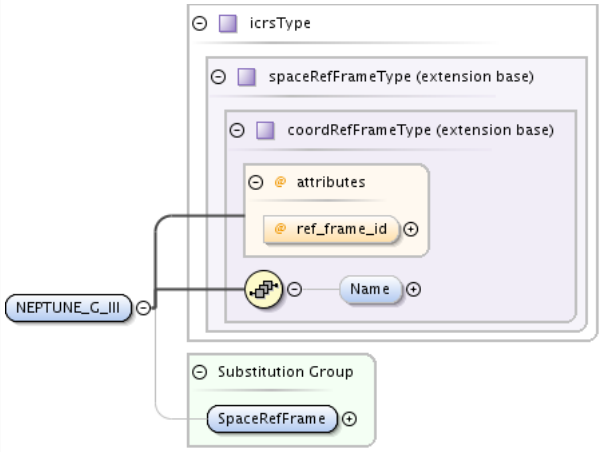
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<URANUS_G_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</URANUS_G_III>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional
Source	`<xs:element name="URANUS_G_III" type="icrsType" substitutionGroup="SpaceRefFrame">`

```
  <xs:annotation>
    <xs:documentation>The planetographic reference frame anchored on Uranus</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element NEPTUNE_G_III

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Neptune
Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

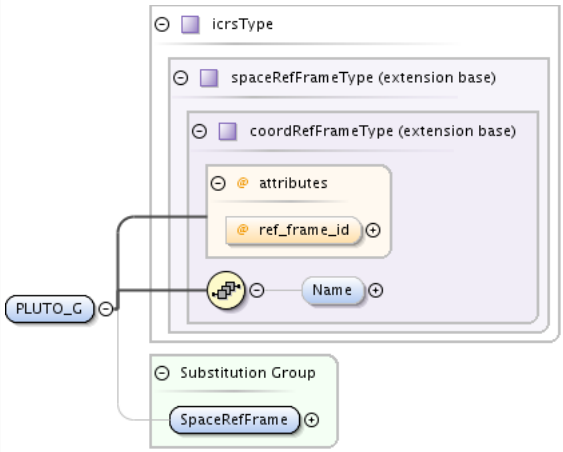
Instance	`<NEPTUNE_G_III ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</NEPTUNE_G_III>`

Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ref_frame_id** / xs:IDREF / / / optional

Source	`<xs:element name="NEPTUNE_G_III" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetographic reference frame anchored on Neptune</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element PLUTO_G

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The planetographic reference frame anchored on Pluto

Diagram	
Type	icrsType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

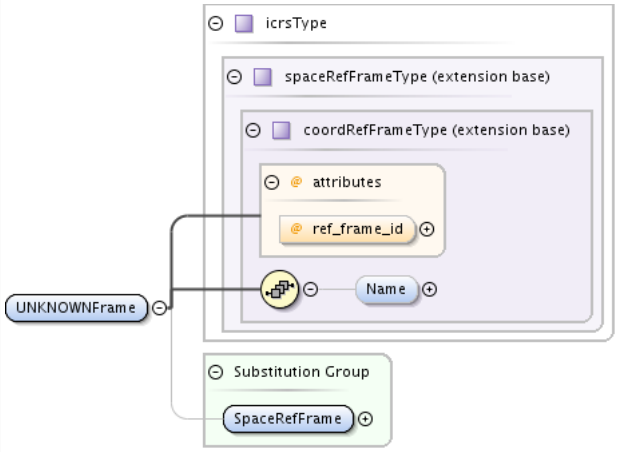
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<PLUTO_G ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</PLUTO_G>`

Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:element name="PLUTO_G" type="icrsType" substitutionGroup="SpaceRefFrame">`
	`  <xs:annotation>`
	`  <xs:documentation>The planetographic reference frame anchored on Pluto</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element UNKNOWNFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Unknown space reference frame; the client is responsible for assigning a default
Diagram	
Type	icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType

	• icrsType
Properties	content: complex
Substitution Group Affiliation	• SpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<UNKNOWNFrame ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</UNKNOWNFrame>`

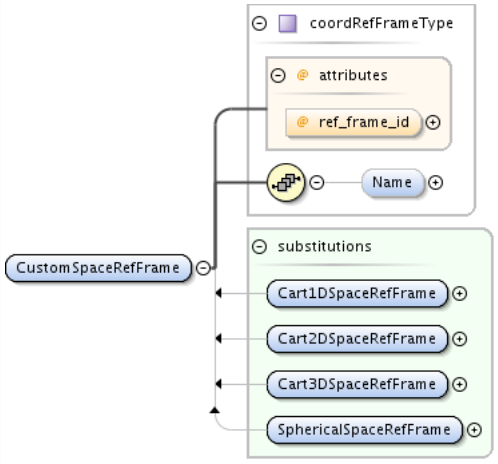
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="UNKNOWNFrame" type="icrsType" substitutionGroup="SpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Unknown space reference frame; the client is responsible for assigning a
 default</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `CustomSpaceRefFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element for the custom coordinate reference frame substitution group
Diagram	
Type	coordRefFrameType
Properties	content: complex abstract: true
Substitution Group	• SphericalSpaceRefFrame • Cart1DSpaceRefFrame • Cart2DSpaceRefFrame • Cart3DSpaceRefFrame
Model	Name{0,1}
Children	Name

Instance	`<CustomSpaceRefFrame ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`</CustomSpaceRefFrame>`

Attributes

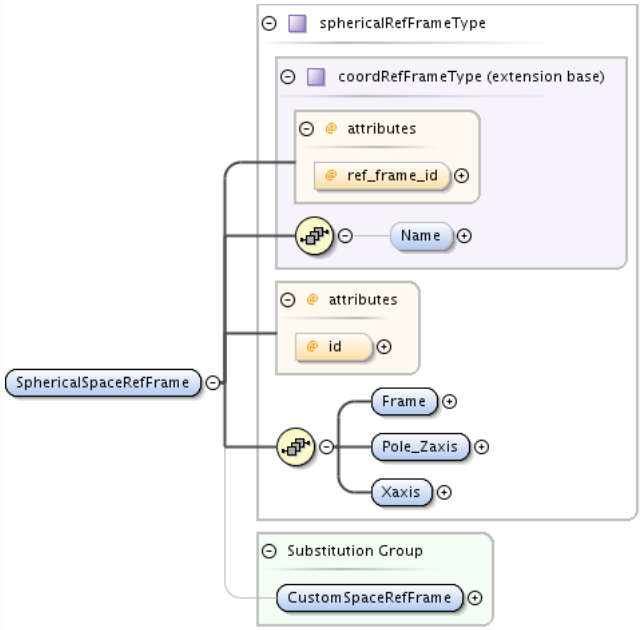
QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="CustomSpaceRefFrame" type="coordRefFrameType" abstract="true">
  <xs:annotation>
    <xs:documentation>Head element for the custom coordinate reference frame substitution group</
xs:documentation>
  </xs:annotation>
```

```
</xs:element>
```

Element SphericalSpaceRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: a custom pole (positive Z-axis) and positive X-axis direction
Diagram	
Type	sphericalRefFrameType
Type hierarchy	• coordRefFrameType • sphericalRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CustomSpaceRefFrame
Model	Name{0,1} , Frame , Pole_Zaxis , Xaxis
Children	Frame, Name, Pole_Zaxis, Xaxis
Instance	<SphericalSpaceRefFrame id="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Frame>{1,1}</Frame> <Pole_Zaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">... Pole_Zaxis> <Xaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}... Xaxis> </SphericalSpaceRefFrame>

Attributes

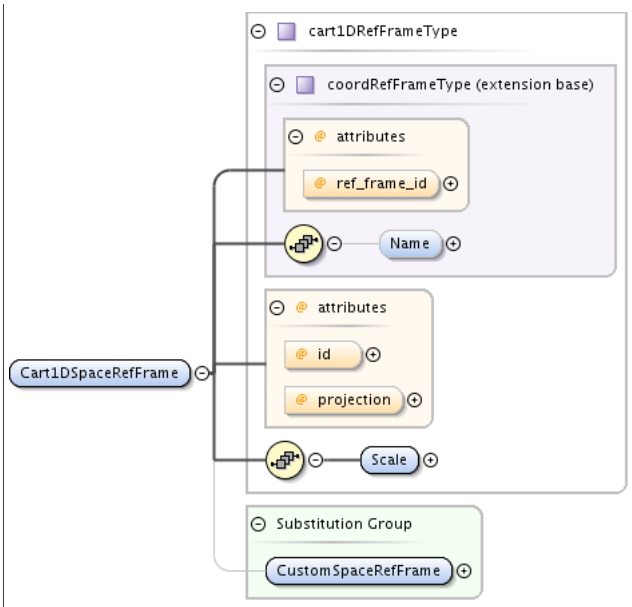
QName	Type	Fixed	Default	Use
id	xs:ID			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="SphericalSpaceRefFrame" type="sphericalRefFrameType"
 substitutionGroup="CustomSpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: a custom pole (positive Z-axis) and positive X-
axis direction</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Cart1DSpaceRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 1-D scale

Diagram	
Type	cart1DRefFrameType
Type hierarchy	• coordRefFrameType • cart1DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CustomSpaceRefFrame
Model	Name{0,1} , Scale
Children	Name, Scale

Instance	`<Cart1DSpaceRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Scale gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u`
	`Scale>`
	`</Cart1DSpaceRefFrame>`

Attributes

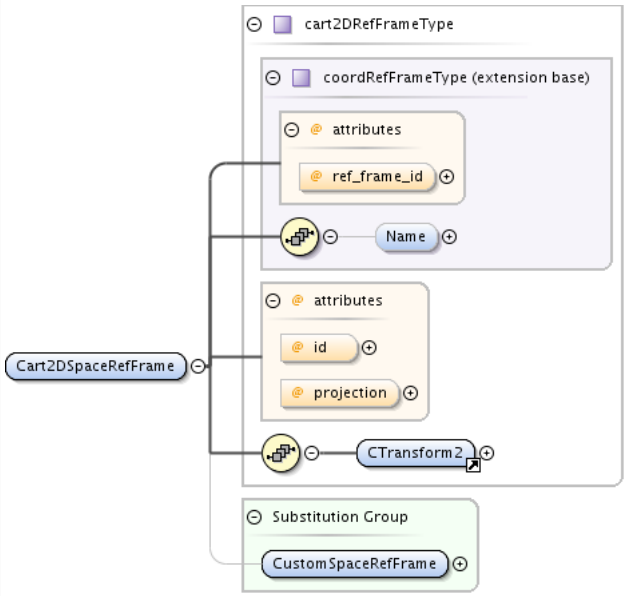
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="Cart1DSpaceRefFrame" type="cart1DRefFrameType"
 substitutionGroup="CustomSpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 1-D scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Cart2DSpaceRefFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 2-D rotation and scale

Diagram	
Type	cart2DRefFrameType
Type hierarchy	• coordRefFrameType • cart2DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CustomSpaceRefFrame
Model	Name{0,1} , CTransform2
Children	CTransform2, Name

Instance	`<Cart2DSpaceRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <CTransform2>{1,1}</CTransform2>`
	`</Cart2DSpaceRefFrame>`

Attributes

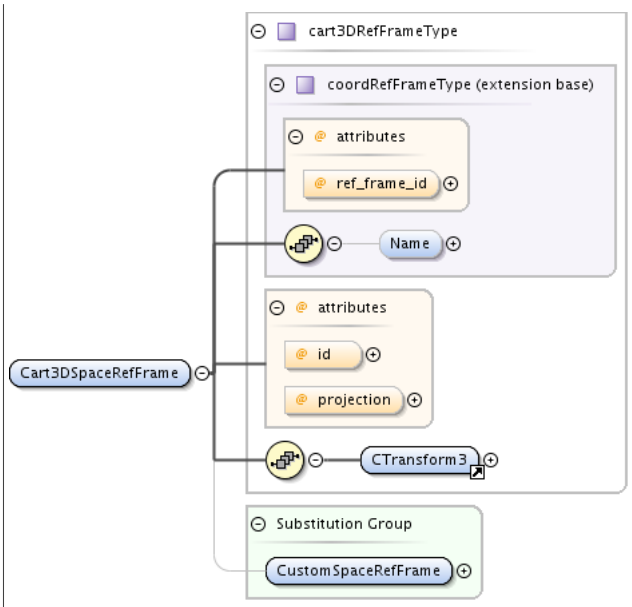
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="Cart2DSpaceRefFrame" type="cart2DRefFrameType"
 substitutionGroup="CustomSpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 2-D rotation and scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Cart3DSpaceRefFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 3-D rotation and scale

Diagram	
Type	cart3DRefFrameType
Type hierarchy	• coordRefFrameType • cart3DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CustomSpaceRefFrame
Model	Name{0,1} , CTransform3
Children	CTransform3, Name

Instance	`<Cart3DSpaceRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <CTransform3>{1,1}</CTransform3>`
	`</Cart3DSpaceRefFrame>`

Attributes

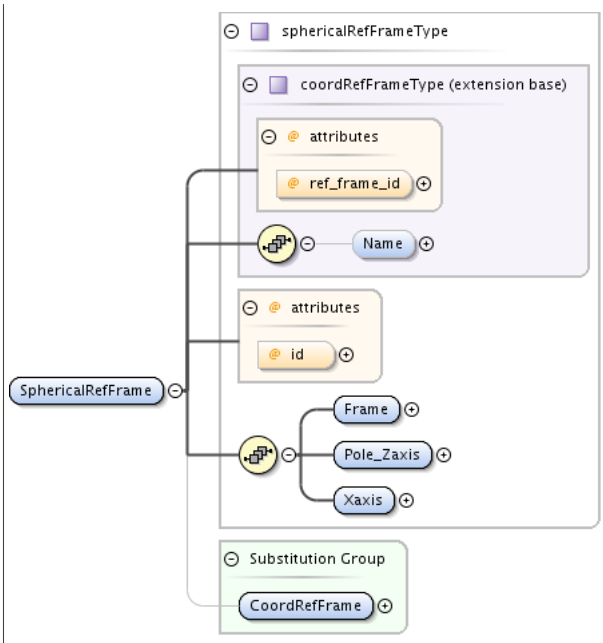
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="Cart3DSpaceRefFrame" type="cart3DRefFrameType"
 substitutionGroup="CustomSpaceRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 3-D rotation and scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SphericalRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: a custom pole (positive Z-axis) and positive X-axis direction

Diagram	
Type	sphericalRefFrameType
Type hierarchy	• coordRefFrameType • sphericalRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CoordRefFrame
Model	Name{0,1} , Frame , Pole_Zaxis , Xaxis
Children	Frame, Name, Pole_Zaxis, Xaxis

Instance	`<SphericalRefFrame id="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Frame>{1,1}</Frame>`
	`  <Pole_Zaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">`
	`Pole_Zaxis>`
	`  <Xaxis coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}`
	`Xaxis>`
	`</SphericalRefFrame>`

Attributes

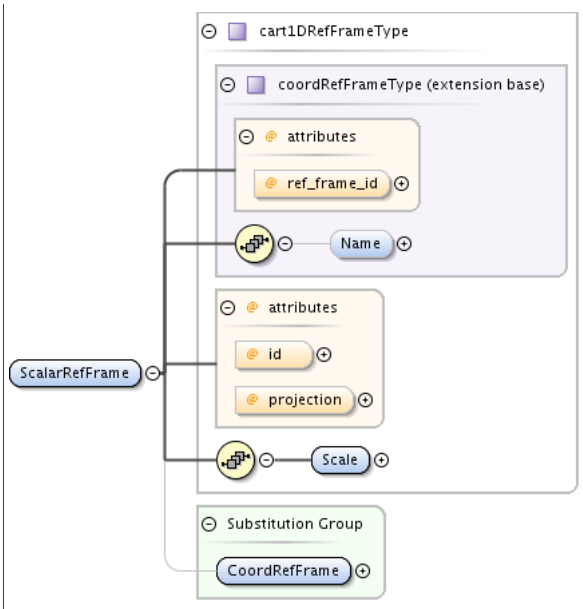
QName	Type	Fixed	Default	Use
id	xs:ID			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="SphericalRefFrame" type="sphericalRefFrameType" substitutionGroup="CoordRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: a custom pole (positive Z-axis) and positive X-
axis direction</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ScalarRefFrame

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 1-D scale

Diagram	
Type	cart1DRefFrameType
Type hierarchy	• coordRefFrameType • cart1DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CoordRefFrame
Model	Name{0,1} , Scale
Children	Name, Scale

Instance	`<ScalarRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Scale gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u`
	`Scale>`
	`</ScalarRefFrame>`

Attributes

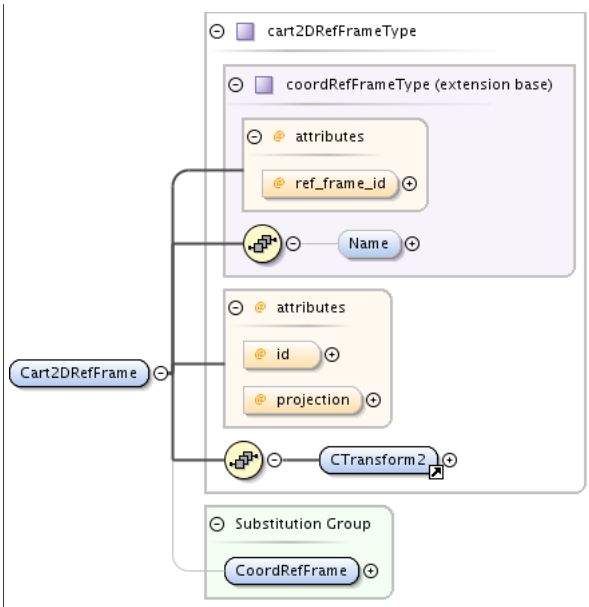
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="ScalarRefFrame" type="cart1DRefFrameType" substitutionGroup="CoordRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 1-D scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Cart2DRefFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 2-D rotation and scale

Diagram	
Type	cart2DRefFrameType
Type hierarchy	• coordRefFrameType • cart2DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CoordRefFrame
Model	Name{0,1} , CTransform2
Children	CTransform2, Name

Instance	`<Cart2DRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <CTransform2>{1,1}</CTransform2>`
	`</Cart2DRefFrame>`

Attributes

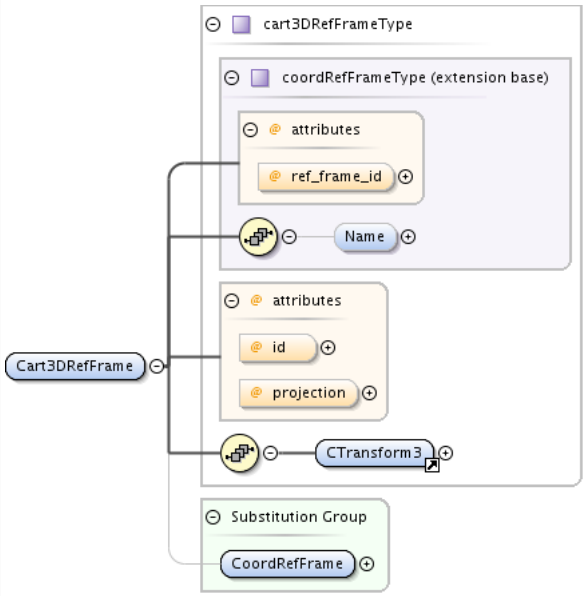
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:element name="Cart2DRefFrame" type="cart2DRefFrameType" substitutionGroup="CoordRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 2-D rotation and scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Cart3DRefFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate reference frame: 3-D rotation and scale

Diagram	
Type	cart3DRefFrameType
Type hierarchy	• coordRefFrameType • cart3DRefFrameType
Properties	content: complex
Substitution Group Affiliation	• CoordRefFrame
Model	Name{0,1} , CTransform3
Children	CTransform3, Name

Instance	`<Cart3DRefFrame id="" projection="" ref_frame_id="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <CTransform3>{1,1}</CTransform3>`
	`</Cart3DRefFrame>`

Attributes	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	projection	projectionType			optional
	ref_frame_id	xs:IDREF			optional

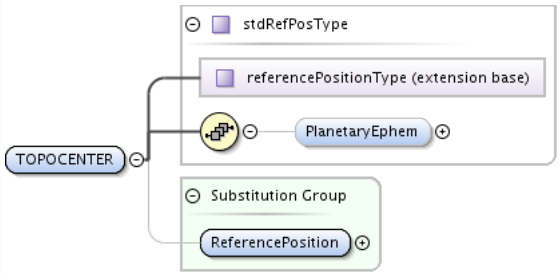
Source

```
<xs:element name="Cart3DRefFrame" type="cart3DRefFrameType" substitutionGroup="CoordRefFrame">
  <xs:annotation>
    <xs:documentation>Coordinate reference frame: 3-D rotation and scale</xs:documentation>
  </xs:annotation>
</xs:element>
```

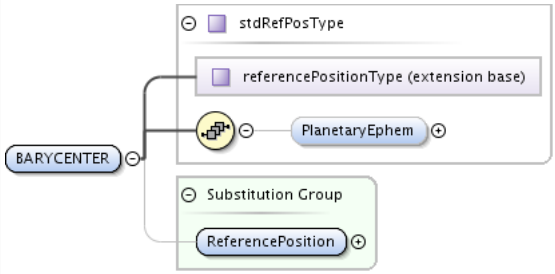
Element stdRefPosType / PlanetaryEphem

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	planetaryEphemType
Properties	content: simple minOccurs: 0 nillable: true
Facets	enumeration JPL-DE200 enumeration JPL-DE405
Source	`<xs:element name="PlanetaryEphem" type="planetaryEphemType" nillable="true" minOccurs="0"/>`

Element TOPOCENTER

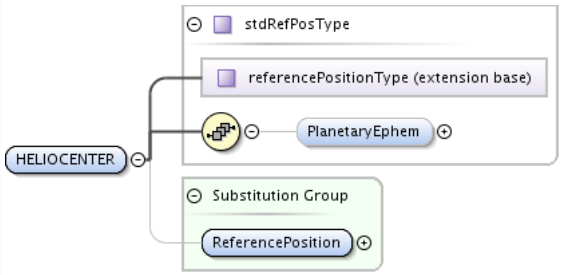
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Location of the observer/telescope
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<TOPOCENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </TOPOCENTER>
Source	<xs:element name="TOPOCENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Location of the observer/telescope</xs:documentation> </xs:annotation> </xs:element>

Element BARYCENTER

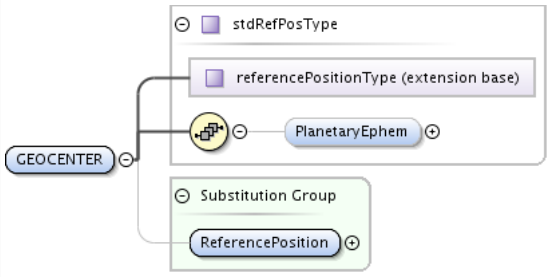
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Barycenter of the solar system
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<BARYCENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </BARYCENTER>
Source	<xs:element name="BARYCENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Barycenter of the solar system</xs:documentation>

```
  </xs:annotation>
</xs:element>
```

Element HELIOCENTER

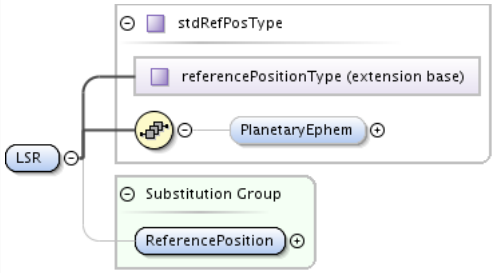
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of the sun
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<HELIOCENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </HELIOCENTER>
Source	<xs:element name="HELIOCENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of the sun</xs:documentation> </xs:annotation> </xs:element>

Element GEOCENTER

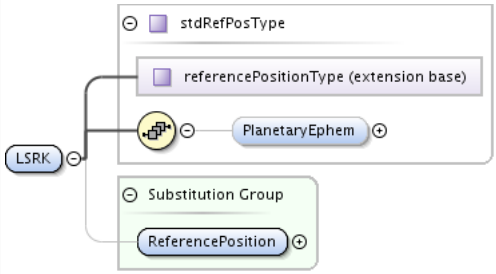
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of the earth
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<GEOCENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </GEOCENTER>

Source	<xs:element name="GEOCENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of the earth</xs:documentation> </xs:annotation> </xs:element>

Element LSR

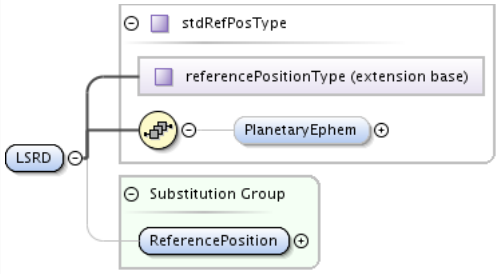
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	(Kinematic) Local Standard of Rest (only used for Doppler velocities); equivalent to LSRK
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<LSR xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </LSR>
Source	<xs:element name="LSR" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>(Kinematic) Local Standard of Rest (only used for Doppler velocities); equivalent to LSRK</xs:documentation> </xs:annotation> </xs:element>

Element LSRK

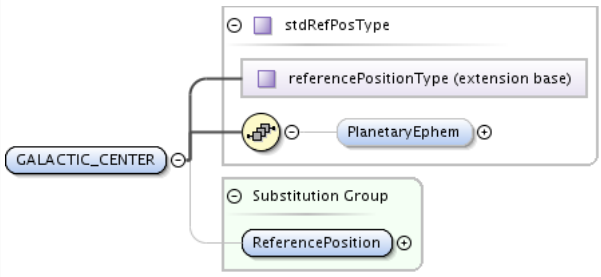
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Kinematic Local Standard of Rest (only used for Doppler velocities); equivalent to LSR
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}

Children	PlanetaryEphem
Instance	<LSRK xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </LSRK>
Source	<xs:element name="LSRK" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Kinematic Local Standard of Rest (only used for Doppler velocities); equivalent to LSR</xs:documentation> </xs:annotation> </xs:element>

Element LSRD

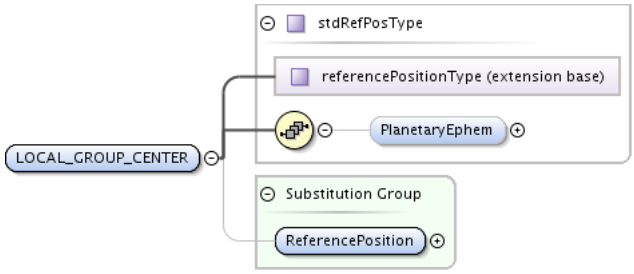
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Dynamic Local Standard of Rest (only used for Doppler velocities)
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<LSRD xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </LSRD>
Source	<xs:element name="LSRD" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Dynamic Local Standard of Rest (only used for Doppler velocities)</ xs:documentation> </xs:annotation> </xs:element>

Element GALACTIC_CENTER

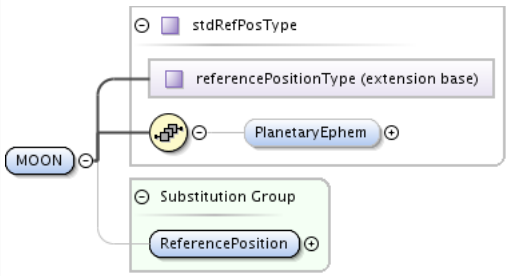
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of the Galaxy
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex

Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<GALACTIC_CENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </GALACTIC_CENTER>
Source	<xs:element name="GALACTIC_CENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of the Galaxy</xs:documentation> </xs:annotation> </xs:element>

Element LOCAL_GROUP_CENTER

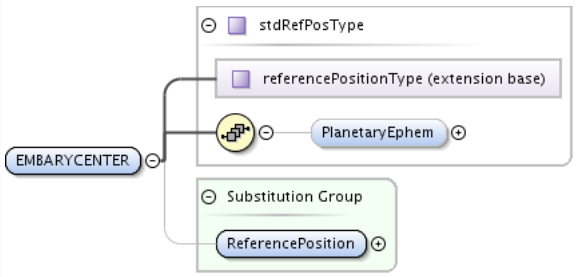
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of the Local Group
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<LOCAL_GROUP_CENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </LOCAL_GROUP_CENTER>
Source	<xs:element name="LOCAL_GROUP_CENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of the Local Group</xs:documentation> </xs:annotation> </xs:element>

Element MOON

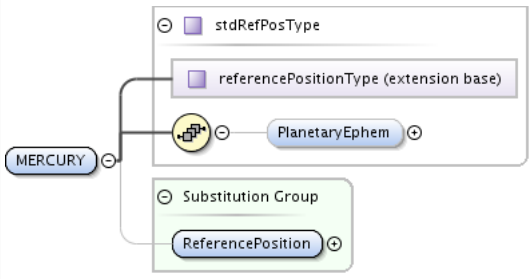
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of the Moon
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType

	• stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<MOON xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </MOON>
Source	<xs:element name="MOON" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of the Moon</xs:documentation> </xs:annotation> </xs:element>

Element EMBARYCENTER

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Barycenter of the Earth-Moon system
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<EMBARYCENTER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </EMBARYCENTER>
Source	<xs:element name="EMBARYCENTER" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Barycenter of the Earth-Moon system</xs:documentation> </xs:annotation> </xs:element>

Element MERCURY

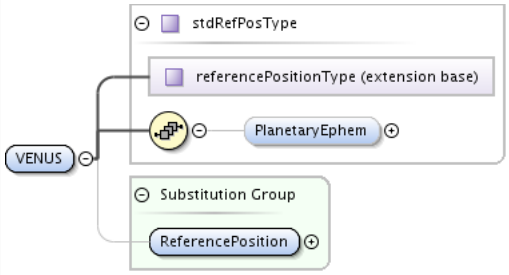
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Mercury
Diagram	

Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem

Instance	`<MERCURY xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <PlanetaryEphem>{0,1}</PlanetaryEphem>`
	`</MERCURY>`

Source	`<xs:element name="MERCURY" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Center of Mercury</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element VENUS

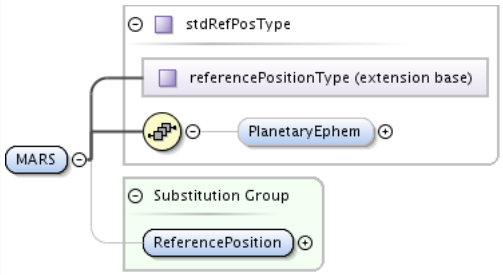
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Venus
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem

Instance	`<VENUS xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <PlanetaryEphem>{0,1}</PlanetaryEphem>`
	`</VENUS>`

Source	`<xs:element name="VENUS" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Center of Venus</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element MARS

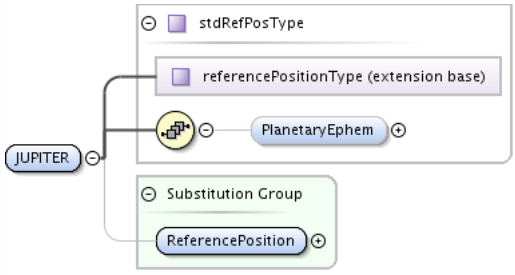
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Mars

Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem

Instance	`<MARS xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <PlanetaryEphem>{0,1}</PlanetaryEphem>`
	`</MARS>`

Source	`<xs:element name="MARS" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Center of Mars</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

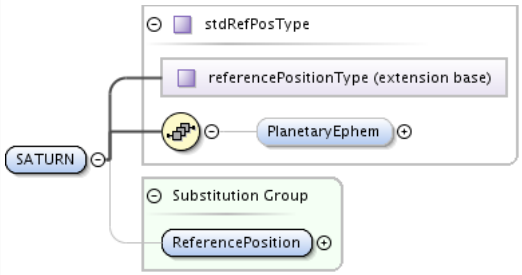
Element JUPITER

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Jupiter
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem

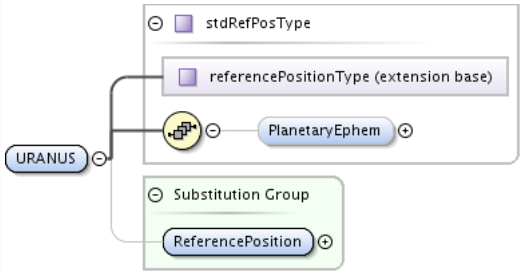
Instance	`<JUPITER xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <PlanetaryEphem>{0,1}</PlanetaryEphem>`
	`</JUPITER>`

Source	`<xs:element name="JUPITER" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Center of Jupiter</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element SATURN

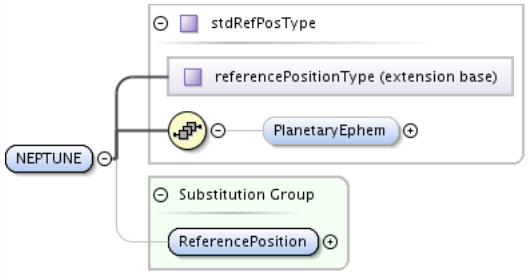
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Saturn
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<SATURN xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </SATURN>
Source	<xs:element name="SATURN" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of Saturn</xs:documentation> </xs:annotation> </xs:element>

Element URANUS

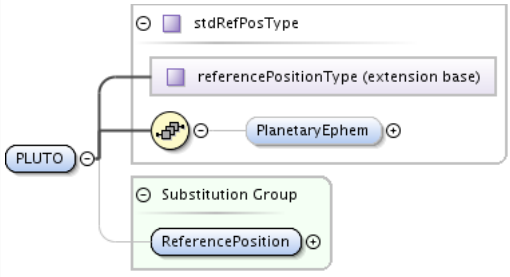
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Uranus
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<URANUS xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </URANUS>
Source	<xs:element name="URANUS" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation>

```
    <xs:documentation>Center of Uranus</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element NEPTUNE

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Neptune
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<NEPTUNE xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </NEPTUNE>
Source	<xs:element name="NEPTUNE" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Center of Neptune</xs:documentation> </xs:annotation> </xs:element>

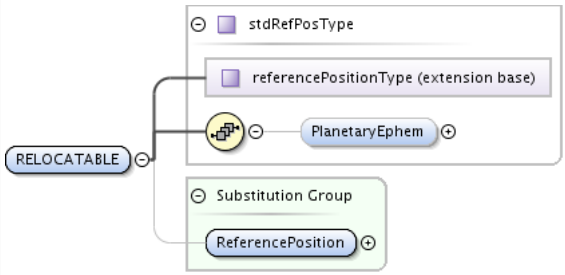
Element PLUTO

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Center of Pluto
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem
Instance	<PLUTO xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem>

	`</PLUTO>`

Source	`<xs:element name="PLUTO" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>Center of Pluto</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

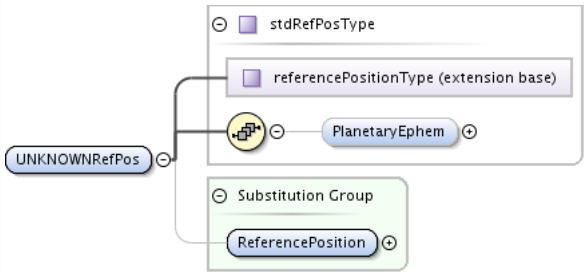
Element RELOCATABLE

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A relocatable origin, especially useful for simulations
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}
Children	PlanetaryEphem

Instance	`<RELOCATABLE xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <PlanetaryEphem>{0,1}</PlanetaryEphem>`
	`</RELOCATABLE>`

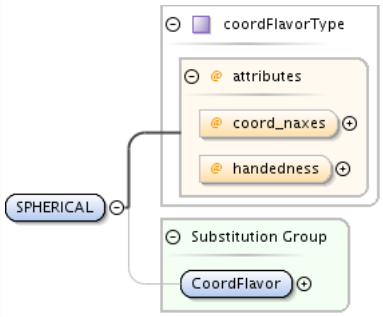
Source	`<xs:element name="RELOCATABLE" type="stdRefPosType" substitutionGroup="ReferencePosition">`
	`  <xs:annotation>`
	`  <xs:documentation>A relocatable origin, especially useful for simulations</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element UNKNOWNRefPos

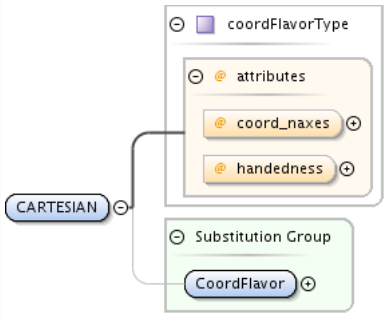
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Unknown origin; the client is responsible for assigning a default
Diagram	
Type	stdRefPosType
Type hierarchy	• referencePositionType • stdRefPosType
Properties	content: complex
Substitution Group Affiliation	• ReferencePosition
Model	PlanetaryEphem{0,1}

Children	PlanetaryEphem
Instance	<UNKNOWNRefPos xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PlanetaryEphem>{0,1}</PlanetaryEphem> </UNKNOWNRefPos>
Source	<xs:element name="UNKNOWNRefPos" type="stdRefPosType" substitutionGroup="ReferencePosition"> <xs:annotation> <xs:documentation>Unknown origin; the client is responsible for assigning a default</ xs:documentation> </xs:annotation> </xs:element>

Element SPHERICAL

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Spherical 2-D (longitude, latitude) or 3-D (long, lat, radius/elevation) coordinates
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **coord_naxes** / restriction of xs:integer / / 2 / optional **handedness** / restriction of xs:string / / / optional
Source	<xs:element name="SPHERICAL" type="coordFlavorType" substitutionGroup="CoordFlavor"> <xs:annotation> <xs:documentation>Spherical 2-D (longitude, latitude) or 3-D (long, lat, radius/elevation) coordinates</xs:documentation> </xs:annotation> </xs:element>

Element CARTESIAN

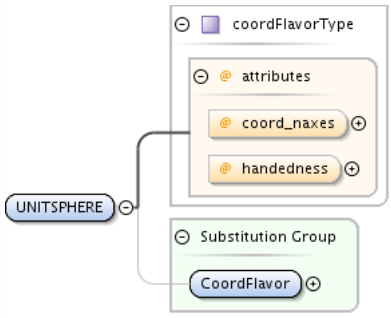
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Cartesian 1-, 2-, or 3-D coordinates
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional
	handedness	restriction of xs:string			optional

Source

```
<xs:element name="CARTESIAN" type="coordFlavorType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>Cartesian 1-, 2-, or 3-D coordinates</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element UNITSPHERE

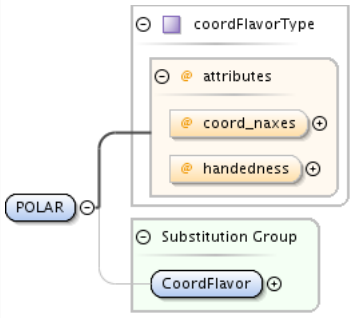
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	3-D Unit sphere coordinates (direction cosines); in (long,lat), X is in the direction (0,0), Y (pi/2,0), Z (0,pi/2)
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional
	handedness	restriction of xs:string			optional

Source

```
<xs:element name="UNITSPHERE" type="coordFlavorType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>3-D Unit sphere coordinates (direction cosines); in (long,lat), X is in the
 direction (0,0), Y (pi/2,0), Z (0,pi/2)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element POLAR

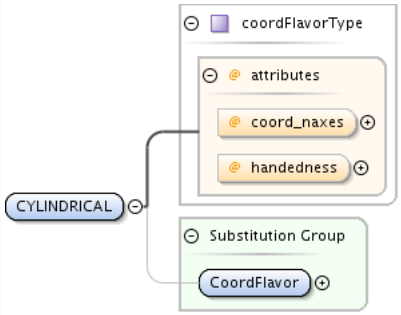
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D polar coordinates (radius, posangle)
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional
	handedness	restriction of xs:string			optional

Source

```
<xs:element name="POLAR" type="coordFlavorType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>2-D polar coordinates (radius, posangle)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CYLINDRICAL

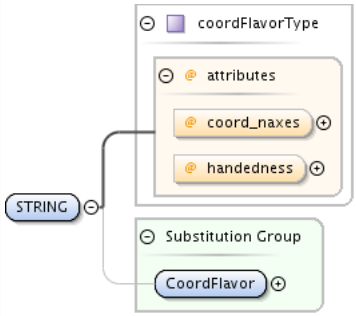
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	3-D cylindrical coordinates (radius, posangle, z)
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional
	handedness	restriction of xs:string			optional

Source

```
<xs:element name="CYLINDRICAL" type="coordFlavorType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>3-D cylindrical coordinates (radius, posangle, z)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element STRING

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	String coordinates (e.g., Stokes)
Diagram	
Type	coordFlavorType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

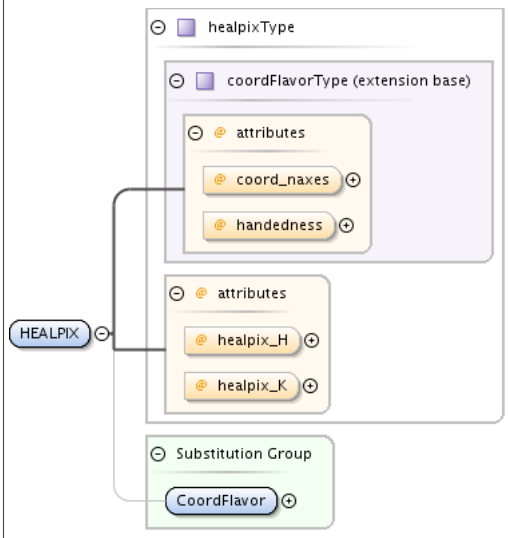
Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional

	QName	Type	Fixed	Default	Use
	handedness	restriction of xs:string			optional

Source

```
<xs:element name="STRING" type="coordFlavorType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>String coordinates (e.g., Stokes)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element HEALPIX

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D Healpix coordinates; defaults for H(4) and K(3)
Diagram	

Type	healpixType
Type hierarchy	• coordFlavorType • healpixType
Properties	content: complex
Substitution Group Affiliation	• CoordFlavor

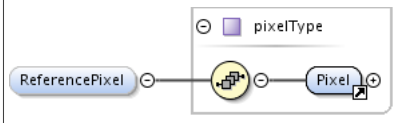
Attributes

QName	Type	Fixed	Default	Use
coord_naxes	restriction of xs:integer		2	optional
handedness	restriction of xs:string			optional
healpix_H	xs:integer		4	optional
healpix_K	xs:integer		3	optional

Source

```
<xs:element name="HEALPIX" type="healpixType" substitutionGroup="CoordFlavor">
  <xs:annotation>
    <xs:documentation>2-D Healpix coordinates; defaults for H(4) and K(3)</xs:documentation>
  </xs:annotation>
</xs:element>
```

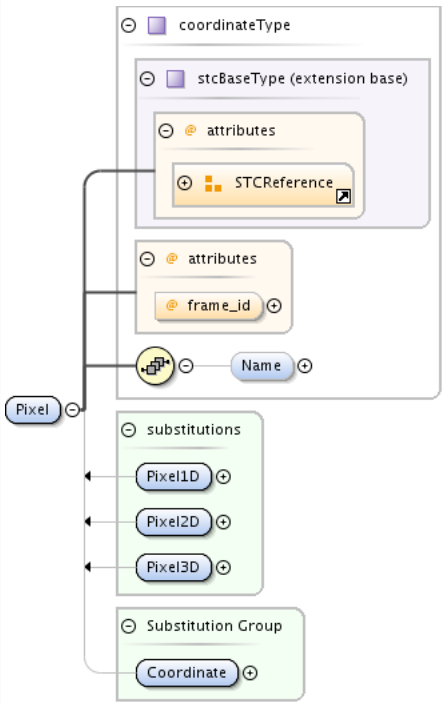
Element pixelFrameType / ReferencePixel

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	

Type	pixelType	
Properties	content:	complex
	minOccurs:	0
	nillable:	true

Model	Pixel
Children	Pixel
Instance	<ReferencePixel xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Pixel frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</Pixel> </ReferencePixel>
Source	<xs:element name="ReferencePixel" type="pixelType" nillable="true" minOccurs="0"/>

Element Pixel

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of Pixel coordinate substitution group
Diagram	
Type	coordinateType
Type hierarchy	• stcBaseType • coordinateType
Properties	content: complex nillable: true
Substitution Group	• Pixel1D • Pixel2D • Pixel3D
Substitution Group Affiliation	• Coordinate
Used by	Complex Types: pixelCoordsType, pixelType
Model	Name{0,1}
Children	Name
Instance	<Pixel frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> </Pixel>

Attributes

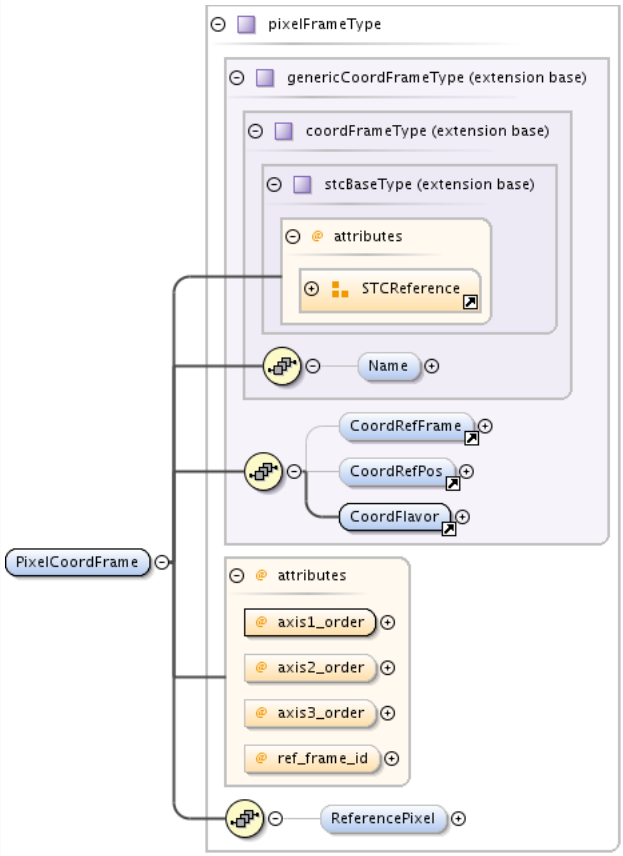
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	frame_id	xs:IDREF			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Pixel" type="coordinateType" substitutionGroup="Coordinate" nillable="true">
  <xs:annotation>
    <xs:documentation>Head element of Pixel coordinate substitution group</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoordFrame`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Element for pixel Coordinate Frames`
Diagram	
Type	pixelFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • genericCoordFrameType
	  • pixelFrameType

Properties	content: `complex` nillable: `true`
Used by	Complex Type: pixelCoordSystemType
Model	Name{0,1} , CoordRefFrame{0,1} , CoordRefPos{0,1} , CoordFlavor , ReferencePixel{0,1}
Children	CoordFlavor, CoordRefFrame, CoordRefPos, Name, ReferencePixel

Instance	<PixelCoordFrame axis1_order="" axis2_order="" axis3_order="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <CoordRefFrame ref_frame_id="">{0,1}</CoordRefFrame> <CoordRefPos>{0,1}</CoordRefPos> <CoordFlavor coord_naxes="2" handedness="">{1,1}</CoordFlavor> <ReferencePixel>{0,1}</ReferencePixel> </PixelCoordFrame>

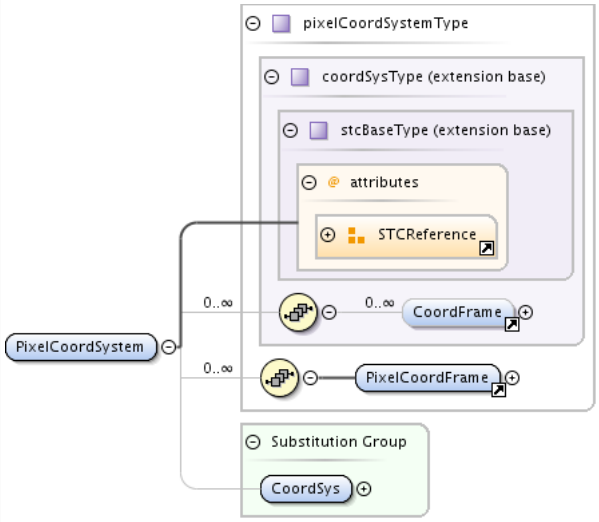
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
axis1_order	xs:integer			required
axis2_order	xs:integer			optional
axis3_order	xs:integer			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ref_frame_id	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoordFrame" type="pixelFrameType" nillable="true">
  <xs:annotation>
    <xs:documentation>Element for pixel Coordinate Frames</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoordSystem`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Pixel form of CoordSys`
Diagram	
Type	pixelCoordSystemType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • pixelCoordSystemType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CoordSys
Used by	Complex Type pixelSpaceType

Model	CoordFrame* , PixelCoordFrame
Children	CoordFrame, PixelCoordFrame
Instance	<PixelCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <CoordFrame xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</CoordFrame> <PixelCoordFrame axis1_order="" axis2_order="" axis3_order="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" PixelCoordFrame> </PixelCoordSystem>

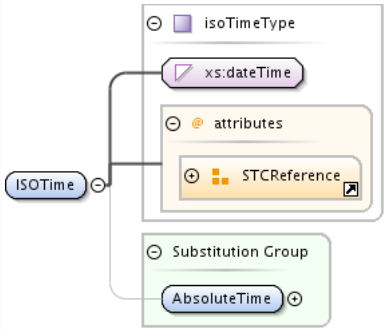
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoordSystem" type="pixelCoordSystemType" substitutionGroup="CoordSys"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Pixel form of CoordSys</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ISOTime

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	ISO8601 time; note: only a limited subset of ISO 8601 is allowed: yyyy-mm-ddThh:mm:ss.sss...; only ".sss..." is optional
Diagram	
Type	isoTimeType
Properties	content: complex nillable: true
Substitution Group Affiliation	• AbsoluteTime

Attributes

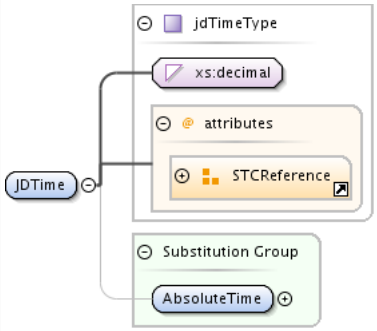
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ISOTime" type="isoTimeType" substitutionGroup="AbsoluteTime" nillable="true">
  <xs:annotation>
    <xs:documentation>ISO8601 time; note: only a limited subset of ISO 8601 is allowed: yyyy-mm-
ddThh:mm:ss.sss...; only ".sss..." is optional</xs:documentation>
  </xs:annotation>
```

```
</xs:element>
```

Element JDTime

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	JD time
Diagram	
Type	jdTimeType
Properties	content: complex nillable: true
Substitution Group Affiliation	• AbsoluteTime

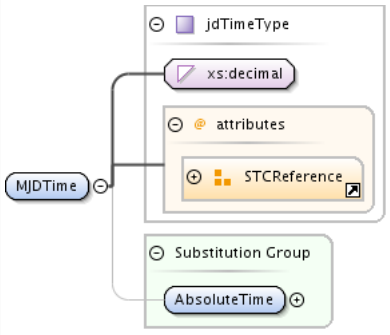
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="JDTime" type="jdTimeType" substitutionGroup="AbsoluteTime" nillable="true">
  <xs:annotation>
    <xs:documentation>JD time</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element MJDTime

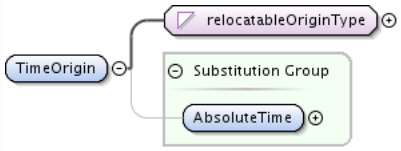
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	MJD time (=JD - 2400000.5)
Diagram	
Type	jdTimeType
Properties	content: complex nillable: true
Substitution Group Affiliation	• AbsoluteTime

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

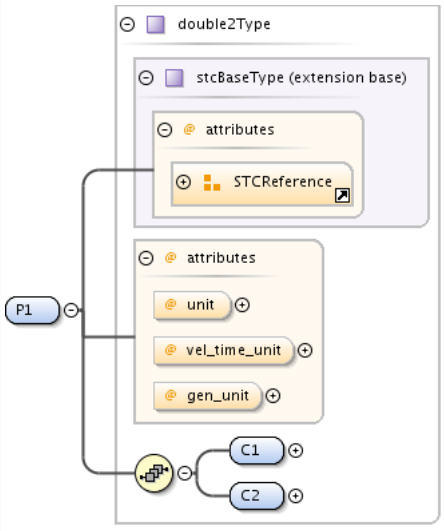
```
<xs:element name="MJDTime" type="jdTimeType" substitutionGroup="AbsoluteTime" nillable="true">
  <xs:annotation>
    <xs:documentation>MJD time (=JD - 2400000.5)</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `TimeOrigin`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A relocatable time origin for simulations`
Diagram	
Type	relocatableOriginType
Properties	content: `simple`
Facets	enumeration `RELOCATABLE`
Substitution Group Affiliation	• AbsoluteTime
Source	


```
<xs:element name="TimeOrigin" type="relocatableOriginType" substitutionGroup="AbsoluteTime">
  <xs:annotation>
    <xs:documentation>A relocatable time origin for simulations</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `curve2Type / P1`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type

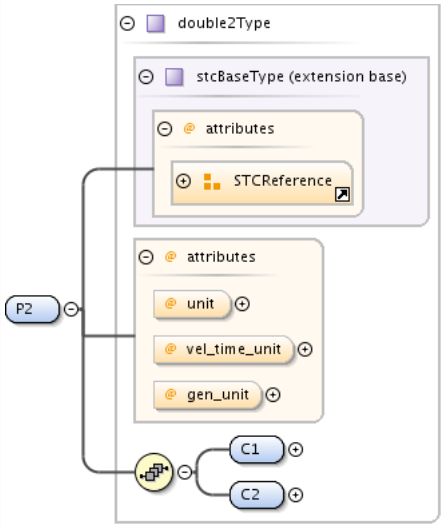
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<P1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time_u www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </P1>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="P1" type="double2Type" nillable="true"/>

Element curve2Type / P2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<P2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time_u www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2>

	`</P2>`

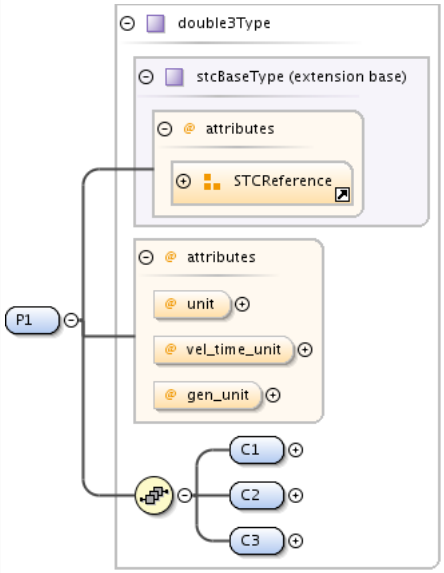
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="P2" type="double2Type" nillable="true"/>
```

Element `curve3Type / P1`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: `complex` nillable: `true`
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance

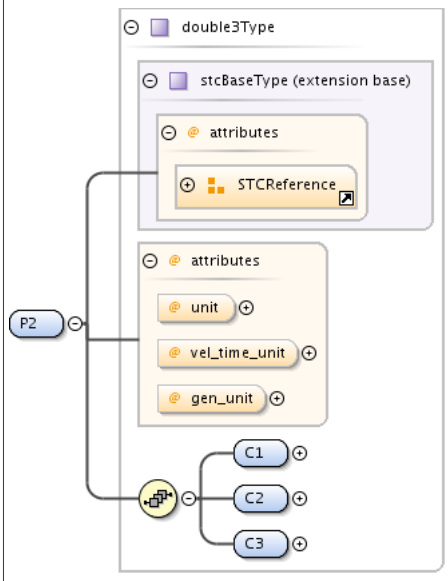
```
<P1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time_u
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C1>
  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C2>
  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C3>
</P1>
```

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="P1" type="double3Type" nillable="true"/>`				

Element curve3Type / P2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<P2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time_u`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</P2>`

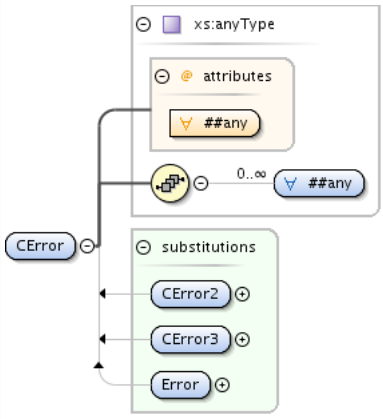
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

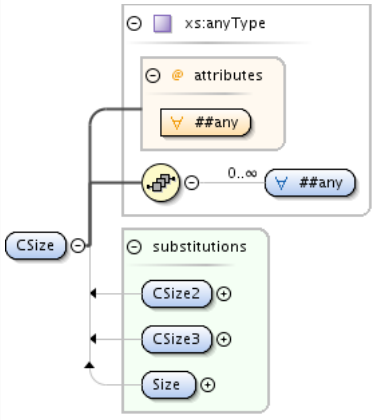
Source

```
<xs:element name="P2" type="double3Type" nillable="true"/>
```

Element CError

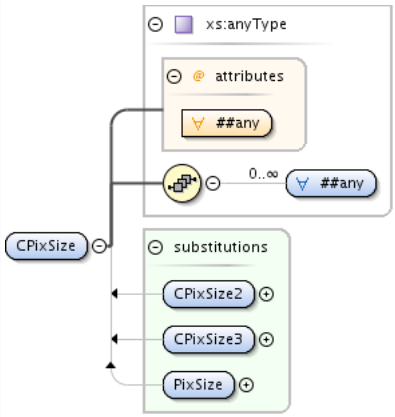
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for all types of errors
Diagram	
Properties	abstract: true
Substitution Group	• Error • Error2Radius • Error2 • Error2Matrix • Error3Radius • Error3 • Error3Matrix
Source	<xs:element name="CError" type="xs:anyType" abstract="true"> <xs:annotation> <xs:documentation>Substitution group for all types of errors</xs:documentation> </xs:annotation> </xs:element>

Element CSize

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for all types of sizes
Diagram	

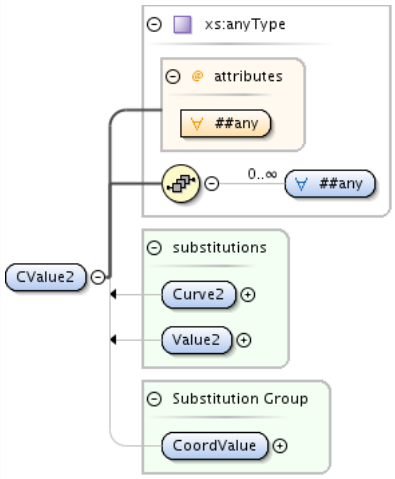
Properties	abstract: true
Substitution Group	• Size • Size2Radius • Size2 • Size2Matrix • Size3Radius • Size3 • Size3Matrix
Source	<xs:element name="CSize" type="xs:anyType" abstract="true"> <xs:annotation> <xs:documentation>Substitution group for all types of sizes</xs:documentation> </xs:annotation> </xs:element>

Element CPixSize

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for all types of pixel sizes
Diagram	
Properties	abstract: true
Substitution Group	• PixSize • PixSize2 • PixSize2Matrix • PixSize3 • PixSize3Matrix
Source	<xs:element name="CPixSize" type="xs:anyType" abstract="true"> <xs:annotation> <xs:documentation>Substitution group for all types of pixel sizes</xs:documentation> </xs:annotation> </xs:element>

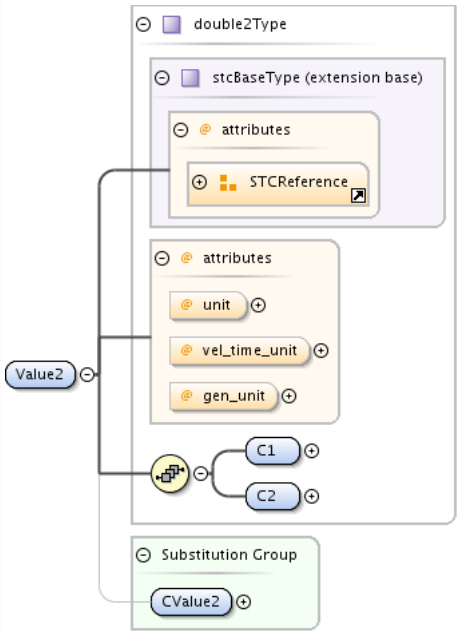
Element CValue2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 2-D coordinate value

Diagram	
Properties	abstract: `true`
Substitution Group	• Value2 • Curve2
Substitution Group Affiliation	• CoordValue
Used by	Complex Types: genVector2CoordinateType, posVector2CoordinateType, vector2CoordinateType, velVector2CoordinateType

Source	`<xs:element name="CValue2" type="xs:anyType" abstract="true" substitutionGroup="CoordValue">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 2-D coordinate value</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Value2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double vector`
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type

Properties	content:	complex
	nillable:	true
Substitution Group Affiliation	• CValue2	
Used by	Complex Type	pixelVector2CoordinateType
Model	C1 , C2	
Children	C1, C2	

Instance

```
<Value2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C1>
  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C2>
</Value2>
```

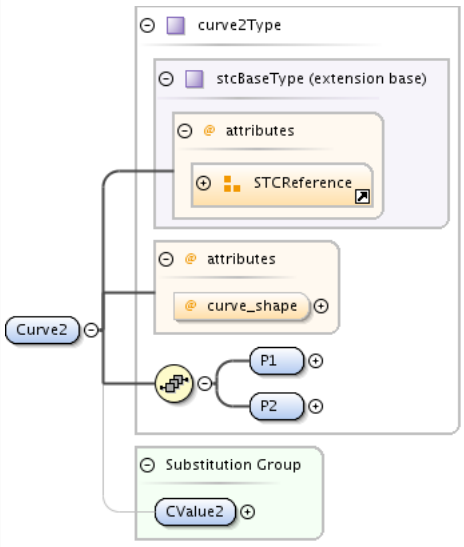
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Value2" type="double2Type" substitutionGroup="CValue2" nillable="true">
  <xs:annotation>
    <xs:documentation>double vector</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Curve2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Curve in 2-D
Diagram	
Type	curve2Type
Type hierarchy	• stcBaseType • curve2Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CValue2
Model	P1 , P2
Children	P1, P2
Instance	<Curve2 curve_shape="line" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <P1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time P1> <P2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time P2> </Curve2>

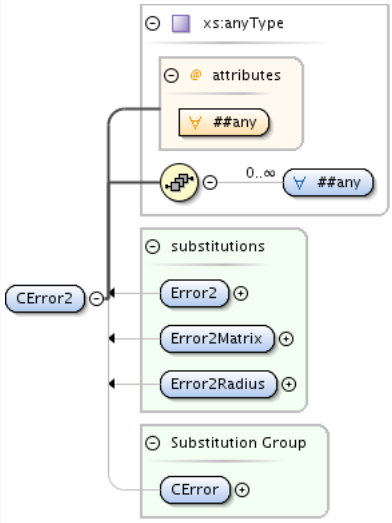
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
curve_shape	xs:string		line	optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

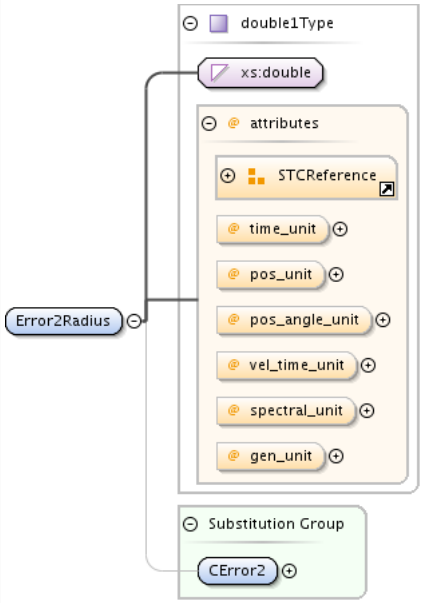
```
<xs:element name="Curve2" type="curve2Type" substitutionGroup="CValue2" nillable="true">
  <xs:annotation>
    <xs:documentation>Curve in 2-D</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CError2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 2-D coordinate error
Diagram	
Properties	abstract: true
Substitution Group	• Error2Radius • Error2 • Error2Matrix
Substitution Group Affiliation	• CError

Used by	Complex Types	genVector2CoordinateType, posVector2CoordinateType, vector2CoordinateType, velVector2CoordinateType
Source	<xs:element name="CError2" type="xs:anyType" abstract="true" substitutionGroup="CError"> <xs:annotation> <xs:documentation>Substitution group for a 2-D coordinate error</xs:documentation> </xs:annotation> </xs:element>	

Element `Error2Radius`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	double: radius of a 2-D error circle
Diagram	
Type	double1Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CError2

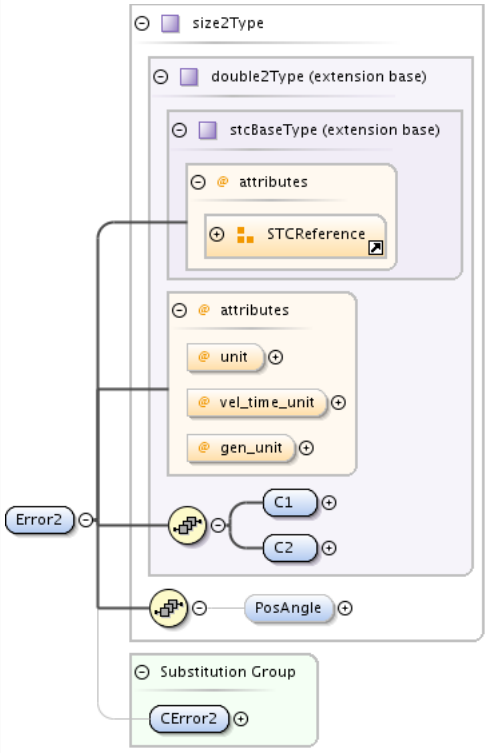
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error2Radius" type="double1Type" substitutionGroup="CError2" nillable="true">
  <xs:annotation>
    <xs:documentation>double: radius of a 2-D error circle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Error2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`size2Type Error element: 2 doubles with optional position angle`
Diagram	
Type	size2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CError2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Instance	`<Error2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de`
	`PosAngle>`
	`</Error2>`

Attributes

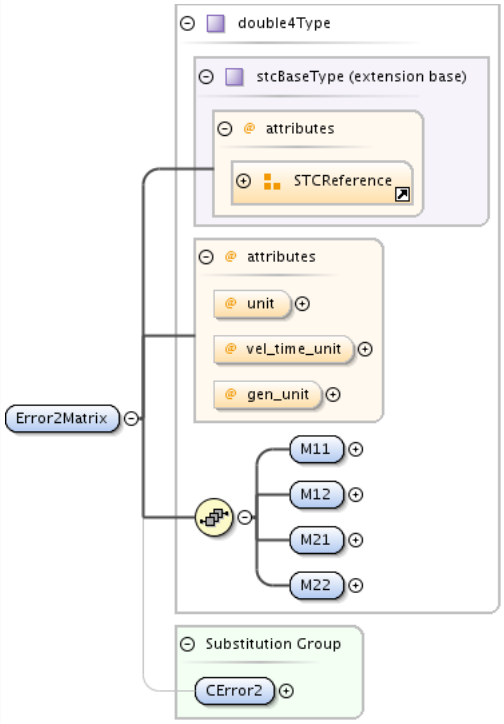
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error2" type="size2Type" substitutionGroup="CError2" nillable="true">
  <xs:annotation>
    <xs:documentation>size2Type Error element: 2 doubles with optional position angle</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Error2Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2x2 matrix Error element`
Diagram	
Type	double4Type
Type hierarchy	• stcBaseType • double4Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CError2
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22

Instance

```
<Error2Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" 
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <M11>{1,1}</M11>
  <M12>{1,1}</M12>
  <M21>{1,1}</M21>
  <M22>{1,1}</M22>
</Error2Matrix>
```

Attributes

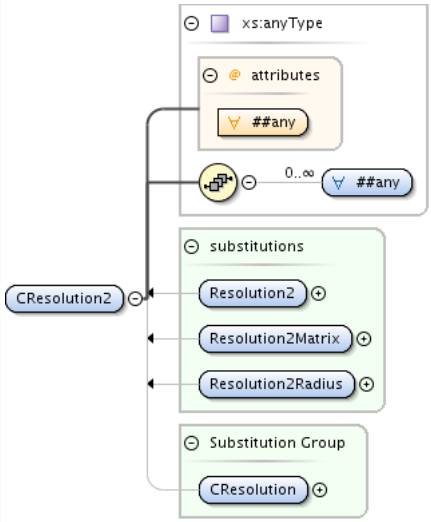
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error2Matrix" type="double4Type" substitutionGroup="CError2" nillable="true">
  <xs:annotation>
    <xs:documentation>2x2 matrix Error element</xs:documentation>
  </xs:annotation>
</xs:element>
```

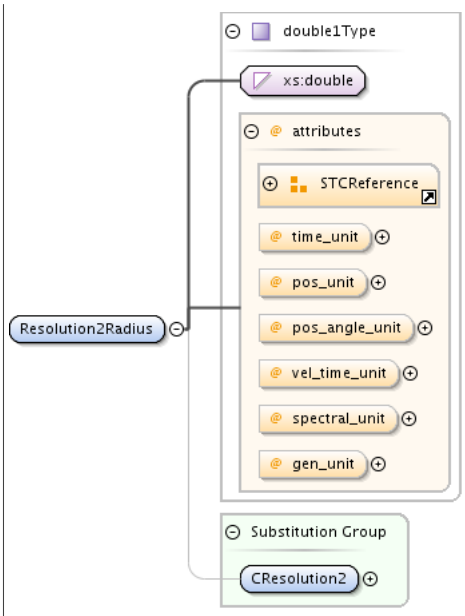
Element CResolution2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 2-D coordinate resolution
Diagram	
Properties	abstract: true
Substitution Group	• Resolution2Radius • Resolution2 • Resolution2Matrix
Substitution Group Affiliation	• CResolution
Used by	Complex Types: genVector2CoordinateType, posVector2CoordinateType, vector2CoordinateType, velVector2CoordinateType

Source	`<xs:element name="CResolution2" type="xs:anyType" abstract="true" substitutionGroup="CResolution">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 2-D coordinate resolution</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element Resolution2Radius

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	double: radius of a 2-D circular resolution

Diagram	
Type	double1Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CResolution2

Attributes

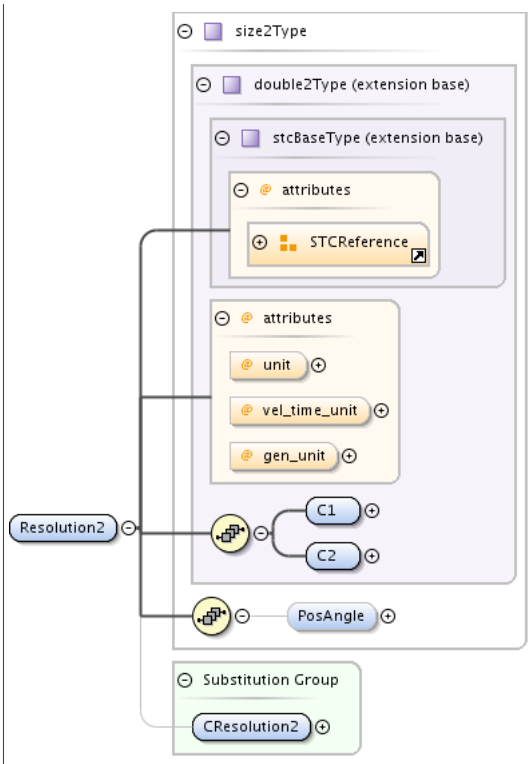
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution2Radius" type="double1Type" substitutionGroup="CResolution2"
 nillable="true">
  <xs:annotation>
    <xs:documentation>double: radius of a 2-D circular resolution</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Resolution2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	size2Type Resolution element: 2 doubles with optional position angle

Diagram	
Type	size2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CResolution2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Instance	`<Resolution2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de`
	`PosAngle>`
	`</Resolution2>`

Attributes

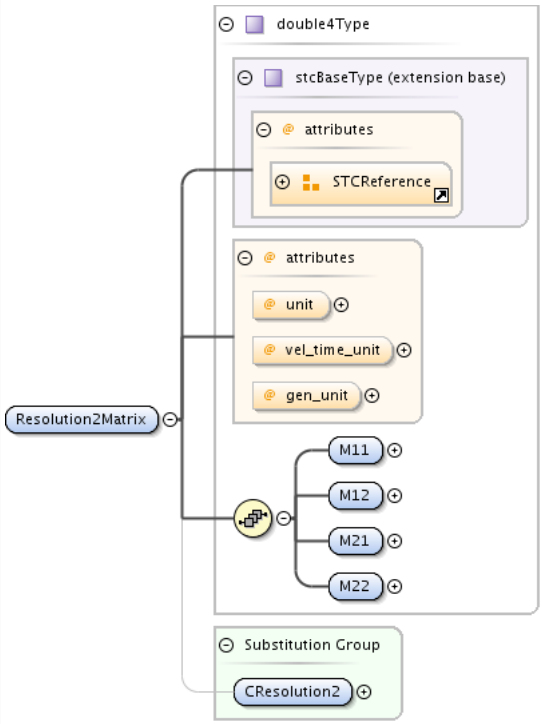
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution2" type="size2Type" substitutionGroup="CResolution2" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>size2Type Resolution element: 2 doubles with optional position angle</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Resolution2Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2x2 matrix Resolution element`
Diagram	
Type	double4Type
Type hierarchy	• stcBaseType • double4Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CResolution2
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22

Instance	`<Resolution2Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" uni`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <M11>{1,1}</M11>`
	`  <M12>{1,1}</M12>`
	`  <M21>{1,1}</M21>`
	`  <M22>{1,1}</M22>`
	`</Resolution2Matrix>`

Attributes

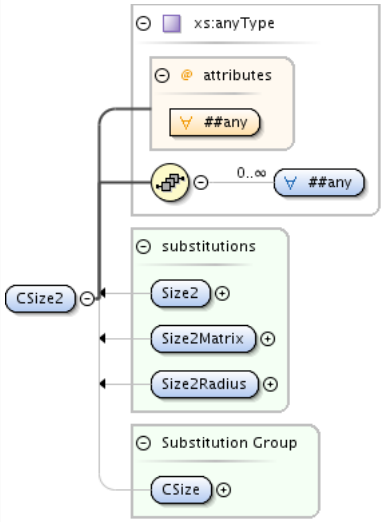
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

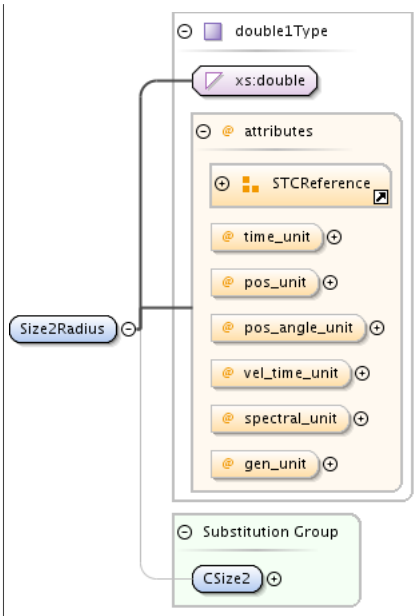
```
<xs:element name="Resolution2Matrix" type="double4Type" substitutionGroup="CResolution2"
 nillable="true">
  <xs:annotation>
    <xs:documentation>2x2 matrix Resolution element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CSize2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 2-D coordinate size
Diagram	
Properties	abstract: true
Substitution Group	• Size2Radius • Size2 • Size2Matrix
Substitution Group Affiliation	• CSize
Used by	Complex Types: genVector2CoordinateType, posVector2CoordinateType, vector2CoordinateType, velVector2CoordinateType
Source	<xs:element name="CSize2" type="xs:anyType" abstract="true" substitutionGroup="CSize"> <xs:annotation> <xs:documentation>Substitution group for a 2-D coordinate size</xs:documentation> </xs:annotation> </xs:element>

Element Size2Radius

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	double: radius of a 2-D circle

Diagram	
Type	double1Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CSize2

Attributes

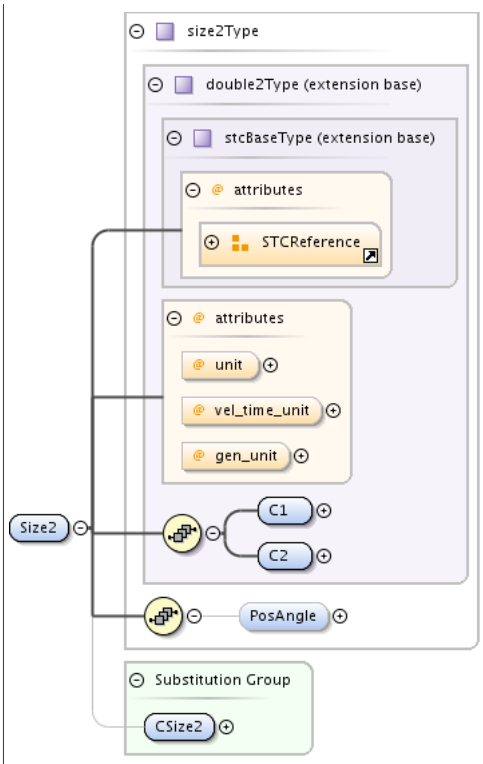
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size2Radius" type="double1Type" substitutionGroup="CSize2" nillable="true">
  <xs:annotation>
    <xs:documentation>double: radius of a 2-D circle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Size2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	size2Type Size element: 2 doubles with optional position angle

Diagram	
Type	size2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CSize2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Instance	`<Size2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ti`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de`
	`PosAngle>`
	`</Size2>`

Attributes

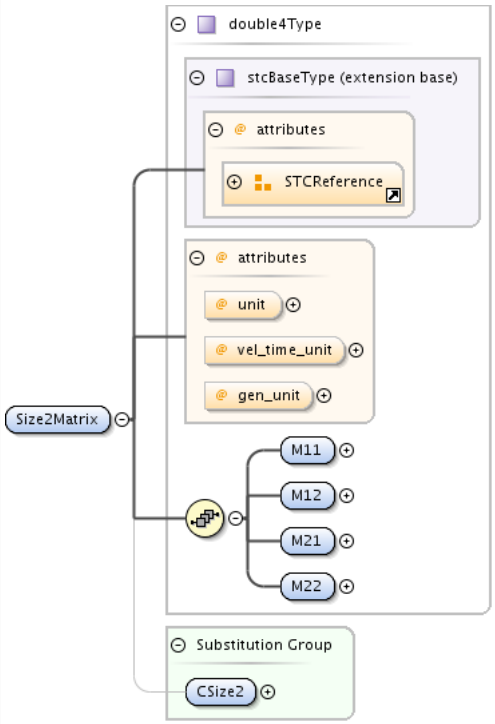
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size2" type="size2Type" substitutionGroup="CSize2" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>size2Type Size element: 2 doubles with optional position angle</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Size2Matrix

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2x2 matrix Size element
Diagram	
Type	double4Type
Type hierarchy	• stcBaseType • double4Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CSize2
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22
Instance	<Size2Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M21>{1,1}</M21> <M22>{1,1}</M22> </Size2Matrix>

Attributes

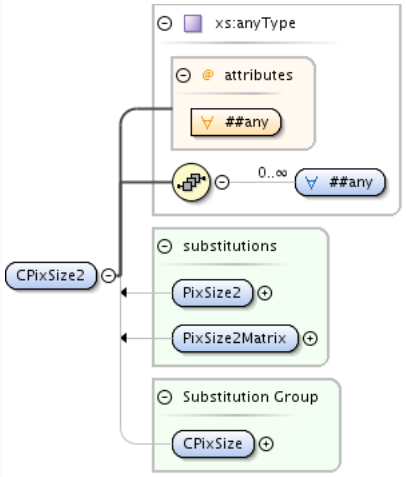
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size2Matrix" type="double4Type" substitutionGroup="CSize2" nillable="true">
  <xs:annotation>
    <xs:documentation>2x2 matrix Size element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element CPixSize2

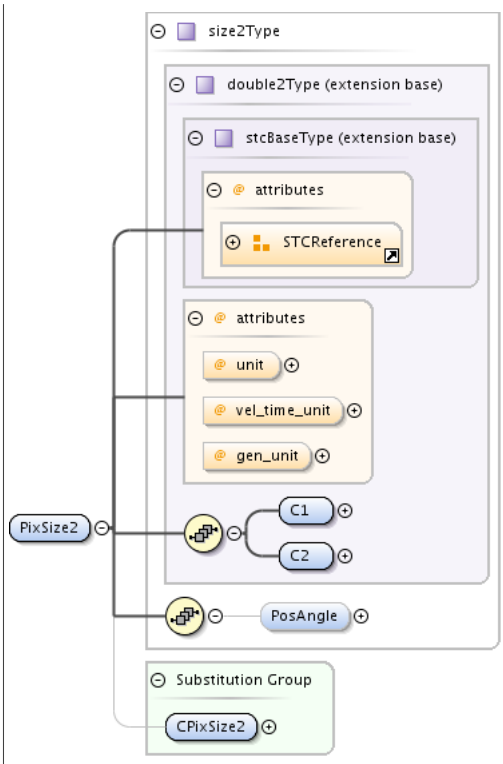
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 2-D coordinate pixel size
Diagram	
Properties	abstract: true
Substitution Group	• PixSize2 • PixSize2Matrix
Substitution Group Affiliation	• CPixSize
Used by	Complex Types: genVector2CoordinateType, posVector2CoordinateType, vector2CoordinateType, velVector2CoordinateType

Source

```
<xs:element name="CPixSize2" type="xs:anyType" abstract="true" substitutionGroup="CPixSize">
  <xs:annotation>
    <xs:documentation>Substitution group for a 2-D coordinate pixel size</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element PixSize2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	size2Type PixSize element: 2 doubles with optional position angle

Diagram	
Type	size2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Properties	content: complex nillable: true
Substitution Group Affiliation	• CPixSize2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Instance	`<PixSize2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de`
	`PosAngle>`
	`</PixSize2>`

Attributes

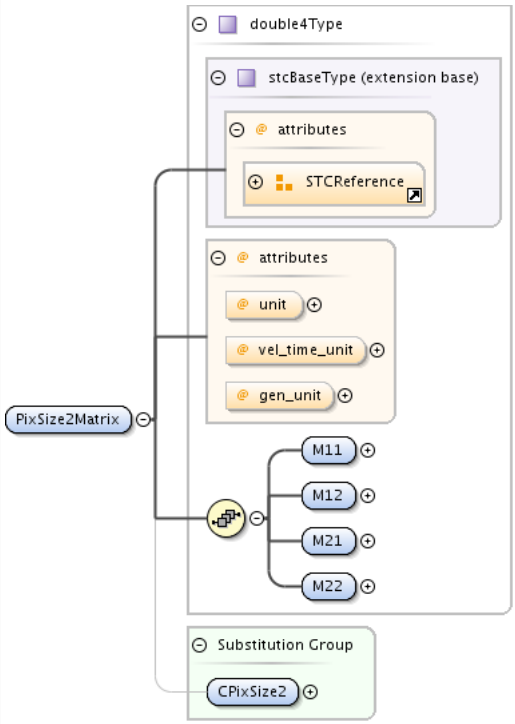
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixSize2" type="size2Type" substitutionGroup="CPixSize2" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>size2Type PixSize element: 2 doubles with optional position angle</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixSize2Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2x2 matrix PixSize element`
Diagram	
Type	double4Type
Type hierarchy	• stcBaseType • double4Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CPixSize2
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22

Instance	`<PixSize2Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <M11>{1,1}</M11>`
	`  <M12>{1,1}</M12>`
	`  <M21>{1,1}</M21>`
	`  <M22>{1,1}</M22>`
	`</PixSize2Matrix>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixSize2Matrix" type="double4Type" substitutionGroup="CPixSize2" nillable="true">
  <xs:annotation>
    <xs:documentation>2x2 matrix PixSize element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vector2CoordinateType / Name1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name1" type="xs:string" minOccurs="0"/>`

Element vector2CoordinateType / Name2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name2" type="xs:string" minOccurs="0"/>`

Element pixelVector2CoordinateType / Name1

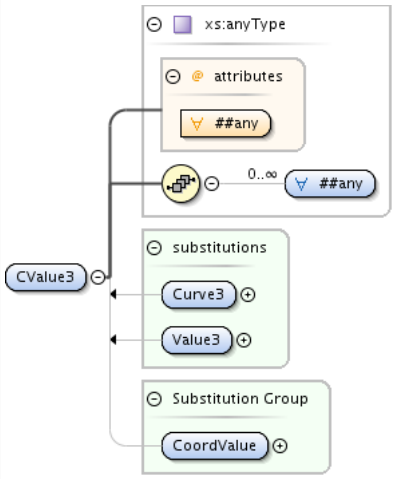
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name1" type="xs:string" minOccurs="0"/>`

Element pixelVector2CoordinateType / Name2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	`<xs:element name="Name2" type="xs:string" minOccurs="0"/>`

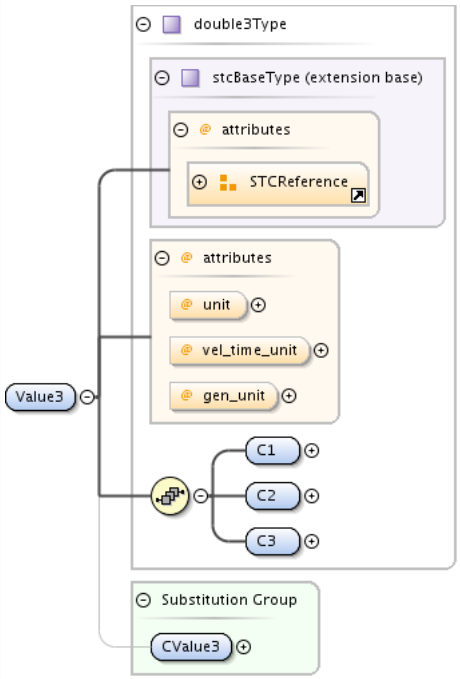
Element CValue3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 3-D coordinate value

Diagram	
Properties	abstract: `true`
Substitution Group	• Value3 • Curve3
Substitution Group Affiliation	• CoordValue
Used by	Complex Types: genVector3CoordinateType, posVector3CoordinateType, vector3CoordinateType, velVector3CoordinateType

Source	`<xs:element name="CValue3" type="xs:anyType" abstract="true" substitutionGroup="CoordValue">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D coordinate value</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Value3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Vector of 3 doubles`
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType

	• double3Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CValue3
Used by	Complex Type: pixelVector3CoordinateType
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<Value3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </Value3>

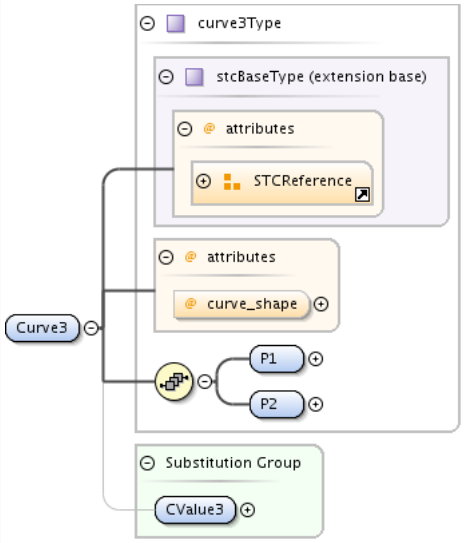
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Value3" type="double3Type" substitutionGroup="CValue3" nillable="true">
  <xs:annotation>
    <xs:documentation>Vector of 3 doubles</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Curve3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Curve in 3-D
Diagram	
Type	curve3Type

Type hierarchy	• stcBaseType • curve3Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CValue3
Model	P1 , P2
Children	P1, P2
Instance	<Curve3 curve_shape="line" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <P1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time P1> <P2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time P2> </Curve3>

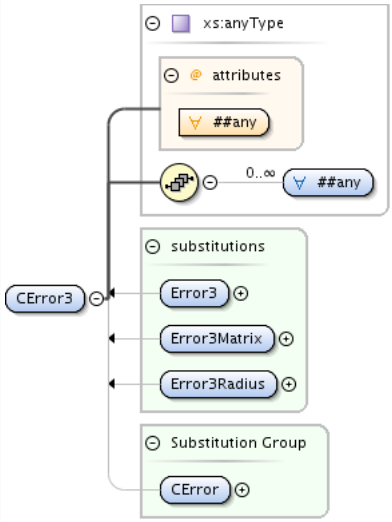
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
curve_shape	xs:string		line	optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Curve3" type="curve3Type" substitutionGroup="CValue3" nillable="true">
  <xs:annotation>
    <xs:documentation>Curve in 3-D</xs:documentation>
  </xs:annotation>
</xs:element>
```

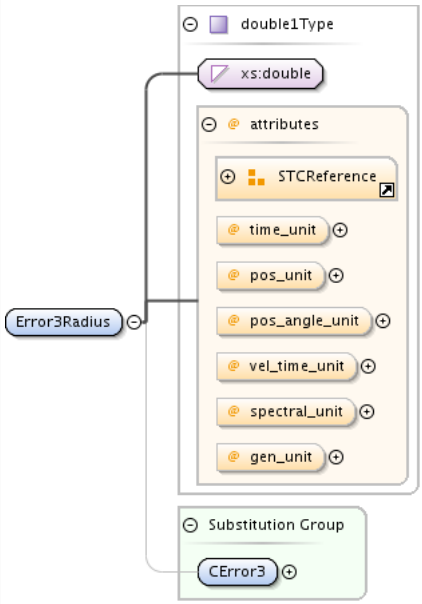
Element CError3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 3-D coordinate error
Diagram	
Properties	abstract: true
Substitution Group	• Error3Radius • Error3 • Error3Matrix

Substitution Group Affiliation	• CError
Used by	Complex Types genVector3CoordinateType, posVector3CoordinateType, vector3CoordinateType, velVector3CoordinateType

Source	`<xs:element name="CError3" type="xs:anyType" abstract="true" substitutionGroup="CError">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D coordinate error</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Error3Radius`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double: radius of a 3-D error sphere`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CError3

Attributes

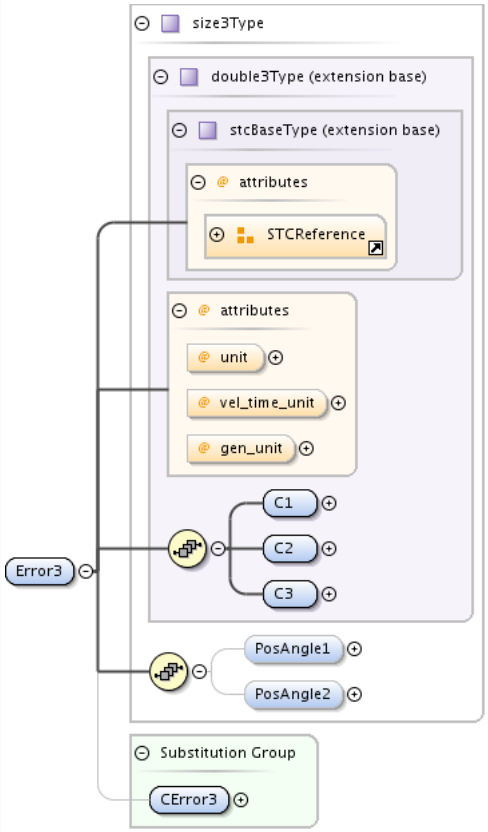
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error3Radius" type="double1Type" substitutionGroup="CError3" nillable="true">
  <xs:annotation>
```

```
    <xs:documentation>double: radius of a 3-D error sphere</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Error3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`size3Type Error element: 3 doubles with optional position angle(s)`
Diagram	
Type	size3Type

Type hierarchy	• stcBaseType
	  • double3Type
	  • size3Type

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CError3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2

Instance	`<Error3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`  <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="`
	`PosAngle1>`
	`  <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="`
	`PosAngle2>`
	`</Error3>`

Attributes

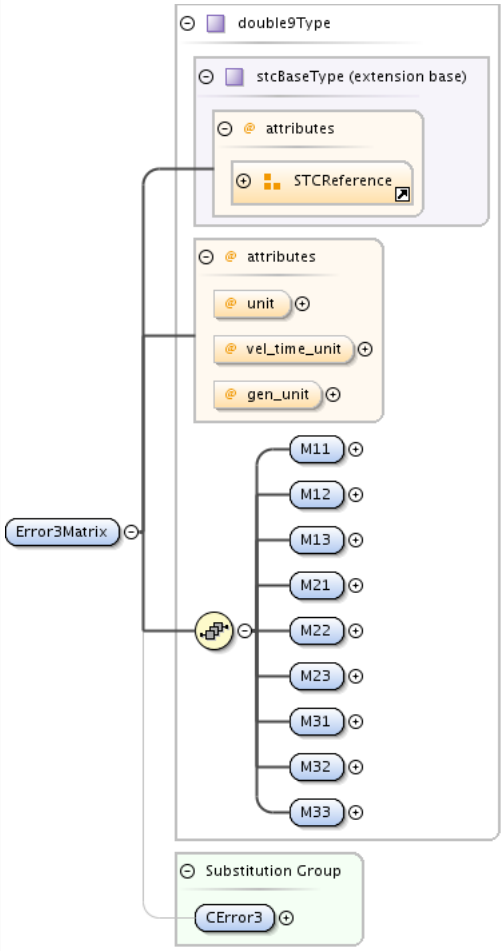
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error3" type="size3Type" substitutionGroup="CError3" nillable="true">
  <xs:annotation>
    <xs:documentation>size3Type Error element: 3 doubles with optional position angle(s)</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Error3Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3x3 matrix Error element`
Diagram	
Type	double9Type
Type hierarchy	• stcBaseType • double9Type
Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• CError3
Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33
Instance	<Error3Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M13>{1,1}</M13> <M21>{1,1}</M21> <M22>{1,1}</M22> <M23>{1,1}</M23> <M31>{1,1}</M31> <M32>{1,1}</M32> <M33>{1,1}</M33> </Error3Matrix>

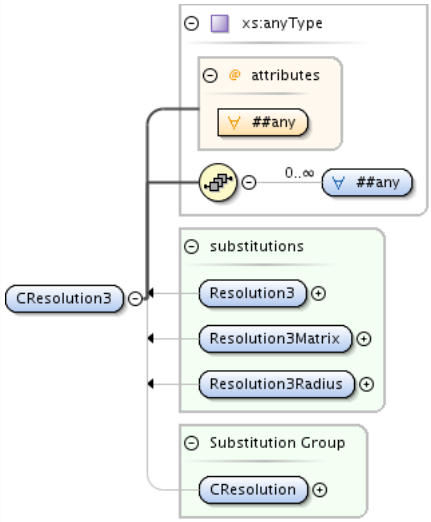
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Error3Matrix" type="double9Type" substitutionGroup="CError3" nillable="true">
  <xs:annotation>
    <xs:documentation>3x3 matrix Error element</xs:documentation>
  </xs:annotation>
</xs:element>
```

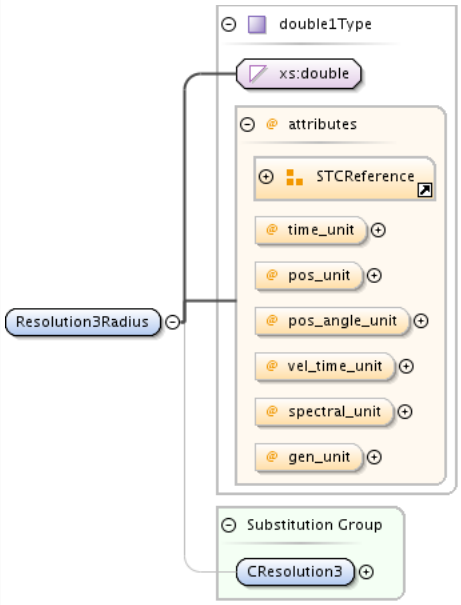
Element CResolution3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Substitution group for a 3-D coordinate resolution
Diagram	
Properties	abstract: true
Substitution Group	• Resolution3Radius • Resolution3 • Resolution3Matrix

Substitution Group Affiliation	• CResolution
Used by	Complex Types: genVector3CoordinateType, posVector3CoordinateType, vector3CoordinateType, velVector3CoordinateType

Source	`<xs:element name="CResolution3" type="xs:anyType" abstract="true" substitutionGroup="CResolution">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D coordinate resolution</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Resolution3Radius`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double: radius of a 3-D spherical resolution`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CResolution3

Attributes

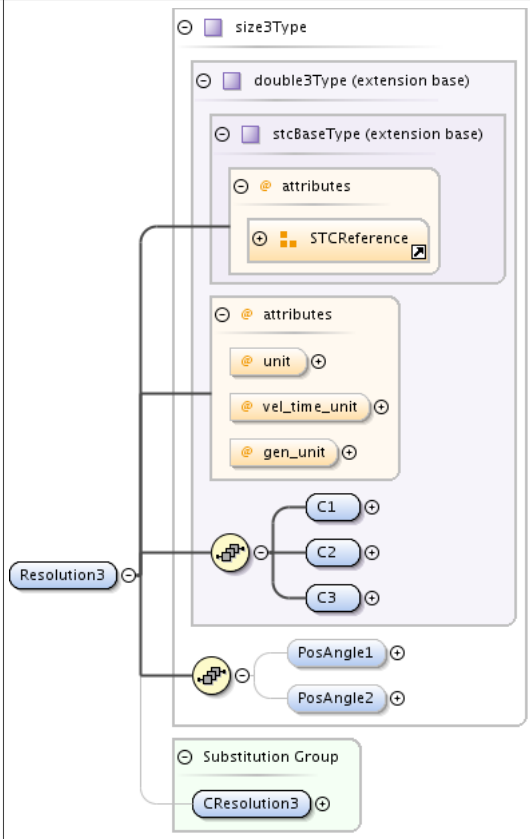
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution3Radius" type="double1Type" substitutionGroup="CResolution3"
 nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>double: radius of a 3-D spherical resolution</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Resolution3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	size3Type Resolution element: 3 doubles with optional position angle(s)
Diagram	
Type	size3Type

Type hierarchy	• stcBaseType
	  • double3Type
	  • size3Type

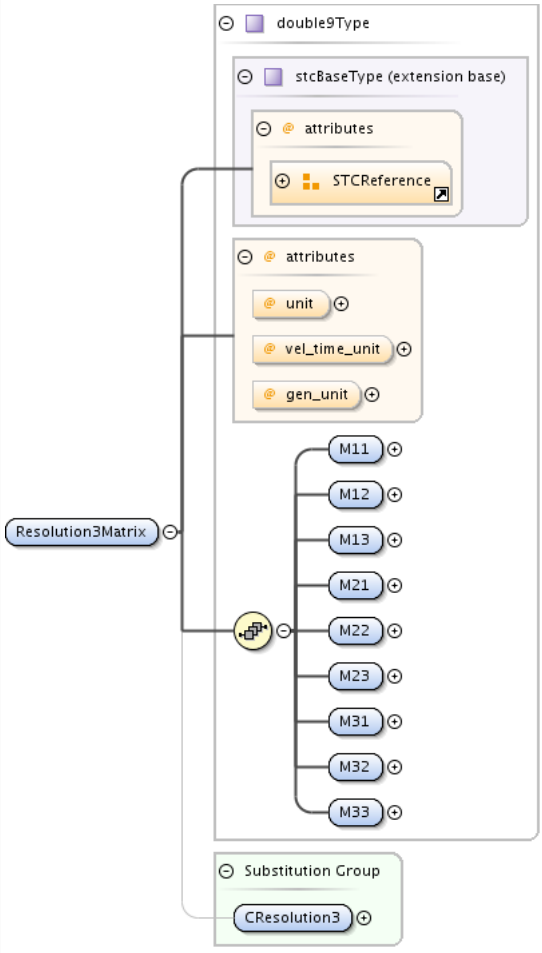
Properties	content: complex nillable: true
Substitution Group Affiliation	• CResolution3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2
Instance	<Resolution3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle1> <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle2> </Resolution3>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution3" type="size3Type" substitutionGroup="CResolution3" nillable="true">
  <xs:annotation>
    <xs:documentation>size3Type Resolution element: 3 doubles with optional position angle(s)</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Resolution3Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3x3 matrix Resoltuion element`
Diagram	
Type	double9Type
Type hierarchy	• stcBaseType • double9Type
Properties	content: `complex`

	nillable: `true`
Substitution Group Affiliation	• CResolution3
Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33
Instance	<Resolution3Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" uni www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M13>{1,1}</M13> <M21>{1,1}</M21> <M22>{1,1}</M22> <M23>{1,1}</M23> <M31>{1,1}</M31> <M32>{1,1}</M32> <M33>{1,1}</M33> </Resolution3Matrix>

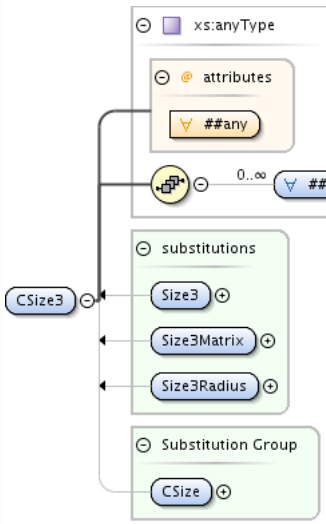
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Resolution3Matrix" type="double9Type" substitutionGroup="CResolution3"
 nillable="true">
  <xs:annotation>
    <xs:documentation>3x3 matrix Resoltuion element</xs:documentation>
  </xs:annotation>
</xs:element>
```

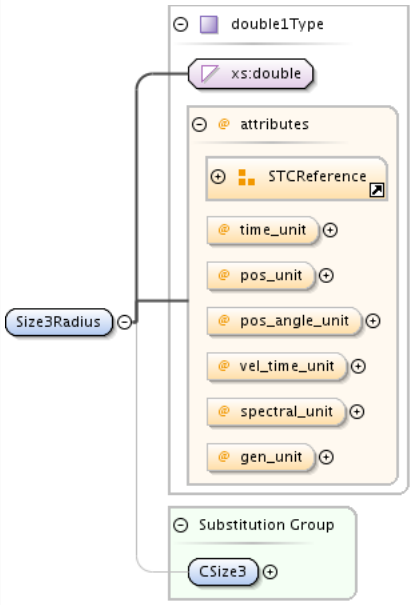
Element `CSize3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Substitution group for a 3-D coordinate size`
Diagram	
Properties	abstract: `true`
Substitution Group	• Size3Radius • Size3

	• Size3Matrix
Substitution Group Affiliation	• CSize
Used by	Complex Types: genVector3CoordinateType, posVector3CoordinateType, vector3CoordinateType, velVector3CoordinateType

Source	`<xs:element name="CSize3" type="xs:anyType" abstract="true" substitutionGroup="CSize">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D coordinate size</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `Size3Radius`

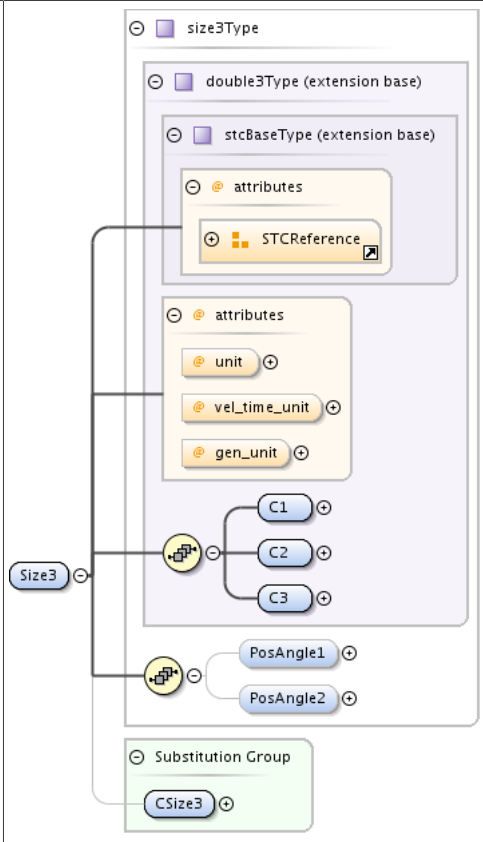
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`double: radius of a 3-D sphere`
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CSize3

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="Size3Radius" type="double1Type" substitutionGroup="CSize3" nillable="true"> <xs:annotation> <xs:documentation>double: radius of a 3-D sphere</xs:documentation> </xs:annotation> </xs:element>

Element Size3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	size3Type Size element: 3 doubles with optional position angle(s)
Diagram	
Type	size3Type
Type hierarchy	• stcBaseType • double3Type • size3Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CSize3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2
Instance	<Size3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_tim www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle1> <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle2> </Size3>

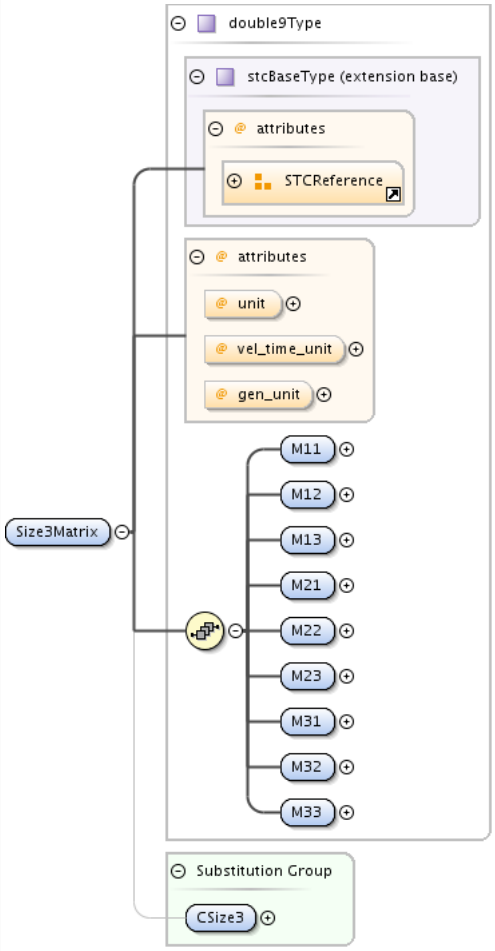
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size3" type="size3Type" substitutionGroup="CSize3" nillable="true">
  <xs:annotation>
    <xs:documentation>size3Type Size element: 3 doubles with optional position angle(s)</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Size3Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3x3 matrix Size element`
Diagram	
Type	double9Type
Type hierarchy	• stcBaseType • double9Type
Properties	content: `complex`

	nillable: `true`
Substitution Group Affiliation	• CSize3
Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33
Instance	<Size3Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M13>{1,1}</M13> <M21>{1,1}</M21> <M22>{1,1}</M22> <M23>{1,1}</M23> <M31>{1,1}</M31> <M32>{1,1}</M32> <M33>{1,1}</M33> </Size3Matrix>

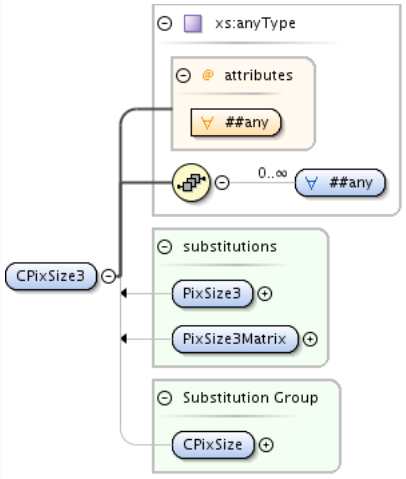
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size3Matrix" type="double9Type" substitutionGroup="CSize3" nillable="true">
  <xs:annotation>
    <xs:documentation>3x3 matrix Size element</xs:documentation>
  </xs:annotation>
</xs:element>
```

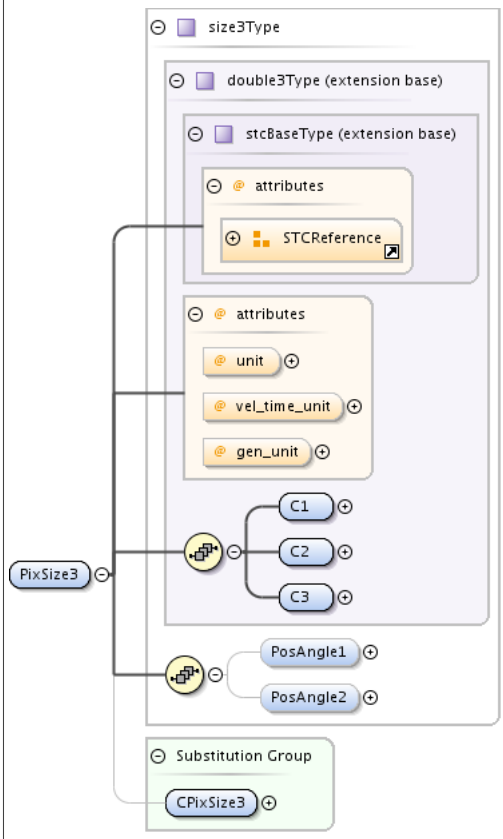
Element `CPixSize3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Substitution group for a 3-D coordinate pixel size`
Diagram	
Properties	abstract: `true`
Substitution Group	• PixSize3 • PixSize3Matrix

Substitution Group Affiliation	• CPixSize
Used by	Complex Types: genVector3CoordinateType, posVector3CoordinateType, vector3CoordinateType, velVector3CoordinateType

Source	`<xs:element name="CPixSize3" type="xs:anyType" abstract="true" substitutionGroup="CPixSize">`
	`  <xs:annotation>`
	`  <xs:documentation>Substitution group for a 3-D coordinate pixel size</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element `PixSize3`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`size3Type PixSize element: 3 doubles with optional position angle(s)`
Diagram	
Type	size3Type

Type hierarchy	• stcBaseType
	  • double3Type
	  • size3Type

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CPixSize3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2

Instance	`<PixSize3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`

```
  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C3>
  <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="
PosAngle1>
  <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="
PosAngle2>
</PixSize3>
```

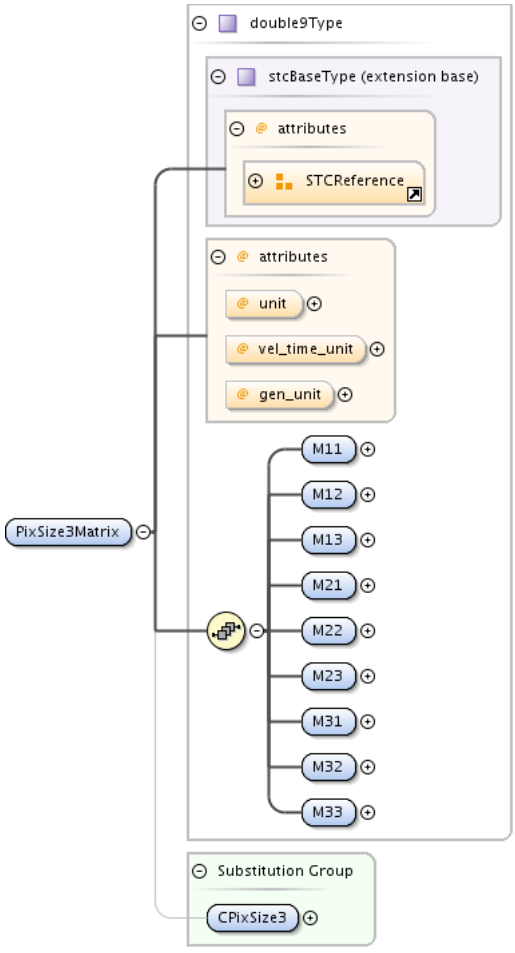
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixSize3" type="size3Type" substitutionGroup="CPixSize3" nillable="true">
  <xs:annotation>
    <xs:documentation>size3Type PixSize element: 3 doubles with optional position angle(s)</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixSize3Matrix`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3x3 matrix PixSize element`
Diagram	

Type	double9Type
Type hierarchy	• stcBaseType • double9Type
Properties	content: complex nillable: true
Substitution Group Affiliation	• CPixSize3
Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33
Instance	<PixSize3Matrix gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <M11>{1,1}</M11> <M12>{1,1}</M12> <M13>{1,1}</M13> <M21>{1,1}</M21> <M22>{1,1}</M22> <M23>{1,1}</M23> <M31>{1,1}</M31> <M32>{1,1}</M32> <M33>{1,1}</M33> </PixSize3Matrix>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixSize3Matrix" type="double9Type" substitutionGroup="CPixSize3" nillable="true">
  <xs:annotation>
    <xs:documentation>3x3 matrix PixSize element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vector3CoordinateType / Name1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name1" type="xs:string" minOccurs="0"/>

Element vector3CoordinateType / Name2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0

Source	<xs:element name="Name2" type="xs:string" minOccurs="0"/>

Element vector3CoordinateType / Name3

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name3" type="xs:string" minOccurs="0"/>

Element pixelVector3CoordinateType / Name1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name1" type="xs:string" minOccurs="0"/>

Element pixelVector3CoordinateType / Name2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name2" type="xs:string" minOccurs="0"/>

Element pixelVector3CoordinateType / Name3

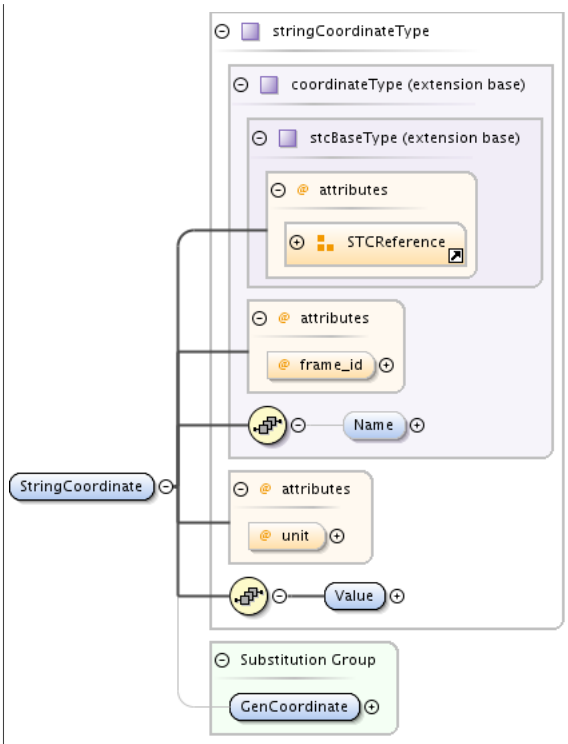
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0
Source	<xs:element name="Name3" type="xs:string" minOccurs="0"/>

Element stringCoordinateType / Value

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:string
Properties	content: simple
Source	<xs:element name="Value" type="xs:string"/>

Element StringCoordinate

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Generic string coordinate element

Diagram	
Type	stringCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • stringCoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• GenCoordinate
Model	Name{0,1} , Value
Children	Name, Value

Instance	`<StringCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Value>{1,1}</Value>`
	`</StringCoordinate>`

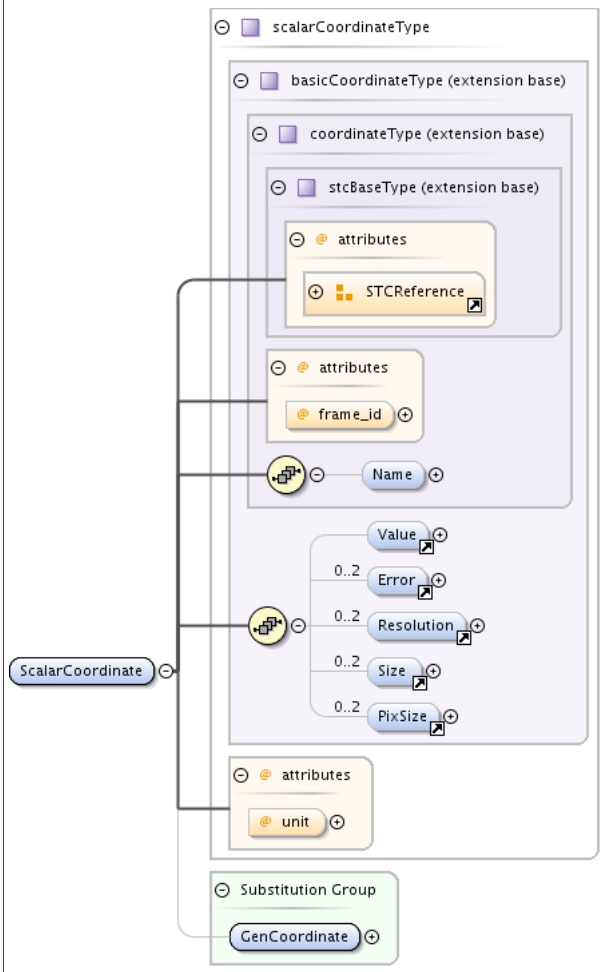
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="StringCoordinate" type="stringCoordinateType" substitutionGroup="GenCoordinate"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Generic string coordinate element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `ScalarCoordinate`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generic scalar coordinate element`
Diagram	
Type	scalarCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType
	  • scalarCoordinateType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• GenCoordinate
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Instance	`<ScalarCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`
	`  <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Value>`
	`  <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Error>`
	`  <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect Resolution>`
	`  <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un Size>`

```
  <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
PixSize>
</ScalarCoordinate>
```

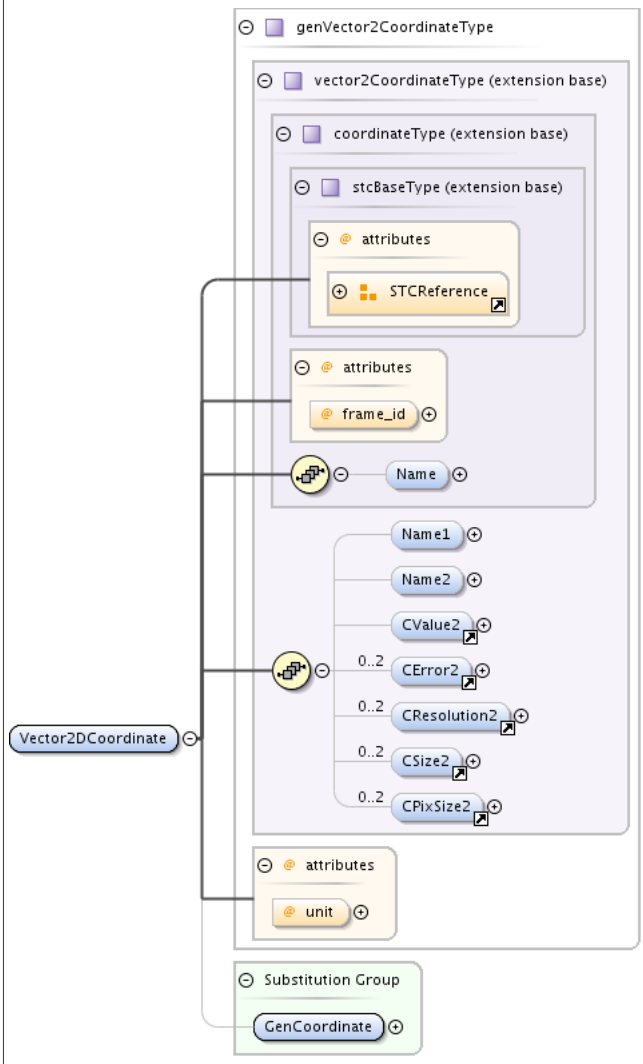
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ScalarCoordinate" type="scalarCoordinateType" substitutionGroup="GenCoordinate"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Generic scalar coordinate element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Vector2DCoordinate`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generic 2-D coordinate element`
Diagram	
Type	genVector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType
	  • genVector2CoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• GenCoordinate
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Instance

```
<Vector2DCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" un
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Name>{0,1}</Name>
  <Name1>{0,1}</Name1>
  <Name2>{0,1}</Name2>
  <CValue2>{0,1}</CValue2>
  <CError2>{0,2}</CError2>
  <CResolution2>{0,2}</CResolution2>
  <CSize2>{0,2}</CSize2>
  <CPixSize2>{0,2}</CPixSize2>
</Vector2DCoordinate>
```

Attributes

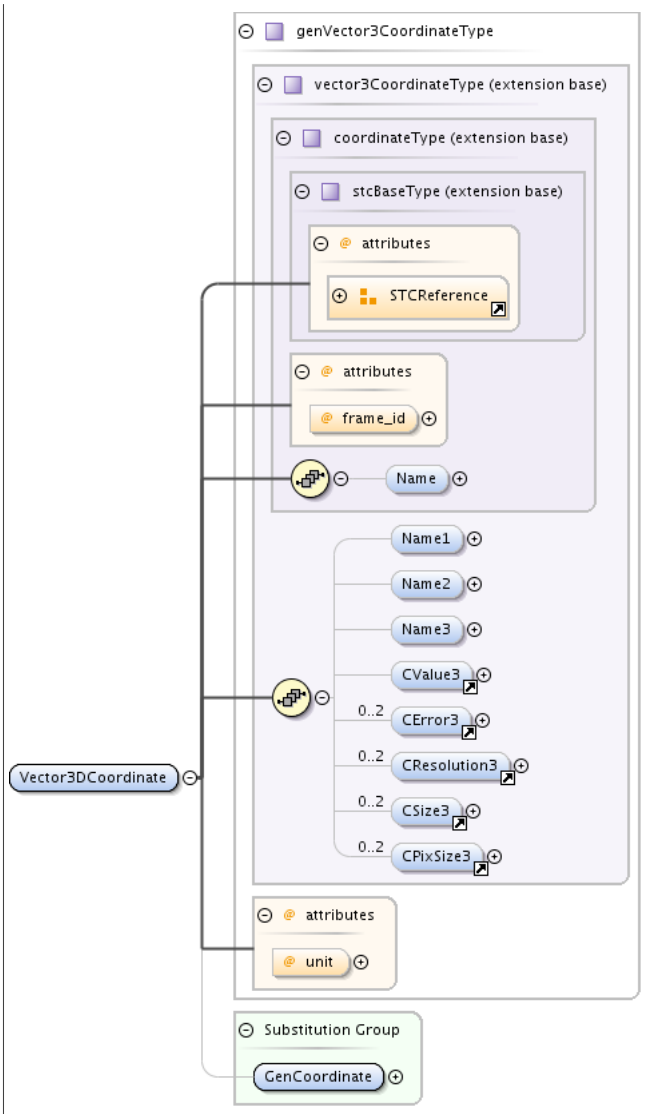
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Vector2DCoordinate" type="genVector2CoordinateType"
 substitutionGroup="GenCoordinate" nillable="true">
  <xs:annotation>
    <xs:documentation>Generic 2-D coordinate element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Vector3DCoordinate

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Generic 3-D coordinate element

Diagram	
Type	genVector3CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector3CoordinateType
	  • genVector3CoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• GenCoordinate
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3
Instance	<Vector3DCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" u www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Name1>{0,1}</Name1> <Name2>{0,1}</Name2> <Name3>{0,1}</Name3> <CValue3>{0,1}</CValue3> <CError3>{0,2}</CError3> <CResolution3>{0,2}</CResolution3> <CSize3>{0,2}</CSize3> <CPixSize3>{0,2}</CPixSize3>

	`</Vector3DCoordinate>`

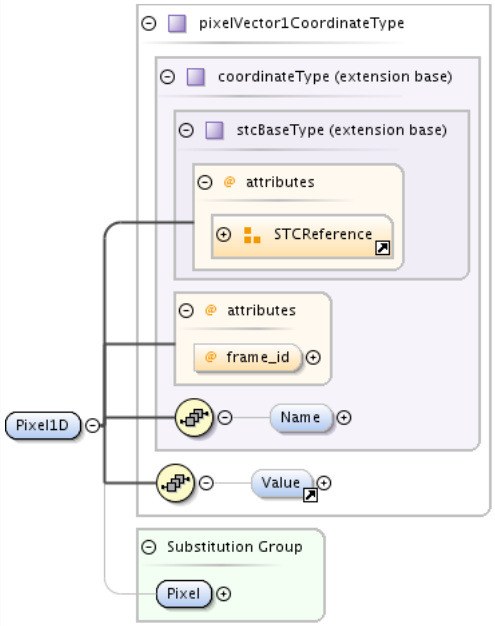
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Vector3DCoordinate" type="genVector3CoordinateType"
 substitutionGroup="GenCoordinate" nillable="true">
  <xs:annotation>
    <xs:documentation>Generic 3-D coordinate element</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Pixel1D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`1-D Position coordinate`
Diagram	

Type	pixelVector1CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • pixelVector1CoordinateType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Pixel
Model	Name{0,1} , Value{0,1}
Children	Name, Value

Instance	`<Pixel1D frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http:/`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <Name>{0,1}</Name>`

```
  <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
Value>
</Pixel1D>
```

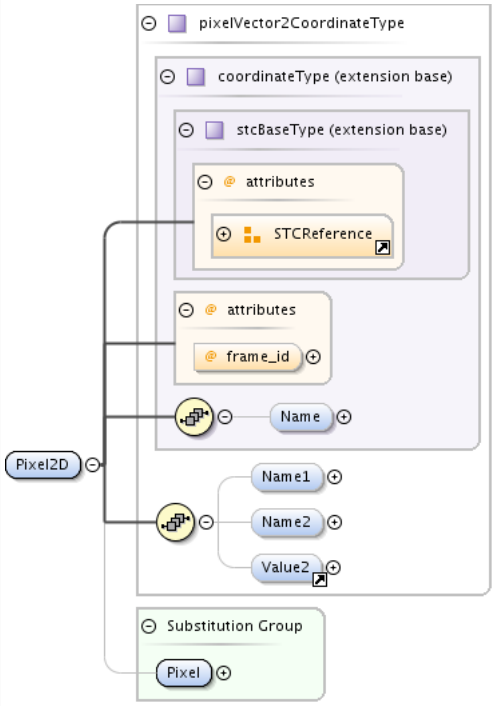
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Pixel1D" type="pixelVector1CoordinateType" substitutionGroup="Pixel"
 nillable="true">
  <xs:annotation>
    <xs:documentation>1-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Pixel2D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D Position coordinate`
Diagram	
Type	pixelVector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • pixelVector2CoordinateType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Pixel
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Value2{0,1}
Children	Name, Name1, Name2, Value2

Instance	<Pixel2D frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http:/ www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Name1>{0,1}</Name1> <Name2>{0,1}</Name2> <Value2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Value2> </Pixel2D>

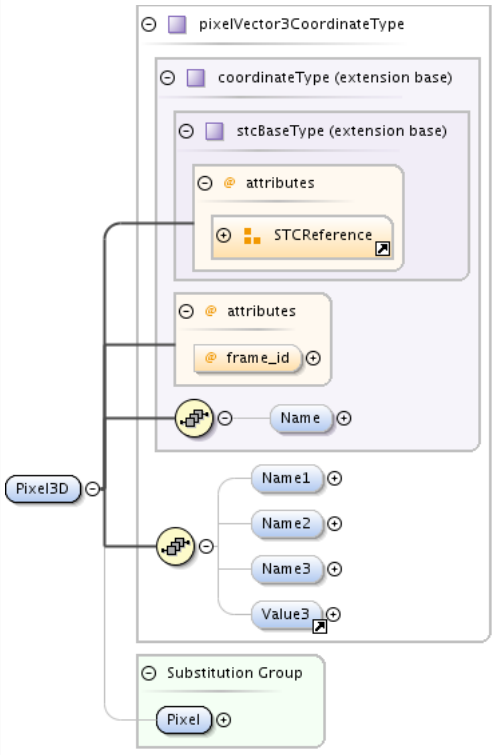
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Pixel2D" type="pixelVector2CoordinateType" substitutionGroup="Pixel"
 nillable="true">
  <xs:annotation>
    <xs:documentation>2-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Pixel3D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3-D Position coordinate`
Diagram	
Type	pixelVector3CoordinateType
Type hierarchy	• stcBaseType • coordinateType • pixelVector3CoordinateType
Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• Pixel
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , Value3{0,1}
Children	Name, Name1, Name2, Name3, Value3
Instance	<Pixel3D frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http:/ www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Name1>{0,1}</Name1> <Name2>{0,1}</Name2> <Name3>{0,1}</Name3> <Value3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Value3> </Pixel3D>

Attributes

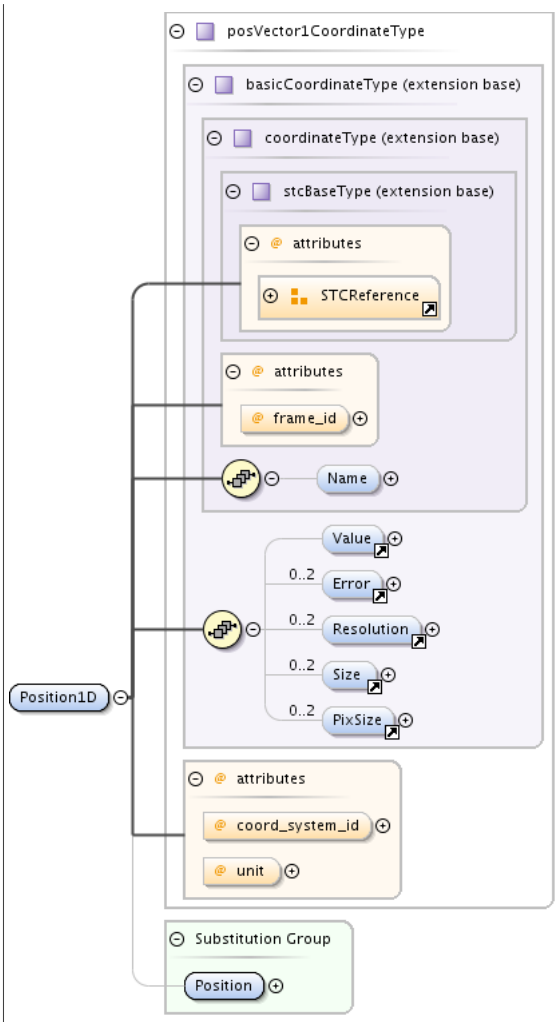
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Pixel3D" type="pixelVector3CoordinateType" substitutionGroup="Pixel"
 nillable="true">
  <xs:annotation>
    <xs:documentation>3-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Position1D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	1-D Position coordinate

Diagram	
Type	posVector1CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType
	  • posVector1CoordinateType

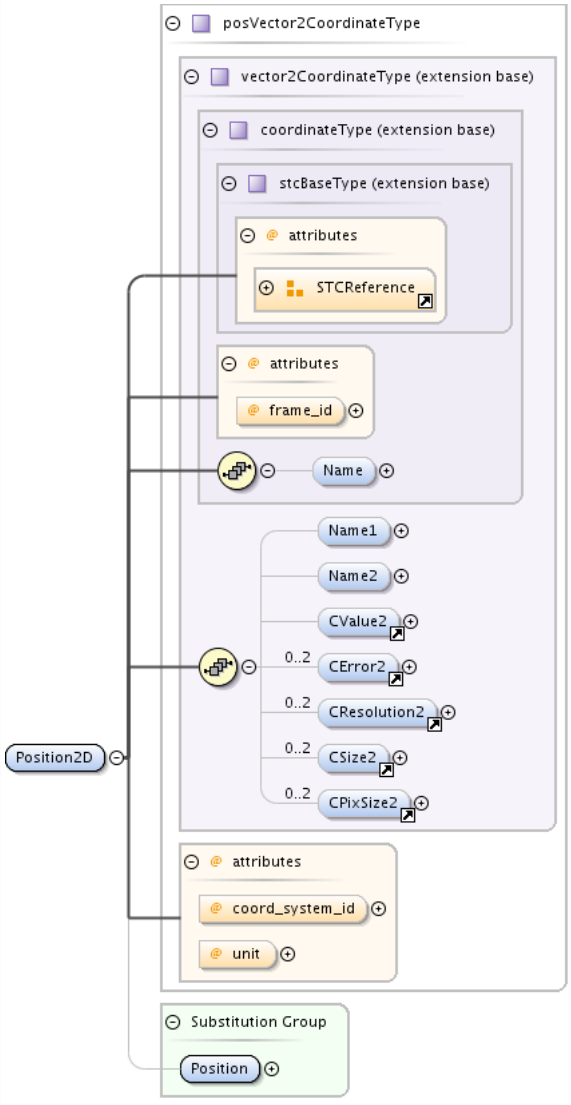
Properties	content: complex nillable: true
Substitution Group Affiliation	• Position
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<Position1D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Value> <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Error> <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect Resolution> <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un Size> <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra PixSize> </Position1D>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	coord_system_id	xs:IDREF			optional
	frame_id	xs:IDREF			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position1D" type="posVector1CoordinateType" substitutionGroup="Position"
 nillable="true">
  <xs:annotation>
    <xs:documentation>1-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Position2D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D Position coordinate`
Diagram	

Type	posVector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType
	  • posVector2CoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Position
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Instance

```
<Position2D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Name>{0,1}</Name>
  <Name1>{0,1}</Name1>
  <Name2>{0,1}</Name2>
  <CValue2>{0,1}</CValue2>
  <CError2>{0,2}</CError2>
  <CResolution2>{0,2}</CResolution2>
  <CSize2>{0,2}</CSize2>
  <CPixSize2>{0,2}</CPixSize2>
</Position2D>
```

Attributes

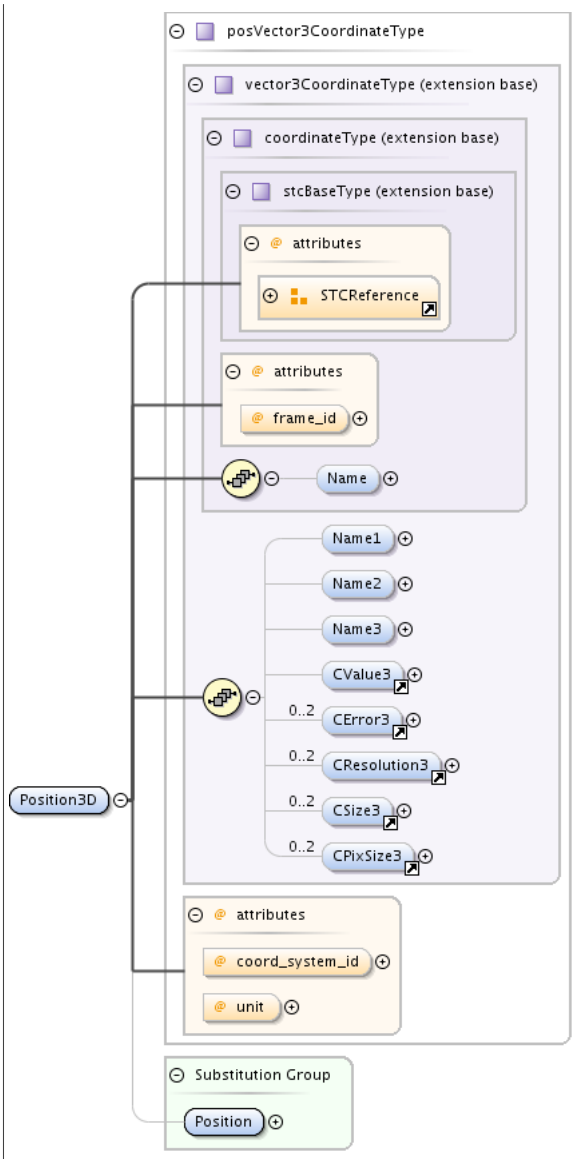
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position2D" type="posVector2CoordinateType" substitutionGroup="Position"
 nillable="true">
  <xs:annotation>
    <xs:documentation>2-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Position3D

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	3-D Position coordinate

Diagram	
Type	posVector3CoordinateType
Type hierarchy	• stcBaseType • coordinateType • vector3CoordinateType • posVector3CoordinateType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Position
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3
Instance	<Position3D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Name1>{0,1}</Name1> <Name2>{0,1}</Name2> <Name3>{0,1}</Name3> <CValue3>{0,1}</CValue3> <CError3>{0,2}</CError3> <CResolution3>{0,2}</CResolution3>

```
  <CSize3>{0,2}</CSize3>
  <CPixSize3>{0,2}</CPixSize3>
</Position3D>
```

Attributes

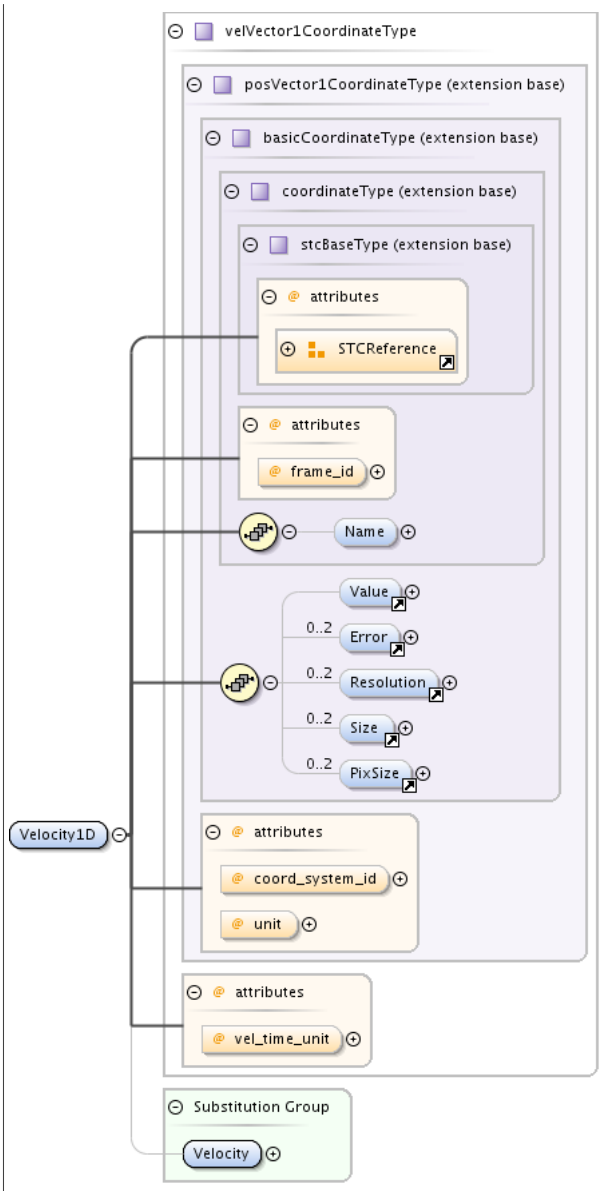
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position3D" type="posVector3CoordinateType" substitutionGroup="Position"
 nillable="true">
  <xs:annotation>
    <xs:documentation>3-D Position coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity1D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`1-D Velocity coordinate`

Diagram	
Type	velVector1CoordinateType
Type hierarchy	• stcBaseType • coordinateType • basicCoordinateType • posVector1CoordinateType • velVector1CoordinateType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Velocity
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value
Instance	<Velocity1D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Value gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u Value>

```
  <Error gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_u
Error>
  <Resolution gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spect
Resolution>
  <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_un
Size>
  <PixSize gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
PixSize>
</Velocity1D>
```

Attributes

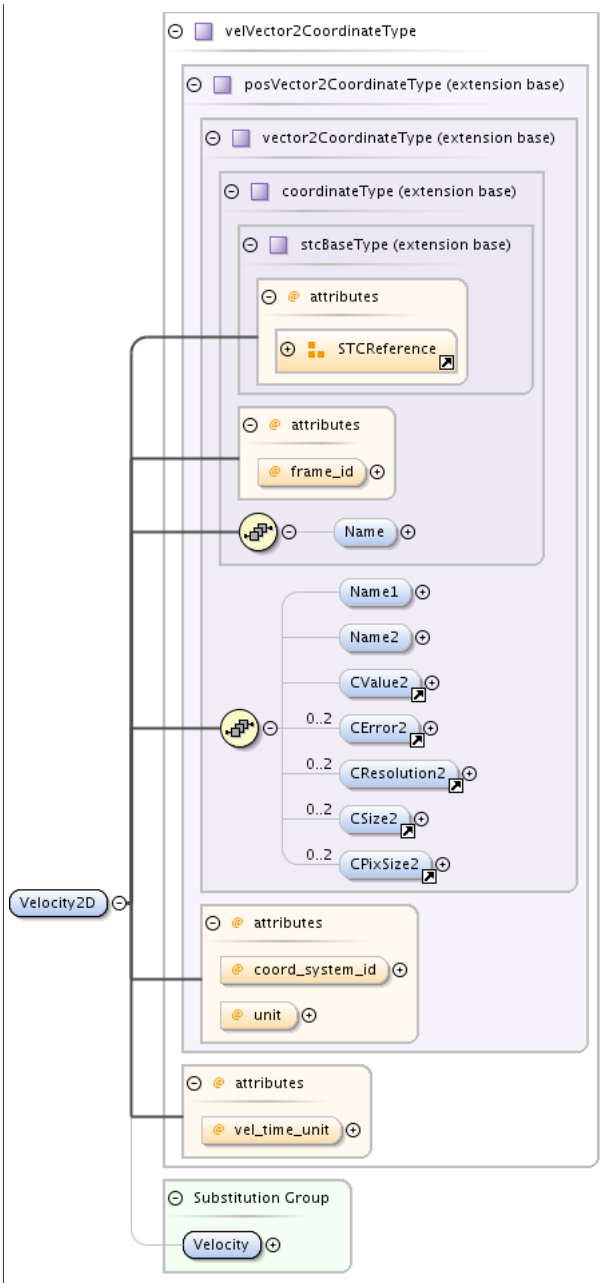
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity1D" type="velVector1CoordinateType" substitutionGroup="Velocity"
 nillable="true">
  <xs:annotation>
    <xs:documentation>1-D Velocity coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity2D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D Velocity coordinate`

Diagram	
Type	velVector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType
	  • posVector2CoordinateType
	  • velVector2CoordinateType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Velocity
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2
Instance	<Velocity2D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple www.ivoa.net/xml/STC/stc-v1.30.xsd">

```
  <Name>{0,1}</Name>
  <Name1>{0,1}</Name1>
  <Name2>{0,1}</Name2>
  <CValue2>{0,1}</CValue2>
  <CError2>{0,2}</CError2>
  <CResolution2>{0,2}</CResolution2>
  <CSize2>{0,2}</CSize2>
  <CPixSize2>{0,2}</CPixSize2>
</Velocity2D>
```

Attributes

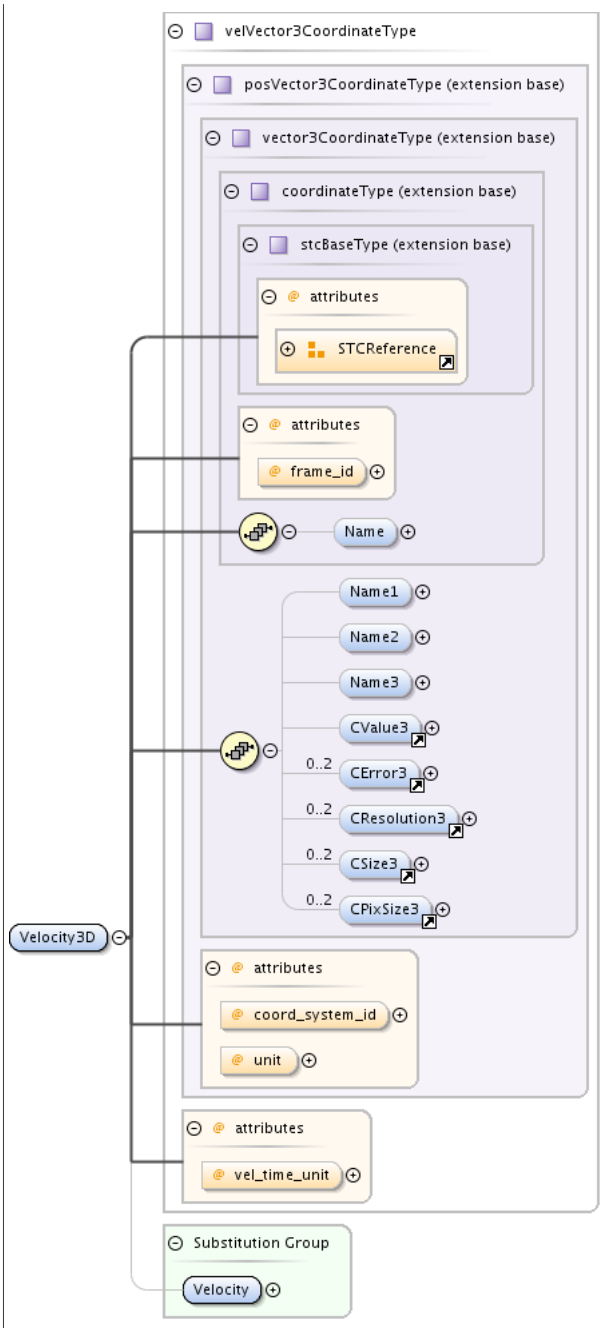
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity2D" type="velVector2CoordinateType" substitutionGroup="Velocity"
 nillable="true">
  <xs:annotation>
    <xs:documentation>2-D Velocity coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity3D`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3-D Velocity coordinate`

Diagram	
Type	velVector3CoordinateType
Type hierarchy	• stcBaseType • coordinateType • vector3CoordinateType • posVector3CoordinateType • velVector3CoordinateType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Velocity
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}

Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3
Instance	<Velocity3D coord_system_id="" frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Name>{0,1}</Name> <Name1>{0,1}</Name1> <Name2>{0,1}</Name2> <Name3>{0,1}</Name3> <CValue3>{0,1}</CValue3> <CError3>{0,2}</CError3> <CResolution3>{0,2}</CResolution3> <CSize3>{0,2}</CSize3> <CPixSize3>{0,2}</CPixSize3> </Velocity3D>

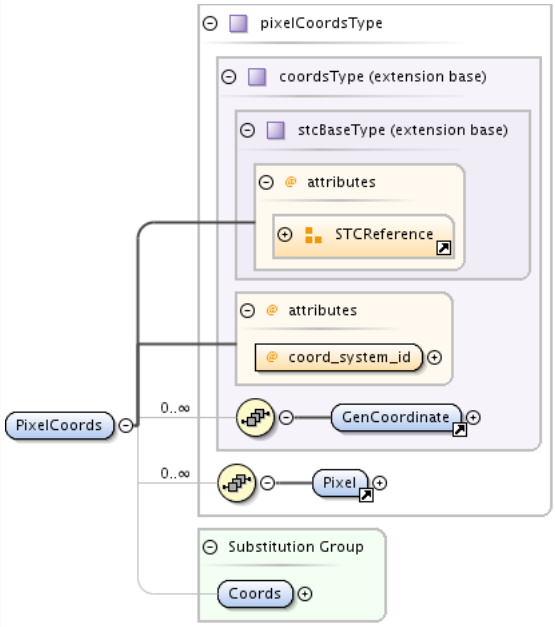
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity3D" type="velVector3CoordinateType" substitutionGroup="Velocity"
 nillable="true">
  <xs:annotation>
    <xs:documentation>3-D Velocity coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoords`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Contains pixel coordinates
Diagram	
Type	pixelCoordsType
Type hierarchy	• stcBaseType • coordsType

	• pixelCoordsType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Coords
Used by	Complex Type pixelSpaceType
Model	GenCoordinate , Pixel
Children	GenCoordinate, Pixel
Instance	<PixelCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <GenCoordinate frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</GenCoordinate> <Pixel frame_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</Pixel> </PixelCoords>

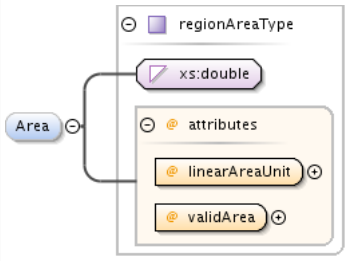
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoords" type="pixelCoordsType" substitutionGroup="Coords" nillable="true">
  <xs:annotation>
    <xs:documentation>Contains pixel coordinates</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element regionType / Area

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	regionAreaType
Properties	content: complex minOccurs: 0

Attributes

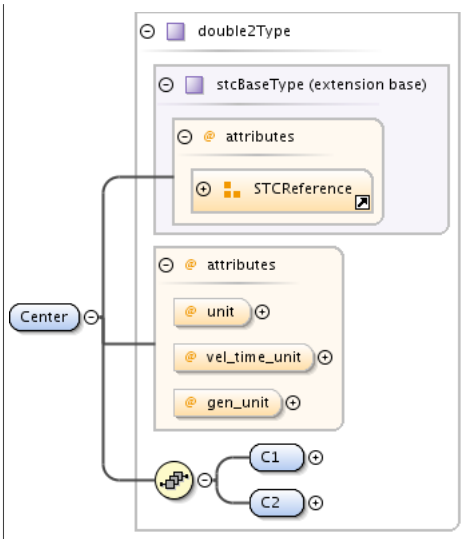
QName	Type	Fixed	Default	Use
linearAreaUnit	posUnitType			required
validArea	xs:boolean			required

Source

```
<xs:element name="Area" type="regionAreaType" minOccurs="0"/>
```

Element circleType / Center

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The coordinates of the circle's center

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Center>

Attributes

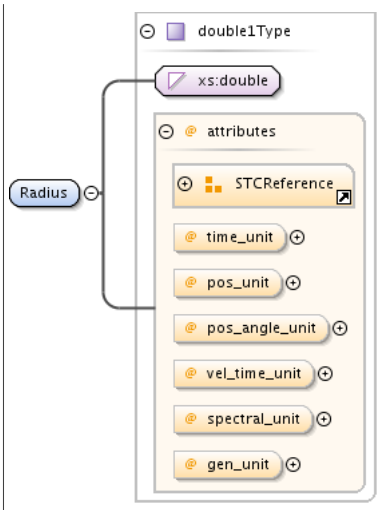
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Center" type="double2Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The coordinates of the circle's center</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `circleType / Radius`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The radius of the circle

Diagram	
Type	double1Type
Properties	content: complex nillable: true

Attributes

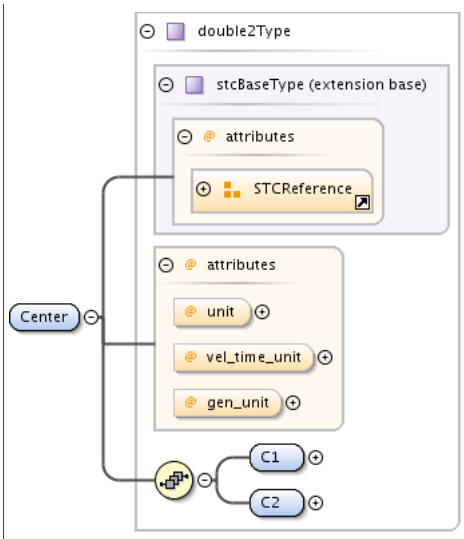
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Radius" type="double1Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The radius of the circle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `ellipseType / Center`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The coordinates of the circle's center

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Center>

Attributes

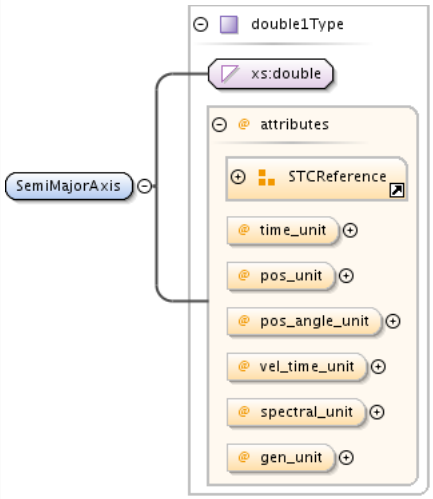
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Center" type="double2Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The coordinates of the circle's center</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ellipseType / SemiMajorAxis

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The radius of the circle

Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`

Attributes

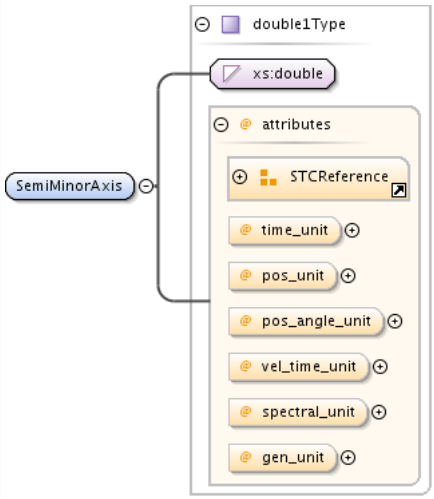
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="SemiMajorAxis" type="double1Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The radius of the circle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `ellipseType / SemiMinorAxis`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Half the minor axis of the ellipse, in radius_unit`

Diagram	
Type	double1Type
Properties	content: complex nillable: true

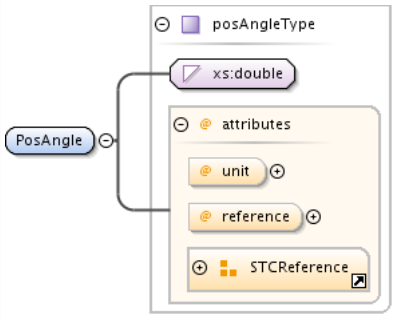
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

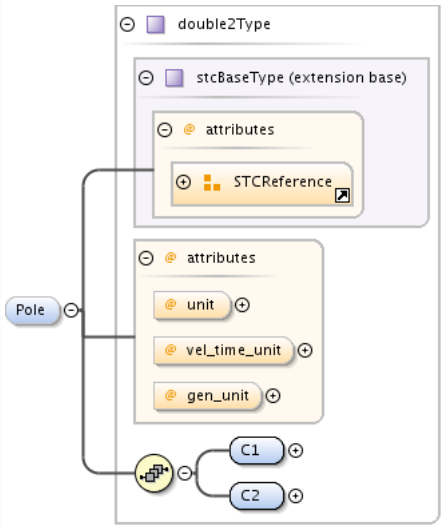
```
<xs:element name="SemiMinorAxis" type="double1Type" nillable="true">
  <xs:annotation>
    <xs:documentation>Half the minor axis of the ellipse, in radius_unit</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `ellipseType / PosAngle`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position angle of major axis (Radius).
Diagram	
Type	posAngleType
Properties	content: complex

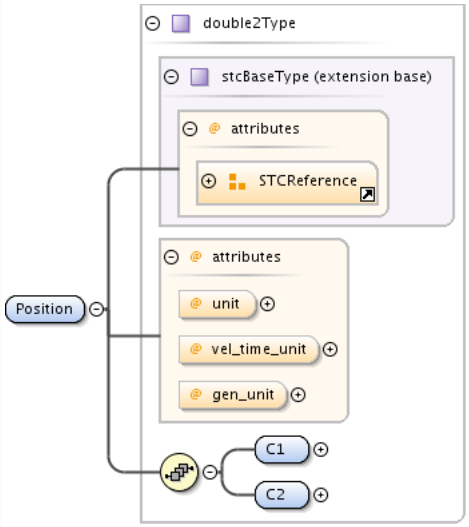
	nillable:	`true`			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	reference	posAngleReferenceType		X	optional
	ucd	xs:string			optional
	unit	angleUnitType		deg	optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	<xs:element name="PosAngle" type="posAngleType" nillable="true"> <xs:annotation> <xs:documentation>Position angle of major axis (Radius).</xs:documentation> </xs:annotation> </xs:element>				

Element `smallCircleType / Pole`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd				
Diagram					
Type	double2Type				
Type hierarchy	• stcBaseType • double2Type				
Properties	content:	`complex`			
	minOccurs:	`0`			
	nillable:	`true`			
Model	C1 , C2				
Children	C1, C2				
Instance	<Pole gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Pole>				
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="Pole" type="double2Type" nillable="true" minOccurs="0"/>`				

Element `vertexType / Position`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: `complex` nillable: `true`
Model	C1 , C2
Children	C1, C2

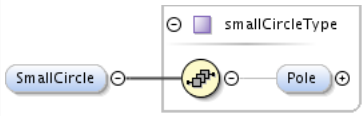
Instance	`<Position gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2>`
	`</Position>`

Attributes

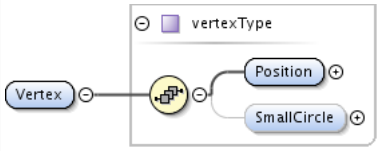
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="Position" type="double2Type" nillable="true"/>

Element vertexType / SmallCircle

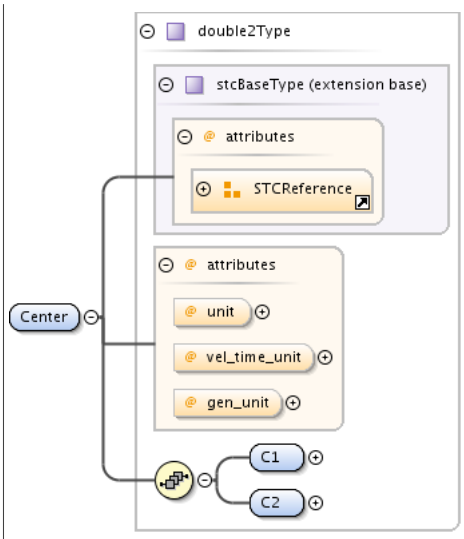
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	smallCircleType
Properties	content: complex minOccurs: 0 nillable: true
Model	Pole{0,1}
Children	Pole
Instance	<SmallCircle xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Pole gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t Pole> </SmallCircle>
Source	<xs:element name="SmallCircle" type="smallCircleType" nillable="true" minOccurs="0"/>

Element polygonType / Vertex

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	In order to form polygons, vertices are to be connected with straight line segments. In the case of spherical coordinates: greatcircle segments; if a smallCircle element si present, the vertex and its predecessor are to be connected with a smallcircle, by default in the CoordSys that is referenced; optionally, a pole may be specified (other than the CoordSys pole) that defines the smallcircle system
Diagram	
Type	vertexType
Properties	content: complex maxOccurs: unbounded
Model	Position , SmallCircle{0,1}
Children	Position, SmallCircle
Instance	<Vertex xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Position gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" ve Position> <SmallCircle>{0,1}</SmallCircle> </Vertex>
Source	<xs:element name="Vertex" type="vertexType" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>In order to form polygons, vertices are to be connected with straight line segments. In the case of spherical coordinates: greatcircle segments; if a smallCircle element si present, the vertex and its predecessor are to be connected with a smallcircle, by default in the CoordSys that is referenced; optionally, a pole may be specified (other than the CoordSys pole) that defines the smallcircle system</xs:documentation> </xs:annotation> </xs:element>

Element boxType / Center

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The coordinates of the box's center

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Center>

Attributes

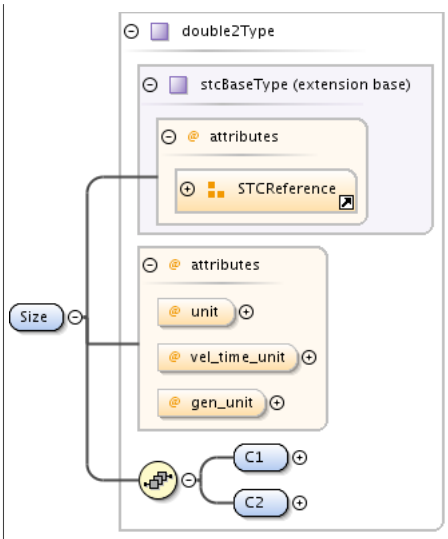
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Center" type="double2Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The coordinates of the box's center</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element boxType / Size

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The lengths of the box's sides

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_time www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Size>

Attributes

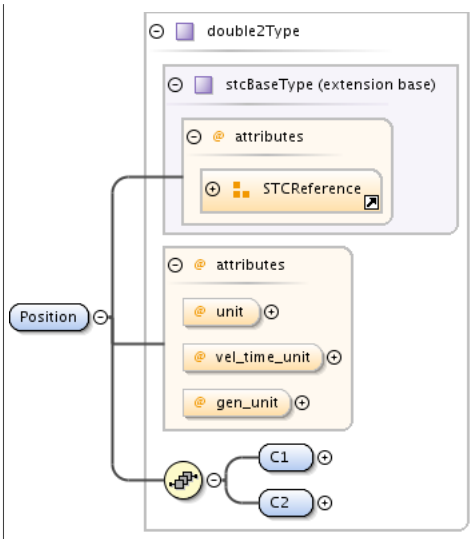
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Size" type="double2Type" nillable="true">
  <xs:annotation>
    <xs:documentation>The lengths of the box's sides</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element sectorType / Position

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The vertex position of the sector

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex
Model	C1 , C2
Children	C1, C2
Instance	<Position gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </Position>

Attributes

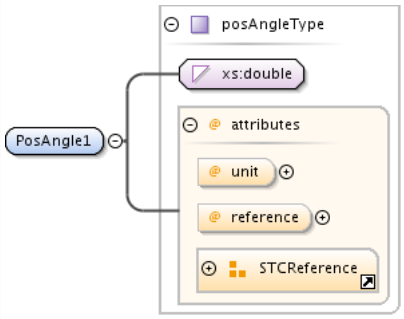
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position" type="double2Type">
  <xs:annotation>
    <xs:documentation>The vertex position of the sector</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element sectorType / PosAngle1

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The area ccw from this position angle is included

Diagram	
Type	posAngleType
Properties	content: complex

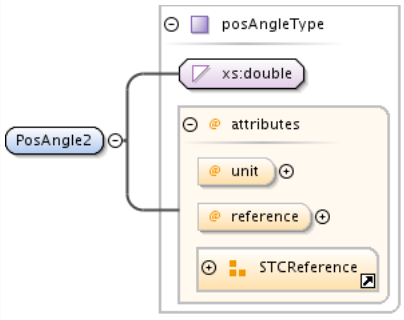
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
reference	posAngleReferenceType		X	optional
ucd	xs:string			optional
unit	angleUnitType		deg	optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PosAngle1" type="posAngleType">
  <xs:annotation>
    <xs:documentation>The area ccw from this position angle is included</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element sectorType / PosAngle2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The area cw from this position angle is included
Diagram	
Type	posAngleType
Properties	content: complex

Attributes

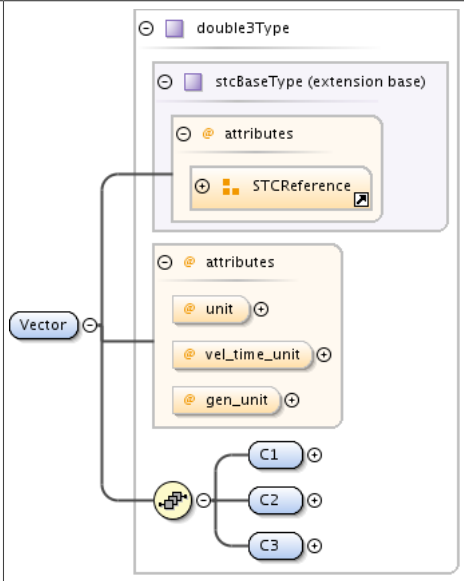
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
reference	posAngleReferenceType		X	optional
ucd	xs:string			optional
unit	angleUnitType		deg	optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PosAngle2" type="posAngleType">
  <xs:annotation>
    <xs:documentation>The area cw from this position angle is included</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `halfspaceType / Vector`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`This needs to be a spherical coordinate vector; it is the unit vector that is normal to the plane that forms a constraint for a convex`
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: `complex` nillable: `true`
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance

```
<Vector gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C1>
  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C2>
  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit
C3>
</Vector>
```

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

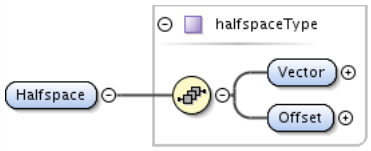
Source

```
<xs:element name="Vector" type="double3Type" nillable="true">
  <xs:annotation>
    <xs:documentation>This needs to be a spherical coordinate vector; it is the unit vector that is
 normal to the plane that forms a constraint for a convex</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element halfspaceType / Offset

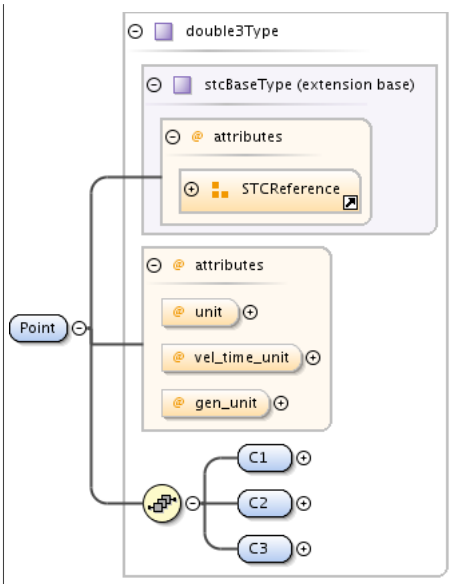
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The distance along the normal vector where the constraint plane intersects that vector; if positive, the spherical sector on the far side (seen from the center) is selected; if negative, the point of intersection is in the opposite direction of the vector, resulting in more than a hemisphere; the valid range is -1.0 to +1.0
Diagram	
Type	hsOffsetType
Properties	content: simple
Facets	maxInclusive 1.0 minInclusive -1.0
Source	<xs:element name="Offset" type="hsOffsetType"> <xs:annotation> <xs:documentation>The distance along the normal vector where the constraint plane intersects that vector; if positive, the spherical sector on the far side (seen from the center) is selected; if negative, the point of intersection is in the opposite direction of the vector, resulting in more than a hemisphere; the valid range is -1.0 to +1.0</xs:documentation> </xs:annotation> </xs:element>

Element convexType / Halfspace

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	halfspaceType
Properties	content: complex maxOccurs: unbounded
Model	Vector , Offset
Children	Offset, Vector
Instance	<Halfspace xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Vector gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Vector> <Offset>{1,1}</Offset> </Halfspace>
Source	<xs:element name="Halfspace" type="halfspaceType" maxOccurs="unbounded"/>

Element convexHullType / Point

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex maxOccurs: unbounded nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<Point gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_tim www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </Point>

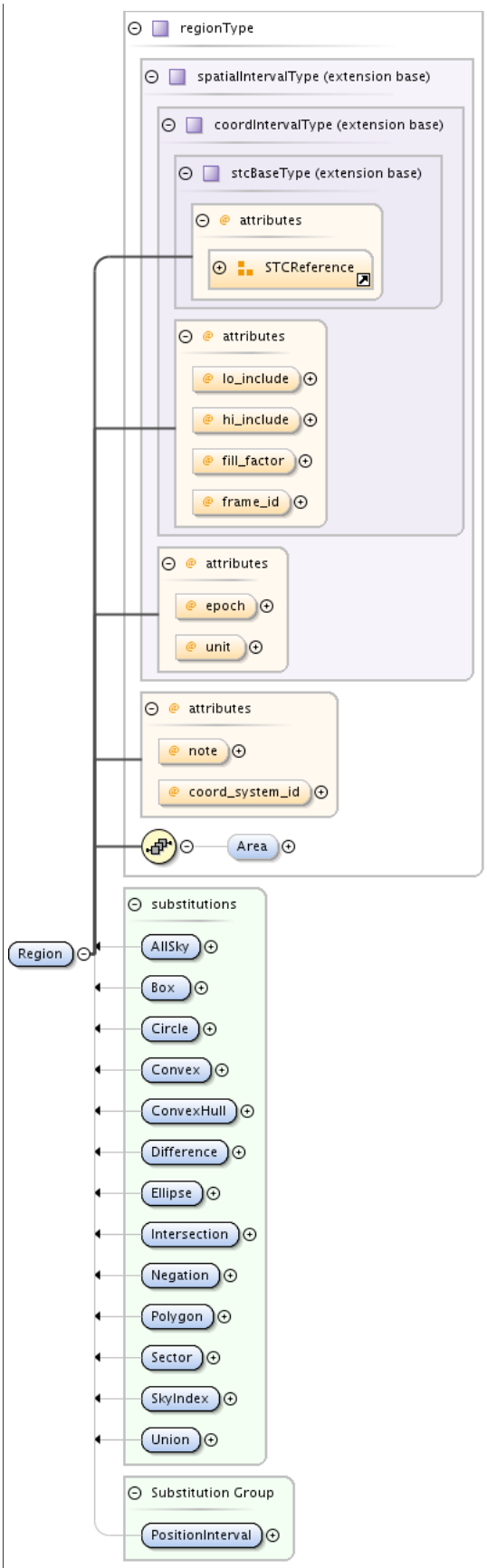
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="Point" type="double3Type" nillable="true" maxOccurs="unbounded"/>

Element Region

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of the Region substitution group; a Region is a Shape or the result of a Region Operation on one or more Regions

Diagram	
Type	regionType
Type hierarchy	• stcBaseType • coordIntervalType

- spatialIntervalType
  - regionType

Properties

content:	complex
nillable:	true

Substitution Group

- Intersection
- Union
- Negation
- Difference
- AllSky
- Circle
- Ellipse
- Polygon
- Box
- Sector
- Convex
- ConvexHull
- SkyIndex

Substitution Group Affiliation

- PositionInterval

Used by

Complex Types	STCRegion, STCRegionList, diffType, intersectionType, negationType, unionType

Model

Area{0,1}

Children

Area

Instance

```
<Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=""
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
</Region>
```

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

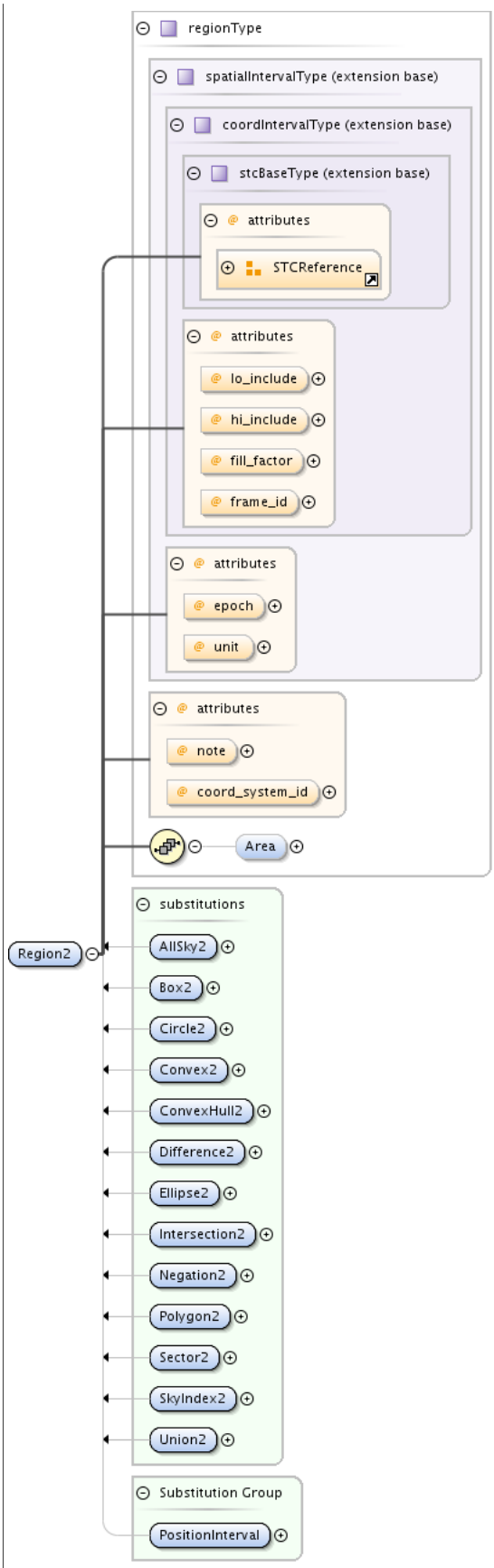
Source

```
<xs:element name="Region" type="regionType" substitutionGroup="PositionInterval" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>Head element of the Region substitution group; a Region is a Shape or the
 result of a Region Operation on one or more Regions</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Region2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Head element of the Region2 substitution group; a Region is a Shape or the result of a Region Operation on one or more Regions

Diagram	
Type	regionType
Type hierarchy	• stcBaseType • coordIntervalType

- spatialIntervalType
  - regionType

Properties	content:	complex
	nillable:	true

Substitution Group

- Intersection2
- Union2
- Negation2
- Difference2
- AllSky2
- Circle2
- Ellipse2
- Polygon2
- Box2
- Sector2
- Convex2
- ConvexHull2
- SkyIndex2

Substitution Group Affiliation

- PositionInterval

Used by

Complex Type diffType

Model

Area{0,1}

Children

Area

Instance

```
<Region2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
</Region2>
```

Attributes

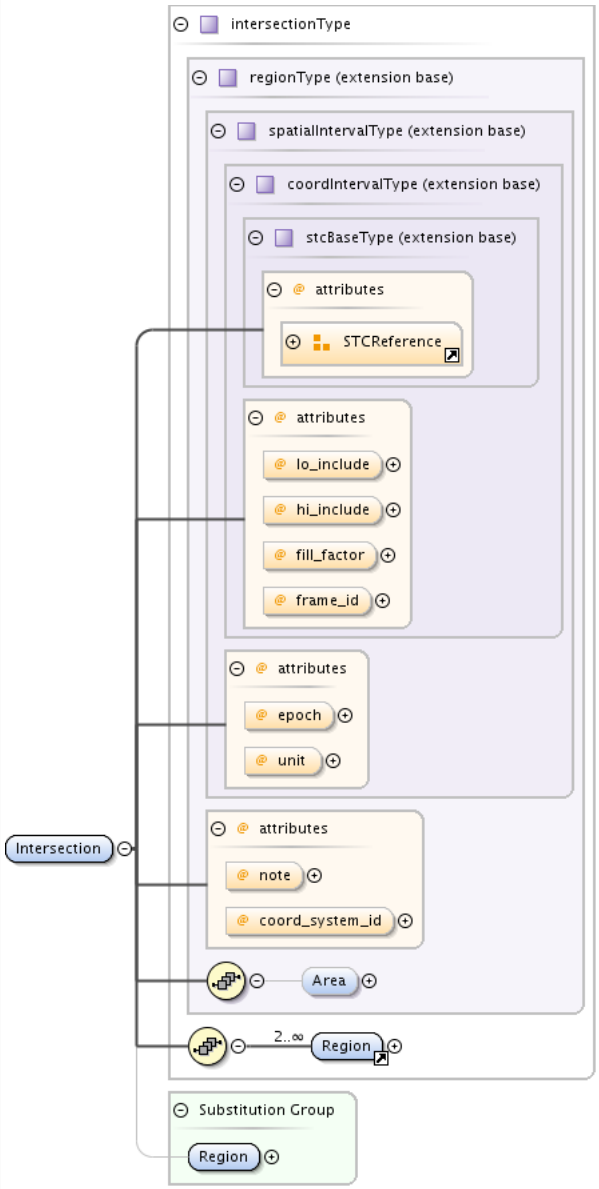
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Region2" type="regionType" substitutionGroup="PositionInterval" nillable="true">
```

```
  <xs:annotation>
    <xs:documentation>Head element of the Region2 substitution group; a Region is a Shape or the
 result of a Region Operation on one or more Regions</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Intersection`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The intersection of two or more regions is a region`
Diagram	
Type	intersectionType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • intersectionType
Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• Region
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region
Instance	<Intersection coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_ty www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" Region> </Intersection>

Attributes

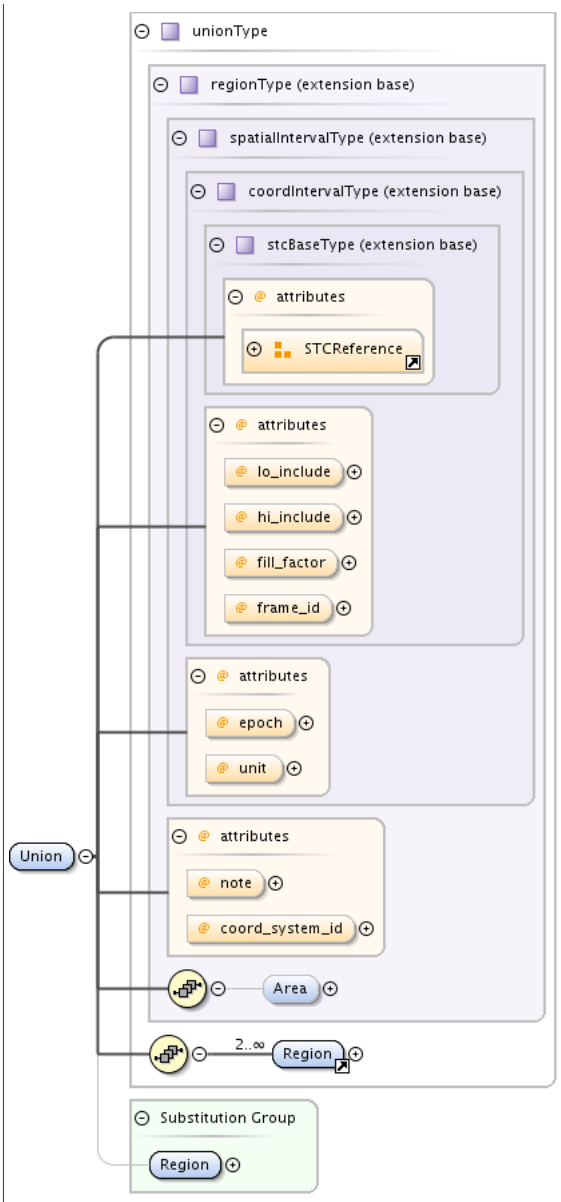
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Intersection" type="intersectionType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>The intersection of two or more regions is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Union

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The union of two or more regions is a region

Diagram	
Type	unionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • unionType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region
Instance	<Union coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" i www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type= Region>

	`</Union>`

Attributes

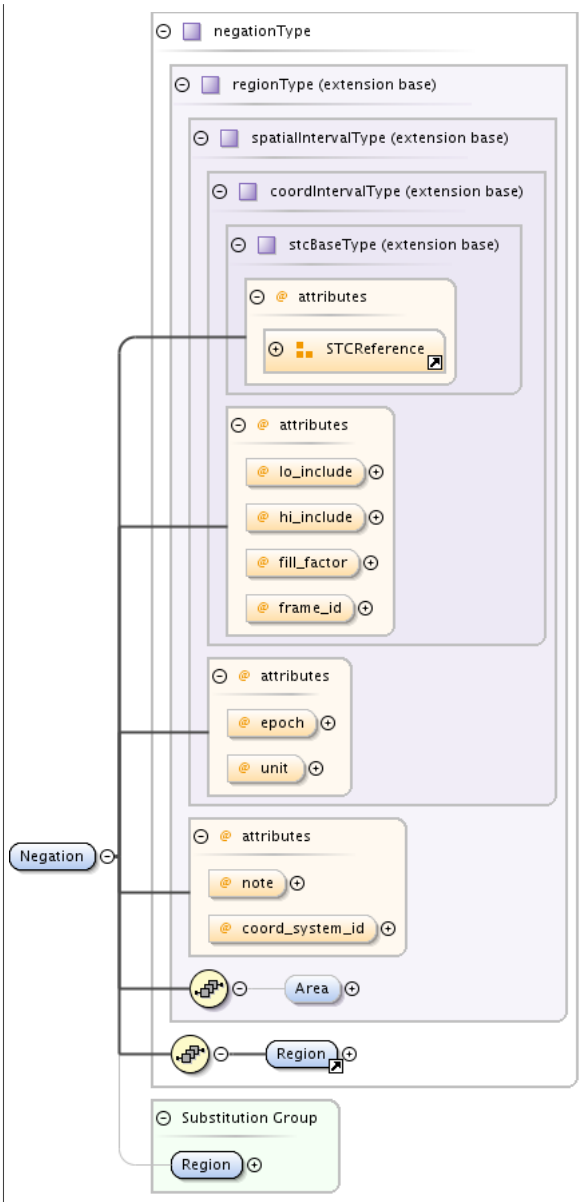
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Union" type="unionType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>The union of two or more regions is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Negation`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The negation of a region is a region`

Diagram	
Type	negationType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • negationType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1} , Region
Children	Area, Region
Instance	<Negation coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" Region>

	`</Negation>`

Attributes

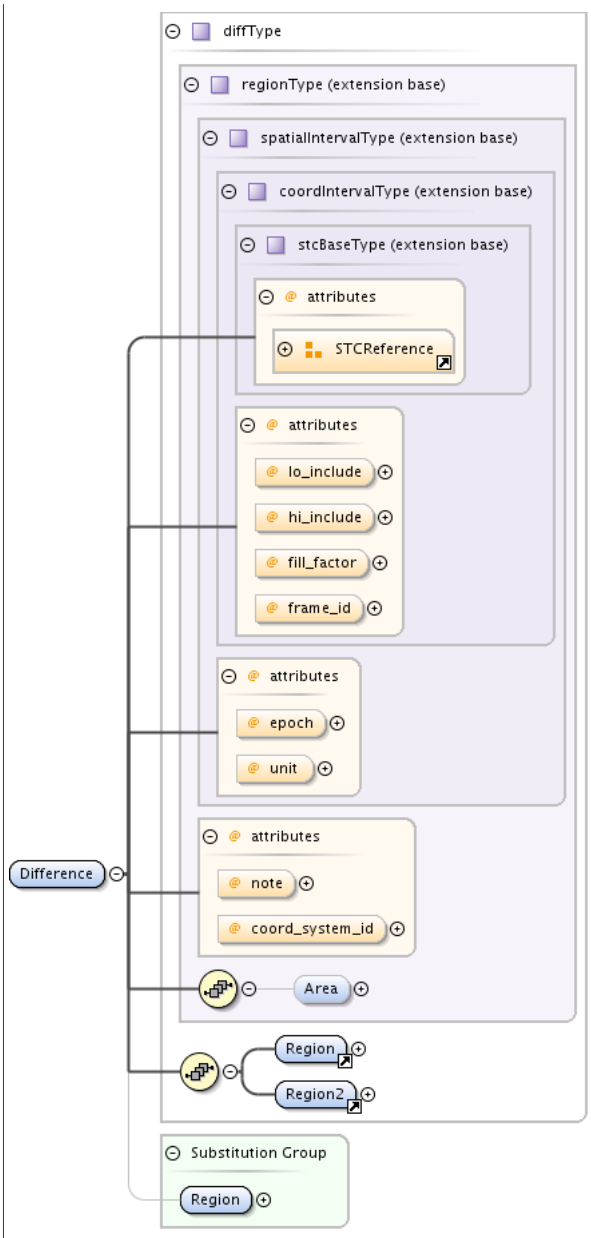
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Negation" type="negationType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>The negation of a region is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Difference`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The difference of two regions (Region1 minus Region2) is a region; it is equivalent to the intersection of Region1 with notRegion2`

Diagram	
Type	diffType

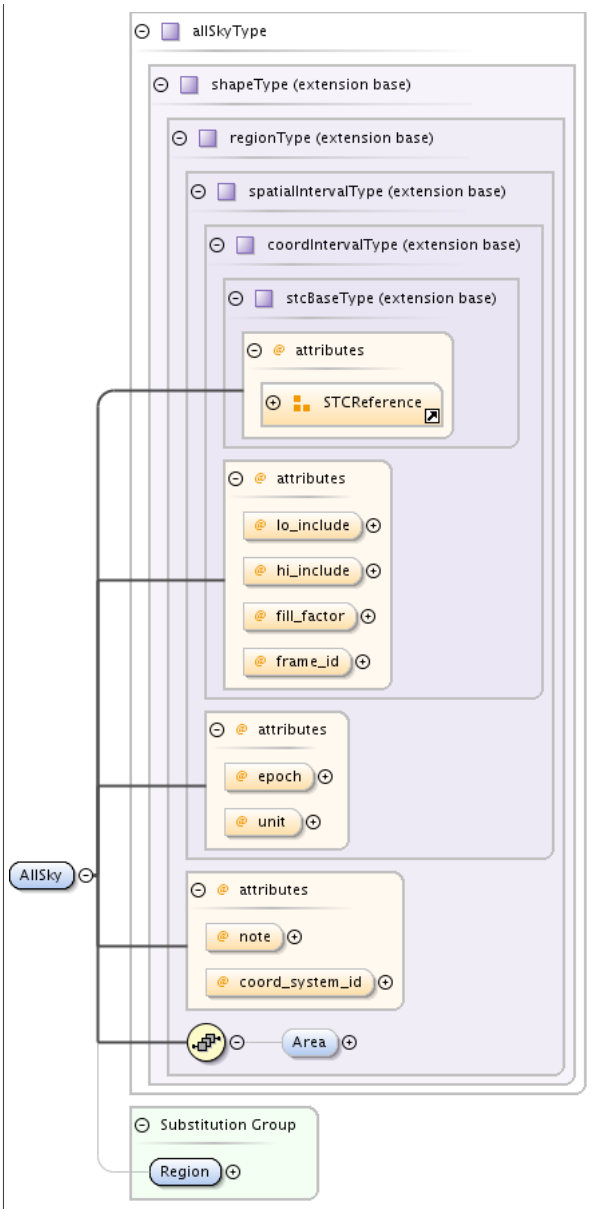
Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • diffType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1} , Region , Region2
Children	Area, Region, Region2
Instance	<Difference coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

<table>
<tr><td></td><td><pre> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
Region>
  <Region2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=
Region2>
</Difference></pre></td></tr>
<tr><td>Attributes</td><td>
<table>
<tr><th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr>
<tr><td>IDREF_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>ID_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>coord_system_id</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>epoch</td><td>xs:decimal</td><td></td><td></td><td>optional</td></tr>
<tr><td>fill_factor</td><td>xs:float</td><td></td><td>1.0</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Fraction of interval that is occupied by data</td></tr>
<tr><td>frame_id</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>hi_include</td><td>xs:boolean</td><td></td><td>true</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Limit to be included?</td></tr>
<tr><td>id</td><td>xs:ID</td><td></td><td></td><td>optional</td></tr>
<tr><td>idref</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>lo_include</td><td>xs:boolean</td><td></td><td>true</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Limit to be included?</td></tr>
<tr><td>note</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>ucd</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>unit</td><td>posUnitType</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:href</td><td>xs:anyURI</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:type</td><td>restriction of xs:NMTOKEN</td><td></td><td>simple</td><td>optional</td></tr>
</table>
</td></tr>
<tr><td>Source</td><td><pre><xs:element name="Difference" type="diffType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>The difference of two regions (Region1 minus Region2) is a region; it is
 equivalent to the intersection of Region1 with notRegion2</xs:documentation>
  </xs:annotation>
</xs:element></pre></td></tr>
</table>

Element AllSky

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	AllSky is just a convenience, meaning no bounds

Diagram	
Type	allSkyType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • allSkyType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1}
Children	Area
Instance	<AllSky coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

	`</AllSky>`

Attributes

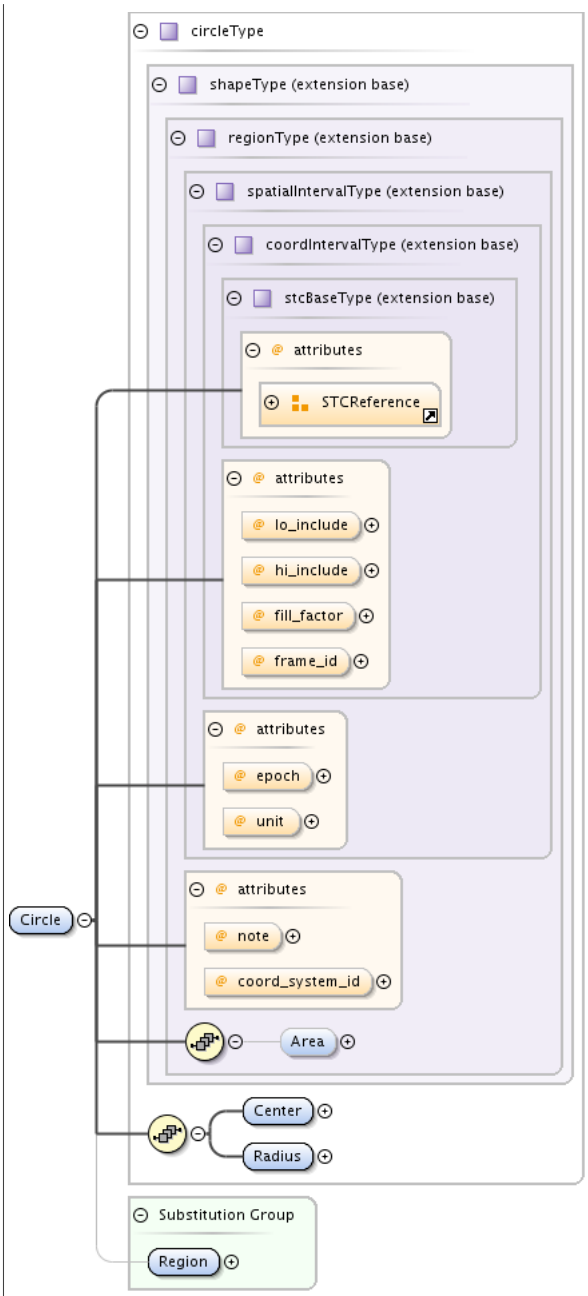
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="AllSky" type="allSkyType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>AllSky is just a convenience, meaning no bounds</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Circle`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The circle is defined by a center and a radius`

Diagram	
Type	circleType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • circleType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1} , Center , Radius

Children	Area, Center, Radius
Instance	<Circle coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Center> <Radius gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_ Radius> </Circle>

Attributes

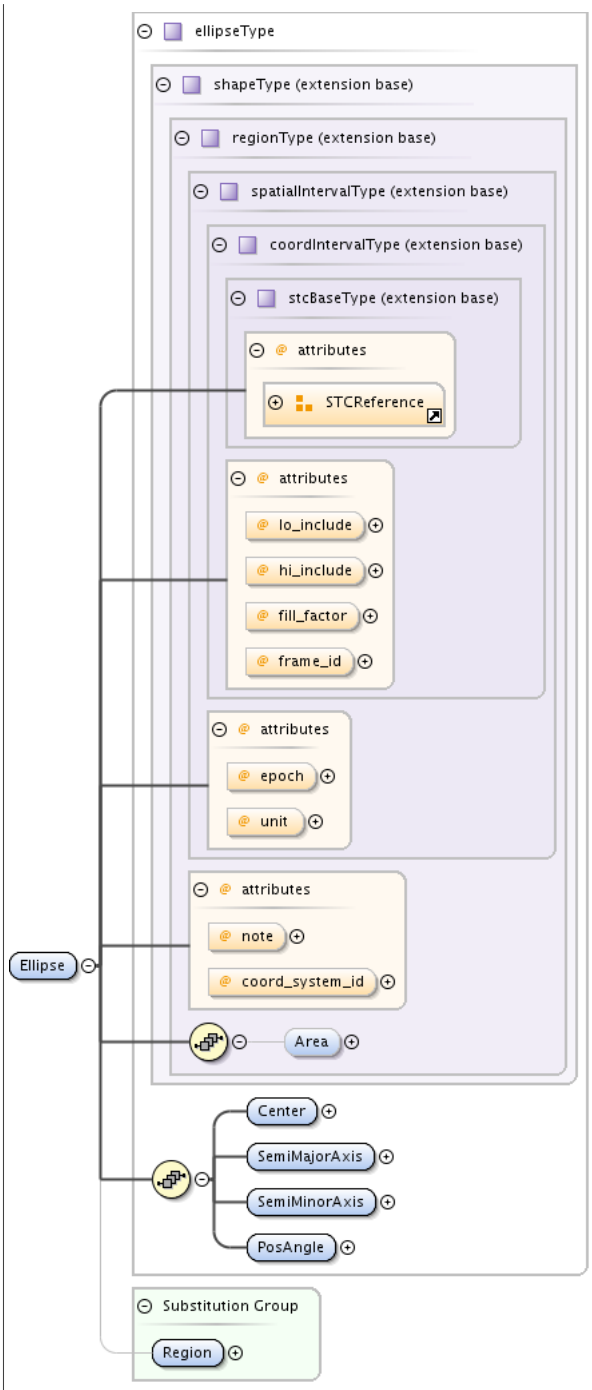
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Circle" type="circleType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>The circle is defined by a center and a radius</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Ellipse`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Ellipse is an extension of the circle shape, with a minor axis radius and position angle

Diagram	
Type	ellipseType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • ellipseType

Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• Region
Model	Area{0,1} , Center , SemiMajorAxis , SemiMinorAxis , PosAngle
Children	Area, Center, PosAngle, SemiMajorAxis, SemiMinorAxis

Instance

```
<Ellipse coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel
Center>
  <SemiMajorAxis gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" sp
SemiMajorAxis>
  <SemiMinorAxis gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" sp
SemiMinorAxis>
  <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de
PosAngle>
</Ellipse>
```

Attributes

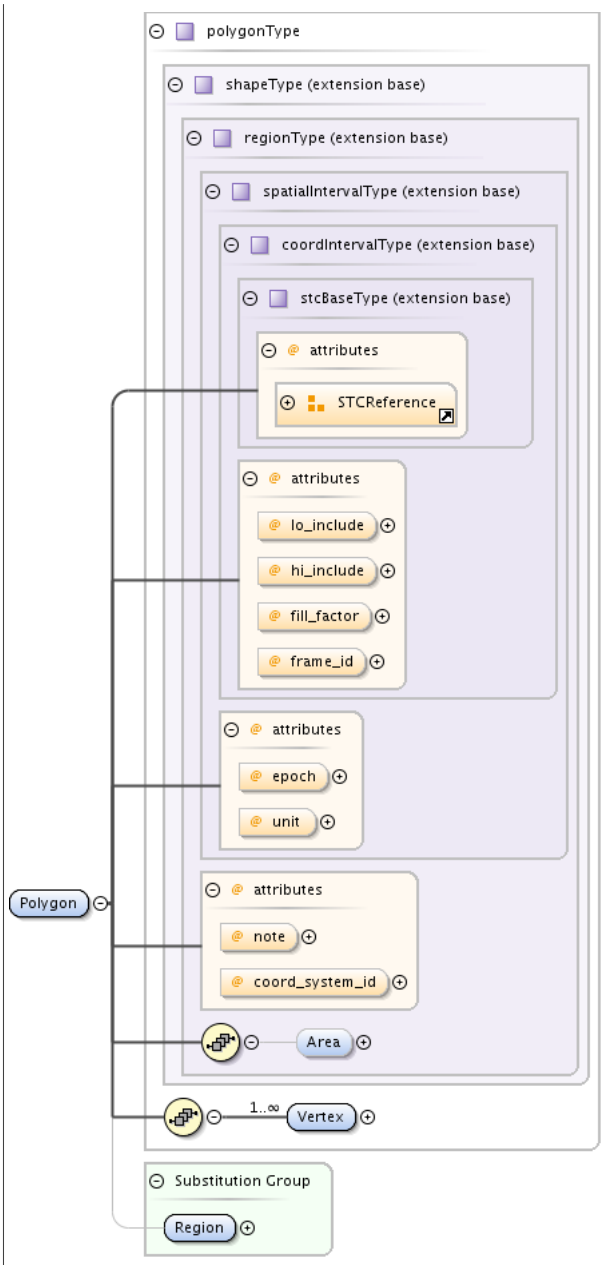
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Ellipse" type="ellipseType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>Ellipse is an extension of the circle shape, with a minor axis radius and
 position angle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Polygon

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A polygon is a shape delineated by a list of vertices connected with lines, great circles, or small circles; the inside of the polygon is circumscribed counter-clockwise by the list of vertices; the polygon may be concave but not self-intersecting; the last vertex in the list is the predecessor of the first. For celestial coordinates it is assumed that we are looking at the sphere from the inside, with Right Ascension increasing to the left. Sides should span less than 180 deg in each coordinate.

Diagram	
Type	polygonType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • polygonType
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region
Model	Area{0,1} , Vertex+
Children	Area, Vertex

Instance

```
<Polygon coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Vertex>{1,unbounded}</Vertex>
</Polygon>
```

Attributes

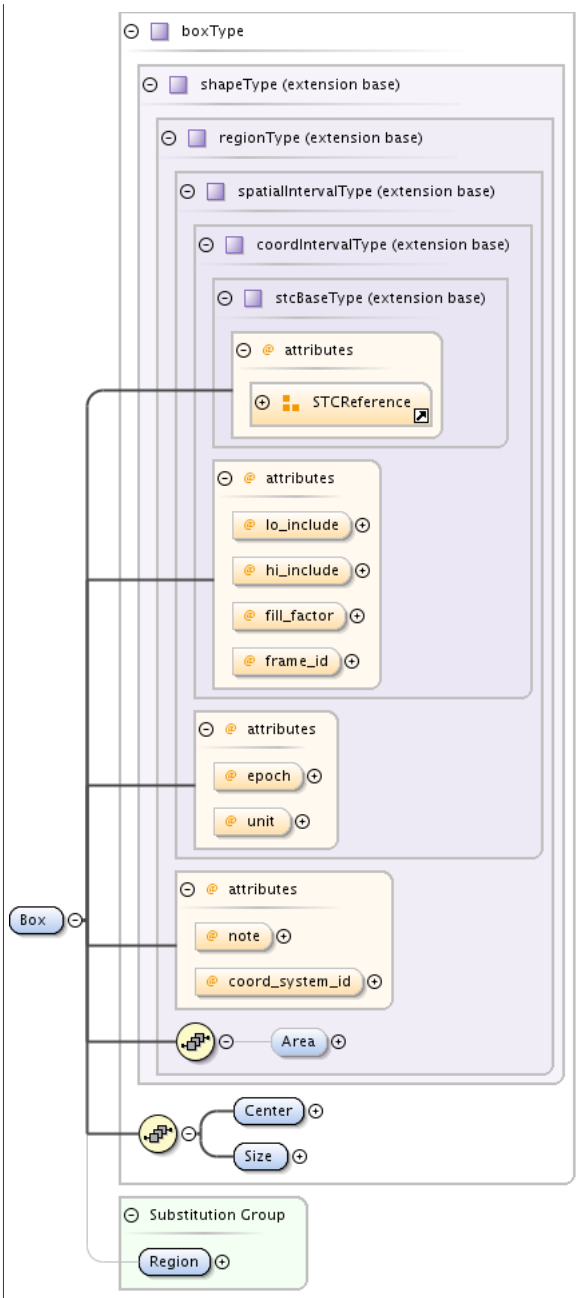
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Polygon" type="polygonType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A polygon is a shape delineated by a list of vertices connected with lines,
 great circles, or small circles; the inside of the polygon is circumscribed counter-clockwise by
 the list of vertices; the polygon may be concave but not self-intersecting; the last vertex in the
 list is the predecessor of the first. For celestial coordinates it is assumed that we are looking
 at the sphere from the inside, with Right Ascension increasing to the left. Sides should span less
 than 180 deg in each coordinate.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Box

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A box is a rectangle; the midpoints of its sides are the endpoints of a cross centered on the center position with arms that extend half the size for each coordinate in both directions, and the sides are lines or great circles that intersect the cross at its end points at right angles; the arms of the cross are parallel to the coordinate axes at the center point.

Diagram	
Type	boxType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • boxType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1} , Center , Size

Children	Area, Center, Size
Instance	<Box coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idr www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel Center> <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t Size> </Box>

Attributes

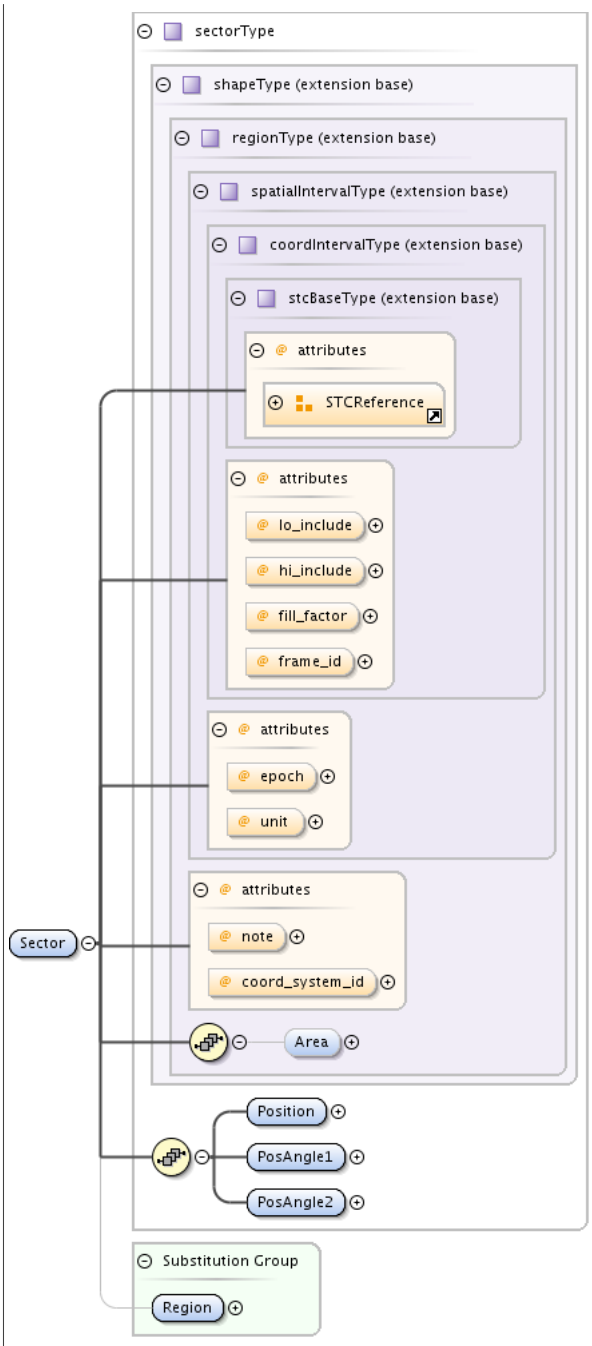
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Box" type="boxType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A box is a rectangle; the midpoints of its sides are the endpoints of a cross
 centered on the center position with arms that extend half the size for each coordinate in both
 directions, and the sides are lines or great circles that intersect the cross at its end points
 at right angles; the arms of the cross are parallel to the coordinate axes at the center point.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Sector

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A sector selects the area between two half great circles or half lines meeting in a specified point

Diagram	
Type	sectorType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • sectorType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region

Model	Area{0,1} , Position , PosAngle1 , PosAngle2
Children	Area, PosAngle1, PosAngle2, Position
Instance	<Sector coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Position gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" ve Position> <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle1> <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit=" PosAngle2> </Sector>

Attributes

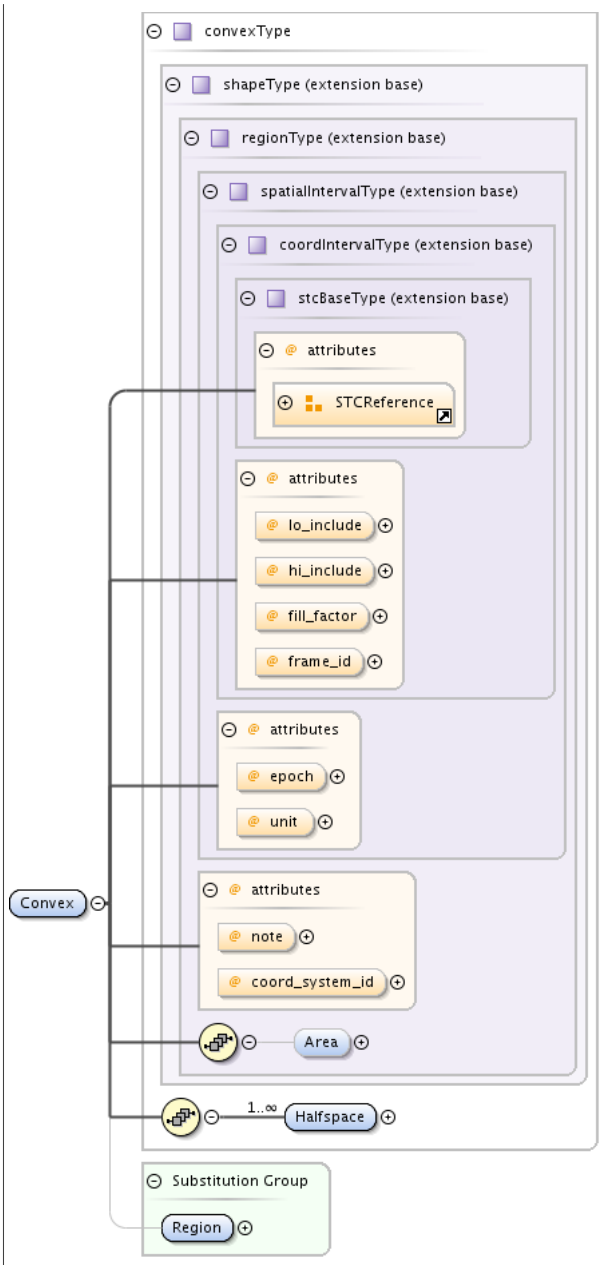
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Sector" type="sectorType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A sector selects the area between two half great circles or half lines meeting
 in a specified point</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Convex

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A convex is defined as the intersection of one or more half-plane constraints with the unit sphere; this may also be described as the union of one or more convex polygons bounded by one or more constraint planes

Diagram	
Type	convexType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • convexType
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region
Model	Area{0,1} , Halfspace+
Children	Area, Halfspace

Instance

```
<Convex coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=""
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Halfspace>{1,unbounded}</Halfspace>
</Convex>
```

Attributes

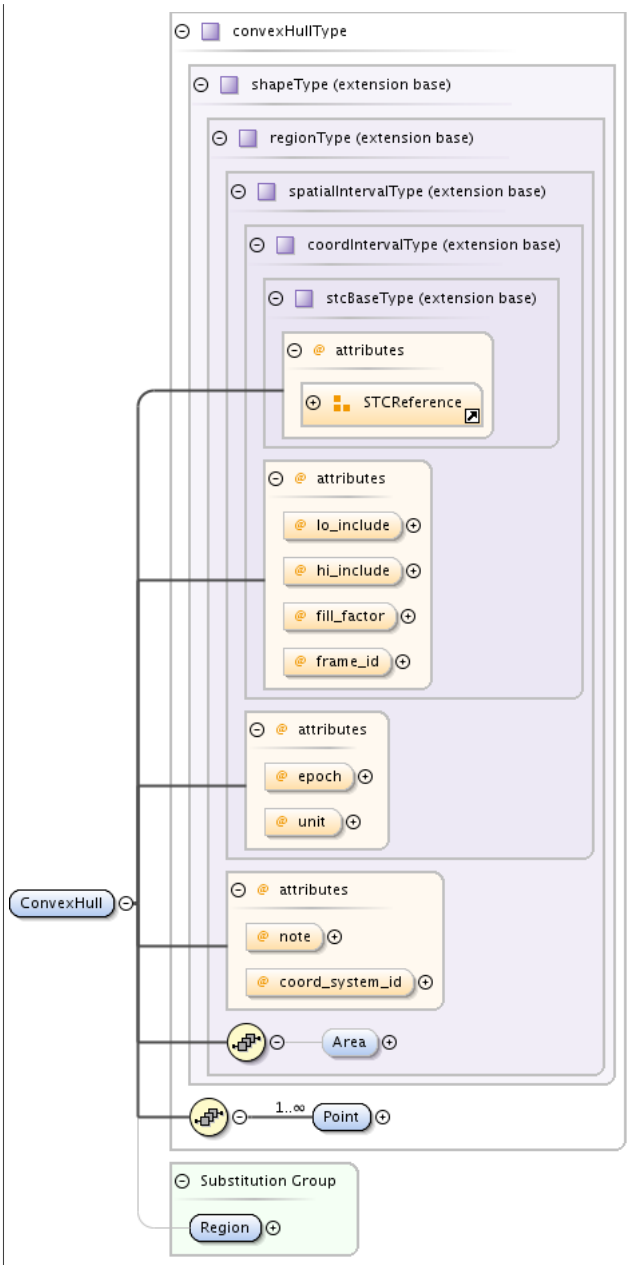
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Convex" type="convexType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A convex is defined as the intersection of one or more half-plane constraints
 with the unit sphere; this may also be described as the union of one or more convex polygons
 bounded by one or more constraint planes</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ConvexHull

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A convex hull is the convex polygon that contains all of the specified positions; the points have to be constrained to lie in one hemisphere

Diagram	
Type	convexHullType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • convexHullType
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region
Model	Area{0,1} , Point+
Children	Area, Point

Instance

```
<ConvexHull coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Point gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t
Point>
</ConvexHull>
```

Attributes

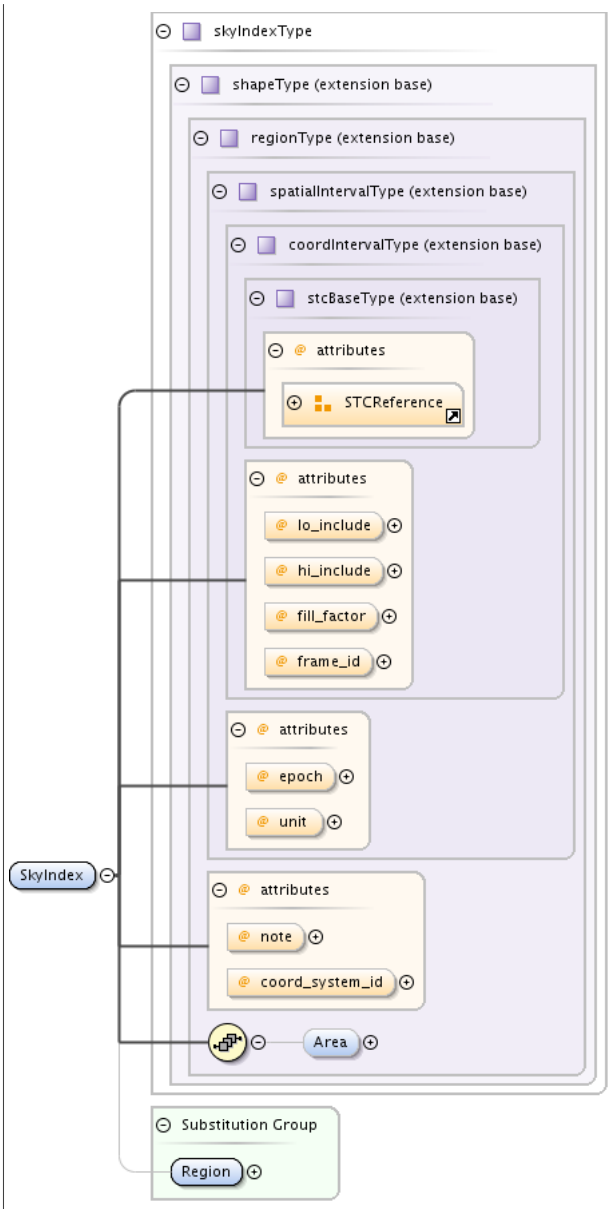
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ConvexHull" type="convexHullType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A convex hull is the convex polygon that contains all of the specified
 positions; the points have to be constrained to lie in one hemisphere</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SkyIndex

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A shape defined through a sky indexing scheme; this is really a substitution group for concrete implementations

Diagram	
Type	skyIndexType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • skyIndexType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region
Model	Area{0,1}
Children	Area
Instance	<SkyIndex coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

	`</SkyIndex>`

Attributes

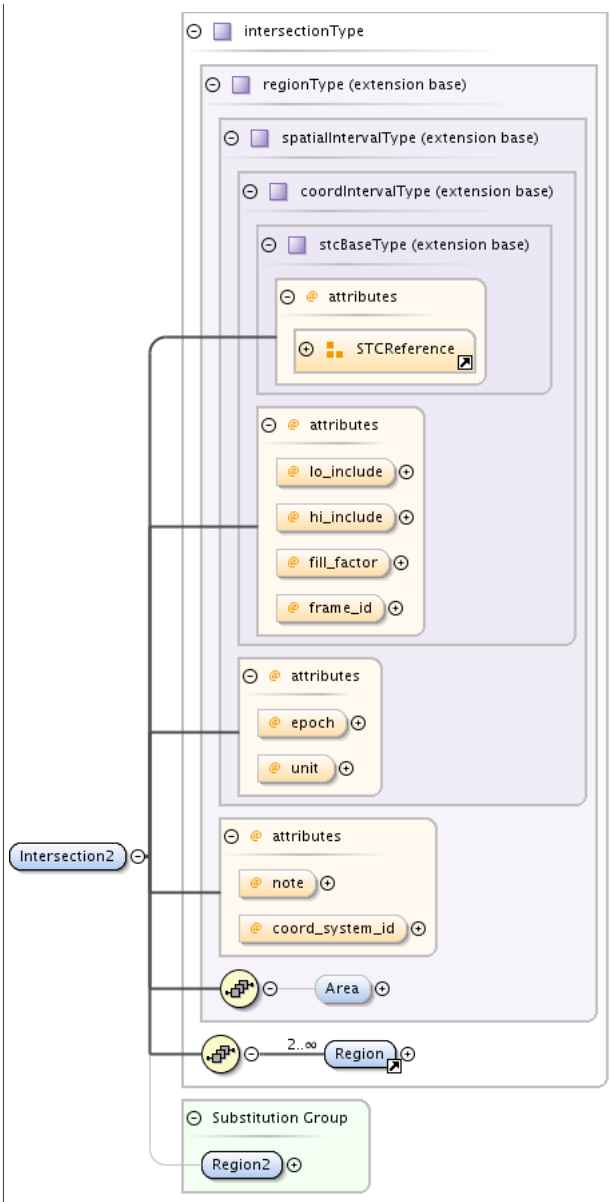
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="SkyIndex" type="skyIndexType" substitutionGroup="Region" nillable="true">
  <xs:annotation>
    <xs:documentation>A shape defined through a sky indexing scheme; this is really a substitution
 group for concrete implementations</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Intersection2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The intersection of two or more regions is a region`

Diagram	
Type	intersectionType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • intersectionType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region
Instance	<Intersection2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" Region>

	`</Intersection2>`

Attributes

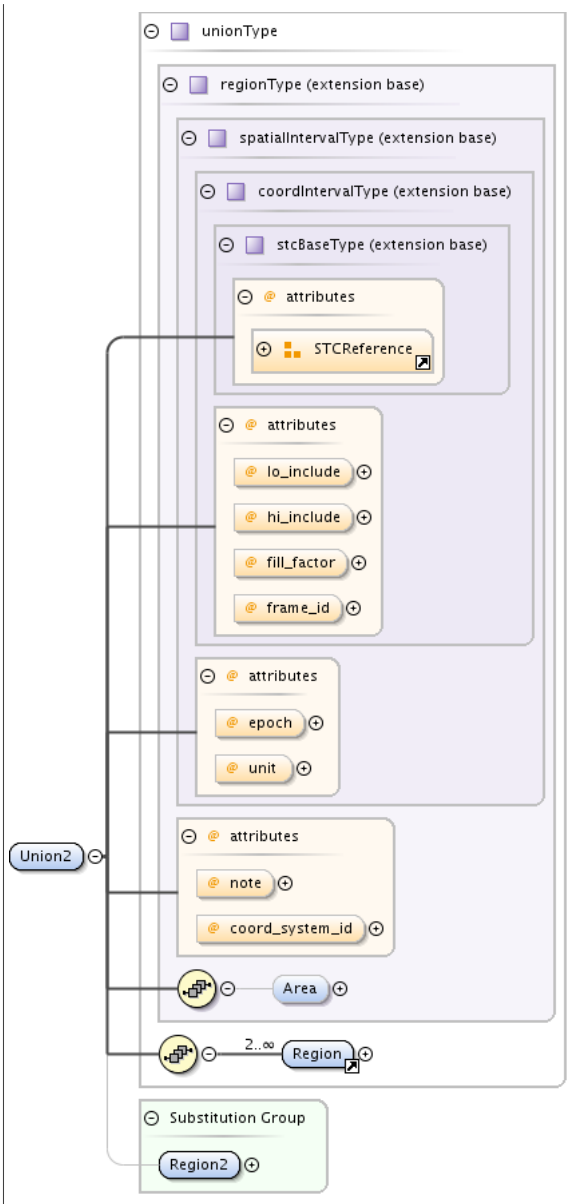
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Intersection2" type="intersectionType" substitutionGroup="Region2"
 nillable="true">
  <xs:annotation>
    <xs:documentation>The intersection of two or more regions is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Union2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The union of two or more regions is a region`

Diagram	
Type	unionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • unionType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region
Instance	<Union2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=' Region>

	`</Union2>`

Attributes

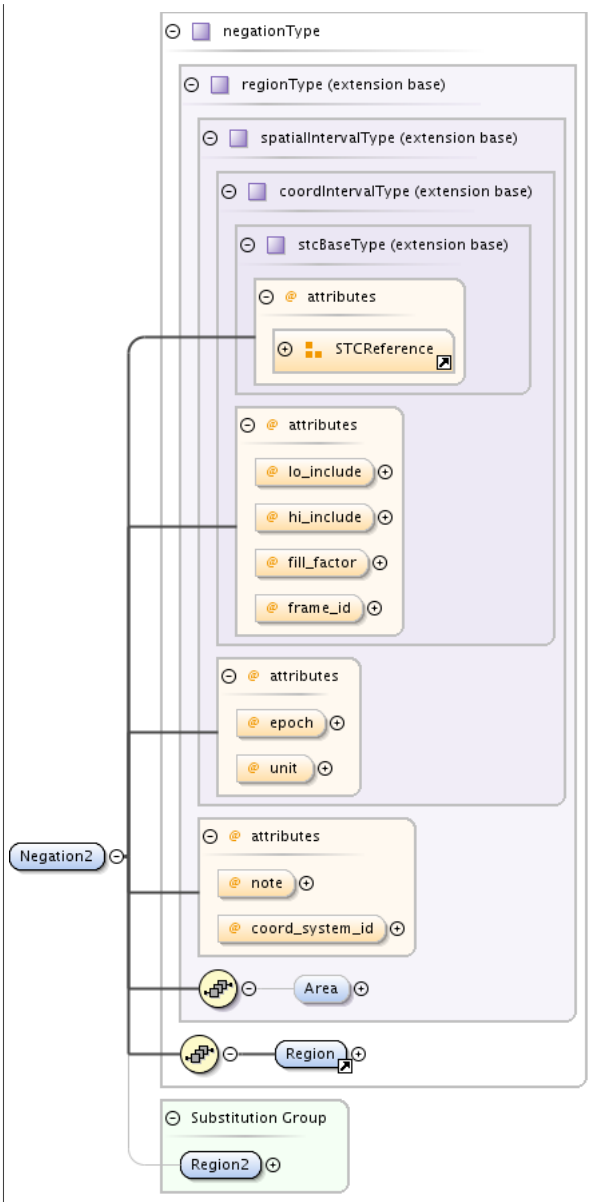
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Union2" type="unionType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>The union of two or more regions is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Negation2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The negation of a region is a region`

Diagram	
Type	negationType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • negationType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Region
Children	Area, Region
Instance	<Negation2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type= www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" Region>

	`</Negation2>`

Attributes

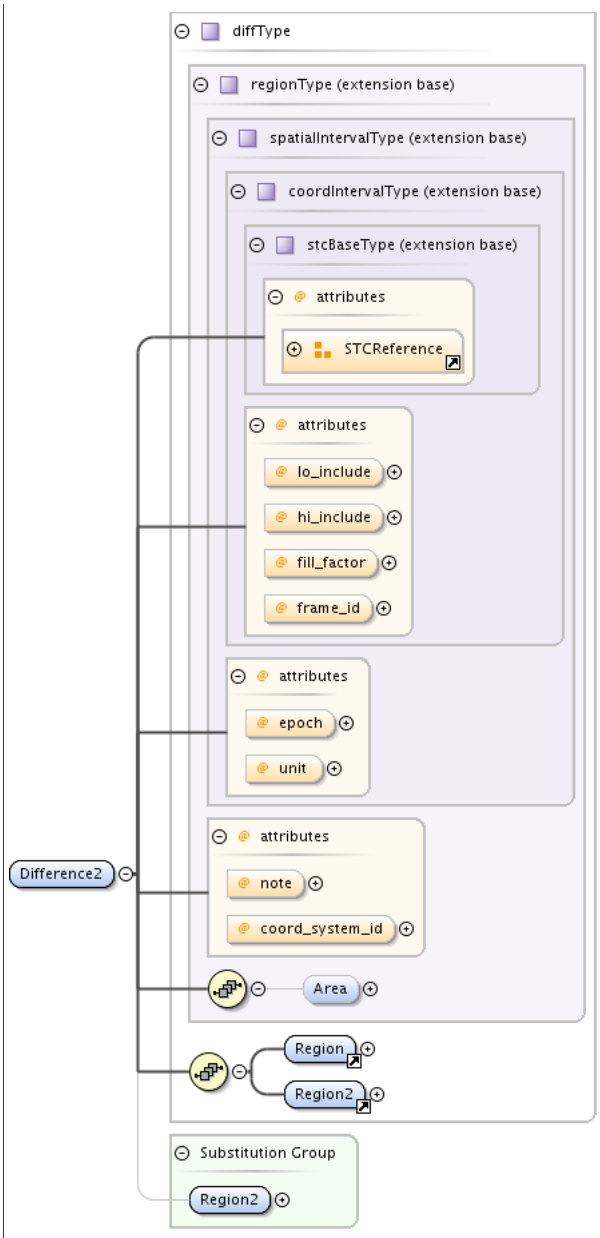
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Negation2" type="negationType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>The negation of a region is a region</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Difference2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The difference of two regions (Region1 minus Region2) is a region; it is equivalent to the intersection of Region1 with notRegion2`

Diagram	
Type	diffType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • diffType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Region , Region2
Children	Area, Region, Region2
Instance	<Difference2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_ty www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

```
  <Region coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
Region>
  <Region2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=
Region2>
</Difference2>
```

Attributes

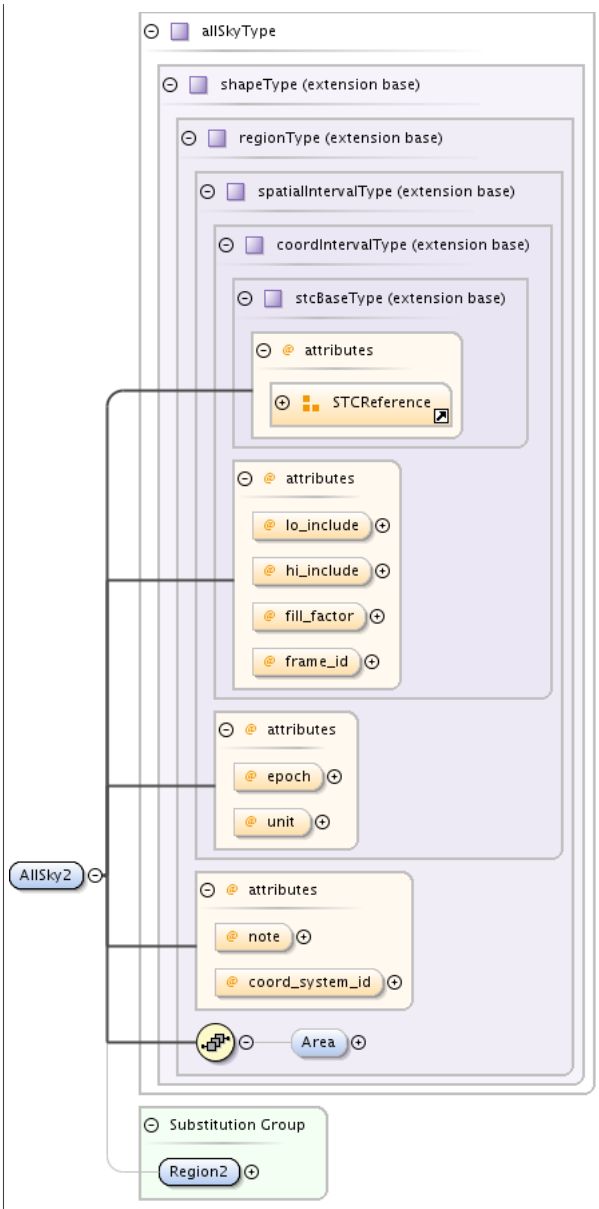
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Difference2" type="diffType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>The difference of two regions (Region1 minus Region2) is a region; it is
 equivalent to the intersection of Region1 with notRegion2</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element AllSky2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	AllSky is just a convenience, meaning no bounds

Diagram	
Type	allSkyType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • allSkyType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1}
Children	Area
Instance	<AllSky2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

	`</AllSky2>`

Attributes

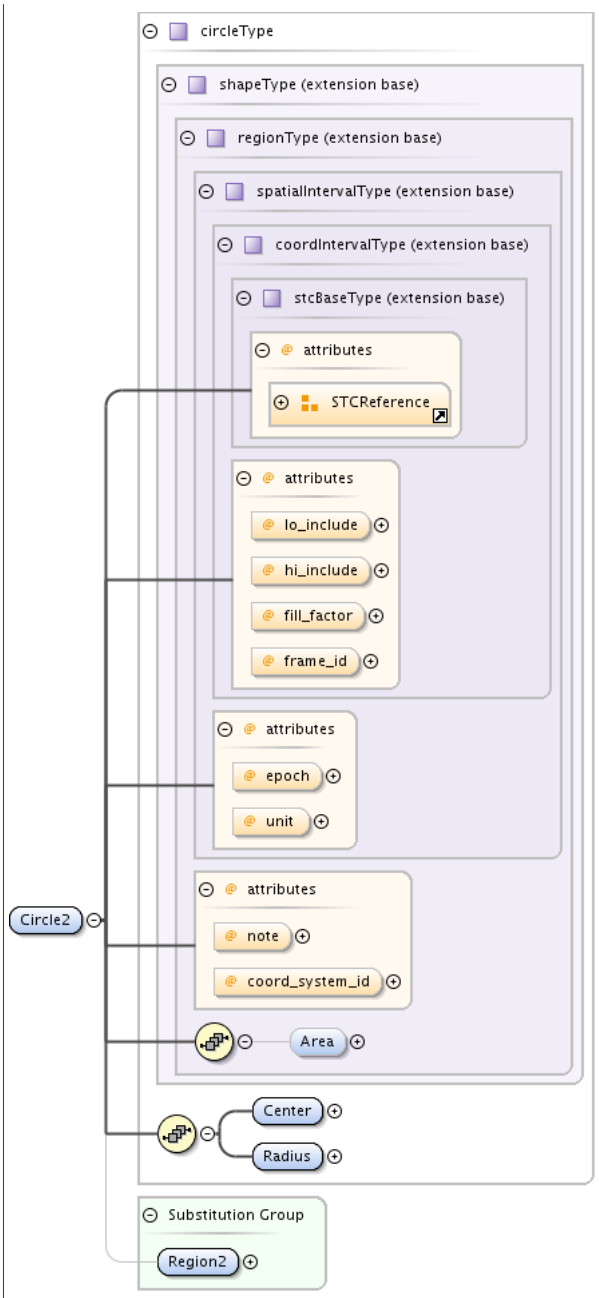
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="AllSky2" type="allSkyType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>AllSky is just a convenience, meaning no bounds</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Circle2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The circle is defined by a center and a radius`

Diagram	
Type	circleType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • circleType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Center , Radius

Children	Area, Center, Radius
Instance	<Circle2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Center> <Radius gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_ Radius> </Circle2>

Attributes

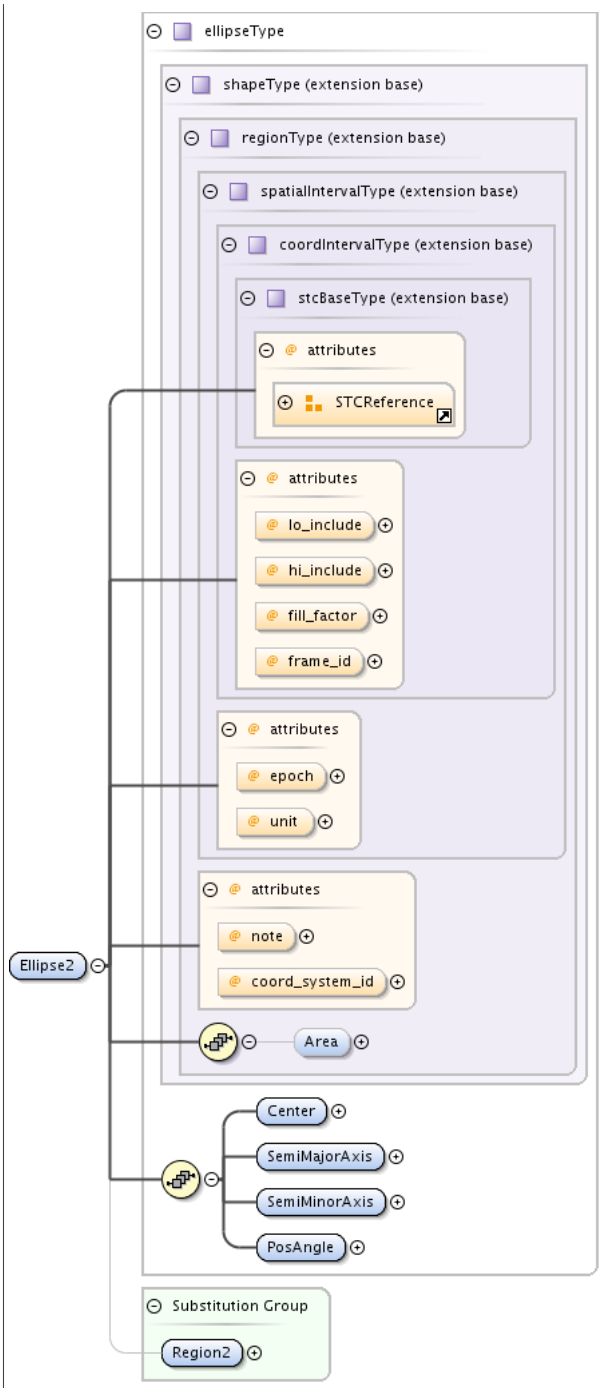
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Circle2" type="circleType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>The circle is defined by a center and a radius</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Ellipse2`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Ellipse is an extension of the circle shape, with a minor axis radius and position angle

Diagram	
Type	ellipseType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • ellipseType

Properties	content: `complex` nillable: `true`

Substitution Group Affiliation	• Region2
Model	Area{0,1} , Center , SemiMajorAxis , SemiMinorAxis , PosAngle
Children	Area, Center, PosAngle, SemiMajorAxis, SemiMinorAxis
Instance	<Ellipse2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type=" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Center> <SemiMajorAxis gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" sp SemiMajorAxis> <SemiMinorAxis gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" sp SemiMinorAxis> <PosAngle xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="de PosAngle> </Ellipse2>

Attributes

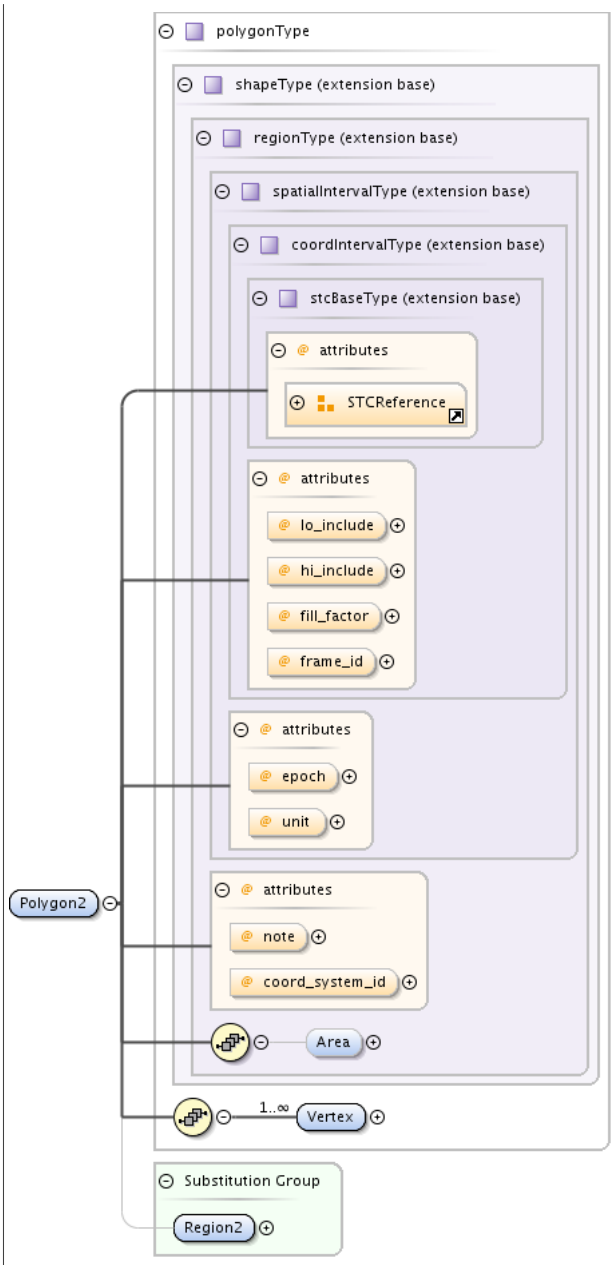
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Ellipse2" type="ellipseType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>Ellipse is an extension of the circle shape, with a minor axis radius and
 position angle</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Polygon2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A polygon is a shape delineated by a list of vertices connected with lines, great circles, or small circles; the inside of the polygon is circumscribed counter-clockwise by the list of vertices; the polygon may be concave but not self-intersecting; the last vertex in the list is the predecessor of the first. For celestial coordinates it is assumed that we are looking at the sphere from the inside, with Right Ascension increasing to the left. Sides should span less than 180 deg in each coordinate.

Diagram	
Type	polygonType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • polygonType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Vertex+
Children	Area, Vertex

Instance

```
<Polygon2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Vertex>{1,unbounded}</Vertex>
</Polygon2>
```

Attributes

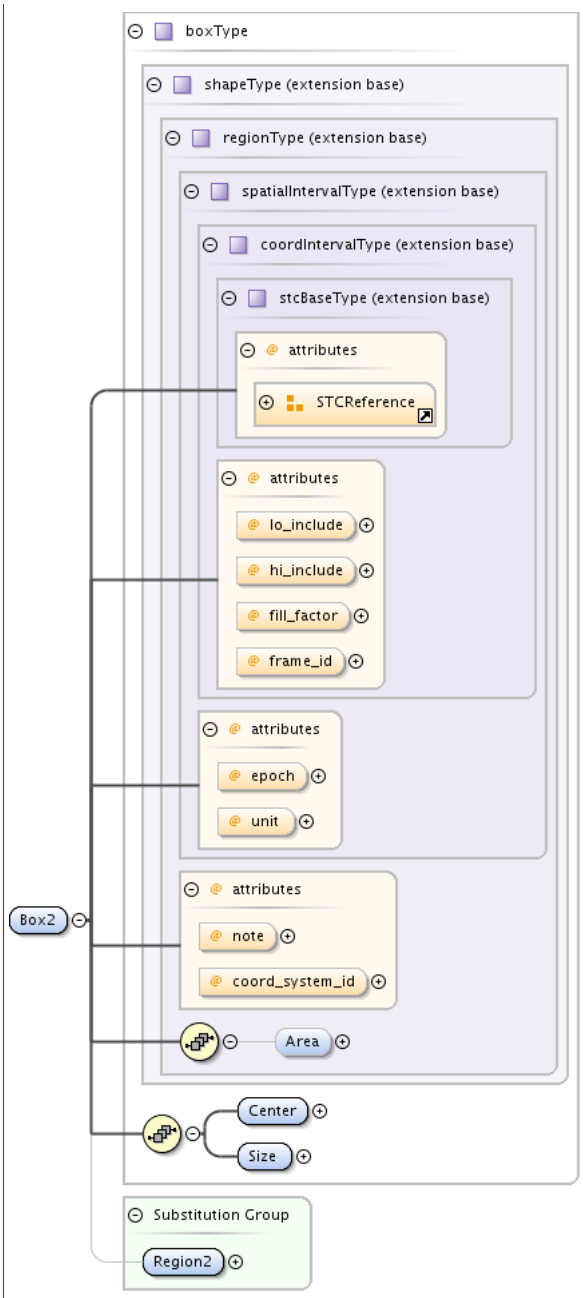
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Polygon2" type="polygonType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A polygon is a shape delineated by a list of vertices connected with lines,
 great circles, or small circles; the inside of the polygon is circumscribed counter-clockwise by
 the list of vertices; the polygon may be concave but not self-intersecting; the last vertex in the
 list is the predecessor of the first. For celestial coordinates it is assumed that we are looking
 at the sphere from the inside, with Right Ascension increasing to the left. Sides should span less
 than 180 deg in each coordinate.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Box2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A box is a rectangle; the midpoints of its sides are the endpoints of a cross centered on the center position with arms that extend half the size for each coordinate in both directions, and the sides are lines or great circles that intersect the cross at its end points at right angles; the arms of the cross are parallel to the coordinate axes at the center point.

Diagram	
Type	boxType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • boxType
Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Center , Size

Children	Area, Center, Size
Instance	<Box2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" id www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel Center> <Size gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t Size> </Box2>

Attributes

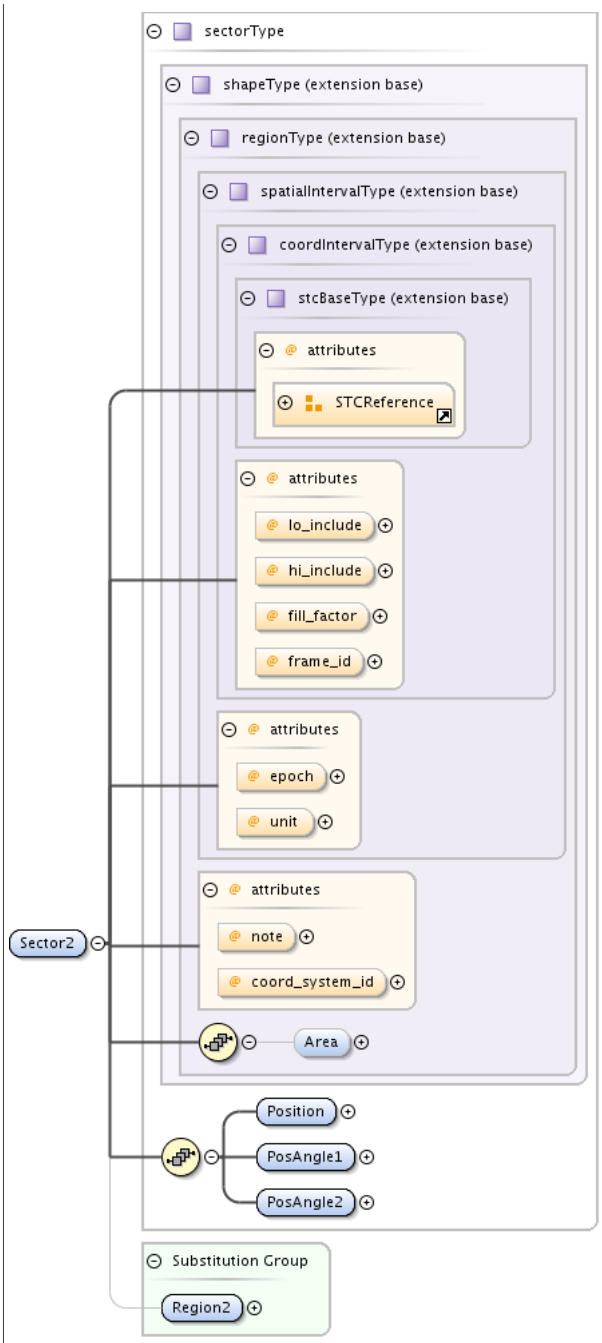
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Box2" type="boxType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A box is a rectangle; the midpoints of its sides are the endpoints of a cross
 centered on the center position with arms that extend half the size for each coordinate in both
 directions, and the sides are lines or great circles that intersect the cross at its end points
 at right angles; the arms of the cross are parallel to the coordinate axes at the center point.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Sector2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A sector selects the area between two half great circles or half lines meeting in a specified point

Diagram	
Type	sectorType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • sectorType
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region2

Model	Area{0,1} , Position , PosAngle1 , PosAngle2
Children	Area, PosAngle1, PosAngle2, Position
Instance	<Sector2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area> <Position gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" ve Position> <PosAngle1 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="" PosAngle1> <PosAngle2 xlink:href="" id="" ID_type="" idref="" IDREF_type="" reference="X" xlink:type="simple" ucd="" unit="" PosAngle2> </Sector2>

Attributes

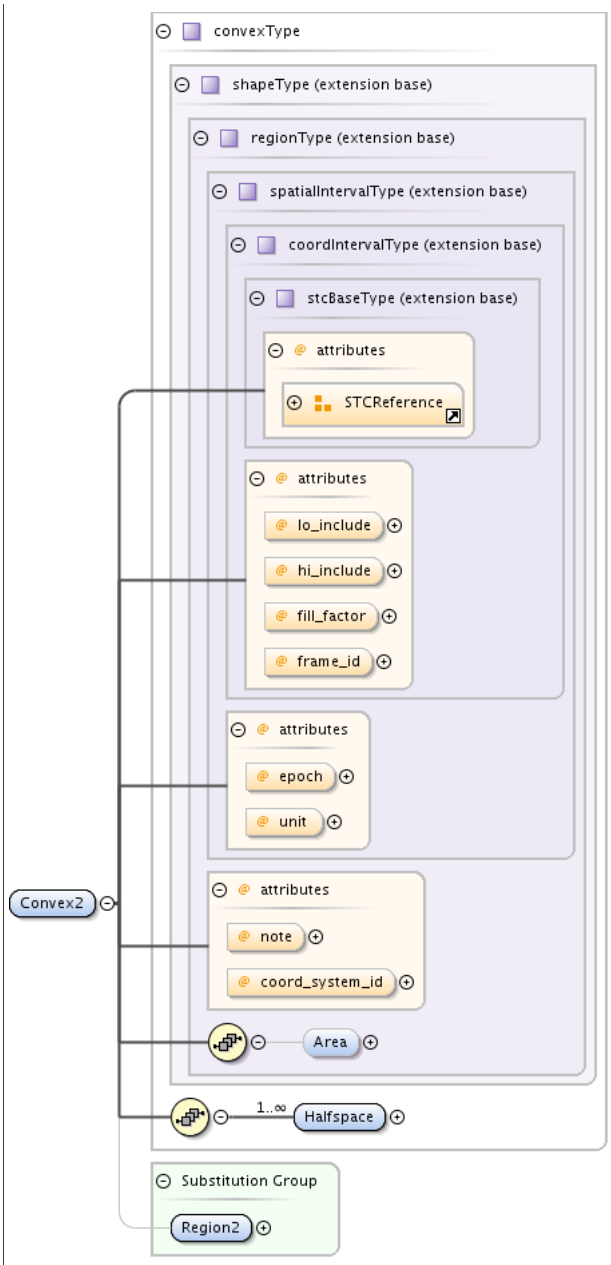
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Sector2" type="sectorType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A sector selects the area between two half great circles or half lines meeting
 in a specified point</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Convex2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A convex is defined as the intersection of one or more half-plane constraints with the unit sphere; this may also be described as the union of one or more convex polygons bounded by one or more constraint planes

Diagram	
Type	convexType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • convexType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Halfspace+
Children	Area, Halfspace

Instance

```
<Convex2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Halfspace>{1,unbounded}</Halfspace>
</Convex2>
```

Attributes

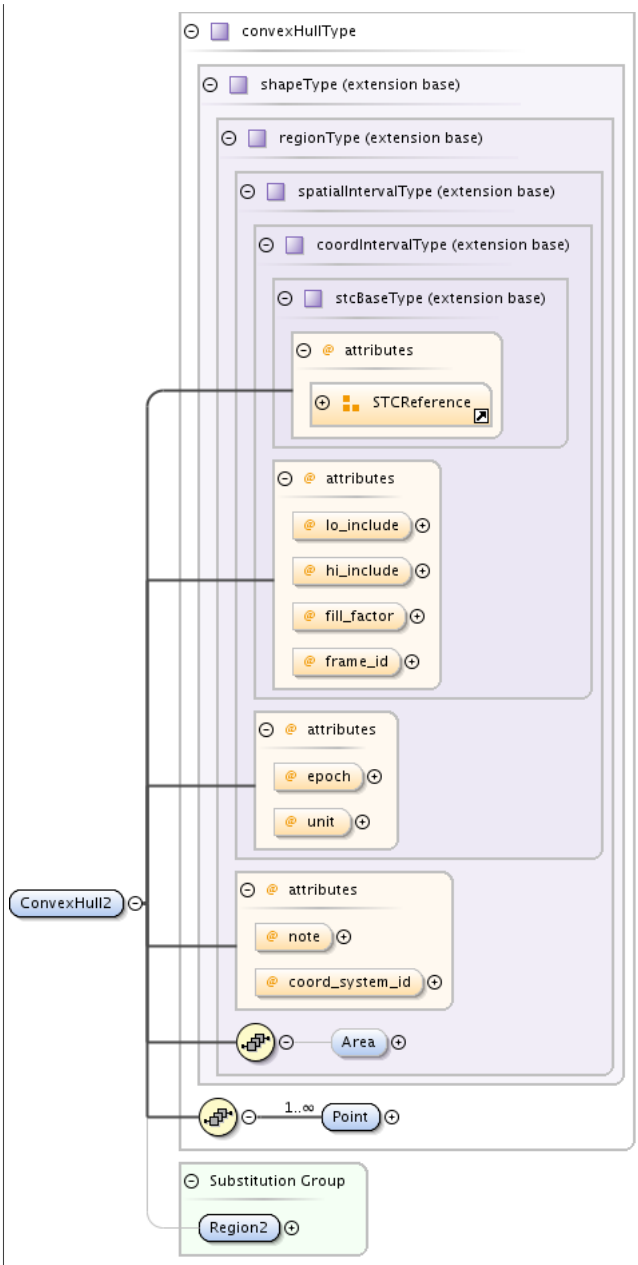
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Convex2" type="convexType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A convex is defined as the intersection of one or more half-plane constraints
 with the unit sphere; this may also be described as the union of one or more convex polygons
 bounded by one or more constraint planes</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element ConvexHull2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A convex hull is the convex polygon that contains all of the specified positions; the points have to be constrained to lie in one hemisphere

Diagram	
Type	convexHullType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • convexHullType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1} , Point+
Children	Area, Point

Instance

```
<ConvexHull2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_typ
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <Area linearAreaUnit="" validArea="">{0,1}</Area>
  <Point gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t
Point>
</ConvexHull2>
```

Attributes

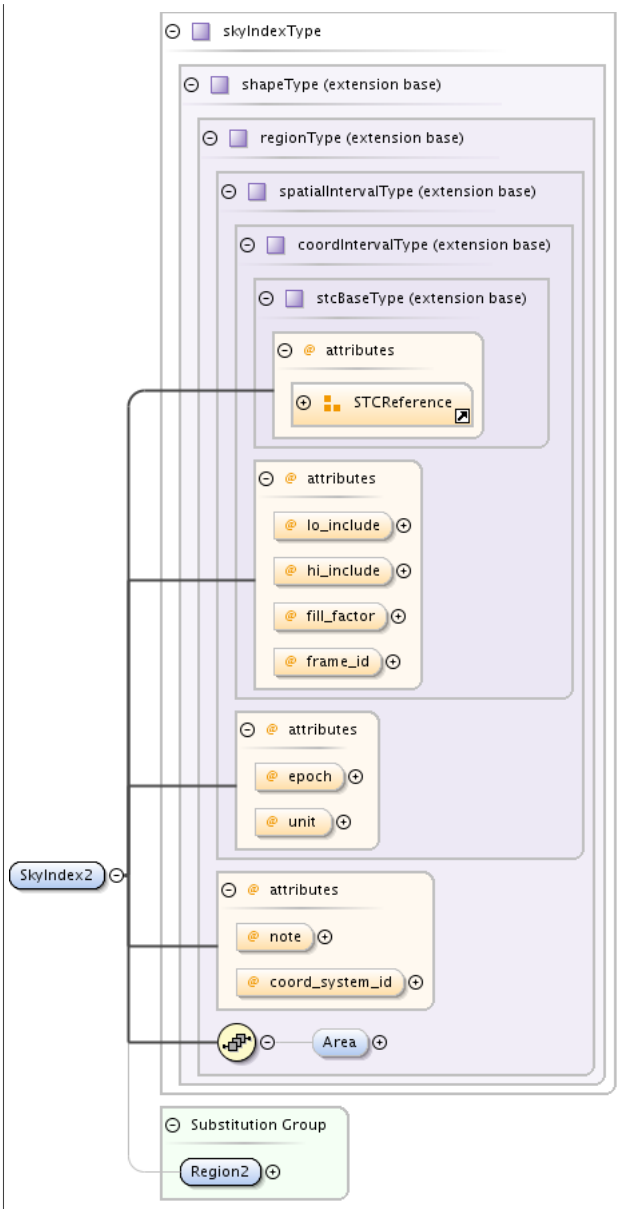
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ConvexHull2" type="convexHullType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A convex hull is the convex polygon that contains all of the specified
 positions; the points have to be constrained to lie in one hemisphere</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SkyIndex2

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A shape defined through a sky indexing scheme; this is really a substitution group for concrete implementations

Diagram	
Type	skyIndexType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • skyIndexType

Properties	content: complex nillable: true
Substitution Group Affiliation	• Region2
Model	Area{0,1}
Children	Area
Instance	<SkyIndex2 coord_system_id="" epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type= www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Area linearAreaUnit="" validArea="">{0,1}</Area>

	`</SkyIndex2>`

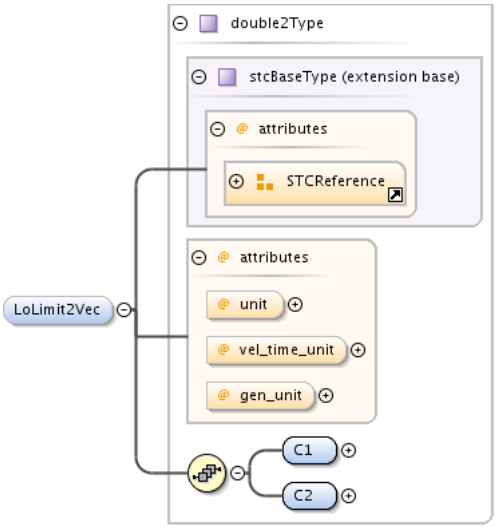
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="SkyIndex2" type="skyIndexType" substitutionGroup="Region2" nillable="true">
  <xs:annotation>
    <xs:documentation>A shape defined through a sky indexing scheme; this is really a substitution
 group for concrete implementations</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `coord2VecIntervalType / LoLimit2Vec`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: `complex` minOccurs: `0` nillable: `true`
Model	C1 , C2
Children	C1, C2

Instance	<LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </LoLimit2Vec>

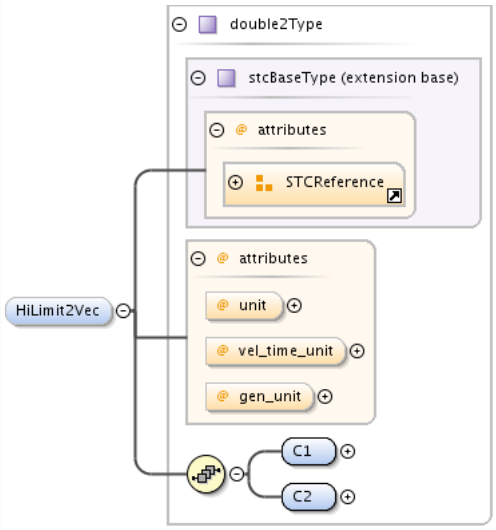
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
```

Element coord2VecIntervalType / HiLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type

Properties

content:	complex
minOccurs:	0
nillable:	true

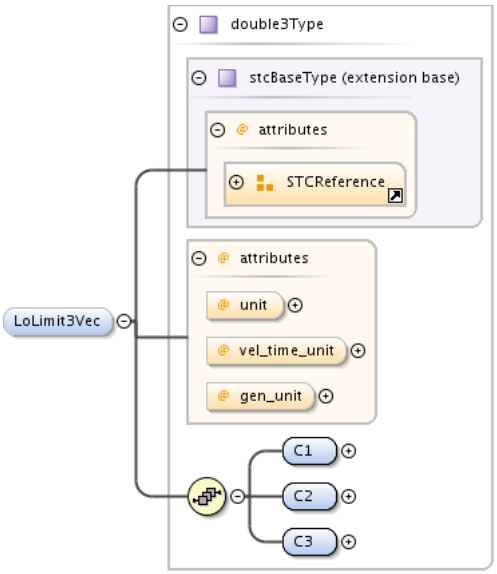
Model	C1 , C2
Children	C1, C2
Instance	<HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </HiLimit2Vec>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>`				

Element `coord3VecIntervalType / LoLimit3Vec`

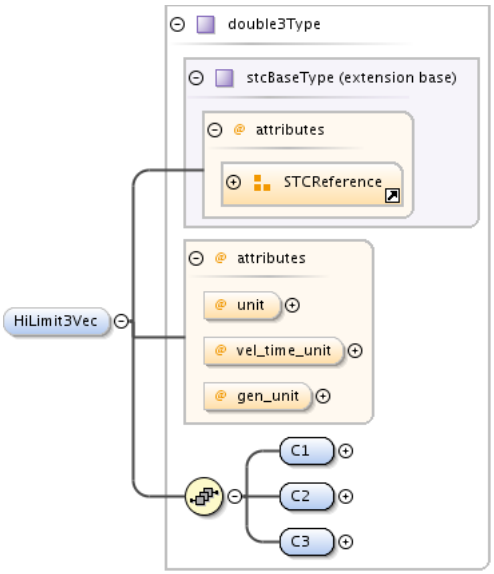
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: `complex` minOccurs: `0` nillable: `true`
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</LoLimit3Vec>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>`				

Element `coord3VecIntervalType / HiLimit3Vec`

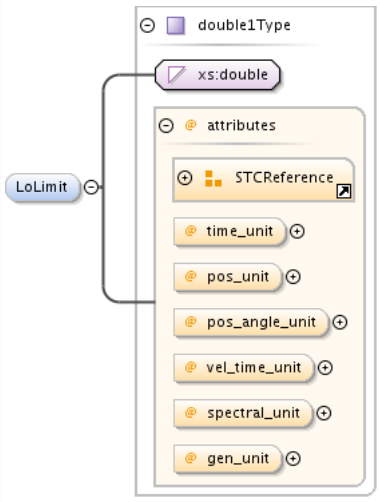
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: `complex` minOccurs: `0` nillable: `true`
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</HiLimit3Vec>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>`				

Element uCoordScalarIntervalType / LoLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Lower bound of interval`
Diagram	
Type	double1Type
Properties	content: `complex` minOccurs: `0` nillable: `true`

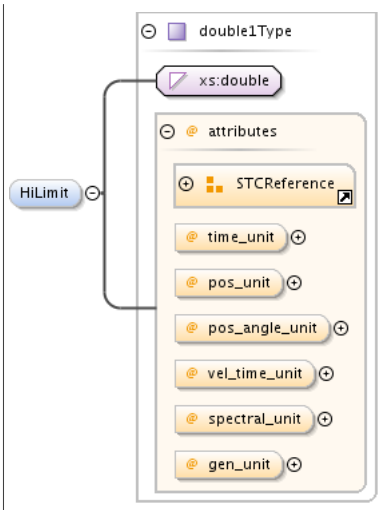
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Lower bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element uCoordScalarIntervalType / HiLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Upper bound of interval`

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0 nillable: true

Attributes

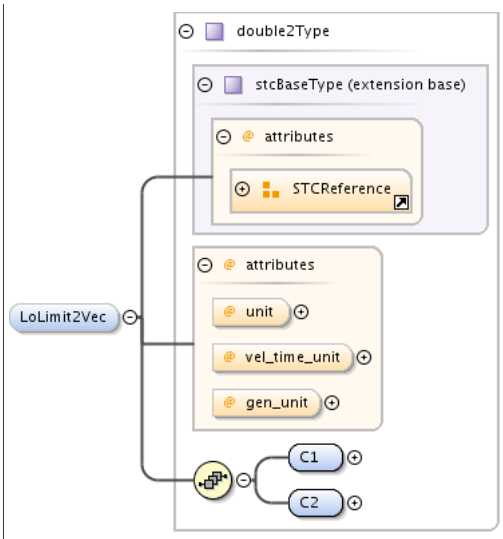
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Upper bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element uCoord2VecIntervalType / LoLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </LoLimit2Vec>

Attributes

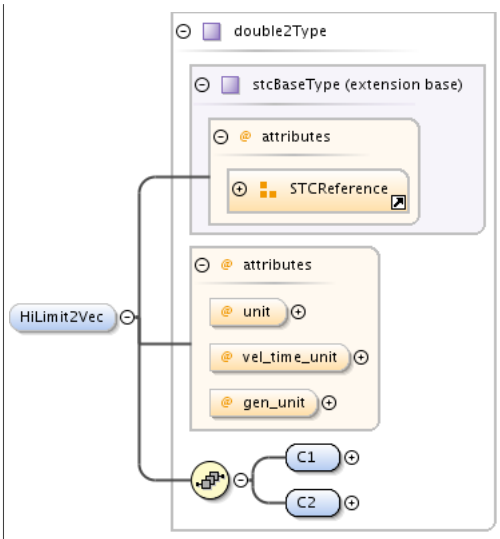
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
```

Element uCoord2VecIntervalType / HiLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </HiLimit2Vec>

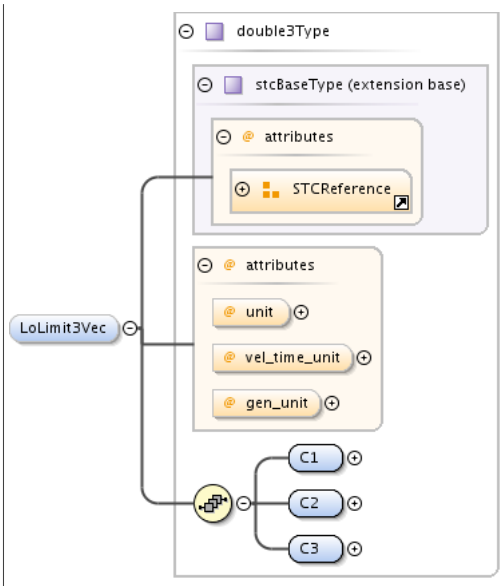
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>

Element uCoord3VecIntervalType / LoLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </LoLimit3Vec>

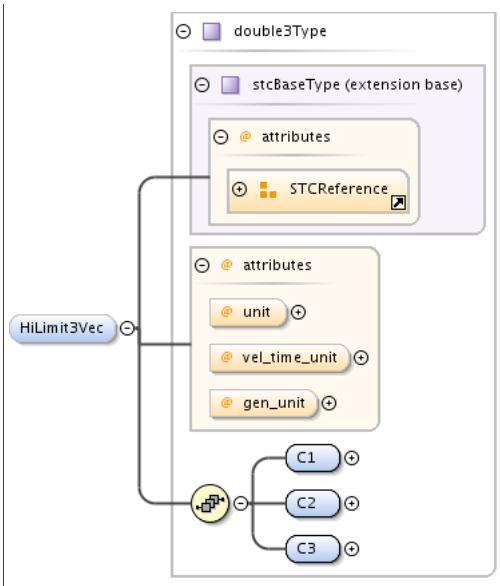
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>

Element uCoord3VecIntervalType / HiLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</HiLimit3Vec>`

Attributes

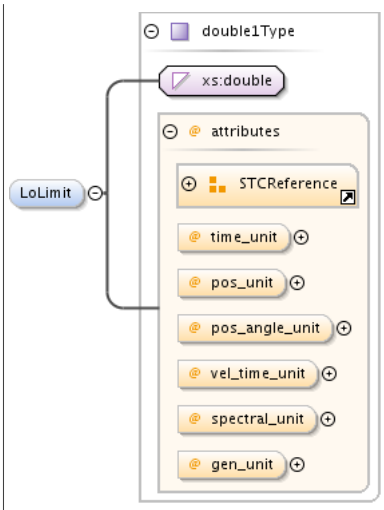
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
```

Element posScalarIntervalType / LoLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Lower bound of interval

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0 nillable: true

Attributes

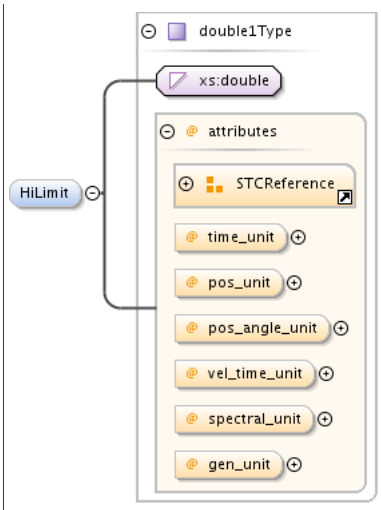
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Lower bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element posScalarIntervalType / HiLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Upper bound of interval

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0 nillable: true

Attributes

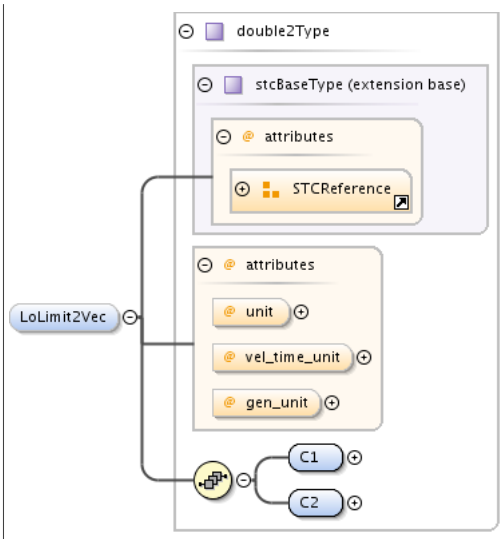
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Upper bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element pos2VecIntervalType / LoLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </LoLimit2Vec>

Attributes

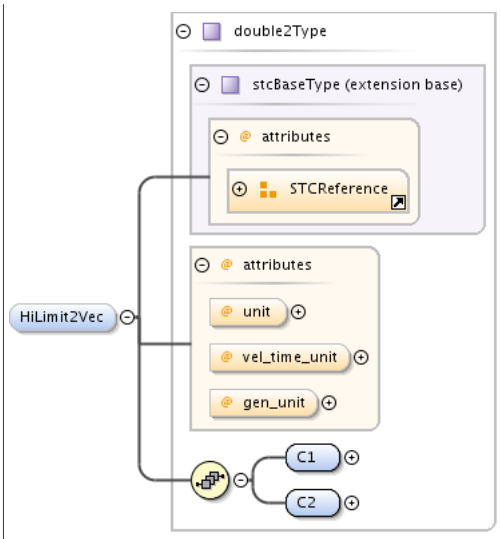
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
```

Element pos2VecIntervalType / HiLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </HiLimit2Vec>

Attributes

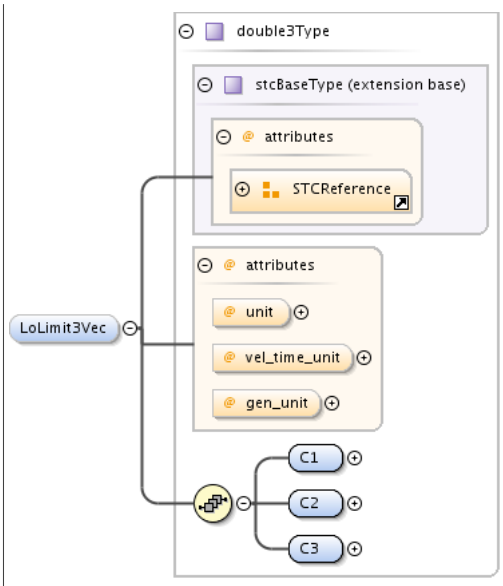
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
```

Element pos3VecIntervalType / LoLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </LoLimit3Vec>

Attributes

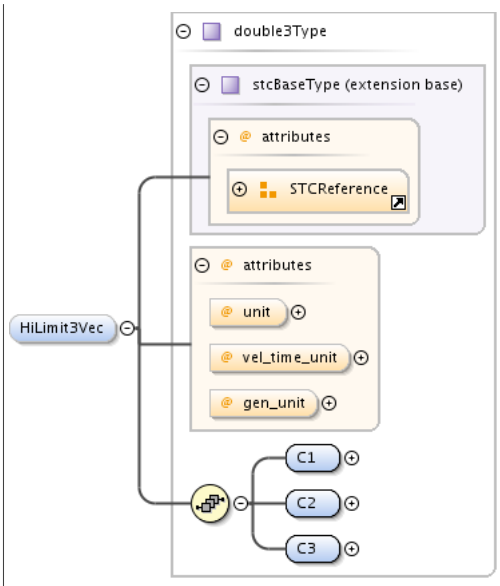
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
```

Element pos3VecIntervalType / HiLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</HiLimit3Vec>`

Attributes

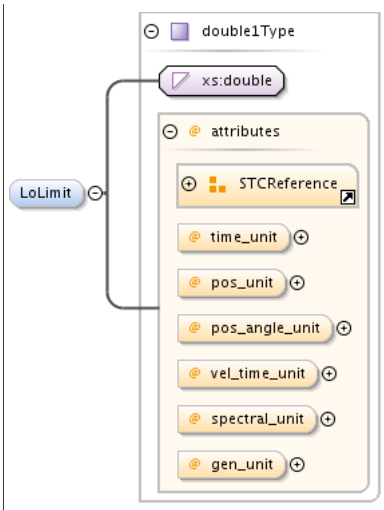
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
```

Element `velScalarIntervalType / LoLimit`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Lower bound of interval`

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0 nillable: true

Attributes

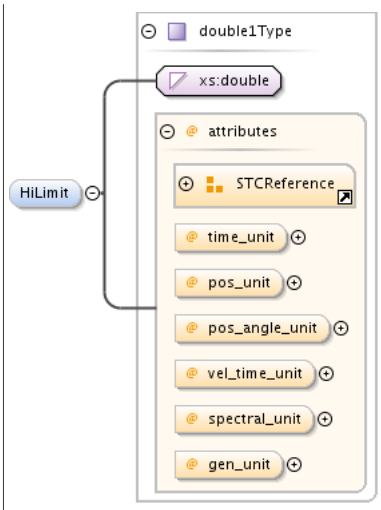
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Lower bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element velScalarIntervalType / HiLimit

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Upper bound of interval

Diagram	
Type	double1Type
Properties	content: complex minOccurs: 0 nillable: true

Attributes

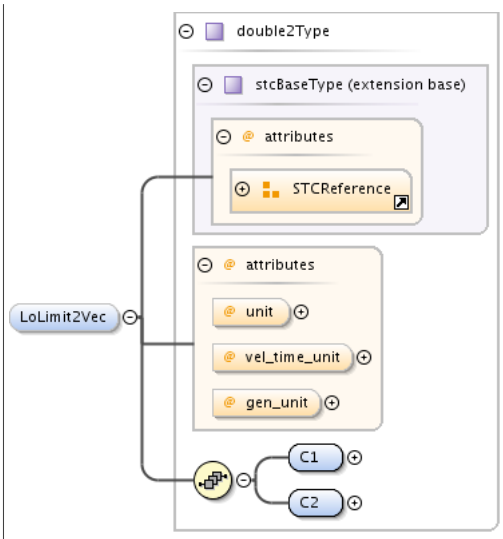
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Upper bound of interval</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `vel2VecIntervalType / LoLimit2Vec`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </LoLimit2Vec>

Attributes

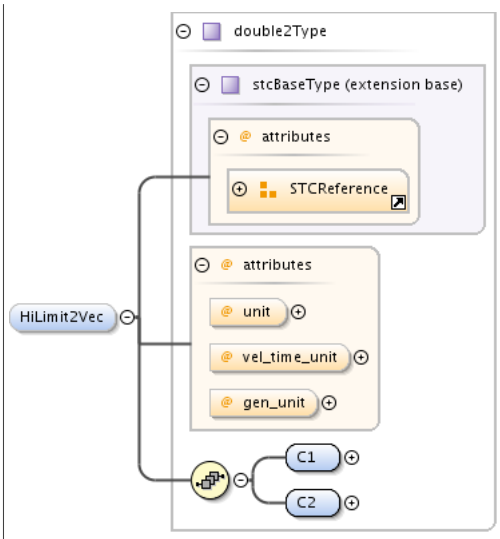
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
```

Element vel2VecIntervalType / HiLimit2Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double2Type
Type hierarchy	• stcBaseType • double2Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2
Children	C1, C2
Instance	<HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> </HiLimit2Vec>

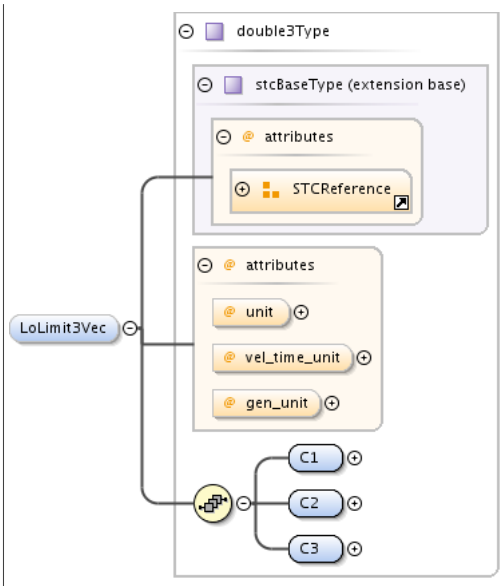
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>

Element vel3VecIntervalType / LoLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </LoLimit3Vec>

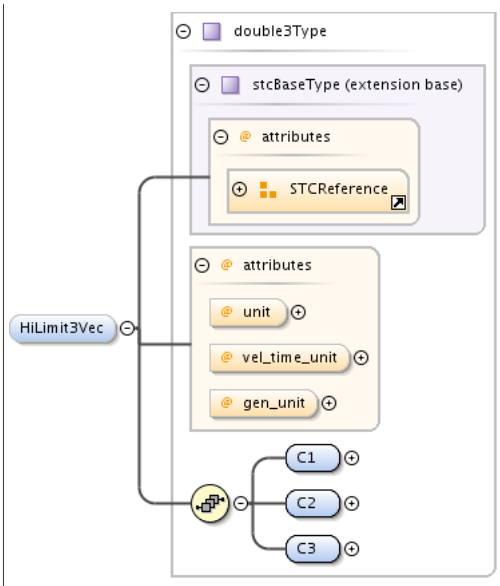
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>

Element vel3VecIntervalType / HiLimit3Vec

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex minOccurs: 0 nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" v www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </HiLimit3Vec>

Attributes

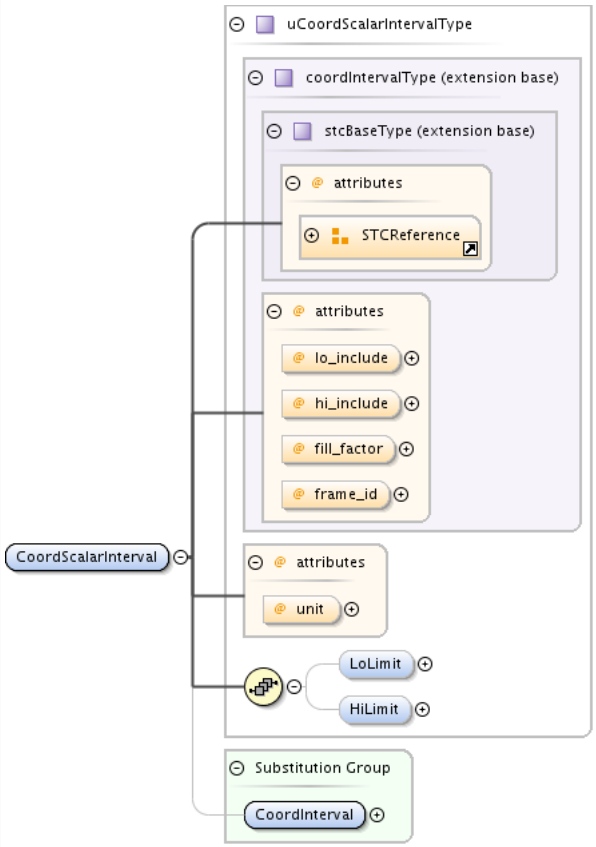
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
```

Element CoordScalarInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval in a scalar coordinate

Diagram	
Type	uCoordScalarIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • uCoordScalarIntervalType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• CoordInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Instance	`<CoordScalarInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`LoLimit>`
	`  <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra`
	`HiLimit>`
	`</CoordScalarInterval>`

Attributes

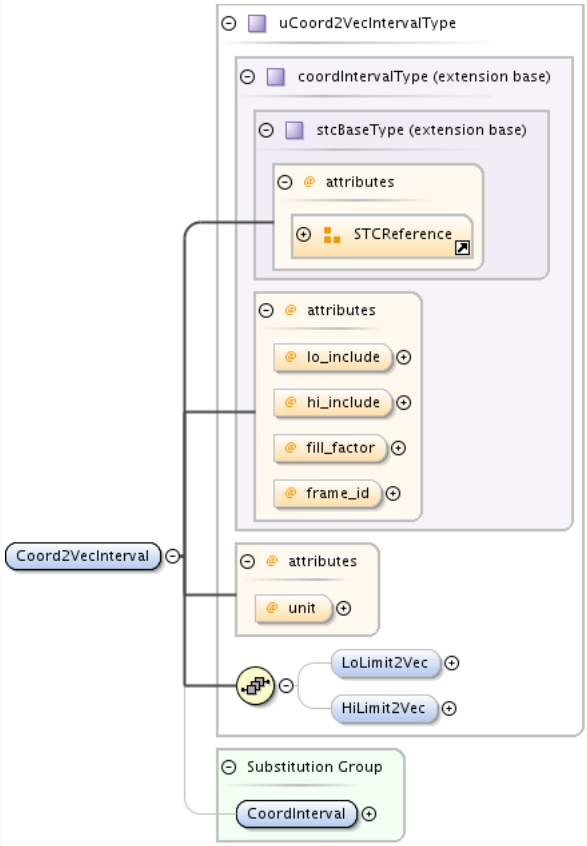
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	unitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CoordScalarInterval" type="uCoordScalarIntervalType"
 substitutionGroup="CoordInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval in a scalar coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Coord2VecInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval ("box") in a 2-D coordinate pair
Diagram	
Type	uCoord2VecIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • uCoord2VecIntervalType
Properties	content: complex nillable: true
Substitution Group Affiliation	• CoordInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec

Instance

```
<Coord2VecInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_ty
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
LoLimit2Vec>
  <HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
HiLimit2Vec>
</Coord2VecInterval>
```

Attributes

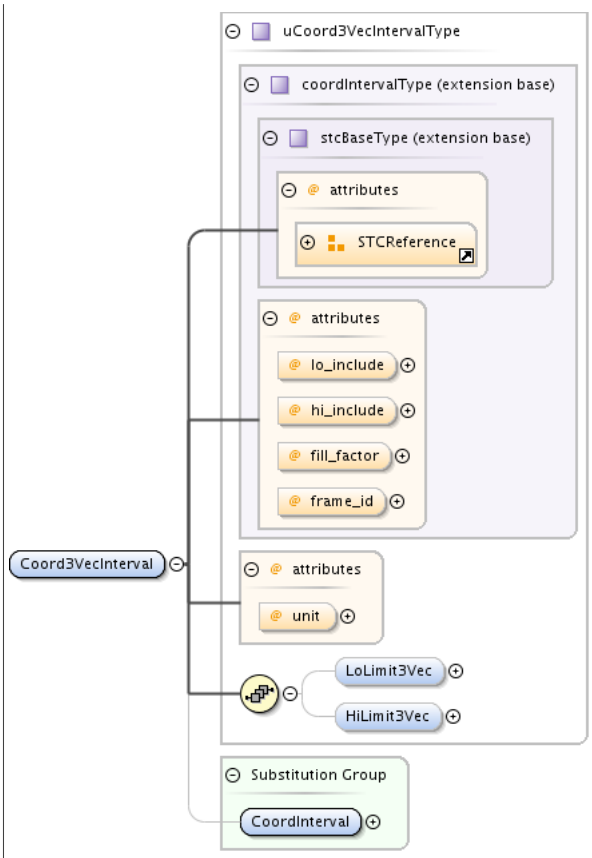
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Coord2VecInterval" type="uCoord2VecIntervalType" substitutionGroup="CoordInterval"
 nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("box") in a 2-D coordinate pair</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element Coord3VecInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval ("cube") in a 3-D coordinate triplet

Diagram	
Type	uCoord3VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • uCoord3VecIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• CoordInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec
Instance	<Coord3VecInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_ty www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" LoLimit3Vec> <HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" HiLimit3Vec> </Coord3VecInterval>

Attributes

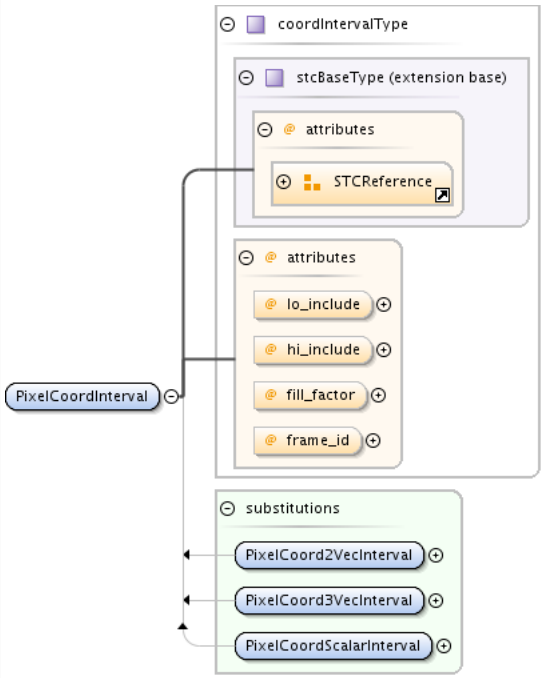
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	unitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Coord3VecInterval" type="uCoord3VecIntervalType" substitutionGroup="CoordInterval"
 nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("cube") in a 3-D coordinate triplet</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoordInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The 1-, 2-, or 3-D pixel coordinate interval substitution group head element; such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill factor
Diagram	
Type	coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType
Properties	content: complex nillable: true
Substitution Group	• PixelCoordScalarInterval • PixelCoord2VecInterval • PixelCoord3VecInterval
Used by	Complex Type pixelCoordAreaType

Attributes

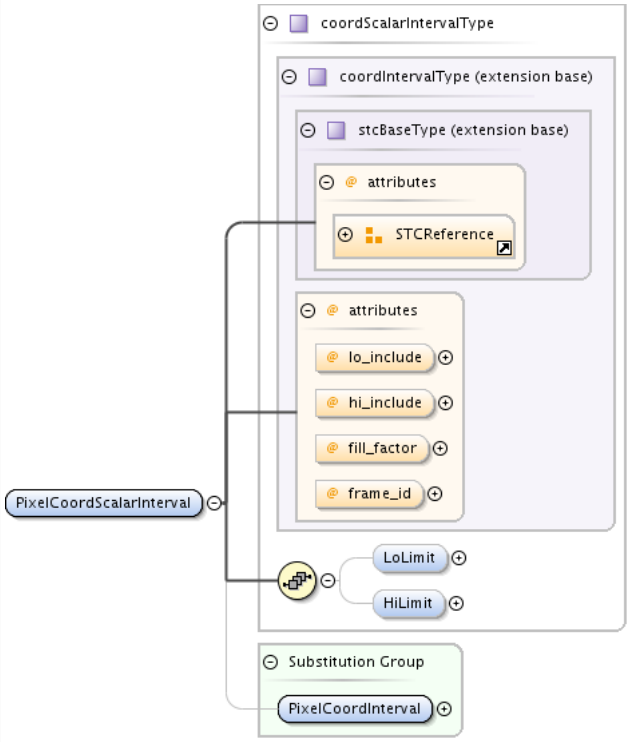
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			

QName	Type	Fixed	Default	Use
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoordInterval" type="coordIntervalType" nillable="true">
  <xs:annotation>
    <xs:documentation>The 1-, 2-, or 3-D pixel coordinate interval substitution group head element;
 such an element needs to contain a minimum or maximum scalar or vector value, or both; it needs
 to refer to a coordinate system; boundaries may or may not be inclusive; and it can have a fill
 factor</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoordScalarInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval in a scalar pixel coordinate
Diagram	
Type	coordScalarIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coordScalarIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PixelCoordInterval

Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit
Instance	<PixelCoordScalarInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" I www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra LoLimit> <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra HiLimit> </PixelCoordScalarInterval>

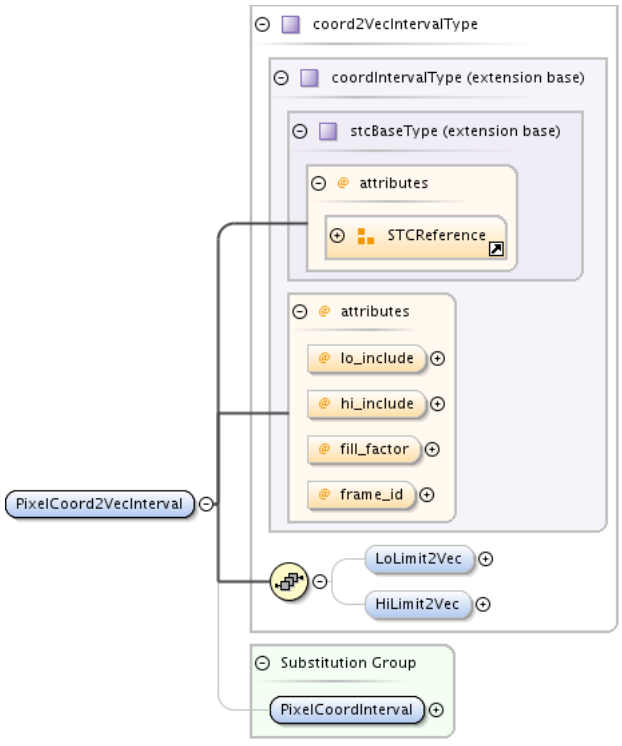
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoordScalarInterval" type="coordScalarIntervalType"
 substitutionGroup="PixelCoordInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval in a scalar pixel coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element PixelCoord2VecInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval ("box") in a 2-D pixel coordinate pair
Diagram	

Type	coord2VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coord2VecIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PixelCoordInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec
Instance	<PixelCoord2VecInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" ID www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" LoLimit2Vec> <HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" HiLimit2Vec> </PixelCoord2VecInterval>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

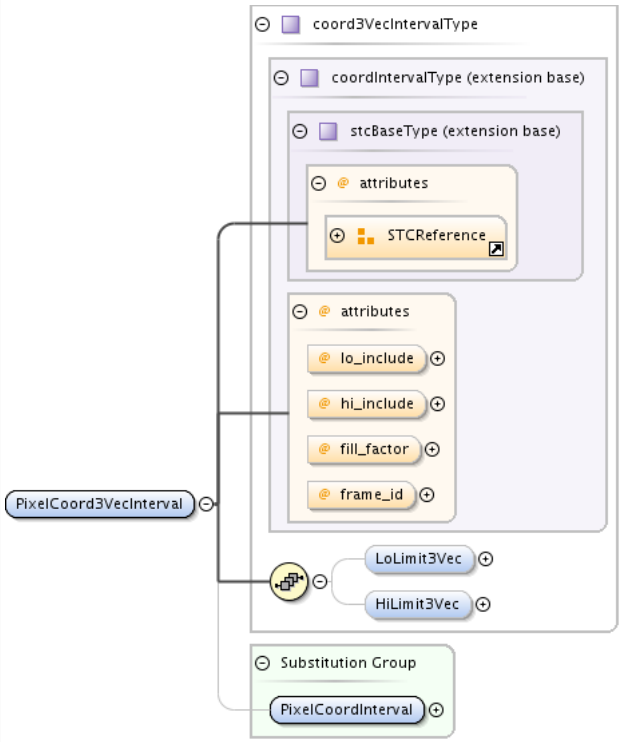
Source

```
<xs:element name="PixelCoord2VecInterval" type="coord2VecIntervalType"
 substitutionGroup="PixelCoordInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("box") in a 2-D pixel coordinate pair</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element PixelCoord3VecInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval ("cube") in a 3-D pixel coordinate triplet

Diagram



Type	coord3VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coord3VecIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PixelCoordInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Instance

```
<PixelCoord3VecInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDR
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
LoLimit3Vec>
  <HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
HiLimit3Vec>
</PixelCoord3VecInterval>
```

Attributes

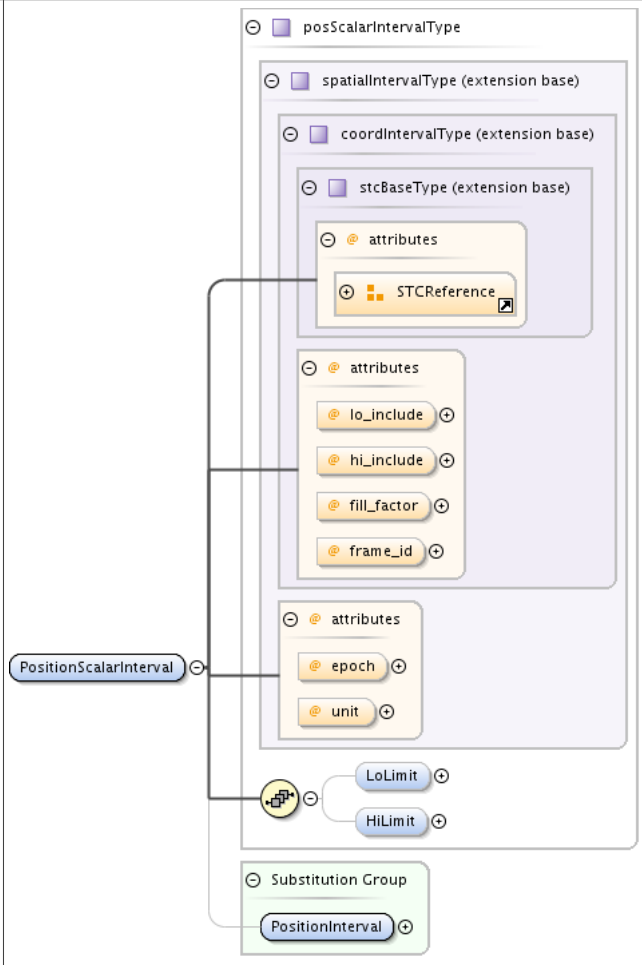
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional

	QName	Type	Fixed	Default	Use
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoord3VecInterval" type="coord3VecIntervalType"
 substitutionGroup="PixelCoordInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("cube") in a 3-D pixel coordinate triplet</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PositionScalarInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`An interval in a scalar coordinate`
Diagram	
Type	posScalarIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • posScalarIntervalType
Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• PositionInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Instance

```
<PositionScalarInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" id
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
LoLimit>
  <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra
HiLimit>
</PositionScalarInterval>
```

Attributes

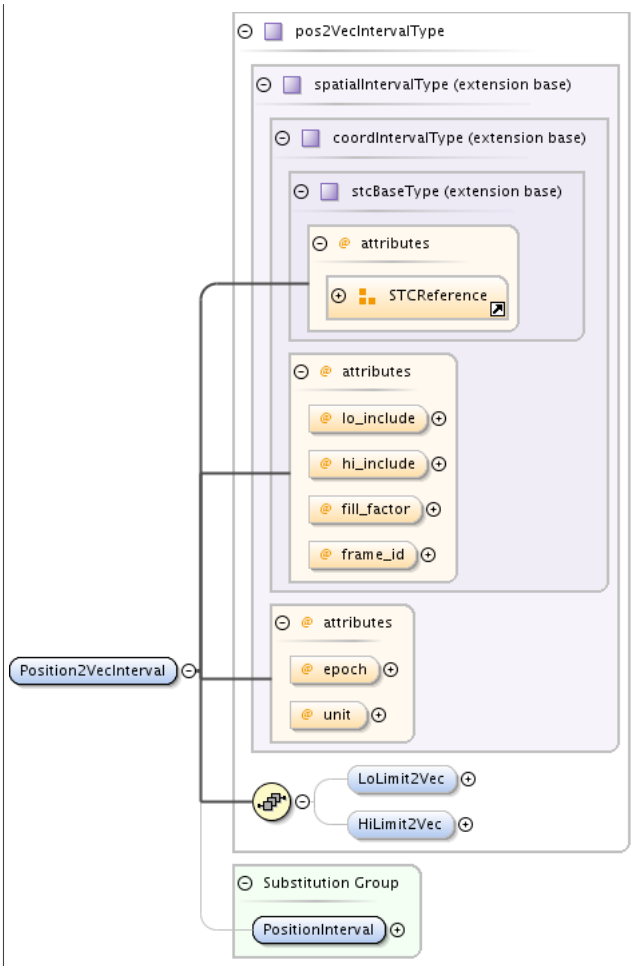
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PositionScalarInterval" type="posScalarIntervalType"
 substitutionGroup="PositionInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval in a scalar coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Position2VecInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval ("box") in a 2-D coordinate pair

Diagram	
Type	pos2VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • pos2VecIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PositionInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec

Instance	`<Position2VecInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="`
	`LoLimit2Vec>`
	`  <HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="`
	`HiLimit2Vec>`
	`</Position2VecInterval>`

Attributes

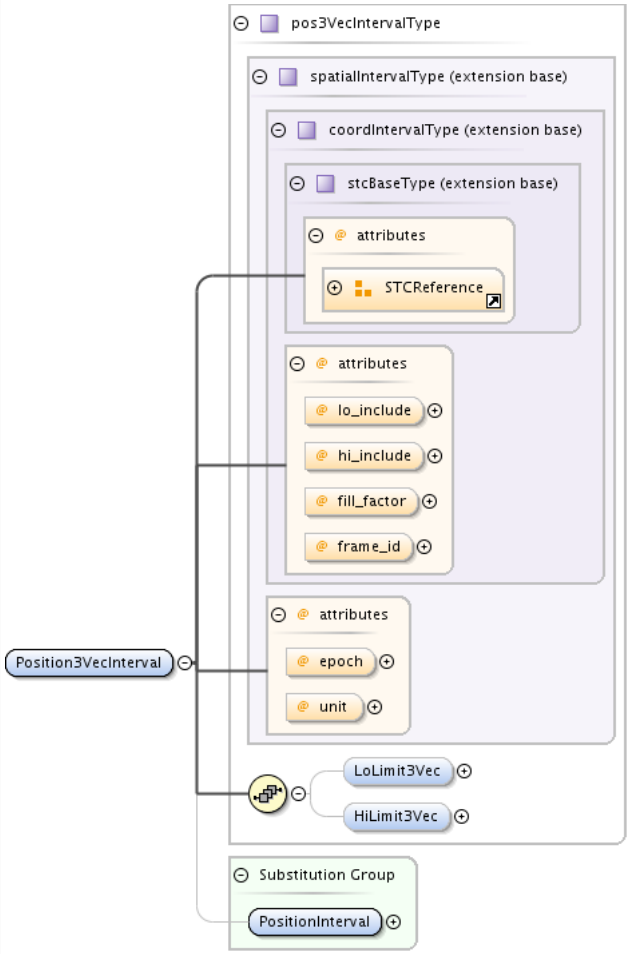
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			

	QName	Type	Fixed	Default	Use
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		`Limit to be included?`			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position2VecInterval" type="pos2VecIntervalType"
 substitutionGroup="PositionInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("box") in a 2-D coordinate pair</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Position3VecInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`An interval ("cube") in a 3-D coordinate triplet`
Diagram	
Type	pos3VecIntervalType
Type hierarchy	• stcBaseType • coordIntervalType

	• spatialIntervalType • pos3VecIntervalType
Properties	content: complex nillable: true
Substitution Group Affiliation	• PositionInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Instance

```
<Position3VecInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
LoLimit3Vec>
  <HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="
HiLimit3Vec>
</Position3VecInterval>
```

Attributes

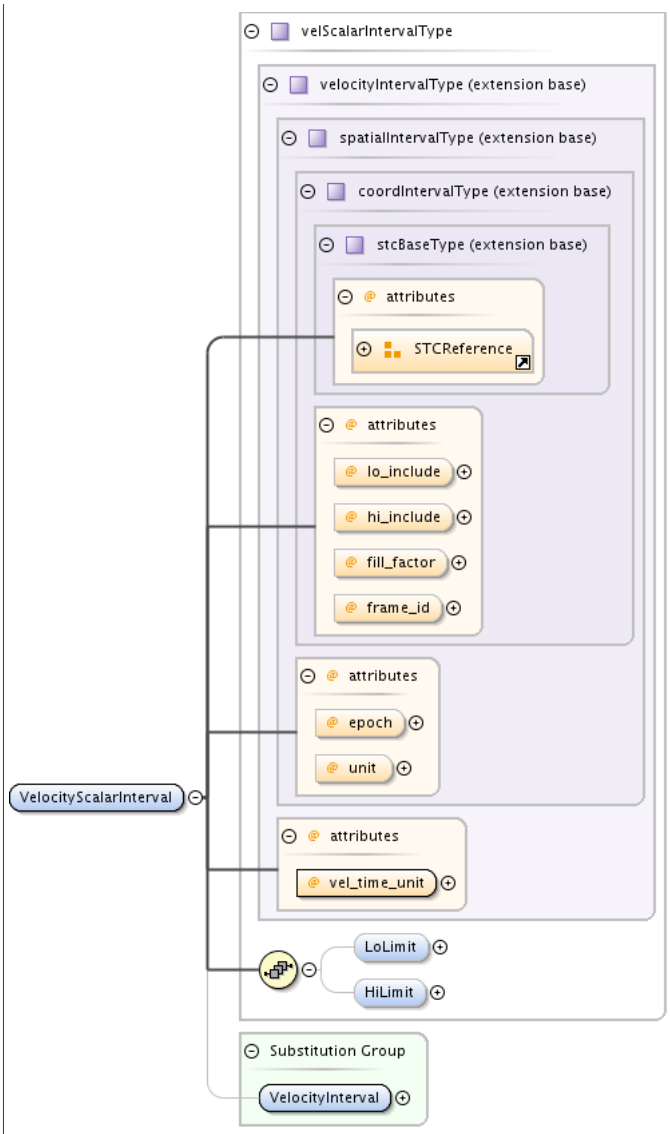
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Position3VecInterval" type="pos3VecIntervalType"
 substitutionGroup="PositionInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("cube") in a 3-D coordinate triplet</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element VelocityScalarInterval

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An interval in a scalar coordinate

Diagram	
Type	velScalarIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • velocityIntervalType • velScalarIntervalType
Properties	content: complex nillable: true
Substitution Group Affiliation	• VelocityInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit
Instance	<VelocityScalarInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" id www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra LoLimit> <HiLimit gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectra HiLimit> </VelocityScalarInterval>

Attributes

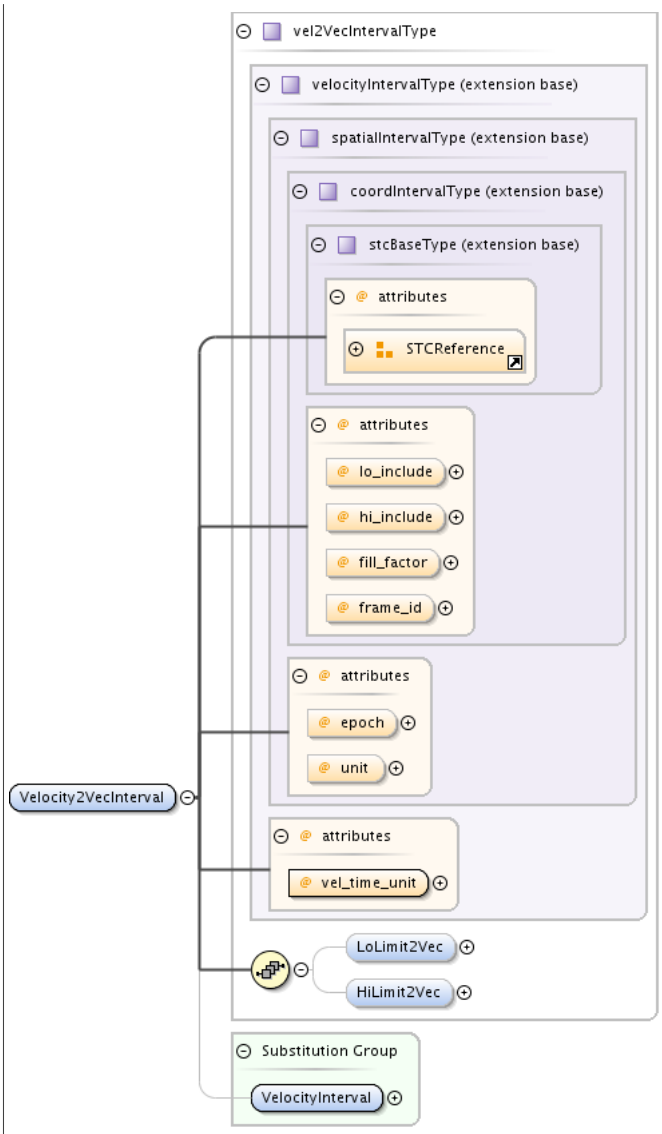
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="VelocityScalarInterval" type="velScalarIntervalType"
 substitutionGroup="VelocityInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval in a scalar coordinate</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity2VecInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`An interval ("box") in a 2-D coordinate pair`

Diagram	
Type	vel2VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • velocityIntervalType
	  • vel2VecIntervalType

Properties	content: complex nillable: true
Substitution Group Affiliation	• VelocityInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec
Instance	<Velocity2VecInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" LoLimit2Vec> <HiLimit2Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" HiLimit2Vec> </Velocity2VecInterval>

Attributes

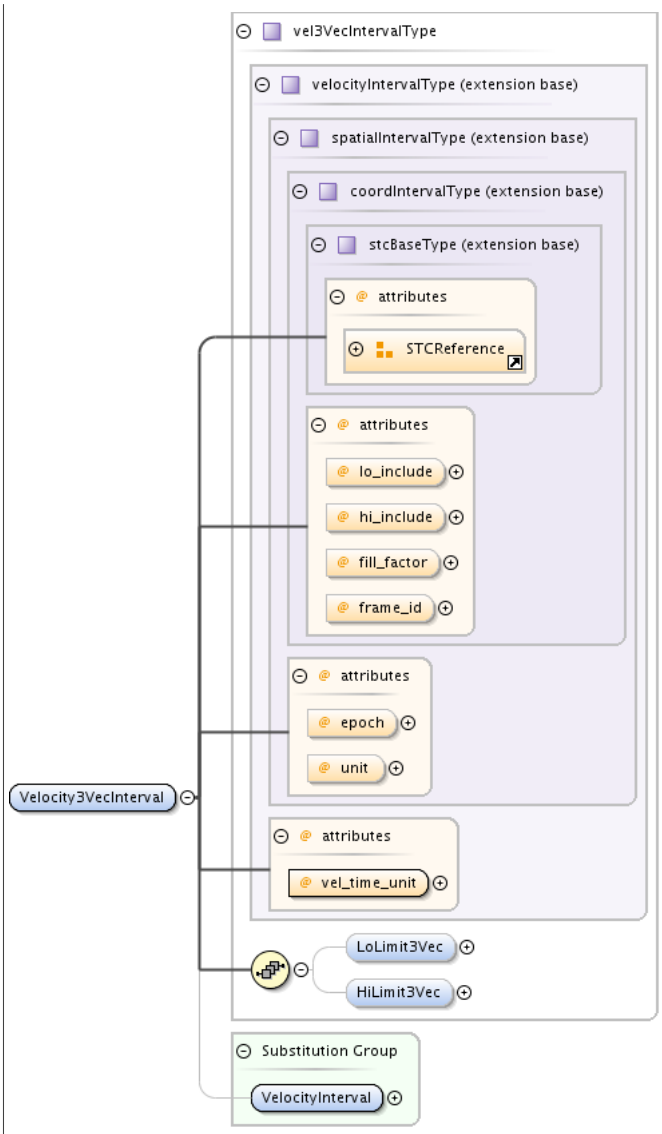
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity2VecInterval" type="vel2VecIntervalType"
 substitutionGroup="VelocityInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("box") in a 2-D coordinate pair</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `Velocity3VecInterval`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`An interval ("cube") in a 3-D coordinate triplet`

Diagram	
Type	vel3VecIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • velocityIntervalType
	  • vel3VecIntervalType

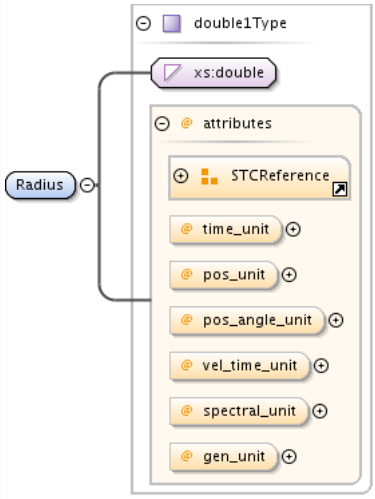
Properties	content: complex nillable: true
Substitution Group Affiliation	• VelocityInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec
Instance	<Velocity3VecInterval epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref www.ivoa.net/xml/STC/stc-v1.30.xsd"> <LoLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" LoLimit3Vec> <HiLimit3Vec gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit=" HiLimit3Vec> </Velocity3VecInterval>

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	epoch	xs:decimal			optional
	fill_factor	xs:float		1.0	optional
		`Fraction of interval that is occupied by data`			
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		`Limit to be included?`			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			required
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Velocity3VecInterval" type="vel3VecIntervalType"
 substitutionGroup="VelocityInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>An interval ("cube") in a 3-D coordinate triplet</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `sphereType / Radius`

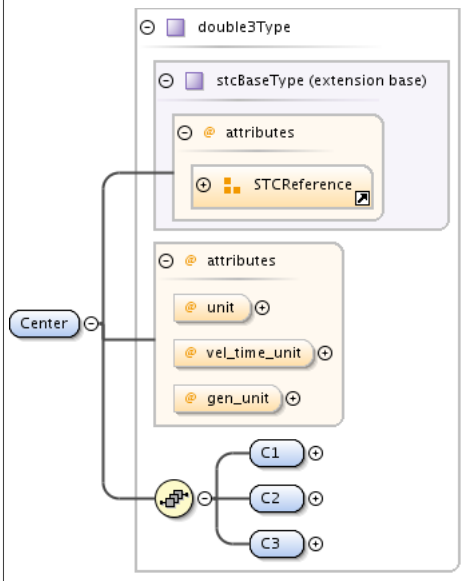
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double1Type

Properties		
	content:	`complex`
	nillable:	`true`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional

	QName	Type	Fixed	Default	Use
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="Radius" type="double1Type" nillable="true"/>`				

Element sphereType / Center

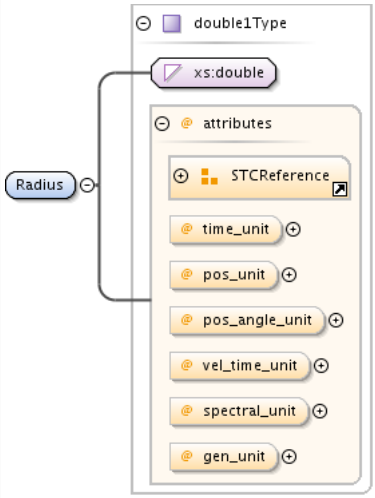
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3

Instance	`<Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C1>`
	`  <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C2>`
	`  <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit`
	`C3>`
	`</Center>`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="Center" type="double3Type" nillable="true"/>`				

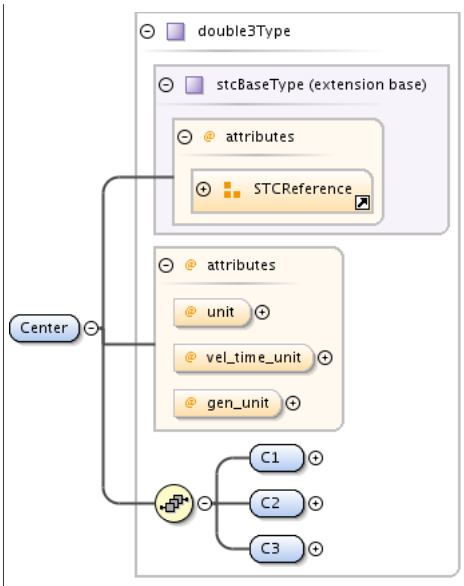
Element `velocitySphereType / Radius`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	double1Type
Properties	content: `complex` nillable: `true`

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	gen_unit	unitType			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	pos_angle_unit	angleUnitType			optional
	pos_unit	posUnitType			optional
	spectral_unit	spectralUnitType			optional
	time_unit	timeUnitType			optional
	ucd	xs:string			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional
Source	`<xs:element name="Radius" type="double1Type" nillable="true"/>`				

Element `velocitySphereType / Center`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Diagram	
Type	double3Type
Type hierarchy	• stcBaseType • double3Type
Properties	content: complex nillable: true
Model	C1 , C2 , C3
Children	C1, C2, C3
Instance	<Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_t www.ivoa.net/xml/STC/stc-v1.30.xsd"> <C1 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C1> <C2 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C2> <C3 gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_unit C3> </Center>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

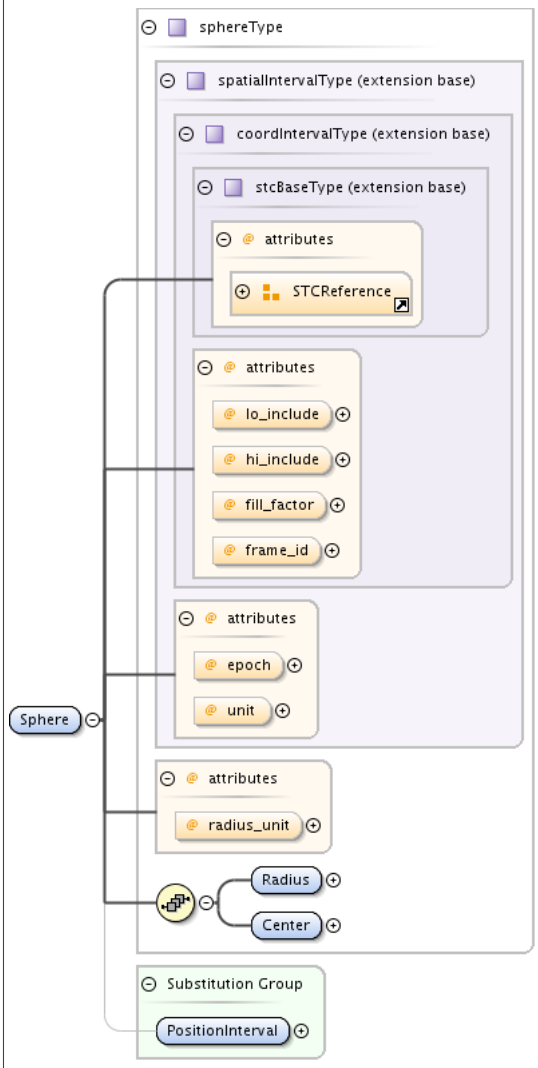
Source

```
<xs:element name="Center" type="double3Type" nillable="true"/>
```

Element regionFileType / File

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	xs:anyURI
Properties	content: simple
Source	<xs:element name="File" type="xs:anyURI"/>

Element Sphere

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Defines a sphere (3-D) region for spatial coordinates; contains a center position and a radius
Diagram	
Type	sphereType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • sphereType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PositionInterval
Model	Radius , Center
Children	Center, Radius
Instance	<Sphere epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Radius gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral_ Radius> <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel_ Center> </Sphere>

Attributes

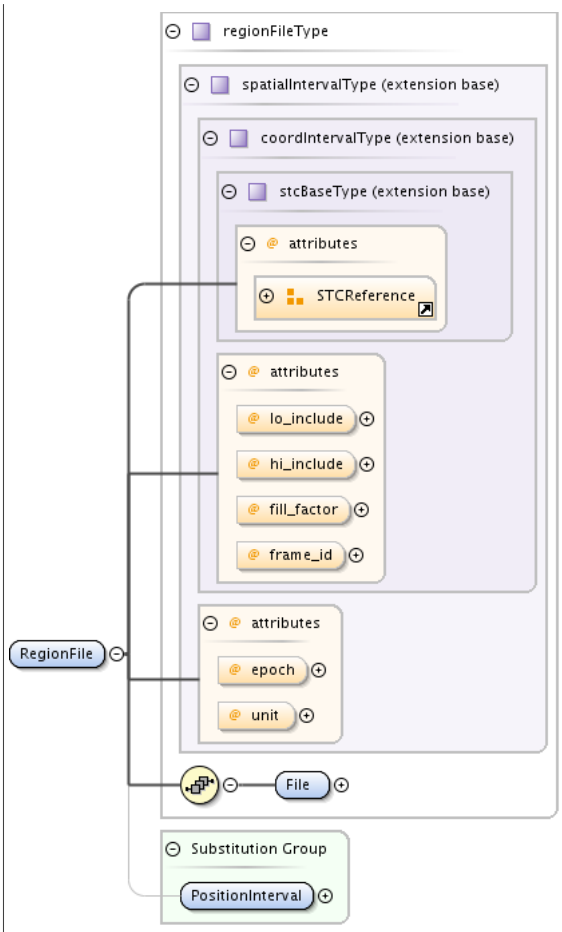
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
radius_unit	posUnitType		deg	optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="Sphere" type="sphereType" substitutionGroup="PositionInterval" nillable="true">
  <xs:annotation>
    <xs:documentation>Defines a sphere (3-D) region for spatial coordinates; contains a center
 position and a radius</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `RegionFile`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A region as defined in a FITS region file`

Diagram	
Type	regionFileType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionFileType

Properties	content: complex nillable: true
Substitution Group Affiliation	• PositionInterval
Model	File
Children	File

Instance	`<RegionFile epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_`
	`www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <File>{1,1}</File>`
	`</RegionFile>`

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			

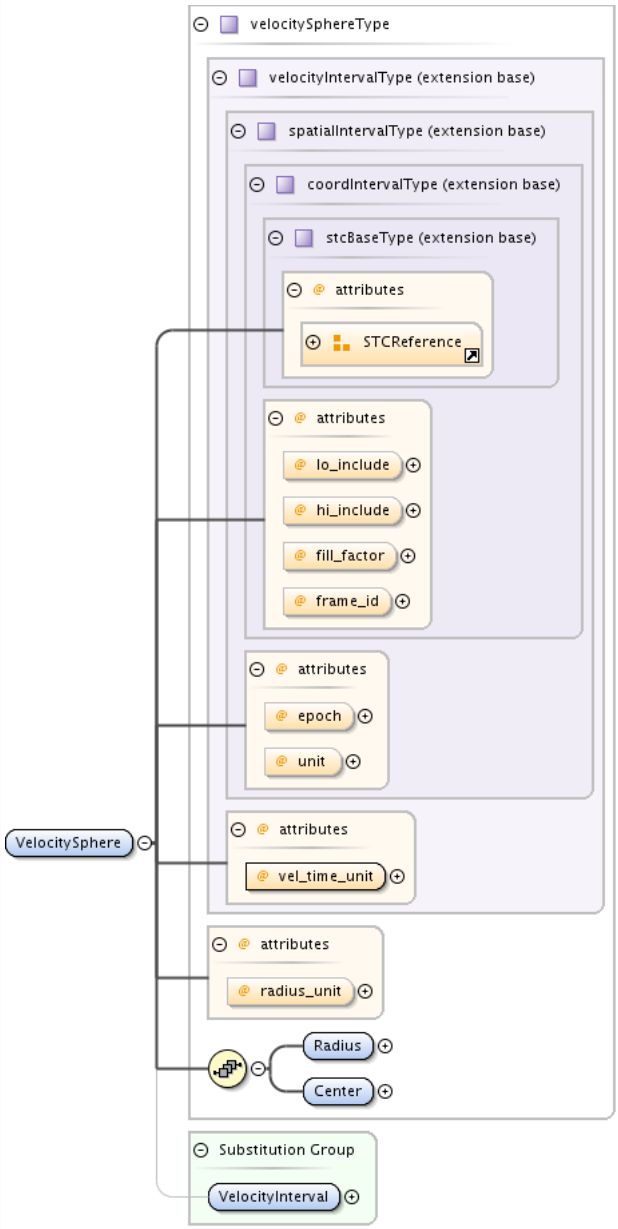
	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="RegionFile" type="regionFileType" substitutionGroup="PositionInterval"
 nillable="true">
  <xs:annotation>
    <xs:documentation>A region as defined in a FITS region file</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `VelocitySphere`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Defines a sphere (3-D) region for velocity coordinates; contains a center position and a radius

Diagram	
Type	velocitySphereType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • velocityIntervalType • velocitySphereType
Properties	content: complex nillable: true
Substitution Group Affiliation	• VelocityInterval
Model	Radius , Center
Children	Center, Radius
Instance	<VelocitySphere epoch="" fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" I www.ivoa.net/xml/STC/stc-v1.30.xsd"> <Radius gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" pos_angle_unit="" pos_unit="" spectral Radius>

```
  <Center gen_unit="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" unit="" vel
Center>
</VelocitySphere>
```

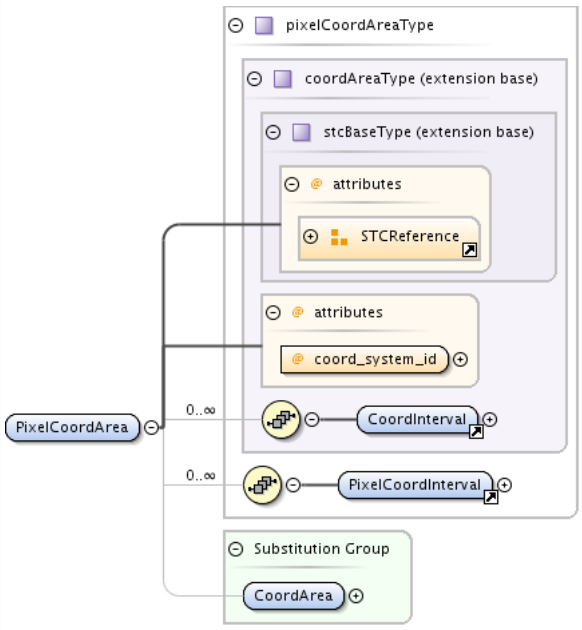
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
radius_unit	posUnitType		deg	optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="VelocitySphere" type="velocitySphereType" substitutionGroup="VelocityInterval"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Defines a sphere (3-D) region for velocity coordinates; contains a center
 position and a radius</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `PixelCoordArea`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Pixel space bounds
Diagram	
Type	pixelCoordAreaType
Type hierarchy	• stcBaseType

	• coordAreaType • pixelCoordAreaType
Properties	content: complex nillable: true
Substitution Group Affiliation	• CoordArea
Used by	Complex Type pixelSpaceType
Model	CoordInterval , PixelCoordInterval
Children	CoordInterval, PixelCoordInterval
Instance	<PixelCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" www.ivoa.net/xml/STC/stc-v1.30.xsd"> <CoordInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDREF_type CoordInterval> <PixelCoordInterval fill_factor="1.0" frame_id="" hi_include="true" xlink:href="" id="" ID_type="" idref="" IDRE PixelCoordInterval> </PixelCoordArea>

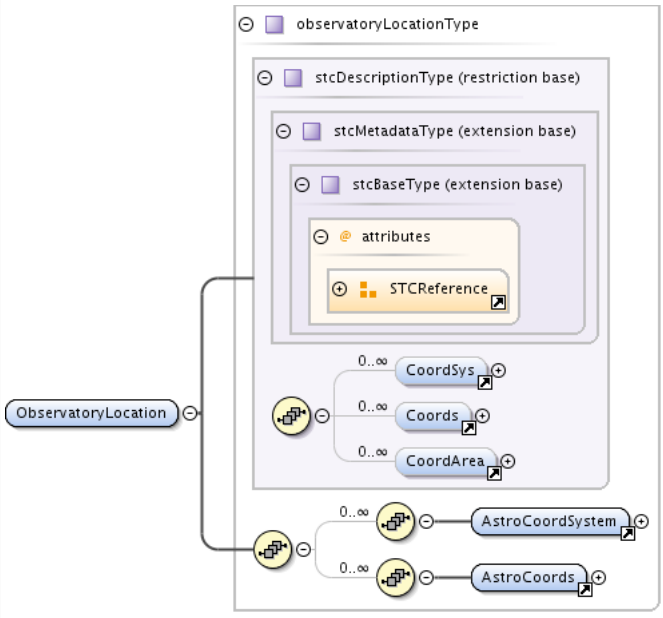
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelCoordArea" type="pixelCoordAreaType" substitutionGroup="CoordArea"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Pixel space bounds</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element obsDataLocationType / ObservatoryLocation

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Specifies the location of the observatory during the observation
Diagram	

Type	observatoryLocationType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • observatoryLocationType

Properties	content: complex nillable: true
Model	AstroCoordSystem , AstroCoords
Children	AstroCoordSystem, AstroCoords
Instance	<ObservatoryLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http:/ www.ivoa.net/xml/STC/stc-v1.30.xsd"> <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ AstroCoordSystem> <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ AstroCoords> </ObservatoryLocation>

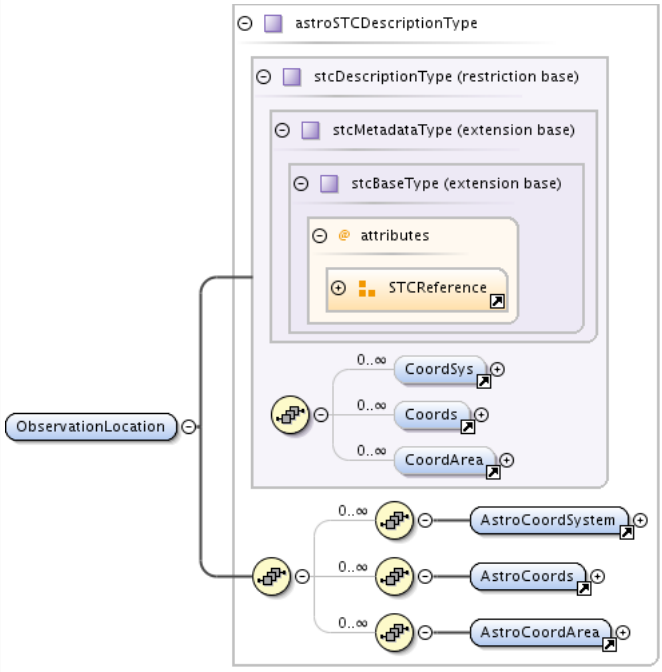
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ObservatoryLocation" type="observatoryLocationType" nillable="true">
  <xs:annotation>
    <xs:documentation>Specifies the location of the observatory during the observation</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element obsDataLocationType / ObservationLocation

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Describes the spatial and temporal coverage of the observation
Diagram	

Type	astroSTCDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Properties	content: complex nillable: true
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords
Instance	<ObservationLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http:/ www.ivoa.net/xml/STC/stc-v1.30.xsd"> <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ AstroCoordSystem> <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">> AstroCoords> <AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd= AstroCoordArea> </ObservationLocation>

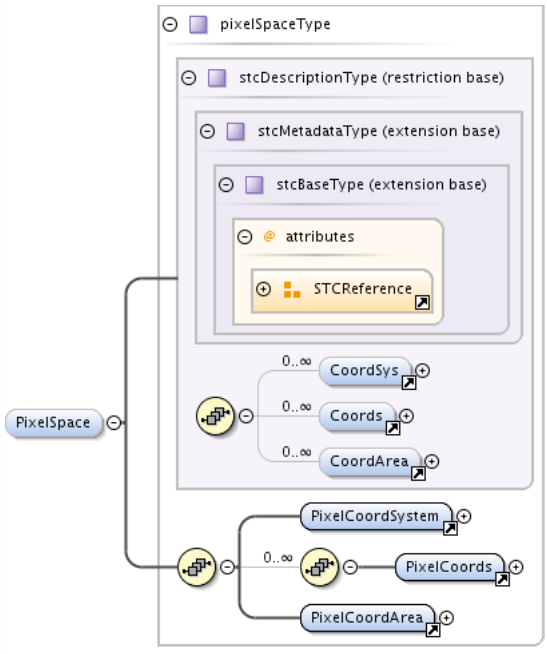
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ObservationLocation" type="astroSTCDescriptionType" nillable="true">
  <xs:annotation>
    <xs:documentation>Describes the spatial and temporal coverage of the observation</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element obsDataLocationType / PixelSpace

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Defines the pixel coordinate system for pixelated data
Diagram	

Type	pixelSpaceType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • pixelSpaceType

Properties	content: complex minOccurs: 0 nillable: true
Model	PixelCoordSystem , PixelCoords , PixelCoordArea
Children	PixelCoordArea, PixelCoordSystem, PixelCoords
Instance	<PixelSpace xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <PixelCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</PixelCoordSystem> <PixelCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">... <PixelCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=... </PixelSpace>

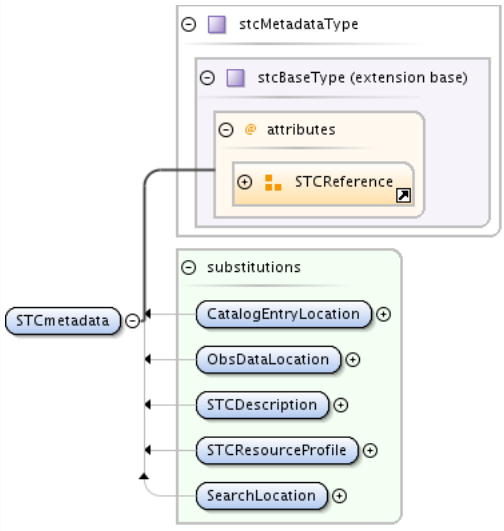
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="PixelSpace" type="pixelSpaceType" nillable="true" minOccurs="0">
  <xs:annotation>
    <xs:documentation>Defines the pixel coordinate system for pixelated data</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element STCmetadata

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Toplevel: Abstract STCmetadata contains a choice of: ResourceProfile, SearchLocation, CatalogEntryLocation, or ObservationLocation plus ObservatoryLocation elements
Diagram	
Type	stcMetadataType
Type hierarchy	• stcBaseType

	• stcMetadataType
Properties	content: `complex` nillable: `true`
Substitution Group	• STCDescription • STCResourceProfile • SearchLocation • CatalogEntryLocation • ObsDataLocation

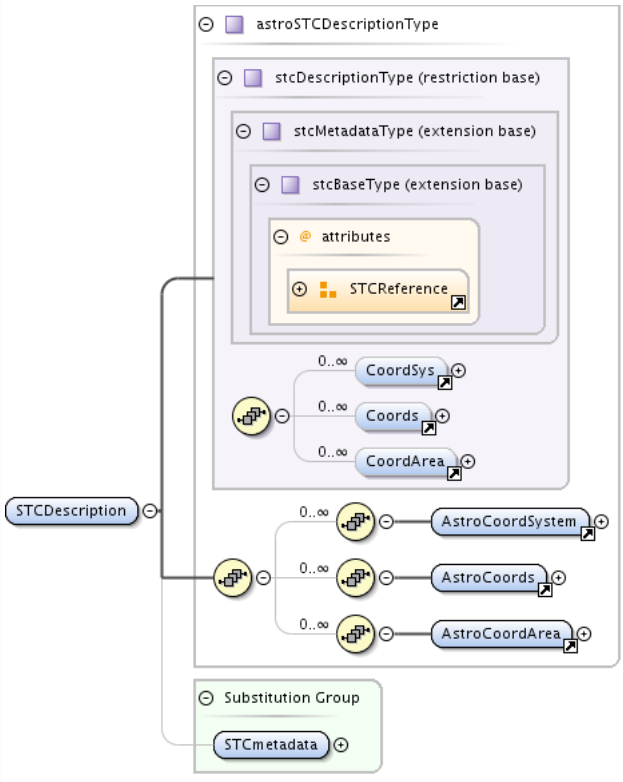
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="STCmetadata" type="stcMetadataType" nillable="true">
  <xs:annotation>
    <xs:documentation>Toplevel: Abstract STCmetadata contains a choice of: ResourceProfile,
 SearchLocation, CatalogEntryLocation, or ObservationLocation plus ObservatoryLocation elements</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `STCDescription`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A generic STC metadata description`
Diagram	
Type	astroSTCDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Properties	content: complex nillable: true
Substitution Group Affiliation	• STCmetadata
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords
Instance	<STCDescription xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</AstroCoordSystem> <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" > AstroCoords> <AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd= AstroCoordArea> </STCDescription>

Attributes

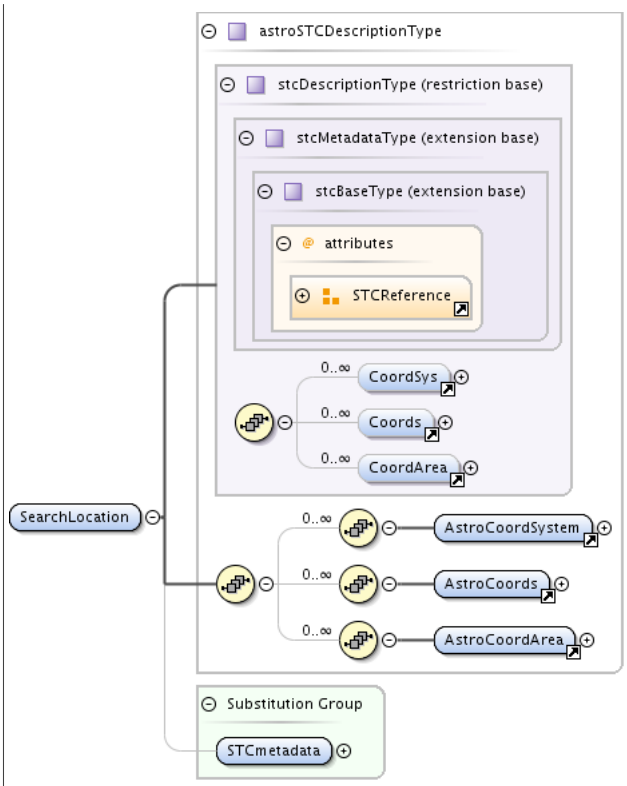
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="STCDescription" type="astroSTCDescriptionType" substitutionGroup="STCmetadata"
 nillable="true">
  <xs:annotation>
    <xs:documentation>A generic STC metadata description</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element SearchLocation

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Defines the spatial and temporal coordinate space specified by a query

Diagram	
Type	astroSTCDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Properties	content: complex nillable: true
Substitution Group Affiliation	• STCmetadata
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords

Instance

```
<SearchLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://
www.ivoa.net/xml/STC/stc-v1.30.xsd">
  <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</
AstroCoordSystem>
  <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">
AstroCoords>
  <AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=
AstroCoordArea>
</SearchLocation>
```

Attributes

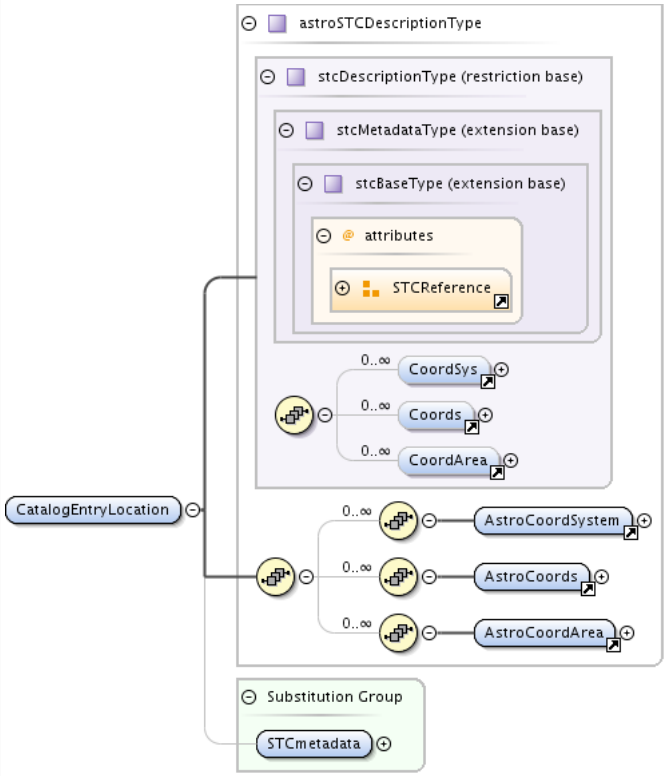
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="SearchLocation" type="astroSTCDescriptionType" substitutionGroup="STCmetadata"
 nillable="true">
  <xs:annotation>
```

```
    <xs:documentation>Defines the spatial and temporal coordinate space specified by a query</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `CatalogEntryLocation`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Describes the spatial and temporal coverage of a catalog (fragment) and contains the coordinates of the catalog entries; multiple coordinate systems are allowed`
Diagram	
Type	astroSTCDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• STCmetadata
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords

Instance	`<CatalogEntryLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <AstroCoordSystem xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ AstroCoordSystem>`
	`  <AstroCoords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" AstroCoords>`
	`  <AstroCoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd AstroCoordArea>`
	`</CatalogEntryLocation>`

Attributes

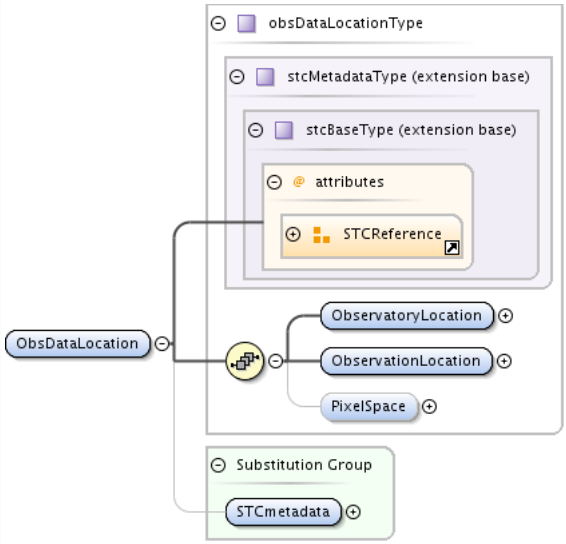
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="CatalogEntryLocation" type="astroSTCDescriptionType"
 substitutionGroup="STCmetadata" nillable="true">
  <xs:annotation>
    <xs:documentation>Describes the spatial and temporal coverage of a catalog (fragment) and
 contains the coordinates of the catalog entries; multiple coordinate systems are allowed</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element `ObsDataLocation`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Describes the coordinate system used in and coordinate space occupied by a particular observational dataset; it contains an observation location, an observatory location, and optionally a pixel coordinate system`
Diagram	
Type	obsDataLocationType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • obsDataLocationType

Properties	content: `complex` nillable: `true`
Substitution Group Affiliation	• STCmetadata
Model	ObservatoryLocation , ObservationLocation , PixelSpace{0,1}
Children	ObservationLocation, ObservatoryLocation, PixelSpace

Instance	`<ObsDataLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <ObservatoryLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ObservatoryLocation>`
	`  <ObservationLocation xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{1,1}</ObservationLocation>`
	`  <PixelSpace xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</PixelSpace>`
	`</ObsDataLocation>`

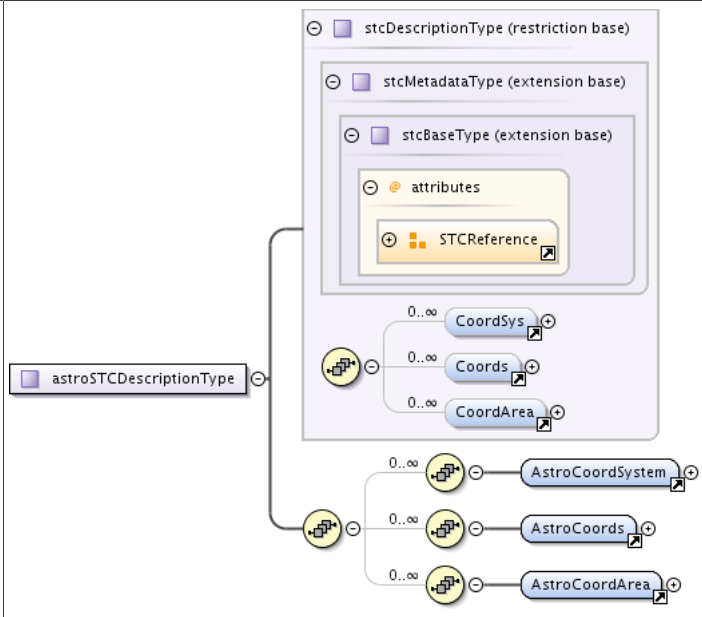
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="ObsDataLocation" type="obsDataLocationType" substitutionGroup="STCmetadata"
 nillable="true">
  <xs:annotation>
    <xs:documentation>Describes the coordinate system used in and coordinate space occupied by a
 particular observational dataset; it contains an observation location, an observatory location, and
 optionally a pixel coordinate system</xs:documentation>
  </xs:annotation>
</xs:element>
```

Complex Type(s)

Complex Type `astroSTCDescriptionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Type for generic astronomical STC metadata, in particular Resource Profile, Search Location, Catalog Entry.`
Diagram	
Type	restriction of stcDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType
	  • astroSTCDescriptionType

Used by	Elements: CatalogEntryLocation, STCDescription, STCResourceProfile, SearchLocation, obsDataLocationType/ObservationLocation
Model	AstroCoordSystem , AstroCoords , AstroCoordArea
Children	AstroCoordArea, AstroCoordSystem, AstroCoords

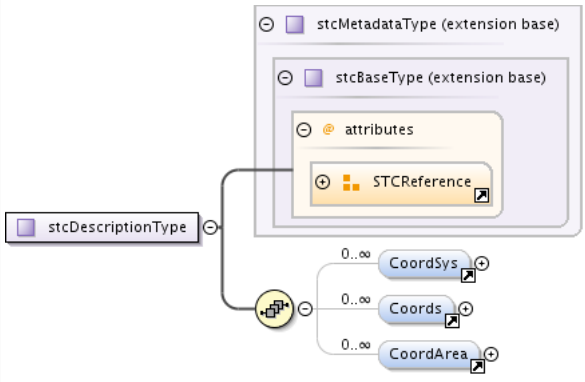
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional

QName	Type	Fixed	Default	Use
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="astroSTCDescriptionType">
  <xs:annotation>
    <xs:documentation>Type for generic astronomical STC metadata, in particular Resource Profile,
 Search Location, Catalog Entry.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:restriction base="stcDescriptionType">
      <xs:sequence>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="AstroCoordSystem">
            <xs:annotation>
              <xs:documentation>The coordinate system definition: spatial coordinate frame and
 reference position; time frame and reference position; the coordinate flavor; and the planetary
 ephemeris; an ID is required, since this is how coordinate elements are associated with their
 coordinate systems</xs:documentation>
            </xs:annotation>
          </xs:element>
        </xs:sequence>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="AstroCoords">
            <xs:annotation>
              <xs:documentation>AstroCoords contains information on time and spatial locations,
 resolution, errors, and pixelsizes (if fixed); typical best numbers are expected</xs:documentation>
            </xs:annotation>
          </xs:element>
        </xs:sequence>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="AstroCoordArea">
            <xs:annotation>
              <xs:documentation>The coverage area of the data; the fill factor does not need to be
 1.0</xs:documentation>
            </xs:annotation>
          </xs:element>
        </xs:sequence>
      </xs:sequence>
    </xs:restriction>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `stcDescriptionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generalized single stcMetadata type`
Diagram	
Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType

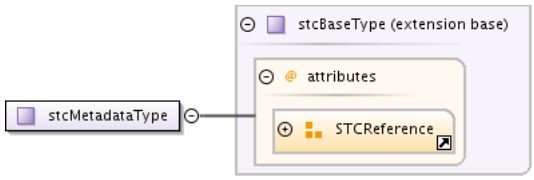
Used by	Complex Types astroSTCDescriptionType, observatoryLocationType, pixelSpaceType

	Element	vs:StandardSTC/stcDefinitions			
Model	CoordSys* , Coords* , CoordArea*				
Children	CoordArea, CoordSys, Coords				
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="stcDescriptionType">
  <xs:annotation>
    <xs:documentation>Generalized single stcMetadata type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:element ref="CoordSys" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element ref="Coords" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element ref="CoordArea" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `stcMetadataType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd				
Annotations	`Abstract stcMetadata type`				
Diagram					
Type	extension of stcBaseType				
Type hierarchy	• stcBaseType • stcMetadataType				
Used by	Complex Types	STCCoordinate, STCCoordinateList, STCRegion, STCRegionList, obsDataLocationType, stcDescriptionType			
	Element	STCmetadata			
Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="stcMetadataType">
  <xs:annotation>
    <xs:documentation>Abstract stcMetadata type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `stcBaseType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	STC standard base type. Elements of derived types may contain real content, be a reference to another element in the document (idref), or be a reference to a distributed resource; the href is to be a standard IVOA identifier or a valid URL. Actuation is up to the client. At this time it is required to be of type simple. An id is optional; it allows referencing by other elements.
Diagram	
Properties	abstract: true
Used by	Complex Types: coordAreaType, coordFrameType, coordIntervalType, coordSysType, coordinateType, coordsType, curve2Type, curve3Type, double2Type, double3Type, double4Type, double9Type, stcMetadataType

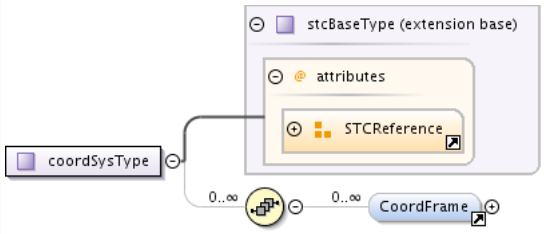
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="stcBaseType" abstract="true">
  <xs:annotation>
    <xs:documentation>STC standard base type. Elements of derived types may contain real content,
 be a reference to another element in the document (idref), or be a reference to a distributed
 resource; the href is to be a standard IVOA identifier or a valid URL. Actuation is up to the
 client. At this time it is required to be of type simple. An id is optional; it allows referencing
 by other elements.</xs:documentation>
  </xs:annotation>
  <xs:attributeGroup ref="STCReference"/>
</xs:complexType>
```

Complex Type `coordSysType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Coordinate system definition: a collection of coordinate frames
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordSysType
Used by	Element: CoordSys Complex Types: astroCoordSystemType, pixelCoordSystemType, psr:CoordSysType
Model	CoordFrame*
Children	CoordFrame

Attributes

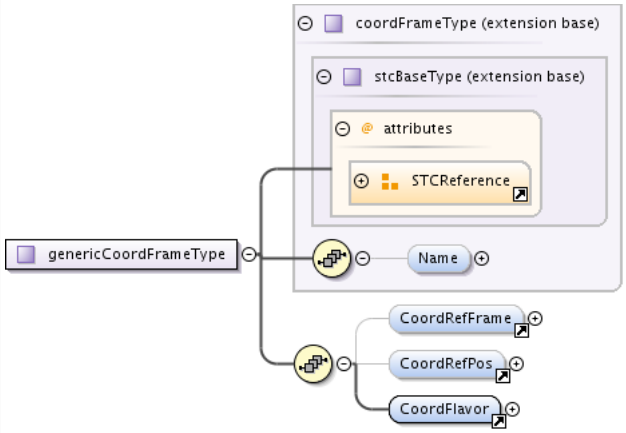
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordSysType">
  <xs:annotation>
    <xs:documentation>Coordinate system definition: a collection of coordinate frames</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:annotation>
        <xs:documentation>A CoordSys consists of at least one coordinate frames; unfortunately,
 schema inheritance and polymorphism doesn't allow us to specify this in the most genarl way</
xs:documentation>
      </xs:annotation>
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="CoordFrame" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type genericCoordFrameType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	extension of coordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • genericCoordFrameType

Used by	Element CoordFrame Complex Type pixelFrameType
Model	Name{0,1} , CoordRefFrame{0,1} , CoordRefPos{0,1} , CoordFlavor
Children	CoordFlavor, CoordRefFrame, CoordRefPos, Name

Attributes

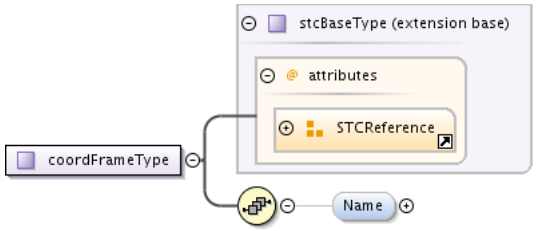
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="genericCoordFrameType">
  <xs:complexContent>
    <xs:extension base="coordFrameType">
      <xs:sequence>
```

```
        <xs:element ref="CoordRefFrame" minOccurs="0"/>
        <xs:element ref="CoordRefPos" minOccurs="0"/>
        <xs:element ref="CoordFlavor">
          <xs:annotation>
            <xs:documentation>Provides the coordinate definitions: number of axes, SPHERICAL,
 CARTESIAN, UNITSPHERE, POLAR, or HEALPIX, presence of velocities</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A CoordFrame has to have at least an Id`
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordFrameType
Used by	Complex Types: genericCoordFrameType, psr:OtherFrameType, psr:ParticleFrameType, redshiftFrameType, spaceFrameType, spectralFrameType, timeFrameType
Model	Name{0,1}
Children	Name

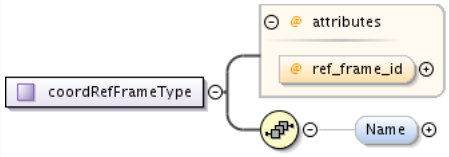
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordFrameType">
  <xs:annotation>
    <xs:documentation>A CoordFrame has to have at least an Id</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="Name" type="xs:string" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A generic CoordReferenceFrame`
Diagram	

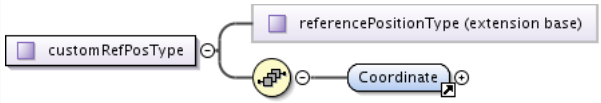
Used by	Elements	CoordRefFrame, CustomSpaceRefFrame, SpaceRefFrame
	Complex Types	cart1DRefFrameType, cart2DRefFrameType, cart3DRefFrameType, spaceRefFrameType, sphericalRefFrameType
Model	Name{0,1}	
Children	Name	

Attributes	QName	Type	Fixed	Default	Use
	ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="coordRefFrameType">
  <xs:annotation>
    <xs:documentation>A generic CoordReferenceFrame</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Name" type="xs:string" minOccurs="0"/>
  </xs:sequence>
  <xs:attribute name="ref_frame_id" type="xs:IDREF"/>
</xs:complexType>
```

Complex Type `customRefPosType`

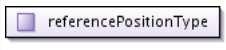
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type for custom positions: specifies reference origin
Diagram	

Type	extension of referencePositionType
Type hierarchy	• referencePositionType • customRefPosType
Used by	Element: CoordRefPos
Model	Coordinate
Children	Coordinate

Source

```
<xs:complexType name="customRefPosType">
  <xs:annotation>
    <xs:documentation>Type for custom positions: specifies reference origin</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="referencePositionType">
      <xs:sequence>
        <xs:element ref="Coordinate"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `referencePositionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Abstract type for reference positions
Diagram	

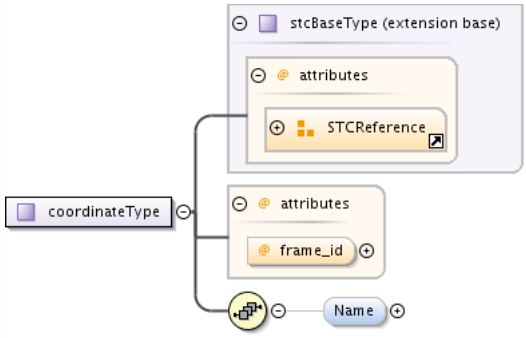
Properties	abstract:	true
Used by	Complex Types	customRefPosType, genericRefPosType, stdRefPosType
	Element	ReferencePosition

Source

```
<xs:complexType name="referencePositionType" abstract="true">
  <xs:annotation>
    <xs:documentation>Abstract type for reference positions</xs:documentation>
  </xs:annotation>
</xs:complexType>
```

Complex Type `coordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	Abstract coordinate type; a concrete Coordinate consists of a Value, Error, Resolution, Size, and PixSize
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordinateType
Used by	Elements: Coordinate, GenCoordinate, Pixel, Position, Velocity, psr:particleCoord Complex Types: astroCoordsFileType, basicCoordinateType, orbitType, pixelVector1CoordinateType, pixelVector2CoordinateType, pixelVector3CoordinateType, stringCoordinateType, timeCoordinateType, vector2CoordinateType, vector3CoordinateType
Model	Name{0,1}
Children	Name

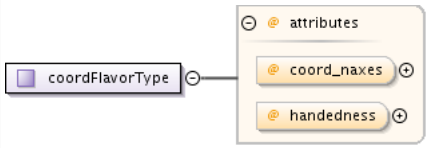
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordinateType">
  <xs:annotation>
    <xs:documentation>Abstract coordinate type; a concrete Coordinate consists of a Value, Error,
 Resolution, Size, and PixSize</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="Name" type="xs:string" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="frame_id" type="xs:IDREF" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordFlavorType`

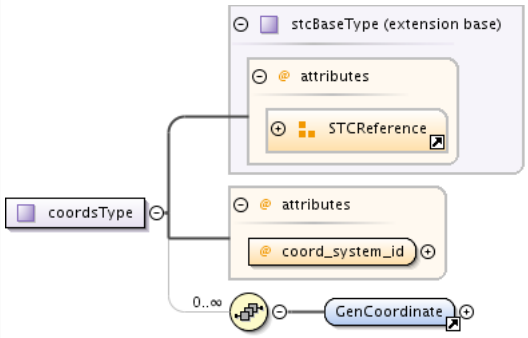
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Provides the spatial coordinate definitions: number of axes, SPHERICAL, CARTESIAN, UNITSPHERE, POLAR, or HEALPIX, presence of velocities
Diagram	
Used by	Elements: CARTESIAN, CYLINDRICAL, CoordFlavor, POLAR, SPHERICAL, STRING, UNITSPHERE Complex Type: healpixType

Attributes	QName	Type	Fixed	Default	Use
	coord_naxes	restriction of xs:integer		2	optional
	handedness	restriction of xs:string			optional

Source

```
<xs:complexType name="coordFlavorType">
  <xs:annotation>
    <xs:documentation>Provides the spatial coordinate definitions: number of axes, SPHERICAL,
 CARTESIAN, UNITSPHERE, POLAR, or HEALPIX, presence of velocities</xs:documentation>
  </xs:annotation>
  <xs:attribute name="coord_naxes" default="2">
    <xs:simpleType>
      <xs:restriction base="xs:integer">
        <xs:minInclusive value="1"/>
        <xs:maxInclusive value="3"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
  <xs:attribute name="handedness" use="optional">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:enumeration value="left"/>
        <xs:enumeration value="right"/>
      </xs:restriction>
    </xs:simpleType>
  </xs:attribute>
</xs:complexType>
```

Complex Type coordsType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The generic coordsType
Diagram	

Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordsType

Used by	Element	Coords
	Complex Types	astroCoordsType, pixelCoordsType, psr:CoordsType

Model	GenCoordinate
Children	GenCoordinate

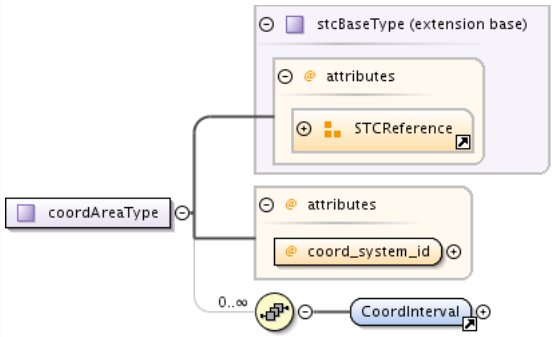
Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	coord_system_id	xs:IDREF			required
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordsType">
  <xs:annotation>
    <xs:documentation>The generic coordsType</xs:documentation>
  </xs:annotation>
```

```
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:annotation>
        <xs:documentation>A CoordSys consists of at least one coordinate frames; unfortunately,
 schema inheritance and polymorphism doesn't allow us to specify this in the most genarl way</
xs:documentation>
      </xs:annotation>
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="GenCoordinate"/>
      </xs:sequence>
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordAreaType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generalized coordinate area type`
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordAreaType
Used by	Element: CoordArea Complex Types: astroCoordAreaType, pixelCoordAreaType
Model	CoordInterval
Children	CoordInterval

Attributes

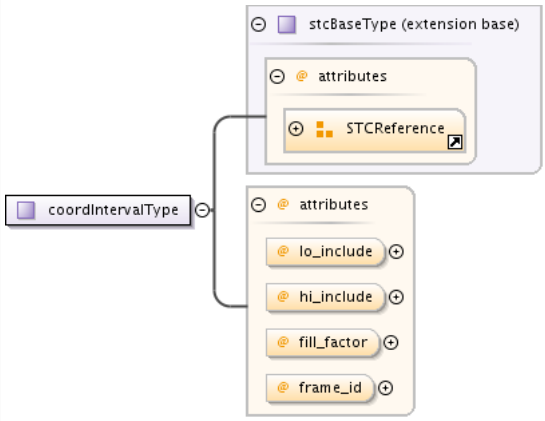
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordAreaType">
  <xs:annotation>
    <xs:documentation>Generalized coordinate area type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="CoordInterval"/>
      </xs:sequence>
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	Abstact coordinate interval type
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • coordIntervalType
Used by	Elements: CoordInterval, PixelCoordInterval, PositionInterval, VelocityInterval Complex Types: coord2VecIntervalType, coord3VecIntervalType, coordScalarIntervalType, spatialIntervalType, timeIntervalType, uCoord2VecIntervalType, uCoord3VecIntervalType, uCoordScalarIntervalType

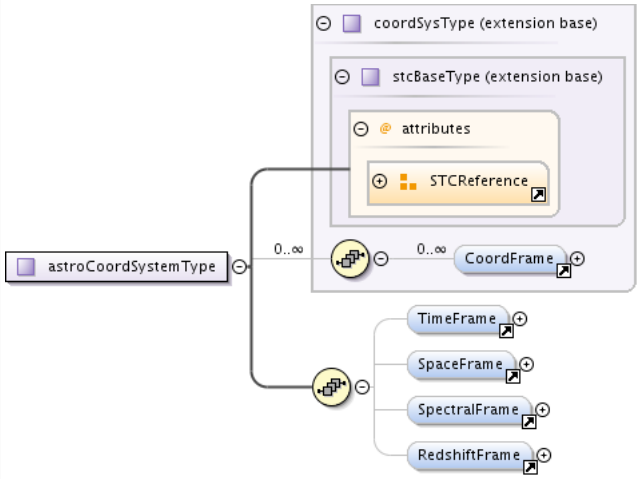
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordIntervalType">
  <xs:annotation>
    <xs:documentation>Abstact coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:attribute name="lo_include" type="xs:boolean" default="true">
        <xs:annotation>
          <xs:documentation>Limit to be included?</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="hi_include" type="xs:boolean" default="true">
        <xs:annotation>
          <xs:documentation>Limit to be included?</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="fill_factor" type="xs:float" use="optional" default="1.0">
        <xs:annotation>
          <xs:documentation>Fraction of interval that is occupied by data</xs:documentation>
        </xs:annotation>
      </xs:attribute>
      <xs:attribute name="frame_id" type="xs:IDREF" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `astroCoordSystemType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The astronomical coordinate system definition: spatial coordinate frame and reference position; time frame and reference position; the coordinate flavor; spectral frame and (optionally) Doppler frame; and the planetary ephemeris; an ID is required, since this is how coordinate elements are associated with their coordinate systems
Diagram	
Type	extension of coordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • astroCoordSystemType

Used by	Element AstroCoordSystem
Model	CoordFrame* , TimeFrame{0,1} , SpaceFrame{0,1} , SpectralFrame{0,1} , RedshiftFrame{0,1}
Children	CoordFrame, RedshiftFrame, SpaceFrame, SpectralFrame, TimeFrame

Attributes

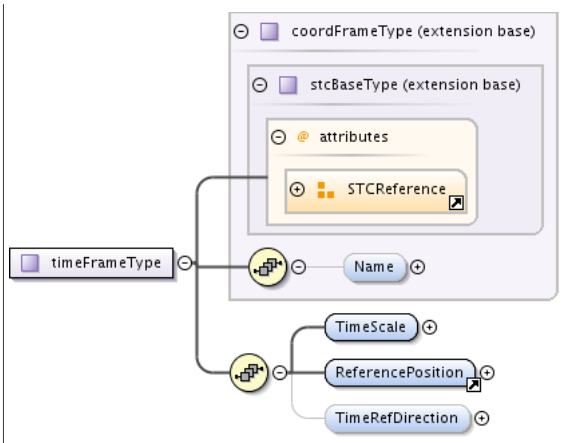
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="astroCoordSystemType">
  <xs:annotation>
    <xs:documentation>The astronomical coordinate system definition: spatial coordinate frame and
 reference position; time frame and reference position; the coordinate flavor; spectral frame and
 (optionally) Doppler frame; and the planetary ephemeris; an ID is required, since this is how
 coordinate elements are associated with their coordinate systems</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordSysType">
      <xs:sequence>
        <xs:element ref="TimeFrame" minOccurs="0"/>
        <xs:element ref="SpaceFrame" minOccurs="0"/>
        <xs:element ref="SpectralFrame" minOccurs="0"/>
        <xs:element ref="RedshiftFrame" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `timeFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The time reference frame consists of a timescale, a reference position, and optionally a reference direction (needed when transformations have been applied)

Diagram	
Type	extension of coordFrameType
Type hierarchy	• stcBaseType • coordFrameType • timeFrameType
Used by	Element TimeFrame
Model	Name{0,1} , TimeScale , ReferencePosition , TimeRefDirection{0,1}
Children	Name, ReferencePosition, TimeRefDirection, TimeScale

Attributes

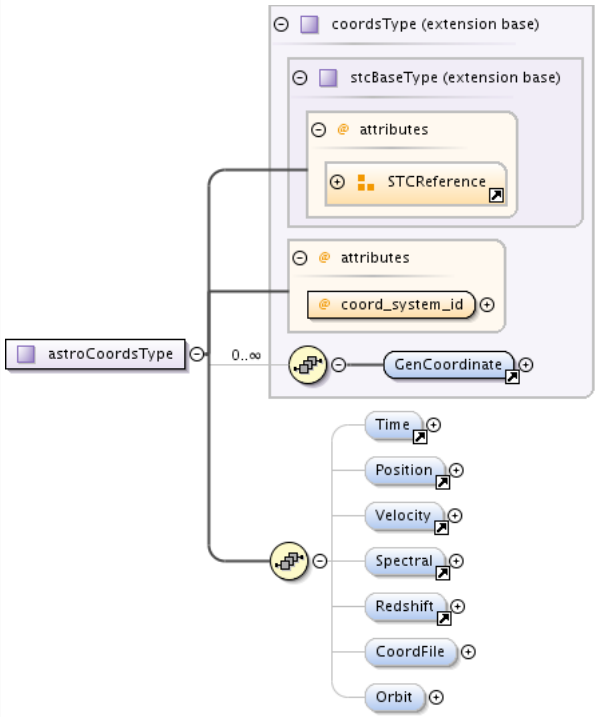
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="timeFrameType">
  <xs:annotation>
    <xs:documentation>The time reference frame consists of a timescale, a reference position, and
 optionally a reference direction (needed when transformations have been applied)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordFrameType">
      <xs:sequence>
        <xs:element name="TimeScale" type="timeScaleType" default="TT" nillable="true">
          <xs:annotation>
            <xs:documentation>The time reference frame consists of a time scale, a time format, and
 a reference time, if needed</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element ref="ReferencePosition">
          <xs:annotation>
            <xs:documentation>Origin of the coordinate reference frame: either a "known place" such
 as geocenter or barycenter, or a position defined in a known coordinate system</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="TimeRefDirection" type="astroCoordsType" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Some time transformations (e.g., change of RefPos) depend on an
 assumed directonal position of the source</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `astroCoordsType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	The astronomical (STC) coordsType
Diagram	
Type	extension of coordsType
Type hierarchy	• stcBaseType • coordsType • astroCoordsType
Used by	Elements: AstroCoords, sphericalRefFrameType/Pole_Zaxis, sphericalRefFrameType/Xaxis, timeFrameType/TimeRefDirection
Model	GenCoordinate , Time{0,1} , Position{0,1} , Velocity{0,1} , Spectral{0,1} , Redshift{0,1} , CoordFile{0,1} , Orbit{0,1}
Children	CoordFile, GenCoordinate, Orbit, Position, Redshift, Spectral, Time, Velocity

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

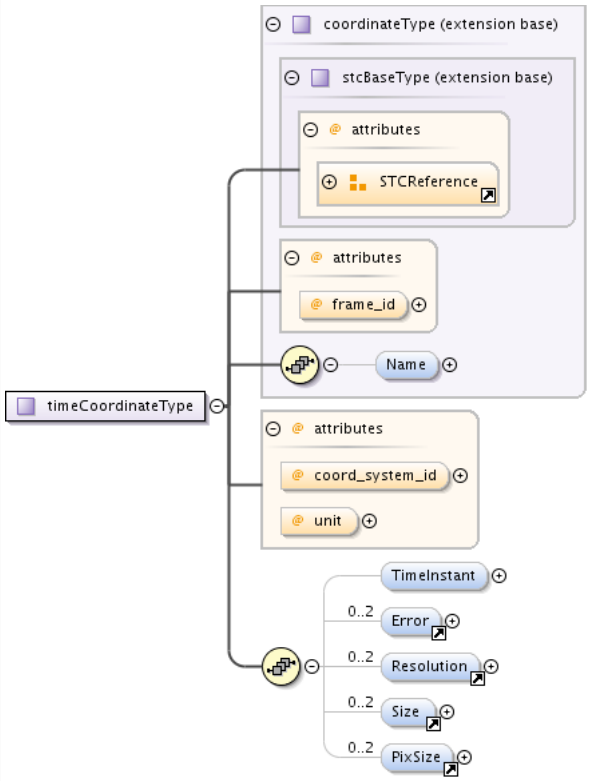
```
<xs:complexType name="astroCoordsType">
  <xs:annotation>
    <xs:documentation>The astronomical (STC) coordsType</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordsType">
      <xs:sequence>
        <xs:element ref="Time" minOccurs="0"/>
        <xs:element ref="Position" minOccurs="0"/>
        <xs:element ref="Velocity" minOccurs="0"/>
        <xs:element ref="Spectral" minOccurs="0"/>
        <xs:element ref="Redshift" minOccurs="0"/>
        <xs:element name="CoordFile" type="astroCoordsFileType" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Some or all coordinate values may be given in file</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="Orbit" type="orbitType" nillable="true" minOccurs="0">
```

```
          <xs:annotation>
            <xs:documentation>Orbit specified by orbital elements</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `timeCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	`Time coordinate type; sibling of basicCoordinateType`
	
	`Single Error, Resolution, Size, PixSize elements indicate definite values; pairs indicate ranges`

Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • timeCoordinateType

Used by	Element Time
Model	Name{0,1} , TimeInstant{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, TimeInstant

Attributes

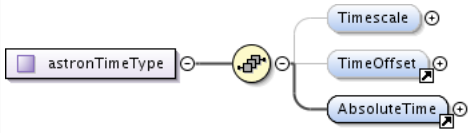
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	timeUnitType		s	optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="timeCoordinateType">
  <xs:annotation>
    <xs:documentation>Time coordinate type; sibling of basicCoordinateType</xs:documentation>
    <xs:documentation>Single Error, Resolution, Size, PixSize elements indicate definite values;
 pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="TimeInstant" type="astronTimeType" minOccurs="0"/>
        <xs:element ref="Error" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="Resolution" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="Size" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="PixSize" minOccurs="0" maxOccurs="2"/>
      </xs:sequence>
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="timeUnitType" use="optional" default="s"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

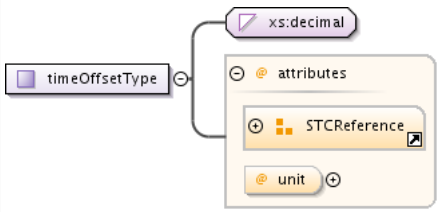
Complex Type `astronTimeType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	astronTime is the generalized astronomical time type and consists of one, two, or three elements: optional TimeScale, optional relative time offset, and an absolute time (ISO8601 or a decimal JD or MJD; or it may be an IDREF to one of those three); TimeScale may be omitted only if the element is part of AstroCoords, referring to an AstroCoordSystem that specifies a TimeScale.
Diagram	
Used by	Elements orbitType/T, timeCoordinateType/TimeInstant, timeIntervalType/StartTime, timeIntervalType/StopTime
Model	Timescale{0,1} , TimeOffset{0,1} , AbsoluteTime
Children	AbsoluteTime, TimeOffset, Timescale

Source

```
<xs:complexType name="astronTimeType">
  <xs:annotation>
    <xs:documentation>astronTime is the generalized astronomical time type and consists of one,
 two, or three elements: optional TimeScale, optional relative time offset, and an absolute time
 (ISO8601 or a decimal JD or MJD; or it may be an IDREF to one of those three); TimeScale may be
 omitted only if the element is part of AstroCoords, referring to an AstroCoordSystem that specifies
 a TimeScale.</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Timescale" type="timeScaleType" nillable="true" minOccurs="0"/>
    <xs:element ref="TimeOffset" minOccurs="0"/>
    <xs:element ref="AbsoluteTime"/>
  </xs:sequence>
</xs:complexType>
```

Complex Type `timeOffsetType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Actual elapsed time offset
Diagram	
Type	extension of xs:decimal
Used by	Element TimeOffset

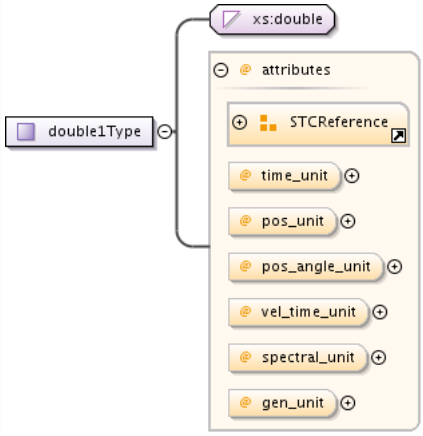
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	timeUnitType		s	optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="timeOffsetType">
  <xs:annotation>
    <xs:documentation>Actual elapsed time offset</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:decimal">
      <xs:attributeGroup ref="STCReference"/>
      <xs:attribute name="unit" type="timeUnitType" use="optional" default="s"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type double1Type

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A double with referencing and units attributes
Diagram	
Type	extension of xs:double
Used by	Elements: Error, Error2Radius, Error3Radius, PixSize, Resolution, Resolution2Radius, Resolution3Radius, Size, Size2Radius, Size3Radius, Value, cart1DRefFrameType/Scale, circleType/Radius, coordScalarIntervalType/HiLimit, coordScalarIntervalType/LoLimit, double2Type/C1, double2Type/C2, double3Type/C1, double3Type/C2, double3Type/C3, ellipseType/SemiMajorAxis, ellipseType/SemiMinorAxis, orbitType/Aop, orbitType/M, orbitType/Node, orbitType/P, orbitType/a, orbitType/e, orbitType/i, orbitType/q, posScalarIntervalType/HiLimit, posScalarIntervalType/LoLimit, psr:BoundsType/psr:extent, psr:ResolutionRefValType/psr:ResPow, psr:SupportType/psr:extent, sphereType/Radius, uCoordScalarIntervalType/HiLimit, uCoordScalarIntervalType/LoLimit, velScalarIntervalType/HiLimit, velScalarIntervalType/LoLimit, velocitySphereType/Radius

Attributes

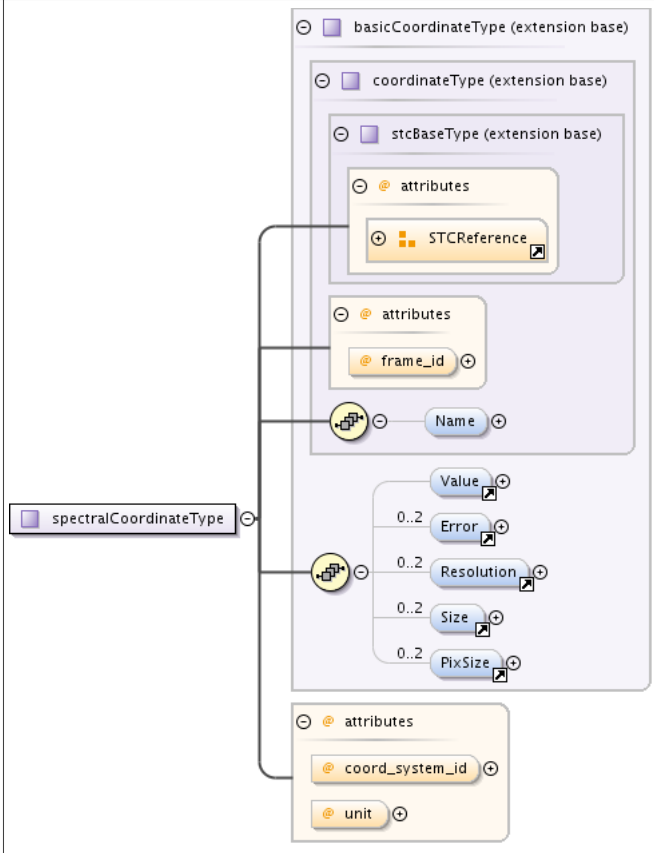
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
pos_angle_unit	angleUnitType			optional
pos_unit	posUnitType			optional
spectral_unit	spectralUnitType			optional

QName	Type	Fixed	Default	Use
time_unit	timeUnitType			optional
ucd	xs:string			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="double1Type">
  <xs:annotation>
    <xs:documentation>A double with referencing and units attributes</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:double">
      <xs:attributeGroup ref="STCReference"/>
      <xs:attribute name="time_unit" type="timeUnitType" use="optional"/>
      <xs:attribute name="pos_unit" type="posUnitType" use="optional"/>
      <xs:attribute name="pos_angle_unit" type="angleUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
      <xs:attribute name="spectral_unit" type="spectralUnitType" use="optional"/>
      <xs:attribute name="gen_unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `spectralCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Spectral coordinate type
Diagram	
Type	extension of basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType
	  • spectralCoordinateType

Used by	Element Spectral

Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

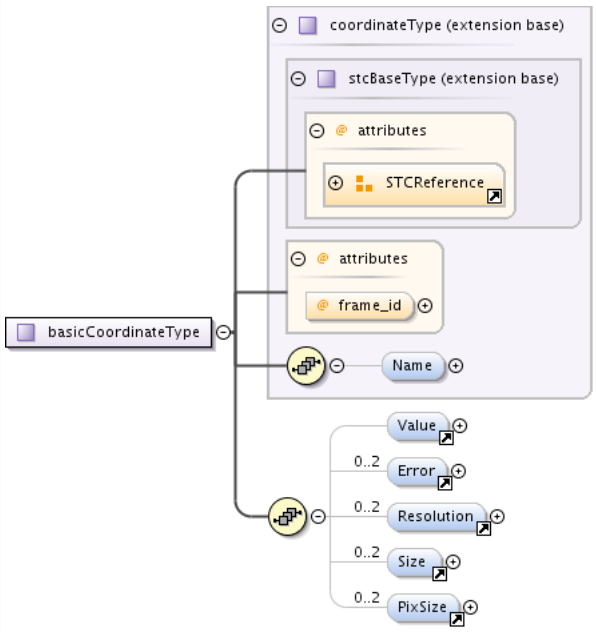
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	spectralUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="spectralCoordinateType">
  <xs:annotation>
    <xs:documentation>Spectral coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="basicCoordinateType">
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="spectralUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `basicCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Basic scalar coordinate type Single Error, Resolution, Size, PixSize elements indicate definite values; pairs indicate ranges
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType

Used by

Complex Types	posVector1CoordinateType, redshiftCoordinateType, scalarCoordinateType, spectralCoordinateType
Elements	psr:particleCharge, psr:particleEnergy, psr:particleEnergyPerCharge, psr:particleMass, psr:particleMassPerCharge, psr:particlePichAngle

Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Attributes

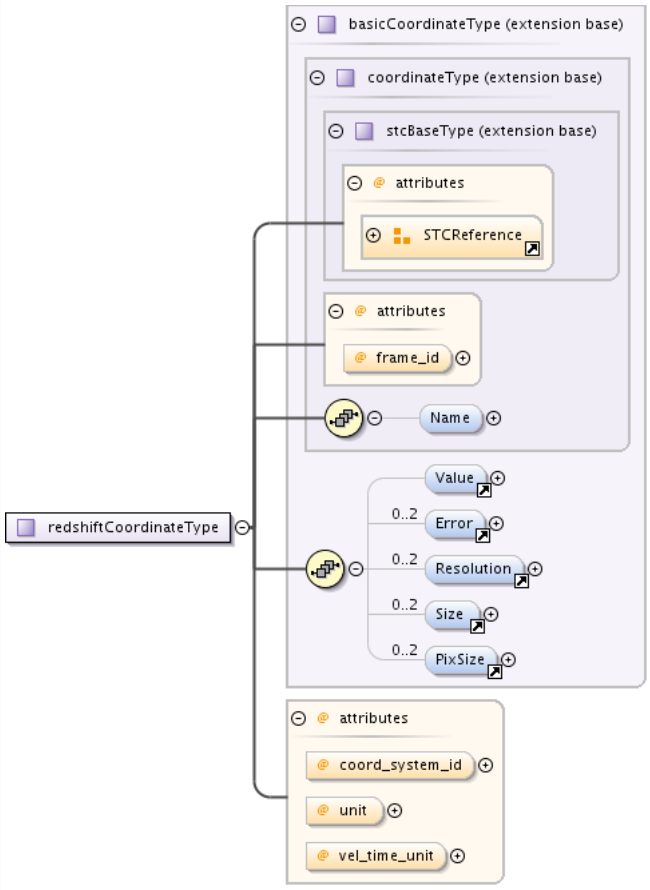
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="basicCoordinateType">
  <xs:annotation>
    <xs:documentation>Basic scalar coordinate type</xs:documentation>
    <xs:documentation>Single Error, Resolution, Size, PixSize elements indicate definite values;
 pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element ref="Value" minOccurs="0"/>
        <xs:element ref="Error" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="Resolution" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="Size" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="PixSize" minOccurs="0" maxOccurs="2"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `redshiftCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Redshift coordinate type`

Diagram	
Type	extension of basicCoordinateType
Type hierarchy	• stcBaseType • coordinateType • basicCoordinateType • redshiftCoordinateType
Used by	Element Redshift
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Attributes

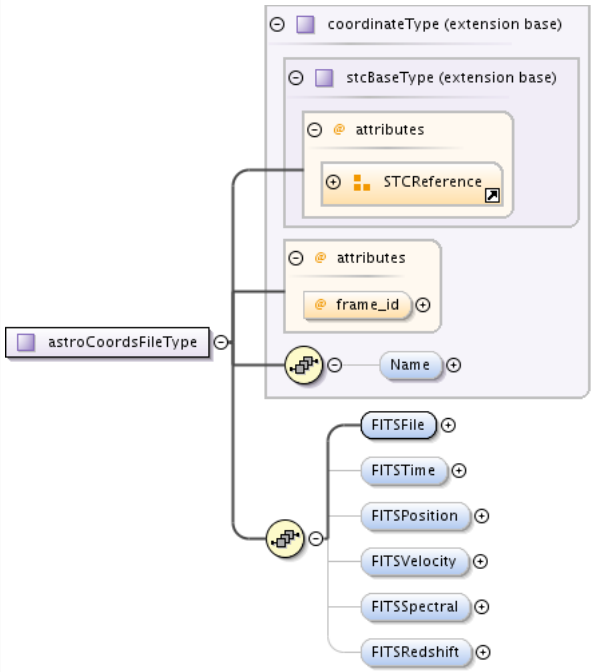
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="redshiftCoordinateType">
  <xs:annotation>
    <xs:documentation>Redshift coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="basicCoordinateType">
```

```
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `astroCoordsFileType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Coordinate references to a specific FITS file`
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • astroCoordsFileType

Used by	Elements astroCoordsType/CoordFile, psr:CoordsType/psr:CoordFile
Model	Name{0,1} , FITSFile , FITSTime{0,1} , FITSPosition{0,1} , FITSVelocity{0,1} , FITSSpectral{0,1} , FITSRedshift{0,1}
Children	FITSFile, FITSPosition, FITSRedshift, FITSSpectral, FITSTime, FITSVelocity, Name

Attributes

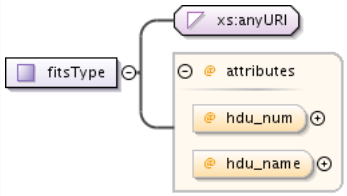
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="astroCoordsFileType">
  <xs:annotation>
    <xs:documentation>Coordinate references to a specific FITS file</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:annotation>
        <xs:documentation>Coordinate references to a specific FITS file</xs:documentation>
      </xs:annotation>
      <xs:sequence>
```

```
        <xs:element name="FITSFile" type="fitsType"/>
        <xs:element name="FITSTime" type="coordFITSColumnsType" minOccurs="0"/>
        <xs:element name="FITSPosition" type="coordFITSColumnsType" minOccurs="0"/>
        <xs:element name="FITSVelocity" type="coordFITSColumnsType" minOccurs="0"/>
        <xs:element name="FITSSpectral" type="coordFITSColumnsType" minOccurs="0"/>
        <xs:element name="FITSRedshift" type="coordFITSColumnsType" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `fitsType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Specifies a FITS file and optionally a specific HDU by HDU number or HDU name
Diagram	
Type	extension of xs:anyURI
Used by	Element astroCoordsFileType/FITSFile

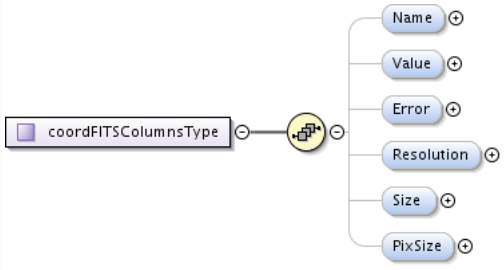
Attributes

QName	Type	Fixed	Default	Use
hdu_name	xs:string			optional
hdu_num	xs:integer			optional

Source

```
<xs:complexType name="fitsType">
  <xs:annotation>
    <xs:documentation>Specifies a FITS file and optionally a specific HDU by HDU number or HDU
 name</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:anyURI">
      <xs:attribute name="hdu_num" type="xs:integer"/>
      <xs:attribute name="hdu_name" type="xs:string"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `coordFITSColumnsType`

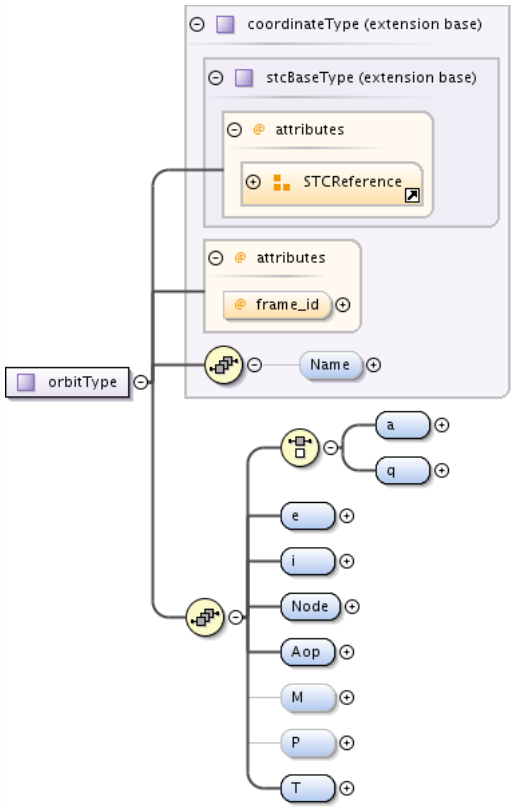
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Refers coordinate components to specific columns in the FITS file HDU
Diagram	
Used by	Elements astroCoordsFileType/FITSPosition, astroCoordsFileType/FITSRedshift, astroCoordsFileType/FITSSpectral, astroCoordsFileType/FITSTime, astroCoordsFileType/FITSVelocity
Model	Name{0,1} , Value{0,1} , Error{0,1} , Resolution{0,1} , Size{0,1} , PixSize{0,1}
Children	Error, Name, PixSize, Resolution, Size, Value

Source

```
<xs:complexType name="coordFITSColumnsType">
  <xs:annotation>
    <xs:documentation>Refers coordinate components to specific columns in the FITS file HDU</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Name" type="xs:string" minOccurs="0"/>
    <xs:element name="Value" type="xs:string" minOccurs="0">
      <xs:annotation>
```

```
        <xs:documentation>The column name for the coordinate value; comma-separated if multi-
dimensional</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Error" type="xs:string" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The column name for the coordinate error; comma-separated if multi-
dimensional</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Resolution" type="xs:string" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The column name for the coordinate resolution; comma-separated if multi-
dimensional</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Size" type="xs:string" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The column name for the coordinate size; comma-separated if multi-
dimensional</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="PixSize" type="xs:string" minOccurs="0">
      <xs:annotation>
        <xs:documentation>The column name for the coordinate pixel size; comma-separated if multi-
dimensional</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type `orbitType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Orbit defined by six orbital elements and optional mean anomaly and period; note that the epoch of periapsis or of mean anomaly is provided by T, however, an coordinate epoch should be provided by paring this element with a time instant element
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • orbitType

Used by	Elements astroCoordsType/Orbit, psr:CoordsType/psr:Orbit
Model	Name{0,1} , (a | q) , e , i , Node , Aop , M{0,1} , P{0,1} , T
Children	Aop, M, Name, Node, P, T, a, e, i, q

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

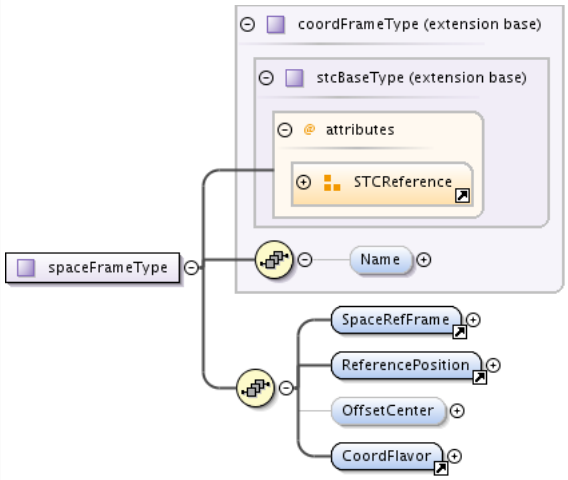
Source

```
<xs:complexType name="orbitType">
  <xs:annotation>
    <xs:documentation>Orbit defined by six orbital elements and optional mean anomaly and period;
 note that the epoch of periapsis or of mean anomaly is provided by T, however, an coordinate epoch
 should be provided by paring this element with a time instant element</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:choice>
          <xs:annotation>
            <xs:documentation>This really is a choice: provide either a or q, but not both - and a
 only for closed orbits</xs:documentation>
          </xs:annotation>
          <xs:element name="a" nillable="true">
            <xs:annotation>
              <xs:documentation>Semi-major axis for elliptical (closed) orbits (1>e>=0) only; for
 parabolic or hyperbolic orbits us periapsis distance q</xs:documentation>
            </xs:annotation>
            <xs:complexType>
              <xs:complexContent>
                <xs:extension base="double1Type">
                  <xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>
                </xs:extension>
              </xs:complexContent>
            </xs:complexType>
          </xs:element>
          <xs:element name="q" nillable="true">
            <xs:annotation>
              <xs:documentation>Periapsis distance; required (instead of a) for open orbits (e>=1)</
xs:documentation>
            </xs:annotation>
            <xs:complexType>
              <xs:complexContent>
                <xs:extension base="double1Type">
                  <xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>
                </xs:extension>
              </xs:complexContent>
            </xs:complexType>
          </xs:element>
        </xs:choice>
        <xs:element name="e" type="double1Type" nillable="true">
          <xs:annotation>
            <xs:documentation>Eccentricity</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="i" nillable="true">
          <xs:annotation>
            <xs:documentation>Inclination</xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:complexContent>
              <xs:extension base="double1Type">
                <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
              </xs:extension>
            </xs:complexContent>
          </xs:complexType>
        </xs:element>
        <xs:element name="Node" nillable="true">
          <xs:annotation>
            <xs:documentation>Longitude of ascending node</xs:documentation>
```

```
          </xs:annotation>
          <xs:complexType>
            <xs:complexContent>
              <xs:extension base="double1Type">
                <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
              </xs:extension>
            </xs:complexContent>
          </xs:complexType>
        </xs:element>
        <xs:element name="Aop" nillable="true">
          <xs:annotation>
            <xs:documentation>Argument of periapsis</xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:complexContent>
              <xs:extension base="double1Type">
                <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
              </xs:extension>
            </xs:complexContent>
          </xs:complexType>
        </xs:element>
        <xs:element name="M" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Mean anomaly at time T; if absent T will refer to pericenter</
xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:complexContent>
              <xs:extension base="double1Type">
                <xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>
              </xs:extension>
            </xs:complexContent>
          </xs:complexType>
        </xs:element>
        <xs:element name="P" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Orbital period (redundant); for closed orbits only</xs:documentation>
          </xs:annotation>
          <xs:complexType>
            <xs:complexContent>
              <xs:extension base="double1Type">
                <xs:attribute name="unit" type="timeUnitType" use="optional" default="d"/>
              </xs:extension>
            </xs:complexContent>
          </xs:complexType>
        </xs:element>
        <xs:element name="T" type="astronTimeType">
          <xs:annotation>
            <xs:documentation>Epoch of M (mean anomaly, if present) or of periapsis (if M is
 absent)</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `spaceFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A spatial coordinate frame consists of a coordinate frame, a reference position, a flavor, and, optionally, an offset center

Diagram	
Type	extension of coordFrameType
Type hierarchy	• stcBaseType • coordFrameType • spaceFrameType
Used by	Element SpaceFrame
Model	Name{0,1} , SpaceRefFrame , ReferencePosition , OffsetCenter{0,1} , CoordFlavor
Children	CoordFlavor, Name, OffsetCenter, ReferencePosition, SpaceRefFrame

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

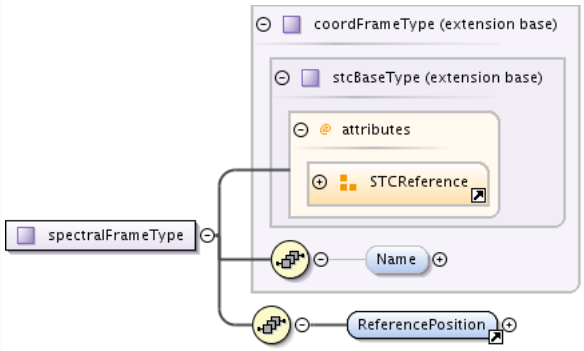
Source

```
<xs:complexType name="spaceFrameType">
  <xs:annotation>
    <xs:documentation>A spatial coordinate frame consists of a coordinate frame, a reference
 position, a flavor, and, optionally, an offset center</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordFrameType">
      <xs:sequence>
        <xs:element ref="SpaceRefFrame">
          <xs:annotation>
            <xs:documentation>Coordinate reference frame: optional equinox with either a standard
 reference system (ICRS, FK5, FK4) and optional standard pole (equatorial, ecliptic, galactic,
 etc.), or pole (positive Z-axis) and positive X-axis direction</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element ref="ReferencePosition">
          <xs:annotation>
            <xs:documentation>Origin of the coordinate reference frame: either a "known place" such
 as geocenter or barycenter, or a position defined in a known coordinate system</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="OffsetCenter" type="coordValueType" minOccurs="0"/>
        <xs:element ref="CoordFlavor">
          <xs:annotation>
            <xs:documentation>Provides the coordinate definitions: number of axes, SPHERICAL,
 CARTESIAN, UNITSPHERE, POLAR, or HEALPIX, presence of velocities</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordValueType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A type that just holds a 1-3D coordinate value; see comment in the CoordValue head element
Diagram	
Used by	Element spaceFrameType/OffsetCenter
Model	CoordValue
Children	CoordValue
Source	<xs:complexType name="coordValueType"> <xs:annotation> <xs:documentation>A type that just holds a 1-3D coordinate value; see comment in the CoordValue head element</xs:documentation> </xs:annotation> <xs:sequence> <xs:element ref="CoordValue"/> </xs:sequence> </xs:complexType>

Complex Type `spectralFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Contains the spectral frame reference position
Diagram	
Type	extension of coordFrameType
Type hierarchy	• stcBaseType • coordFrameType • spectralFrameType
Used by	Element SpectralFrame
Model	Name{0,1} , ReferencePosition
Children	Name, ReferencePosition

Attributes

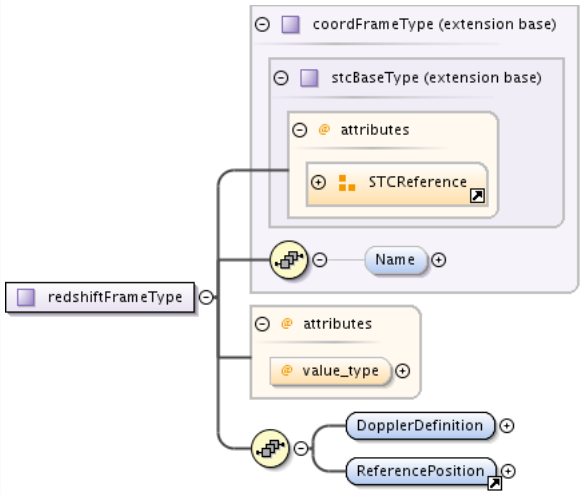
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="spectralFrameType">
  <xs:annotation>
    <xs:documentation>Contains the spectral frame reference position</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordFrameType">
      <xs:sequence>
        <xs:element ref="ReferencePosition">
```

```
          <xs:annotation>
            <xs:documentation>The reference frame for the spectral scale; note presence of LSR</
xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `redshiftFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Contains the Doppler definitions, including whether the values are velocity or redshift (value_type)
Diagram	
Type	extension of coordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • redshiftFrameType

Used by	Element RedshiftFrame
Model	Name{0,1} , DopplerDefinition , ReferencePosition
Children	DopplerDefinition, Name, ReferencePosition

Attributes

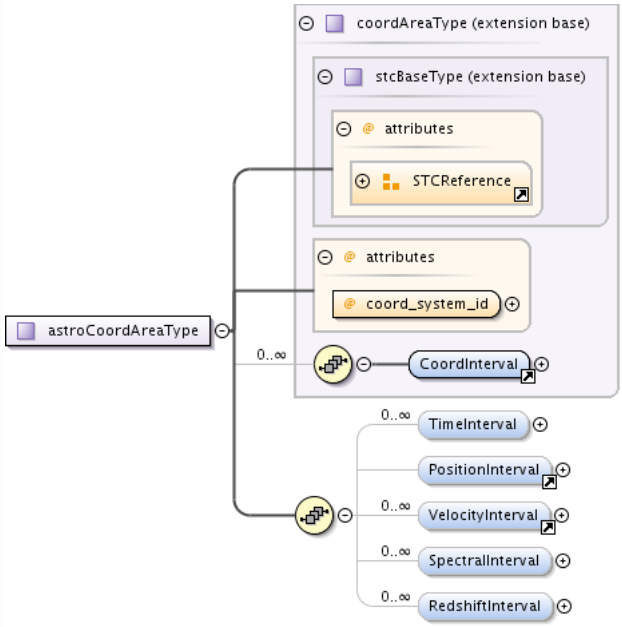
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
value_type	restriction of xs:string		VELOCITY	optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="redshiftFrameType">
  <xs:annotation>
    <xs:documentation>Contains the Doppler definitions, including whether the values are velocity or
 redshift (value_type)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordFrameType">
      <xs:sequence>
        <xs:element name="DopplerDefinition" type="dopplerDefinitionType" nillable="true">
          <xs:annotation>
            <xs:documentation>The Doppler definition used: optical, radio, or pseudo-relativistic
 (i.e., how is a redshift converted to a velocity); the most common is optical, except when the
 reference is LSR (usually radio)</xs:documentation>
          </xs:annotation>
        </xs:element>
```

```
        <xs:element ref="ReferencePosition">
          <xs:annotation>
            <xs:documentation>The reference frame for the Doppler velocities or redshfts; note
 presence of LSR</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="value_type" use="optional" default="VELOCITY">
        <xs:simpleType>
          <xs:restriction base="xs:string">
            <xs:enumeration value="VELOCITY"/>
            <xs:enumeration value="REDSHIFT"/>
          </xs:restriction>
        </xs:simpleType>
      </xs:attribute>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `astroCoordAreaType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Astronomical area type
Diagram	
Type	extension of coordAreaType

Type hierarchy	• stcBaseType
	  • coordAreaType
	  • astroCoordAreaType

Used by	Elements AstroCoordArea, psr:SupportType/psr:area
Model	CoordInterval , TimeInterval* , PositionInterval{0,1} , VelocityInterval* , SpectralInterval* , RedshiftInterval*
Children	CoordInterval, PositionInterval, RedshiftInterval, SpectralInterval, TimeInterval, VelocityInterval

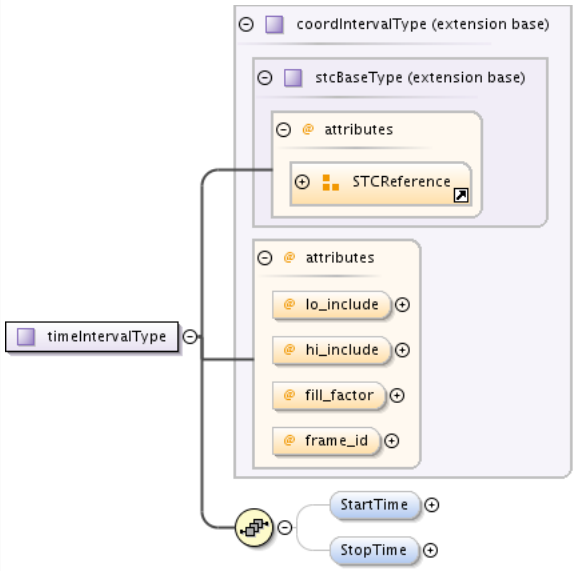
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="astroCoordAreaType">
  <xs:annotation>
    <xs:documentation>Astronomical area type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordAreaType">
      <xs:sequence>
        <xs:element name="TimeInterval" type="timeIntervalType" nillable="true" minOccurs="0"
 maxOccurs="unbounded"/>
        <xs:element ref="PositionInterval" minOccurs="0"/>
        <xs:element ref="VelocityInterval" minOccurs="0" maxOccurs="unbounded"/>
        <xs:element name="SpectralInterval" type="spectralIntervalType" nillable="true"
 minOccurs="0" maxOccurs="unbounded"/>
        <xs:element name="RedshiftInterval" type="redshiftIntervalType" nillable="true"
 minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `timeIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The time interval needs to contain a start time or a stop time or both; it needs to refer to a coordinate system; boundaries may or may not be inclusive
Diagram	
Type	extension of coordIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • timeIntervalType

Used by	Element astroCoordAreaType/TimeInterval
Model	StartTime{0,1} , StopTime{0,1}
Children	StartTime, StopTime

Attributes

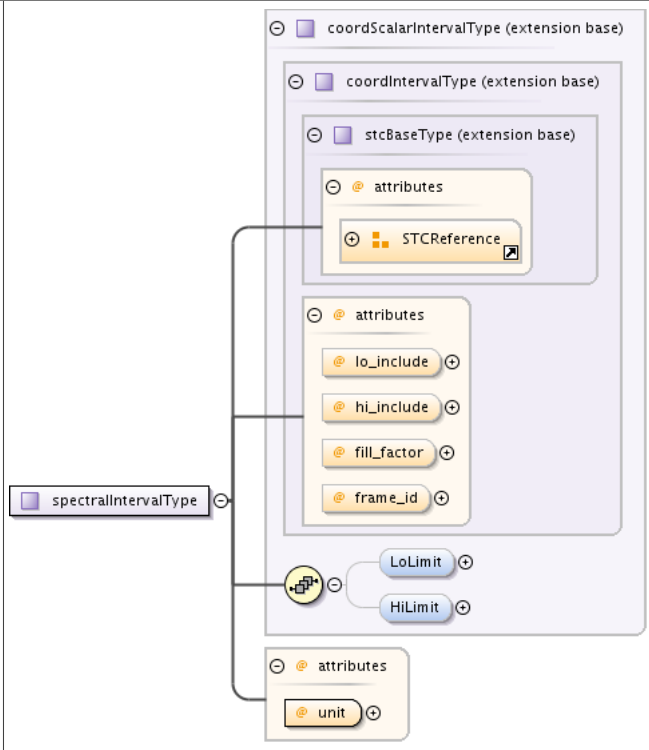
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="timeIntervalType">
  <xs:annotation>
    <xs:documentation>The time interval needs to contain a start time or a stop time or both; it
 needs to refer to a coordinate system; boundaries may or may not be inclusive</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="StartTime" type="astronTimeType" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>astronTime may be expressed in ISO8601 or as a double relative to a
 reference time</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="StopTime" type="astronTimeType" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>astronTime may be expressed in ISO8601 or as a double relative to a
 reference time</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `spectralIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Contains a 1-D spectral interval
Diagram	
Type	extension of coordScalarIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coordScalarIntervalType

	• spectralIntervalType
Used by	Element astroCoordAreaType/SpectralInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

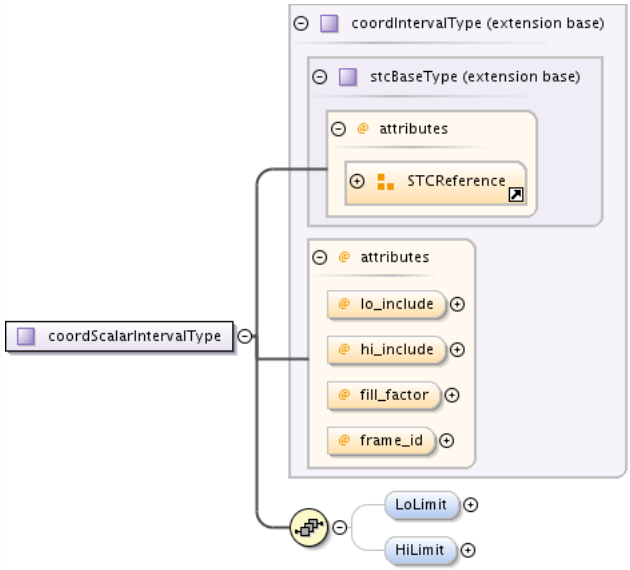
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	spectralUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="spectralIntervalType">
  <xs:annotation>
    <xs:documentation>Contains a 1-D spectral interval</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordScalarIntervalType">
      <xs:attribute name="unit" type="spectralUnitType" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coordScalarIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Scalar coordinate interval type`
Diagram	
Type	extension of coordIntervalType
Type hierarchy	• stcBaseType

	• coordIntervalType • coordScalarIntervalType
Used by	Complex Types: redshiftIntervalType, spectralIntervalType Element: PixelCoordScalarInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Attributes

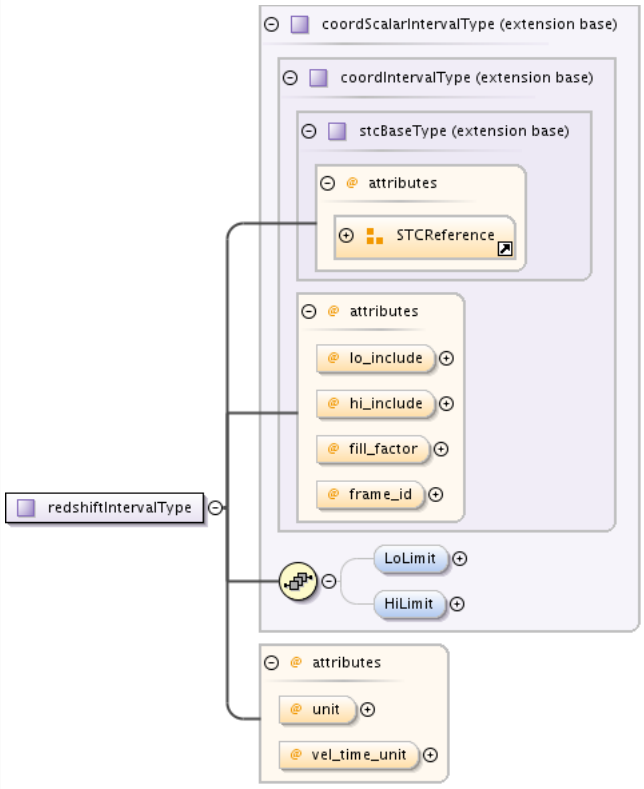
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coordScalarIntervalType">
  <xs:annotation>
    <xs:documentation>Scalar coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Lower bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Upper bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `redshiftIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Contains a 1-D redshift interval; position and time units are required if redshifts are expressed as Doppler velocities`

Diagram	
Type	extension of coordScalarIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • coordScalarIntervalType • redshiftIntervalType
Used by	Element astroCoordAreaType/RedshiftInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Attributes

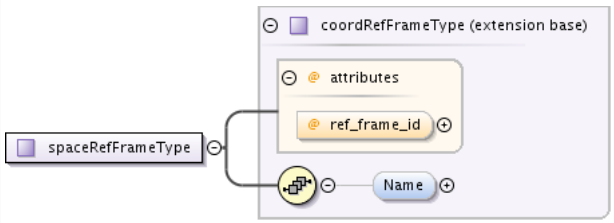
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="redshiftIntervalType">
  <xs:annotation>
```

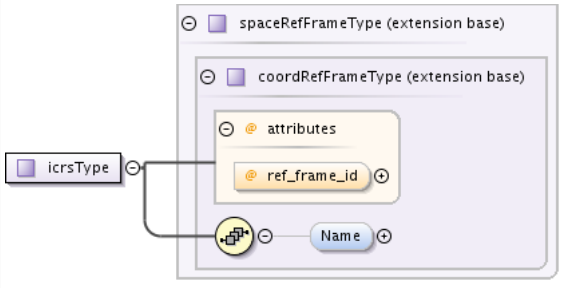
```
    <xs:documentation>Contains a 1-D redshift interval; position and time units are required if
 redshifts are expressed as Doppler velocities</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordScalarIntervalType">
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `spaceRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Abstract space reference frame type`
Diagram	
Type	extension of coordRefFrameType
Type hierarchy	• coordRefFrameType • spaceRefFrameType
Properties	abstract: `true`
Used by	Complex Types fkType, icrsType
Model	Name{0,1}
Children	Name
Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ref_frame_id** | xs:IDREF | | | optional

Source	`<xs:complexType name="spaceRefFrameType" abstract="true">`
	`  <xs:annotation>`
	`  <xs:documentation>Abstract space reference frame type</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:complexContent>`
	`  <xs:extension base="coordRefFrameType"/>`
	`  </xs:complexContent>`
	`</xs:complexType>`

Complex Type `icrsType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`ICRS type: no equinox`
Diagram	
Type	extension of spaceRefFrameType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • icrsType

Used by	Complex Type geodType

	Elements	AZ_EL, BODY, GALACTIC_I, GALACTIC_II, GEO_C, GSE, GSM, HEE, HEEQ, HGC, HGI, HGS, HPC, HPR, HRTN, ICRS, JUPITER_C_III, JUPITER_G_III, LUNA_C, LUNA_G, MAG, MARS_C, MARS_G, MERCURY_C, MERCURY_G, NEPTUNE_C_III, NEPTUNE_G_III, PLUTO_C, PLUTO_G, SATURN_C_III, SATURN_G_III, SM, SUPER_GALACTIC, UNKNOWNFrame, URANUS_C_III, URANUS_G_III, VENUS_C, VENUS_G
Model	Name{0,1}	
Children	Name	

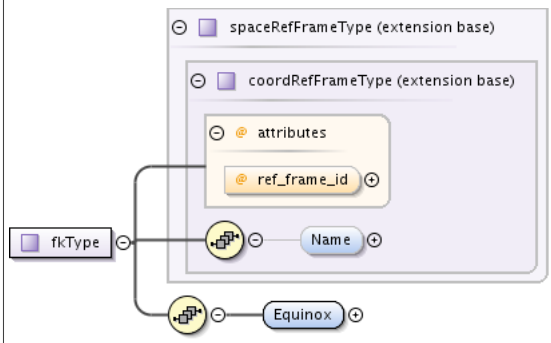
Attributes

QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="icrsType">
  <xs:annotation>
    <xs:documentation>ICRS type: no equinox</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spaceRefFrameType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type fkType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	FK[45] type: needs an equinox
Diagram	
Type	extension of spaceRefFrameType

Type hierarchy	• coordRefFrameType
	  • spaceRefFrameType
	  • fkType

Used by	Elements: ECLIPTIC, FK4, FK5
Model	Name{0,1} , Equinox
Children	Equinox, Name

Attributes

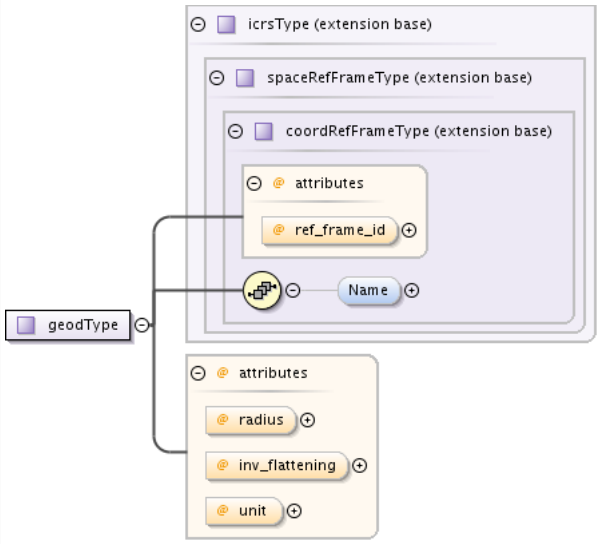
QName	Type	Fixed	Default	Use
ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="fkType">
  <xs:annotation>
    <xs:documentation>FK[45] type: needs an equinox</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spaceRefFrameType">
      <xs:sequence>
        <xs:element name="Equinox" type="coordEquinoxType" nillable="true"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type geodType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The Geodetic reference frame; semi-major axis and inverse flattening may be provided to define the reference spheroid; the default is the IAU 1976 reference spheroid

Diagram	
Type	extension of icrsType
Type hierarchy	• coordRefFrameType • spaceRefFrameType • icrsType • geodType
Used by	Element GEO_D
Model	Name{0,1}
Children	Name

Attributes

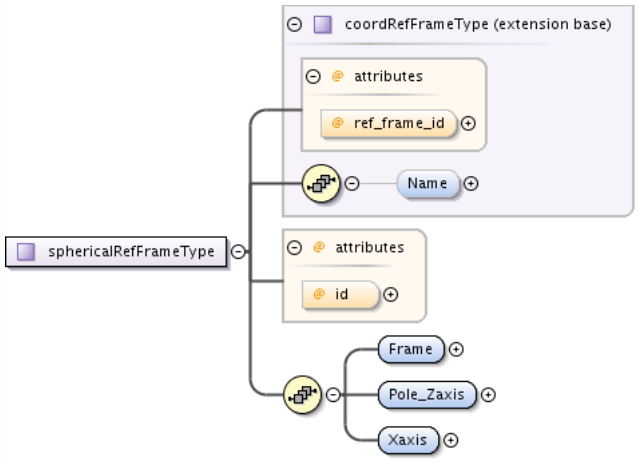
QName	Type	Fixed	Default	Use
inv_flattening	xs:double		298.257	optional
radius	xs:double		6378140	optional
ref_frame_id	xs:IDREF			optional
unit	posUnitType		m	optional

Source

```
<xs:complexType name="geodType">
  <xs:annotation>
    <xs:documentation>The Geodetic reference frame; semi-major axis and inverse flattening may
 be provided to define the reference spheroid; the default is the IAU 1976 reference spheroid</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="icrsType">
      <xs:attribute name="radius" type="xs:double" use="optional" default="6378140"/>
      <xs:attribute name="inv_flattening" type="xs:double" use="optional" default="298.257"/>
      <xs:attribute name="unit" type="posUnitType" use="optional" default="m"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `sphericalRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A custom space reference frame type defined through pole and X-axis directions

Diagram	
Type	extension of coordRefFrameType
Type hierarchy	• coordRefFrameType • sphericalRefFrameType
Used by	Elements SphericalRefFrame, SphericalSpaceRefFrame
Model	Name{0,1} , Frame , Pole_Zaxis , Xaxis
Children	Frame, Name, Pole_Zaxis, Xaxis

Attributes

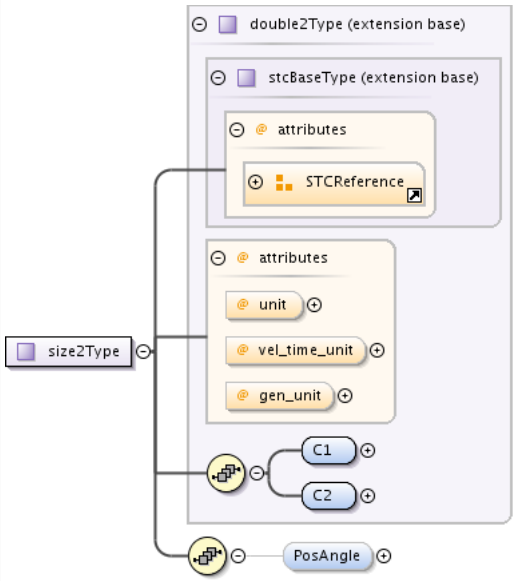
QName	Type	Fixed	Default	Use
id	xs:ID			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="sphericalRefFrameType">
  <xs:annotation>
    <xs:documentation>A custom space reference frame type defined through pole and X-axis
 directions</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordRefFrameType">
      <xs:sequence>
        <xs:annotation>
          <xs:documentation>Define coordinate reference frame from scratch; pole and X-axis need to
 be defined in a known coordinate system</xs:documentation>
        </xs:annotation>
        <xs:element name="Frame" type="xs:string"/>
        <xs:element name="Pole_Zaxis" type="astroCoordsType" nillable="true"/>
        <xs:element name="Xaxis" type="astroCoordsType" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="id" type="xs:ID" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `size2Type`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Consists of a Size (2 doubles) and optional position angle element

Diagram	
Type	extension of double2Type

Type hierarchy	• stcBaseType
	  • double2Type
	  • size2Type

Used by	Elements Error2, PixSize2, Resolution2, Size2, Transform2
Model	C1 , C2 , PosAngle{0,1}
Children	C1, C2, PosAngle

Attributes

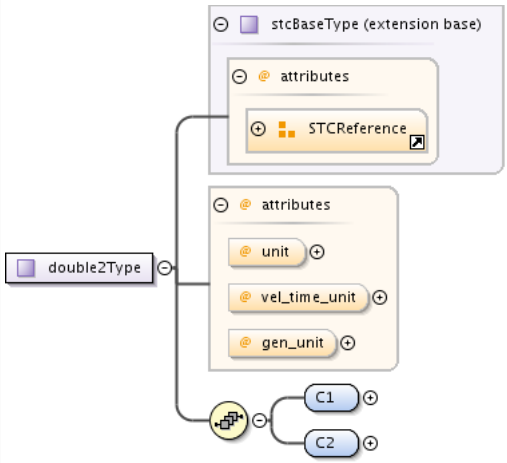
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="size2Type">
  <xs:annotation>
    <xs:documentation>Consists of a Size (2 doubles) and optional position angle element</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="double2Type">
      <xs:sequence>
        <xs:element name="PosAngle" type="posAngleType" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `double2Type`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A vector of 2 doubles; components are now separated.`

Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • double2Type
Used by	Complex Type: size2Type Elements: Value2, boxType/Center, boxType/Size, circleType/Center, coord2VecIntervalType/HiLimit2Vec, coord2VecIntervalType/LoLimit2Vec, curve2Type/P1, curve2Type/P2, ellipseType/Center, pos2VecIntervalType/HiLimit2Vec, pos2VecIntervalType/LoLimit2Vec, sectorType/Position, smallCircleType/Pole, uCoord2VecIntervalType/HiLimit2Vec, uCoord2VecIntervalType/LoLimit2Vec, vel2VecIntervalType/HiLimit2Vec, vel2VecIntervalType/LoLimit2Vec, vertexType/Position
Model	C1 , C2
Children	C1, C2

Attributes

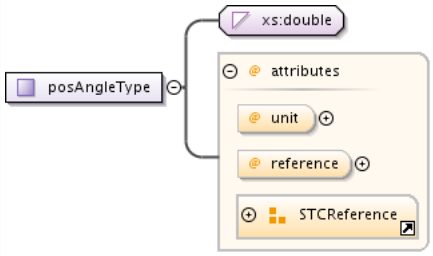
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="double2Type">
  <xs:annotation>
    <xs:documentation>A vector of 2 doubles; components are now separated.</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="C1" type="double1Type" nillable="true"/>
        <xs:element name="C2" type="double1Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
      <xs:attribute name="gen_unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type posAngleType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position angles are doubles and include optionally a unit attribute (default deg) and a reference attribute (default X)

Diagram	
Type	extension of xs:double
Used by	Elements ellipseType/PosAngle, sectorType/PosAngle1, sectorType/PosAngle2, size2Type/PosAngle, size3Type/PosAngle1, size3Type/PosAngle2

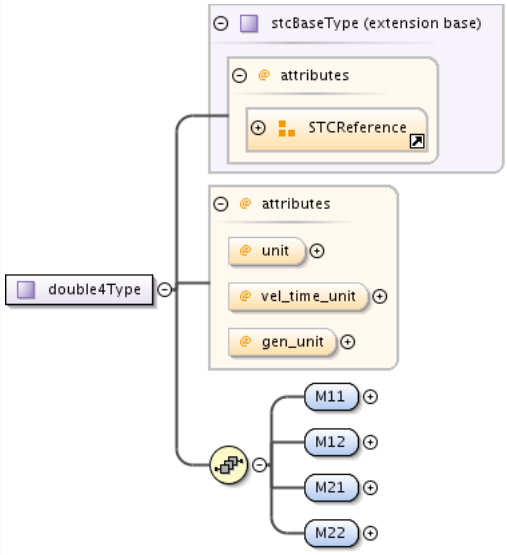
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
reference	posAngleReferenceType		X	optional
ucd	xs:string			optional
unit	angleUnitType		deg	optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="posAngleType">
  <xs:annotation>
    <xs:documentation>Position angles are doubles and include optionally a unit attribute (default
 deg) and a reference attribute (default X)</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:double">
      <xs:attribute name="unit" type="angleUnitType" default="deg"/>
      <xs:attribute name="reference" type="posAngleReferenceType" default="X"/>
      <xs:attributeGroup ref="STCReference"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `double4Type`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A vector of 4 doubles (2x2 matrix)`
Diagram	
Type	extension of stcBaseType

Type hierarchy	• stcBaseType • double4Type
Used by	Elements Error2Matrix, PixSize2Matrix, Resolution2Matrix, Size2Matrix, Transform2Matrix
Model	M11 , M12 , M21 , M22
Children	M11, M12, M21, M22

Attributes

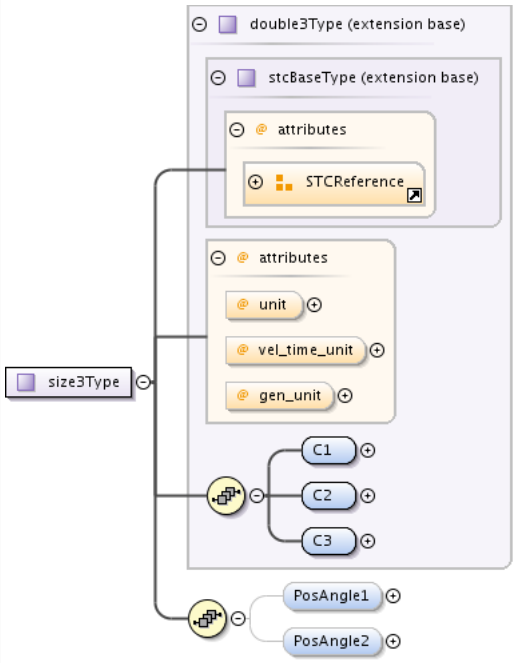
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="double4Type">
  <xs:annotation>
    <xs:documentation>A vector of 4 doubles (2x2 matrix)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="M11" type="xs:double" nillable="true"/>
        <xs:element name="M12" type="xs:double" nillable="true"/>
        <xs:element name="M21" type="xs:double" nillable="true"/>
        <xs:element name="M22" type="xs:double" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
      <xs:attribute name="gen_unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `size3Type`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Consists of a Size (3 doubles) and optional position angle element

Diagram	
Type	extension of double3Type

Type hierarchy	• stcBaseType
	  • double3Type
	  • size3Type

Used by	Elements Error3, PixSize3, Resolution3, Size3, Transform3
Model	C1 , C2 , C3 , PosAngle1{0,1} , PosAngle2{0,1}
Children	C1, C2, C3, PosAngle1, PosAngle2

Attributes

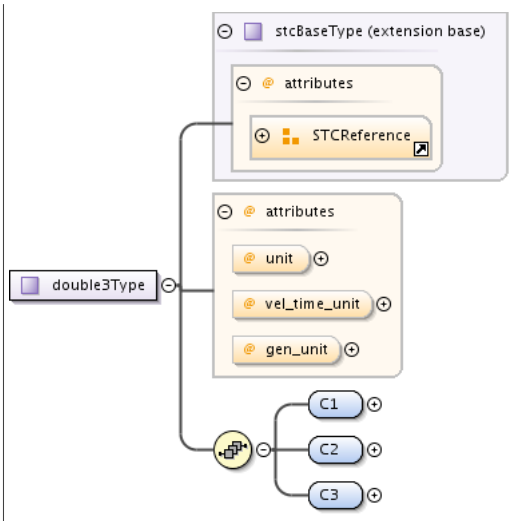
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="size3Type">
  <xs:annotation>
    <xs:documentation>Consists of a Size (3 doubles) and optional position angle element</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="double3Type">
      <xs:sequence>
        <xs:element name="PosAngle1" type="posAngleType" nillable="true" minOccurs="0"/>
        <xs:element name="PosAngle2" type="posAngleType" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type double3Type

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A vector of 3 doubles with separated components

Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • double3Type
Used by	Complex Type: size3Type Elements: Value3, convexHullType/Point, coord3VecIntervalType/HiLimit3Vec, coord3VecIntervalType/LoLimit3Vec, curve3Type/P1, curve3Type/P2, halfspaceType/Vector, pos3VecIntervalType/HiLimit3Vec, pos3VecIntervalType/LoLimit3Vec, sphereType/Center, uCoord3VecIntervalType/HiLimit3Vec, uCoord3VecIntervalType/LoLimit3Vec, vel3VecIntervalType/HiLimit3Vec, vel3VecIntervalType/LoLimit3Vec, velocitySphereType/Center
Model	C1 , C2 , C3
Children	C1, C2, C3

Attributes

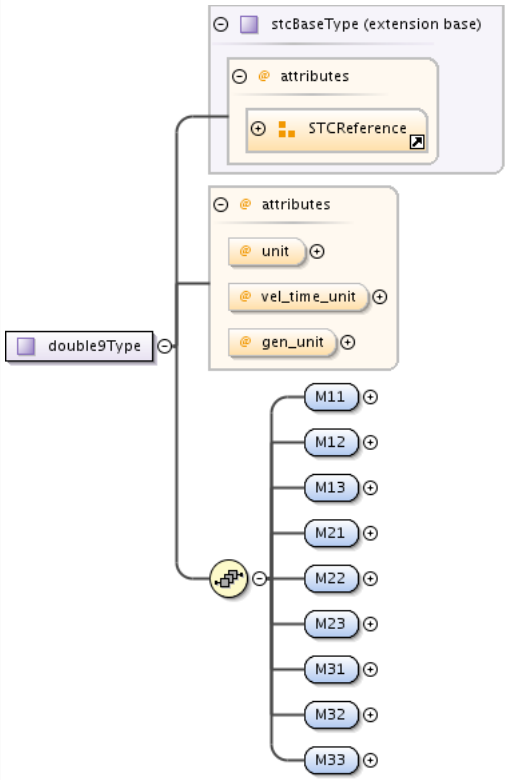
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="double3Type">
  <xs:annotation>
    <xs:documentation>A vector of 3 doubles with separated components</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="C1" type="double1Type" nillable="true"/>
        <xs:element name="C2" type="double1Type" nillable="true"/>
        <xs:element name="C3" type="double1Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
      <xs:attribute name="gen_unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type double9Type

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	A vector of 9 doubles (3x3 matrix)
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • double9Type
Used by	Elements Error3Matrix, PixSize3Matrix, Resolution3Matrix, Size3Matrix, Transform3Matrix
Model	M11 , M12 , M13 , M21 , M22 , M23 , M31 , M32 , M33
Children	M11, M12, M13, M21, M22, M23, M31, M32, M33

Attributes

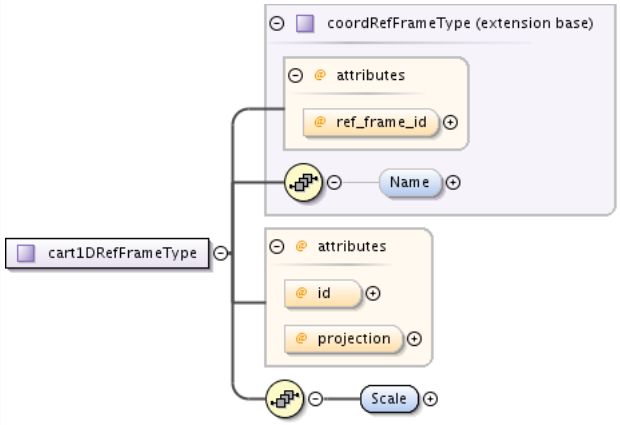
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
gen_unit	unitType			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="double9Type">
  <xs:annotation>
    <xs:documentation>A vector of 9 doubles (3x3 matrix)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="M11" type="xs:double" nillable="true"/>
        <xs:element name="M12" type="xs:double" nillable="true"/>
        <xs:element name="M13" type="xs:double" nillable="true"/>
        <xs:element name="M21" type="xs:double" nillable="true"/>
        <xs:element name="M22" type="xs:double" nillable="true"/>
        <xs:element name="M23" type="xs:double" nillable="true"/>
        <xs:element name="M31" type="xs:double" nillable="true"/>
        <xs:element name="M32" type="xs:double" nillable="true"/>
```

```
        <xs:element name="M33" type="xs:double" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
      <xs:attribute name="gen_unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `cart1DRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A custom space reference frame type defined through a 2-D Cartesian mapping (rotate and scale)
Diagram	
Type	extension of coordRefFrameType
Type hierarchy	• coordRefFrameType • cart1DRefFrameType
Used by	Elements Cart1DSpaceRefFrame, ScalarRefFrame
Model	Name{0,1} , Scale
Children	Name, Scale

Attributes

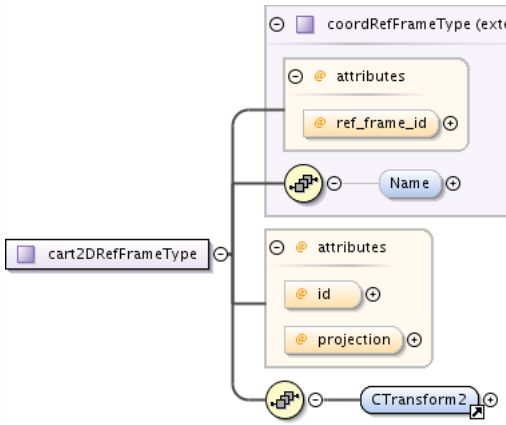
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="cart1DRefFrameType">
  <xs:annotation>
    <xs:documentation>A custom space reference frame type defined through a 2-D Cartesian mapping
 (rotate and scale)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordRefFrameType">
      <xs:sequence>
        <xs:annotation>
          <xs:documentation>Define coordinate reference frame from scratch;basically a 1-D scaling</
xs:documentation>
        </xs:annotation>
        <xs:element name="Scale" type="double1Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="id" type="xs:ID" use="optional"/>
      <xs:attribute name="projection" type="projectionType" use="optional" default=""/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `cart2DRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A custom space reference frame type defined through a 2-D Cartesian mapping (rotate and scale)

Diagram	
Type	extension of coordRefFrameType
Type hierarchy	• coordRefFrameType • cart2DRefFrameType
Used by	Elements Cart2DRefFrame, Cart2DSpaceRefFrame
Model	Name{0,1} , CTransform2
Children	CTransform2, Name

Attributes

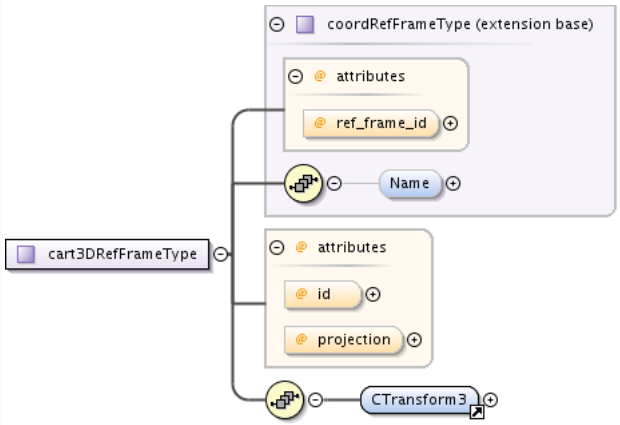
QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

```
<xs:complexType name="cart2DRefFrameType">
  <xs:annotation>
    <xs:documentation>A custom space reference frame type defined through a 2-D Cartesian mapping
 (rotate and scale)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordRefFrameType">
      <xs:sequence>
        <xs:annotation>
          <xs:documentation>Define coordinate reference frame from scratch;basically a
 transformation from a known coordinate frame</xs:documentation>
        </xs:annotation>
        <xs:element ref="CTransform2"/>
      </xs:sequence>
      <xs:attribute name="id" type="xs:ID" use="optional"/>
      <xs:attribute name="projection" type="projectionType" use="optional" default=""/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `cart3DRefFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A custom space reference frame type defined through a 3-D Cartesian mapping (rotate and scale)

Diagram	
Type	extension of coordRefFrameType
Type hierarchy	• coordRefFrameType • cart3DRefFrameType
Used by	Elements Cart3DRefFrame, Cart3DSpaceRefFrame
Model	Name{0,1} , CTransform3
Children	CTransform3, Name

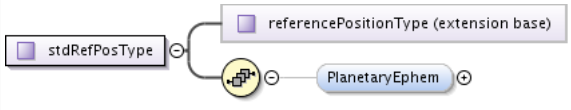
Attributes

QName	Type	Fixed	Default	Use
id	xs:ID			optional
projection	projectionType			optional
ref_frame_id	xs:IDREF			optional

Source

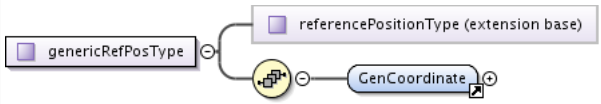
```
<xs:complexType name="cart3DRefFrameType">
  <xs:annotation>
    <xs:documentation>A custom space reference frame type defined through a 3-D Cartesian mapping
 (rotate and scale)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordRefFrameType">
      <xs:sequence>
        <xs:annotation>
          <xs:documentation>Define coordinate reference frame from scratch;basically a
 transformation from a known coordinate frame</xs:documentation>
        </xs:annotation>
        <xs:element ref="CTransform3"/>
      </xs:sequence>
      <xs:attribute name="id" type="xs:ID" use="optional"/>
      <xs:attribute name="projection" type="projectionType" use="optional" default=""/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `stdRefPosType`

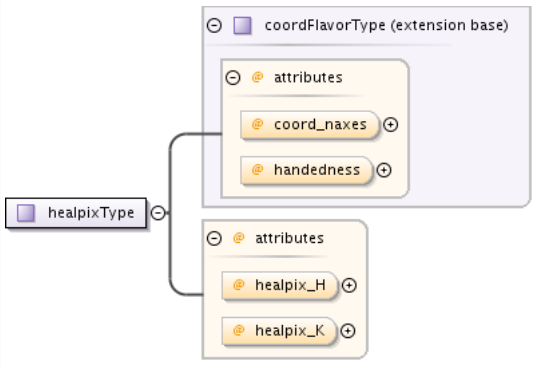
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type for standard reference positions
Diagram	
Type	extension of referencePositionType
Type hierarchy	• referencePositionType • stdRefPosType
Used by	Elements BARYCENTER, EMBARYCENTER, GALACTIC_CENTER, GEOCENTER, HELIOCENTER, JUPITER, LOCAL_GROUP_CENTER, LSR, LSRD, LSRK, MARS, MERCURY, MOON, NEPTUNE, PLUTO, RELOCATABLE, SATURN, TOPOCENTER, UNKNOWNRefPos, URANUS, VENUS
Model	PlanetaryEphem{0,1}

Children	PlanetaryEphem
Source	<xs:complexType name="stdRefPosType"> <xs:annotation> <xs:documentation>Type for standard reference positions</xs:documentation> </xs:annotation> <xs:complexContent> <xs:extension base="referencePositionType"> <xs:sequence> <xs:element name="PlanetaryEphem" type="planetaryEphemType" nillable="true" minOccurs="0"/> </xs:sequence> </xs:extension> </xs:complexContent> </xs:complexType>

Complex Type genericRefPosType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type for custom positions: specifies reference origin
Diagram	
Type	extension of referencePositionType
Type hierarchy	• referencePositionType • genericRefPosType
Model	GenCoordinate
Children	GenCoordinate
Source	<xs:complexType name="genericRefPosType"> <xs:annotation> <xs:documentation>Type for custom positions: specifies reference origin</xs:documentation> </xs:annotation> <xs:complexContent> <xs:extension base="referencePositionType"> <xs:sequence> <xs:element ref="GenCoordinate"/> </xs:sequence> </xs:extension> </xs:complexContent> </xs:complexType>

Complex Type healpixType

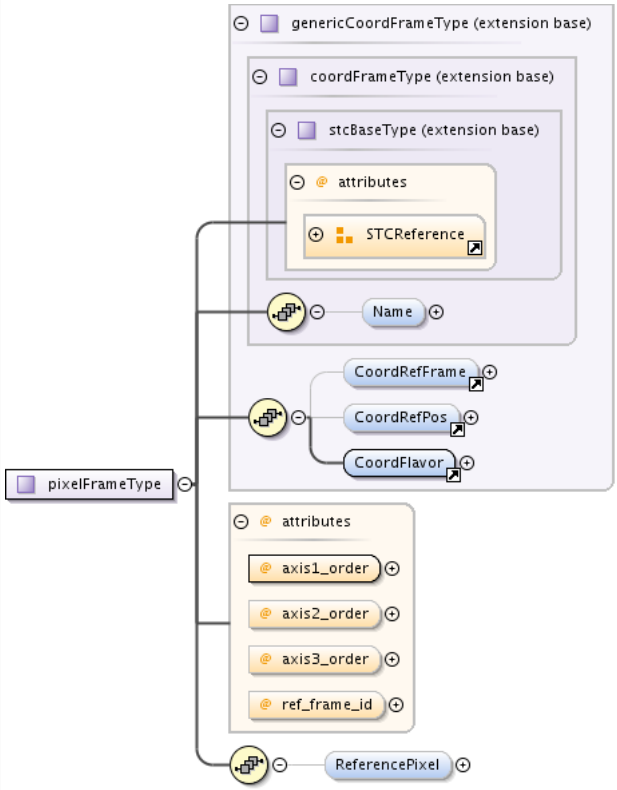
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D Healpix coordinates; defaults for H(4) and K(3)
Diagram	
Type	extension of coordFlavorType
Type hierarchy	• coordFlavorType • healpixType
Used by	Element HEALPIX
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **coord_naxes** / restriction of xs:integer / / 2 / optional

	QName	Type	Fixed	Default	Use
	handedness	restriction of xs:string			optional
	healpix_H	xs:integer		4	optional
	healpix_K	xs:integer		3	optional

Source

```
<xs:complexType name="healpixType">
  <xs:annotation>
    <xs:documentation>2-D Healpix coordinates; defaults for H(4) and K(3)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordFlavorType">
      <xs:attribute name="healpix_H" type="xs:integer" default="4"/>
      <xs:attribute name="healpix_K" type="xs:integer" default="3"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelFrameType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A pixel coordinate frame (which may be 1-D, 2-D, or 3-D) consists of a coordinate frame, a reference position, a flavor, a reference pixel array and the order in which the pixel axes appear in the pixel array
Diagram	
Type	extension of genericCoordFrameType

Type hierarchy	• stcBaseType
	  • coordFrameType
	  • genericCoordFrameType
	  • pixelFrameType

Used by	Element PixelCoordFrame
Model	Name{0,1} , CoordRefFrame{0,1} , CoordRefPos{0,1} , CoordFlavor , ReferencePixel{0,1}
Children	CoordFlavor, CoordRefFrame, CoordRefPos, Name, ReferencePixel

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

QName	Type	Fixed	Default	Use
axis1_order	xs:integer			required
axis2_order	xs:integer			optional
axis3_order	xs:integer			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ref_frame_id	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

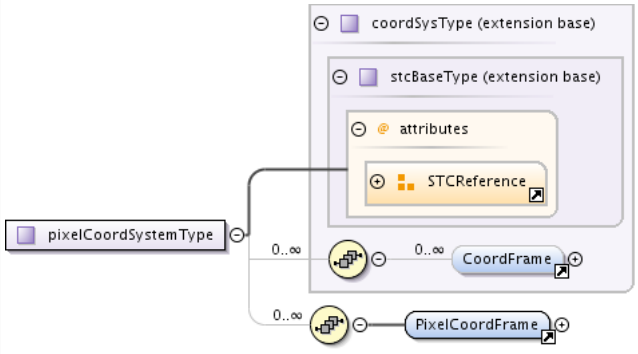
```
<xs:complexType name="pixelFrameType">
  <xs:annotation>
    <xs:documentation>A pixel coordinate frame (which may be 1-D, 2-D, or 3-D) consists of a
 coordinate frame, a reference position, a flavor, a reference pixel array and the order in which
 the pixel axes appear in the pixel array</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="genericCoordFrameType">
      <xs:sequence>
        <xs:element name="ReferencePixel" type="pixelType" nillable="true" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="axis1_order" type="xs:integer" use="required"/>
      <xs:attribute name="axis2_order" type="xs:integer"/>
      <xs:attribute name="axis3_order" type="xs:integer"/>
      <xs:attribute name="ref_frame_id" type="xs:IDREF"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A type that just holds a 1-3D pixel value`
Diagram	
Used by	Element pixelFrameType/ReferencePixel
Model	Pixel
Children	Pixel
Source	

```
<xs:complexType name="pixelType">
  <xs:annotation>
    <xs:documentation>A type that just holds a 1-3D pixel value</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element ref="Pixel"/>
  </xs:sequence>
</xs:complexType>
```

Complex Type `pixelCoordSystemType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The pixel coordinate system definition`
Diagram	

Type	extension of coordSysType

Type hierarchy	• stcBaseType
	  • coordSysType
	  • pixelCoordSystemType

Used by	Element PixelCoordSystem
Model	CoordFrame* , PixelCoordFrame
Children	CoordFrame, PixelCoordFrame

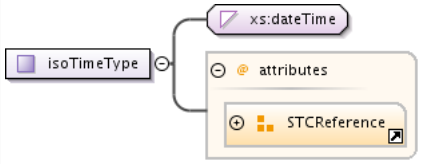
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelCoordSystemType">
  <xs:annotation>
    <xs:documentation>The pixel coordinate system definition</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordSysType">
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="PixelCoordFrame"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `isoTimeType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	ISO8601 time; note: only a limited subset of ISO 8601 is allowed: yyyy-mm-ddThh:mm:ss.sss...; unfortunately, XSchema does not allow hh, mm, or ss to be optional, ".ss" is.
Diagram	
Type	extension of xs:dateTime
Used by	Element ISOTime

Attributes

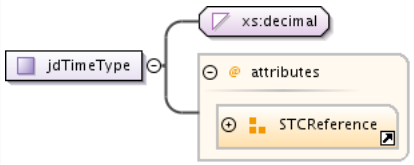
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="isoTimeType">
  <xs:annotation>
    <xs:documentation>ISO8601 time; note: only a limited subset of ISO 8601 is allowed: yyyy-mm-
ddThh:mm:ss.sss...; unfortunately, XSchema does not allow hh, mm, or ss to be optional, ".ss" is.</
xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:dateTime">
      <xs:attributeGroup ref="STCReference"/>
    </xs:extension>
```

```
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `jdTimeType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A decimal type for JD and MJD, with optional referencing
Diagram	
Type	extension of xs:decimal
Used by	Elements JDTime, MJDTime

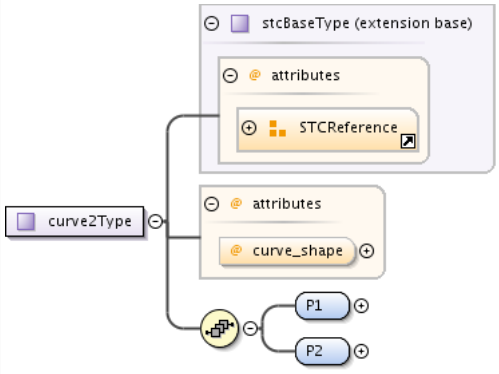
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="jdTimeType">
  <xs:annotation>
    <xs:documentation>A decimal type for JD and MJD, with optional referencing</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:decimal">
      <xs:attributeGroup ref="STCReference"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `curve2Type`

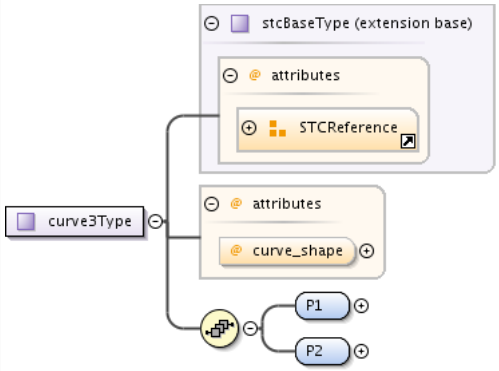
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A curve in 2-D space, defined by its end points and a shape attribute (default: line or great circle)
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • curve2Type
Used by	Element Curve2
Model	P1 , P2
Children	P1, P2

Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	curve_shape	xs:string		line	optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="curve2Type">
  <xs:annotation>
    <xs:documentation>A curve in 2-D space, defined by its end points and a shape attribute
 (default: line or great circle)</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcBaseType">
      <xs:sequence>
        <xs:element name="P1" type="double2Type" nillable="true"/>
        <xs:element name="P2" type="double2Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="curve_shape" type="xs:string" use="optional" default="line"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

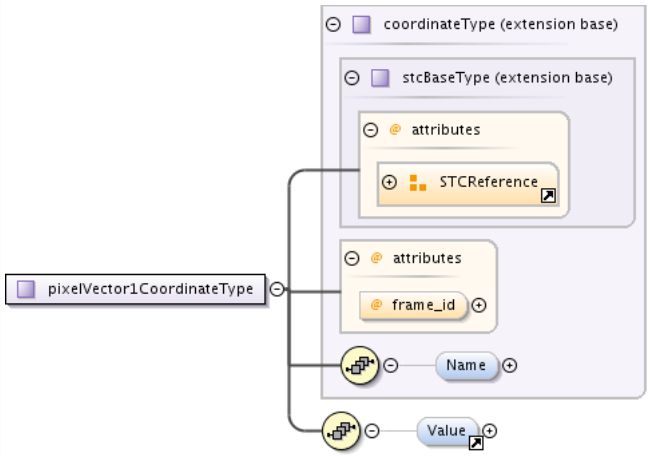
Complex Type curve3Type

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A curve in 3-D space, defined by its end points and a shape attribute (default: line or great circle)
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • curve3Type
Used by	Element Curve3
Model	P1 , P2
Children	P1, P2

Attributes	**QName**	**Type**	**Fixed**	**Default**	**Use**
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	curve_shape	xs:string		line	optional
	id	xs:ID			optional
	idref	xs:IDREF			optional
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source	<xs:complexType name="curve3Type"> <xs:annotation> <xs:documentation>A curve in 3-D space, defined by its end points and a shape attribute (default: line or great circle)</xs:documentation> </xs:annotation> <xs:complexContent> <xs:extension base="stcBaseType"> <xs:sequence> <xs:element name="P1" type="double3Type" nillable="true"/> <xs:element name="P2" type="double3Type" nillable="true"/> </xs:sequence> <xs:attribute name="curve_shape" type="xs:string" use="optional" default="line"/> </xs:extension> </xs:complexContent> </xs:complexType>

Complex Type `pixelVector1CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Scalar pixel coordinate type
Diagram	
Type	extension of coordinateType
Type hierarchy	• stcBaseType • coordinateType • pixelVector1CoordinateType
Used by	Element Pixel1D
Model	Name{0,1} , Value{0,1}
Children	Name, Value

Attributes

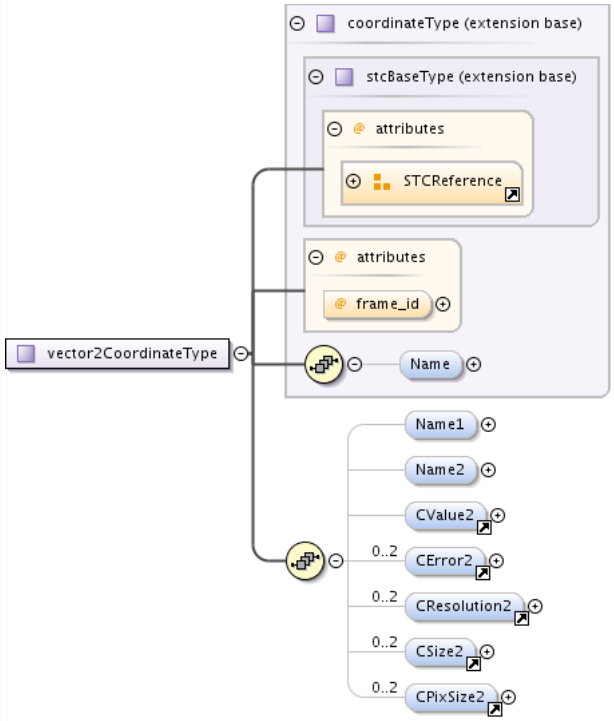
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelVector1CoordinateType">
  <xs:annotation>
    <xs:documentation>Scalar pixel coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element ref="Value" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
```

```
</xs:complexType>
```

Complex Type `vector2CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D coordinate type Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite values; pairs indicate ranges
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType

Used by	Complex Types genVector2CoordinateType, posVector2CoordinateType
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Attributes

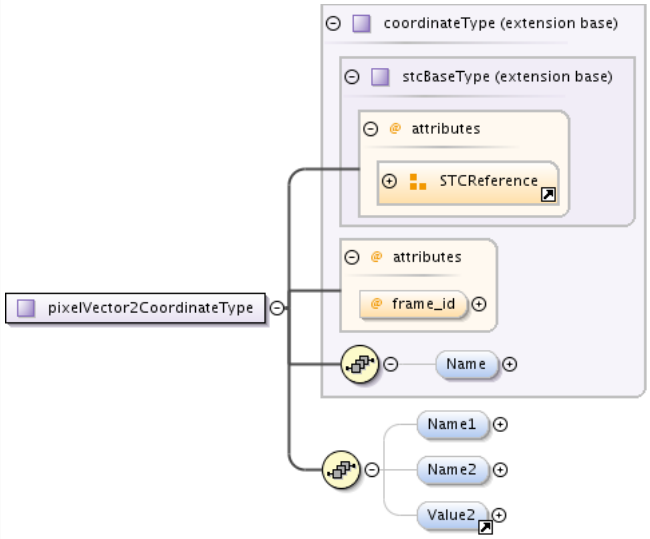
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="vector2CoordinateType">
  <xs:annotation>
    <xs:documentation>2-D coordinate type</xs:documentation>
    <xs:documentation>Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="Name1" type="xs:string" minOccurs="0"/>
```

```
        <xs:element name="Name2" type="xs:string" minOccurs="0"/>
        <xs:element ref="CValue2" minOccurs="0"/>
        <xs:element ref="CError2" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CResolution2" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CSize2" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CPixSize2" minOccurs="0" maxOccurs="2"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelVector2CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D pixel coordinate type`
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • pixelVector2CoordinateType

Used by	Element Pixel2D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Value2{0,1}
Children	Name, Name1, Name2, Value2

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

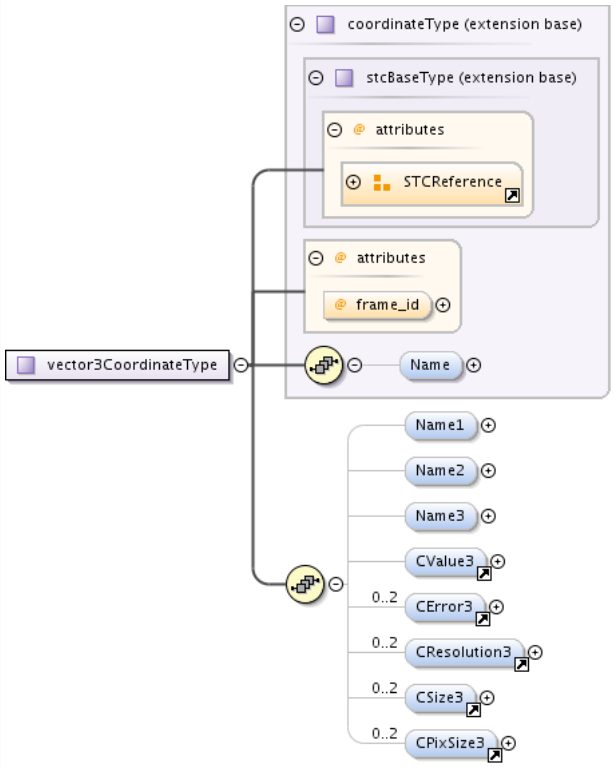
```
<xs:complexType name="pixelVector2CoordinateType">
  <xs:annotation>
    <xs:documentation>2-D pixel coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="Name1" type="xs:string" minOccurs="0"/>
        <xs:element name="Name2" type="xs:string" minOccurs="0"/>
        <xs:element ref="Value2" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
```

```
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vector3CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	`3-D coordinate type`
	
	`Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite values; pairs indicate ranges`

Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector3CoordinateType

Used by	Complex Types genVector3CoordinateType, posVector3CoordinateType
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3

Attributes

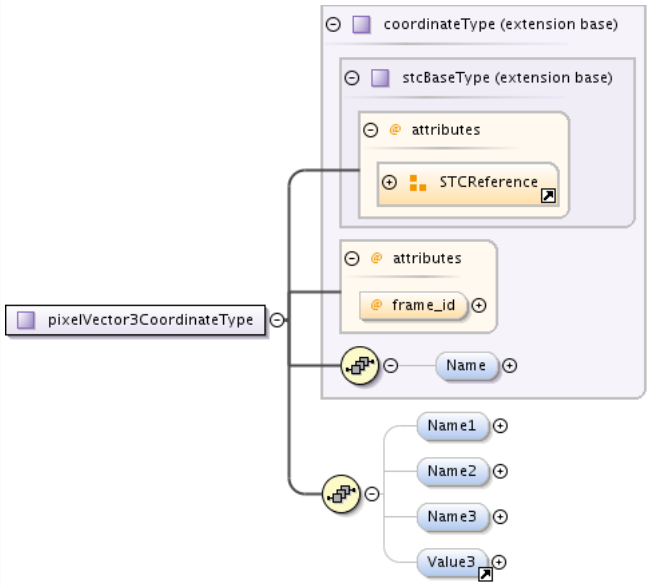
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="vector3CoordinateType">
  <xs:annotation>
    <xs:documentation>3-D coordinate type</xs:documentation>
    <xs:documentation>Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
```

```
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="Name1" type="xs:string" minOccurs="0"/>
        <xs:element name="Name2" type="xs:string" minOccurs="0"/>
        <xs:element name="Name3" type="xs:string" minOccurs="0"/>
        <xs:element ref="CValue3" minOccurs="0"/>
        <xs:element ref="CError3" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CResolution3" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CSize3" minOccurs="0" maxOccurs="2"/>
        <xs:element ref="CPixSize3" minOccurs="0" maxOccurs="2"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelVector3CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3-D pixel coordinate type`
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • pixelVector3CoordinateType

Used by	Element Pixel3D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , Value3{0,1}
Children	Name, Name1, Name2, Name3, Value3

Attributes

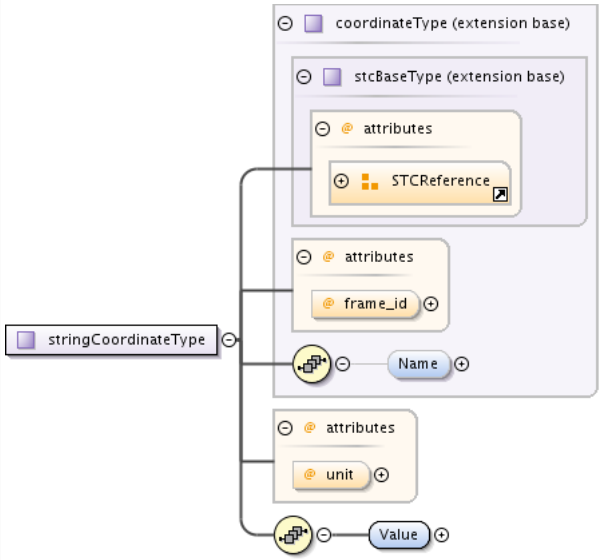
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelVector3CoordinateType">
  <xs:annotation>
    <xs:documentation>3-D pixel coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
```

```
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="Name1" type="xs:string" minOccurs="0"/>
        <xs:element name="Name2" type="xs:string" minOccurs="0"/>
        <xs:element name="Name3" type="xs:string" minOccurs="0"/>
        <xs:element ref="Value3" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `stringCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generic string coordinate type`
Diagram	
Type	extension of coordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • stringCoordinateType

Used by	Element StringCoordinate
Model	Name{0,1} , Value
Children	Name, Value

Attributes

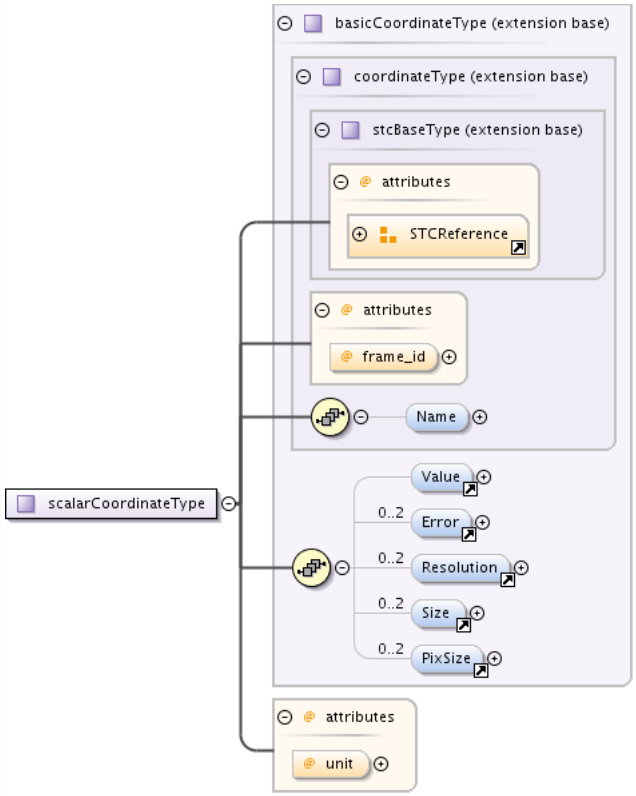
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="stringCoordinateType">
  <xs:annotation>
    <xs:documentation>Generic string coordinate type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordinateType">
      <xs:sequence>
        <xs:element name="Value" type="xs:string"/>
      </xs:sequence>
      <xs:attribute name="unit" type="unitType" use="optional"/>
```

```
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `scalarCoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Generic scalar coordinate type: a basic scalar coordinate with units`
Diagram	
Type	extension of basicCoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • basicCoordinateType
	  • scalarCoordinateType

Used by	Element ScalarCoordinate
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Attributes

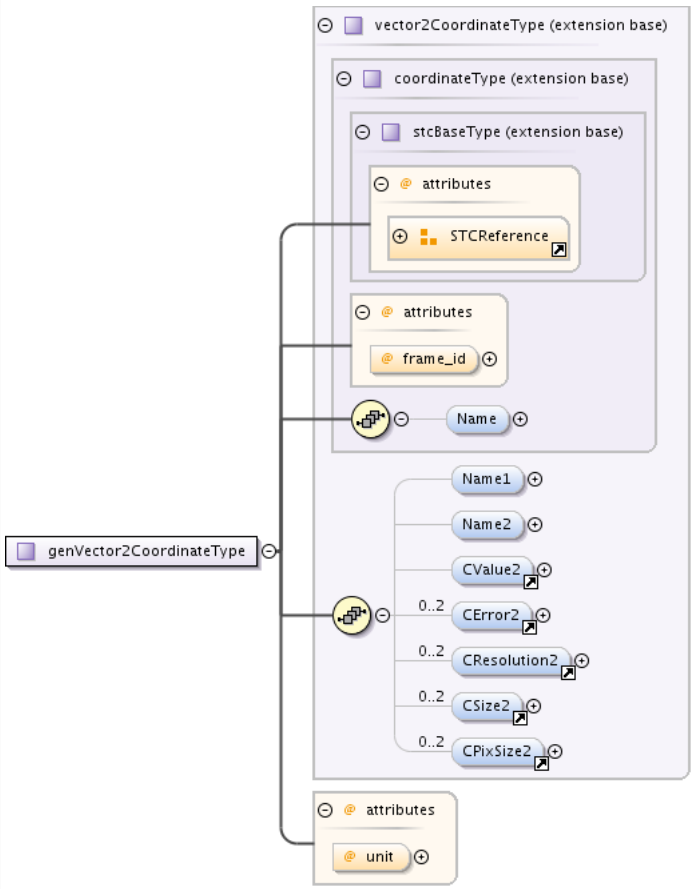
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="scalarCoordinateType">
  <xs:annotation>
    <xs:documentation>Generic scalar coordinate type: a basic scalar coordinate with units</
xs:documentation>
```

```
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="basicCoordinateType">
      <xs:attribute name="unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type genVector2CoordinateType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Generic 2-D coordinate type Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite values; pairs indicate ranges
Diagram	
Type	extension of vector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType
	  • genVector2CoordinateType

Used by	Element Vector2DCoordinate
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Attributes

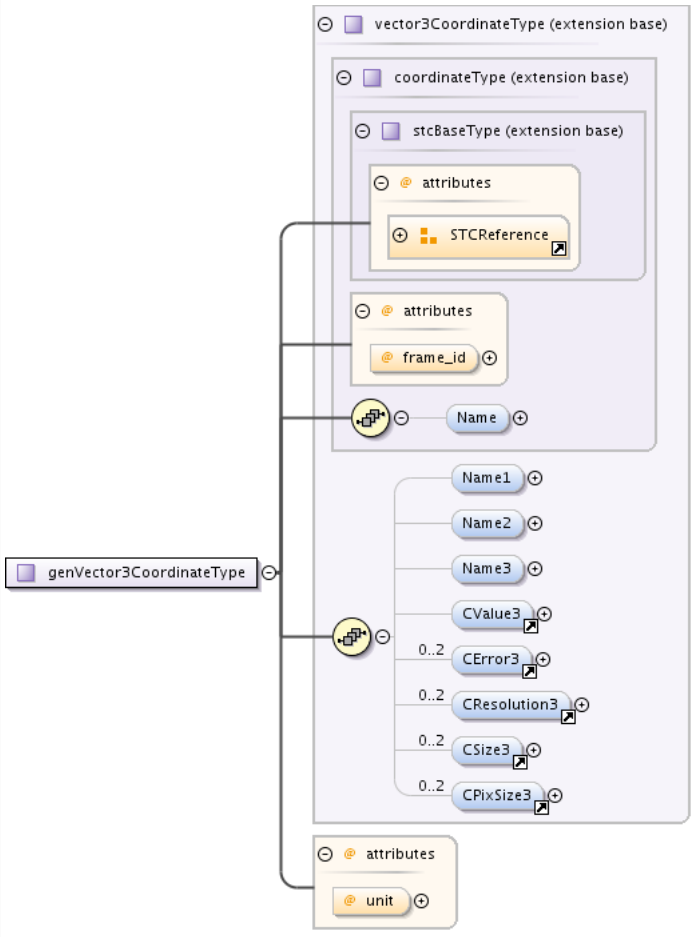
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	unitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="genVector2CoordinateType">
  <xs:annotation>
    <xs:documentation>Generic 2-D coordinate type</xs:documentation>
    <xs:documentation>Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vector2CoordinateType">
      <xs:attribute name="unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type genVector3CoordinateType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Generic 3-D coordinate type Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite values; pairs indicate ranges
Diagram	
Type	extension of vector3CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector3CoordinateType
	  • genVector3CoordinateType

Used by	Element Vector3DCoordinate
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3

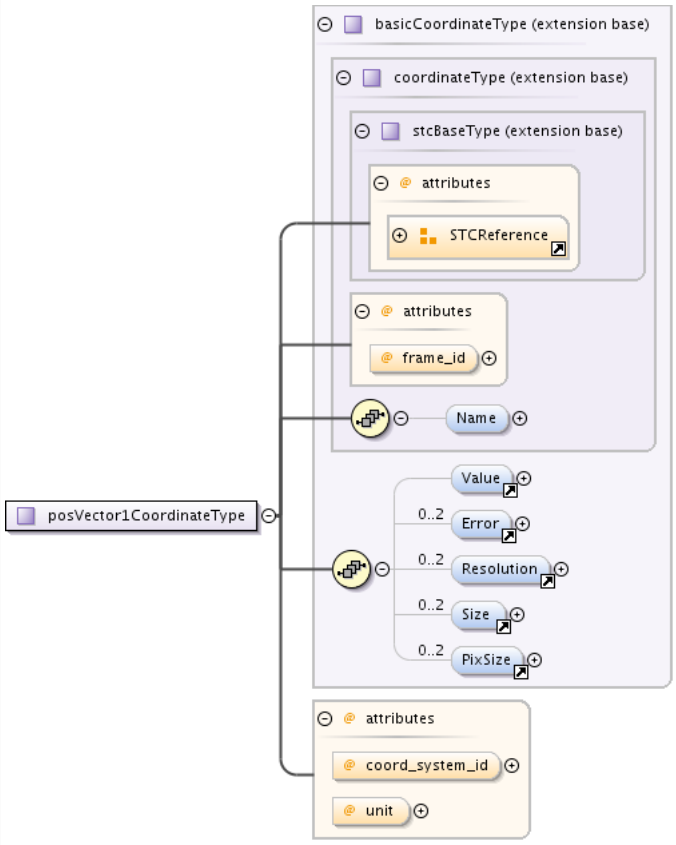
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="genVector3CoordinateType">
  <xs:annotation>
    <xs:documentation>Generic 3-D coordinate type</xs:documentation>
    <xs:documentation>Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vector3CoordinateType">
      <xs:attribute name="unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type posVector1CoordinateType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position scalar coordinate type; sibling of basicCoordinateType Single Error, Resolution, Size, PixSize elements indicate definite values; pairs indicate ranges
Diagram	

Type	extension of basicCoordinateType
Type hierarchy	• stcBaseType • coordinateType • basicCoordinateType • posVector1CoordinateType
Used by	Complex Type: velVector1CoordinateType Element: Position1D
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Attributes

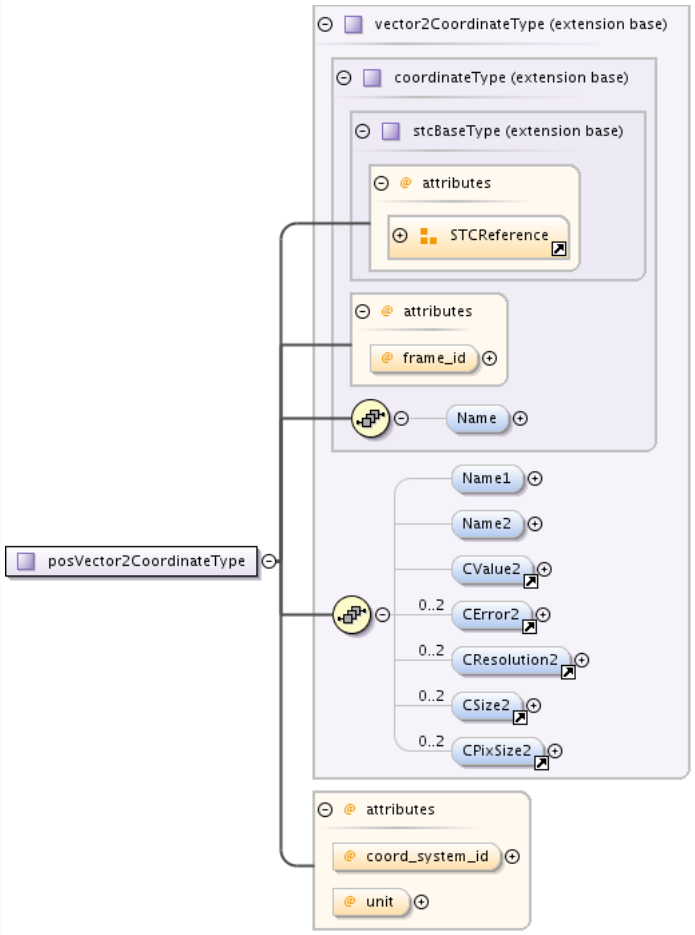
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="posVector1CoordinateType">
  <xs:annotation>
    <xs:documentation>Position scalar coordinate type; sibling of basicCoordinateType</
xs:documentation>
    <xs:documentation>Single Error, Resolution, Size, PixSize elements indicate definite values;
 pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="basicCoordinateType">
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type posVector2CoordinateType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position 2-D coordinate type Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite values; pairs indicate ranges

Diagram	
Type	extension of vector2CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector2CoordinateType
	  • posVector2CoordinateType

Used by	Complex Type: velVector2CoordinateType Element: Position2D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Attributes

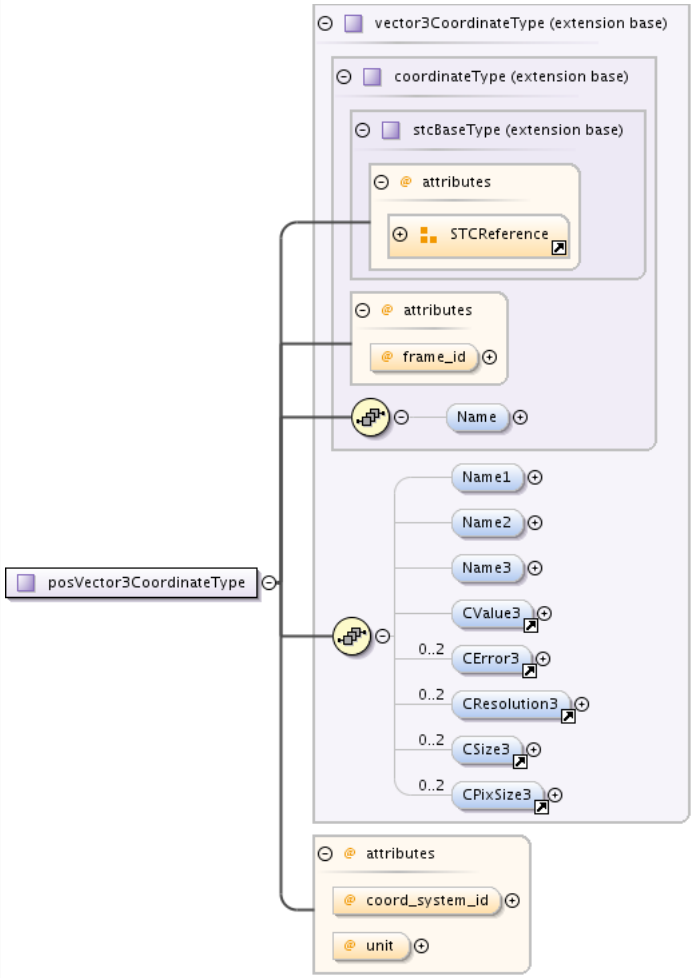
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="posVector2CoordinateType">
  <xs:annotation>
    <xs:documentation>Position 2-D coordinate type</xs:documentation>
```

```
    <xs:documentation>Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vector2CoordinateType">
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type posVector3CoordinateType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position 3-D coordinate type Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite values; pairs indicate ranges
Diagram	
Type	extension of vector3CoordinateType

Type hierarchy	• stcBaseType
	  • coordinateType
	  • vector3CoordinateType
	  • posVector3CoordinateType

Used by	Complex Type: velVector3CoordinateType Element: Position3D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

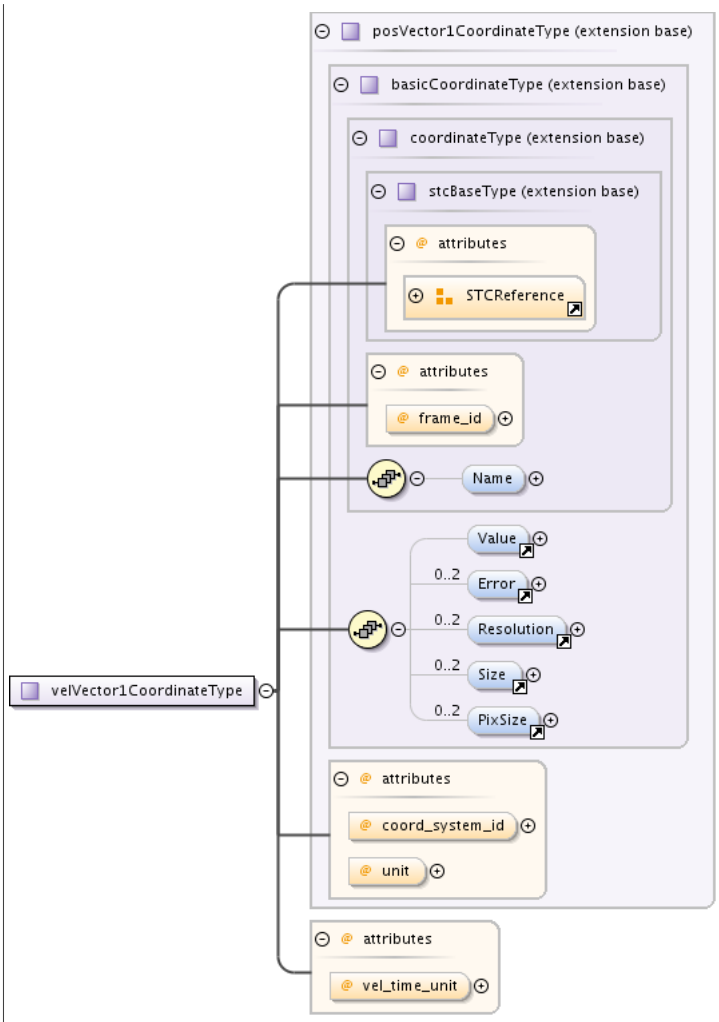
Source

```
<xs:complexType name="posVector3CoordinateType">
  <xs:annotation>
    <xs:documentation>Position 3-D coordinate type</xs:documentation>
    <xs:documentation>Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="vector3CoordinateType">
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velVector1CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	`Velocity scalar coordinate type; sibling of basicCoordinateType`
	
	`Single Error, Resolution, Size, PixSize elements indicate definite values; pairs indicate ranges`

Diagram	
Type	extension of posVector1CoordinateType
Type hierarchy	• stcBaseType • coordinateType • basicCoordinateType • posVector1CoordinateType • velVector1CoordinateType
Used by	Element Velocity1D
Model	Name{0,1} , Value{0,1} , Error{0,2} , Resolution{0,2} , Size{0,2} , PixSize{0,2}
Children	Error, Name, PixSize, Resolution, Size, Value

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional

	QName	Type	Fixed	Default	Use
	xlink:type	restriction of xs:NMTOKEN		simple	optional

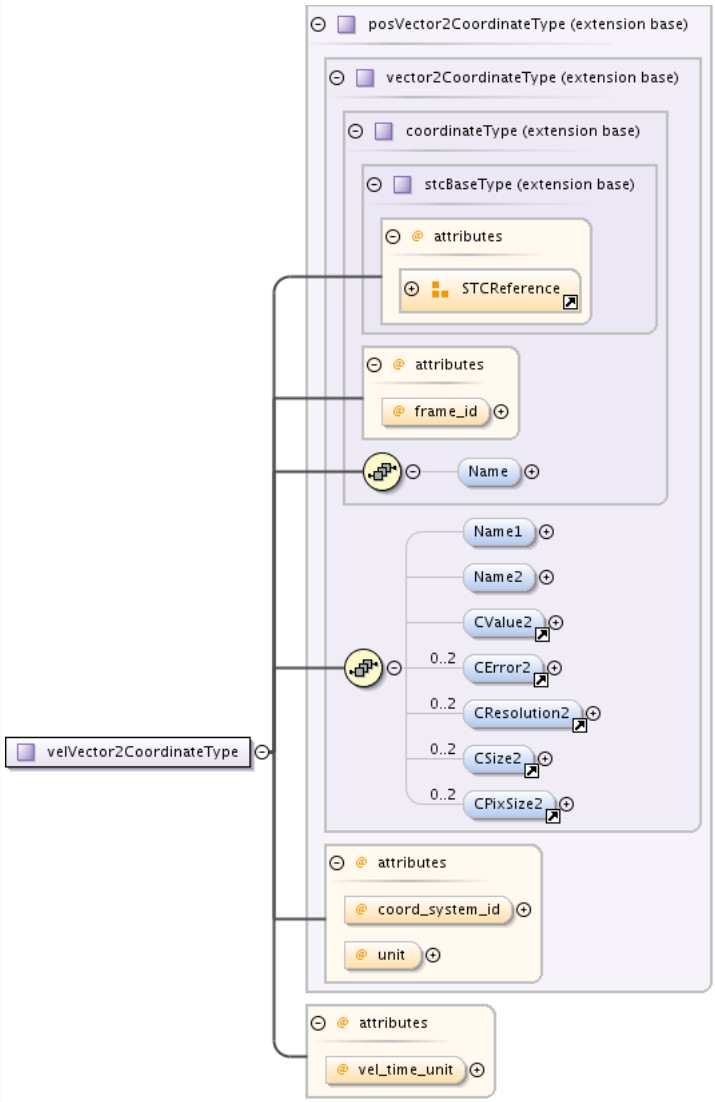
Source

```
<xs:complexType name="velVector1CoordinateType">
  <xs:annotation>
    <xs:documentation>Velocity scalar coordinate type; sibling of basicCoordinateType</
xs:documentation>
    <xs:documentation>Single Error, Resolution, Size, PixSize elements indicate definite values;
 pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="posVector1CoordinateType">
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velVector2CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	`Velocity 2-D coordinate type`
	
	`Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite values; pairs indicate ranges`

Diagram	
Type	extension of posVector2CoordinateType
Type hierarchy	• stcBaseType • coordinateType

	• vector2CoordinateType • posVector2CoordinateType • velVector2CoordinateType
Used by	Element Velocity2D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , CValue2{0,1} , CError2{0,2} , CResolution2{0,2} , CSize2{0,2} , CPixSize2{0,2}
Children	CError2, CPixSize2, CResolution2, CSize2, CValue2, Name, Name1, Name2

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

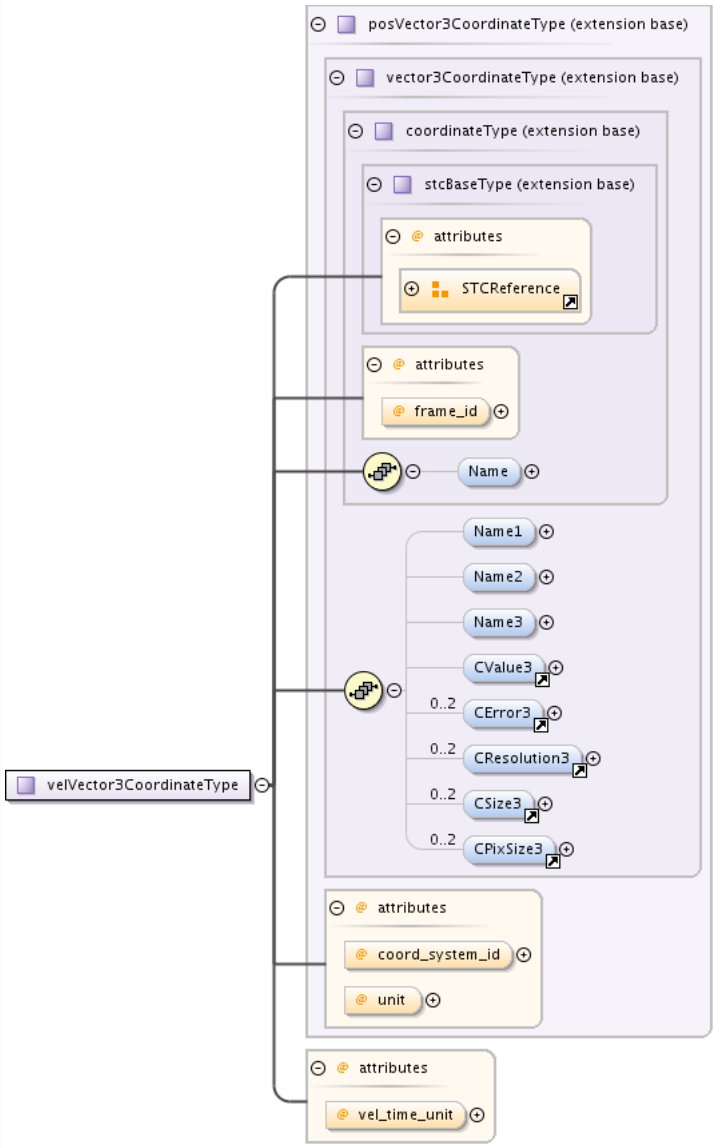
Source

```
<xs:complexType name="velVector2CoordinateType">
  <xs:annotation>
    <xs:documentation>Velocity 2-D coordinate type</xs:documentation>
    <xs:documentation>Single CError2, CResolution2, CSize2, CPixSize2 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="posVector2CoordinateType">
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velVector3CoordinateType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	`Velocity 3-D coordinate type`
	
	`Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite values; pairs indicate ranges`

Diagram	
Type	extension of posVector3CoordinateType
Type hierarchy	• stcBaseType • coordinateType • vector3CoordinateType • posVector3CoordinateType • velVector3CoordinateType
Used by	Element Velocity3D
Model	Name{0,1} , Name1{0,1} , Name2{0,1} , Name3{0,1} , CValue3{0,1} , CError3{0,2} , CResolution3{0,2} , CSize3{0,2} , CPixSize3{0,2}
Children	CError3, CPixSize3, CResolution3, CSize3, CValue3, Name, Name1, Name2, Name3

Attributes

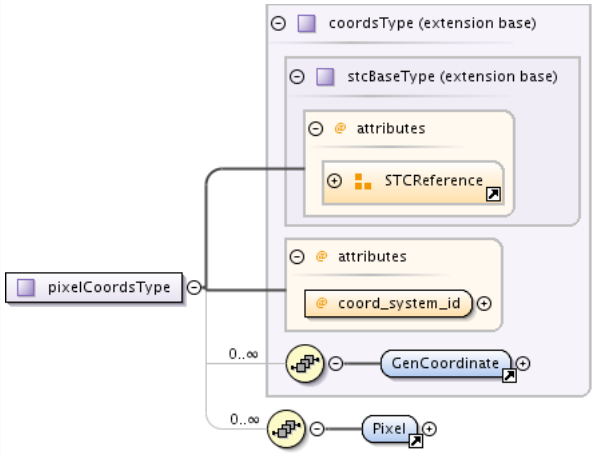
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
frame_id	xs:IDREF			optional
id	xs:ID			optional
idref	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="velVector3CoordinateType">
  <xs:annotation>
    <xs:documentation>Velocity 3-D coordinate type</xs:documentation>
    <xs:documentation>Single CError3, CResolution3, CSize3, CPixSize3 elements indicate definite
 values; pairs indicate ranges</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="posVector3CoordinateType">
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelCoordsType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The pixel coordinates type
Diagram	
Type	extension of coordsType
Type hierarchy	• stcBaseType • coordsType • pixelCoordsType
Used by	Element PixelCoords
Model	GenCoordinate , Pixel
Children	GenCoordinate, Pixel

Attributes

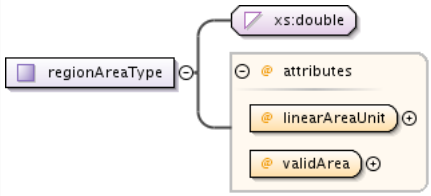
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelCoordsType">
  <xs:annotation>
    <xs:documentation>The pixel coordinates type</xs:documentation>
```

```
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordsType">
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="Pixel"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `regionAreaType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Element to hold the area of a Region, once calculated; the element holds the actual area, linearAreaUnit the linear units of the of the area (i.e., it should be squared to get the proper units of the area), and validArea indicates whether the area has been calculated properly.
Diagram	
Type	extension of xs:double
Used by	Element regionType/Area

Attributes

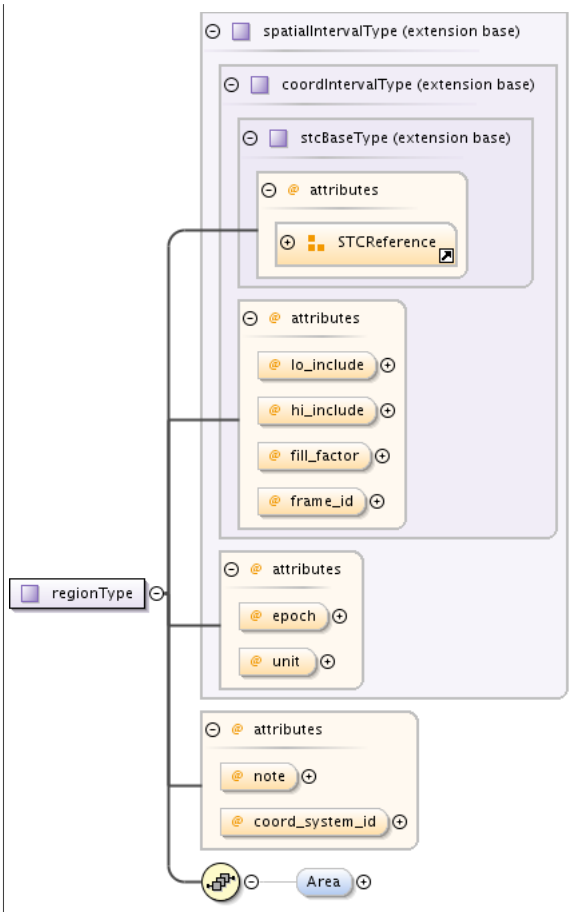
QName	Type	Fixed	Default	Use
linearAreaUnit	posUnitType			required
validArea	xs:boolean			required

Source

```
<xs:complexType name="regionAreaType">
  <xs:annotation>
    <xs:documentation>Element to hold the area of a Region, once calculated; the element holds the
 actual area, linearAreaUnit the linear units of the of the area (i.e., it should be squared to
 get the proper units of the area), and validArea indicates whether the area has been calculated
 properly.</xs:documentation>
  </xs:annotation>
  <xs:simpleContent>
    <xs:extension base="xs:double">
      <xs:attribute name="linearAreaUnit" type="posUnitType" use="required"/>
      <xs:attribute name="validArea" type="xs:boolean" use="required"/>
    </xs:extension>
  </xs:simpleContent>
</xs:complexType>
```

Complex Type `regionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Abstract region type; a Region is a Shape or the result of a Region Operation involving one or more Regions

Diagram	
Type	extension of spatialIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType

Used by	Complex Types: diffType, intersectionType, negationType, shapeType, unionType Elements: Region, Region2
Model	Area{0,1}
Children	Area

Attributes

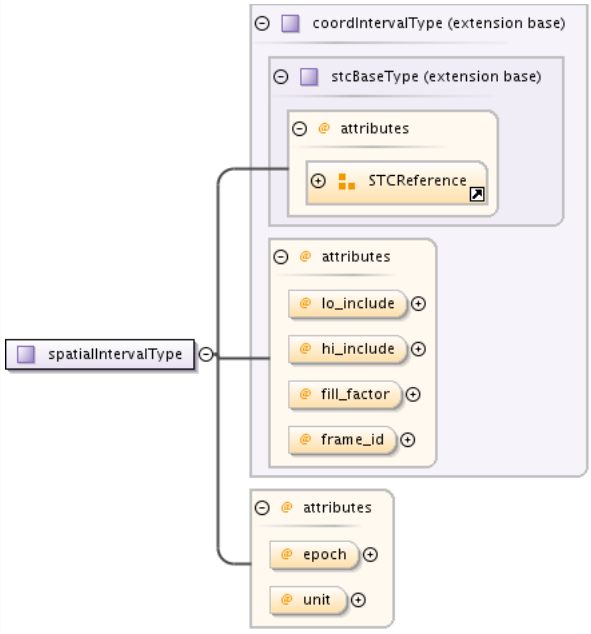
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="regionType">
  <xs:annotation>
    <xs:documentation>Abstract region type; a Region is a Shape or the result of a Region Operation
 involving one or more Regions</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="Area" type="regionAreaType" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="note" type="xs:string" use="optional"/>
      <xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `spatialIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Abstract spatial interval type`
Diagram	
Type	extension of coordIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType

Properties	abstract: `true`
Used by	Complex Types: pos2VecIntervalType, pos3VecIntervalType, posScalarIntervalType, regionFileType, regionType, sphereType, velocityIntervalType

Attributes

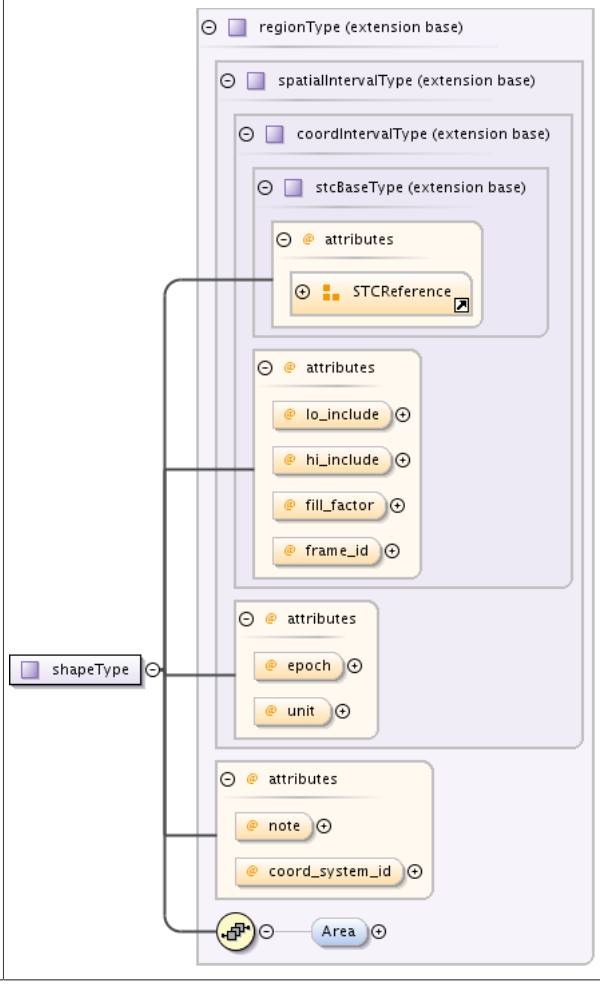
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			

	QName	Type	Fixed	Default	Use
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="spatialIntervalType" abstract="true">
  <xs:annotation>
    <xs:documentation>Abstract spatial interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:attribute name="epoch" type="xs:decimal" use="optional"/>
      <xs:attribute name="unit" type="posUnitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type shapeType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Shape is the abstract type that is the building block of regions; in real life it needs to be replaced by a concrete shape
Diagram	

Type	extension of regionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType

Used by	Complex Types: allSkyType, boxType, circleType, convexHullType, convexType, ellipseType, polygonType, sectorType, skyIndexType
Model	Area{0,1}
Children	Area

Attributes

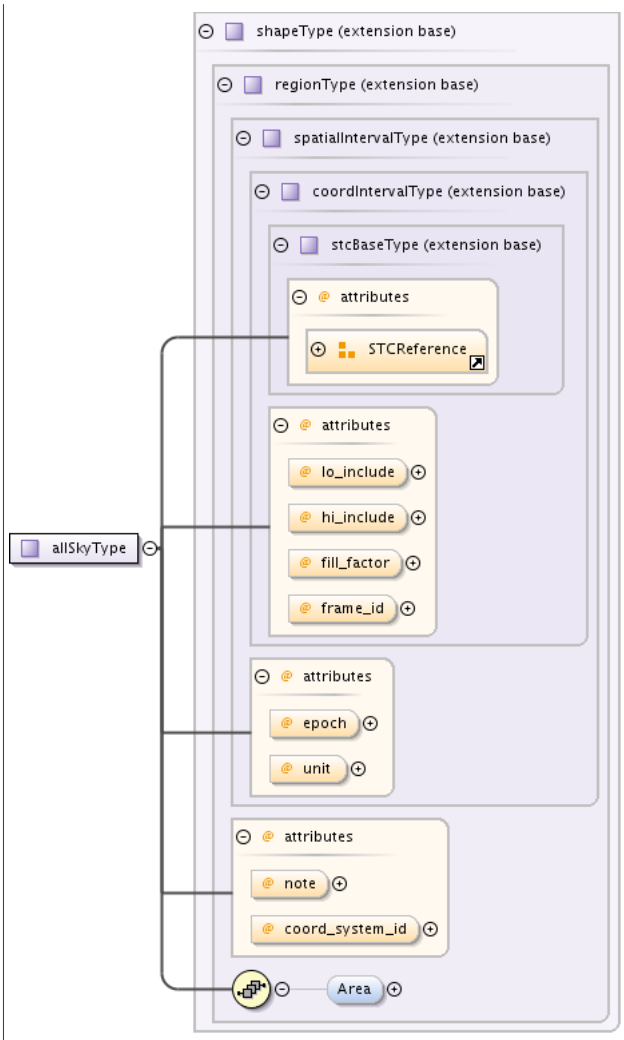
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="shapeType">
  <xs:annotation>
    <xs:documentation>Shape is the abstract type that is the building block of regions; in real life
 it needs to be replaced by a concrete shape</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="regionType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `allSkyType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`AllSky type: just a shape without any child elements`

Diagram	
Type	extension of shapeType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • allSkyType

Used by	Elements AllSky, AllSky2
Model	Area{0,1}
Children	Area

Attributes

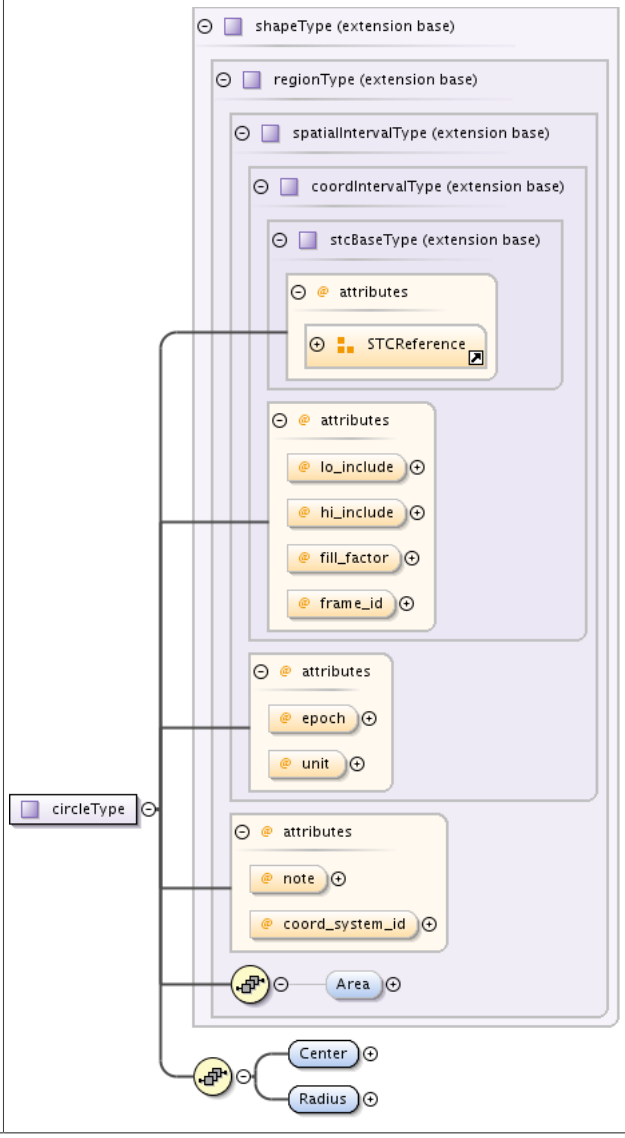
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="allSkyType">
  <xs:annotation>
    <xs:documentation>AllSky type: just a shape without any child elements</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `circleType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Circle shape: center and radius`
Diagram	

Type	extension of shapeType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • circleType
Used by	Elements Circle, Circle2
Model	Area{0,1} , Center , Radius
Children	Area, Center, Radius

Attributes

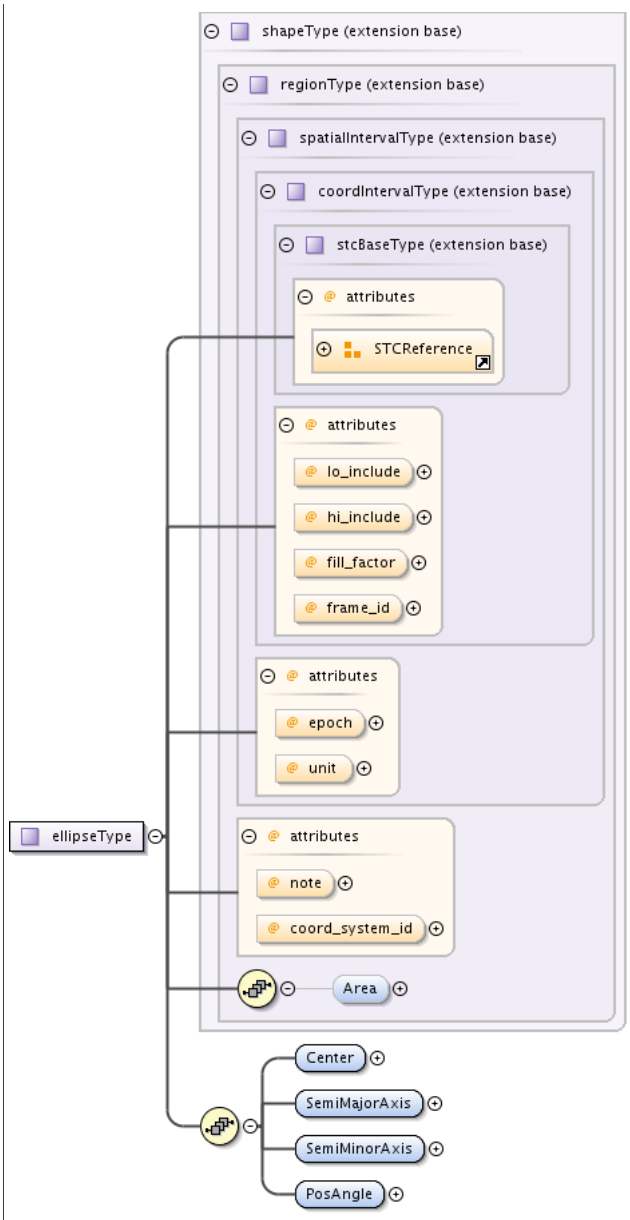
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="circleType">
  <xs:annotation>
    <xs:documentation>Circle shape: center and radius</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Center" type="double2Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The coordinates of the circle's center</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="Radius" type="double1Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The radius of the circle</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `ellipseType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Ellipse shape: center, semi-major, semi-minor axis and position angle; in spherical coordinates defined as the shape cut out of the sphere by a cone with elliptical cross-section`

Diagram	
Type	extension of shapeType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • ellipseType
Used by	Elements Ellipse, Ellipse2
Model	Area{0,1} , Center , SemiMajorAxis , SemiMinorAxis , PosAngle
Children	Area, Center, PosAngle, SemiMajorAxis, SemiMinorAxis

Attributes

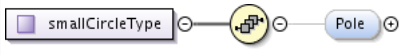
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional

QName	Type	Fixed	Default	Use
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="ellipseType">
  <xs:annotation>
    <xs:documentation>Ellipse shape: center, semi-major, semi-minor axis and position angle; in
 spherical coordinates defined as the shape cut out of the sphere by a cone with elliptical cross-
section</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Center" type="double2Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The coordinates of the circle's center</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="SemiMajorAxis" type="double1Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The radius of the circle</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="SemiMinorAxis" type="double1Type" nillable="true">
          <xs:annotation>
            <xs:documentation>Half the minor axis of the ellipse, in radius_unit</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="PosAngle" type="posAngleType" nillable="true">
          <xs:annotation>
            <xs:documentation>Position angle of major axis (Radius).</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `smallCircleType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	smallCircleType indicates in polygons that side is along small circle; with optional pole
Diagram	
Used by	Element vertexType/SmallCircle
Model	Pole{0,1}
Children	Pole
Source	

```
<xs:complexType name="smallCircleType">
  <xs:annotation>
    <xs:documentation>smallCircleType indicates in polygons that side is along small circle; with
 optional pole</xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Pole" type="double2Type" nillable="true" minOccurs="0"/>
  </xs:sequence>
```

```
</xs:complexType>
```

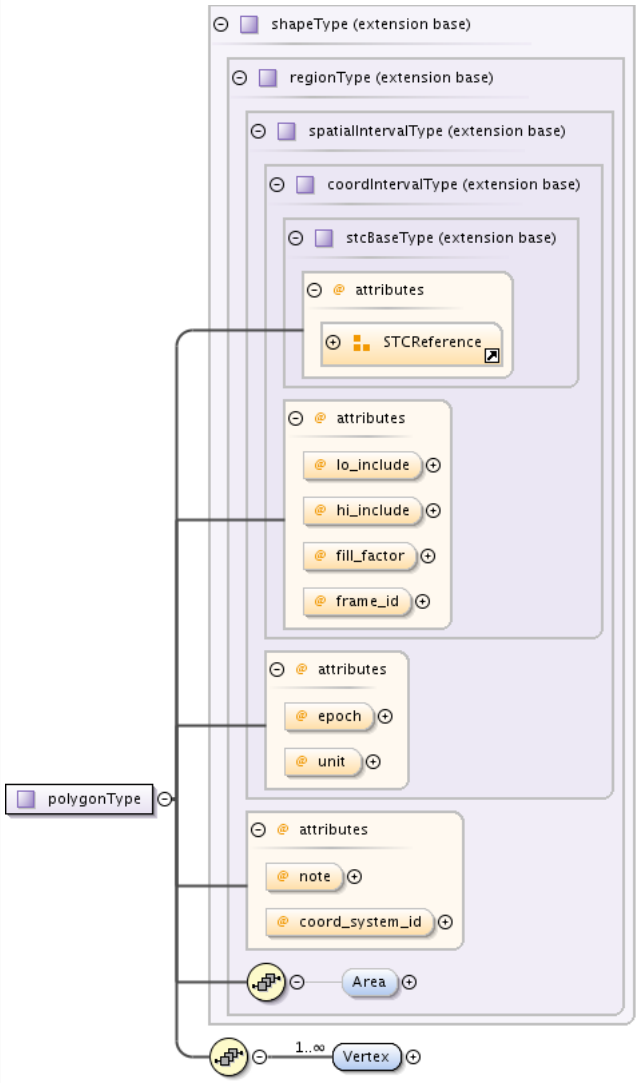
Complex Type vertexType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Vertex is a position with optional SmallCircle element; the SmallCircle element indicates that the polygon side formed by that vertex and its predecessor vertex is a small circle, rather than a great circle; SmallCircle has no meaning in Cartesian coordinates
Diagram	
Used by	Element polygonType/Vertex
Model	Position , SmallCircle{0,1}
Children	Position, SmallCircle
Source	<xs:complexType name="vertexType"> <xs:annotation> <xs:documentation>Vertex is a position with optional SmallCircle element; the SmallCircle element indicates that the polygon side formed by that vertex and its predecessor vertex is a small circle, rather than a great circle; SmallCircle has no meaning in Cartesian coordinates</xs:documentation> </xs:annotation> <xs:sequence> <xs:element name="Position" type="double2Type" nillable="true"/> <xs:element name="SmallCircle" type="smallCircleType" nillable="true" minOccurs="0"/> </xs:sequence> </xs:complexType>

Complex Type polygonType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Polygon: one or more vertices; counter-clockwise (as seen from "inside" or from "top") encircled area is enclosed; sides should span less than 180 deg in each coordinate if spherical; a polygon may not intersect itself

Diagram



Type	extension of shapeType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • shapeType
	  • polygonType

Used by	Elements Polygon, Polygon2
Model	Area{0,1} , Vertex+
Children	Area, Vertex

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

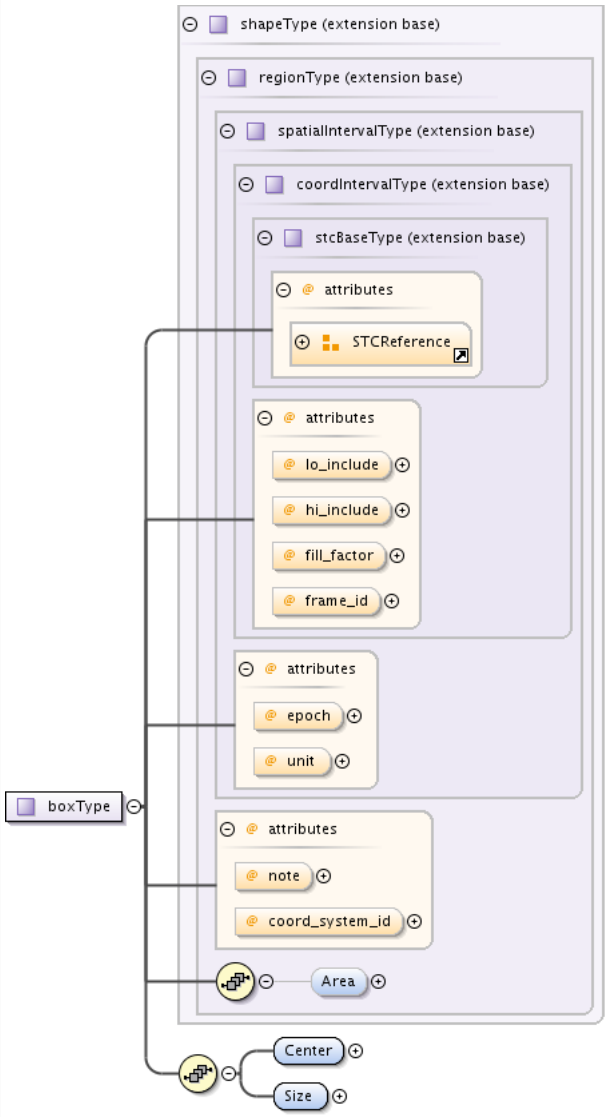
Source

```
<xs:complexType name="polygonType">
  <xs:annotation>
    <xs:documentation>Polygon: one or more vertices; counter-clockwise (as seen from "inside" or
 from "top") encircled area is enclosed; sides should span less than 180 deg in each coordinate if
 spherical; a polygon may not intersect itself</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Vertex" type="vertexType" maxOccurs="unbounded">
          <xs:annotation>
            <xs:documentation>In order to form polygons, vertices are to be connected with straight
 line segments. In the case of spherical coordinates: greatcircle segments; if a smallCircle element
 si present, the vertex and its predecessor are to be connected with a smallcircle, by default in
 the CoordSys that is referenced; optionally, a pole may be specified (other than the CoordSys pole)
 that defines the smallcircle system</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type boxType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Box shape: a rectangle defined by its center and size on both dimensions; since it is a polygon, it is redundant, but simple rectangles with great circle sides are awkward to define in spherical coordinates

Diagram



Type: extension of shapeType

Type hierarchy:

- stcBaseType
  - coordIntervalType
    - spatialIntervalType
      - regionType
        - shapeType
          - boxType

Used by: Elements Box, Box2

Model: Area{0,1} , Center , Size

Children: Area, Center, Size

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			

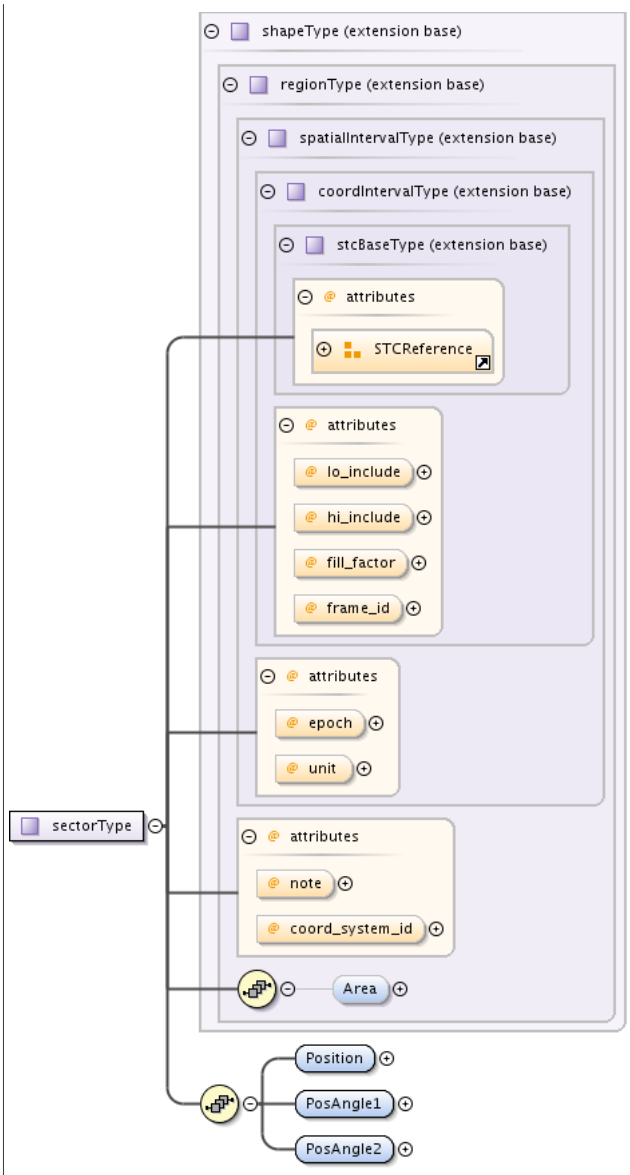
	QName	Type	Fixed	Default	Use
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="boxType">
  <xs:annotation>
    <xs:documentation>Box shape: a rectangle defined by its center and size on both dimensions;
 since it is a polygon, it is redundant, but simple rectangles with great circle sides are awkward
 to define in spherical coordinates</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Center" type="double2Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The coordinates of the box's center</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="Size" type="double2Type" nillable="true">
          <xs:annotation>
            <xs:documentation>The lengths of the box's sides</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `sectorType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A sector is the counter-clockwise area between two half-lines

Diagram	
Type	extension of shapeType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • sectorType
Used by	Elements Sector, Sector2
Model	Area{0,1} , Position , PosAngle1 , PosAngle2
Children	Area, PosAngle1, PosAngle2, Position

Attributes

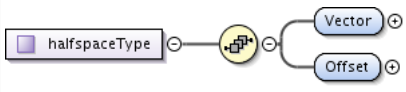
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional

	QName	Type	Fixed	Default	Use
		Fraction of interval that is occupied by data			
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="sectorType">
  <xs:annotation>
    <xs:documentation>A sector is the counter-clockwise area between two half-lines</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Position" type="double2Type">
          <xs:annotation>
            <xs:documentation>The vertex position of the sector</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="PosAngle1" type="posAngleType">
          <xs:annotation>
            <xs:documentation>The area ccw from this position angle is included</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="PosAngle2" type="posAngleType">
          <xs:annotation>
            <xs:documentation>The area cw from this position angle is included</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

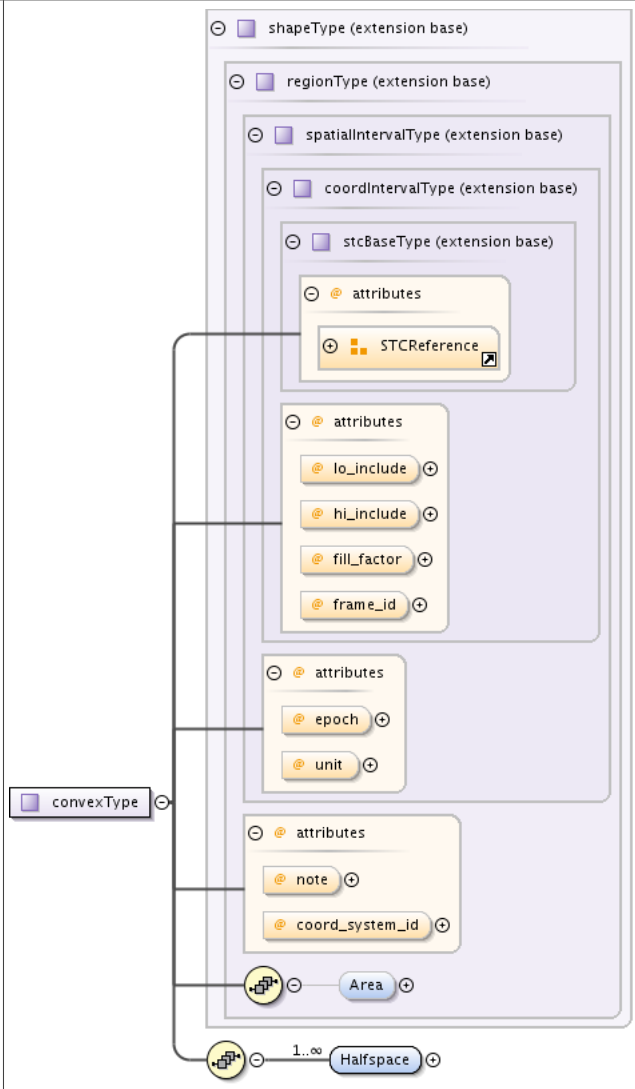
Complex Type `halfspaceType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	An area on the unit sphere defined by the intersection with a plane
Diagram	
Used by	Element convexType/Halfspace
Model	Vector , Offset
Children	Offset, Vector
Source	

```
<xs:complexType name="halfspaceType">
  <xs:annotation>
    <xs:documentation>An area on the unit sphere defined by the intersection with a plane</
xs:documentation>
  </xs:annotation>
  <xs:sequence>
    <xs:element name="Vector" type="double3Type" nillable="true">
      <xs:annotation>
        <xs:documentation>This needs to be a spherical coordinate vector; it is the unit vector that
 is normal to the plane that forms a constraint for a convex</xs:documentation>
      </xs:annotation>
    </xs:element>
    <xs:element name="Offset" type="hsOffsetType">
      <xs:annotation>
```

```
        <xs:documentation>The distance along the normal vector where the constraint plane intersects
 that vector; if positive, the spherical sector on the far side (seen from the center) is selected;
 if negative, the point of intersection is in the opposite direction of the vector, resulting in
 more than a hemisphere; the valid range is -1.0 to +1.0</xs:documentation>
      </xs:annotation>
    </xs:element>
  </xs:sequence>
</xs:complexType>
```

Complex Type convexType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	A convex polygon defined by one or more Constraints
Diagram	
Type	extension of shapeType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • convexType
Used by	Elements Convex, Convex2
Model	Area{0,1} , Halfspace+
Children	Area, Halfspace

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

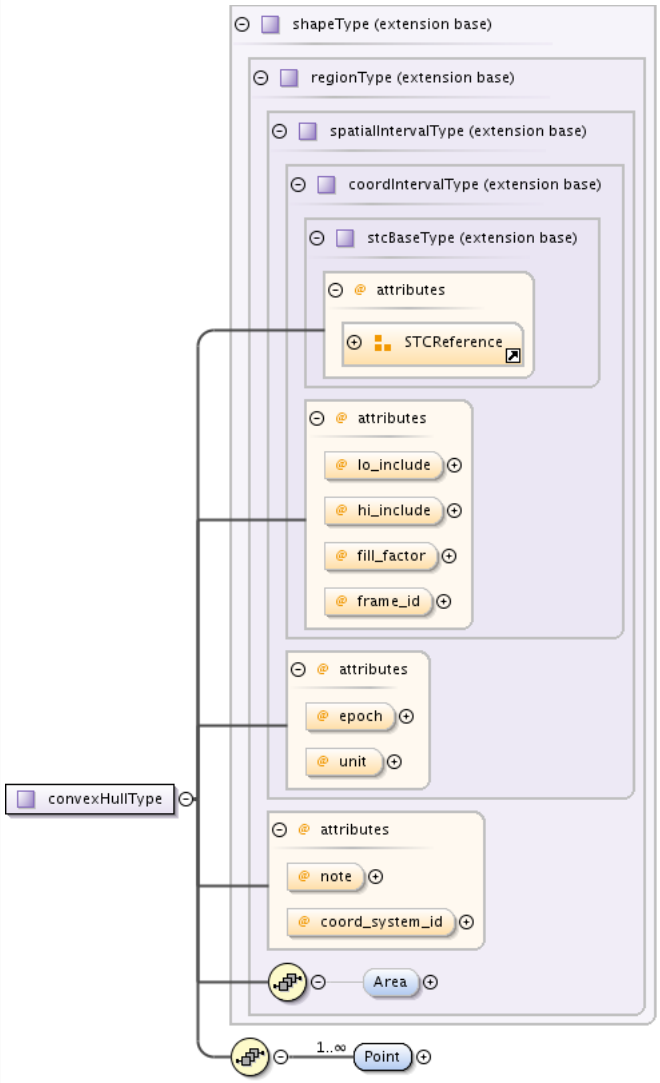
Source

```
<xs:complexType name="convexType">
  <xs:annotation>
    <xs:documentation>A convex polygon defined by one or more Constraints</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Halfspace" type="halfspaceType" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type convexHullType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`A convex hull: the smallest convex polygon that contains all its points; in spherical coordinates all points have to be contained within a hemisphere`

Diagram



Type

extension of shapeType

Type hierarchy

- stcBaseType
  - coordIntervalType
    - spatialIntervalType
      - regionType
        - shapeType
          - convexHullType

Used by

Elements ConvexHull, ConvexHull2

Model

Area{0,1} , Point+

Children

Area, Point

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional

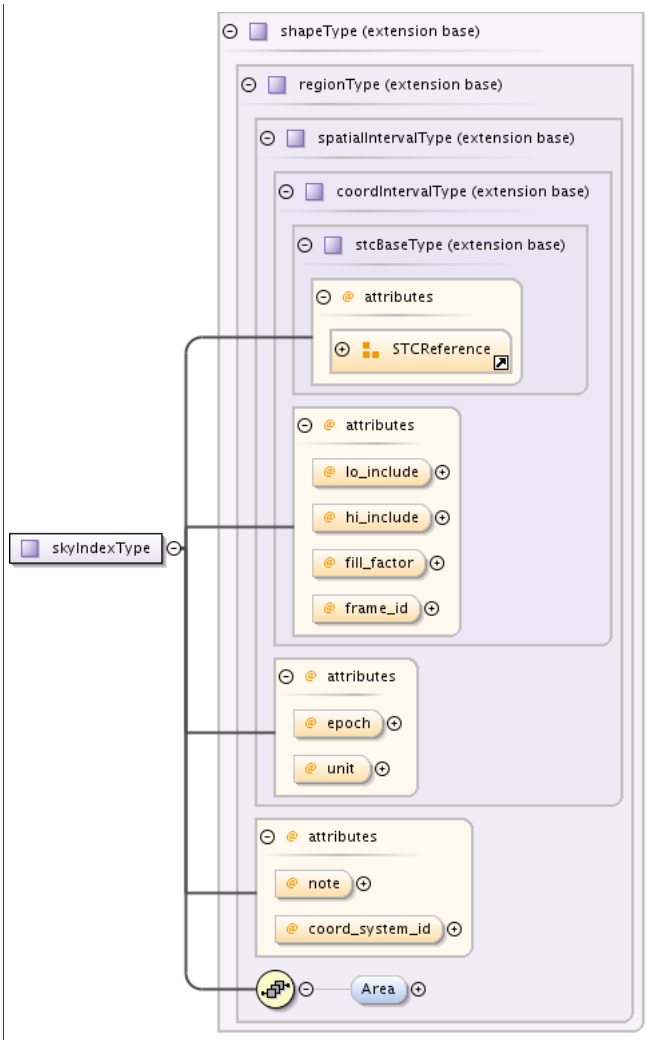
	QName	Type	Fixed	Default	Use
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="convexHullType">
  <xs:annotation>
    <xs:documentation>A convex hull: the smallest convex polygon that contains all its points; in
 spherical coordinates all points have to be contained within a hemisphere</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType">
      <xs:sequence>
        <xs:element name="Point" type="double3Type" nillable="true" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type skyIndexType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	This is a hook for regions defined in sky indexing schemes

Diagram	
Type	extension of shapeType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • shapeType • skyIndexType
Properties	abstract: `true`
Used by	Elements SkyIndex, SkyIndex2
Model	Area{0,1}
Children	Area

Attributes

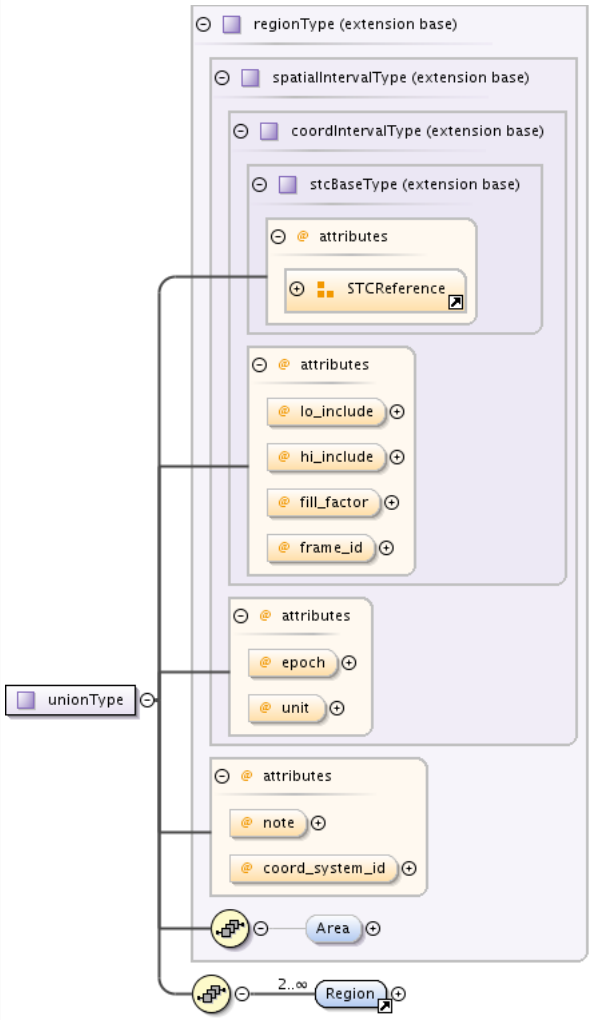
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional

	QName	Type	Fixed	Default	Use
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="skyIndexType" abstract="true">
  <xs:annotation>
    <xs:documentation>This is a hook for regions defined in sky indexing schemes</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="shapeType"/>
  </xs:complexContent>
</xs:complexType>
```

Complex Type unionType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The union of two or more regions is a region
Diagram	
Type	extension of regionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • unionType

Used by	Elements Union, Union2
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

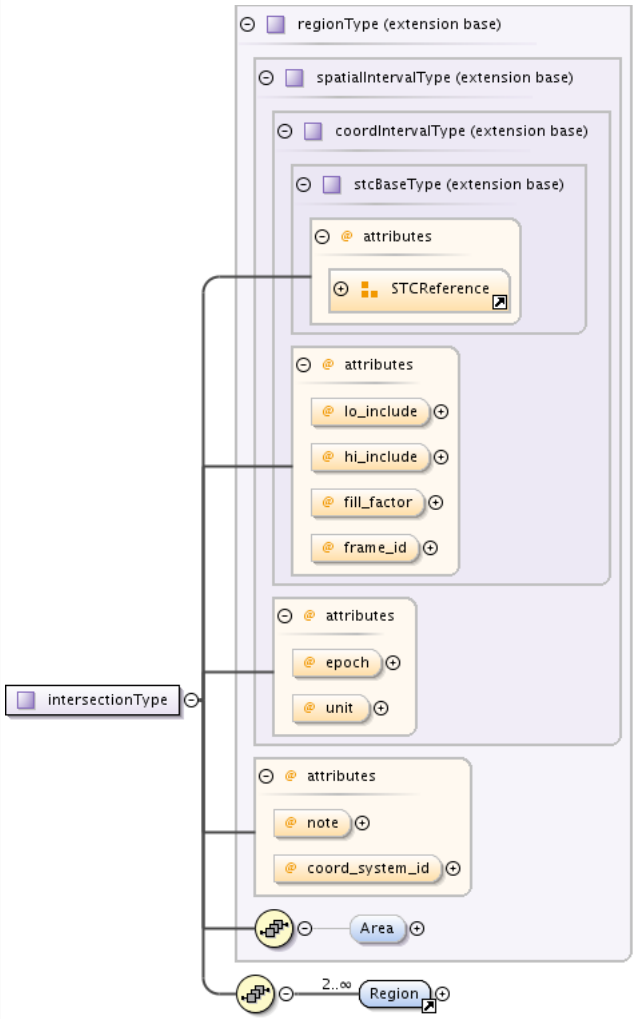
Source

```
<xs:complexType name="unionType">
  <xs:annotation>
    <xs:documentation>The union of two or more regions is a region</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="regionType">
      <xs:sequence>
        <xs:element ref="Region" minOccurs="2" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `intersectionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The intersection of two or more regions is a region`

Diagram



Type	extension of regionType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • regionType • intersectionType
Used by	Elements Intersection, Intersection2
Model	Area{0,1} , Region{2,unbounded}
Children	Area, Region

Attributes

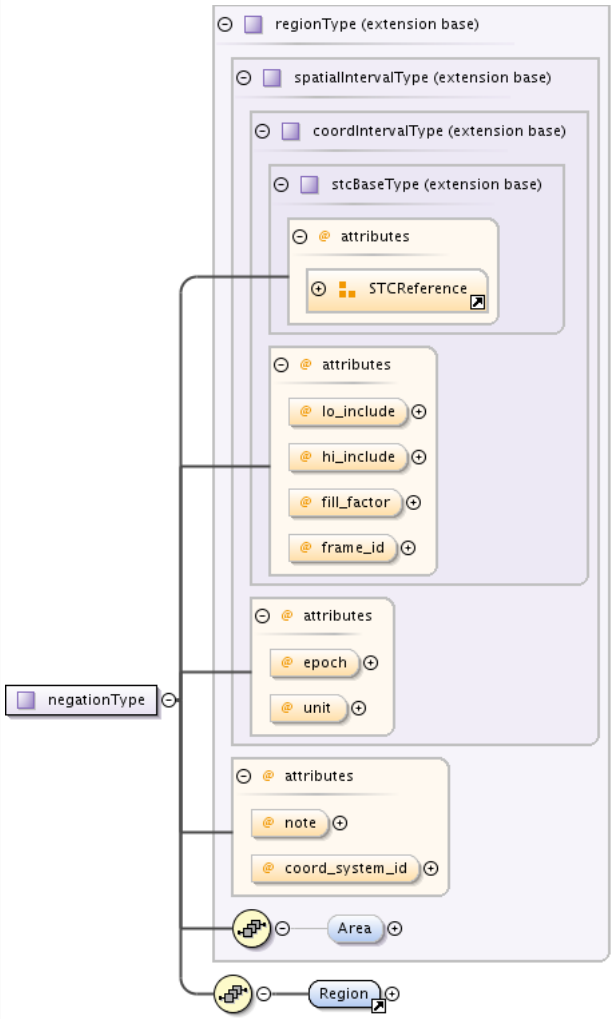
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional

	QName	Type	Fixed	Default	Use
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="intersectionType">
  <xs:annotation>
    <xs:documentation>The intersection of two or more regions is a region</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="regionType">
      <xs:sequence>
        <xs:element ref="Region" minOccurs="2" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `negationType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The negation of a region is a region
Diagram	
Type	extension of regionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • negationType

Used by	Elements Negation, Negation2
Model	Area{0,1} , Region
Children	Area, Region

Attributes

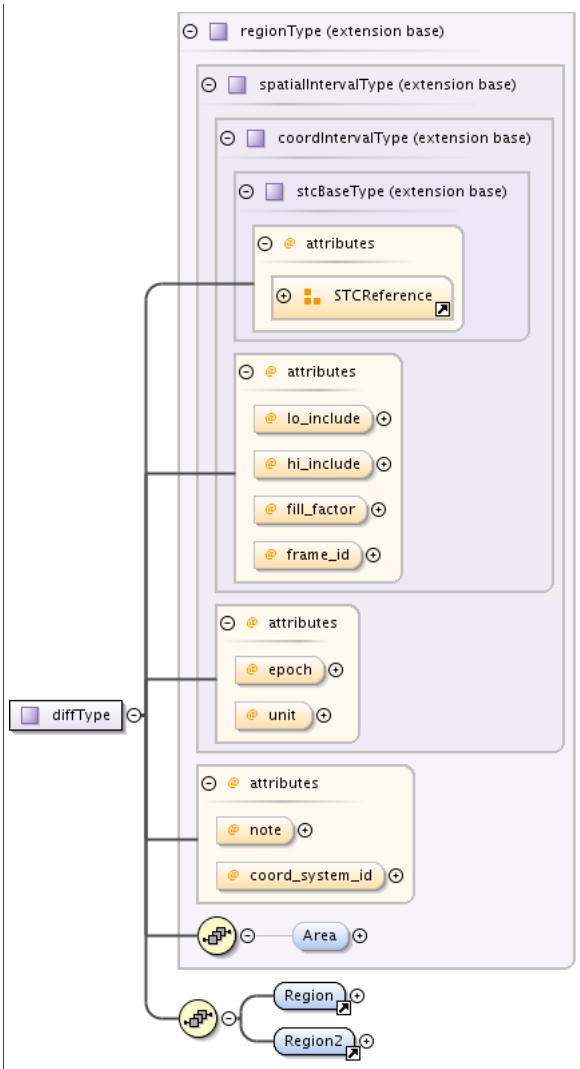
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
note	xs:string			optional
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="negationType">
  <xs:annotation>
    <xs:documentation>The negation of a region is a region</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="regionType">
      <xs:sequence>
        <xs:element ref="Region"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `diffType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The difference of two regions (Region1 minus Region2) is a region; it is equivalent to the intersection of Region1 with notRegion2`

Diagram	
Type	extension of regionType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • regionType
	  • diffType

Used by	Elements Difference, Difference2
Model	Area{0,1} , Region , Region2
Children	Area, Region, Region2

Attributes

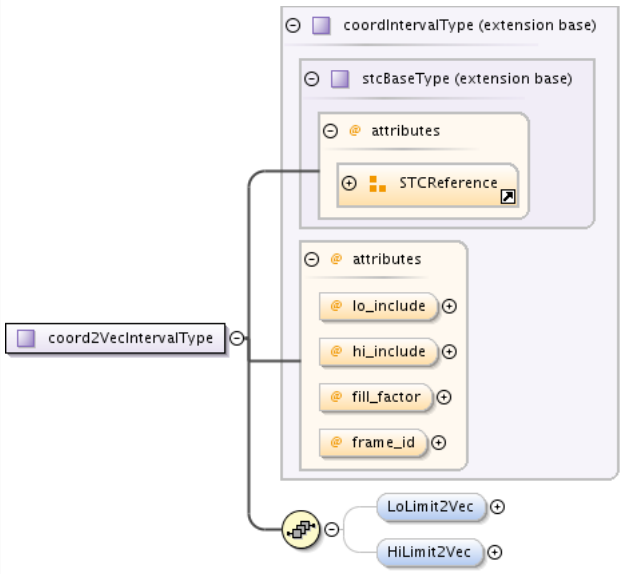
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	note	xs:string			optional
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="diffType">
  <xs:annotation>
    <xs:documentation>The difference of two regions (Region1 minus Region2) is a region; it is
 equivalent to the intersection of Region1 with notRegion2</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="regionType">
      <xs:sequence>
        <xs:element ref="Region"/>
        <xs:element ref="Region2"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coord2VecIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D coordinate interval type`
Diagram	
Type	extension of coordIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • coord2VecIntervalType

Used by	Element PixelCoord2VecInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec

Attributes

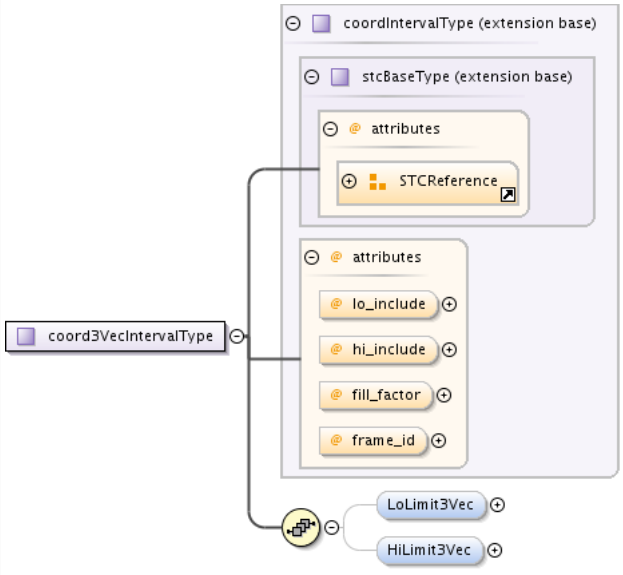
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional

	QName	Type	Fixed	Default	Use
	fill_factor	xs:float		1.0	optional
		Fraction of interval that is occupied by data			
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coord2VecIntervalType">
  <xs:annotation>
    <xs:documentation>2-D coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `coord3VecIntervalType`

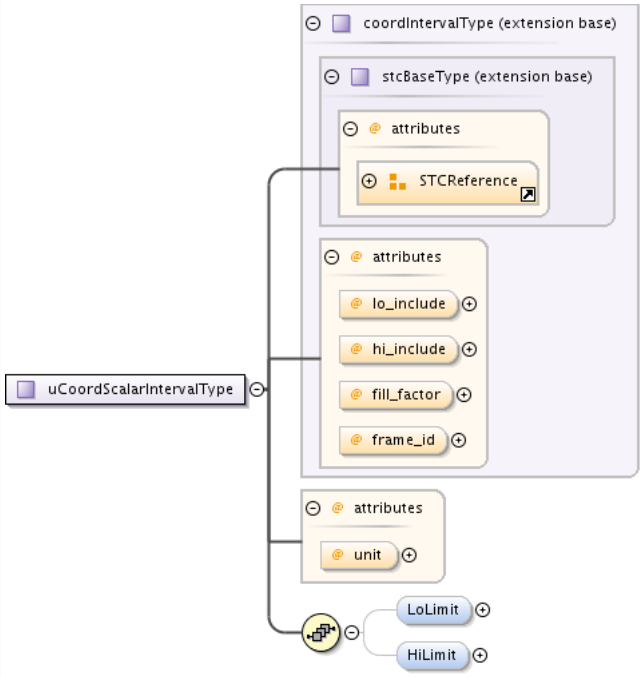
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	3-D coordinate interval type
Diagram	
Type	extension of coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • coord3VecIntervalType
Used by	Element PixelCoord3VecInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Attributes	QName	Type	Fixed	Default	Use
	IDREF_type	xs:string			optional
	ID_type	xs:string			optional
	fill_factor	xs:float		1.0	optional
		Fraction of interval that is occupied by data			
	frame_id	xs:IDREF			optional
	hi_include	xs:boolean		true	optional
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="coord3VecIntervalType">
  <xs:annotation>
    <xs:documentation>3-D coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `uCoordScalarIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Scalar coordinate interval type with units and frame_id
Diagram	
Type	extension of coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType

<table>
<tr><td></td><td>• uCoordScalarIntervalType</td></tr>
<tr><td>Used by</td><td>Element CoordScalarInterval</td></tr>
<tr><td>Model</td><td>LoLimit{0,1} , HiLimit{0,1}</td></tr>
<tr><td>Children</td><td>HiLimit, LoLimit</td></tr>
<tr><td>Attributes</td><td>
<table>
<tr><th>QName</th><th>Type</th><th>Fixed</th><th>Default</th><th>Use</th></tr>
<tr><td>IDREF_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>ID_type</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>fill_factor</td><td>xs:float</td><td></td><td>1.0</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Fraction of interval that is occupied by data</td></tr>
<tr><td>frame_id</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>hi_include</td><td>xs:boolean</td><td></td><td>true</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Limit to be included?</td></tr>
<tr><td>id</td><td>xs:ID</td><td></td><td></td><td>optional</td></tr>
<tr><td>idref</td><td>xs:IDREF</td><td></td><td></td><td>optional</td></tr>
<tr><td>lo_include</td><td>xs:boolean</td><td></td><td>true</td><td>optional</td></tr>
<tr><td></td><td colspan="4">Limit to be included?</td></tr>
<tr><td>ucd</td><td>xs:string</td><td></td><td></td><td>optional</td></tr>
<tr><td>unit</td><td>unitType</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:href</td><td>xs:anyURI</td><td></td><td></td><td>optional</td></tr>
<tr><td>xlink:type</td><td>restriction of xs:NMTOKEN</td><td></td><td>simple</td><td>optional</td></tr>
</table>
</td></tr>
<tr><td>Source</td><td>

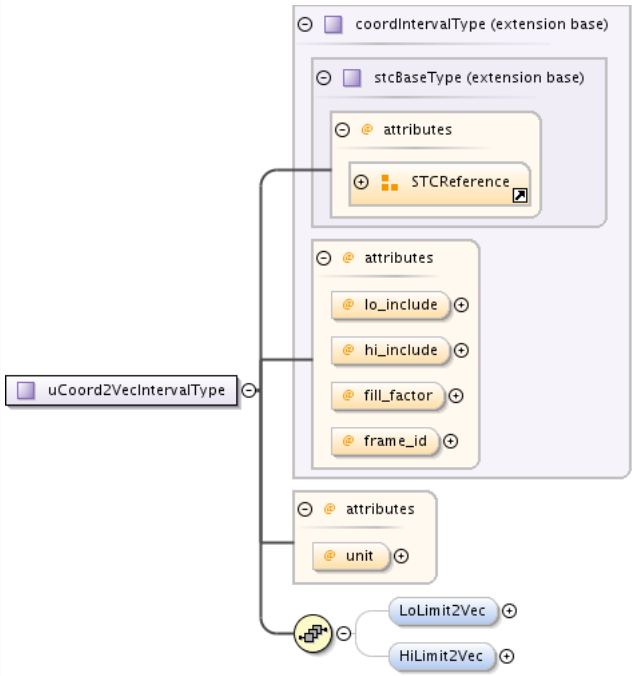
```
<xs:complexType name="uCoordScalarIntervalType">
  <xs:annotation>
    <xs:documentation>Scalar coordinate interval type with units and frame_id</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Lower bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Upper bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
      <xs:attribute name="unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

</td></tr>
</table>

Complex Type uCoord2VecIntervalType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D coordinate interval type with units and frame_id

Diagram



Type: extension of coordIntervalType

Type hierarchy:

- stcBaseType
  - coordIntervalType
    - uCoord2VecIntervalType

Used by: Element Coord2VecInterval

Model: LoLimit2Vec{0,1} , HiLimit2Vec{0,1}

Children: HiLimit2Vec, LoLimit2Vec

Attributes

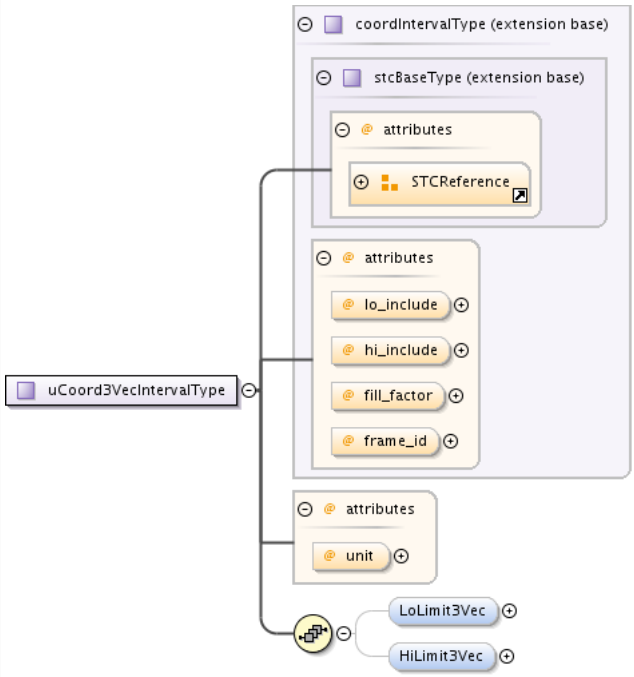
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="uCoord2VecIntervalType">
  <xs:annotation>
    <xs:documentation>2-D coordinate interval type with units and frame_id</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="unit" type="unitType" use="optional"/>
```

```
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type uCoord3VecIntervalType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	3-D coordinate interval type with units and frame_id
Diagram	
Type	extension of coordIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • uCoord3VecIntervalType
Used by	Element Coord3VecInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Attributes

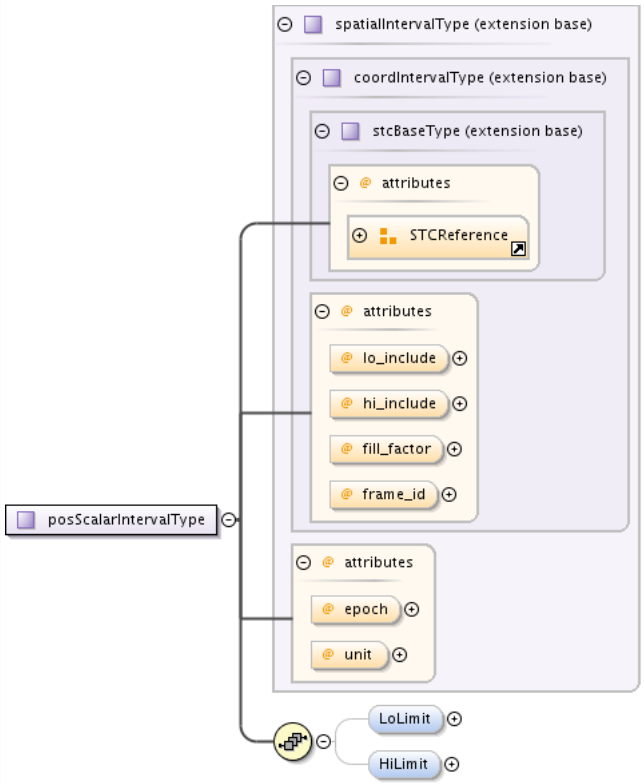
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
fill_factor	xs:float		1.0	optional
	Fraction of interval that is occupied by data			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	Limit to be included?			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	Limit to be included?			
ucd	xs:string			optional
unit	unitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="uCoord3VecIntervalType">
  <xs:annotation>
```

```
    <xs:documentation>3-D coordinate interval type with units and frame_id</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="unit" type="unitType" use="optional"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `posScalarIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Scalar coordinate interval type`
Diagram	
Type	extension of spatialIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • posScalarIntervalType
Used by	Element PositionScalarInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Attributes

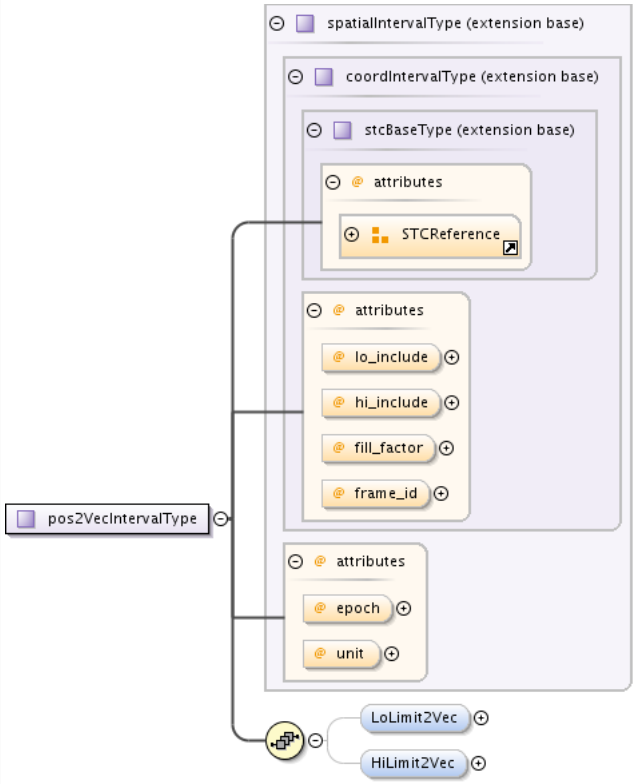
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional

	QName	Type	Fixed	Default	Use
		Limit to be included?			
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		Limit to be included?			
	ucd	xs:string			optional
	unit	posUnitType			optional
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="posScalarIntervalType">
  <xs:annotation>
    <xs:documentation>Scalar coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Lower bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Upper bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pos2VecIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	2-D coordinate interval type
Diagram	
Type	extension of spatialIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • pos2VecIntervalType

Used by	Element Position2VecInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec

Attributes

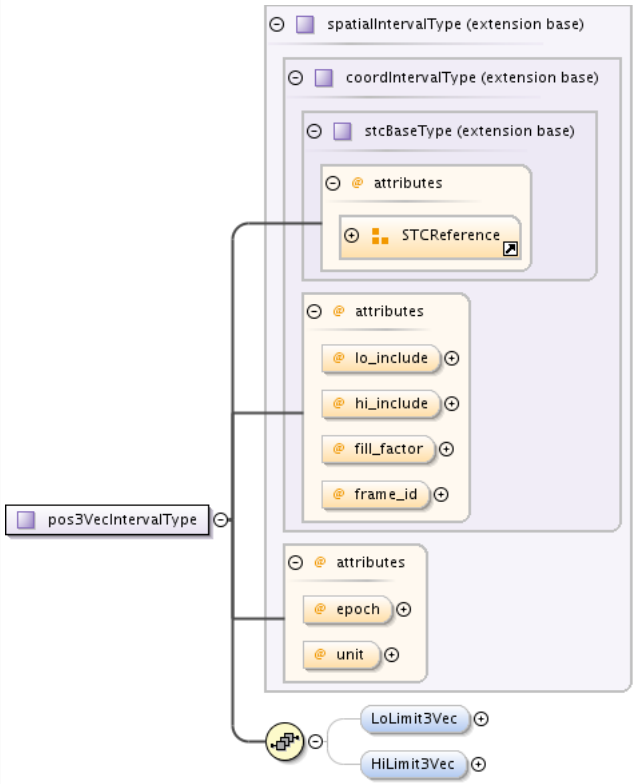
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pos2VecIntervalType">
  <xs:annotation>
    <xs:documentation>2-D coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pos3VecIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3-D coordinate interval type`

Diagram	
Type	extension of spatialIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • pos3VecIntervalType
Used by	Element Position3VecInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Attributes

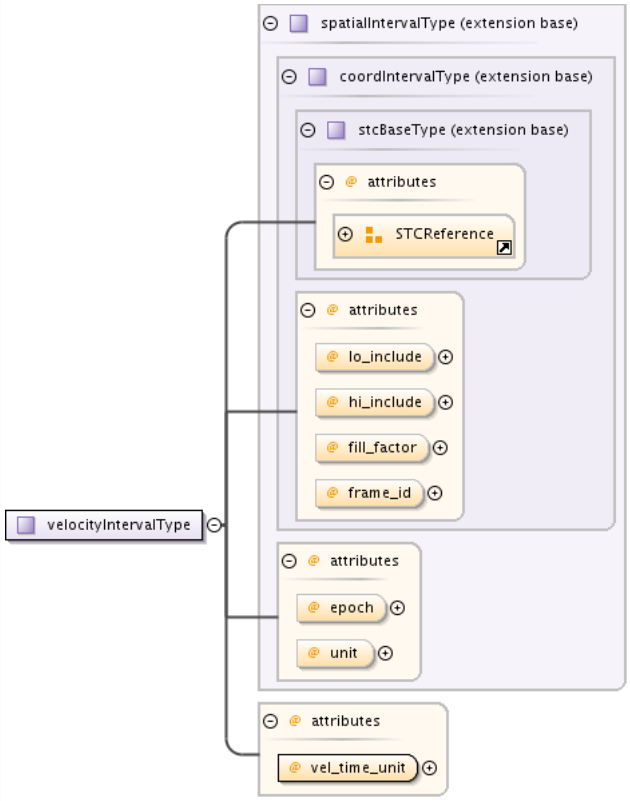
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pos3VecIntervalType">
  <xs:annotation>
    <xs:documentation>3-D coordinate interval type</xs:documentation>
```

```
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velocityIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Contains a spatial velocity CoordInterval`
Diagram	
Type	extension of spatialIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • velocityIntervalType

Properties	abstract: `true`
Used by	Complex Types: vel2VecIntervalType, vel3VecIntervalType, velScalarIntervalType, velocitySphereType

Attributes

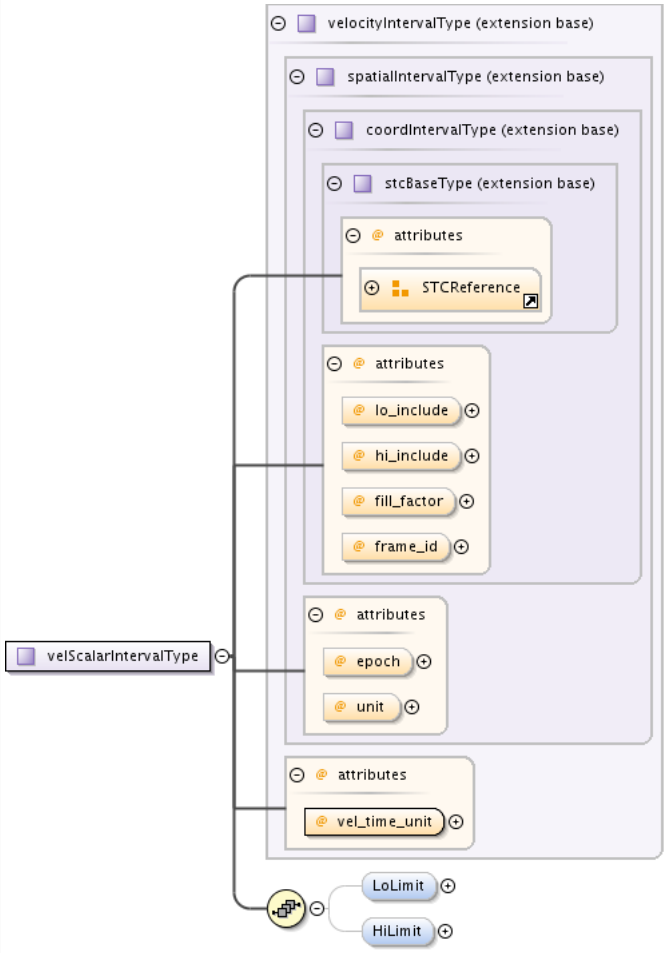
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			

	QName	Type	Fixed	Default	Use
	id	xs:ID			optional
	idref	xs:IDREF			optional
	lo_include	xs:boolean		true	optional
		`Limit to be included?`			
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			required
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="velocityIntervalType" abstract="true">
  <xs:annotation>
    <xs:documentation>Contains a spatial velocity CoordInterval</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:attribute name="vel_time_unit" type="velTimeUnitType" use="required"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velScalarIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Scalar coordinate interval type`
Diagram	
Type	extension of velocityIntervalType
Type hierarchy	• stcBaseType • coordIntervalType

	• spatialIntervalType • velocityIntervalType • velScalarIntervalType
Used by	Element VelocityScalarInterval
Model	LoLimit{0,1} , HiLimit{0,1}
Children	HiLimit, LoLimit

Attributes

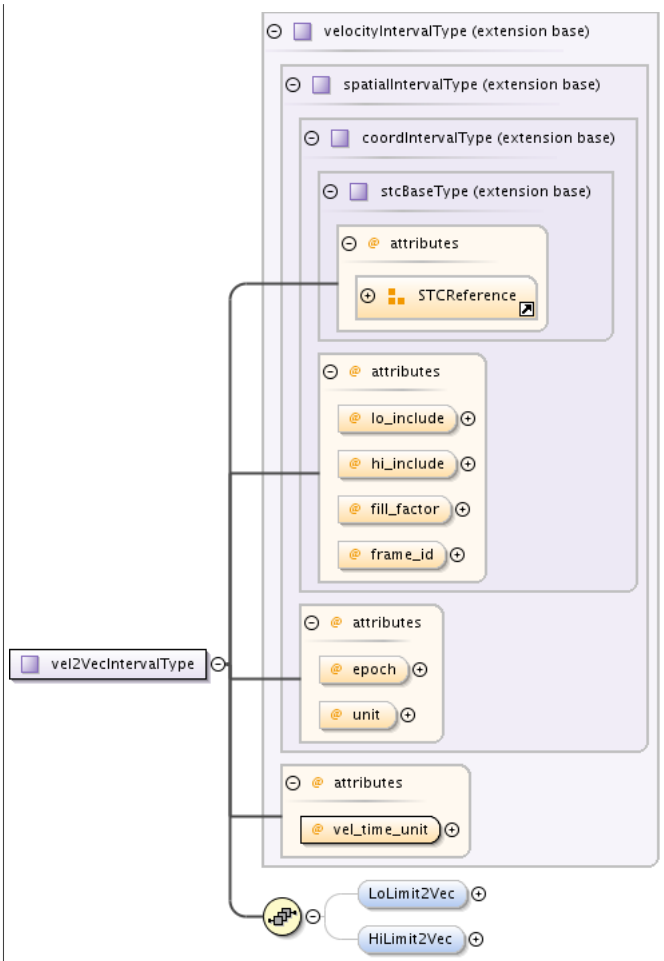
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="velScalarIntervalType">
  <xs:annotation>
    <xs:documentation>Scalar coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="velocityIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Lower bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="HiLimit" type="double1Type" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Upper bound of interval</xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vel2VecIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`2-D coordinate interval type`

Diagram	
Type	extension of velocityIntervalType
Type hierarchy	• stcBaseType • coordIntervalType • spatialIntervalType • velocityIntervalType • vel2VecIntervalType
Used by	Element Velocity2VecInterval
Model	LoLimit2Vec{0,1} , HiLimit2Vec{0,1}
Children	HiLimit2Vec, LoLimit2Vec

Attributes

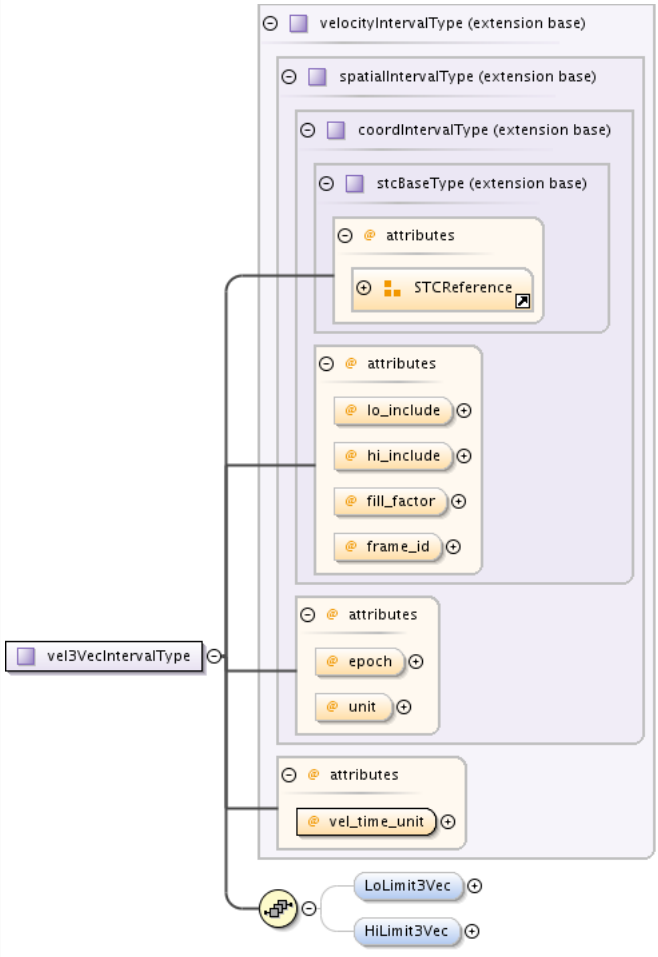
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			

	QName	Type	Fixed	Default	Use
	ucd	xs:string			optional
	unit	posUnitType			optional
	vel_time_unit	velTimeUnitType			required
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="vel2VecIntervalType">
  <xs:annotation>
    <xs:documentation>2-D coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="velocityIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit2Vec" type="double2Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `vel3VecIntervalType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`3-D coordinate interval type`
Diagram	
Type	extension of velocityIntervalType

Type hierarchy	• stcBaseType
	  • coordIntervalType
	  • spatialIntervalType
	  • velocityIntervalType

	• vel3VecIntervalType
Used by	Element Velocity3VecInterval
Model	LoLimit3Vec{0,1} , HiLimit3Vec{0,1}
Children	HiLimit3Vec, LoLimit3Vec

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

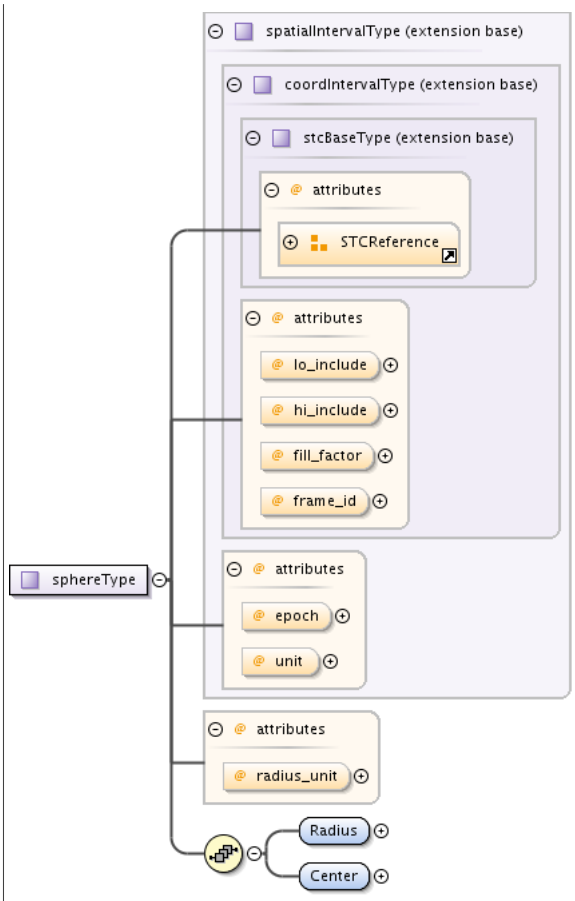
Source

```
<xs:complexType name="vel3VecIntervalType">
  <xs:annotation>
    <xs:documentation>3-D coordinate interval type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="velocityIntervalType">
      <xs:sequence>
        <xs:element name="LoLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
        <xs:element name="HiLimit3Vec" type="double3Type" nillable="true" minOccurs="0"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type sphereType

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Defines a sphere. A special kind of area is a circle or sphere (in two or three dimensions), defined by a center position and a radius; the radius requires a unit`

Diagram



Type: extension of spatialIntervalType

Type hierarchy:

- stcBaseType
  - coordIntervalType
    - spatialIntervalType
      - sphereType

Used by: Element Sphere

Model: Radius , Center

Children: Center, Radius

Attributes

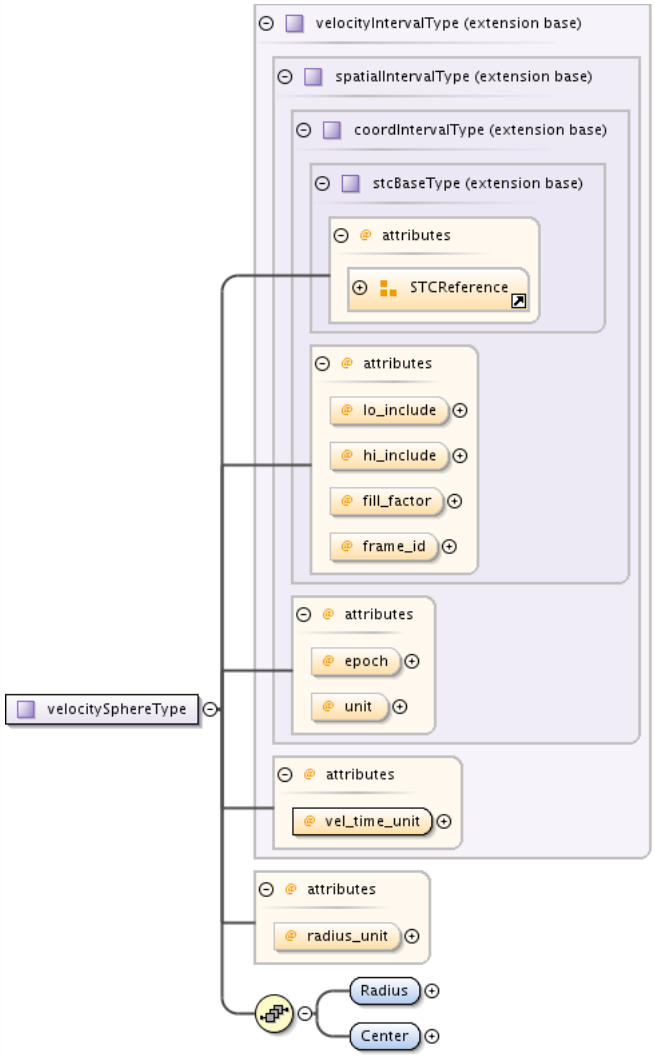
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
radius_unit	posUnitType		deg	optional
ucd	xs:string			optional
unit	posUnitType			optional

	QName	Type	Fixed	Default	Use
	xlink:href	xs:anyURI			optional
	xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="sphereType">
  <xs:annotation>
    <xs:documentation>Defines a sphere. A special kind of area is a circle or sphere (in two
 or three dimensions), defined by a center position and a radius; the radius requires a unit</
xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="Radius" type="double1Type" nillable="true"/>
        <xs:element name="Center" type="double3Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="radius_unit" type="posUnitType" use="optional" default="deg"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `velocitySphereType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Defines a velocity sphere`
Diagram	
Type	extension of velocityIntervalType
Type hierarchy	• stcBaseType • coordIntervalType

	• spatialIntervalType • velocityIntervalType • velocitySphereType
Used by	Element VelocitySphere
Model	Radius , Center
Children	Center, Radius

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
radius_unit	posUnitType		deg	optional
ucd	xs:string			optional
unit	posUnitType			optional
vel_time_unit	velTimeUnitType			required
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

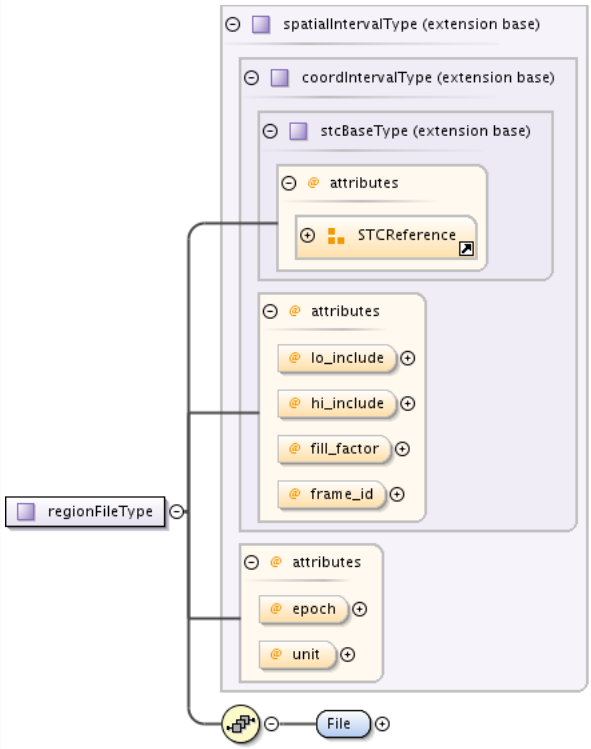
Source

```
<xs:complexType name="velocitySphereType">
  <xs:annotation>
    <xs:documentation>Defines a velocity sphere</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="velocityIntervalType">
      <xs:annotation>
        <xs:documentation>A special kind of area is a circle or sphere (in two or three dimensions),
 defined by a center position and a radius; the radius requires a unit</xs:documentation>
      </xs:annotation>
      <xs:sequence>
        <xs:element name="Radius" type="double1Type" nillable="true"/>
        <xs:element name="Center" type="double3Type" nillable="true"/>
      </xs:sequence>
      <xs:attribute name="radius_unit" type="posUnitType" use="optional" default="deg"/>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `regionFileType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Points to a Region file`

Diagram



Type: extension of spatialIntervalType

Type hierarchy:

- stcBaseType
  - coordIntervalType
    - spatialIntervalType
      - regionFileType

Used by: Element RegionFile

Model: File

Children: File

Attributes

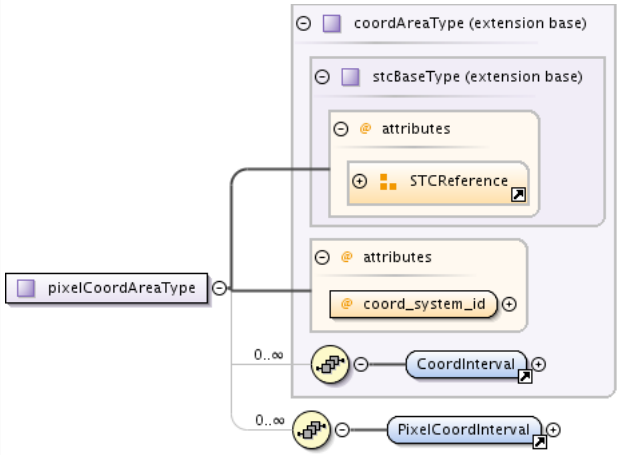
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
epoch	xs:decimal			optional
fill_factor	xs:float		1.0	optional
	`Fraction of interval that is occupied by data`			
frame_id	xs:IDREF			optional
hi_include	xs:boolean		true	optional
	`Limit to be included?`			
id	xs:ID			optional
idref	xs:IDREF			optional
lo_include	xs:boolean		true	optional
	`Limit to be included?`			
ucd	xs:string			optional
unit	posUnitType			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="regionFileType">
  <xs:annotation>
    <xs:documentation>Points to a Region file</xs:documentation>
  </xs:annotation>
```

```
  <xs:complexContent>
    <xs:extension base="spatialIntervalType">
      <xs:sequence>
        <xs:element name="File" type="xs:anyURI"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelCoordAreaType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Pixel area type
Diagram	
Type	extension of coordAreaType

Type hierarchy	• stcBaseType
	  • coordAreaType
	  • pixelCoordAreaType

Used by	Element PixelCoordArea
Model	CoordInterval , PixelCoordInterval
Children	CoordInterval, PixelCoordInterval

Attributes

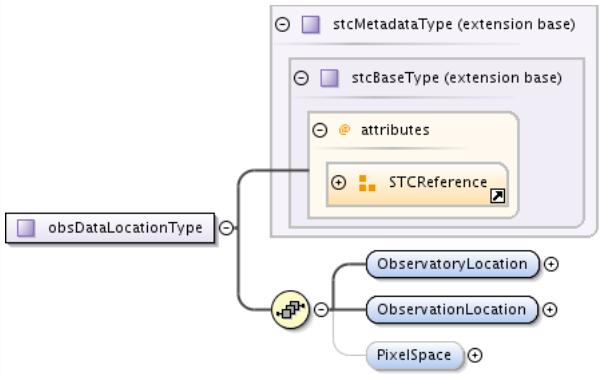
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
coord_system_id	xs:IDREF			required
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelCoordAreaType">
  <xs:annotation>
    <xs:documentation>Pixel area type</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="coordAreaType">
      <xs:sequence minOccurs="0" maxOccurs="unbounded">
        <xs:element ref="PixelCoordInterval"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `obsDataLocationType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type for observational STC metadata

Diagram	
Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • obsDataLocationType

Used by	Element ObsDataLocation
Model	ObservatoryLocation , ObservationLocation , PixelSpace{0,1}
Children	ObservationLocation, ObservatoryLocation, PixelSpace

Attributes

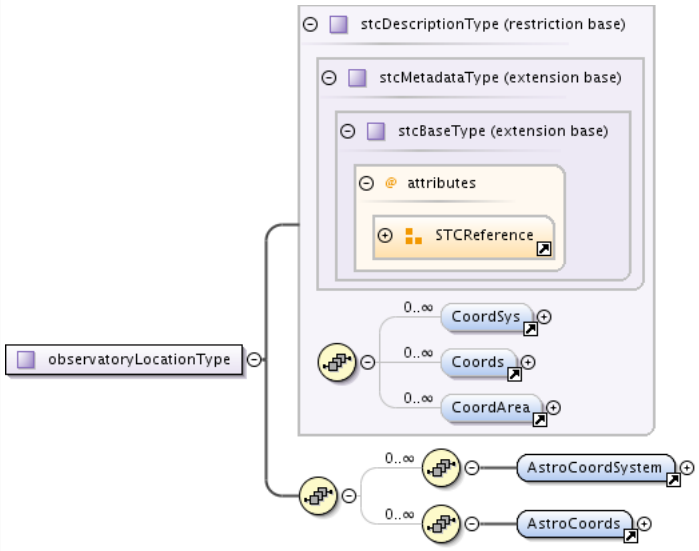
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="obsDataLocationType">
  <xs:annotation>
    <xs:documentation>Type for observational STC metadata</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:annotation>
          <xs:documentation>Describes the spatial and temporal volume covered by an observation</
xs:documentation>
        </xs:annotation>
        <xs:element name="ObservatoryLocation" type="observatoryLocationType" nillable="true">
          <xs:annotation>
            <xs:documentation>Specifies the location of the observatory during the observation</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="ObservationLocation" type="astroSTCDescriptionType" nillable="true">
          <xs:annotation>
            <xs:documentation>Describes the spatial and temporal coverage of the observation</
xs:documentation>
          </xs:annotation>
        </xs:element>
        <xs:element name="PixelSpace" type="pixelSpaceType" nillable="true" minOccurs="0">
          <xs:annotation>
            <xs:documentation>Defines the pixel coordinate system for pixelated data</
xs:documentation>
          </xs:annotation>
        </xs:element>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `observatoryLocationType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd

Annotations	Type for an observatory location
Diagram	
Type	restriction of stcDescriptionType
Type hierarchy	• stcBaseType • stcMetadataType • stcDescriptionType • observatoryLocationType
Used by	Element obsDataLocationType/ObservatoryLocation
Model	AstroCoordSystem , AstroCoords
Children	AstroCoordSystem, AstroCoords

Attributes

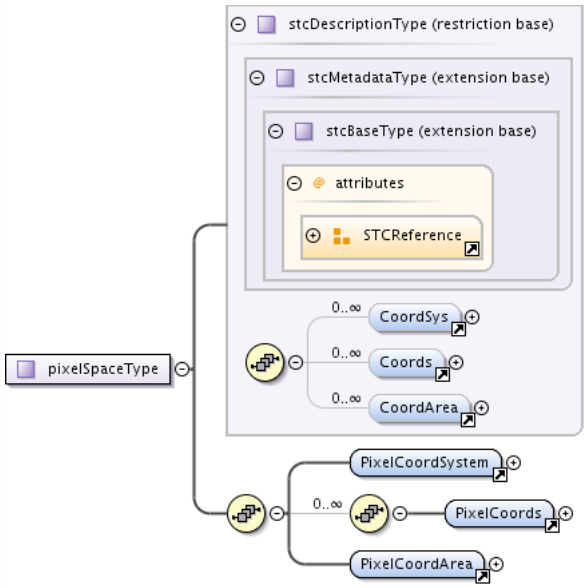
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="observatoryLocationType">
  <xs:annotation>
    <xs:documentation>Type for an observatory location</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:restriction base="stcDescriptionType">
      <xs:sequence>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="AstroCoordSystem"/>
        </xs:sequence>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="AstroCoords"/>
        </xs:sequence>
      </xs:sequence>
    </xs:restriction>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `pixelSpaceType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type to specify a pixel space

Diagram	
Type	restriction of stcDescriptionType
Type hierarchy	• stcBaseType • stcMetadataType • stcDescriptionType • pixelSpaceType
Used by	Element obsDataLocationType/PixelSpace
Model	PixelCoordSystem , PixelCoords , PixelCoordArea
Children	PixelCoordArea, PixelCoordSystem, PixelCoords

Attributes

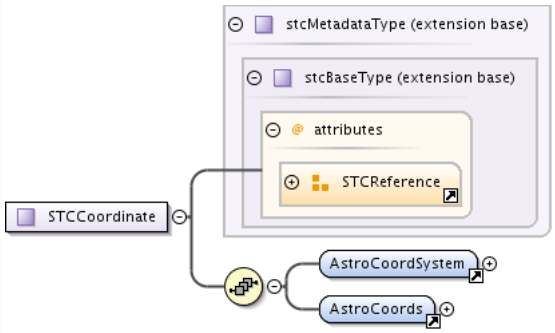
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="pixelSpaceType">
  <xs:annotation>
    <xs:documentation>Type to specify a pixel space</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:restriction base="stcDescriptionType">
      <xs:sequence>
        <xs:element ref="PixelCoordSystem"/>
        <xs:sequence minOccurs="0" maxOccurs="unbounded">
          <xs:element ref="PixelCoords"/>
        </xs:sequence>
        <xs:element ref="PixelCoordArea"/>
      </xs:sequence>
    </xs:restriction>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `STCCoordinate`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Type for STC Coordinate`

Diagram	
Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • STCCoordinate

Model	AstroCoordSystem , AstroCoords
Children	AstroCoordSystem, AstroCoords

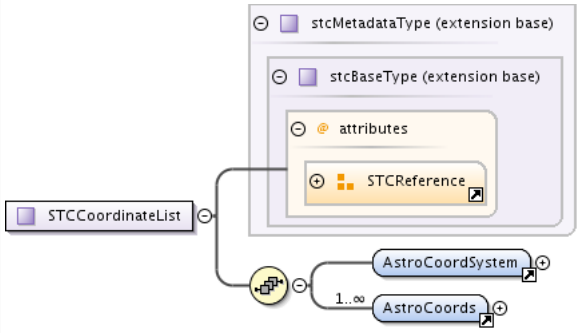
Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="STCCoordinate">
  <xs:annotation>
    <xs:documentation>Type for STC Coordinate</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:element ref="AstroCoordSystem"/>
        <xs:element ref="AstroCoords"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `STCCoordinateList`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Type for STC Coordinate List`
Diagram	
Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • STCCoordinateList

Model	AstroCoordSystem , AstroCoords+
Children	AstroCoordSystem, AstroCoords

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

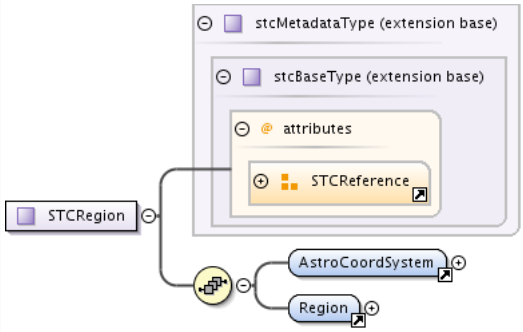
Source

```
<xs:complexType name="STCCoordinateList">
  <xs:annotation>
    <xs:documentation>Type for STC Coordinate List</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:element ref="AstroCoordSystem"/>
        <xs:element ref="AstroCoords" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `STCRegion`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Type for STC Region

Diagram



Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • STCRegion

Model	AstroCoordSystem , Region
Children	AstroCoordSystem, Region

Attributes

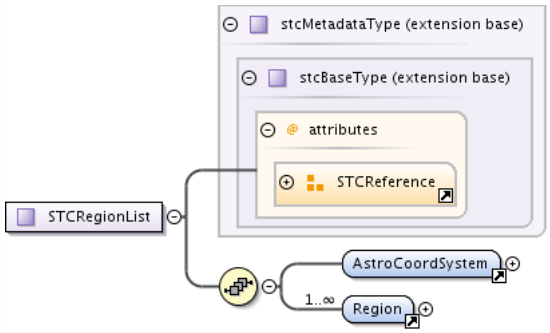
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="STCRegion">
  <xs:annotation>
    <xs:documentation>Type for STC Region</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
```

```
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:element ref="AstroCoordSystem"/>
        <xs:element ref="Region"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Complex Type `STCRegionList`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`Type for STC Region list`
Diagram	
Type	extension of stcMetadataType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • STCRegionList

Model	AstroCoordSystem , Region+
Children	AstroCoordSystem, Region

Attributes

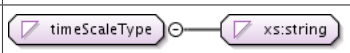
QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:complexType name="STCRegionList">
  <xs:annotation>
    <xs:documentation>Type for STC Region list</xs:documentation>
  </xs:annotation>
  <xs:complexContent>
    <xs:extension base="stcMetadataType">
      <xs:sequence>
        <xs:element ref="AstroCoordSystem"/>
        <xs:element ref="Region" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:extension>
  </xs:complexContent>
</xs:complexType>
```

Simple Type(s)

Simple Type `timeScaleType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	`The actual time scale used: TT, TAI, UTC, TDB, etc.`
Diagram	
Type	restriction of xs:string

Facets

enumeration	`TT`	`Terrestrial Time; the basis for ephemerides`

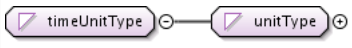
	enumeration	TDT	Obsolete synonym for TT
	enumeration	ET	Ephemeris Time; predecessor of, and continuous with, TT
	enumeration	TDB	Barycentric Dynamic Time:the independent variable in planetay ephemerides; time at the solar system barycenter synchronous with TT on an annual basis; sometimes called TEB
	enumeration	TEB	Barycentric Ephemeris Time: time at the solar system barycenter synchronous with TT on an annual basis; a deprecated synonym of TDB.
	enumeration	TCG	Terrestrial Coordinate Time
	enumeration	TCB	Barycentric Coordinate Time; runs slower than TDB but is consistent with physical constants
	enumeration	TAI	International Atomic Time; runs 32.184 s behind TT
	enumeration	IAT	Synonym for TAI
	enumeration	UTC	Coordinated Universal Time; currently (2006) runs 33 leapseconds behind TAI
	enumeration	GPS	Global Positioning System's time scale; runs 19 s behind TAI, 51.184 s behind TT.
	enumeration	LST	Local Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	GMST	Greenwich Mean Siderial Time; only for ground-based observations; note that the second is shorter
	enumeration	LOCAL	Only to be used for simulations in conjunction with a relocatable spatial frame
Used by	Elements	astronTimeType/Timescale, timeFrameType/TimeScale	

Source

```
<xs:simpleType name="timeScaleType">
  <xs:annotation>
    <xs:documentation>The actual time scale used: TT, TAI, UTC, TDB, etc.</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="TT">
      <xs:annotation>
        <xs:documentation>Terrestrial Time; the basis for ephemerides</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TDT">
      <xs:annotation>
        <xs:documentation>Obsolete synonym for TT</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="ET">
      <xs:annotation>
        <xs:documentation>Ephemeris Time; predecessor of, and continuous with, TT</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TDB">
      <xs:annotation>
        <xs:documentation>Barycentric Dynamic Time:the independent variable in planetay ephemerides;
 time at the solar system barycenter synchronous with TT on an annual basis; sometimes called TEB</
xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TEB">
      <xs:annotation>
        <xs:documentation>Barycentric Ephemeris Time: time at the solar system barycenter
 synchronous with TT on an annual basis; a deprecated synonym of TDB.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TCG">
      <xs:annotation>
        <xs:documentation>Terrestrial Coordinate Time</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TCB">
      <xs:annotation>
        <xs:documentation>Barycentric Coordinate Time; runs slower than TDB but is consistent with
 physical constants</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TAI">
      <xs:annotation>
```

```
        <xs:documentation>International Atomic Time; runs 32.184 s behind TT</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="IAT">
      <xs:annotation>
        <xs:documentation>Synonym for TAI</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="UTC">
      <xs:annotation>
        <xs:documentation>Coordinated Universal Time; currently (2006) runs 33 leapseconds behind
 TAI</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="GPS">
      <xs:annotation>
        <xs:documentation>Global Positioning System's time scale; runs 19 s behind TAI, 51.184 s
 behind TT.</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="LST">
      <xs:annotation>
        <xs:documentation>Local Siderial Time; only for ground-based observations; note that the
 second is shorter</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="GMST">
      <xs:annotation>
        <xs:documentation>Greenwich Mean Siderial Time; only for ground-based observations; note
 that the second is shorter</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="LOCAL">
      <xs:annotation>
        <xs:documentation>Only to be used for simulations in conjunction with a relocatable spatial
 frame</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `timeUnitType`

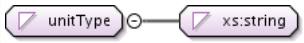
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Time units may be second (s), hour (h: 3600 s), day (d: 86400 s), Julian year (a, yr: 365.25 d), Julian century (cy: 36525 d), or empty (i.e., dimensionless) for ISO-8601 format
Diagram	
Type	restriction of unitType

Type hierarchy	• xs:string
	  • unitType
	  • timeUnitType

Facets	enumeration s enumeration h enumeration d enumeration a enumeration yr enumeration cy enumeration
Used by	Attributes double1Type/@time_unit, orbitType/P/@unit, timeCoordinateType/@unit, timeOffsetType/@unit
Source	<xs:simpleType name="timeUnitType"> <xs:annotation> <xs:documentation>Time units may be second (s), hour (h: 3600 s), day (d: 86400 s), Julian year (a, yr: 365.25 d), Julian century (cy: 36525 d), or empty (i.e., dimensionless) for ISO-8601 format</xs:documentation> </xs:annotation> <xs:restriction base="unitType"> <xs:enumeration value="s"/> <xs:enumeration value="h"/> <xs:enumeration value="d"/>

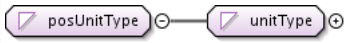
```
    <xs:enumeration value="a"/>
    <xs:enumeration value="yr"/>
    <xs:enumeration value="cy"/>
    <xs:enumeration value=""/>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `unitType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Basic unit type
Diagram	
Type	xs:string
Used by	Simple Types: angleUnitType, posUnitType, spectralUnitType, timeUnitType, velTimeUnitType Attributes: double1Type/@gen_unit, double2Type/@gen_unit, double3Type/@gen_unit, double4Type/@gen_unit, double9Type/@gen_unit, genVector2CoordinateType/@unit, genVector3CoordinateType/@unit, scalarCoordinateType/@unit, stringCoordinateType/@unit, uCoord2VecIntervalType/@unit, uCoord3VecIntervalType/@unit, uCoordScalarIntervalType/@unit

Source	`<xs:simpleType name="unitType">`
	`  <xs:annotation>`
	`  <xs:documentation>Basic unit type</xs:documentation>`
	`  </xs:annotation>`
	`  <xs:restriction base="xs:string"/>`
	`</xs:simpleType>`

Simple Type `posUnitType`

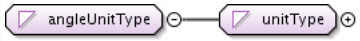
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Spatial coordinate units may be angular (degrees, radians, hours, arcmins, arcsecs), linear (meters, km, mm, AUs, parsecs, kpc, Mpc, lightyears), or empty (i.e., dimensionless). The three-units strings are for special 3-D vectors where the components do not share the same unit; one may prefer to give each component its own unit, instead.
Diagram	
Type	restriction of unitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType

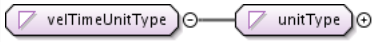
Facets	enumeration: deg enumeration: deg deg m enumeration: deg deg Mpc enumeration: rad enumeration: h enumeration: arcmin enumeration: arcsec enumeration: m enumeration: km enumeration: mm enumeration: AU enumeration: pc enumeration: kpc enumeration: Mpc enumeration: lyr enumeration:
Used by	Attributes: double1Type/@pos_unit, double2Type/@unit, double3Type/@unit, double4Type/@unit, double9Type/@unit, geodType/@unit, orbitType/Aop/@unit, orbitType/M/@unit, orbitType/Node/@unit, orbitType/a/@unit, orbitType/i/@unit, orbitType/q/@unit, posVector1CoordinateType/@unit,

	posVector2CoordinateType/@unit, posVector3CoordinateType/@unit, redshiftCoordinateType/@unit, redshiftIntervalType/@unit, regionAreaType/@linearAreaUnit, spatialIntervalType/@unit, sphereType/@radius_unit, velocitySphereType/@radius_unit
Source	<xs:simpleType name="posUnitType"> <xs:annotation> <xs:documentation>Spatial coordinate units may be angular (degrees, radians, hours, arcmins, arcsecs), linear (meters, km, mm, AUs, parsecs, kpc, Mpc, lightyears), or empty (i.e., dimensionless). The three-units strings are for special 3-D vectors where the components do not share the same unit; one may prefer to give each component its own unit, instead.</xs:documentation> </xs:annotation> <xs:restriction base="unitType"> <xs:enumeration value="deg"/> <xs:enumeration value="deg deg m"/> <xs:enumeration value="deg deg Mpc"/> <xs:enumeration value="rad"/> <xs:enumeration value="h"/> <xs:enumeration value="arcmin"/> <xs:enumeration value="arcsec"/> <xs:enumeration value="m"/> <xs:enumeration value="km"/> <xs:enumeration value="mm"/> <xs:enumeration value="AU"/> <xs:enumeration value="pc"/> <xs:enumeration value="kpc"/> <xs:enumeration value="Mpc"/> <xs:enumeration value="lyr"/> <xs:enumeration value=""/> </xs:restriction> </xs:simpleType>

Simple Type `angleUnitType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Angular coordinate units may be degrees, radians, hours, arcmins, arcsecs
Diagram	
Type	restriction of unitType
Type hierarchy	• xs:string • unitType • angleUnitType
Facets	enumeration deg enumeration rad enumeration h enumeration arcmin enumeration arcsec
Used by	Attributes double1Type/@pos_angle_unit, posAngleType/@unit
Source	<xs:simpleType name="angleUnitType"> <xs:annotation> <xs:documentation>Angular coordinate units may be degrees, radians, hours, arcmins, arcsecs</xs:documentation> </xs:annotation> <xs:restriction base="unitType"> <xs:enumeration value="deg"/> <xs:enumeration value="rad"/> <xs:enumeration value="h"/> <xs:enumeration value="arcmin"/> <xs:enumeration value="arcsec"/> </xs:restriction> </xs:simpleType>

Simple Type `velTimeUnitType`

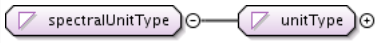
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Velocity units are a posUnitType / velTimeType; the latter may be second, day, hour, year (a or yr), century, but not empty
Diagram	

Type	restriction of unitType

Type hierarchy	• xs:string
	  • unitType
	  • velTimeUnitType

Facets	enumeration s enumeration h enumeration d enumeration a enumeration yr enumeration cy
Used by	Attributes: double1Type/@vel_time_unit, double2Type/@vel_time_unit, double3Type/@vel_time_unit, double4Type/@vel_time_unit, double9Type/@vel_time_unit, redshiftCoordinateType/@vel_time_unit, redshiftIntervalType/@vel_time_unit, velVector1CoordinateType/@vel_time_unit, velVector2CoordinateType/@vel_time_unit, velVector3CoordinateType/@vel_time_unit, velocityIntervalType/@vel_time_unit
Source	<xs:simpleType name="velTimeUnitType"> <xs:annotation> <xs:documentation>Velocity units are a posUnitType / velTimeType; the latter may be second, day, hour, year (a or yr), century, but not empty</xs:documentation> </xs:annotation> <xs:restriction base="unitType"> <xs:enumeration value="s"/> <xs:enumeration value="h"/> <xs:enumeration value="d"/> <xs:enumeration value="a"/> <xs:enumeration value="yr"/> <xs:enumeration value="cy"/> </xs:restriction> </xs:simpleType>

Simple Type `spectralUnitType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Spectral units may be frequency (Hz, kHz, MHz, GHz), wavelength (meters, mm, micron, nm, Angstrom), or energy (eV, keV, MeV, GeV, TeV)
Diagram	
Type	restriction of unitType

Type hierarchy	• xs:string
	  • unitType
	  • spectralUnitType

Facets	enumeration Hz enumeration kHz enumeration MHz enumeration GHz enumeration m enumeration mm enumeration um enumeration nm enumeration Angstrom enumeration eV enumeration keV enumeration MeV enumeration GeV enumeration TeV
Used by	Attributes: double1Type/@spectral_unit, spectralCoordinateType/@unit, spectralIntervalType/@unit

Source	<xs:simpleType name="spectralUnitType"> <xs:annotation> <xs:documentation>Spectral units may be frequency (Hz, kHz, MHz, GHz), wavelength (meters, mm, micron, nm, Angstrom), or energy (eV, keV, MeV, GeV, TeV)</xs:documentation> </xs:annotation> <xs:restriction base="unitType"> <xs:enumeration value="Hz"/> <xs:enumeration value="kHz"/> <xs:enumeration value="MHz"/> <xs:enumeration value="GHz"/> <xs:enumeration value="m"/> <xs:enumeration value="mm"/> <xs:enumeration value="um"/> <xs:enumeration value="nm"/> <xs:enumeration value="Angstrom"/> <xs:enumeration value="eV"/> <xs:enumeration value="keV"/> <xs:enumeration value="MeV"/> <xs:enumeration value="GeV"/> <xs:enumeration value="TeV"/> </xs:restriction> </xs:simpleType>

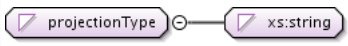
Simple Type `dopplerDefinitionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd	
Annotations	The Doppler definition used: optical, radio, or pseudo-relativistic (i.e., how is a redshift converted to a velocity); the most common is optical, except when the reference is LSR (usually radio)	
Diagram		
Type	restriction of xs:string	
Facets	enumeration	OPTICAL
	enumeration	RADIO
	enumeration	RELATIVISTIC
Used by	Element	redshiftFrameType/DopplerDefinition
Source	<xs:simpleType name="dopplerDefinitionType"> <xs:annotation> <xs:documentation>The Doppler definition used: optical, radio, or pseudo-relativistic (i.e., how is a redshift converted to a velocity); the most common is optical, except when the reference is LSR (usually radio)</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:enumeration value="OPTICAL"/> <xs:enumeration value="RADIO"/> <xs:enumeration value="RELATIVISTIC"/> </xs:restriction> </xs:simpleType>	

Simple Type `coordEquinoxType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd	
Annotations	Coordinate equinox: B{year} or J{year} with at least one decimal; do not use in conjunction with ICRS	
Diagram		
Type	restriction of xs:string	
Facets	pattern	[BJ]\-?\d?\d?\d?\d\d\d\d \.\d\d?\d?
Used by	Element	fkType/Equinox
Source	<xs:simpleType name="coordEquinoxType"> <xs:annotation> <xs:documentation>Coordinate equinox: B{year} or J{year} with at least one decimal; do not use in conjunction with ICRS</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:pattern value="[BJ]\-?\d?\d?\d?\d\d\d\d\.\d\d?\d?"/> </xs:restriction> </xs:simpleType>	

Simple Type `projectionType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	The spherical-to-cartesian or cartesian-to-cartesian projection to be used; c-to-c projections are marked as such, all others are to be interpreted as s-to-c
Diagram	
Type	restriction of xs:string

Facets

enumeration		Planar (i.e., linear cartesian-to-cartesian) projection
enumeration	LOG	Linear-to-logarithmic cartesian-to-cartesian projection
enumeration	TAN	Tangent plane projection
enumeration	SIN	Sine projection
enumeration	STG	Stereographic projection
enumeration	ARC	Zenithal equidistant projection
enumeration	ZEA	Zenithal equal-area projection
enumeration	AIR	Airy projection
enumeration	CEA	Cylindrical equal-area projection
enumeration	CAR	Plate Carree projection
enumeration	MER	Mercator projection
enumeration	SFL	Sanson-Flamsteed projection
enumeration	PAR	Parabolic projection
enumeration	MOL	Mollweide projection
enumeration	AIT	Hammer-Aitoff projection
enumeration	COE	Conic equal-area projection
enumeration	COD	Conic equidistant projection
enumeration	COO	Conic orthomorphic projection
enumeration	BON	Bonne equal-area projection
enumeration	PCO	Polyconic projection
enumeration	TSC	Tangential spherical cube projection
enumeration	CSC	COBE quadrilateralized spherical cube projection
enumeration	QSC	Quadrilateralized spherical cube projection

Used by	Attributes	cart1DRefFrameType/@projection, cart2DRefFrameType/@projection, cart3DRefFrameType/@projection

Source

```
<xs:simpleType name="projectionType">
  <xs:annotation>
    <xs:documentation>The spherical-to-cartesian or cartesian-to-cartesian projection to be used; c-to-c projections are marked as such, all others are to be interpreted as s-to-c</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:string">
    <xs:enumeration value="">
      <xs:annotation>
        <xs:documentation>Planar (i.e., linear cartesian-to-cartesian) projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="LOG">
      <xs:annotation>
        <xs:documentation>Linear-to-logarithmic cartesian-to-cartesian projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="TAN">
      <xs:annotation>
        <xs:documentation>Tangent plane projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="SIN">
      <xs:annotation>
        <xs:documentation>Sine projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="STG">
      <xs:annotation>
```

```
      <xs:documentation>Stereographic projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="ARC">
    <xs:annotation>
      <xs:documentation>Zenithal equidistant projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="ZEA">
    <xs:annotation>
      <xs:documentation>Zenithal equal-area projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="AIR">
    <xs:annotation>
      <xs:documentation>Airy projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="CEA">
    <xs:annotation>
      <xs:documentation>Cylindrical equal-area projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="CAR">
    <xs:annotation>
      <xs:documentation>Plate Carree projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="MER">
    <xs:annotation>
      <xs:documentation>Mercator projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="SFL">
    <xs:annotation>
      <xs:documentation>Sanson-Flamsteed projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="PAR">
    <xs:annotation>
      <xs:documentation>Parabolic projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="MOL">
    <xs:annotation>
      <xs:documentation>Mollweide projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="AIT">
    <xs:annotation>
      <xs:documentation>Hammer-Aitoff projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="COE">
    <xs:annotation>
      <xs:documentation>Conic equal-area projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="COD">
    <xs:annotation>
      <xs:documentation>Conic equidistant projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="COO">
    <xs:annotation>
      <xs:documentation>Conic orthomorphic projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="BON">
    <xs:annotation>
      <xs:documentation>Bonne equal-area projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="PCO">
    <xs:annotation>
      <xs:documentation>Polyconic projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
  <xs:enumeration value="TSC">
    <xs:annotation>
      <xs:documentation>Tangential spherical cube projection</xs:documentation>
    </xs:annotation>
  </xs:enumeration>
```

```
    <xs:enumeration value="CSC">
      <xs:annotation>
        <xs:documentation>COBE quadrilateralized spherical cube projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
    <xs:enumeration value="QSC">
      <xs:annotation>
        <xs:documentation>Quadrilateralized spherical cube projection</xs:documentation>
      </xs:annotation>
    </xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```

Simple Type `posAngleReferenceType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	Position angles may be counted from North (through East), (positive) X (to positive Y), or (positive) Y (to positive X) axis
Diagram	
Type	restriction of xs:string
Facets	enumeration North enumeration X enumeration Y
Used by	Attribute posAngleType/@reference
Source	<xs:simpleType name="posAngleReferenceType"> <xs:annotation> <xs:documentation>Position angles may be counted from North (through East), (positive) X (to positive Y), or (positive) Y (to positive X) axis</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:enumeration value="North"/> <xs:enumeration value="X"/> <xs:enumeration value="Y"/> </xs:restriction> </xs:simpleType>

Simple Type `planetaryEphemType`

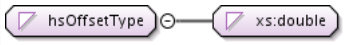
Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	If solar system positions are implied anywhere, the planetary ephemeris to be used needs to be provided - usually JPL-DE405 with ICRS and JPL-DE200 with FK5
Diagram	
Type	restriction of xs:string
Facets	enumeration JPL-DE200 enumeration JPL-DE405
Used by	Element stdRefPosType/PlanetaryEphem
Source	<xs:simpleType name="planetaryEphemType"> <xs:annotation> <xs:documentation>If solar system positions are implied anywhere, the planetary ephemeris to be used needs to be provided - usually JPL-DE405 with ICRS and JPL-DE200 with FK5</xs:documentation> </xs:annotation> <xs:restriction base="xs:string"> <xs:enumeration value="JPL-DE200"/> <xs:enumeration value="JPL-DE405"/> </xs:restriction> </xs:simpleType>

Simple Type `relocatableOriginType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	restriction of xs:string

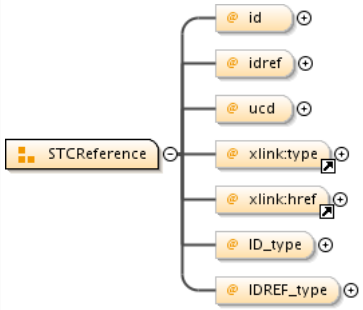
Facets	enumeration	RELOCATABLE
Used by	Element	TimeOrigin
Source	<xs:simpleType name="relocatableOriginType"> <xs:restriction base="xs:string"> <xs:annotation> <xs:documentation>A relocatable time origin for simulations</xs:documentation> </xs:annotation> <xs:enumeration value="RELOCATABLE"/> </xs:restriction> </xs:simpleType>	

Simple Type `hsOffsetType`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Diagram	
Type	restriction of xs:double
Facets	maxInclusive 1.0 minInclusive -1.0
Used by	Element halfspaceType/Offset
Source	<xs:simpleType name="hsOffsetType"> <xs:restriction base="xs:double"> <xs:minInclusive value="-1.0"/> <xs:maxInclusive value="1.0"/> </xs:restriction> </xs:simpleType>

Attribute Group(s)

Attribute Group `STCReference`

Namespace	http://www.ivoa.net/xml/STC/stc-v1.30.xsd
Annotations	These four attributes represent the standard IVOA referencing system: internal (within the document) referencing through "id" and "idref", external referencing through Xlink, using only "type=simple" and "href". The attributes ID_type and IDREF_type allow the author to list attributes of type ID, respectively IDREF, enabling readers to identify these attributes without having to refer to the schema. This is important in cases where documents are concatenated (e.g., in registries), raising the potential for non-unique IDs. The value of these attributes is a string of comma-separated attribute names.
Diagram	
Used by	Complex Types double1Type, isoTimeType, jdTimeType, posAngleType, stcBaseType, timeOffsetType

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:attributeGroup name="STCReference">
```

```
  <xs:annotation>
    <xs:documentation>These four attributes represent the standard IVOA referencing system: internal
 (within the document) referencing through "id" and "idref", external referencing through Xlink,
 using only "type=simple" and "href".</xs:documentation>
    <xs:documentation>The attributes ID_type and IDREF_type allow the author to list attributes of
 type ID, respectively IDREF, enabling readers to identify these attributes without having to refer
 to the schema. This is important in cases where documents are concatenated (e.g., in registries),
 raising the potential for non-unique IDs. The value of these attributes is a string of comma-
separated attribute names.</xs:documentation>
  </xs:annotation>
  <xs:attribute name="id" type="xs:ID" use="optional"/>
  <xs:attribute name="idref" type="xs:IDREF" use="optional"/>
  <xs:attribute name="ucd" type="xs:string" use="optional"/>
  <xs:attribute ref="xlink:type" use="optional" default="simple"/>
  <xs:attribute ref="xlink:href" use="optional"/>
  <xs:attribute name="ID_type" type="xs:string" use="optional"/>
  <xs:attribute name="IDREF_type" type="xs:string" use="optional"/>
</xs:attributeGroup>
```

Namespace: "http://www.w3.org/1999/xlink"

Schema(s)

Imported schema `xlink.xsd`

Namespace	http://www.w3.org/1999/xlink	
Properties	attribute form default:	`qualified`
	element form default:	`qualified`

Attribute(s)

Attribute `@xlink:type`

Namespace	http://www.w3.org/1999/xlink	
Type	restriction of xs:NMTOKEN	
Properties	content:	`simple`
Facets	enumeration	`simple`
	enumeration	`extended`
	enumeration	`locator`
	enumeration	`arc`
	enumeration	`resource`
	enumeration	`title`
Used by	Attribute Group	STCReference

Source

```
<xs:attribute name="type">
  <xs:simpleType>
    <xs:restriction base="xs:NMTOKEN">
      <xs:enumeration value="simple"/>
      <xs:enumeration value="extended"/>
      <xs:enumeration value="locator"/>
      <xs:enumeration value="arc"/>
      <xs:enumeration value="resource"/>
      <xs:enumeration value="title"/>
    </xs:restriction>
  </xs:simpleType>
</xs:attribute>
```

Attribute `@xlink:href`

Namespace	http://www.w3.org/1999/xlink	
Type	xs:anyURI	
Properties	content:	`simple`
Used by	Attribute Group	STCReference

Source

```
<xs:attribute name="href" type="xs:anyURI"/>
```

Attribute @xlink:role

Namespace	http://www.w3.org/1999/xlink
Type	xs:anyURI
Properties	content: simple
Source	`<xs:attribute name="role" type="xs:anyURI"/>`

Attribute @xlink:arcrole

Namespace	http://www.w3.org/1999/xlink
Type	xs:anyURI
Properties	content: simple
Source	`<xs:attribute name="arcrole" type="xs:anyURI"/>`

Attribute @xlink:title

Namespace	http://www.w3.org/1999/xlink
Type	xs:string
Properties	content: simple
Source	`<xs:attribute name="title" type="xs:string"/>`

Attribute @xlink:show

Namespace	http://www.w3.org/1999/xlink
Type	restriction of xs:NMTOKEN
Properties	content: simple
Facets	enumeration: new enumeration: replace enumeration: embed enumeration: other enumeration: none
Source	see below

```
<xs:attribute name="show">
  <xs:simpleType>
    <xs:restriction base="xs:NMTOKEN">
      <xs:enumeration value="new"/>
      <xs:enumeration value="replace"/>
      <xs:enumeration value="embed"/>
      <xs:enumeration value="other"/>
      <xs:enumeration value="none"/>
    </xs:restriction>
  </xs:simpleType>
</xs:attribute>
```

Attribute @xlink:label

Namespace	http://www.w3.org/1999/xlink
Type	xs:NMTOKEN
Properties	content: simple
Source	`<xs:attribute name="label" type="xs:NMTOKEN"/>`

Attribute @xlink:actuate

Namespace	http://www.w3.org/1999/xlink
Type	restriction of xs:NMTOKEN
Properties	content: simple
Facets	enumeration: onLoad

	enumeration	onRequest
	enumeration	other
	enumeration	none
Source	<xs:attribute name="actuate"> <xs:simpleType> <xs:restriction base="xs:NMTOKEN"> <xs:enumeration value="onLoad"/> <xs:enumeration value="onRequest"/> <xs:enumeration value="other"/> <xs:enumeration value="none"/> </xs:restriction> </xs:simpleType> </xs:attribute>	

Attribute @xlink:from

Namespace	http://www.w3.org/1999/xlink
Type	xs:NMTOKEN
Properties	content: simple
Source	<xs:attribute name="from" type="xs:NMTOKEN"/>

Attribute @xlink:to

Namespace	http://www.w3.org/1999/xlink
Type	xs:NMTOKEN
Properties	content: simple
Source	<xs:attribute name="to" type="xs:NMTOKEN"/>

Namespace: "http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"

Schema(s)

Imported schema Characterisation-v1.11.xsd

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd	
Properties	attribute form default:	unqualified
	element form default:	qualified

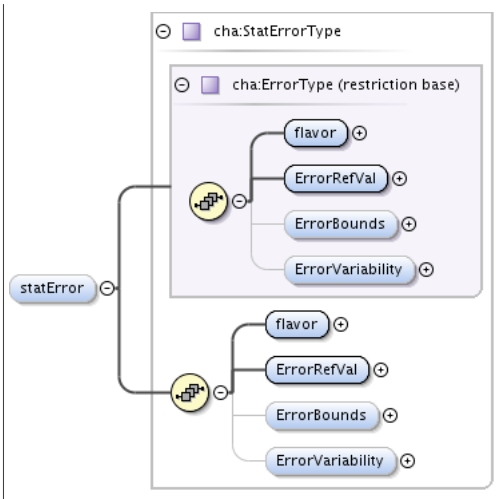
Element(s)

Element cha:AccuracyType / cha:quality

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A combination of flags attesting the data quality. Type: String
Diagram	
Type	xsd:string
Properties	content: simple minOccurs: 0
Source	<xsd:element name="quality" type="xsd:string" minOccurs="0"> <xsd:annotation> <xsd:documentation>A combination of flags attesting the data quality. Type: String</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:AccuracyType / cha:statError

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:StatErrorType
Type hierarchy	• cha:ErrorType • cha:StatErrorType
Properties	content: complex minOccurs: 0
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}
Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor

Instance	`<cha:statError xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:flavor>{1,1}</cha:flavor>`
	`  <cha:ErrorRefVal>{1,1}</cha:ErrorRefVal>`
	`  <cha:ErrorBounds>{0,1}</cha:ErrorBounds>`
	`  <cha:ErrorVariability>{0,1}</cha:ErrorVariability>`
	`</cha:statError>`

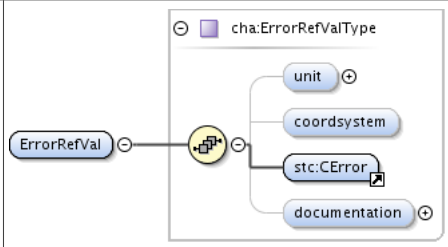
Source	`<xsd:element name="statError" type="cha:StatErrorType" minOccurs="0"/>`

Element cha:ErrorType / cha:flavor

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The type of error described : statistical , systematic, global, etc. Type: string
Diagram	
Type	xsd:string
Properties	content: simple

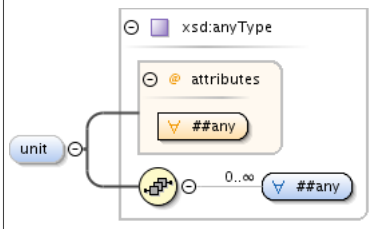
Source	`<xsd:element name="flavor" type="xsd:string">`
	`  <xsd:annotation>`
	`  <xsd:documentation>The type of error described : statistical , systematic, global, etc. Type:`
	`string</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:ErrorType / cha:ErrorRefVal

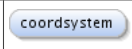
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ErrorRefValType
Properties	content: complex

Model	cha:unit{0,1} , cha:coordsystem{0,1} , CError , cha:documentation{0,1}
Children	CError, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:ErrorRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <stc:CError>{1,1}</stc:CError> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorRefVal>
Source	<xsd:element name="ErrorRefVal" type="cha:ErrorRefValType"/>

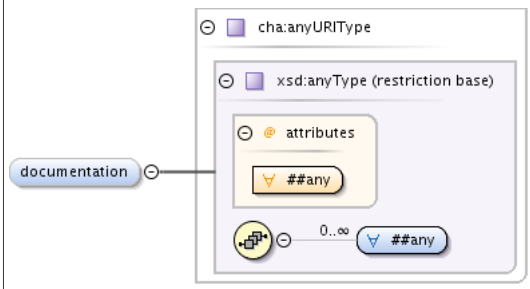
Element cha:ErrorRefValType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

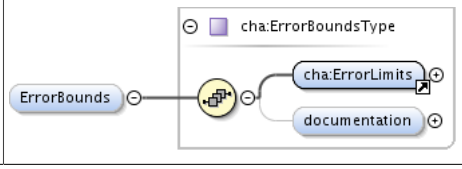
Element cha:ErrorRefValType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:ErrorRefValType / cha:documentation

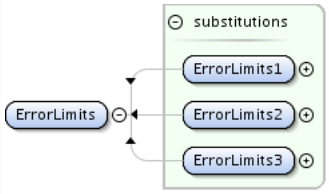
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/>

Element cha:ErrorType / cha:ErrorBounds

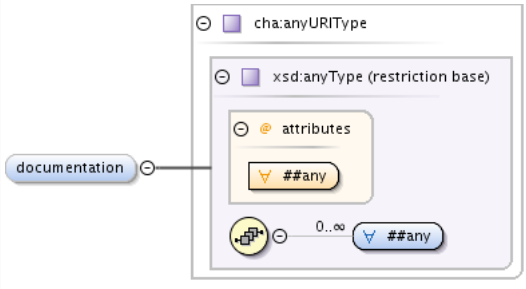
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Type	cha:ErrorBoundsType
Properties	content: complex minOccurs: 0
Model	cha:ErrorLimits , cha:documentation{0,1}
Children	cha:ErrorLimits, cha:documentation
Instance	<cha:ErrorBounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorLimits>{1,1}</cha:ErrorLimits> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorBounds>
Source	<xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0"/>

Element cha:ErrorLimits

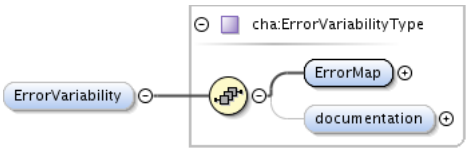
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordIntervalType
Properties	content: simple abstract: true
Substitution Group	• cha:ErrorLimits1 • cha:ErrorLimits2 • cha:ErrorLimits3
Used by	Complex Type cha:ErrorBoundsType
Source	<xsd:element name="ErrorLimits" type="stc:coordIntervalType" abstract="true"/>

Element cha:ErrorBoundsType / cha:documentation

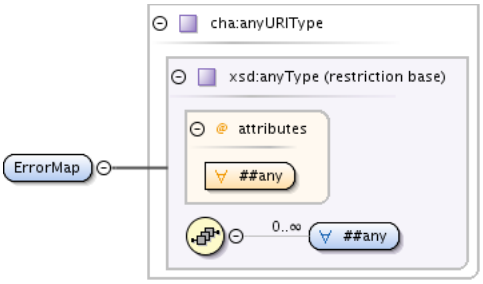
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A description of the error extreme values . Type: any URI type
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A description of the error extreme values . Type: any URI type</ xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:ErrorType / cha:ErrorVariability

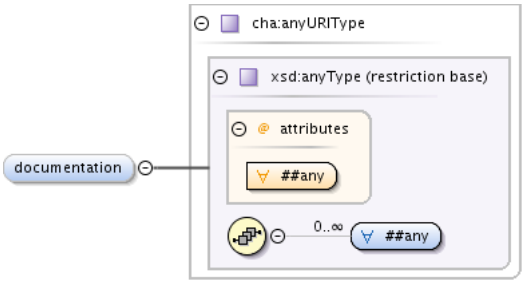
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:ErrorVariabilityType
Properties	content: complex minOccurs: 0
Model	cha:ErrorMap , cha:documentation{0,1}
Children	cha:ErrorMap, cha:documentation
Instance	<cha:ErrorVariability xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorMap>{1,1}</cha:ErrorMap> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorVariability>
Source	<xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0"/>

Element cha:ErrorVariabilityType / cha:ErrorMap

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A map showing the variability of the error Type: any URI type
Diagram	
Type	cha:anyURIType
Properties	content: complex
Source	<xsd:element name="ErrorMap" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>A map showing the variability of the error Type: any URI type</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:ErrorVariabilityType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	documentation on the Error variation Type: any URI type
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">

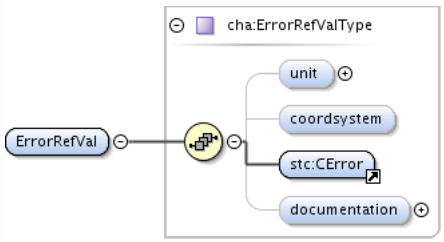
```
  <xsd:annotation>
    <xsd:documentation>documentation on the Error variation Type: any URI type</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Element cha:StatErrorType / cha:flavor

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The type of error described : here statistical Type : string , value="statistical" "
Diagram	
Type	xsd:string
Properties	content: simple fixed: statistical

Source	`<xsd:element name="flavor" type="xsd:string" fixed="statistical">`
	`  <xsd:annotation>`
	`  <xsd:documentation>The type of error described : here statistical Type : string ,`
	`value="statistical" "</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

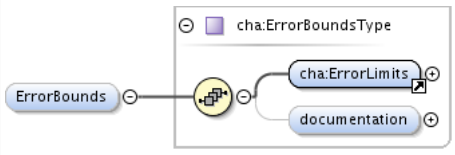
Element cha:StatErrorType / cha:ErrorRefVal

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Typical statistical Error on the axis
Diagram	
Type	cha:ErrorRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CError , cha:documentation{0,1}
Children	CError, cha:coordsystem, cha:documentation, cha:unit

Instance	`<cha:ErrorRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <stc:CError>{1,1}</stc:CError>`
	`  <cha:documentation>{0,1}</cha:documentation>`
	`</cha:ErrorRefVal>`

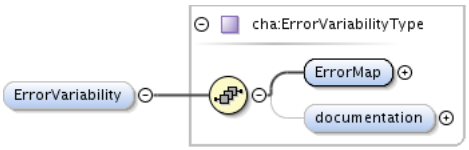
Source	`<xsd:element name="ErrorRefVal" type="cha:ErrorRefValType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Typical statistical Error on the axis</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:StatErrorType / cha:ErrorBounds

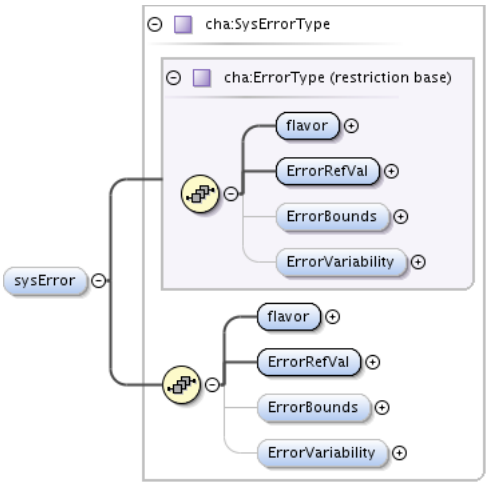
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Range of the error for mapping along this axis
Diagram	
Type	cha:ErrorBoundsType
Properties	content: complex

	minOccurs: 0
Model	cha:ErrorLimits , cha:documentation{0,1}
Children	cha:ErrorLimits, cha:documentation
Instance	<cha:ErrorBounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorLimits>{1,1}</cha:ErrorLimits> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorBounds>
Source	<xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Range of the error for mapping along this axis</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:StatErrorType / cha:ErrorVariability

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A detailed description of the local error values
Diagram	
Type	cha:ErrorVariabilityType
Properties	content: complex minOccurs: 0
Model	cha:ErrorMap , cha:documentation{0,1}
Children	cha:ErrorMap, cha:documentation
Instance	<cha:ErrorVariability xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorMap>{1,1}</cha:ErrorMap> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorVariability>
Source	<xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A detailed description of the local error values</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:AccuracyType / cha:sysError

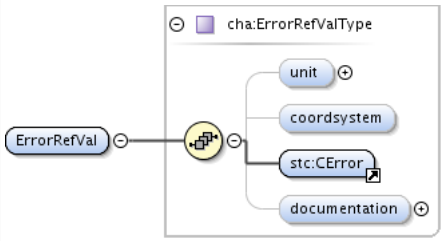
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SysErrorType
Type hierarchy	• cha:ErrorType • cha:SysErrorType

Properties	content: complex minOccurs: 0
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}
Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor
Instance	<cha:sysError xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:flavor>{1,1}</cha:flavor> <cha:ErrorRefVal>{1,1}</cha:ErrorRefVal> <cha:ErrorBounds>{0,1}</cha:ErrorBounds> <cha:ErrorVariability>{0,1}</cha:ErrorVariability> </cha:sysError>
Source	<xsd:element name="sysError" type="cha:SysErrorType" minOccurs="0"/>

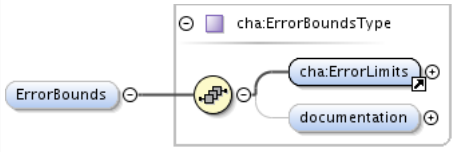
Element cha:SysErrorType / cha:flavor

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The type of error described : here, systematic Type: string , value: systematic
Diagram	
Type	xsd:string
Properties	content: simple fixed: systematic
Source	<xsd:element name="flavor" type="xsd:string" fixed="systematic"> <xsd:annotation> <xsd:documentation>The type of error described : here, systematic Type: string , value: systematic</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:SysErrorType / cha:ErrorRefVal

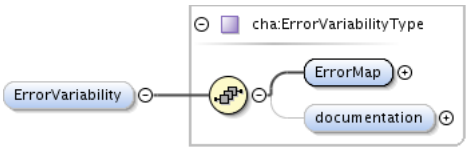
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ErrorRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CError , cha:documentation{0,1}
Children	CError, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:ErrorRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation- v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <stc:CError>{1,1}</stc:CError> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorRefVal>
Source	<xsd:element name="ErrorRefVal" type="cha:ErrorRefValType"/>

Element cha:SysErrorType / cha:ErrorBounds

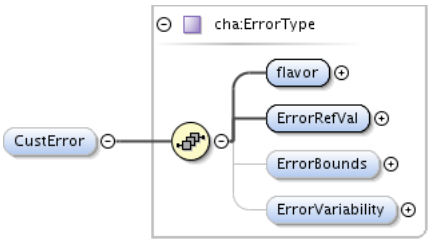
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Type	cha:ErrorBoundsType
Properties	content: complex minOccurs: 0
Model	cha:ErrorLimits , cha:documentation{0,1}
Children	cha:ErrorLimits, cha:documentation
Instance	<cha:ErrorBounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorLimits>{1,1}</cha:ErrorLimits> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorBounds>
Source	<xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0"/>

Element cha:SysErrorType / cha:ErrorVariability

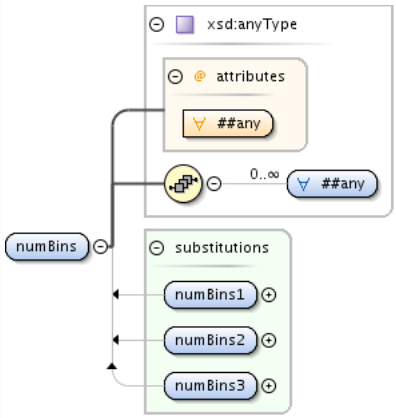
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ErrorVariabilityType
Properties	content: complex minOccurs: 0
Model	cha:ErrorMap , cha:documentation{0,1}
Children	cha:ErrorMap, cha:documentation
Instance	<cha:ErrorVariability xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:ErrorMap>{1,1}</cha:ErrorMap> <cha:documentation>{0,1}</cha:documentation> </cha:ErrorVariability>
Source	<xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0"/>

Element cha:AccuracyType / cha:CustError

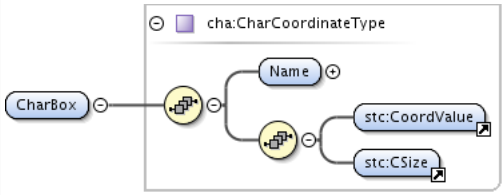
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ErrorType
Properties	content: complex minOccurs: 0
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}
Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor
Instance	<cha:CustError xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:flavor>{1,1}</cha:flavor> <cha:ErrorRefVal>{1,1}</cha:ErrorRefVal> <cha:ErrorBounds>{0,1}</cha:ErrorBounds> <cha:ErrorVariability>{0,1}</cha:ErrorVariability> </cha:CustError>
Source	<xsd:element name="CustError" type="cha:ErrorType" minOccurs="0"/>

Element cha:numBins

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Properties	abstract: `true`
Substitution Group	• cha:numBins1 • cha:numBins2 • cha:numBins3
Used by	Complex Types: cha:CharacterisationAxisType, cha:SpatialAxisType, cha:SpectralAxisType, cha:TimeAxisType, psr:ParameterAxisType
Source	`<xsd:element name="numBins" type="xsd:anyType" abstract="true"/>`

Element cha:CharCoordAreaType / cha:CharBox

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CharCoordinateType
Properties	content: `complex`
Model	cha:Name , CoordValue , CSize
Children	CSize, CoordValue, cha:Name

Instance	`<cha:CharBox xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd">`
	`  <cha:Name>{1,1}</cha:Name>`
	`  <stc:CoordValue>{1,1}</stc:CoordValue>`
	`  <stc:CSize>{1,1}</stc:CSize>`
	`</cha:CharBox>`

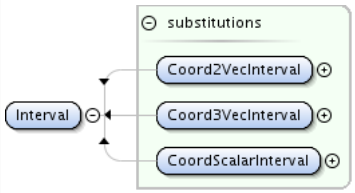
Source	`<xsd:element name="CharBox" type="cha:CharCoordinateType"/>`

Element cha:CharCoordinateType / cha:Name

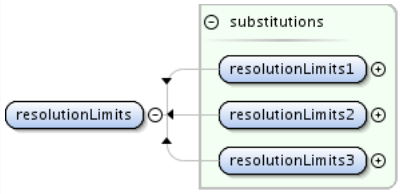
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:string
Properties	content: `simple`
Source	`<xsd:element name="Name" type="xsd:string"/>`

Element cha:Interval

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	`Here is 1-, 2-, or 3-D coordinate interval substitution group head element.` `Such an element needs to contain a minimum or maximum scalar or vector value,`

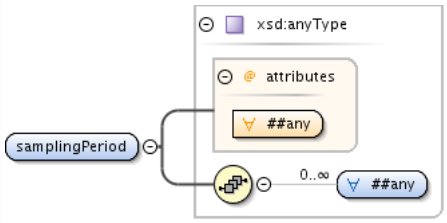
	or both. It needs to refer to a coordinate system. Boundaries may or may not be inclusive; and it can have a fill factor
Diagram	
Type	coordIntervalType
Properties	content: simple abstract: true
Substitution Group	• cha:CoordScalarInterval • cha:Coord2VecInterval • cha:Coord3VecInterval
Used by	Complex Type cha:CharCoordAreaType
Source	<xsd:element name="Interval" type="stc:coordIntervalType" abstract="true"> <xsd:annotation> <xsd:documentation>Here is 1-, 2-, or 3-D coordinate interval substitution group head element. Such an element needs to contain a minimum or maximum scalar or vector value, or both. It needs to refer to a coordinate system. Boundaries may or may not be inclusive; and it can have a fill factor</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:resolutionLimits

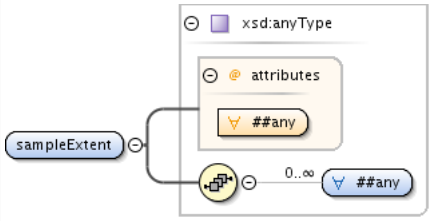
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Hi and Low values of resolution on this axis. Type: stc:coordScalarInterval, or 2Vec or 3Vec
Diagram	
Type	coordIntervalType
Properties	content: simple abstract: true
Substitution Group	• cha:resolutionLimits1 • cha:resolutionLimits2 • cha:resolutionLimits3
Used by	Complex Types cha:ResolutionBoundsType, cha:ResolutionSupportType, psr:ResolutionBoundsType, psr:ResolutionSupportType
Source	<xsd:element name="resolutionLimits" type="stc:coordIntervalType" abstract="true"> <xsd:annotation> <xsd:documentation>Hi and Low values of resolution on this axis. Type: stc:coordScalarInterval, or 2Vec or 3Vec</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:samplingPeriod

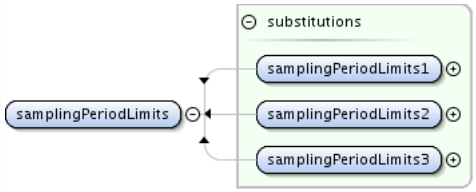
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Typical sampling Period value of the axis Type : depends on the dimensionality 1D samplingPeriod based on stc:double1Type 2D samplingPeriod based on stc:size2Type, double4Type or double1Type (sampling period radius) 3D samplingPeriod based on stc:size3Type or double9TYpe or double1Type (sampling period 3 radius)

Diagram	
Properties	nillable: `true`
Substitution Group Affiliation	• CPixSize
Used by	Complex Types cha:SamplingPrecisionRefValType, psr:SamplingPrecisionRefValType
Source	`<xsd:element name="samplingPeriod" type="xsd:anyType" substitutionGroup="stc:CPixSize" nillable="true"> <xsd:annotation> <xsd:documentation>Typical sampling Period value of the axis Type : depends on the dimensionality 1D samplingPeriod based on stc:double1Type 2D samplingPeriod based on stc:size2Type, double4Type or double1Type (sampling period radius) 3D samplingPeriod based on stc:size3Type or double9TYpe or double1Type (sampling period 3 radius)</xsd:documentation> </xsd:annotation> </xsd:element>`

Element cha:sampleExtent

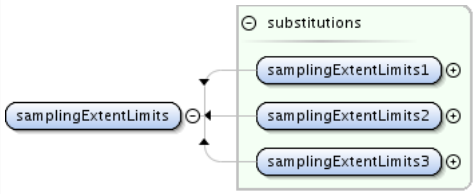
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	`Typical sample Extent value of the axis "Types : depend on the dimensionality" 1D sampleExtent based on stc:double1Type 2D sampleExtent based on stc:size2Type, double4Type or double1Type (sampling extent radius) 3D sampleExtent based on stc:size3Type, double9TYpe or double1Type (sampling extent 3 radius)`
Diagram	
Substitution Group Affiliation	• CPixSize
Used by	Complex Types cha:SamplingPrecisionRefValType, psr:SamplingPrecisionRefValType
Source	`<xsd:element name="sampleExtent" type="xsd:anyType" substitutionGroup="stc:CPixSize"> <xsd:annotation> <xsd:documentation>Typical sample Extent value of the axis "Types : depend on the dimensionality" 1D sampleExtent based on stc:double1Type 2D sampleExtent based on stc:size2Type, double4Type or double1Type (sampling extent radius) 3D sampleExtent based on stc:size3Type, double9TYpe or double1Type (sampling extent 3 radius)</xsd:documentation> </xsd:annotation> </xsd:element>`

Element cha:samplingPeriodLimits

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	`Hi and Low values of samplingPeriod on this axis. Type: stc:coordScalarInterval or 2Vec or 3Vec`
Diagram	
Type	coordIntervalType

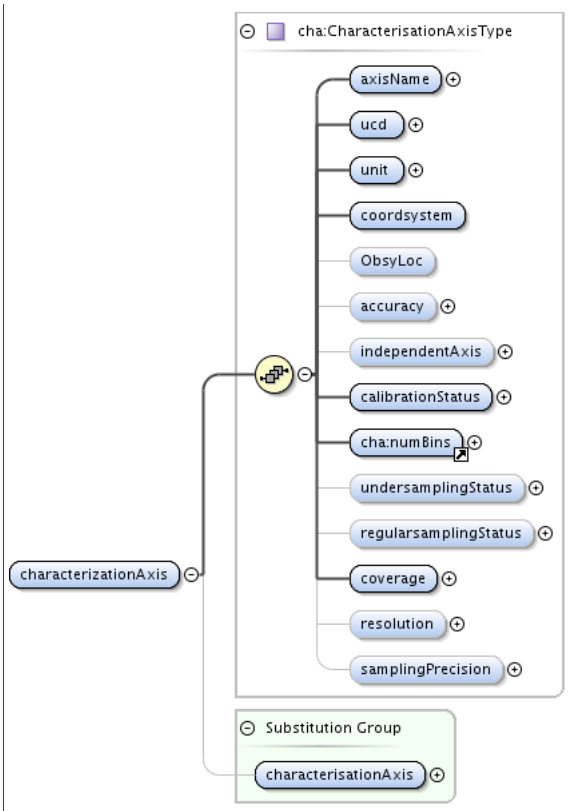
Properties	content: simple
Substitution Group	• cha:samplingPeriodLimits1 • cha:samplingPeriodLimits2 • cha:samplingPeriodLimits3
Used by	Complex Types: cha:SamplingPrecisionBoundsType, cha:SamplingPrecisionSupportType, psr:SamplingPrecisionBoundsType, psr:SamplingPrecisionSupportType
Source	`<xsd:element name="samplingPeriodLimits" type="stc:coordIntervalType"> <xsd:annotation> <xsd:documentation>Hi and Low values of samplingPeriod on this axis. Type: stc:coordScalarInterval or 2Vec or 3Vec</xsd:documentation> </xsd:annotation> </xsd:element>`

Element cha:samplingExtentLimits

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordIntervalType
Properties	content: simple abstract: true
Substitution Group	• cha:samplingExtentLimits1 • cha:samplingExtentLimits2 • cha:samplingExtentLimits3
Used by	Complex Types: cha:SamplingPrecisionBoundsType, cha:SamplingPrecisionSupportType, psr:SamplingPrecisionBoundsType, psr:SamplingPrecisionSupportType
Source	`<xsd:element name="samplingExtentLimits" type="stc:coordIntervalType" abstract="true"/>`

Element cha:characterizationAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	describes an axis and its properties

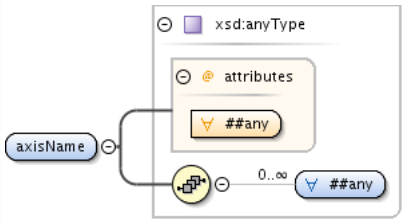
Diagram	
Type	cha:CharacterisationAxisType
Properties	content: complex
Substitution Group Affiliation	• cha:characterisationAxis
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit

Instance	`<cha:characterizationAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:axisName>{1,1}</cha:axisName>`
	`  <cha:ucd>{1,1}</cha:ucd>`
	`  <cha:unit>{1,1}</cha:unit>`
	`  <cha:coordsystem>{1,1}</cha:coordsystem>`
	`  <cha:ObsyLoc>{0,1}</cha:ObsyLoc>`
	`  <cha:accuracy>{0,1}</cha:accuracy>`
	`  <cha:independentAxis>{0,1}</cha:independentAxis>`
	`  <cha:calibrationStatus>{1,1}</cha:calibrationStatus>`
	`  <cha:numBins>{1,1}</cha:numBins>`
	`  <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus>`
	`  <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus>`
	`  <cha:coverage>{1,1}</cha:coverage>`
	`  <cha:resolution>{0,1}</cha:resolution>`
	`  <cha:samplingPrecision>{0,1}</cha:samplingPrecision>`
	`</cha:characterizationAxis>`

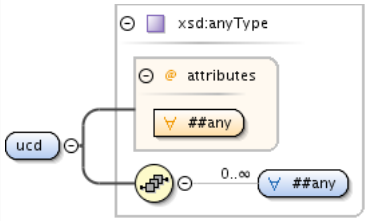
Source	`<xsd:element name="characterizationAxis" type="cha:CharacterisationAxisType"`
	`  substitutionGroup="cha:characterisationAxis">`
	`  <xsd:annotation>`
	`  <xsd:documentation>describes an axis and its properties</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:CharacterisationAxisType / cha:axisName

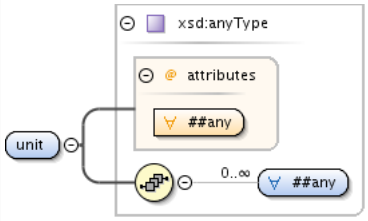
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A name representing the physical nature of the axis like Spatial, Spectral, Time, Velocity or any other free name for an axis

Diagram	
Source	<xsd:element name="axisName" type="xsd:anyType"> <xsd:annotation> <xsd:documentation>A name representing the physical nature of the axis like Spatial, Spectral, Time, Velocity or any other free name for an axis</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:ucd

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The physical meaning of the axis, Type: standard semantic tag defined in the UCD list.
Diagram	
Source	<xsd:element name="ucd" type="xsd:anyType"> <xsd:annotation> <xsd:documentation>The physical meaning of the axis, Type: standard semantic tag defined in the UCD list.</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:unit

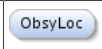
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	default unit for the axis: Type: controlled unit vocabulary following the VOTable units definitions
Diagram	
Source	<xsd:element name="unit" type="xsd:anyType"> <xsd:annotation> <xsd:documentation>default unit for the axis: Type: controlled unit vocabulary following the VOTable units definitions</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Reference coordinate system for the axis:
Diagram	
Type	astroCoordSystemType
Properties	content: simple
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType"> <xsd:annotation> <xsd:documentation>Reference coordinate system for the axis:</xsd:documentation> </xsd:annotation>

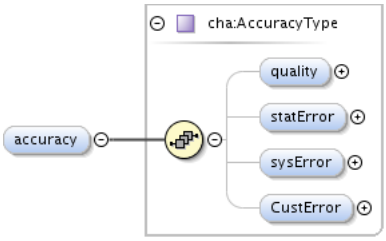
```
</xsd:element>
```

Element cha:CharacterisationAxisType / cha:ObsyLoc

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Observatory location Type: a STC:observatoryLocationType or an xlink
Diagram	
Type	observatoryLocationType
Properties	content: simple minOccurs: 0

Source	`<xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Observatory location Type: a STC:observatoryLocationType or an xlink</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

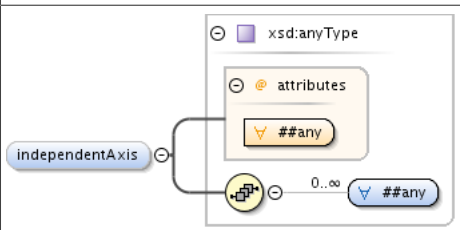
Element cha:CharacterisationAxisType / cha:accuracy

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Global accuracy description of the axis
Diagram	
Type	cha:AccuracyType
Properties	content: complex minOccurs: 0
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError

Instance	`<cha:accuracy xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:quality>{0,1}</cha:quality>`
	`  <cha:statError>{0,1}</cha:statError>`
	`  <cha:sysError>{0,1}</cha:sysError>`
	`  <cha:CustError>{0,1}</cha:CustError>`
	`</cha:accuracy>`

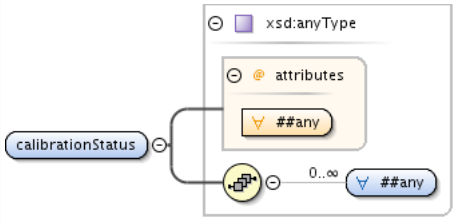
Source	`<xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Global accuracy description of the axis</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:CharacterisationAxisType / cha:independentAxis

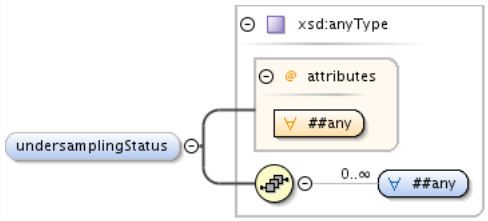
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Indicates wether the axis is independent or not from the other axes. The Observable axis has a false independentAxis "value" Type : boolean
Diagram	
Properties	minOccurs: 0

Source	<xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Indicates wether the axis is independent or not from the other axes. The Observable axis has a false independentAxis "value" Type : boolean</xsd:documentation> </xsd:annotation> </xsd:element>

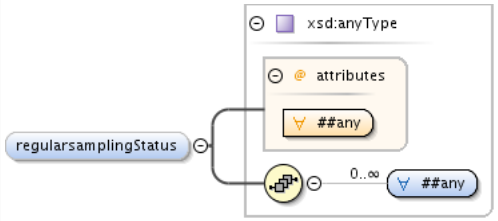
Element cha:CharacterisationAxisType / cha:calibrationStatus

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	defines if and how the axis is calibrated: Possible String values: CALIBRATED, UNCALIBRATED, RELATIVE, NORMALIZED
Diagram	
Source	<xsd:element name="calibrationStatus" type="xsd:anyType"> <xsd:annotation> <xsd:documentation>defines if and how the axis is calibrated: Possible String values: CALIBRATED, UNCALIBRATED, RELATIVE, NORMALIZED</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:undersamplingStatus

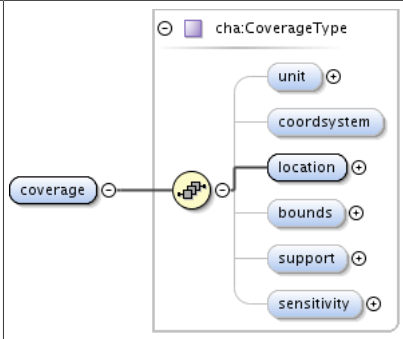
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A flag to mention wether the data are undersampled. Type: boolean
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A flag to mention wether the data are undersampled. Type: boolean</ xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:regularsamplingStatus

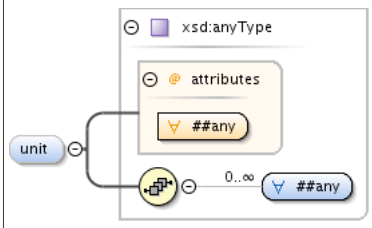
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A flag to mention wether the data are regularly sampled. Type : boolean
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A flag to mention wether the data are regularly sampled. Type : boolean</ xsd:documentation> </xsd:annotation>

```
</xsd:element>
```

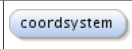
Element cha:CharacterisationAxisType / cha:coverage

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CoverageType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit
Instance	<cha:coverage xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:location>{1,1}</cha:location> <cha:bounds>{0,1}</cha:bounds> <cha:support>{0,1}</cha:support> <cha:sensitivity>{0,1}</cha:sensitivity> </cha:coverage>
Source	<xsd:element name="coverage" type="cha:CoverageType"/>

Element cha:CoverageType / cha:unit

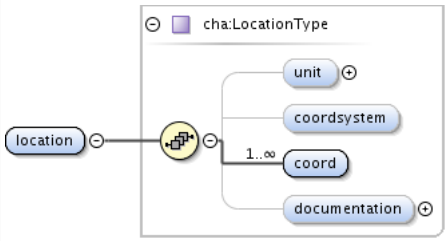
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	redefinition of unit for coverage
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>redefinition of unit for coverage</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CoverageType / cha:coordsystem

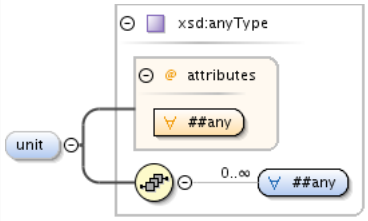
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	redefinition of coordsystem
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"> <xsd:annotation> <xsd:documentation>redefinition of coordsystem</xsd:documentation> </xsd:annotation>

```
</xsd:element>
```

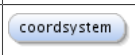
Element cha:CoverageType / cha:location

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Typical value on one axis
Diagram	
Type	cha:LocationType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:coord+ , cha:documentation{0,1}
Children	cha:coord, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:location xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:coord>{1,unbounded}</cha:coord> <cha:documentation>{0,1}</cha:documentation> </cha:location>
Source	<xsd:element name="location" type="cha:LocationType"> <xsd:annotation> <xsd:documentation>Typical value on one axis</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:LocationType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Redefinition of unit
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Redefinition of unit</xsd:documentation> </xsd:annotation> </xsd:element>

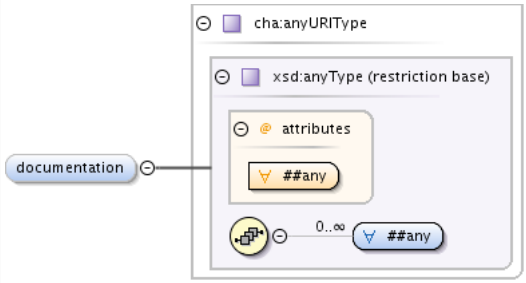
Element cha:LocationType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Redefinition of coordsystem
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Redefinition of coordsystem</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:LocationType / cha:coord

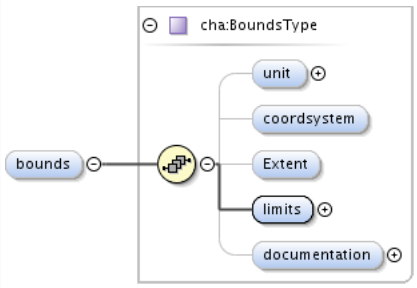
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordsType
Properties	content: simple maxOccurs: unbounded
Source	`<xsd:element name="coord" type="stc:astroCoordsType" maxOccurs="unbounded"/>`

Element cha:LocationType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The typical coordinate value Type: stc:astroCoordsType
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>The typical coordinate value Type: stc:astroCoordsType</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:CoverageType / cha:bounds

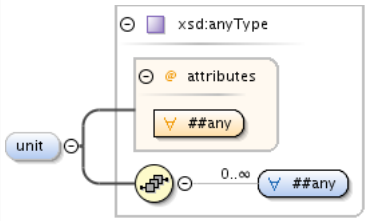
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	the limits of the observation on this axis
Diagram	
Type	cha:BoundsType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:limits , cha:documentation{0,1}
Children	cha:Extent, cha:coordsystem, cha:documentation, cha:limits, cha:unit

Instance	`<cha:bounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <cha:Extent>{0,1}</cha:Extent>`
	`  <cha:limits>{1,1}</cha:limits>`
	`  <cha:documentation>{0,1}</cha:documentation>`
	`</cha:bounds>`

Source	`<xsd:element name="bounds" type="cha:BoundsType" minOccurs="0">`

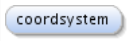
```
  <xsd:annotation>
    <xsd:documentation>the limits of the observation on this axis</xsd:documentation>
  </xsd:annotation>
</xsd:element>
```

Element cha:BoundsType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	for bounds unit redefinition
Diagram	
Properties	minOccurs: 0

Source	`<xsd:element name="unit" type="xsd:anyType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>for bounds unit redefinition</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:BoundsType / cha:coordsystem

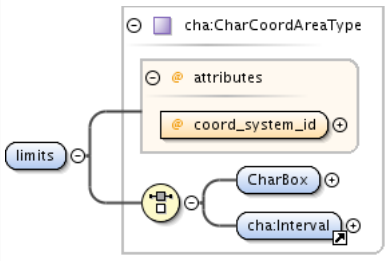
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	for bounds coosys redefinition
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0

Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>for bounds coosys redefinition</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:BoundsType / cha:Extent

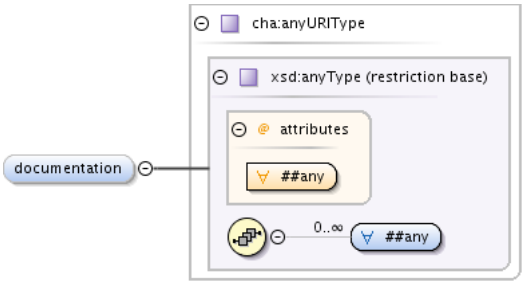
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	double1Type
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="Extent" type="stc:double1Type" minOccurs="0"/>`

Element cha:BoundsType / cha:limits

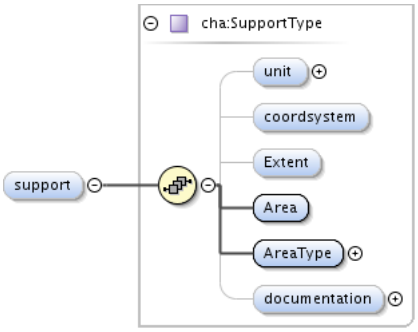
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The actual values defining the bounds. 2 possible types : a cha:CharBox which is a customised STC:Coordinate with mandatory value and size or an STC:Interval
Diagram	

Type	cha:CharCoordAreaType
Type hierarchy	• stcBaseType • cha:CharCoordAreaType
Properties	content: complex
Model	cha:CharBox | cha:Interval
Children	cha:CharBox, cha:Interval
Instance	<cha:limits xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:CharBox>{1,1}</cha:CharBox> <cha:Interval>{1,1}</cha:Interval> </cha:limits>
Source	<xsd:element name="limits" type="cha:CharCoordAreaType"> <xsd:annotation> <xsd:documentation>The actual values defining the bounds. 2 possible types : a cha:CharBox which is a customised STC:Coordinate with mandatory value and size or an STC:Interval</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:BoundsType / cha:documentation

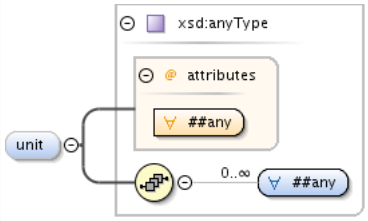
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A document to mention how the bounds are defined.
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A document to mention how the bounds are defined.</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CoverageType / cha:support

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	describes the area where measurements are effectively present and interpretable
Diagram	
Type	cha:SupportType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:Area , cha:AreaType , cha:documentation{0,1}

Children	cha:Area, cha:AreaType, cha:Extent, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:support xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:Extent>{0,1}</cha:Extent> <cha:Area>{1,1}</cha:Area> <cha:AreaType>{1,1}</cha:AreaType> <cha:documentation>{0,1}</cha:documentation> </cha:support>
Source	<xsd:element name="support" type="cha:SupportType" minOccurs="0"> <xsd:annotation> <xsd:documentation>describes the area where measurements are effectively present and interpretable</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:SupportType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:SupportType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	coordsystem
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:SupportType / cha:Extent

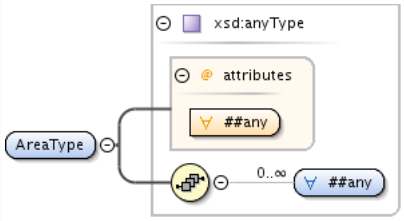
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	Extent
Type	double1Type
Properties	content: simple minOccurs: 0
Source	<xsd:element name="Extent" type="stc:double1Type" minOccurs="0"/>

Element cha:SupportType / cha:Area

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Defines the effective covered region
Diagram	Area
Type	astroCoordAreaType
Properties	content: simple
Source	<xsd:element name="Area" type="stc:astroCoordAreaType"> <xsd:annotation> <xsd:documentation>Defines the effective covered region</xsd:documentation> </xsd:annotation>

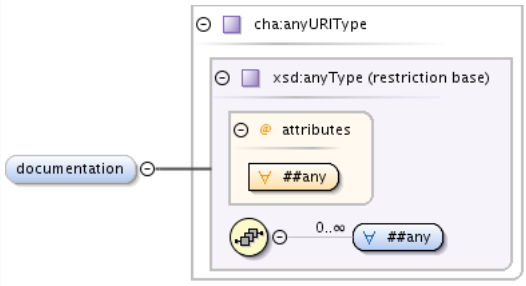
```
</xsd:element>
```

Element cha:SupportType / cha:AreaType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Gives the name of the region shape Type: predefined string in {Circle, Polygon, Box, ...}
Diagram	

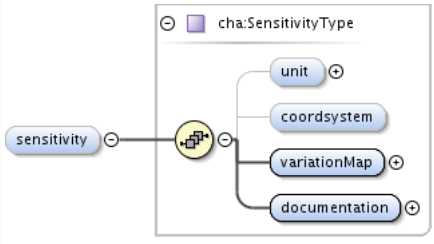
Source	`<xsd:element name="AreaType" type="xsd:anyType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Gives the name of the region shape Type: predefined string in {Circle,`
	`Polygon, Box, ...}</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:SupportType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Some text about the Support region definition Type: any URI type
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

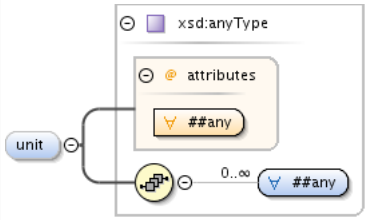
Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Some text about the Support region definition Type: any URI type</`
	`xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:CoverageType / cha:sensitivity

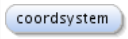
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	encodes the variability of response along the axis
Diagram	
Type	cha:SensitivityType
Properties	content: complex minOccurs: 0

Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:variationMap , cha:documentation
Children	cha:coordsystem, cha:documentation, cha:unit, cha:variationMap
Instance	<cha:sensitivity xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:variationMap>{1,1}</cha:variationMap> <cha:documentation>{1,1}</cha:documentation> </cha:sensitivity>
Source	<xsd:element name="sensitivity" type="cha:SensitivityType" minOccurs="0"> <xsd:annotation> <xsd:documentation>encodes the variability of response along the axis</xsd:documentation> </xsd:annotation> </xsd:element>

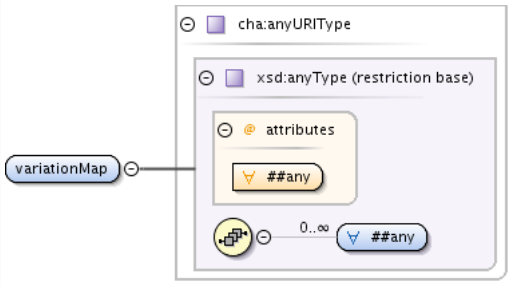
Element cha:SensitivityType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:SensitivityType / cha:coordsystem

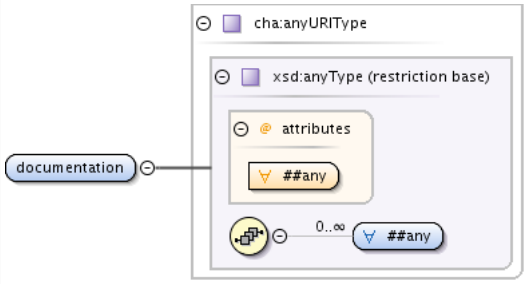
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:SensitivityType / cha:variationMap

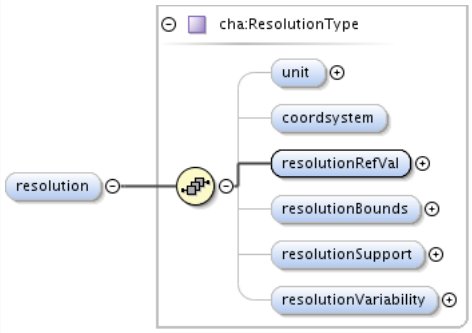
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	encodes the variability of the response along the axis
Diagram	
Type	cha:anyURIType
Properties	content: complex
Source	<xsd:element name="variationMap" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>encodes the variability of the response along the axis</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:SensitivityType / cha:documentation

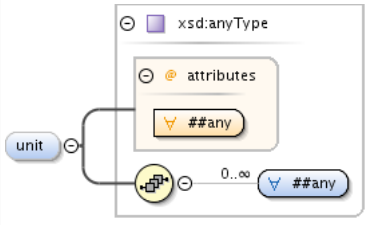
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Annotations	documents the purpose, type and encoding of sensitivity information Type: URL
Diagram	
Type	cha:anyURIType
Properties	content: complex
Source	<xsd:element name="documentation" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>documents the purpose, type and encoding of sensitivity information Type: URL</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:CharacterisationAxisType / cha:resolution

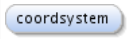
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit
Instance	<cha:resolution xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionRefVal>{1,1}</cha:resolutionRefVal> <cha:resolutionBounds>{0,1}</cha:resolutionBounds> <cha:resolutionSupport>{0,1}</cha:resolutionSupport> <cha:resolutionVariability>{0,1}</cha:resolutionVariability> </cha:resolution>
Source	<xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>

Element cha:ResolutionType / cha:unit

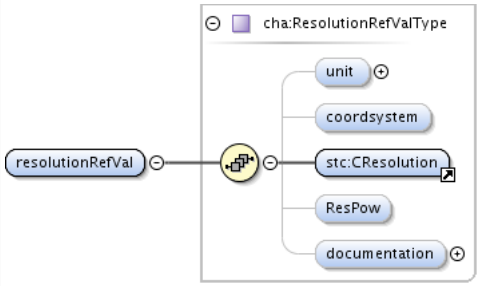
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

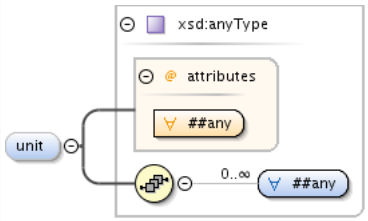
Element cha:ResolutionType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

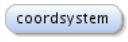
Element cha:ResolutionType / cha:resolutionRefVal

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CResolution , cha:ResPow{0,1} , cha:documentation{0,1}
Children	CResolution, cha:ResPow, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:resolutionRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <stc:CResolution>{1,1}</stc:CResolution> <cha:ResPow>{0,1}</cha:ResPow> <cha:documentation>{0,1}</cha:documentation> </cha:resolutionRefVal>
Source	<xsd:element name="resolutionRefVal" type="cha:ResolutionRefValType"/>

Element cha:ResolutionRefValType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:ResolutionRefValType / cha:coordsystem

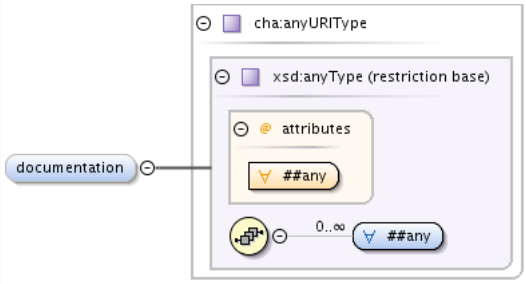
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>`

Element cha:ResolutionRefValType / cha:ResPow

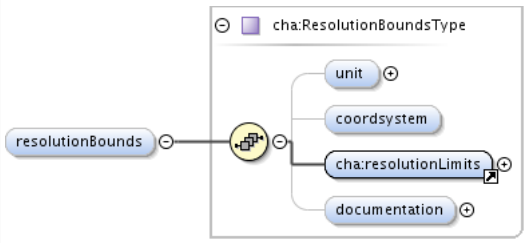
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	double1Type
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="ResPow" type="stc:double1Type" minOccurs="0"/>`

Element cha:ResolutionRefValType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Defines and explains how this reference value for resolution has been estimated Type: URL
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

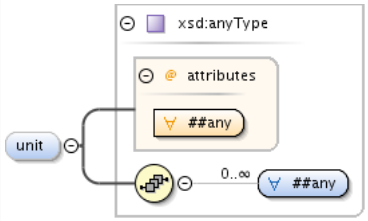
Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Defines and explains how this reference value for resolution has been estimated Type: URL</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:ResolutionType / cha:resolutionBounds

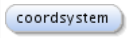
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionBoundsType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionLimits , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionLimits, cha:unit

Instance	<cha:resolutionBounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionLimits>{1,1}</cha:resolutionLimits> <cha:documentation>{0,1}</cha:documentation> </cha:resolutionBounds>
Source	<xsd:element name="resolutionBounds" type="cha:ResolutionBoundsType" minOccurs="0"/>

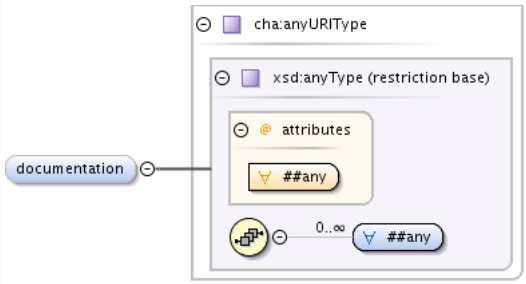
Element cha:ResolutionBoundsType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:ResolutionBoundsType / cha:coordsystem

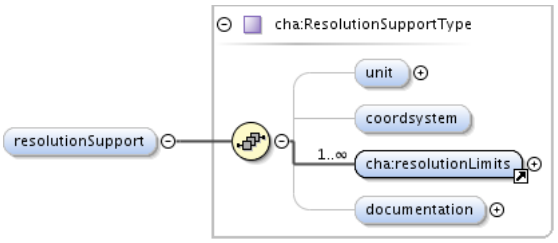
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:ResolutionBoundsType / cha:documentation

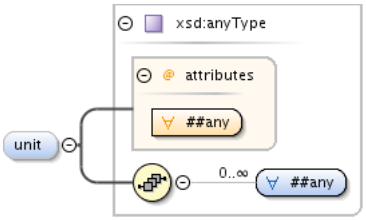
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Defines and explains how this resolution has been estimated
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Defines and explains how this resolution has been estimated</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:ResolutionType / cha:resolutionSupport

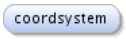
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:ResolutionSupportType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionLimits+ , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionLimits, cha:unit
Instance	<cha:resolutionSupport xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionLimits>{1,unbounded}</cha:resolutionLimits> <cha:documentation>{0,1}</cha:documentation> </cha:resolutionSupport>
Source	<xsd:element name="resolutionSupport" type="cha:ResolutionSupportType" minOccurs="0"/>

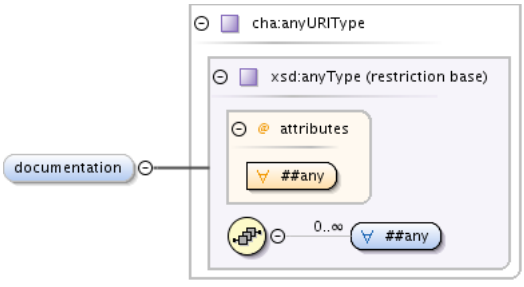
Element cha:ResolutionSupportType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:ResolutionSupportType / cha:coordsystem

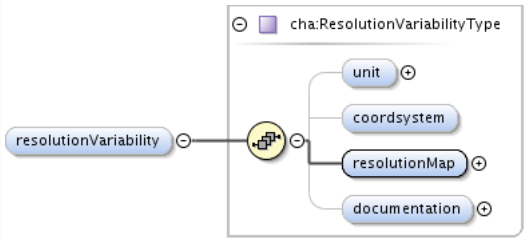
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:ResolutionSupportType / cha:documentation

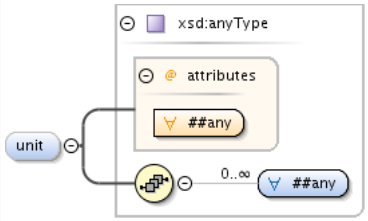
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Defines and explains how this resolution has been estimated Type: URL
Diagram	

Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Defines and explains how this resolution has been estimated Type: URL</ xsd:documentation> </xsd:annotation> </xsd:element>

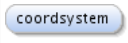
Element cha:ResolutionType / cha:resolutionVariability

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionVariabilityType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionMap , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionMap, cha:unit
Instance	<cha:resolutionVariability xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation- v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionMap>{1,1}</cha:resolutionMap> <cha:documentation>{0,1}</cha:documentation> </cha:resolutionVariability>
Source	<xsd:element name="resolutionVariability" type="cha:ResolutionVariabilityType" minOccurs="0"/>

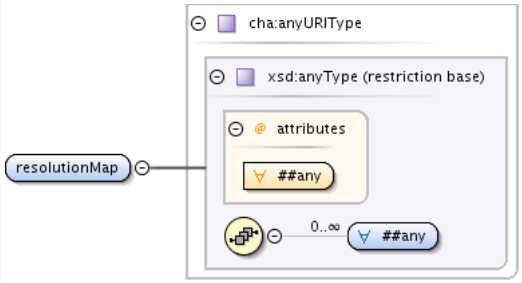
Element cha:ResolutionVariabilityType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

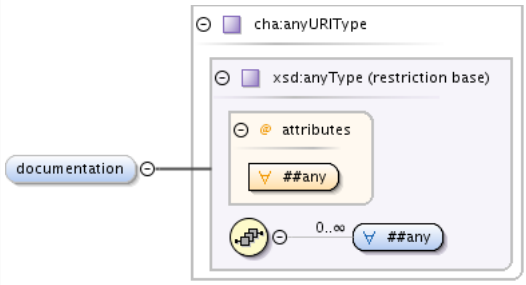
Element cha:ResolutionVariabilityType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:ResolutionVariabilityType / cha:resolutionMap

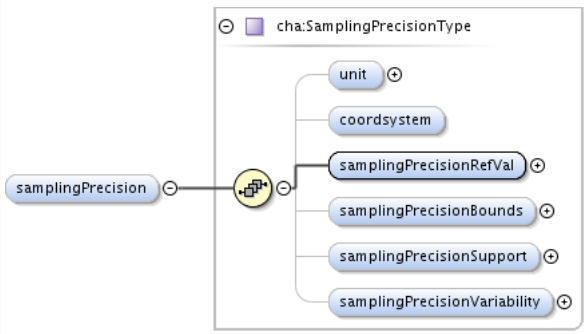
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:anyURIType
Properties	content: complex
Source	`<xsd:element name="resolutionMap" type="cha:anyURIType"/>`

Element cha:ResolutionVariabilityType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	defines and explains how this resolution has been estimated Type: URL
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

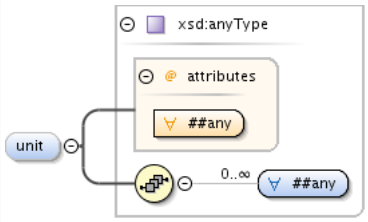
Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>defines and explains how this resolution has been estimated Type: URL</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:CharacterisationAxisType / cha:samplingPrecision

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionType
Properties	content: complex minOccurs: 0

Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionRefVal , cha:samplingPrecisionBounds{0,1} , cha:samplingPrecisionSupport{0,1} , cha:samplingPrecisionVariability{0,1}
Children	cha:coordsystem, cha:samplingPrecisionBounds, cha:samplingPrecisionRefVal, cha:samplingPrecisionSupport, cha:samplingPrecisionVariability, cha:unit
Instance	<cha:samplingPrecision xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPrecisionRefVal>{1,1}</cha:samplingPrecisionRefVal> <cha:samplingPrecisionBounds>{0,1}</cha:samplingPrecisionBounds> <cha:samplingPrecisionSupport>{0,1}</cha:samplingPrecisionSupport> <cha:samplingPrecisionVariability>{0,1}</cha:samplingPrecisionVariability> </cha:samplingPrecision>
Source	<xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>

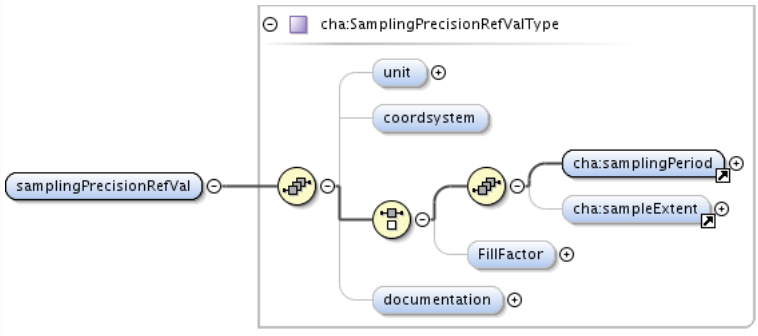
Element cha:SamplingPrecisionType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:SamplingPrecisionType / cha:coordsystem

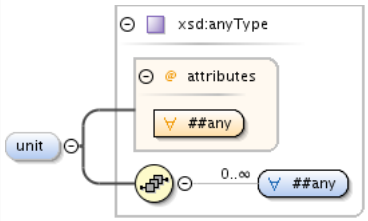
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:SamplingPrecisionType / cha:samplingPrecisionRefVal

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , ((cha:samplingPeriod , cha:sampleExtent{0,1}) | cha:FillFactor{0,1}) , cha:documentation{0,1}
Children	cha:FillFactor, cha:coordsystem, cha:documentation, cha:sampleExtent, cha:samplingPeriod, cha:unit
Instance	<cha:samplingPrecisionRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit>

	<cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPeriod>{1,1}</cha:samplingPeriod> <cha:sampleExtent>{0,1}</cha:sampleExtent> <cha:FillFactor>{0,1}</cha:FillFactor> <cha:documentation>{0,1}</cha:documentation> </cha:samplingPrecisionRefVal>
Source	<xsd:element name="samplingPrecisionRefVal" type="cha:SamplingPrecisionRefValType"/>

Element cha:SamplingPrecisionRefValType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

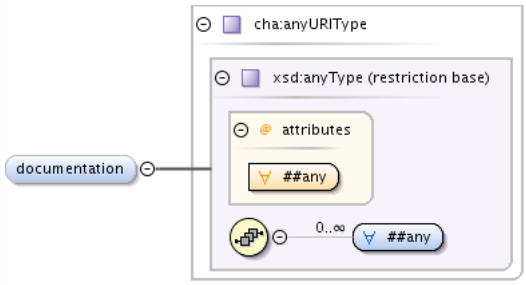
Element cha:SamplingPrecisionRefValType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:SamplingPrecisionRefValType / cha:FillFactor

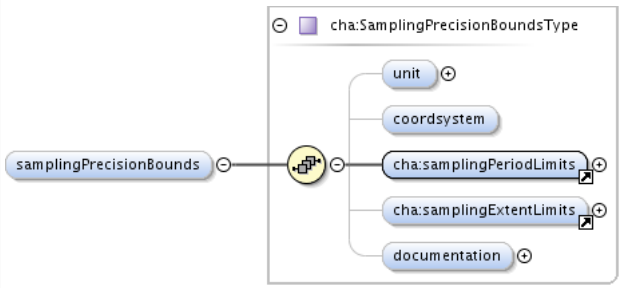
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:double
Properties	content: simple minOccurs: 0
Source	<xsd:element name="FillFactor" type="xsd:double" minOccurs="0"/>

Element cha:SamplingPrecisionRefValType / cha:documentation

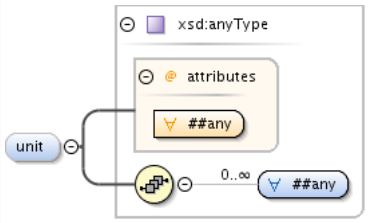
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Explains how the fill factor is estimated . Type: URI
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

Source	<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Explains how the fill factor is estimated . Type: URI</xsd:documentation> </xsd:annotation> </xsd:element>

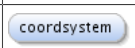
Element cha:SamplingPrecisionType / cha:samplingPrecisionBounds

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionBoundsType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPeriodLimits , cha:samplingExtentLimits{0,1} , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingExtentLimits, cha:samplingPeriodLimits, cha:unit
Instance	<cha:samplingPrecisionBounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPeriodLimits>{1,1}</cha:samplingPeriodLimits> <cha:samplingExtentLimits>{0,1}</cha:samplingExtentLimits> <cha:documentation>{0,1}</cha:documentation> </cha:samplingPrecisionBounds>
Source	<xsd:element name="samplingPrecisionBounds" type="cha:SamplingPrecisionBoundsType" minOccurs="0"/>

Element cha:SamplingPrecisionBoundsType / cha:unit

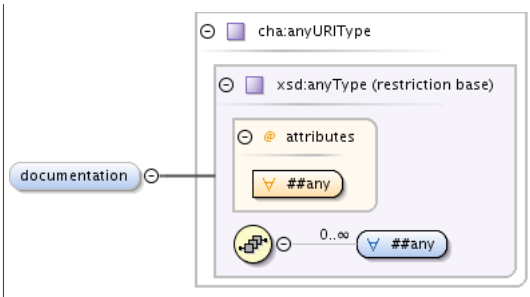
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>

Element cha:SamplingPrecisionBoundsType / cha:coordsystem

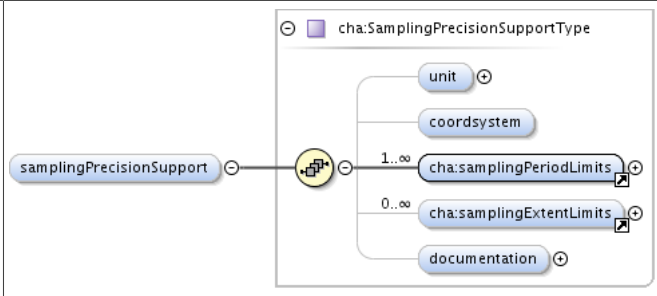
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>

Element cha:SamplingPrecisionBoundsType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/>`

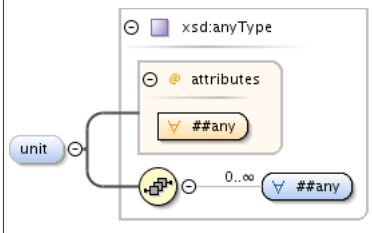
Element cha:SamplingPrecisionType / cha:samplingPrecisionSupport

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionSupportType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPeriodLimits+ , cha:samplingExtentLimits* , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingExtentLimits, cha:samplingPeriodLimits, cha:unit

Instance	`<cha:samplingPrecisionSupport xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <cha:samplingPeriodLimits>{1,unbounded}</cha:samplingPeriodLimits>`
	`  <cha:samplingExtentLimits>{0,unbounded}</cha:samplingExtentLimits>`
	`  <cha:documentation>{0,1}</cha:documentation>`
	`</cha:samplingPrecisionSupport>`

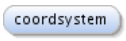
Source	`<xsd:element name="samplingPrecisionSupport" type="cha:SamplingPrecisionSupportType" minOccurs="0"/>`

Element cha:SamplingPrecisionSupportType / cha:unit

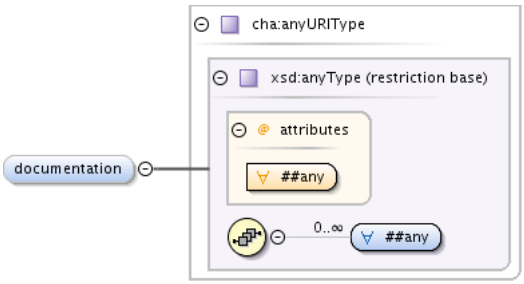
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>`

Element cha:SamplingPrecisionSupportType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

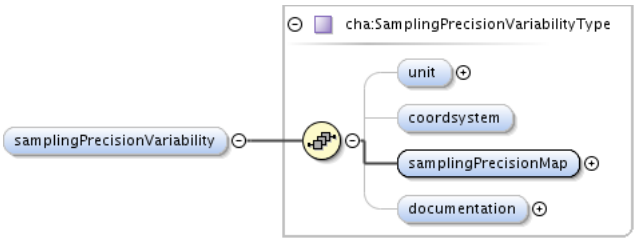
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>`

Element cha:SamplingPrecisionSupportType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI
Diagram	
Type	cha:anyURIType
Properties	content: complex minOccurs: 0

Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:SamplingPrecisionType / cha:samplingPrecisionVariability

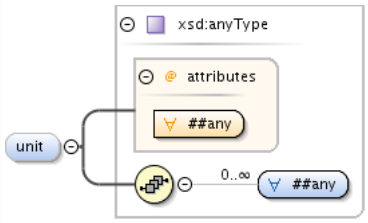
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionVariabilityType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionMap , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingPrecisionMap, cha:unit

Instance	`<cha:samplingPrecisionVariability xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <cha:samplingPrecisionMap>{1,1}</cha:samplingPrecisionMap>`
	`  <cha:documentation>{0,1}</cha:documentation>`
	`</cha:samplingPrecisionVariability>`

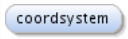
Source	`<xsd:element name="samplingPrecisionVariability" type="cha:SamplingPrecisionVariabilityType" minOccurs="0"/>`

Element cha:SamplingPrecisionVariabilityType / cha:unit

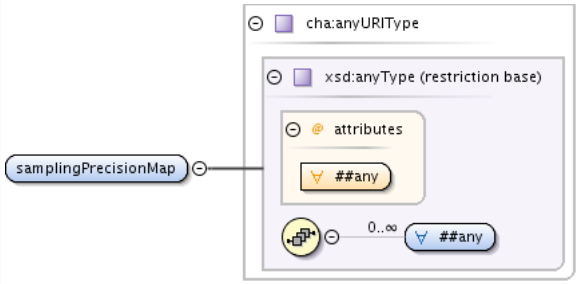
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>`

Element cha:SamplingPrecisionVariabilityType / cha:coordsystem

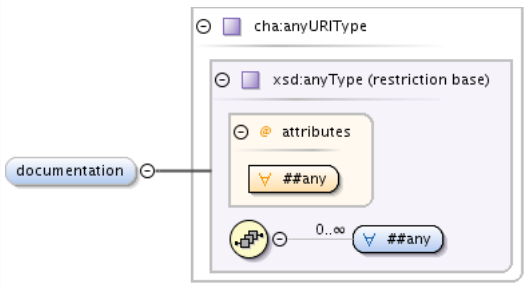
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>`

Element cha:SamplingPrecisionVariabilityType / cha:samplingPrecisionMap

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type
Diagram	
Type	cha:anyURIType
Properties	content: complex

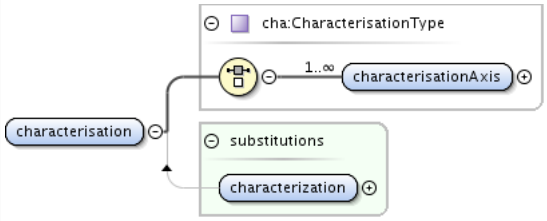
Source	`<xsd:element name="samplingPrecisionMap" type="cha:anyURIType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:SamplingPrecisionVariabilityType / cha:documentation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Type	cha:anyURIType
Properties	content: complex minOccurs: 0
Source	`<xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/>`

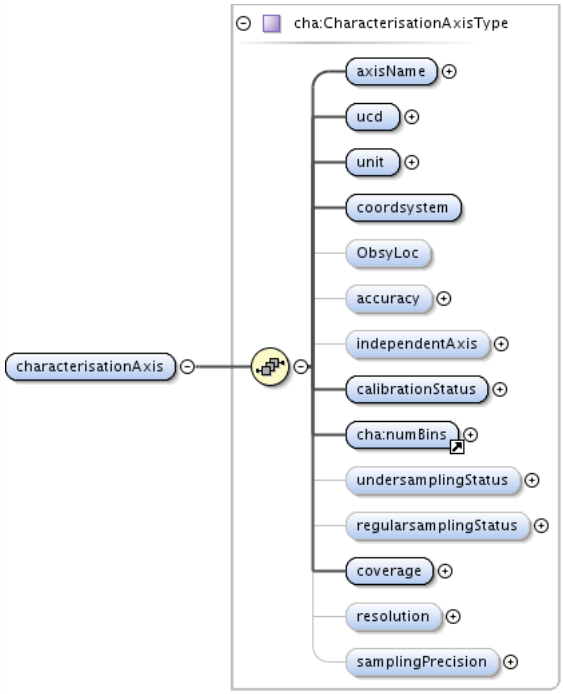
Element cha:characterisation

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CharacterisationType
Properties	content: complex
Substitution Group	• cha:characterization
Model	cha:characterisationAxis+
Children	cha:characterisationAxis

Instance	`<cha:characterisation xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:characterisationAxis>{1,unbounded}</cha:characterisationAxis>`
	`</cha:characterisation>`

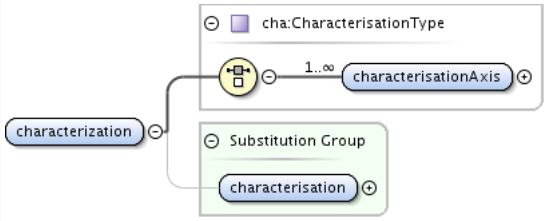
Source	`<xsd:element name="characterisation" type="cha:CharacterisationType"/>`

Element cha:CharacterisationType / cha:characterisationAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CharacterisationAxisType
Properties	content: complex maxOccurs: unbounded

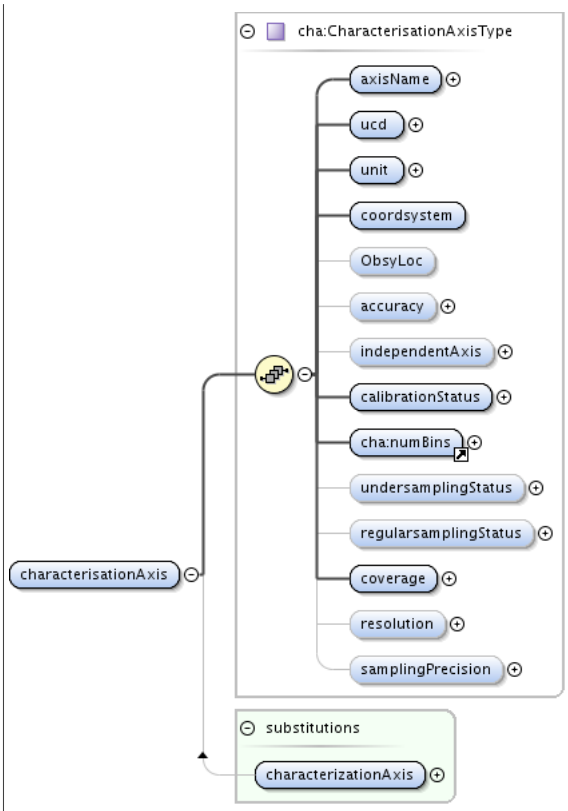
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit
Instance	<cha:characterisationAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:axisName>{1,1}</cha:axisName> <cha:ucd>{1,1}</cha:ucd> <cha:unit>{1,1}</cha:unit> <cha:coordsystem>{1,1}</cha:coordsystem> <cha:ObsyLoc>{0,1}</cha:ObsyLoc> <cha:accuracy>{0,1}</cha:accuracy> <cha:independentAxis>{0,1}</cha:independentAxis> <cha:calibrationStatus>{1,1}</cha:calibrationStatus> <cha:numBins>{1,1}</cha:numBins> <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus> <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus> <cha:coverage>{1,1}</cha:coverage> <cha:resolution>{0,1}</cha:resolution> <cha:samplingPrecision>{0,1}</cha:samplingPrecision> </cha:characterisationAxis>
Source	<xsd:element name="characterisationAxis" type="cha:CharacterisationAxisType" maxOccurs="unbounded"/>

Element cha:characterization

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CharacterisationType
Properties	content: complex
Substitution Group Affiliation	• cha:characterisation
Model	cha:characterisationAxis+
Children	cha:characterisationAxis
Instance	<cha:characterization xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:characterisationAxis>{1,unbounded}</cha:characterisationAxis> </cha:characterization>
Source	<xsd:element name="characterization" type="cha:CharacterisationType" substitutionGroup="cha:characterisation"/>

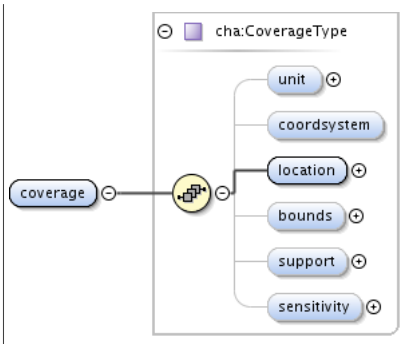
Element cha:characterisationAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	describes an axis and its properties

Diagram	
Type	cha:CharacterisationAxisType
Properties	content: complex
Substitution Group	• cha:characterizationAxis
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit
Instance	<cha:characterisationAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:axisName>{1,1}</cha:axisName> <cha:ucd>{1,1}</cha:ucd> <cha:unit>{1,1}</cha:unit> <cha:coordsystem>{1,1}</cha:coordsystem> <cha:ObsyLoc>{0,1}</cha:ObsyLoc> <cha:accuracy>{0,1}</cha:accuracy> <cha:independentAxis>{0,1}</cha:independentAxis> <cha:calibrationStatus>{1,1}</cha:calibrationStatus> <cha:numBins>{1,1}</cha:numBins> <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus> <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus> <cha:coverage>{1,1}</cha:coverage> <cha:resolution>{0,1}</cha:resolution> <cha:samplingPrecision>{0,1}</cha:samplingPrecision> </cha:characterisationAxis>
Source	<xsd:element name="characterisationAxis" type="cha:CharacterisationAxisType"> <xsd:annotation> <xsd:documentation>describes an axis and its properties</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:coverage

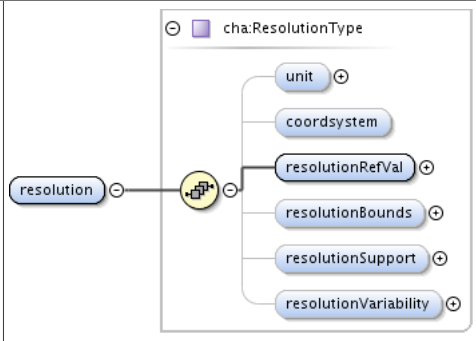
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:CoverageType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit

Instance	`<cha:coverage xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <cha:location>{1,1}</cha:location>`
	`  <cha:bounds>{0,1}</cha:bounds>`
	`  <cha:support>{0,1}</cha:support>`
	`  <cha:sensitivity>{0,1}</cha:sensitivity>`
	`</cha:coverage>`

Source	`<xsd:element name="coverage" type="cha:CoverageType"/>`

Element cha:resolution

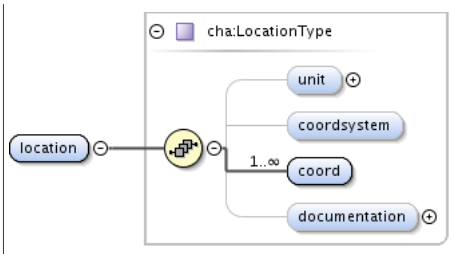
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	minimum size of an interpretable signal along this axis
Diagram	
Type	cha:ResolutionType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit

Instance	`<cha:resolution xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:unit>{0,1}</cha:unit>`
	`  <cha:coordsystem>{0,1}</cha:coordsystem>`
	`  <cha:resolutionRefVal>{1,1}</cha:resolutionRefVal>`
	`  <cha:resolutionBounds>{0,1}</cha:resolutionBounds>`
	`  <cha:resolutionSupport>{0,1}</cha:resolutionSupport>`
	`  <cha:resolutionVariability>{0,1}</cha:resolutionVariability>`
	`</cha:resolution>`

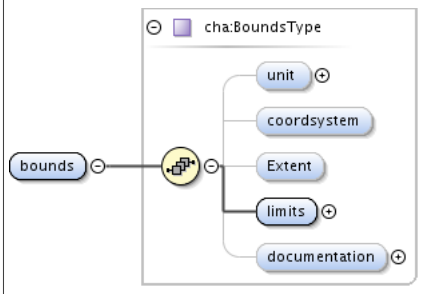
Source	`<xsd:element name="resolution" type="cha:ResolutionType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>minimum size of an interpretable signal along this axis</xsd:documentation>`
	`  </xsd:annotation>`
	`</xsd:element>`

Element cha:location

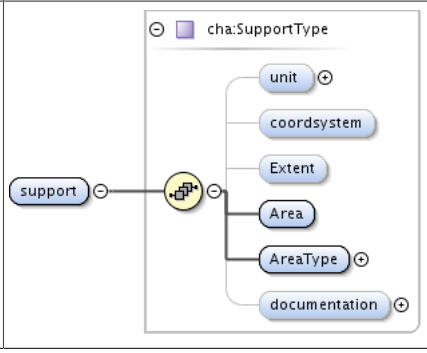
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:LocationType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:coord+ , cha:documentation{0,1}
Children	cha:coord, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:location xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:coord>{1,unbounded}</cha:coord> <cha:documentation>{0,1}</cha:documentation> </cha:location>
Source	<xsd:element name="location" type="cha:LocationType"/>

Element cha:bounds

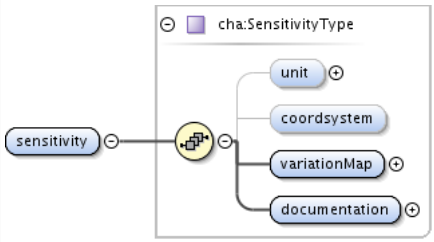
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:BoundsType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:limits , cha:documentation{0,1}
Children	cha:Extent, cha:coordsystem, cha:documentation, cha:limits, cha:unit
Instance	<cha:bounds xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:Extent>{0,1}</cha:Extent> <cha:limits>{1,1}</cha:limits> <cha:documentation>{0,1}</cha:documentation> </cha:bounds>
Source	<xsd:element name="bounds" type="cha:BoundsType"/>

Element cha:support

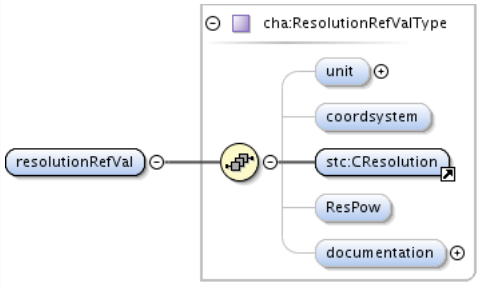
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Type	cha:SupportType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:Area , cha:AreaType , cha:documentation{0,1}
Children	cha:Area, cha:AreaType, cha:Extent, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:support xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:Extent>{0,1}</cha:Extent> <cha:Area>{1,1}</cha:Area> <cha:AreaType>{1,1}</cha:AreaType> <cha:documentation>{0,1}</cha:documentation> </cha:support>
Source	<xsd:element name="support" type="cha:SupportType"/>

Element cha:sensitivity

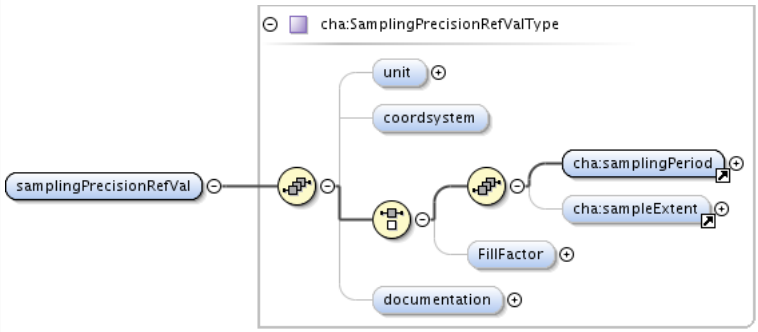
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SensitivityType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:variationMap , cha:documentation
Children	cha:coordsystem, cha:documentation, cha:unit, cha:variationMap
Instance	<cha:sensitivity xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:variationMap>{1,1}</cha:variationMap> <cha:documentation>{1,1}</cha:documentation> </cha:sensitivity>
Source	<xsd:element name="sensitivity" type="cha:SensitivityType"/>

Element cha:resolutionRefVal

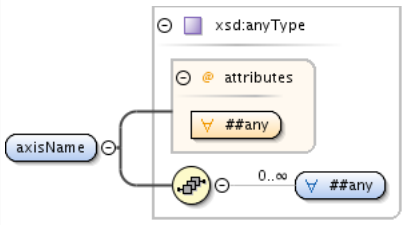
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CResolution , cha:ResPow{0,1} , cha:documentation{0,1}
Children	CResolution, cha:ResPow, cha:coordsystem, cha:documentation, cha:unit
Instance	<cha:resolutionRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <stc:CResolution>{1,1}</stc:CResolution> <cha:ResPow>{0,1}</cha:ResPow>

	<cha:documentation>{0,1}</cha:documentation> </cha:resolutionRefVal>
Source	<xsd:element name="resolutionRefVal" type="cha:ResolutionRefValType"/>

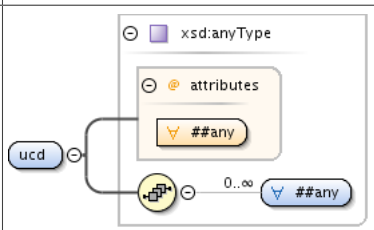
Element cha:samplingPrecisionRefVal

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionRefValType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , ((cha:samplingPeriod , cha:sampleExtent{0,1}) | cha:FillFactor{0,1}) , cha:documentation{0,1}
Children	cha:FillFactor, cha:coordsystem, cha:documentation, cha:sampleExtent, cha:samplingPeriod, cha:unit
Instance	<cha:samplingPrecisionRefVal xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPeriod>{1,1}</cha:samplingPeriod> <cha:sampleExtent>{0,1}</cha:sampleExtent> <cha:FillFactor>{0,1}</cha:FillFactor> <cha:documentation>{0,1}</cha:documentation> </cha:samplingPrecisionRefVal>
Source	<xsd:element name="samplingPrecisionRefVal" type="cha:SamplingPrecisionRefValType"/>

Element cha:SpatialAxisType / cha:axisName

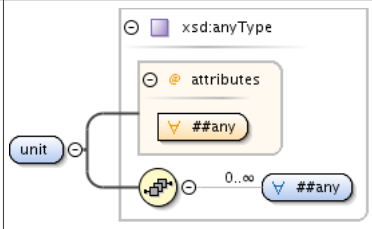
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: spatial
Source	<xsd:element name="axisName" type="xsd:anyType" fixed="spatial"/>

Element cha:SpatialAxisType / cha:ucd

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: pos

Source	<xsd:element name="ucd" type="xsd:anyType" fixed="pos"/>

Element cha:SpatialAxisType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Source	<xsd:element name="unit" type="xsd:anyType"/>

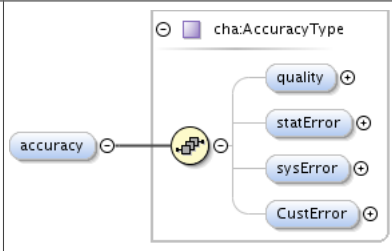
Element cha:SpatialAxisType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: simple
Source	<xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>

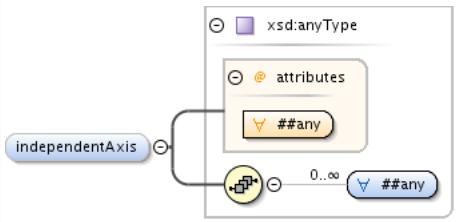
Element cha:SpatialAxisType / cha:ObsyLoc

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	observatoryLocationType
Properties	content: simple minOccurs: 0
Source	<xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>

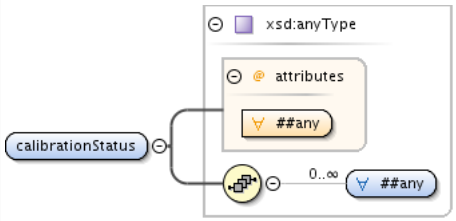
Element cha:SpatialAxisType / cha:accuracy

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:AccuracyType
Properties	content: complex minOccurs: 0
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError
Instance	<cha:accuracy xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:quality>{0,1}</cha:quality> <cha:statError>{0,1}</cha:statError> <cha:sysError>{0,1}</cha:sysError> <cha:CustError>{0,1}</cha:CustError> </cha:accuracy>
Source	<xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>

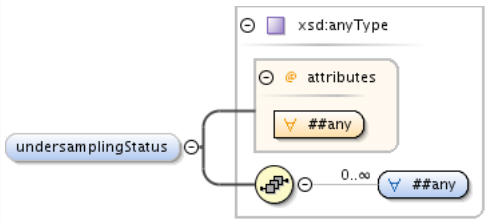
Element cha:SpatialAxisType / cha:independentAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>`

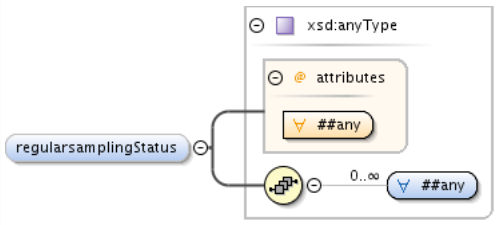
Element cha:SpatialAxisType / cha:calibrationStatus

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Source	`<xsd:element name="calibrationStatus" type="xsd:anyType"/>`

Element cha:SpatialAxisType / cha:undersamplingStatus

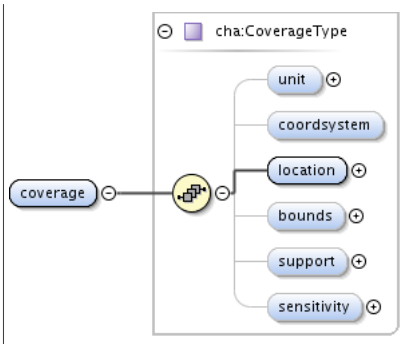
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>`

Element cha:SpatialAxisType / cha:regularsamplingStatus

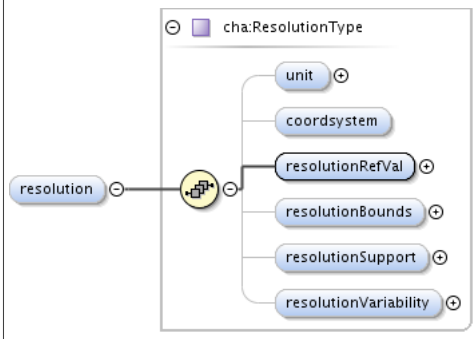
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>`

Element cha:SpatialAxisType / cha:coverage

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

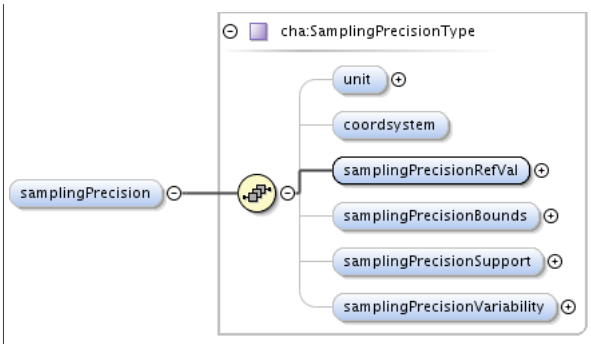
Diagram	
Type	cha:CoverageType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit
Instance	<cha:coverage xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:location>{1,1}</cha:location> <cha:bounds>{0,1}</cha:bounds> <cha:support>{0,1}</cha:support> <cha:sensitivity>{0,1}</cha:sensitivity> </cha:coverage>
Source	<xsd:element name="coverage" type="cha:CoverageType"/>

Element cha:SpatialAxisType / cha:resolution

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:ResolutionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit
Instance	<cha:resolution xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionRefVal>{1,1}</cha:resolutionRefVal> <cha:resolutionBounds>{0,1}</cha:resolutionBounds> <cha:resolutionSupport>{0,1}</cha:resolutionSupport> <cha:resolutionVariability>{0,1}</cha:resolutionVariability> </cha:resolution>
Source	<xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>

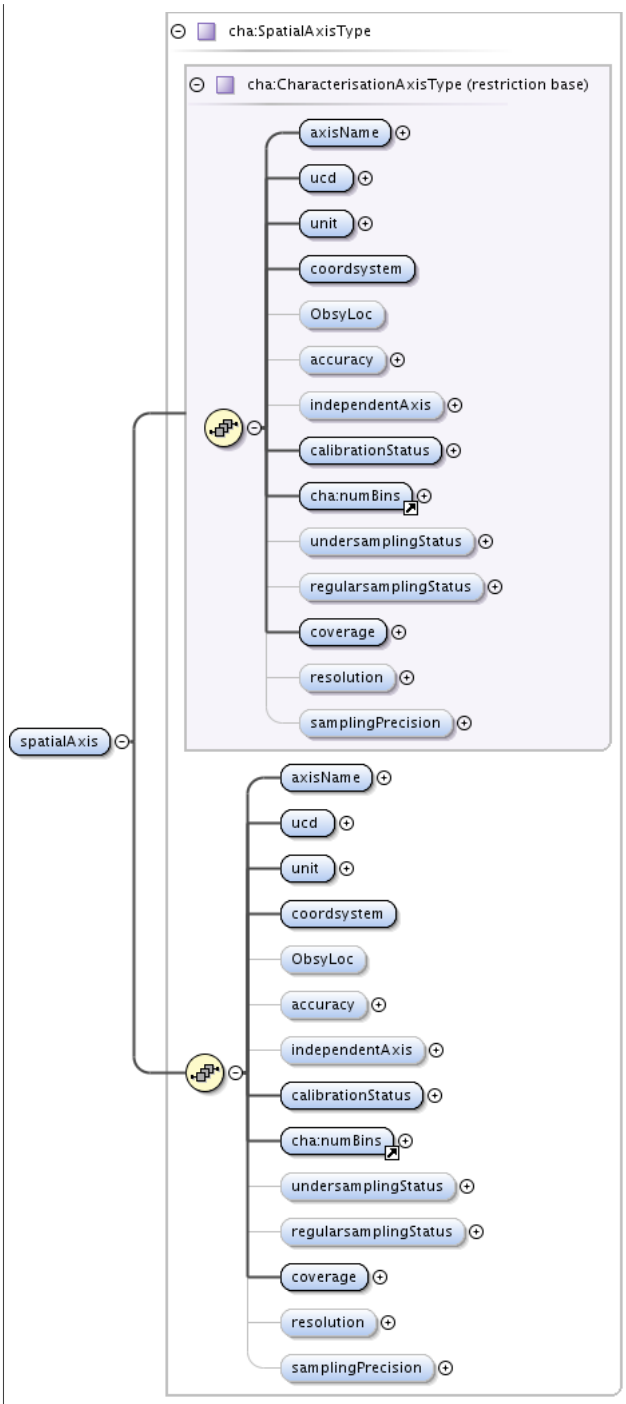
Element cha:SpatialAxisType / cha:samplingPrecision

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:SamplingPrecisionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionRefVal , cha:samplingPrecisionBounds{0,1} , cha:samplingPrecisionSupport{0,1} , cha:samplingPrecisionVariability{0,1}
Children	cha:coordsystem, cha:samplingPrecisionBounds, cha:samplingPrecisionRefVal, cha:samplingPrecisionSupport, cha:samplingPrecisionVariability, cha:unit
Instance	<cha:samplingPrecision xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPrecisionRefVal>{1,1}</cha:samplingPrecisionRefVal> <cha:samplingPrecisionBounds>{0,1}</cha:samplingPrecisionBounds> <cha:samplingPrecisionSupport>{0,1}</cha:samplingPrecisionSupport> <cha:samplingPrecisionVariability>{0,1}</cha:samplingPrecisionVariability> </cha:samplingPrecision>
Source	<xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>

Element cha:spatialAxis

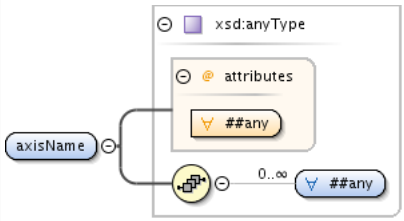
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:SpatialAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:SpatialAxisType
Properties	content: complex
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit
Instance	<cha:spatialAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:axisName>{1,1}</cha:axisName> <cha:ucd>{1,1}</cha:ucd> <cha:unit>{1,1}</cha:unit> <cha:coordsystem>{1,1}</cha:coordsystem>

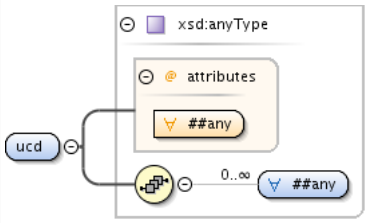
```
  <cha:ObsyLoc>{0,1}</cha:ObsyLoc>
  <cha:accuracy>{0,1}</cha:accuracy>
  <cha:independentAxis>{0,1}</cha:independentAxis>
  <cha:calibrationStatus>{1,1}</cha:calibrationStatus>
  <cha:numBins>{1,1}</cha:numBins>
  <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus>
  <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus>
  <cha:coverage>{1,1}</cha:coverage>
  <cha:resolution>{0,1}</cha:resolution>
  <cha:samplingPrecision>{0,1}</cha:samplingPrecision>
</cha:spatialAxis>
```

Source	`<xsd:element name="spatialAxis" type="cha:SpatialAxisType"/>`

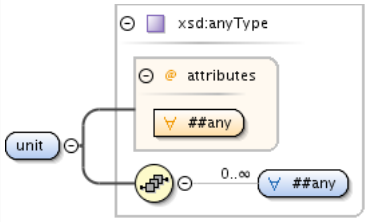
Element cha:SpectralAxisType / cha:axisName

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: `spectral`
Source	`<xsd:element name="axisName" type="xsd:anyType" fixed="spectral"/>`

Element cha:SpectralAxisType / cha:ucd

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: `em`
Source	`<xsd:element name="ucd" type="xsd:anyType" fixed="em"/>`

Element cha:SpectralAxisType / cha:unit

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Source	`<xsd:element name="unit" type="xsd:anyType"/>`

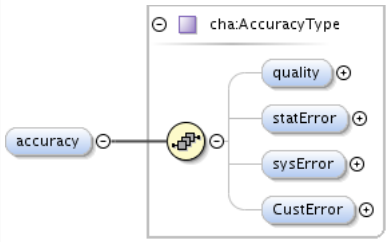
Element cha:SpectralAxisType / cha:coordsystem

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: `simple`
Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>`

Element cha:SpectralAxisType / cha:ObsyLoc

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	observatoryLocationType
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>`

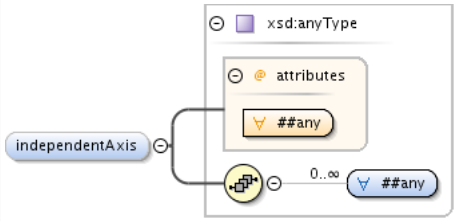
Element cha:SpectralAxisType / cha:accuracy

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:AccuracyType
Properties	content: complex minOccurs: 0
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError

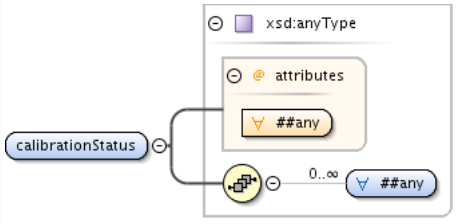
Instance	`<cha:accuracy xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:quality>{0,1}</cha:quality>`
	`  <cha:statError>{0,1}</cha:statError>`
	`  <cha:sysError>{0,1}</cha:sysError>`
	`  <cha:CustError>{0,1}</cha:CustError>`
	`</cha:accuracy>`

Source	`<xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>`

Element cha:SpectralAxisType / cha:independentAxis

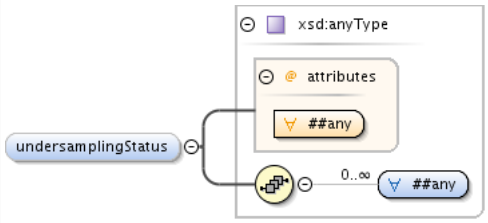
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>`

Element cha:SpectralAxisType / cha:calibrationStatus

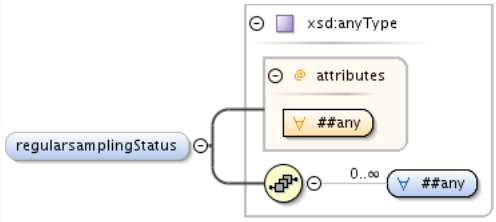
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Source	<xsd:element name="calibrationStatus" type="xsd:anyType"/>

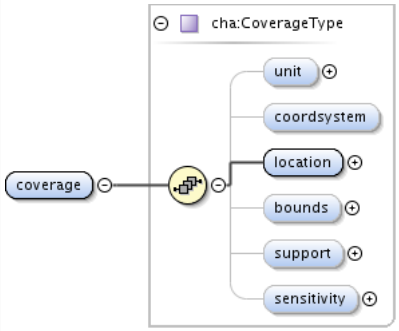
Element cha:SpectralAxisType / cha:undersamplingStatus

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>

Element cha:SpectralAxisType / cha:regularsamplingStatus

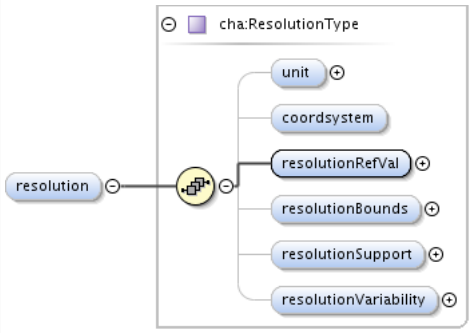
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>

Element cha:SpectralAxisType / cha:coverage

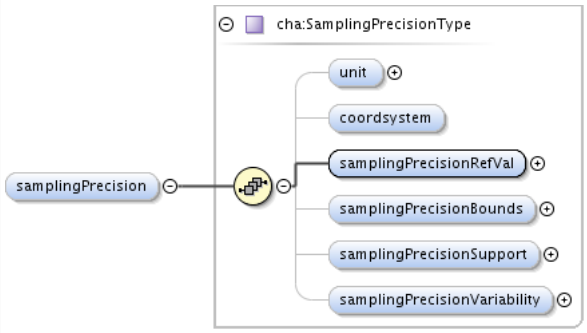
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CoverageType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit
Instance	<cha:coverage xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:location>{1,1}</cha:location> <cha:bounds>{0,1}</cha:bounds> <cha:support>{0,1}</cha:support> <cha:sensitivity>{0,1}</cha:sensitivity> </cha:coverage>
Source	<xsd:element name="coverage" type="cha:CoverageType"/>

Element cha:SpectralAxisType / cha:resolution

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

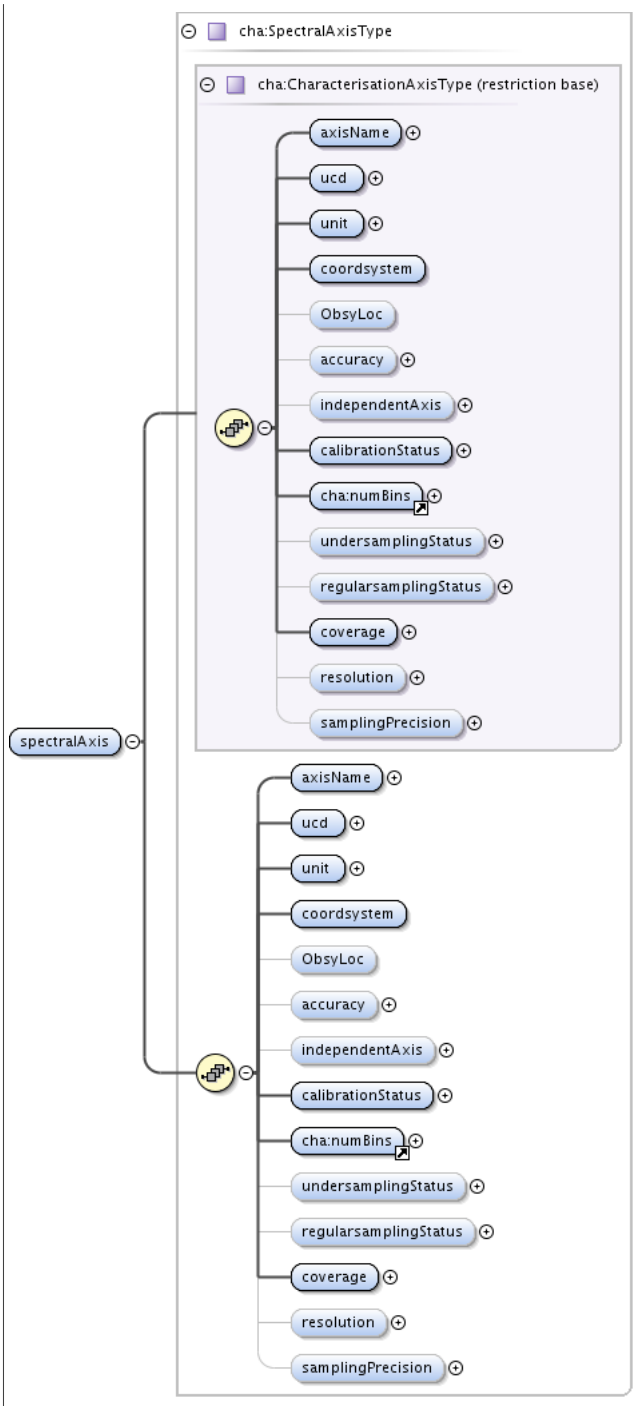
Diagram	
Type	cha:ResolutionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit
Instance	<cha:resolution xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:resolutionRefVal>{1,1}</cha:resolutionRefVal> <cha:resolutionBounds>{0,1}</cha:resolutionBounds> <cha:resolutionSupport>{0,1}</cha:resolutionSupport> <cha:resolutionVariability>{0,1}</cha:resolutionVariability> </cha:resolution>
Source	<xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>

Element cha:SpectralAxisType / cha:samplingPrecision

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionRefVal , cha:samplingPrecisionBounds{0,1} , cha:samplingPrecisionSupport{0,1} , cha:samplingPrecisionVariability{0,1}
Children	cha:coordsystem, cha:samplingPrecisionBounds, cha:samplingPrecisionRefVal, cha:samplingPrecisionSupport, cha:samplingPrecisionVariability, cha:unit
Instance	<cha:samplingPrecision xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:samplingPrecisionRefVal>{1,1}</cha:samplingPrecisionRefVal> <cha:samplingPrecisionBounds>{0,1}</cha:samplingPrecisionBounds> <cha:samplingPrecisionSupport>{0,1}</cha:samplingPrecisionSupport> <cha:samplingPrecisionVariability>{0,1}</cha:samplingPrecisionVariability> </cha:samplingPrecision>
Source	<xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>

Element cha:spectralAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

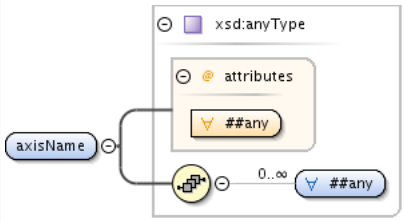
Diagram	
Type	cha:SpectralAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:SpectralAxisType
Properties	content: complex
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit

Instance	<pre><cha:spectralAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">
	  <cha:axisName>{1,1}</cha:axisName>
	  <cha:ucd>{1,1}</cha:ucd>
	  <cha:unit>{1,1}</cha:unit>
	  <cha:coordsystem>{1,1}</cha:coordsystem></pre>

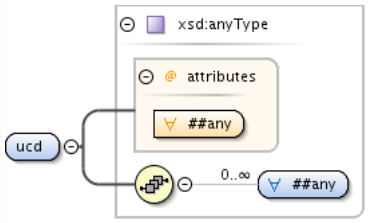
```
  <cha:ObsyLoc>{0,1}</cha:ObsyLoc>
  <cha:accuracy>{0,1}</cha:accuracy>
  <cha:independentAxis>{0,1}</cha:independentAxis>
  <cha:calibrationStatus>{1,1}</cha:calibrationStatus>
  <cha:numBins>{1,1}</cha:numBins>
  <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus>
  <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus>
  <cha:coverage>{1,1}</cha:coverage>
  <cha:resolution>{0,1}</cha:resolution>
  <cha:samplingPrecision>{0,1}</cha:samplingPrecision>
</cha:spectralAxis>
```

Source	`<xsd:element name="spectralAxis" type="cha:SpectralAxisType"/>`

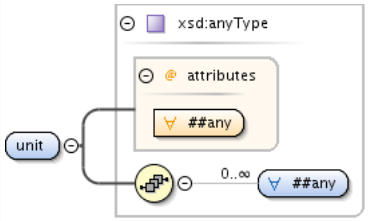
Element `cha:TimeAxisType / cha:axisName`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: `temporal`
Source	`<xsd:element name="axisName" type="xsd:anyType" fixed="temporal"/>`

Element `cha:TimeAxisType / cha:ucd`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	fixed: `time`
Source	`<xsd:element name="ucd" type="xsd:anyType" fixed="time"/>`

Element `cha:TimeAxisType / cha:unit`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Source	`<xsd:element name="unit" type="xsd:anyType"/>`

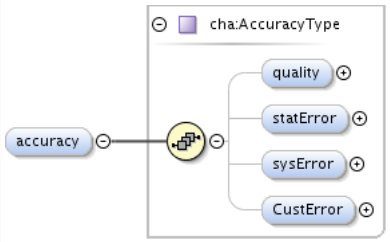
Element `cha:TimeAxisType / cha:coordsystem`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	astroCoordSystemType
Properties	content: `simple`
Source	`<xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>`

Element cha:TimeAxisType / cha:ObsyLoc

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	observatoryLocationType
Properties	content: simple minOccurs: 0
Source	`<xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>`

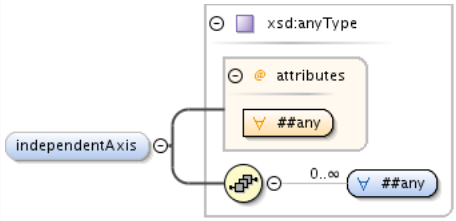
Element cha:TimeAxisType / cha:accuracy

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:AccuracyType
Properties	content: complex minOccurs: 0
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError

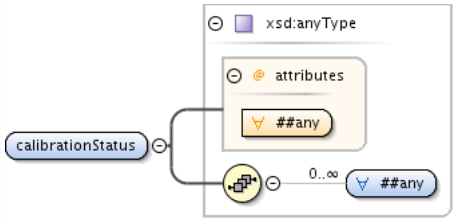
Instance	`<cha:accuracy xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`  <cha:quality>{0,1}</cha:quality>`
	`  <cha:statError>{0,1}</cha:statError>`
	`  <cha:sysError>{0,1}</cha:sysError>`
	`  <cha:CustError>{0,1}</cha:CustError>`
	`</cha:accuracy>`

Source	`<xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>`

Element cha:TimeAxisType / cha:independentAxis

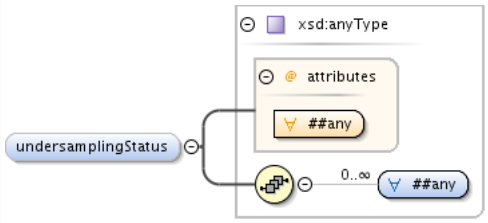
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	`<xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>`

Element cha:TimeAxisType / cha:calibrationStatus

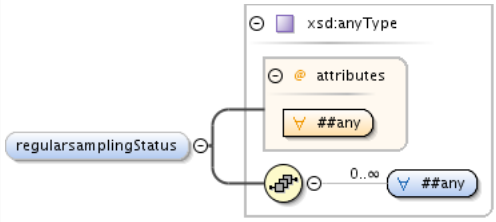
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Source	<xsd:element name="calibrationStatus" type="xsd:anyType"/>

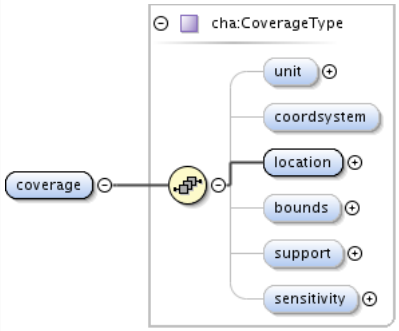
Element cha:TimeAxisType / cha:undersamplingStatus

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>

Element cha:TimeAxisType / cha:regularsamplingStatus

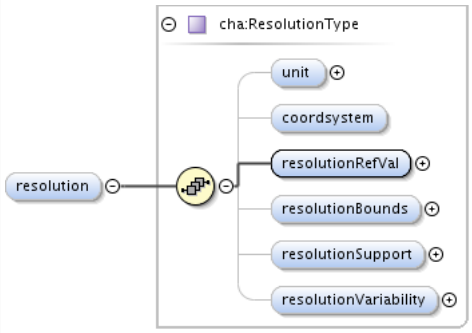
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	minOccurs: 0
Source	<xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>

Element cha:TimeAxisType / cha:coverage

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:CoverageType
Properties	content: complex
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit
Instance	<cha:coverage xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:unit>{0,1}</cha:unit> <cha:coordsystem>{0,1}</cha:coordsystem> <cha:location>{1,1}</cha:location> <cha:bounds>{0,1}</cha:bounds> <cha:support>{0,1}</cha:support> <cha:sensitivity>{0,1}</cha:sensitivity> </cha:coverage>
Source	<xsd:element name="coverage" type="cha:CoverageType"/>

Element cha:TimeAxisType / cha:resolution

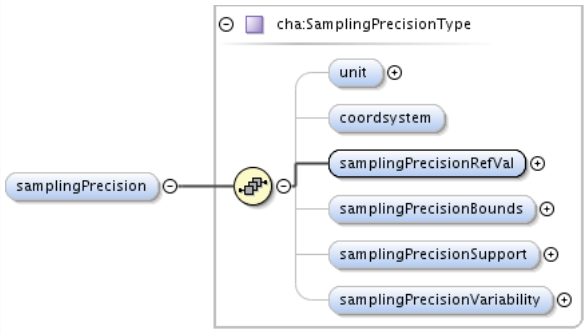
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Type	cha:ResolutionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit

Instance	`<cha:resolution xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`<cha:unit>{0,1}</cha:unit>`
	`<cha:coordsystem>{0,1}</cha:coordsystem>`
	`<cha:resolutionRefVal>{1,1}</cha:resolutionRefVal>`
	`<cha:resolutionBounds>{0,1}</cha:resolutionBounds>`
	`<cha:resolutionSupport>{0,1}</cha:resolutionSupport>`
	`<cha:resolutionVariability>{0,1}</cha:resolutionVariability>`
	`</cha:resolution>`

Source	`<xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>`

Element cha:TimeAxisType / cha:samplingPrecision

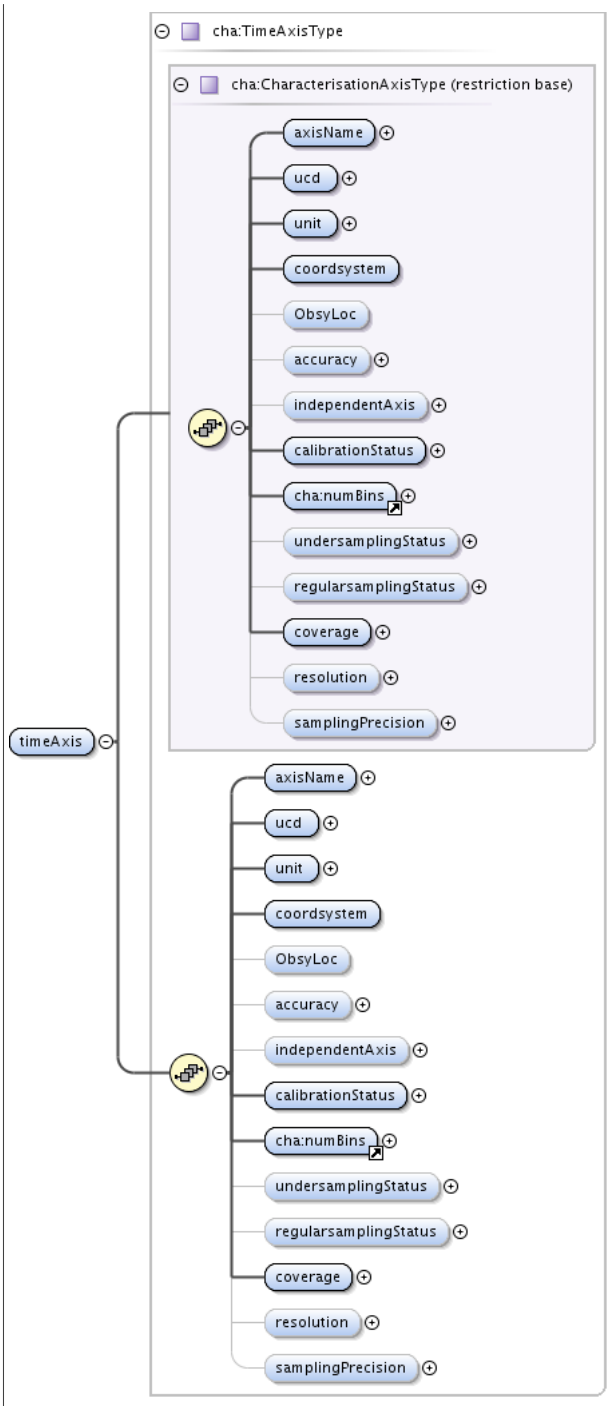
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	cha:SamplingPrecisionType
Properties	content: complex minOccurs: 0
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionRefVal , cha:samplingPrecisionBounds{0,1} , cha:samplingPrecisionSupport{0,1} , cha:samplingPrecisionVariability{0,1}
Children	cha:coordsystem, cha:samplingPrecisionBounds, cha:samplingPrecisionRefVal, cha:samplingPrecisionSupport, cha:samplingPrecisionVariability, cha:unit

Instance	`<cha:samplingPrecision xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd">`
	`<cha:unit>{0,1}</cha:unit>`
	`<cha:coordsystem>{0,1}</cha:coordsystem>`
	`<cha:samplingPrecisionRefVal>{1,1}</cha:samplingPrecisionRefVal>`
	`<cha:samplingPrecisionBounds>{0,1}</cha:samplingPrecisionBounds>`
	`<cha:samplingPrecisionSupport>{0,1}</cha:samplingPrecisionSupport>`
	`<cha:samplingPrecisionVariability>{0,1}</cha:samplingPrecisionVariability>`
	`</cha:samplingPrecision>`

Source	`<xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>`

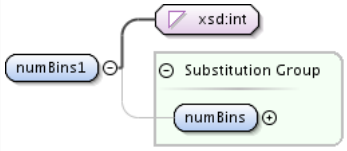
Element cha:timeAxis

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

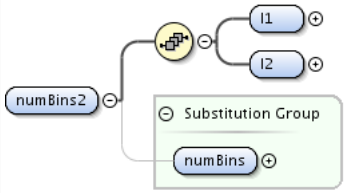
Diagram	
Type	cha:TimeAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:TimeAxisType
Properties	content: complex
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit
Instance	<cha:timeAxis xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:axisName>{1,1}</cha:axisName> <cha:ucd>{1,1}</cha:ucd> <cha:unit>{1,1}</cha:unit> <cha:coordsystem>{1,1}</cha:coordsystem>

	<cha:ObsyLoc>{0,1}</cha:ObsyLoc> <cha:accuracy>{0,1}</cha:accuracy> <cha:independentAxis>{0,1}</cha:independentAxis> <cha:calibrationStatus>{1,1}</cha:calibrationStatus> <cha:numBins>{1,1}</cha:numBins> <cha:undersamplingStatus>{0,1}</cha:undersamplingStatus> <cha:regularsamplingStatus>{0,1}</cha:regularsamplingStatus> <cha:coverage>{1,1}</cha:coverage> <cha:resolution>{0,1}</cha:resolution> <cha:samplingPrecision>{0,1}</cha:samplingPrecision> </cha:timeAxis>
Source	<xsd:element name="timeAxis" type="cha:TimeAxisType"/>

Element cha:numBins1

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int
Properties	content: simple
Substitution Group Affiliation	• cha:numBins
Source	<xsd:element name="numBins1" type="xsd:int" substitutionGroup="cha:numBins"/>

Element cha:numBins2

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	content: complex
Substitution Group Affiliation	• cha:numBins
Model	cha:I1 , cha:I2
Children	cha:I1, cha:I2
Instance	<cha:numBins2 xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:I1>{1,1}</cha:I1> <cha:I2>{1,1}</cha:I2> </cha:numBins2>
Source	<xsd:element name="numBins2" substitutionGroup="cha:numBins"> <xsd:complexType> <xsd:sequence> <xsd:element name="I1" type="xsd:int"/> <xsd:element name="I2" type="xsd:int"/> </xsd:sequence> </xsd:complexType> </xsd:element>

Element cha:numBins2 / cha:I1

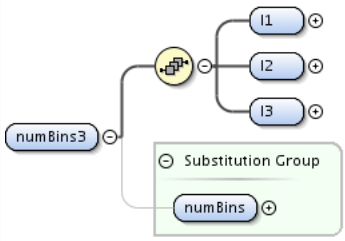
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int

Properties	content: simple
Source	<xsd:element name="I1" type="xsd:int"/>

Element cha:numBins2 / cha:I2

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int
Properties	content: simple
Source	<xsd:element name="I2" type="xsd:int"/>

Element cha:numBins3

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	content: complex
Substitution Group Affiliation	• cha:numBins
Model	cha:I1 , cha:I2 , cha:I3
Children	cha:I1, cha:I2, cha:I3
Instance	<cha:numBins3 xmlns:cha="http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd"> <cha:I1>{1,1}</cha:I1> <cha:I2>{1,1}</cha:I2> <cha:I3>{1,1}</cha:I3> </cha:numBins3>
Source	<xsd:element name="numBins3" substitutionGroup="cha:numBins"> <xsd:complexType> <xsd:sequence> <xsd:element name="I1" type="xsd:int"/> <xsd:element name="I2" type="xsd:int"/> <xsd:element name="I3" type="xsd:int"/> </xsd:sequence> </xsd:complexType> </xsd:element>

Element cha:numBins3 / cha:I1

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int
Properties	content: simple
Source	<xsd:element name="I1" type="xsd:int"/>

Element cha:numBins3 / cha:I2

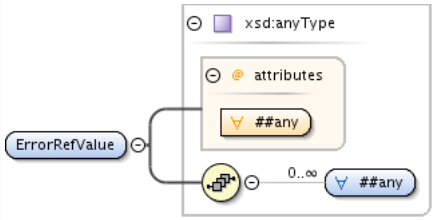
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int

Properties	content: simple
Source	<xsd:element name="I2" type="xsd:int"/>

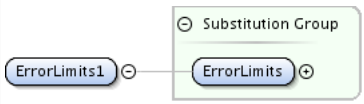
Element cha:numBins3 / cha:I3

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	xsd:int
Properties	content: simple
Source	<xsd:element name="I3" type="xsd:int"/>

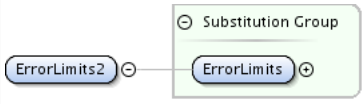
Element cha:ErrorRefValue

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	abstract: true
Substitution Group Affiliation	• CError
Source	<xsd:element name="ErrorRefValue" type="xsd:anyType" abstract="true" substitutionGroup="stc:CError"/>

Element cha:ErrorLimits1

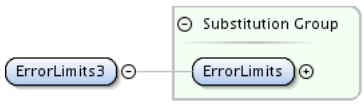
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordScalarIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:ErrorLimits
Source	<xsd:element name="ErrorLimits1" type="stc:coordScalarIntervalType" substitutionGroup="cha:ErrorLimits"/>

Element cha:ErrorLimits2

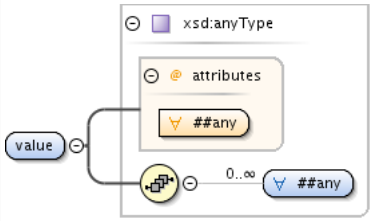
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord2VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:ErrorLimits

Source	<xsd:element name="ErrorLimits2" type="stc:coord2VecIntervalType" substitutionGroup="cha:ErrorLimits"/>

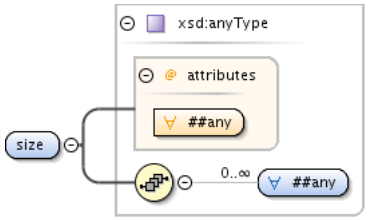
Element cha:ErrorLimits3

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord3VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:ErrorLimits
Source	<xsd:element name="ErrorLimits3" type="stc:coord3VecIntervalType" substitutionGroup="cha:ErrorLimits"/>

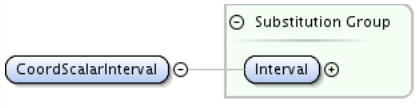
Element cha:value

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	abstract: true
Substitution Group Affiliation	• CoordValue
Source	<xsd:element name="value" type="xsd:anyType" abstract="true" substitutionGroup="stc:CoordValue"/>

Element cha:size

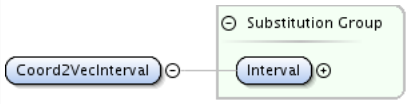
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Properties	abstract: true
Substitution Group Affiliation	• CSize
Source	<xsd:element name="size" type="xsd:anyType" abstract="true" substitutionGroup="stc:CSize"/>

Element cha:CoordScalarInterval

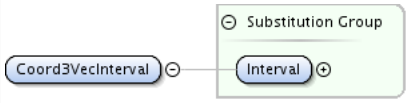
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A scalar coordinate interval
Diagram	

Type	coordScalarIntervalType
Properties	content: simple nillable: true
Substitution Group Affiliation	• cha:Interval
Source	<xsd:element name="CoordScalarInterval" type="stc:coordScalarIntervalType" substitutionGroup="cha:Interval" nillable="true"> <xsd:annotation> <xsd:documentation>A scalar coordinate interval</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:Coord2VecInterval

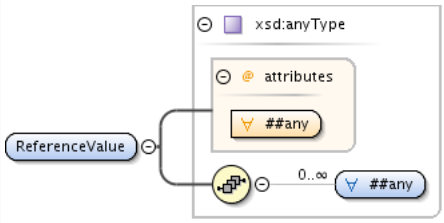
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A 2-D coordinate interval ("box")
Diagram	
Type	coord2VecIntervalType
Properties	content: simple nillable: true
Substitution Group Affiliation	• cha:Interval
Source	<xsd:element name="Coord2VecInterval" type="stc:coord2VecIntervalType" substitutionGroup="cha:Interval" nillable="true"> <xsd:annotation> <xsd:documentation>A 2-D coordinate interval ("box")</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:Coord3VecInterval

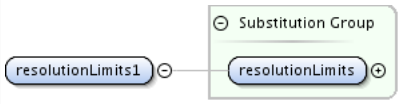
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A 3-D coordinate triplet interval ("cube")
Diagram	
Type	coord3VecIntervalType
Properties	content: simple nillable: true
Substitution Group Affiliation	• cha:Interval
Source	<xsd:element name="Coord3VecInterval" type="stc:coord3VecIntervalType" substitutionGroup="cha:Interval" nillable="true"> <xsd:annotation> <xsd:documentation>A 3-D coordinate triplet interval ("cube")</xsd:documentation> </xsd:annotation> </xsd:element>

Element cha:ReferenceValue

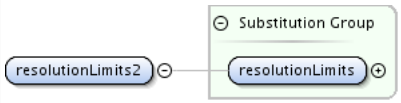
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Typical resolution value along the axis 1D resolution of type stc:double1Type 2D resolution of type stc:size2Type, double4Type or double1Type (resolution radius) 3D resolution of type stc:size3Type, double9TYpe or double1Type (resolution 3 radius)

Diagram	
Properties	abstract: `true`
Substitution Group Affiliation	• CResolution
Source	`<xsd:element name="ReferenceValue" type="xsd:anyType" abstract="true" substitutionGroup="stc:CResolution"> <xsd:annotation> <xsd:documentation>Typical resolution value along the axis 1D resolution of type stc:double1Type 2D resolution of type stc:size2Type, double4Type or double1Type (resolution radius) 3D resolution of type stc:size3Type, double9TYpe or double1Type (resolution 3 radius)</xsd:documentation> </xsd:annotation> </xsd:element>`

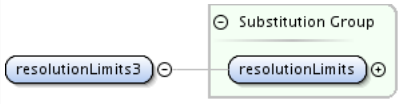
Element cha:resolutionLimits1

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordScalarIntervalType
Properties	content: `simple`
Substitution Group Affiliation	• cha:resolutionLimits
Source	`<xsd:element name="resolutionLimits1" type="stc:coordScalarIntervalType" substitutionGroup="cha:resolutionLimits"/>`

Element cha:resolutionLimits2

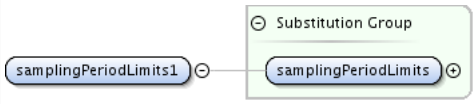
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord2VecIntervalType
Properties	content: `simple`
Substitution Group Affiliation	• cha:resolutionLimits
Source	`<xsd:element name="resolutionLimits2" type="stc:coord2VecIntervalType" substitutionGroup="cha:resolutionLimits"/>`

Element cha:resolutionLimits3

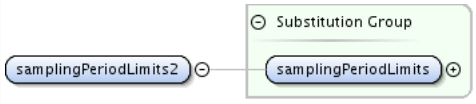
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord3VecIntervalType
Properties	content: `simple`
Substitution Group Affiliation	• cha:resolutionLimits

Source	<xsd:element name="resolutionLimits3" type="stc:coord3VecIntervalType" substitutionGroup="cha:resolutionLimits"/>

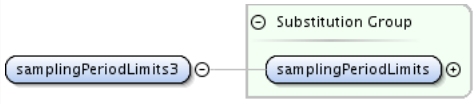
Element cha:samplingPeriodLimits1

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordScalarIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingPeriodLimits
Source	<xsd:element name="samplingPeriodLimits1" type="stc:coordScalarIntervalType" substitutionGroup="cha:samplingPeriodLimits"/>

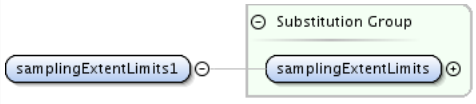
Element cha:samplingPeriodLimits2

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord2VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingPeriodLimits
Source	<xsd:element name="samplingPeriodLimits2" type="stc:coord2VecIntervalType" substitutionGroup="cha:samplingPeriodLimits"/>

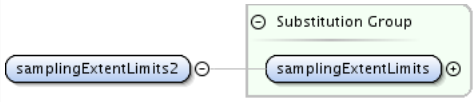
Element cha:samplingPeriodLimits3

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord3VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingPeriodLimits
Source	<xsd:element name="samplingPeriodLimits3" type="stc:coord3VecIntervalType" substitutionGroup="cha:samplingPeriodLimits"/>

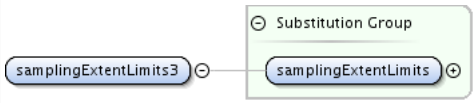
Element cha:samplingExtentLimits1

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coordIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingExtentLimits
Source	<xsd:element name="samplingExtentLimits1" type="stc:coordIntervalType" substitutionGroup="cha:samplingExtentLimits"/>

Element cha:samplingExtentLimits2

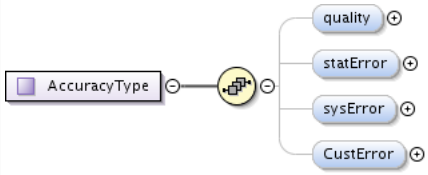
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord2VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingExtentLimits
Source	`<xsd:element name="samplingExtentLimits2" type="stc:coord2VecIntervalType" substitutionGroup="cha:samplingExtentLimits"/>`

Element cha:samplingExtentLimits3

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	coord3VecIntervalType
Properties	content: simple
Substitution Group Affiliation	• cha:samplingExtentLimits
Source	`<xsd:element name="samplingExtentLimits3" type="stc:coord3VecIntervalType" substitutionGroup="cha:samplingExtentLimits"/>`

Complex Type(s)

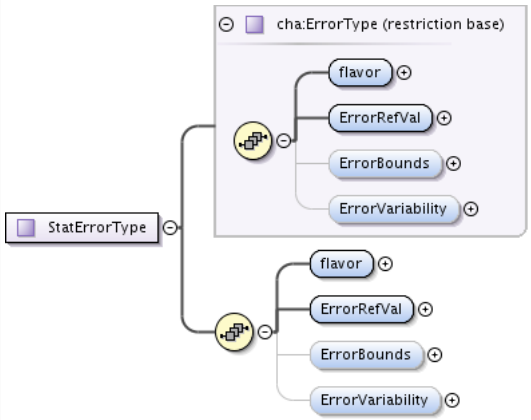
Complex Type cha:AccuracyType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:CharacterisationAxisType/cha:accuracy, cha:SpatialAxisType/cha:accuracy, cha:SpectralAxisType/cha:accuracy, cha:TimeAxisType/cha:accuracy, psr:ParameterAxisType/psr:accuracy
Model	cha:quality{0,1} , cha:statError{0,1} , cha:sysError{0,1} , cha:CustError{0,1}
Children	cha:CustError, cha:quality, cha:statError, cha:sysError

Source	`<xsd:complexType name="AccuracyType">`
	`  <xsd:sequence>`
	`  <xsd:element name="quality" type="xsd:string" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>A combination of flags attesting the data quality. Type: String</xsd:documentation>`
	`  </xsd:annotation>`
	`  </xsd:element>`
	`  <xsd:element name="statError" type="cha:StatErrorType" minOccurs="0"/>`
	`  <xsd:element name="sysError" type="cha:SysErrorType" minOccurs="0"/>`
	`  <xsd:element name="CustError" type="cha:ErrorType" minOccurs="0"/>`
	`  </xsd:sequence>`
	`</xsd:complexType>`

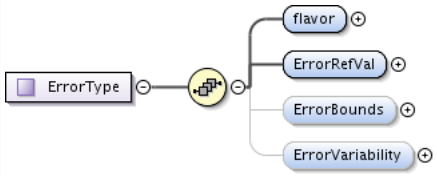
Complex Type cha:StatErrorType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Statistical Error on the axis

Diagram	
Type	restriction of cha:ErrorType
Type hierarchy	• cha:ErrorType • cha:StatErrorType
Used by	Element cha:AccuracyType/cha:statError
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}
Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor

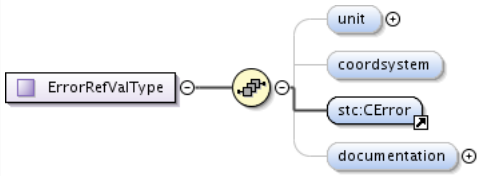
Source	`<xsd:complexType name="StatErrorType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Statistical Error on the axis</xsd:documentation>`
	`  </xsd:annotation>`
	`  <xsd:complexContent>`
	`  <xsd:restriction base="cha:ErrorType">`
	`  <xsd:sequence>`
	`  <xsd:element name="flavor" type="xsd:string" fixed="statistical">`
	`  <xsd:annotation>`
	`  <xsd:documentation>The type of error described : here statistical Type : string ,`
	`value="statistical" "</xsd:documentation>`
	`  </xsd:annotation>`
	`  </xsd:element>`
	`  <xsd:element name="ErrorRefVal" type="cha:ErrorRefValType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Typical statistical Error on the axis</xsd:documentation>`
	`  </xsd:annotation>`
	`  </xsd:element>`
	`  <xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Range of the error for mapping along this axis</xsd:documentation>`
	`  </xsd:annotation>`
	`  </xsd:element>`
	`  <xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0">`
	`  <xsd:annotation>`
	`  <xsd:documentation>A detailed description of the local error values</xsd:documentation>`
	`  </xsd:annotation>`
	`  </xsd:element>`
	`  </xsd:sequence>`
	`  </xsd:restriction>`
	`  </xsd:complexContent>`
	`</xsd:complexType>`

Complex Type `cha:ErrorType`

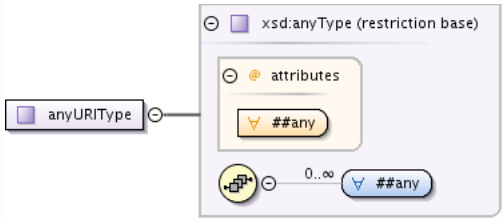
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Complex Types cha:StatErrorType, cha:SysErrorType Element cha:AccuracyType/cha:CustError
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}

Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor
Source	<xsd:complexType name="ErrorType"> <xsd:sequence> <xsd:annotation> <xsd:documentation>Some Error on the axis</xsd:documentation> </xsd:annotation> <xsd:element name="flavor" type="xsd:string"> <xsd:annotation> <xsd:documentation>The type of error described : statistical , systematic, global, etc. Type: string</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="ErrorRefVal" type="cha:ErrorRefValType"/> <xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0"/> <xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0"/> </xsd:sequence> </xsd:complexType>

Complex Type cha:ErrorRefValType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements: cha:ErrorType/cha:ErrorRefVal, cha:StatErrorType/cha:ErrorRefVal, cha:SysErrorType/cha:ErrorRefVal
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CError , cha:documentation{0,1}
Children	CError, cha:coordsystem, cha:documentation, cha:unit
Source	<xsd:complexType name="ErrorRefValType"> <xsd:sequence> <xsd:annotation> <xsd:documentation>Typical statistical error on the axis. Types: depend on the dimensionality 1D Error based on stc:double1Type 2D Errors based on stc:size2Type, double2Type or double1Type (error 2 radius) 3D Errors based on stc:size3Type, double3TYpe or double1Type (error 3 radius)</ xsd:documentation> </xsd:annotation> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="stc:CError"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/> </xsd:sequence> </xsd:complexType>

Complex Type cha:anyURIType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements: cha:BoundsType/cha:documentation, cha:ErrorBoundsType/cha:documentation, cha:ErrorRefValType/cha:documentation, cha:ErrorVariabilityType/cha:ErrorMap, cha:ErrorVariabilityType/cha:documentation, cha:LocationType/cha:documentation, cha:ResolutionBoundsType/cha:documentation, cha:ResolutionRefValType/cha:documentation, cha:ResolutionSupportType/cha:documentation, cha:ResolutionVariabilityType/cha:documentation, cha:ResolutionVariabilityType/cha:resolutionMap, cha:SamplingPrecisionBoundsType/cha:documentation, cha:SamplingPrecisionRefValType/cha:documentation, cha:SamplingPrecisionSupportType/cha:documentation, cha:SamplingPrecisionVariabilityType/cha:documentation, cha:SamplingPrecisionVariabilityType/cha:samplingPrecisionMap, cha:SensitivityType/cha:documentation, cha:SensitivityType/cha:variationMap, cha:SupportType/cha:documentation, psr:BoundsType/psr:documentation, psr:LocationType/psr:documentation, psr:ResolutionBoundsType/psr:documentation, psr:ResolutionRefValType/psr:documentation, psr:ResolutionSupportType/psr:documentation, psr:ResolutionVariabilityType/psr:documentation,

		psr:ResolutionVariabilityType/psr:resolutionMap, psr:SamplingPrecisionBoundsType/psr:documentation, psr:SamplingPrecisionRefValType/psr:documentation, psr:SamplingPrecisionSupportType/psr:documentation, psr:SamplingPrecisionVariabilityType/psr:documentation, psr:SamplingPrecisionVariabilityType/psr:samplingPrecisionMap, psr:SensitivityType/psr:documentation, psr:SensitivityType/psr:variationMap, psr:SupportType/psr:documentation
Source	<xsd:complexType name="anyURIType"> <xsd:complexContent> <xsd:restriction base="xsd:anyType"/> </xsd:complexContent> </xsd:complexType>	

Complex Type cha:ErrorBoundsType

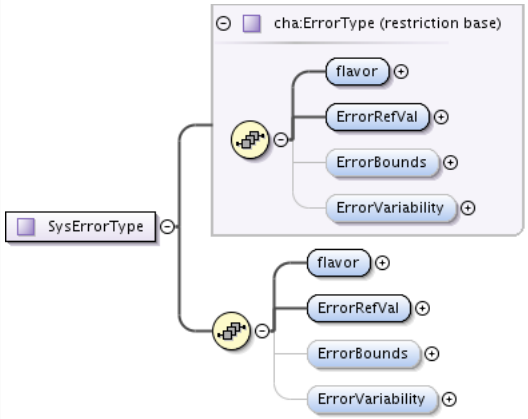
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Hi and Low values of statistical errors on this axis. Type: stc:coordScalarInterval, 2DVecInterval or 3DVecInterval
Diagram	
Used by	Elements: cha:ErrorType/cha:ErrorBounds, cha:StatErrorType/cha:ErrorBounds, cha:SysErrorType/cha:ErrorBounds
Model	cha:ErrorLimits , cha:documentation{0,1}
Children	cha:ErrorLimits, cha:documentation
Source	<xsd:complexType name="ErrorBoundsType"> <xsd:annotation> <xsd:documentation>Hi and Low values of statistical errors on this axis. Type: stc:coordScalarInterval, 2DVecInterval or 3DVecInterval</xsd:documentation> </xsd:annotation> <xsd:sequence> <xsd:element ref="cha:ErrorLimits"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A description of the error extreme values . Type: any URI type</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:ErrorVariabilityType

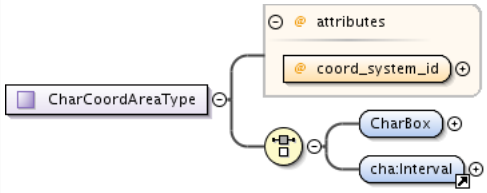
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A detailed description of the local error values. Could be conveyed with the data as in IVOA Spectrum data model Type: any URI type pointing to such a map
Diagram	
Used by	Elements: cha:ErrorType/cha:ErrorVariability, cha:StatErrorType/cha:ErrorVariability, cha:SysErrorType/cha:ErrorVariability
Model	cha:ErrorMap , cha:documentation{0,1}
Children	cha:ErrorMap, cha:documentation
Source	<xsd:complexType name="ErrorVariabilityType"> <xsd:annotation> <xsd:documentation>A detailed description of the local error values. Could be conveyed with the data as in IVOA Spectrum data model Type: any URI type pointing to such a map</xsd:documentation> </xsd:annotation> <xsd:sequence> <xsd:element name="ErrorMap" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>A map showing the variability of the error Type: any URI type</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>documentation on the Error variation Type: any URI type</xsd:documentation>

```
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type cha:SysErrorType

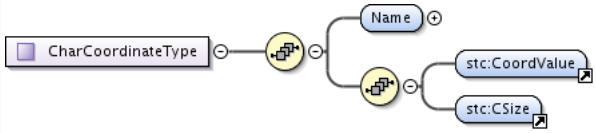
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Systematic Error on the axis
Diagram	
Type	restriction of cha:ErrorType
Type hierarchy	• cha:ErrorType • cha:SysErrorType
Used by	Element cha:AccuracyType/cha:sysError
Model	cha:flavor , cha:ErrorRefVal , cha:ErrorBounds{0,1} , cha:ErrorVariability{0,1}
Children	cha:ErrorBounds, cha:ErrorRefVal, cha:ErrorVariability, cha:flavor
Source	<xsd:complexType name="SysErrorType"> <xsd:annotation> <xsd:documentation>Systematic Error on the axis</xsd:documentation> </xsd:annotation> <xsd:complexContent> <xsd:restriction base="cha:ErrorType"> <xsd:sequence> <xsd:element name="flavor" type="xsd:string" fixed="systematic"> <xsd:annotation> <xsd:documentation>The type of error described : here, systematic Type: string , value: systematic</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="ErrorRefVal" type="cha:ErrorRefValType"/> <xsd:element name="ErrorBounds" type="cha:ErrorBoundsType" minOccurs="0"/> <xsd:element name="ErrorVariability" type="cha:ErrorVariabilityType" minOccurs="0"/> </xsd:sequence> </xsd:restriction> </xsd:complexContent> </xsd:complexType>

Complex Type cha:CharCoordAreaType

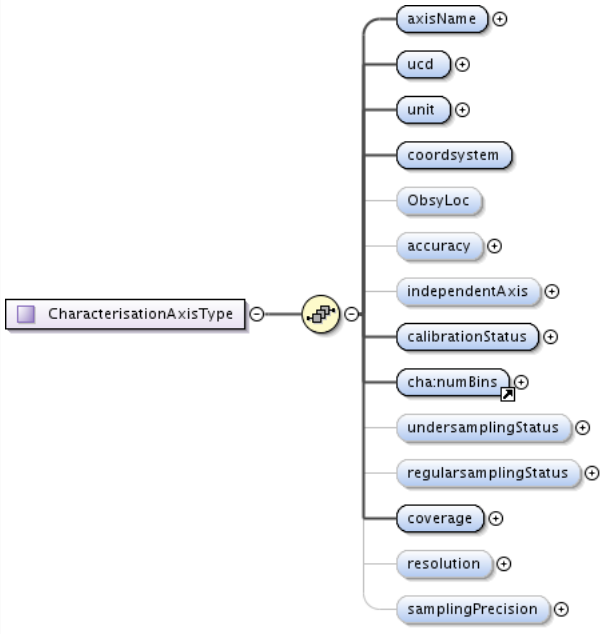
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Type	extension of stcBaseType
Type hierarchy	• stcBaseType • cha:CharCoordAreaType
Used by	Elements cha:BoundsType/cha:limits, psr:BoundsType/psr:limits

Model	cha:CharBox | cha:Interval
Children	cha:CharBox, cha:Interval
Source	<xsd:complexType name="CharCoordAreaType"> <xsd:complexContent> <xsd:extension base="stc:stcBaseType"> <xsd:choice> <xsd:element name="CharBox" type="cha:CharCoordinateType"/> <xsd:element ref="cha:Interval"/> </xsd:choice> <xsd:attribute name="coord_system_id" type="xsd:IDREF" use="required"/> </xsd:extension> </xsd:complexContent> </xsd:complexType>

Complex Type cha:CharCoordinateType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	A coordinate type to define n-D bounding boxes. To be overridden by any of the following possible substitution elements.
Diagram	
Properties	abstract: true
Used by	Element cha:CharCoordAreaType/cha:CharBox
Model	cha:Name , CoordValue , CSize
Children	CSize, CoordValue, cha:Name
Source	<xsd:complexType name="CharCoordinateType" abstract="true"> <xsd:annotation> <xsd:documentation>A coordinate type to define n-D bounding boxes. To be overridden by any of the following possible substitution elements.</xsd:documentation> </xsd:annotation> <xsd:sequence> <xsd:element name="Name" type="xsd:string"/> <xsd:sequence> <xsd:element ref="stc:CoordValue"/> <xsd:element ref="stc:CSize"/> </xsd:sequence> </xsd:sequence> </xsd:complexType>

Complex Type cha:CharacterisationAxisType

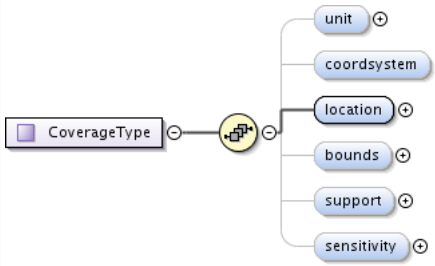
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Used by	Elements	cha:CharacterisationType/cha:characterisationAxis, cha:characterisationAxis, cha:characterizationAxis
	Complex Types	cha:SpatialAxisType, cha:SpectralAxisType, cha:TimeAxisType
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}	
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit	

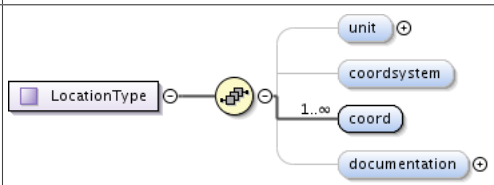
Source

```
<xsd:complexType name="CharacterisationAxisType">
  <xsd:sequence>
    <xsd:element name="axisName" type="xsd:anyType">
      <xsd:annotation>
        <xsd:documentation>A name representing the physical nature of the axis like Spatial,
 Spectral, Time, Velocity or any other free name for an axis</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="ucd" type="xsd:anyType">
      <xsd:annotation>
        <xsd:documentation>The physical meaning of the axis, Type: standard semantic tag defined in
 the UCD list.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="unit" type="xsd:anyType">
      <xsd:annotation>
        <xsd:documentation>default unit for the axis: Type: controlled unit vocabulary following the
 VOTable units definitions</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="coordsystem" type="stc:astroCoordSystemType">
      <xsd:annotation>
        <xsd:documentation>Reference coordinate system for the axis:</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>Observatory location Type: a STC:observatoryLocationType or an xlink</
xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>Global accuracy description of the axis</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>Indicates wether the axis is independent or not from the other axes. The
 Observable axis has a false independentAxis "value" Type : boolean</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="calibrationStatus" type="xsd:anyType">
      <xsd:annotation>
        <xsd:documentation>defines if and how the axis is calibrated: Possible String values:
 CALIBRATED, UNCALIBRATED, RELATIVE, NORMALIZED</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element ref="cha:numBins">
      <xsd:annotation>
        <xsd:documentation>Number of bins for this axis. Type : array of 1 2 or 3 integers</
xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>A flag to mention wether the data are undersampled. Type: boolean</
xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>A flag to mention wether the data are regularly sampled. Type : boolean</
xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="coverage" type="cha:CoverageType"/>
    <xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>
    <xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type cha:CoverageType

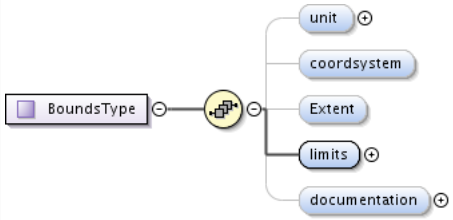
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	How the observation is spanned along this axis
Diagram	
Used by	Elements cha:CharacterisationAxisType/cha:coverage, cha:SpatialAxisType/cha:coverage, cha:SpectralAxisType/cha:coverage, cha:TimeAxisType/cha:coverage, cha:coverage
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:location , cha:bounds{0,1} , cha:support{0,1} , cha:sensitivity{0,1}
Children	cha:bounds, cha:coordsystem, cha:location, cha:sensitivity, cha:support, cha:unit
Source	<xsd:complexType name="CoverageType"> <xsd:annotation> <xsd:documentation>How the observation is spanned along this axis</xsd:documentation> </xsd:annotation> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>redefinition of unit for coverage</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"> <xsd:annotation> <xsd:documentation>redefinition of coordsystem</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="location" type="cha:LocationType"> <xsd:annotation> <xsd:documentation>Typical value on one axis</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="bounds" type="cha:BoundsType" minOccurs="0"> <xsd:annotation> <xsd:documentation>the limits of the observation on this axis</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="support" type="cha:SupportType" minOccurs="0"> <xsd:annotation> <xsd:documentation>describes the area where measurements are effectively present and interpretable</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="sensitivity" type="cha:SensitivityType" minOccurs="0"> <xsd:annotation> <xsd:documentation>encodes the variability of response along the axis</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:LocationType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	The typical coordinate value Type: stc:astroCoordsType
Diagram	
Used by	Elements cha:CoverageType/cha:location, cha:location

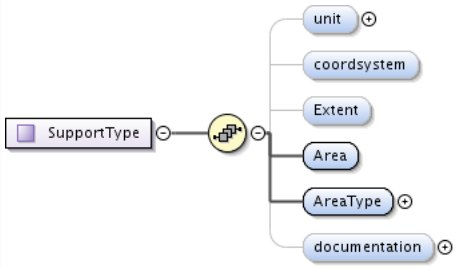
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:coord+ , cha:documentation{0,1}
Children	cha:coord, cha:coordsystem, cha:documentation, cha:unit
Source	<xsd:complexType name="LocationType"> <xsd:annotation> <xsd:documentation>The typical coordinate value Type: stc:astroCoordsType</xsd:documentation> </xsd:annotation> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Redefinition of unit</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Redefinition of coordsystem</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="coord" type="stc:astroCoordsType" maxOccurs="unbounded"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>The typical coordinate value Type: stc:astroCoordsType</ xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:BoundsType

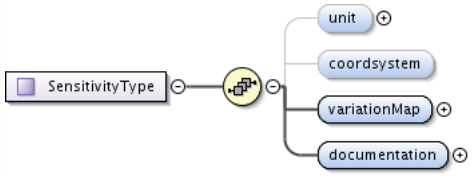
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:CoverageType/cha:bounds, cha:bounds
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:limits , cha:documentation{0,1}
Children	cha:Extent, cha:coordsystem, cha:documentation, cha:limits, cha:unit
Source	<xsd:complexType name="BoundsType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"> <xsd:annotation> <xsd:documentation>for bounds unit redefinition</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"> <xsd:annotation> <xsd:documentation>for bounds coosys redefinition</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="Extent" type="stc:double1Type" minOccurs="0"/> <xsd:element name="limits" type="cha:CharCoordAreaType"> <xsd:annotation> <xsd:documentation>The actual values defining the bounds. 2 possible types : a cha:CharBox which is a customised STC:Coordinate with mandatory value and size or an STC:Interval</ xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A document to mention how the bounds are defined.</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:SupportType

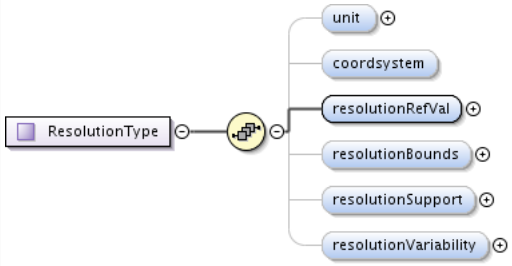
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

Diagram	
Used by	Elements cha:CoverageType/cha:support, cha:support
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:Extent{0,1} , cha:Area , cha:AreaType , cha:documentation{0,1}
Children	cha:Area, cha:AreaType, cha:Extent, cha:coordsystem, cha:documentation, cha:unit
Source	`<xsd:complexType name="SupportType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element name="Extent" type="stc:double1Type" minOccurs="0"/> <xsd:element name="Area" type="stc:astroCoordAreaType"> <xsd:annotation> <xsd:documentation>Defines the effective covered region</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="AreaType" type="xsd:anyType"> <xsd:annotation> <xsd:documentation>Gives the name of the region shape Type: predefined string in {Circle, Polygon, Box, ...}</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Some text about the Support region definition Type: any URI type</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>`

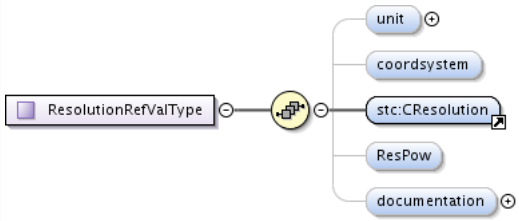
Complex Type `cha:SensitivityType`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:CoverageType/cha:sensitivity, cha:sensitivity
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:variationMap , cha:documentation
Children	cha:coordsystem, cha:documentation, cha:unit, cha:variationMap
Source	`<xsd:complexType name="SensitivityType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element name="variationMap" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>encodes the variability of the response along the axis</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="documentation" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>documents the purpose, type and encoding of sensitivity information Type: URL</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>`

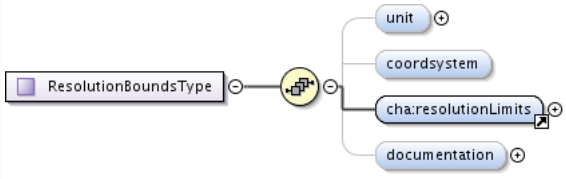
Complex Type cha:ResolutionType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:CharacterisationAxisType/cha:resolution, cha:SpatialAxisType/cha:resolution, cha:SpectralAxisType/cha:resolution, cha:TimeAxisType/cha:resolution, cha:resolution
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionRefVal , cha:resolutionBounds{0,1} , cha:resolutionSupport{0,1} , cha:resolutionVariability{0,1}
Children	cha:coordsystem, cha:resolutionBounds, cha:resolutionRefVal, cha:resolutionSupport, cha:resolutionVariability, cha:unit
Source	<xsd:complexType name="ResolutionType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element name="resolutionRefVal" type="cha:ResolutionRefValType"/> <xsd:element name="resolutionBounds" type="cha:ResolutionBoundsType" minOccurs="0"/> <xsd:element name="resolutionSupport" type="cha:ResolutionSupportType" minOccurs="0"/> <xsd:element name="resolutionVariability" type="cha:ResolutionVariabilityType" minOccurs="0"/> </xsd:sequence> </xsd:complexType>

Complex Type cha:ResolutionRefValType

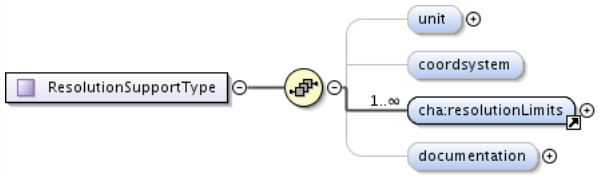
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:ResolutionType/cha:resolutionRefVal, cha:resolutionRefVal
Model	cha:unit{0,1} , cha:coordsystem{0,1} , CResolution , cha:ResPow{0,1} , cha:documentation{0,1}
Children	CResolution, cha:ResPow, cha:coordsystem, cha:documentation, cha:unit
Source	<xsd:complexType name="ResolutionRefValType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="stc:CResolution"/> <xsd:element name="ResPow" type="stc:double1Type" minOccurs="0"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Defines and explains how this reference value for resolution has been estimated Type: URL</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:ResolutionBoundsType

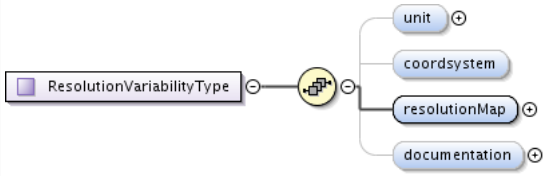
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	

Used by	Element cha:ResolutionType/cha:resolutionBounds
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionLimits , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionLimits, cha:unit
Source	<xsd:complexType name="ResolutionBoundsType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="cha:resolutionLimits"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Defines and explains how this resolution has been estimated</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:ResolutionSupportType

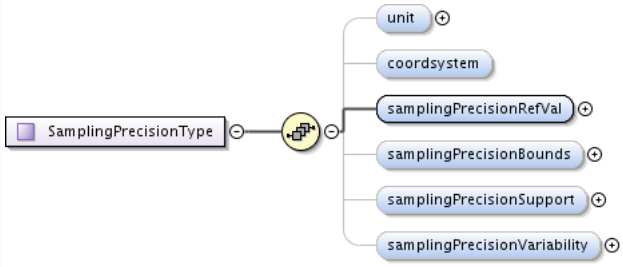
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Element cha:ResolutionType/cha:resolutionSupport
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionLimits+ , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionLimits, cha:unit
Source	<xsd:complexType name="ResolutionSupportType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="cha:resolutionLimits" maxOccurs="unbounded"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>Defines and explains how this resolution has been estimated Type: URL</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:ResolutionVariabilityType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	This map describes the variability of the resolution along the axis, the varying shape of the point spread fonction, or both. Can be attached to the data Type: URI
Diagram	
Used by	Element cha:ResolutionType/cha:resolutionVariability
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:resolutionMap , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:resolutionMap, cha:unit
Source	<xsd:complexType name="ResolutionVariabilityType"> <xsd:annotation> <xsd:documentation>This map describes the variability of the resolution along the axis, the varying shape of the point spread fonction, or both. Can be attached to the data Type: URI</xsd:documentation> </xsd:annotation> <xsd:sequence>

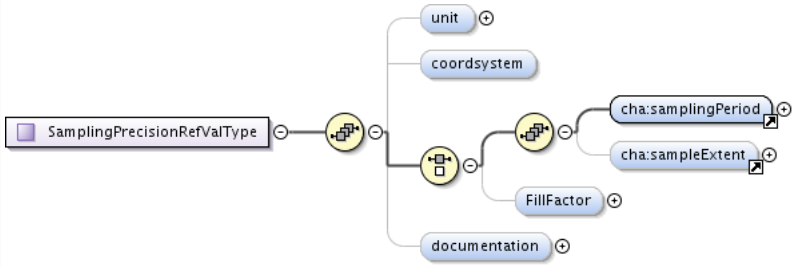
```
    <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>
    <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>
    <xsd:element name="resolutionMap" type="cha:anyURIType"/>
    <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>defines and explains how this resolution has been estimated Type: URL</
xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type cha:SamplingPrecisionType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:CharacterisationAxisType/cha:samplingPrecision, cha:SpatialAxisType/cha:samplingPrecision, cha:SpectralAxisType/cha:samplingPrecision, cha:TimeAxisType/cha:samplingPrecision
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionRefVal , cha:samplingPrecisionBounds{0,1} , cha:samplingPrecisionSupport{0,1} , cha:samplingPrecisionVariability{0,1}
Children	cha:coordsystem, cha:samplingPrecisionBounds, cha:samplingPrecisionRefVal, cha:samplingPrecisionSupport, cha:samplingPrecisionVariability, cha:unit

Source	`<xsd:complexType name="SamplingPrecisionType">`
	`  <xsd:sequence>`
	`    <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>`
	`    <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>`
	`    <xsd:element name="samplingPrecisionRefVal" type="cha:SamplingPrecisionRefValType"/>`
	`    <xsd:element name="samplingPrecisionBounds" type="cha:SamplingPrecisionBoundsType"`
	`minOccurs="0"/>`
	`    <xsd:element name="samplingPrecisionSupport" type="cha:SamplingPrecisionSupportType"`
	`minOccurs="0"/>`
	`    <xsd:element name="samplingPrecisionVariability" type="cha:SamplingPrecisionVariabilityType"`
	`minOccurs="0"/>`
	`  </xsd:sequence>`
	`</xsd:complexType>`

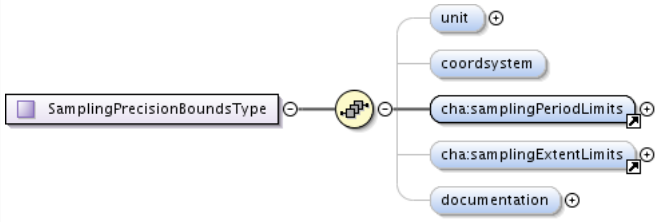
Complex Type cha:SamplingPrecisionRefValType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:SamplingPrecisionType/cha:samplingPrecisionRefVal, cha:samplingPrecisionRefVal
Model	cha:unit{0,1} , cha:coordsystem{0,1} , ((cha:samplingPeriod , cha:sampleExtent{0,1}) | cha:FillFactor{0,1}) , cha:documentation{0,1}
Children	cha:FillFactor, cha:coordsystem, cha:documentation, cha:sampleExtent, cha:samplingPeriod, cha:unit

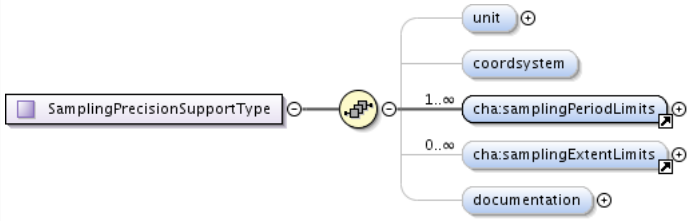
Source	`<xsd:complexType name="SamplingPrecisionRefValType">`
	`  <xsd:sequence>`
	`    <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/>`
	`    <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/>`
	`    <xsd:choice>`
	`      <xsd:sequence>`
	`        <xsd:element ref="cha:samplingPeriod"/>`

```
        <xsd:element ref="cha:sampleExtent" minOccurs="0"/>
      </xsd:sequence>
      <xsd:element name="FillFactor" type="xsd:double" minOccurs="0"/>
    </xsd:choice>
    <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0">
      <xsd:annotation>
        <xsd:documentation>Explains how the fill factor is estimated . Type: URI</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
```

Complex Type cha:SamplingPrecisionBoundsType

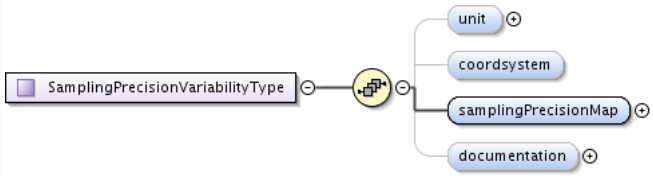
Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Element cha:SamplingPrecisionType/cha:samplingPrecisionBounds
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPeriodLimits , cha:samplingExtentLimits{0,1} , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingExtentLimits, cha:samplingPeriodLimits, cha:unit
Source	<xsd:complexType name="SamplingPrecisionBoundsType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="cha:samplingPeriodLimits"/> <xsd:element ref="cha:samplingExtentLimits" minOccurs="0"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/> </xsd:sequence> </xsd:complexType>

Complex Type cha:SamplingPrecisionSupportType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Element cha:SamplingPrecisionType/cha:samplingPrecisionSupport
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPeriodLimits+ , cha:samplingExtentLimits* , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingExtentLimits, cha:samplingPeriodLimits, cha:unit
Source	<xsd:complexType name="SamplingPrecisionSupportType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element ref="cha:samplingPeriodLimits" maxOccurs="unbounded"/> <xsd:element ref="cha:samplingExtentLimits" minOccurs="0" maxOccurs="unbounded"/> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"> <xsd:annotation> <xsd:documentation>A place to hook some explanations about "how" the Sampling was done and assessed. Type: URI</xsd:documentation> </xsd:annotation> </xsd:element> </xsd:sequence> </xsd:complexType>

Complex Type cha:SamplingPrecisionVariabilityType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd

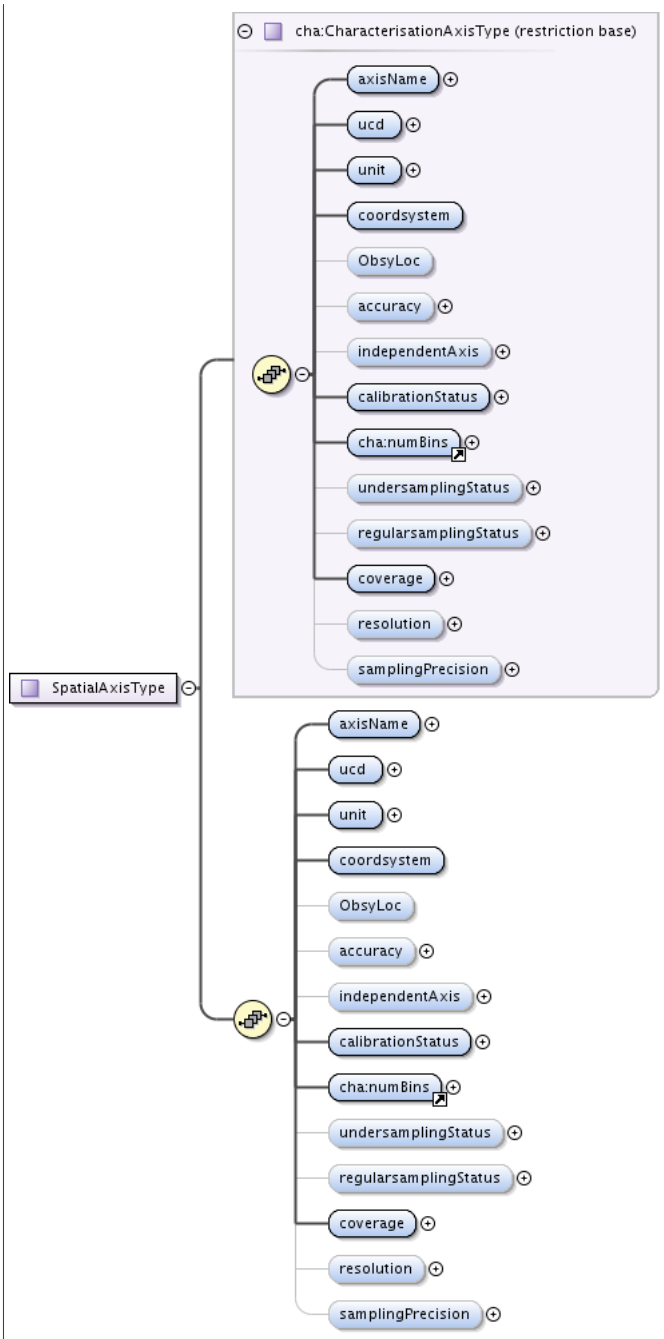
Diagram	
Used by	Element cha:SamplingPrecisionType/cha:samplingPrecisionVariability
Model	cha:unit{0,1} , cha:coordsystem{0,1} , cha:samplingPrecisionMap , cha:documentation{0,1}
Children	cha:coordsystem, cha:documentation, cha:samplingPrecisionMap, cha:unit
Source	<xsd:complexType name="SamplingPrecisionVariabilityType"> <xsd:sequence> <xsd:element name="unit" type="xsd:anyType" minOccurs="0"/> <xsd:element name="coordsystem" type="stc:astroCoordSystemType" minOccurs="0"/> <xsd:element name="samplingPrecisionMap" type="cha:anyURIType"> <xsd:annotation> <xsd:documentation>This map describes the variability of the sampling along the axis, or the varying shape of the sampling fonction, or both. Can be attached to the data implemented as anyURI type</xsd:documentation> </xsd:annotation> </xsd:element> <xsd:element name="documentation" type="cha:anyURIType" minOccurs="0"/> </xsd:sequence> </xsd:complexType>

Complex Type cha:CharacterisationType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Diagram	
Used by	Elements cha:characterisation, cha:characterization
Model	cha:characterisationAxis+
Children	cha:characterisationAxis
Source	<xsd:complexType name="CharacterisationType"> <xsd:choice> <xsd:element name="characterisationAxis" type="cha:CharacterisationAxisType" maxOccurs="unbounded"/> </xsd:choice> </xsd:complexType>

Complex Type cha:SpatialAxisType

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	Restriction of CharacterisationAxis for Spatial Axis

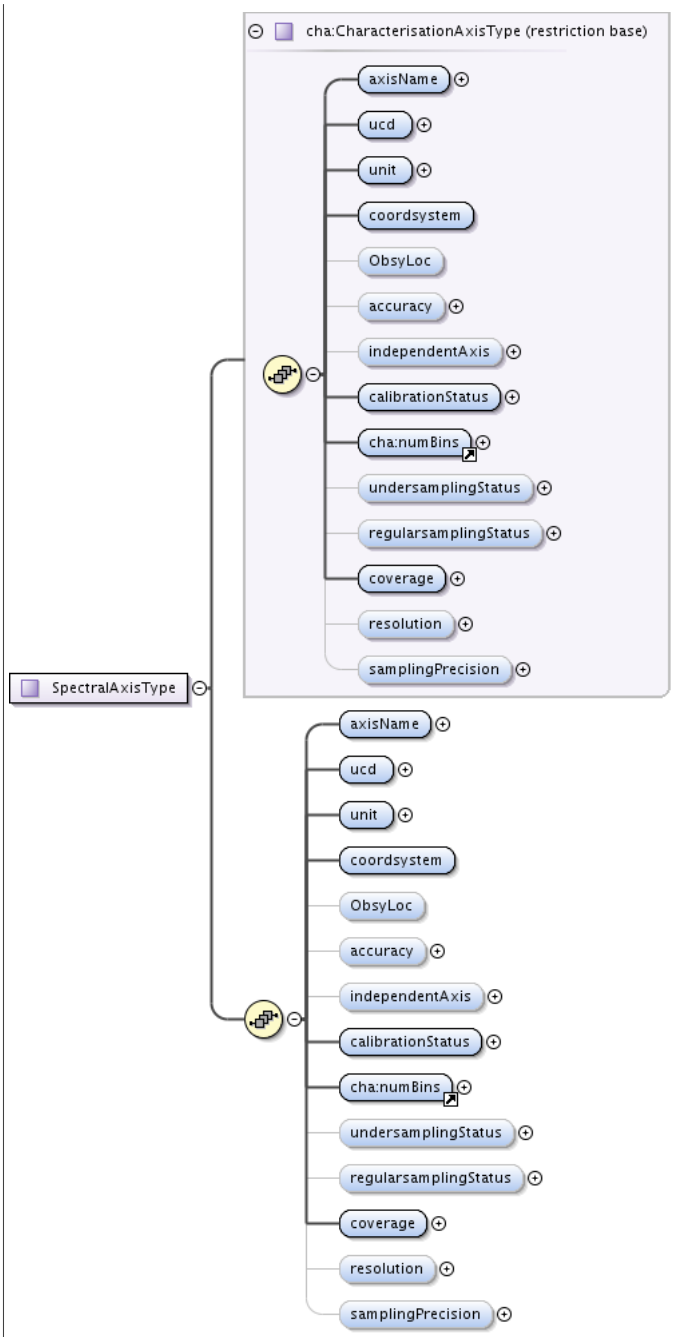
Diagram	
Type	restriction of cha:CharacterisationAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:SpatialAxisType
Used by	Element cha:spatialAxis
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit

Source	<pre><xsd:complexType name="SpatialAxisType">
	  <xsd:annotation>
	  <xsd:documentation>Restriction of CharacterisationAxis for Spatial Axis</xsd:documentation>
	  </xsd:annotation>
	  <xsd:complexContent>
	  <xsd:restriction base="cha:CharacterisationAxisType">
	  <xsd:sequence>
	  <xsd:element name="axisName" type="xsd:anyType" fixed="spatial"/></pre>

```
        <xsd:element name="ucd" type="xsd:anyType" fixed="pos"/>
        <xsd:element name="unit" type="xsd:anyType"/>
        <xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>
        <xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>
        <xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>
        <xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="calibrationStatus" type="xsd:anyType"/>
        <xsd:element ref="cha:numBins"/>
        <xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="coverage" type="cha:CoverageType"/>
        <xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>
        <xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>
      </xsd:sequence>
    </xsd:restriction>
  </xsd:complexContent>
</xsd:complexType>
```

Complex Type `cha:SpectralAxisType`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	`Restriction of characteristionAxis for Spectral Axis`

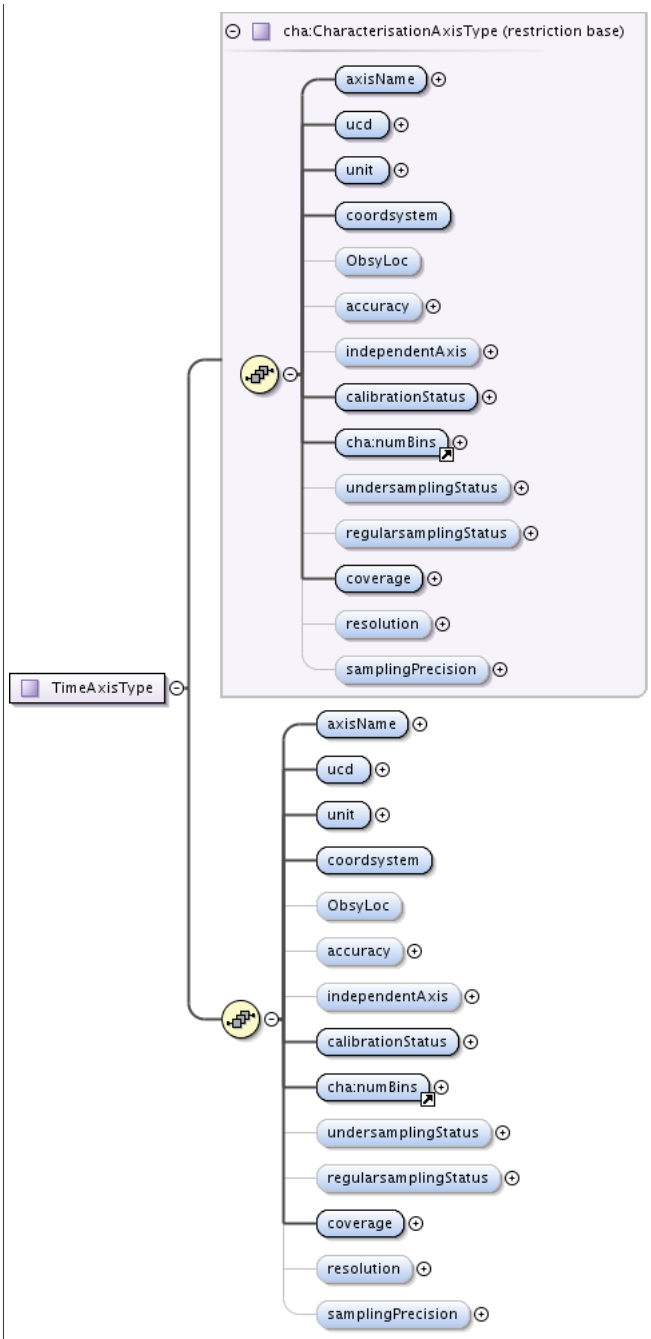
Diagram	
Type	restriction of cha:CharacterisationAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:SpectralAxisType
Used by	Element cha:spectralAxis
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit

Source	<pre><xsd:complexType name="SpectralAxisType">
	  <xsd:annotation>
	  <xsd:documentation>Restriction of characteristionAxis for Spectral Axis</xsd:documentation>
	  </xsd:annotation>
	  <xsd:complexContent>
	  <xsd:restriction base="cha:CharacterisationAxisType">
	  <xsd:sequence>
	  <xsd:element name="axisName" type="xsd:anyType" fixed="spectral"/></pre>

```
        <xsd:element name="ucd" type="xsd:anyType" fixed="em"/>
        <xsd:element name="unit" type="xsd:anyType"/>
        <xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>
        <xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>
        <xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>
        <xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="calibrationStatus" type="xsd:anyType"/>
        <xsd:element ref="cha:numBins"/>
        <xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="coverage" type="cha:CoverageType"/>
        <xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>
        <xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>
      </xsd:sequence>
    </xsd:restriction>
  </xsd:complexContent>
</xsd:complexType>
```

Complex Type `cha:TimeAxisType`

Namespace	http://www.ivoa.net/xml/Characterisation/Characterisation-v1.11.xsd
Annotations	`Restriction of CharacterisationAxis for time`

Diagram	
Type	restriction of cha:CharacterisationAxisType
Type hierarchy	• cha:CharacterisationAxisType • cha:TimeAxisType
Used by	Element cha:timeAxis
Model	cha:axisName , cha:ucd , cha:unit , cha:coordsystem , cha:ObsyLoc{0,1} , cha:accuracy{0,1} , cha:independentAxis{0,1} , cha:calibrationStatus , cha:numBins , cha:undersamplingStatus{0,1} , cha:regularsamplingStatus{0,1} , cha:coverage , cha:resolution{0,1} , cha:samplingPrecision{0,1}
Children	cha:ObsyLoc, cha:accuracy, cha:axisName, cha:calibrationStatus, cha:coordsystem, cha:coverage, cha:independentAxis, cha:numBins, cha:regularsamplingStatus, cha:resolution, cha:samplingPrecision, cha:ucd, cha:undersamplingStatus, cha:unit

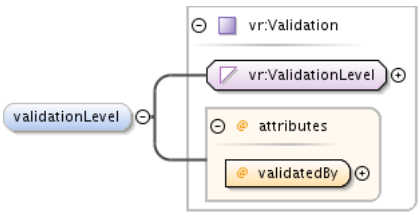
Source	`<xsd:complexType name="TimeAxisType">`
	`  <xsd:annotation>`
	`  <xsd:documentation>Restriction of CharacterisationAxis for time</xsd:documentation>`
	`  </xsd:annotation>`
	`  <xsd:complexContent>`
	`  <xsd:restriction base="cha:CharacterisationAxisType">`
	`  <xsd:sequence>`
	`  <xsd:element name="axisName" type="xsd:anyType" fixed="temporal"/>`

```
        <xsd:element name="ucd" type="xsd:anyType" fixed="time"/>
        <xsd:element name="unit" type="xsd:anyType"/>
        <xsd:element name="coordsystem" type="stc:astroCoordSystemType"/>
        <xsd:element name="ObsyLoc" type="stc:observatoryLocationType" minOccurs="0"/>
        <xsd:element name="accuracy" type="cha:AccuracyType" minOccurs="0"/>
        <xsd:element name="independentAxis" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="calibrationStatus" type="xsd:anyType"/>
        <xsd:element ref="cha:numBins"/>
        <xsd:element name="undersamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="regularsamplingStatus" type="xsd:anyType" minOccurs="0"/>
        <xsd:element name="coverage" type="cha:CoverageType"/>
        <xsd:element name="resolution" type="cha:ResolutionType" minOccurs="0"/>
        <xsd:element name="samplingPrecision" type="cha:SamplingPrecisionType" minOccurs="0"/>
      </xsd:sequence>
    </xsd:restriction>
  </xsd:complexContent>
</xsd:complexType>
```

Namespace: ""

Element(s)

Element `vr:Resource / validationLevel`

Namespace	No namespace
Annotations	A numeric grade describing the quality of the resource description, when applicable, to be used to indicate the confidence an end-user can put in the resource as part of a VO application or research study. See vr:ValidationLevel for an explanation of the allowed levels. Note that when this resource is a Service, this grade applies to the core set of metadata. Capability and interface metadata, as well as the compliance of the service with the interface standard, is rated by validationLevel tag in the capability element (see the vr:Service complex type).
Diagram	
Type	vr:Validation
Type hierarchy	• xs:integer • vr:ValidationLevel • vr:Validation
Properties	content: complex minOccurs: 0 maxOccurs: unbounded

Attributes

QName	Type	Fixed	Default	Use
validatedBy	vr:IdentifierURI			required
	The IVOA ID of the registry or organisation that assigned the validation level.			

Source

```
<xs:element name="validationLevel" type="vr:Validation" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A numeric grade describing the quality of the resource description, when
 applicable, to be used to indicate the confidence an end-user can put in the resource as part of a
 VO application or research study.</xs:documentation>
    <xs:documentation>See vr:ValidationLevel for an explanation of the allowed levels.</
xs:documentation>
    <xs:documentation>Note that when this resource is a Service, this grade applies to the core set
 of metadata. Capability and interface metadata, as well as the compliance of the service with the
```

```
 interface standard, is rated by validationLevel tag in the capability element (see the vr:Service
 complex type).</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Resource / title

Namespace	No namespace
Annotations	the full name given to the resource
Diagram	
Type	xs:token
Properties	content: simple

Source	`<xs:element name="title" type="xs:token">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Title</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>the full name given to the resource</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vr:Resource / shortName

Namespace	No namespace
Annotations	a short name or abbreviation given to the resource. This name will be used where brief annotations for the resource name are required. Applications may use to refer to this resource in a compact display. One word or a few letters is recommended. No more than sixteen characters are allowed.
Diagram	
Type	vr:ShortName
Properties	content: simple minOccurs: 0
Facets	maxLength 16

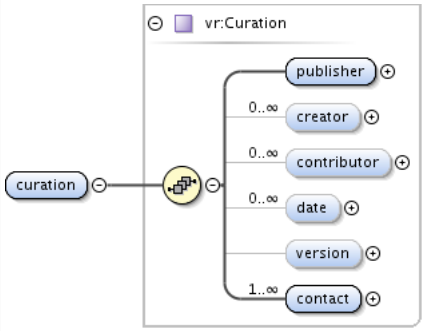
Source	`<xs:element name="shortName" type="vr:ShortName" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>a short name or abbreviation given to the resource.</xs:documentation>`
	`  <xs:documentation>This name will be used where brief annotations for the resource name are`
	` required. Applications may use to refer to this resource in a compact display.</xs:documentation>`
	`  <xs:documentation>One word or a few letters is recommended. No more than sixteen characters are`
	` allowed.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vr:Resource / identifier

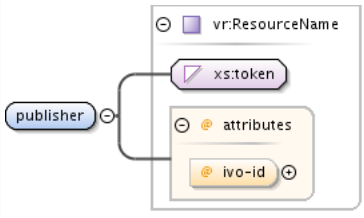
Namespace	No namespace
Annotations	Unambiguous reference to the resource conforming to the IVOA standard for identifiers
Diagram	
Type	vr:IdentifierURI
Properties	content: simple
Facets	pattern ivo://[\w\d][\w\d\-_\.!~ *'\(\)\+=]{2,}(/[\w\d\-_ \.!~*'\(\)\+=]+(/[\w\d\- _\.!~*'\(\)\+=]+)*)?
Source	`<xs:element name="identifier" type="vr:IdentifierURI">` `  <xs:annotation>`

```
    <xs:appinfo>
      <vm:dcterm>Identifier</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>Unambiguous reference to the resource conforming to the IVOA standard for
 identifiers</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Resource / curation

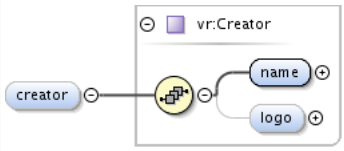
Namespace	No namespace
Annotations	Information regarding the general curation of the resource
Diagram	
Type	vr:Curation
Properties	content: complex
Model	publisher , creator* , contributor* , date* , version{0,1} , contact+
Children	contact, contributor, creator, date, publisher, version
Instance	<curation> <publisher ivo-id="">{1,1}</publisher> <creator>{0,unbounded}</creator> <contributor ivo-id="">{0,unbounded}</contributor> <date role="representative">{0,unbounded}</date> <version>{0,1}</version> <contact>{1,unbounded}</contact> </curation>
Source	<xs:element name="curation" type="vr:Curation"> <xs:annotation> <xs:documentation>Information regarding the general curation of the resource</xs:documentation> </xs:annotation> </xs:element>

Element vr:Curation / publisher

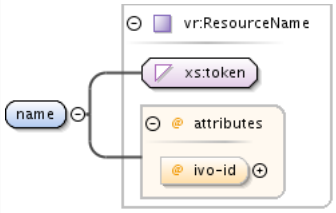
Namespace	No namespace
Annotations	Entity (e.g. person or organisation) responsible for making the resource available
Diagram	
Type	vr:ResourceName
Properties	content: complex
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ivo-id** / vr:IdentifierURI / / / optional The URI form of the IVOA identifier for the resource refered to
Source	<xs:element name="publisher" type="vr:ResourceName"> <xs:annotation> <xs:appinfo> <vm:dcterm>Publisher</vm:dcterm>

```
    </xs:appinfo>
    <xs:documentation>Entity (e.g. person or organisation) responsible for making the resource
 available</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Curation / creator

Namespace	No namespace
Annotations	The entity (e.g. person or organisation) primarily responsible for creating the content or constitution of the resource. A logo need only be provided for the first occurance. When multiple logos are supplied via multiple creator elements, the application is free to choose which to use.
Diagram	
Type	vr:Creator
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name , logo{0,1}
Children	logo, name
Instance	<creator> <name ivo-id="">{1,1}</name> <logo>{0,1}</logo> </creator>
Source	<xs:element name="creator" type="vr:Creator" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Creator</vm:dcterm> </xs:appinfo> <xs:documentation>The entity (e.g. person or organisation) primarily responsible for creating the content or constitution of the resource.</xs:documentation> <xs:documentation>A logo need only be provided for the first occurance. When multiple logos are supplied via multiple creator elements, the application is free to choose which to use.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Creator / name

Namespace	No namespace
Annotations	the name or title of the creating person or organization Users of the creation should use this name in subsequent credits and acknowledgements.
Diagram	
Type	vr:ResourceName
Properties	content: complex

Attributes

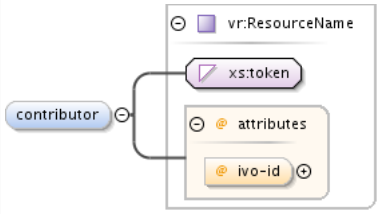
QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source	<xs:element name="name" type="vr:ResourceName"> <xs:annotation> <xs:documentation>the name or title of the creating person or organization</xs:documentation> <xs:documentation>Users of the creation should use this name in subsequent credits and acknowledgements.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Creator / logo

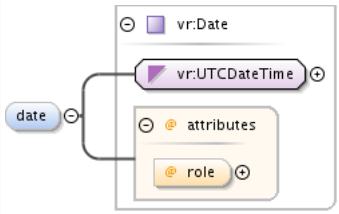
Namespace	No namespace
Annotations	URL pointing to a graphical logo, which may be used to help identify the information source
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0
Source	<xs:element name="logo" type="xs:anyURI" minOccurs="0"> <xs:annotation> <xs:documentation>URL pointing to a graphical logo, which may be used to help identify the information source</xs:documentation> </xs:annotation> </xs:element>

Element vr:Curation / contributor

Namespace	No namespace
Annotations	Entity responsible for contributions to the content of the resource
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ivo-id** / vr:IdentifierURI / / / optional The URI form of the IVOA identifier for the resource refered to
Source	<xs:element name="contributor" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Contributor</vm:dcterm> </xs:appinfo> <xs:documentation>Entity responsible for contributions to the content of the resource</xs:documentation> </xs:annotation> </xs:element>

Element vr:Curation / date

Namespace	No namespace
Annotations	Date associated with an event in the life cycle of the resource. This will typically be associated with the creation or availability (i.e., most recent release or version) of the resource. Use the role attribute to clarify.

Diagram	
Type	vr:Date

Type hierarchy	• xs:anySimpleType
	  • vr:UTCDateTime
	  • vr:Date

Properties	content: complex minOccurs: 0 maxOccurs: unbounded

Attributes

QName	Type	Fixed	Default	Use
role	xs:string		representative	optional
	A string indicating what the date refers to. While this vocabulary is uncontrolled, recognized strings include "creation", indicating the date that the resource itself was created, and "update", indicating when the resource was updated last. The default value, "representative", means that the date is a rough representation of the time coverage of the resource. Note that this date refers to the resource; dates describing the metadata description of the resource are handled by the "created" and "updated" attributes of the Resource element.			

Source

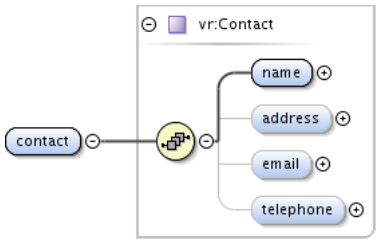
```
<xs:element name="date" type="vr:Date" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Date</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>Date associated with an event in the life cycle of the resource.</
xs:documentation>
    <xs:documentation>This will typically be associated with the creation or availability
 (i.e., most recent release or version) of the resource. Use the role attribute to clarify.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Curation / version

Namespace	No namespace
Annotations	Label associated with creation or availablilty of a version of a resource.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="version" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>Label associated with creation or availablilty of a version of a resource.</ xs:documentation> </xs:annotation> </xs:element>

Element vr:Curation / contact

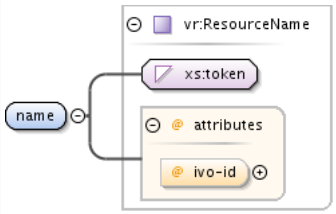
Namespace	No namespace
Annotations	Information that can be used for contacting someone with regard to this resource.

Diagram	
Type	vr:Contact
Properties	content: complex maxOccurs: unbounded
Model	name , address{0,1} , email{0,1} , telephone{0,1}
Children	address, email, name, telephone

Instance	`<contact>`
	`  <name ivo-id="">{1,1}</name>`
	`  <address>{0,1}</address>`
	`  <email>{0,1}</email>`
	`  <telephone>{0,1}</telephone>`
	`</contact>`

Source	`<xs:element name="contact" type="vr:Contact" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:documentation>Information that can be used for contacting someone with regard to this resource.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vr:Contact / name

Namespace	No namespace
Annotations	the name or title of the contact person. This can be a person's name, e.g. "John P. Jones" or a group, "Archive Support Team".
Diagram	
Type	vr:ResourceName
Properties	content: complex

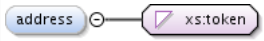
Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source

```
<xs:element name="name" type="vr:ResourceName">
  <xs:annotation>
    <xs:documentation>the name or title of the contact person.</xs:documentation>
    <xs:documentation>This can be a person's name, e.g. "John P. Jones" or a group, "Archive Support Team".</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Contact / address

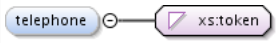
Namespace	No namespace
Annotations	the contact mailing address All components of the mailing address are given in one string, e.g. "3700 San Martin Drive, Baltimore, MD 21218 USA".
Diagram	
Type	xs:token

Properties	content: simple minOccurs: 0
Source	<xs:element name="address" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>the contact mailing address</xs:documentation> <xs:documentation>All components of the mailing address are given in one string, e.g. "3700 San Martin Drive, Baltimore, MD 21218 USA".</xs:documentation> </xs:annotation> </xs:element>

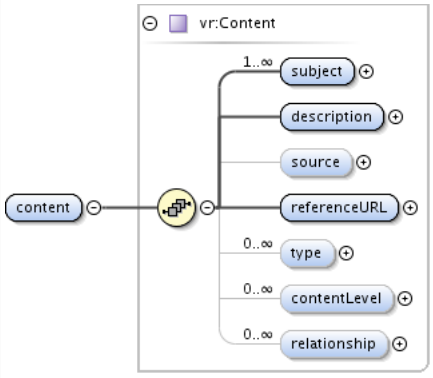
Element vr:Contact / email

Namespace	No namespace
Annotations	the contact email address
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="email" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>the contact email address</xs:documentation> </xs:annotation> </xs:element>

Element vr:Contact / telephone

Namespace	No namespace
Annotations	the contact telephone number Complete international dialing codes should be given, e.g. "+1-410-338-1234".
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="telephone" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>the contact telephone number</xs:documentation> <xs:documentation>Complete international dialing codes should be given, e.g. "+1-410-338-1234".</xs:documentation> </xs:annotation> </xs:element>

Element vr:Resource / content

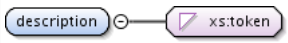
Namespace	No namespace
Annotations	Information regarding the general content of the resource
Diagram	
Type	vr:Content

Properties	content: complex
Model	subject+ , description , source{0,1} , referenceURL , type* , contentLevel* , relationship*
Children	contentLevel, description, referenceURL, relationship, source, subject, type
Instance	<content> <subject>{1,unbounded}</subject> <description>{1,1}</description> <source format="">{0,1}</source> <referenceURL>{1,1}</referenceURL> <type>{0,unbounded}</type> <contentLevel>{0,unbounded}</contentLevel> <relationship>{0,unbounded}</relationship> </content>
Source	<xs:element name="content" type="vr:Content"> <xs:annotation> <xs:documentation>Information regarding the general content of the resource</xs:documentation> </xs:annotation> </xs:element>

Element vr:Content / subject

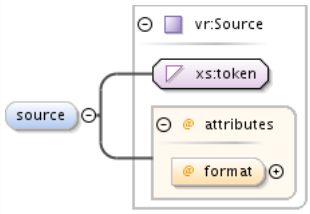
Namespace	No namespace
Annotations	a topic, object type, or other descriptive keywords about the resource. Terms for Subject should be drawn from the IAU Astronomy Thesaurus (http://msowww.anu.edu.au/library/thesaurus/).
Diagram	
Type	xs:token
Properties	content: simple maxOccurs: unbounded
Source	<xs:element name="subject" type="xs:token" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Subject</vm:dcterm> </xs:appinfo> <xs:documentation>a topic, object type, or other descriptive keywords about the resource.</ xs:documentation> <xs:documentation>Terms for Subject should be drawn from the IAU Astronomy Thesaurus (http:// msowww.anu.edu.au/library/thesaurus/).</xs:documentation> </xs:annotation> </xs:element>

Element vr:Content / description

Namespace	No namespace
Annotations	An account of the nature of the resource The description may include but is not limited to an abstract, table of contents, reference to a graphical representation of content or a free-text account of the content.
Diagram	
Type	xs:token
Properties	content: simple
Source	<xs:element name="description" type="xs:token"> <xs:annotation> <xs:appinfo> <vm:dcterm>Description</vm:dcterm> </xs:appinfo> <xs:documentation>An account of the nature of the resource</xs:documentation> <xs:documentation>The description may include but is not limited to an abstract, table of contents, reference to a graphical representation of content or a free-text account of the content.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Content / source

Namespace	No namespace

Annotations	a bibliographic reference from which the present resource is derived or extracted. This is intended to point to an article in the published literature. An ADS Bibcode is recommended as a value when available.
Diagram	
Type	vr:Source
Properties	content: complex minOccurs: 0

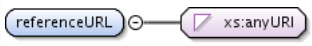
Attributes

QName	Type	Fixed	Default	Use
format	xs:string			optional
	The reference format. Recognized values include "bibcode", referring to a standard astronomical bibcode (http://cdsweb.u-strasbg.fr/simbad/refcode.html).			

Source

```
<xs:element name="source" type="vr:Source" minOccurs="0">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Source</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>a bibliographic reference from which the present resource is derived or
 extracted.</xs:documentation>
    <xs:documentation>This is intended to point to an article in the published literature. An ADS
 Bibcode is recommended as a value when available.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Content / referenceURL

Namespace	No namespace
Annotations	URL pointing to a human-readable document describing this resource.
Diagram	
Type	xs:anyURI
Properties	content: simple

Source

```
<xs:element name="referenceURL" type="xs:anyURI">
  <xs:annotation>
    <xs:documentation>URL pointing to a human-readable document describing this resource.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Content / type

Namespace	No namespace
Annotations	Nature or genre of the content of the resource
Diagram	
Type	vr:Type
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Facets	enumeration: Other — resource that does not fall into any of the category names currently defined.

enumeration	Archive	Collection of pointed observations
enumeration	Bibliography	Collection of bibliographic reference, abstracts, and publications
enumeration	Catalog	Collection of derived data, primarily in tabular form
enumeration	Journal	Collection of scholarly publications under common editorial policy
enumeration	Library	Collection of published materials (journals, books, etc.)
enumeration	Simulation	Theoretical simulation or model
enumeration	Survey	Collection of observations covering substantial and contiguous areas of the sky
enumeration	Transformation	A service that transforms data
enumeration	Education	Collection of materials appropriate for educational use, such as teaching resources, curricula, etc.
enumeration	Outreach	Collection of materials appropriate for public outreach, such as press releases and photo galleries
enumeration	EPOResource	Collection of materials that may be suitable for EPO products but which are not in final product form, as in Type Outreach or Type Education. EPOResource would apply, e.g., to archives with easily accessed preview images or to surveys with easy-to-use images.
enumeration	Animation	Animation clips of astronomical phenomena
enumeration	Artwork	Artists' renderings of astronomical phenomena or objects
enumeration	Background	Background information on astronomical phenomena or objects
enumeration	BasicData	Compilations of basic astronomical facts about objects, such as approximate distance or membership in constellation.
enumeration	Historical	Historical information about astronomical objects
enumeration	Photographic	Publication-quality photographs of astronomical objects
enumeration	Press	Press releases about astronomical objects
enumeration	Organisation	An organization that is a publisher or curator of other resources.
enumeration	Project	A project that is a publisher or curator of other resources
enumeration	Registry	a query service for which response is a structured description of resources.

Source

```
<xs:element name="type" type="vr:Type" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Type</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>Nature or genre of the content of the resource</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Content / contentLevel

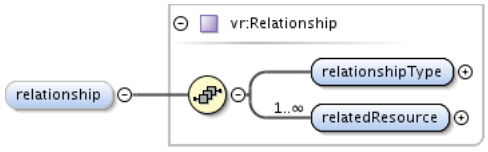
Namespace	No namespace
Annotations	Description of the content level or intended audience
Diagram	

Type	vr:ContentLevel		
Properties	content:	simple	
	minOccurs:	0	
	maxOccurs:	unbounded	
Facets	enumeration	General	Resource provides information appropriate for all users
	enumeration	Elementary Education	Resource provides information appropriate for use in elementary education (e.g. approximate ages 6-11)
	enumeration	Middle School Education	Resource provides information appropriate for use in middle school education (e.g. approximate ages 11-14)
	enumeration	Secondary Education	Resource provides information appropriate for use in elementary education (e.g. approximate ages 14-18)
	enumeration	Community College	Resource provides information appropriate for use in community/junior college or early university education.
	enumeration	University	Resource provides information appropriate for use in university education
	enumeration	Research	Resource provides information appropriate for supporting scientific research.
	enumeration	Amateur	Resource provides information of interest to amateur astronomers.
	enumeration	Informal Education	Resource provides information appropriate for education at museums, planetariums, and other centers of informal learning.

Source

```
<xs:element name="contentLevel" type="vr:ContentLevel" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Subject</vm:dcterm>
      <vm:dcterm>Subject.ContentLevel</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>Description of the content level or intended audience</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Content / relationship

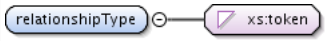
Namespace	No namespace
Annotations	a description of a relationship to another resource. Because this element's type is abstract, an xsi:type must be to indicate the set of relationship types that are valid.
Diagram	
Type	vr:Relationship
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	relationshipType , relatedResource+
Children	relatedResource, relationshipType

Instance	`<relationship>`
	`  <relationshipType>{1,1}</relationshipType>`
	`  <relatedResource ivo-id="">{1,unbounded}</relatedResource>`
	`</relationship>`

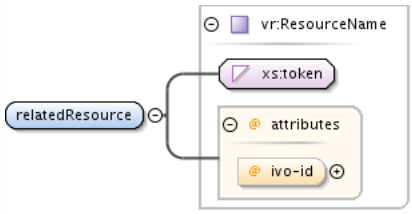
Source	`<xs:element name="relationship" type="vr:Relationship" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:documentation>a description of a relationship to another resource.</xs:documentation>`

```
    <xs:documentation>Because this element's type is abstract, an xsi:type must be to indicate the
 set of relationship types that are valid.</xs:documentation>
  </xs:annotation>
</xs:element>
```

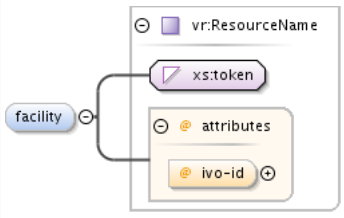
Element vr:Relationship / relationshipType

Namespace	No namespace
Annotations	the named type of relationship The VOResource Core specification defines a standard set of names that are not enforced by this schema, but are otherwise required by the spec.
Diagram	
Type	xs:token
Properties	content: simple
Source	<xs:element name="relationshipType" type="xs:token"> <xs:annotation> <xs:documentation>the named type of relationship</xs:documentation> <xs:documentation>The VOResource Core specification defines a standard set of names that are not enforced by this schema, but are otherwise required by the spec.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Relationship / relatedResource

Namespace	No namespace
Annotations	the name of resource that this resource is related to.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 1 maxOccurs: unbounded
Attributes	QName: ivo-id; Type: vr:IdentifierURI; Fixed: ; Default: ; Use: optional The URI form of the IVOA identifier for the resource refered to
Source	<xs:element name="relatedResource" type="vr:ResourceName" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>the name of resource that this resource is related to.</xs:documentation> </xs:annotation> </xs:element>

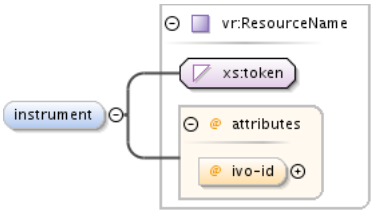
Element vs:DataCollection / facility

Namespace	No namespace
Annotations	the observatory or facility used to collect the data contained or managed by this resource.
Diagram	

Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ivo-id** / vr:IdentifierURI / / / optional The URI form of the IVOA identifier for the resource refered to

Source	`<xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Subject</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>the observatory or facility used to collect the data contained or managed by this resource.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:DataCollection / instrument

Namespace	No namespace
Annotations	the Instrument used to collect the data contain or managed by a resource.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **ivo-id** / vr:IdentifierURI / / / optional The URI form of the IVOA identifier for the resource refered to

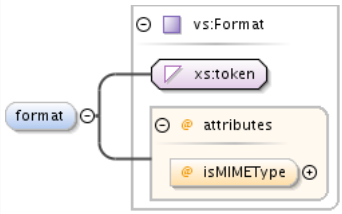
Source	`<xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:appinfo>`
	`  <vm:dcterm>Subject</vm:dcterm>`
	`  <vm:dcterm>Subject.Instrument</vm:dcterm>`
	`  </xs:appinfo>`
	`  <xs:documentation>the Instrument used to collect the data contain or managed by a resource.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:DataCollection / rights

Namespace	No namespace
Annotations	Information about rights held in and over the resource. This should be repeated for all Rights values that apply.
Diagram	
Type	vr:Rights
Properties	content: simple minOccurs: 0 maxOccurs: unbounded

Facets	enumeration	public	unrestricted, public access is allowed without authentication.
	enumeration	secure	authenticated, public access is allowed.
	enumeration	proprietary	only proprietary access is allowed with authentication.
Source	<xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Rights</vm:dcterm> </xs:appinfo> <xs:documentation>Information about rights held in and over the resource.</xs:documentation> <xs:documentation>This should be repeated for all Rights values that apply.</xs:documentation> </xs:annotation> </xs:element>		

Element vs:DataCollection / format

Namespace	No namespace
Annotations	The physical or digital manifestation of the information supported by a resource. MIME types should be used for network-retrievable, digital data. Non-MIME type values are used for media that cannot be retrieved over the network--e.g. CDROM, poster, slides, video cassette, etc.
Diagram	
Type	vs:Format

Properties

content:	complex
minOccurs:	0
maxOccurs:	unbounded

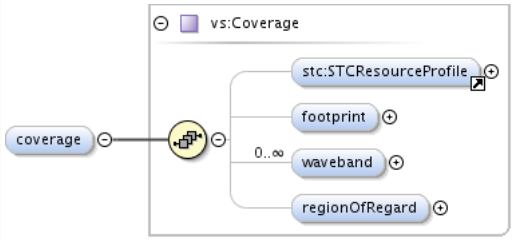
Attributes

QName	Type	Fixed	Default	Use
isMIMEType	xs:boolean		false	optional
	if true, then the content is a MIME Type			

Source

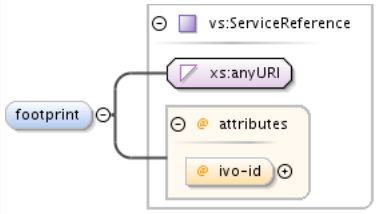
```
<xs:element name="format" type="vs:Format" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>The physical or digital manifestation of the information supported by a
 resource.</xs:documentation>
    <xs:documentation>MIME types should be used for network-retrievable, digital data. Non-MIME type
 values are used for media that cannot be retrieved over the network--e.g. CDROM, poster, slides,
 video cassette, etc.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:DataCollection / coverage

Namespace	No namespace
Annotations	Extent of the content of the resource over space, time, and frequency.
Diagram	
Type	vs:Coverage

Properties	content: complex minOccurs: 0
Model	STCResourceProfile{0,1} , footprint{0,1} , waveband* , regionOfRegard{0,1}
Children	STCResourceProfile, footprint, regionOfRegard, waveband
Instance	<coverage xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:STCResourceProfile xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:STCResourceProfile> <footprint ivo-id="">{0,1}</footprint> <waveband>{0,unbounded}</waveband> <regionOfRegard>{0,1}</regionOfRegard> </coverage>
Source	<xs:element name="coverage" type="vs:Coverage" minOccurs="0"> <xs:annotation> <xs:documentation>Extent of the content of the resource over space, time, and frequency.</xs:documentation> </xs:annotation> </xs:element>

Element vs:Coverage / footprint

Namespace	No namespace
Annotations	a reference to a footprint service for retrieving precise and up-to-date description of coverage. the ivo-id attribute refers to a Service record that describes the Footprint capability. That is, the record will have a capability element describing the service. The resource refered to may be the current one.
Diagram	
Type	vs:ServiceReference
Properties	content: complex minOccurs: 0

Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the service describing the capability refered to by this element.			

Source	<xs:element name="footprint" type="vs:ServiceReference" minOccurs="0"> <xs:annotation> <xs:documentation>a reference to a footprint service for retrieving precise and up-to-date description of coverage.</xs:documentation> <xs:documentation>the ivo-id attribute refers to a Service record that describes the Footprint capability. That is, the record will have a capability element describing the service. The resource refered to may be the current one.</xs:documentation> </xs:annotation> </xs:element>

Element vs:Coverage / waveband

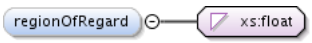
Namespace	No namespace
Annotations	a named spectral region of the electro-magnetic spectrum that the resource's spectral coverage overlaps with.
Diagram	
Type	vs:Waveband
Properties	content: simple minOccurs: 0

	maxOccurs:	unbounded	
Facets	enumeration	Radio	wavelength >= 10 mm; frequency <= 30 GHz.
	enumeration	Millimeter	0.1 mm <= wavelength <= 10 mm; 3000 GHz >= frequency >= 30 GHz.
	enumeration	Infrared	1 micron <= wavelength <= 100 micons
	enumeration	Optical	0.3 microns <= wavelength <= 1 micon; 300 nm <= wavelength <= 1000 nm; 3000 Angstroms <= wavelength <= 10000 Angstroms
	enumeration	UV	0.1 microns <= wavelength <= 0.3 micon; 1000 nm <= wavelength <= 3000 nm; 1000 Angstroms <= wavelength <= 30000 Angstroms
	enumeration	EUV	100 Angstroms <= wavelength <= 1000 Angstroms; 12 eV <= energy <= 120 eV
	enumeration	X-ray	0.1 Angstroms <= wavelength <= 100 Angstroms; 0.12 keV <= energy <= 120 keV
	enumeration	Gamma-ray	energy >= 120 keV

Source

```
<xs:element name="waveband" type="vs:Waveband" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Coverage.Spectral</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>a named spectral region of the electro-magnetic spectrum that the resource's
 spectral coverage overlaps with.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:Coverage / regionOfRegard

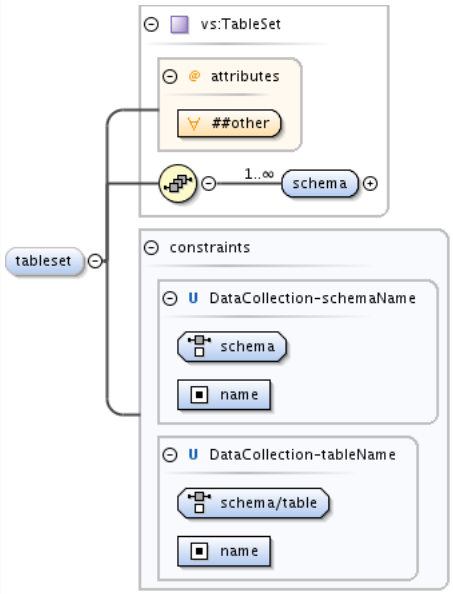
Namespace	No namespace
Annotations	a single numeric value representing the angle, given in decimal degrees, by which a positional query against this resource should be "blurred" in order to get an appropriate match. In the case of image repositories, it might refer to a typical field-of-view size, or the primary beam size for radio aperture synthesis data. In the case of object catalogs RoR should normally be the largest of the typical size of the objects, the astrometric errors in the positions, or the resolution of the data.
Diagram	
Type	xs:float
Properties	content: simple minOccurs: 0

Source

```
<xs:element name="regionOfRegard" type="xs:float" minOccurs="0">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Coverage.RegionOfRegard</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>a single numeric value representing the angle, given in decimal degrees, by
 which a positional query against this resource should be "blurred" in order to get an appropriate
 match.</xs:documentation>
    <xs:documentation>In the case of image repositories, it might refer to a typical field-of-view
 size, or the primary beam size for radio aperture synthesis data. In the case of object catalogs
 RoR should normally be the largest of the typical size of the objects, the astrometric errors in
 the positions, or the resolution of the data.</xs:documentation>
  </xs:annotation>
</xs:element>
```

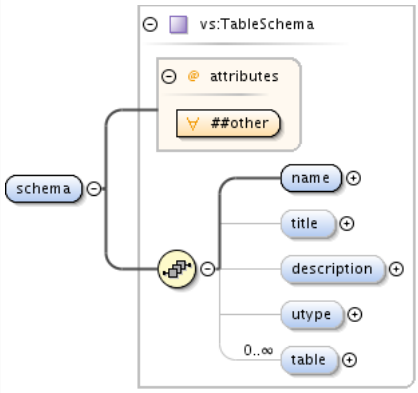
Element vs:DataCollection / tableset

Namespace	No namespace
Annotations	A description of the tables that are part of this collection. Each schema name and each table name must be

	unique within this tableset.
Diagram	
Type	vs:TableSet
Properties	content: complex minOccurs: 0
Model	schema+
Children	schema
Instance	<tableset> <schema>{1,unbounded}</schema> </tableset>
Attributes	**QName**: **ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'**; **Type**: ; **Fixed**: ; **Default**: ; **Use**:
Source	<xs:element name="tableset" type="vs:TableSet" minOccurs="0"> <xs:annotation> <xs:documentation>A description of the tables that are part of this collection.</ xs:documentation> <xs:documentation>Each schema name and each table name must be unique within this tableset.</ xs:documentation> </xs:annotation> <xs:unique name="DataCollection-schemaName"> <xs:selector xpath="schema"/> <xs:field xpath="name"/> </xs:unique> <xs:unique name="DataCollection-tableName"> <xs:selector xpath="schema/table"/> <xs:field xpath="name"/> </xs:unique> </xs:element>

Element vs:TableSet / schema

Namespace	No namespace
Annotations	A named description of a set of logically related tables. The name given by the "name" child element must be unique within this TableSet instance. If there is only one schema in this set and/or there's no locally appropriate name to provide, the name can be set to "default". This aggregation does not need to map to an actual database, catalog, or schema, though the publisher may choose to aggregate along such designations, or particular service protocol may recommend it.

Diagram	
Type	vs:TableSchema
Properties	content: complex minOccurs: 1 maxOccurs: unbounded
Model	name , title{0,1} , description{0,1} , utype{0,1} , table*
Children	description, name, table, title, utype

Instance	`<schema>`
	`  <name>{1,1}</name>`
	`  <title>{0,1}</title>`
	`  <description>{0,1}</description>`
	`  <utype>{0,1}</utype>`
	`  <table type="">{0,unbounded}</table>`
	`</schema>`

Attributes	QName	Type	Fixed	Default	Use
	ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				

Source

```
<xs:element name="schema" type="vs:TableSchema" minOccurs="1" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A named description of a set of logically related tables.</xs:documentation>
    <xs:documentation>The name given by the "name" child element must be unique within this TableSet
 instance. If there is only one schema in this set and/or there's no locally appropriate name to
 provide, the name can be set to "default".</xs:documentation>
    <xs:documentation>This aggregation does not need to map to an actual database, catalog, or
 schema, though the publisher may choose to aggregate along such designations, or particular service
 protocol may recommend it.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:TableSchema / name

Namespace	No namespace
Annotations	A name for the set of tables. This is used to uniquely identify the table set among several table sets. If a title is not present, this name can be used for display purposes. If there is no appropriate logical name associated with this set, the name should be explicitly set to "default".
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 1 maxOccurs: 1

Source

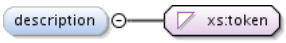
```
<xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">
  <xs:annotation>
    <xs:documentation>A name for the set of tables.</xs:documentation>
```

```
    <xs:documentation>This is used to uniquely identify the table set among several table sets. If a
 title is not present, this name can be used for display purposes.</xs:documentation>
    <xs:documentation>If there is no appropriate logical name associated with this set, the name
 should be explicitly set to "default".</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:TableSchema / title

Namespace	No namespace
Annotations	a descriptive, human-interpretable name for the table set. This is used for display purposes. There is no requirement regarding uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset; otherwise, the resource title could be used instead).
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="title" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>a descriptive, human-interpretable name for the table set.</xs:documentation> <xs:documentation>This is used for display purposes. There is no requirement regarding uniqueness. It is useful when there are multiple schemas in the context (e.g. within a tableset; otherwise, the resource title could be used instead).</xs:documentation> </xs:annotation> </xs:element>

Element vs:TableSchema / description

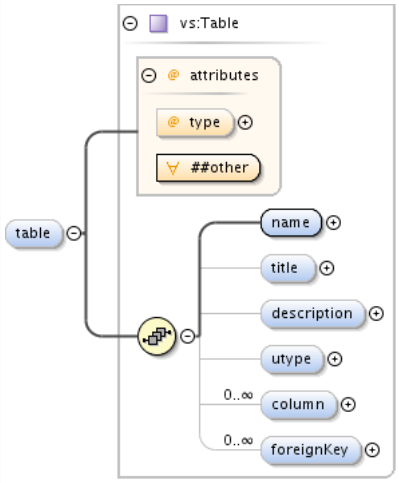
Namespace	No namespace
Annotations	A free text description of the tableset that should explain in general how all of the tables are related.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="description" type="xs:token" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>A free text description of the tableset that should explain in general how all of the tables are related.</xs:documentation> </xs:annotation> </xs:element>

Element vs:TableSchema / utype

Namespace	No namespace
Annotations	an identifier for a concept in a data model that the data in this schema as a whole represent. The format defined in the VOTable standard is strongly recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the data in this schema as a whole represent.</xs:documentation>

```
    <xs:documentation>The format defined in the VOTable standard is strongly recommended.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:TableSchema / table

Namespace	No namespace
Annotations	A description of one of the tables that makes up the set. The table names for the table should be unique.
Diagram	
Type	vs:Table
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name , title{0,1} , description{0,1} , utype{0,1} , column* , foreignKey*
Children	column, description, foreignKey, name, title, utype

Instance	`<table type="">`
	`  <name>{1,1}</name>`
	`  <title>{0,1}</title>`
	`  <description>{0,1}</description>`
	`  <utype>{0,1}</utype>`
	`  <column std="">{0,unbounded}</column>`
	`  <foreignKey>{0,unbounded}</foreignKey>`
	`</table>`

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
type	xs:string			optional
	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.			

Source

```
<xs:element name="table" type="vs:Table" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A description of one of the tables that makes up the set.</xs:documentation>
    <xs:documentation>The table names for the table should be unique.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:Table / name

Namespace	No namespace
Annotations	the fully qualified name of the table. This name

	should include all catalog or schema prefixes needed to sufficiently uniquely distinguish it in a query. In general, the format of the qualified name may depend on the context; however, when the table is intended to be queryable via ADQL, then the catalog and schema qualifiers are delimited from the table name with dots (.).
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 1 maxOccurs: 1

Source	`<xs:element name="name" type="xs:token" minOccurs="1" maxOccurs="1">`
	`  <xs:annotation>`
	`  <xs:documentation>the fully qualified name of the table. This name should include all catalog or schema prefixes needed to sufficiently uniquely distinguish it in a query.</xs:documentation>`
	`  <xs:documentation>In general, the format of the qualified name may depend on the context; however, when the table is intended to be queryable via ADQL, then the catalog and schema qualifiers are delimited from the table name with dots (.).</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:Table / title

Namespace	No namespace
Annotations	a descriptive, human-interpretable name for the table. This is used for display purposes. There is no requirement regarding uniqueness.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

Source	`<xs:element name="title" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>a descriptive, human-interpretable name for the table.</xs:documentation>`
	`  <xs:documentation>This is used for display purposes. There is no requirement regarding uniqueness.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:Table / description

Namespace	No namespace
Annotations	a free-text description of the table's contents
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

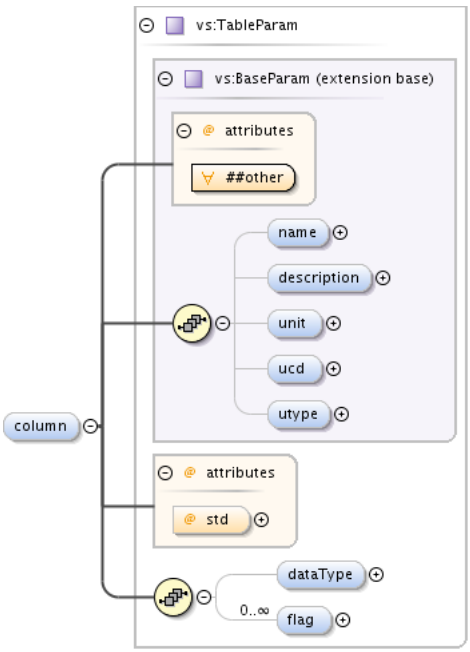
Source	`<xs:element name="description" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>a free-text description of the table's contents</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:Table / utype

Namespace	No namespace
Annotations	an identifier for a concept in a data model that the data in this table represent. The format defined in the VOTable standard is highly

	recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the data in this table represent.</xs:documentation> <xs:documentation>The format defined in the VOTable standard is highly recommended.</xs:documentation> </xs:annotation> </xs:element>

Element vs:Table / column

Namespace	No namespace
Annotations	a description of a table column.
Diagram	
Type	vs:TableParam
Type hierarchy	• vs:BaseParam • vs:TableParam
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1} , flag*
Children	dataType, description, flag, name, ucd, unit, utype
Instance	<column std=""> <name>{0,1}</name> <description>{0,1}</description> <unit>{0,1}</unit> <ucd>{0,1}</ucd> <utype>{0,1}</utype> <dataType arraysize="1" delim=" " extendedSchema="" extendedType="">{0,1}</dataType> <flag>{0,unbounded}</flag> </column>

Attributes	QName	Type	Fixed	Default	Use
	ANY attribute from ANY namespace OTHER than 'http://				

	QName	Type	Fixed	Default	Use
	www.ivoa.net/xml/VODataService/v1.1'				
	std	xs:boolean			optional
		If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.			

Source

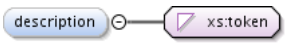
```
<xs:element name="column" type="vs:TableParam" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>a description of a table column.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:BaseParam / name

Namespace	No namespace
Annotations	the name of the column
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

Source	`<xs:element name="name" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>the name of the column</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:BaseParam / description

Namespace	No namespace
Annotations	a free-text description of the column's contents
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

Source	`<xs:element name="description" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>a free-text description of the column's contents</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:BaseParam / unit

Namespace	No namespace
Annotations	the unit associated with all values in the column
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

Source	`<xs:element name="unit" type="xs:token" minOccurs="0">`
	`  <xs:annotation>`
	`  <xs:documentation>the unit associated with all values in the column</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:BaseParam / ucd

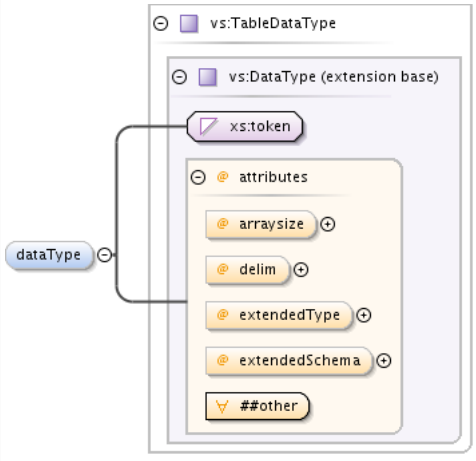
Namespace	No namespace

Annotations	the name of a unified content descriptor that describes the scientific content of the parameter. There are no requirements for compliance with any particular UCD standard. The format of the UCD can be used to distinguish between UCD1, UCD1+, and SIA-UCD. See http://www.ivoa.net/Documents/latest/UCDlist.html for the latest IVOA standard set.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="ucd" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>the name of a unified content descriptor that describes the scientific content of the parameter.</xs:documentation> <xs:documentation>There are no requirements for compliance with any particular UCD standard. The format of the UCD can be used to distinguish between UCD1, UCD1+, and SIA-UCD. See http://www.ivoa.net/Documents/latest/UCDlist.html for the latest IVOA standard set.</xs:documentation> </xs:annotation> </xs:element>

Element vs:BaseParam / utype

Namespace	No namespace
Annotations	an identifier for a concept in a data model that the data in this schema represent. The format defined in the VOTable standard is highly recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the data in this schema represent.</xs:documentation> <xs:documentation>The format defined in the VOTable standard is highly recommended.</xs:documentation> </xs:annotation> </xs:element>

Element vs:TableParam / dataType

Namespace	No namespace
Annotations	a type of data contained in the column
Diagram	

Type	vs:TableDataType

Type hierarchy	• xs:token
	  • vs:DataType
	  • vs:TableDataType

Properties	content: complex minOccurs: 0

Attributes

QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
	the shape of the array that constitutes the value the default is "1"; i.e. the value is a scalar.			
delim	xs:string			optional
	the string that is used to delimit elements of an array value when arraysize is not "1". Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=","). the default is " "; i.e. the values are delimited by spaces.			
extendedSchema	xs:anyURI			optional
	An identifier for the schema that the value given by the extended attribute is drawn from. This attribute is normally ignored if the extendedType attribute is not present.			
extendedType	xs:string			optional
	The data value represented by this type can be interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.			

Source

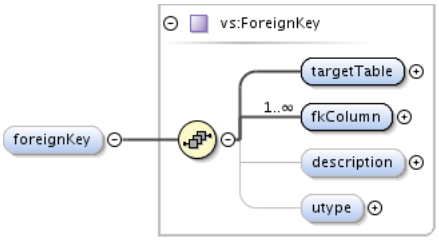
```
<xs:element name="dataType" type="vs:TableDataType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>a type of data contained in the column</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:TableParam / flag

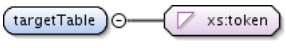
Namespace	No namespace
Annotations	a keyword representing traits of the column. Recognized values include "indexed", "primary", and "nullable". See the specification document for definitions of recognized keywords.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0

	maxOccurs: unbounded
Source	<xs:element name="flag" type="xs:token" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>a keyword representing traits of the column. Recognized values include "indexed", "primary", and "nullable".</xs:documentation> <xs:documentation>See the specification document for definitions of recognized keywords.</xs:documentation> </xs:annotation> </xs:element>

Element vs:Table / foreignKey

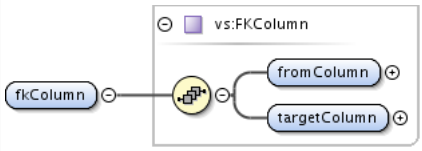
Namespace	No namespace
Annotations	a description of a foreign keys, one or more columns from the current table that can be used to join with another table.
Diagram	
Type	vs:ForeignKey
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	targetTable , fkColumn+ , description{0,1} , utype{0,1}
Children	description, fkColumn, targetTable, utype
Instance	<foreignKey> <targetTable>{1,1}</targetTable> <fkColumn>{1,unbounded}</fkColumn> <description>{0,1}</description> <utype>{0,1}</utype> </foreignKey>
Source	<xs:element name="foreignKey" type="vs:ForeignKey" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>a description of a foreign keys, one or more columns from the current table that can be used to join with another table.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ForeignKey / targetTable

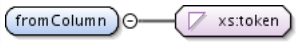
Namespace	No namespace
Annotations	the fully-qualified name (including catalog and schema, as applicable) of the table that can be joined with the table containing this foreign key.
Diagram	
Type	xs:token
Properties	content: simple
Source	<xs:element name="targetTable" type="xs:token"> <xs:annotation> <xs:documentation>the fully-qualified name (including catalog and schema, as applicable) of the table that can be joined with the table containing this foreign key.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ForeignKey / fkColumn

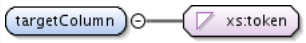
Namespace	No namespace
Annotations	a pair of column names, one from this table and one

	from the target table that should be used to join the tables in a query.
Diagram	
Type	vs:FKColumn
Properties	content: complex minOccurs: 1 maxOccurs: unbounded
Model	fromColumn , targetColumn
Children	fromColumn, targetColumn
Instance	<fkColumn> <fromColumn>{1,1}</fromColumn> <targetColumn>{1,1}</targetColumn> </fkColumn>
Source	<xs:element name="fkColumn" type="vs:FKColumn" minOccurs="1" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>a pair of column names, one from this table and one from the target table that should be used to join the tables in a query.</xs:documentation> </xs:annotation> </xs:element>

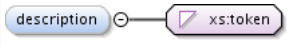
Element vs:FKColumn / fromColumn

Namespace	No namespace
Annotations	The unqualified name of the column from the current table.
Diagram	
Type	xs:token
Properties	content: simple
Source	<xs:element name="fromColumn" type="xs:token"> <xs:annotation> <xs:documentation>The unqualified name of the column from the current table.</xs:documentation> </xs:annotation> </xs:element>

Element vs:FKColumn / targetColumn

Namespace	No namespace
Annotations	The unqualified name of the column from the target table.
Diagram	
Type	xs:token
Properties	content: simple
Source	<xs:element name="targetColumn" type="xs:token"> <xs:annotation> <xs:documentation>The unqualified name of the column from the target table.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ForeignKey / description

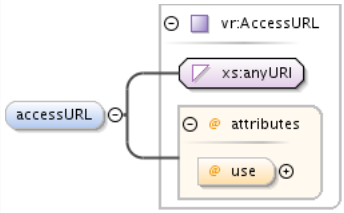
Namespace	No namespace
Annotations	a free-text description of what this key points to and what the relationship means.
Diagram	
Type	xs:token

Properties	content: simple minOccurs: 0
Source	<xs:element name="description" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>a free-text description of what this key points to and what the relationship means.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ForeignKey / utype

Namespace	No namespace
Annotations	an identifier for a concept in a data model that the association enabled by this key represents. The format defined in the VOTable standard is highly recommended.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="utype" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>an identifier for a concept in a data model that the association enabled by this key represents.</xs:documentation> <xs:documentation>The format defined in the VOTable standard is highly recommended.</xs:documentation> </xs:annotation> </xs:element>

Element vs:DataCollection / accessURL

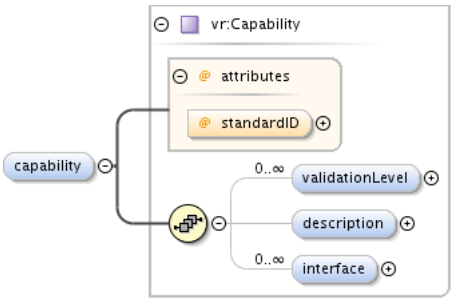
Namespace	No namespace
Annotations	The URL that can be used to download the data contained in this data collection.
Diagram	
Type	vr:AccessURL
Properties	content: complex minOccurs: 0
Attributes	**QName** / **Type** / **Fixed** / **Default** / **Use** **use** / restriction of xs:NMTOKEN / / / optional A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.
Source	<xs:element name="accessURL" type="vr:AccessURL" minOccurs="0"> <xs:annotation> <xs:documentation>The URL that can be used to download the data contained in this data collection.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Service / rights

Namespace	No namespace

Annotations	Information about rights held in and over the resource. This should be repeated for all Rights values that apply.
Diagram	
Type	vr:Rights
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Facets	enumeration public — unrestricted, public access is allowed without authentication. enumeration secure — authenticated, public access is allowed. enumeration proprietary — only proprietary access is allowed with authentication.
Source	<xs:element name="rights" type="vr:Rights" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Rights</vm:dcterm> </xs:appinfo> <xs:documentation>Information about rights held in and over the resource.</xs:documentation> <xs:documentation>This should be repeated for all Rights values that apply.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Service / capability

Namespace	No namespace
Annotations	a description of a general capability of the service and how to use it. This describes a general function of the service, usually in terms of a standard service protocol (e.g. SIA), but not necessarily. A service can have many capabilities associated with it, each reflecting different aspects of the functionality it provides.
Diagram	
Type	vr:Capability
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	validationLevel* , description{0,1} , interface*
Children	description, interface, validationLevel
Instance	<capability standardID=""> <validationLevel validatedBy="">{0,unbounded}</validationLevel> <description>{0,1}</description> <interface role="" version="1.0">{0,unbounded}</interface> </capability>

Attributes

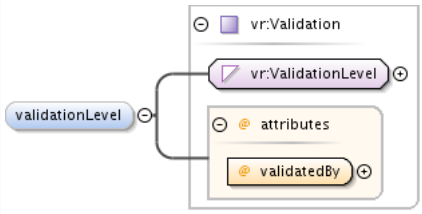
QName	Type	Fixed	Default	Use
standardID	xs:anyURI			optional
	A URI identifier for a standard service. This provides a unique way to refer to a service			

	QName	Type	Fixed	Default	Use
		specification standard, such as a Simple Image Access service. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.			

Source

```
<xs:element name="capability" type="vr:Capability" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>a description of a general capability of the service and how to use it.</
xs:documentation>
    <xs:documentation>This describes a general function of the service, usually in terms of a
 standard service protocol (e.g. SIA), but not necessarily.</xs:documentation>
    <xs:documentation>A service can have many capabilities associated with it, each reflecting
 different aspects of the functionality it provides.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Capability / validationLevel

Namespace	No namespace
Annotations	A numeric grade describing the quality of the capability description and interface, when applicable, to be used to indicate the confidence an end-user can put in the resource as part of a VO application or research study. See vr:ValidationLevel for an explanation of the allowed levels.
Diagram	
Type	vr:Validation

Type hierarchy	• xs:integer
	  • vr:ValidationLevel
	  • vr:Validation

Properties	content: complex minOccurs: 0 maxOccurs: unbounded

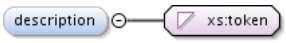
Attributes	QName	Type	Fixed	Default	Use
	validatedBy	vr:IdentifierURI			required
		The IVOA ID of the registry or organisation that assigned the validation level.			

Source

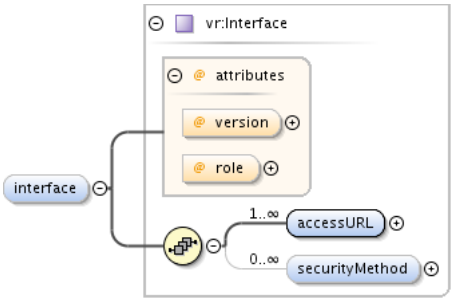
```
<xs:element name="validationLevel" type="vr:Validation" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>A numeric grade describing the quality of the capability description and
 interface, when applicable, to be used to indicate the confidence an end-user can put in the
 resource as part of a VO application or research study.</xs:documentation>
    <xs:documentation>See vr:ValidationLevel for an explanation of the allowed levels.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Capability / description

Namespace	No namespace
Annotations	A human-readable description of what this capability provides as part of the over-all service Use of this optional element is especially encouraged when this capability is non-standard and is one of several capabilities listed.

Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0
Source	<xs:element name="description" type="xs:token" minOccurs="0"> <xs:annotation> <xs:documentation>A human-readable description of what this capability provides as part of the over-all service</xs:documentation> <xs:documentation>Use of this optional element is especially encouraged when this capability is non-standard and is one of several capabilities listed.</xs:documentation> </xs:annotation> </xs:element>

Element vr:Capability / interface

Namespace	No namespace
Annotations	a description of how to call the service to access this capability Since the Interface type is abstract, one must describe the interface using a subclass of Interface, denoting it via xsi:type. Multiple occurances can describe different interfaces to the logically same capability--i.e. data or functionality. That is, the inputs accepted and the output provides should be logically the same. For example, a WebBrowser interface given in addition to a WebService interface would simply provide an interactive, human-targeted interface to the underlying WebService interface.
Diagram	
Type	vr:Interface
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	accessURL+ , securityMethod*
Children	accessURL, securityMethod
Instance	<interface role="" version="1.0"> <accessURL use="">{1,unbounded}</accessURL> <securityMethod standardID="">{0,unbounded}</securityMethod> </interface>

Attributes

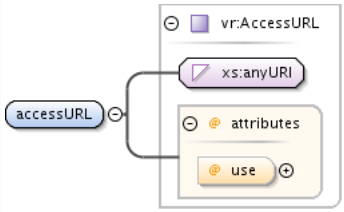
QName	Type	Fixed	Default	Use
role	xs:NMTOKEN			optional
	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.			
version	xs:string		1.0	optional

	QName	Type	Fixed	Default	Use
		The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.			

Source

```
<xs:element name="interface" type="vr:Interface" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>a description of how to call the service to access this capability</
xs:documentation>
    <xs:documentation>Since the Interface type is abstract, one must describe the interface using a
 subclass of Interface, denoting it via xsi:type.</xs:documentation>
    <xs:documentation>Multiple occurances can describe different interfaces to the logically same
 capability--i.e. data or functionality. That is, the inputs accepted and the output provides
 should be logically the same. For example, a WebBrowser interface given in addition to a WebService
 interface would simply provide an interactive, human-targeted interface to the underlying
 WebService interface.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Interface / accessURL

Namespace	No namespace
Annotations	The URL (or base URL) that a client uses to access the service. How this URL is to be interpreted and used depends on the specific Interface subclass When more than one URL is given, each represents an alternative (i.e. mirror) endpoint whose behavior is identical to all the other accessURLs listed. Editor's note: this element assumes that all registered services are inherently web based.
Diagram	
Type	vr:AccessURL
Properties	content: complex minOccurs: 1 maxOccurs: unbounded

Attributes

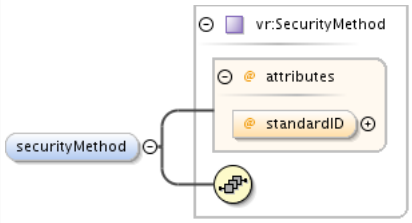
QName	Type	Fixed	Default	Use
use	restriction of xs:NMTOKEN			optional
	A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.			

Source

```
<xs:element name="accessURL" type="vr:AccessURL" minOccurs="1" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>The URL (or base URL) that a client uses to access the service. How this URL
 is to be interpreted and used depends on the specific Interface subclass</xs:documentation>
    <xs:documentation>When more than one URL is given, each represents an alternative (i.e. mirror)
 endpoint whose behavior is identical to all the other accessURLs listed.</xs:documentation>
    <xs:documentation>Editor's note: this element assumes that all registered services are
 inherently web based.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Interface / securityMethod

Namespace	No namespace

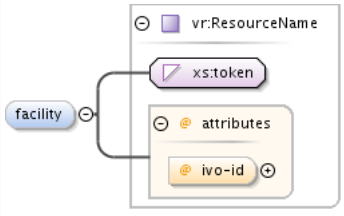
Annotations	the mechanism the client must employ to gain secure access to the service. when more than one method is listed, each one must be employed to gain access.
Diagram	
Type	vr:SecurityMethod
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	

Attributes	QName	Type	Fixed	Default	Use
	standardID	xs:anyURI			optional
		A URI identifier for a standard security mechanism. This provides a unique way to refer to a security specification standard. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.			

Source

```
<xs:element name="securityMethod" type="vr:SecurityMethod" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>the mechanism the client must employ to gain secure access to the service.</
xs:documentation>
    <xs:documentation>when more than one method is listed, each one must be employed to gain
 access.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:DataService / facility

Namespace	No namespace
Annotations	the observatory or facility used to collect the data contained or managed by this resource.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded

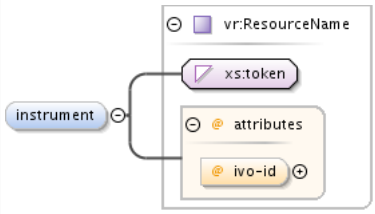
Attributes	QName	Type	Fixed	Default	Use
	ivo-id	vr:IdentifierURI			optional
		The URI form of the IVOA identifier for the resource refered to			

Source

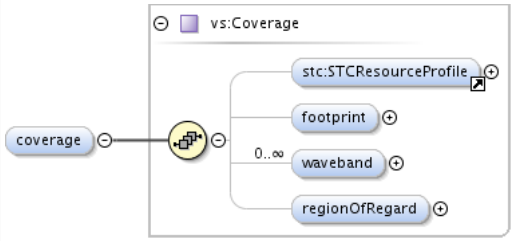
```
<xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Subject</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>the observatory or facility used to collect the data contained or managed by
 this resource.</xs:documentation>
  </xs:annotation>
```

```
</xs:element>
```

Element vs:DataService / instrument

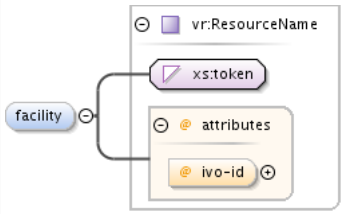
Namespace	No namespace
Annotations	the Instrument used to collect the data contain or managed by a resource.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Attributes	**QName** | **Type** | **Fixed** | **Default** | **Use** **ivo-id** | vr:IdentifierURI | | | optional The URI form of the IVOA identifier for the resource refered to
Source	<xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:appinfo> <vm:dcterm>Subject</vm:dcterm> <vm:dcterm>Subject.Instrument</vm:dcterm> </xs:appinfo> <xs:documentation>the Instrument used to collect the data contain or managed by a resource.</xs:documentation> </xs:annotation> </xs:element>

Element vs:DataService / coverage

Namespace	No namespace
Annotations	Extent of the content of the resource over space, time, and frequency.
Diagram	
Type	vs:Coverage
Properties	content: complex minOccurs: 0
Model	STCResourceProfile{0,1} , footprint{0,1} , waveband* , regionOfRegard{0,1}
Children	STCResourceProfile, footprint, regionOfRegard, waveband
Instance	<coverage xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:STCResourceProfile xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,1}</stc:STCResourceProfile> <footprint ivo-id="">{0,1}</footprint> <waveband>{0,unbounded}</waveband> <regionOfRegard>{0,1}</regionOfRegard> </coverage>
Source	<xs:element name="coverage" type="vs:Coverage" minOccurs="0"> <xs:annotation> <xs:documentation>Extent of the content of the resource over space, time, and frequency.</xs:documentation> </xs:annotation>

```
</xs:element>
```

Element vr:Organisation / facility

Namespace	No namespace
Annotations	the observatory or facility used to collect the data contained or managed by this resource.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded

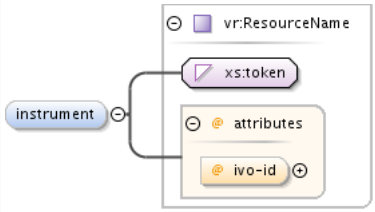
Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source

```
<xs:element name="facility" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Subject</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>the observatory or facility used to collect the data contained or managed by
 this resource.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:Organisation / instrument

Namespace	No namespace
Annotations	the Instrument used to collect the data contain or managed by a resource.
Diagram	
Type	vr:ResourceName
Properties	content: complex minOccurs: 0 maxOccurs: unbounded

Attributes

QName	Type	Fixed	Default	Use
ivo-id	vr:IdentifierURI			optional
	The URI form of the IVOA identifier for the resource refered to			

Source

```
<xs:element name="instrument" type="vr:ResourceName" minOccurs="0" maxOccurs="unbounded">
  <xs:annotation>
    <xs:appinfo>
      <vm:dcterm>Subject</vm:dcterm>
      <vm:dcterm>Subject.Instrument</vm:dcterm>
    </xs:appinfo>
    <xs:documentation>the Instrument used to collect the data contain or managed by a resource.</
xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vr:WebService / wsdlURL

Namespace	No namespace
Annotations	The location of the WSDL that describes this Web Service. If not provided, the location is assumed to be the accessURL with "?wsdl" appended. Multiple occurances should represent mirror copies of the same WSDL file.
Diagram	
Type	xs:anyURI
Properties	content: simple minOccurs: 0 maxOccurs: unbounded
Source	<xs:element name="wsdlURL" type="xs:anyURI" minOccurs="0" maxOccurs="unbounded"> <xs:annotation> <xs:documentation>The location of the WSDL that describes this Web Service. If not provided, the location is assumed to be the accessURL with "?wsdl" appended.</xs:documentation> <xs:documentation>Multiple occurances should represent mirror copies of the same WSDL file.</xs:documentation> </xs:annotation> </xs:element>

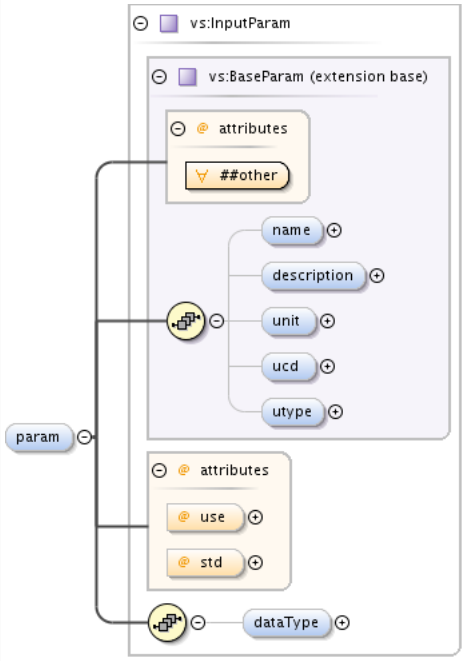
Element vs:ParamHTTP / queryType

Namespace	No namespace
Annotations	The type of HTTP request, either GET or POST. The service may indicate support for both GET and POST by providing 2 queryType elements, one with GET and one with POST.
Diagram	
Type	vs:HTTPQueryType
Properties	content: simple minOccurs: 0 maxOccurs: 2
Facets	enumeration GET enumeration POST
Source	<xs:element name="queryType" type="vs:HTTPQueryType" minOccurs="0" maxOccurs="2"> <xs:annotation> <xs:documentation>The type of HTTP request, either GET or POST.</xs:documentation> <xs:documentation>The service may indicate support for both GET and POST by providing 2 queryType elements, one with GET and one with POST.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ParamHTTP / resultType

Namespace	No namespace
Annotations	The MIME type of a document returned in the HTTP response.
Diagram	
Type	xs:token
Properties	content: simple minOccurs: 0 maxOccurs: 1
Source	<xs:element name="resultType" type="xs:token" minOccurs="0" maxOccurs="1"> <xs:annotation> <xs:documentation>The MIME type of a document returned in the HTTP response.</xs:documentation> </xs:annotation> </xs:element>

Element vs:ParamHTTP / param

Namespace	No namespace
Annotations	a description of a input parameter that can be provided as a name=value argument to the service.
Diagram	
Type	vs:InputParam
Type hierarchy	• vs:BaseParam • vs:InputParam
Properties	content: complex minOccurs: 0 maxOccurs: unbounded
Model	name{0,1} , description{0,1} , unit{0,1} , ucd{0,1} , utype{0,1} , dataType{0,1}
Children	dataType, description, name, ucd, unit, utype

Instance

```
<param std="true" use="optional">
  <name>{0,1}</name>
  <description>{0,1}</description>
  <unit>{0,1}</unit>
  <ucd>{0,1}</ucd>
  <utype>{0,1}</utype>
  <dataType arraysize="1" delim=" " extendedSchema="" extendedType="">{0,1}</dataType>
</param>
```

Attributes

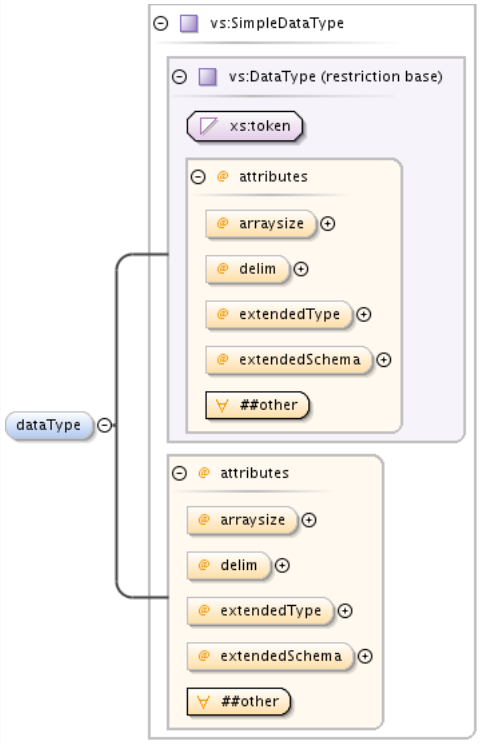
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
std	xs:boolean		true	optional
	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.			
use	vs:ParamUse		optional	optional
	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".			

Source

```
<xs:element name="param" type="vs:InputParam" minOccurs="0" maxOccurs="unbounded">
```

```
  <xs:annotation>
    <xs:documentation>a description of a input parameter that can be provided as a name=value
 argument to the service.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Element vs:InputParam / dataType

Namespace	No namespace
Annotations	a type of data contained in the column
Diagram	
Type	vs:SimpleDataType
Type hierarchy	• xs:token • vs:DataType • vs:SimpleDataType
Properties	content: complex minOccurs: 0

Attributes

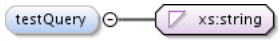
QName	Type	Fixed	Default	Use
ANY attribute from ANY namespace OTHER than 'http://www.ivoa.net/xml/VODataService/v1.1'				
arraysize	vs:ArrayShape		1	optional
delim	xs:string			optional
extendedSchema	xs:anyURI			optional
extendedType	xs:string			optional

Source

```
<xs:element name="dataType" type="vs:SimpleDataType" minOccurs="0">
  <xs:annotation>
    <xs:documentation>a type of data contained in the column</xs:documentation>
  </xs:annotation>
</xs:element>
```

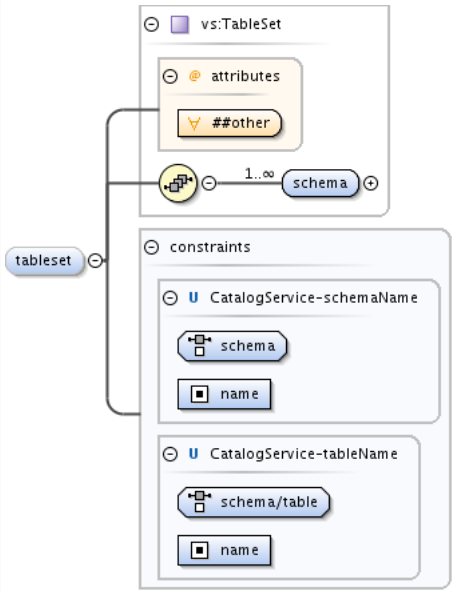
Element vs:ParamHTTP / testQuery

Namespace	No namespace
Annotations	an ampersand-delimited list of arguments that

	can be used to test this service interface; when provided as the input to this interface, it will produce a legal, non-null response. When the interface supports GET, then the full query URL is formed by the concatonation of the base URL (given by the accessURL) and the value given by this testQuery element.
Diagram	
Type	xs:string
Properties	content: simple minOccurs: 0 maxOccurs: unbounded

Source	`<xs:element name="testQuery" type="xs:string" minOccurs="0" maxOccurs="unbounded">`
	`  <xs:annotation>`
	`  <xs:documentation>an ampersand-delimited list of arguments that can be used to test this service interface; when provided as the input to this interface, it will produce a legal, non-null response.</xs:documentation>`
	`  <xs:documentation>When the interface supports GET, then the full query URL is formed by the concatonation of the base URL (given by the accessURL) and the value given by this testQuery element.</xs:documentation>`
	`  </xs:annotation>`
	`</xs:element>`

Element vs:CatalogService / tableset

Namespace	No namespace
Annotations	A description of the tables that are accessible through this service. Each schema name and each table name must be unique within this tableset.
Diagram	
Type	vs:TableSet
Properties	content: complex minOccurs: 0
Model	schema+
Children	schema

Instance	`<tableset>`
	`  <schema>{1,unbounded}</schema>`
	`</tableset>`

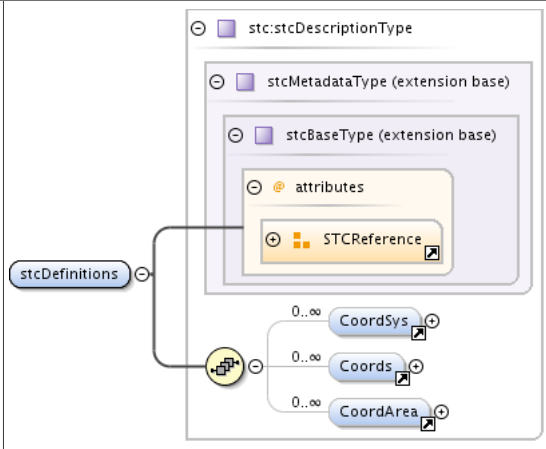
Attributes	QName	Type	Fixed	Default	Use
	ANY attribute from ANY namespace OTHER than 'http://				

	QName	Type	Fixed	Default	Use
	www.ivoa.net/xml/VODataService/v1.1'				

Source

```
<xs:element name="tableset" type="vs:TableSet" minOccurs="0">
  <xs:annotation>
    <xs:documentation>A description of the tables that are accessible through this service.</
xs:documentation>
    <xs:documentation>Each schema name and each table name must be unique within this tableset.</
xs:documentation>
  </xs:annotation>
  <xs:unique name="CatalogService-schemaName">
    <xs:selector xpath="schema"/>
    <xs:field xpath="name"/>
  </xs:unique>
  <xs:unique name="CatalogService-tableName">
    <xs:selector xpath="schema/table"/>
    <xs:field xpath="name"/>
  </xs:unique>
</xs:element>
```

Element vs:StandardSTC / stcDefinitions

Namespace	No namespace
Annotations	An STC description of coordinate systems, positions, and/or regions Each system, position, and region description should have a an XML ID assigned to it. Because the STC schema sets elementFormDefault="qualified", it is recommended that this element specify the STC default namespace via an xmlns namespace.
Diagram	
Type	stcDescriptionType

Type hierarchy	• stcBaseType
	  • stcMetadataType
	  • stcDescriptionType

Properties	content: complex minOccurs: 1 maxOccurs: unbounded
Model	CoordSys* , Coords* , CoordArea*
Children	CoordArea, CoordSys, Coords
Instance	<stcDefinitions xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="" xmlns:stc="http://www.ivoa.net/xml/STC/stc-v1.30.xsd"> <stc:CoordSys xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="">{0,unbounded}</stc:CoordSys> <stc:Coords coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd=""></stc:Coords> <stc:CoordArea coord_system_id="" xlink:href="" id="" ID_type="" idref="" IDREF_type="" xlink:type="simple" ucd="</stc:CoordArea> </stcDefinitions>

Attributes

QName	Type	Fixed	Default	Use
IDREF_type	xs:string			optional
ID_type	xs:string			optional
id	xs:ID			optional
idref	xs:IDREF			optional
ucd	xs:string			optional
xlink:href	xs:anyURI			optional
xlink:type	restriction of xs:NMTOKEN		simple	optional

Source

```
<xs:element name="stcDefinitions" type="stc:stcDescriptionType" minOccurs="1" maxOccurs="unbounded">
  <xs:annotation>
    <xs:documentation>An STC description of coordinate systems, positions, and/or regions</
xs:documentation>
    <xs:documentation>Each system, position, and region description should have a an XML ID assigned
 to it.</xs:documentation>
    <xs:documentation>Because the STC schema sets elementFormDefault="qualified", it is recommended
 that this element specify the STC default namespace via an xmlns namespace.</xs:documentation>
  </xs:annotation>
</xs:element>
```

Attribute(s)

Attribute `vr:Validation / @validatedBy`

Namespace	No namespace	
Annotations	`The IVOA ID of the registry or organisation that assigned the validation level.`	
Type	vr:IdentifierURI	
Properties	use:	`required`
Facets	pattern	`ivo://[\w\d][\w\d\-_\.!~\*'\(\)\+=]{2,}(/[\w\d\-_\.!~\*'\(\)\+=]+(/[\w\d\-_\.!~\*'\(\)\+=]+)*)?`
Used by	Complex Type	vr:Validation

Source

```
<xs:attribute name="validatedBy" type="vr:IdentifierURI" use="required">
  <xs:annotation>
    <xs:documentation>The IVOA ID of the registry or organisation that assigned the validation
 level.</xs:documentation>
  </xs:annotation>
</xs:attribute>
```

Attribute `vr:ResourceName / @ivo-id`

Namespace	No namespace	
Annotations	`The URI form of the IVOA identifier for the resource refered to`	
Type	vr:IdentifierURI	
Properties	content:	`simple`
Facets	pattern	`ivo://[\w\d][\w\d\-_\.!~\*'\(\)\+=]{2,}(/[\w\d\-_\.!~\*'\(\)\+=]+(/[\w\d\-_\.!~\*'\(\)\+=]+)*)?`
Used by	Complex Type	vr:ResourceName

Source

```
<xs:attribute name="ivo-id" type="vr:IdentifierURI">
  <xs:annotation>
    <xs:documentation>The URI form of the IVOA identifier for the resource refered to</
xs:documentation>
  </xs:annotation>
</xs:attribute>
```

Attribute `vr:Date / @role`

Namespace	No namespace
Annotations	`A string indicating what the date refers to.`

	While this vocabulary is uncontrolled, recognized strings include "creation", indicating the date that the resource itself was created, and "update", indicating when the resource was updated last. The default value, "representative", means that the date is a rough representation of the time coverage of the resource. Note that this date refers to the resource; dates describing the metadata description of the resource are handled by the "created" and "updated" attributes of the Resource element.
Type	xs:string
Properties	default: representative
Used by	Complex Type vr:Date
Source	<xs:attribute name="role" type="xs:string" default="representative"> <xs:annotation> <xs:documentation>A string indicating what the date refers to.</xs:documentation> <xs:documentation>While this vocabulary is uncontrolled, recognized strings include "creation", indicating the date that the resource itself was created, and "update", indicating when the resource was updated last. The default value, "representative", means that the date is a rough representation of the time coverage of the resource.</xs:documentation> <xs:documentation>Note that this date refers to the resource; dates describing the metadata description of the resource are handled by the "created" and "updated" attributes of the Resource element.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Source / @format

Namespace	No namespace
Annotations	The reference format. Recognized values include "bibcode", referring to a standard astronomical bibcode (http://cdsweb.u-strasbg.fr/simbad/refcode.html).
Type	xs:string
Properties	content: simple
Used by	Complex Type vr:Source
Source	<xs:attribute name="format" type="xs:string"> <xs:annotation> <xs:documentation>The reference format. Recognized values include "bibcode", referring to a standard astronomical bibcode (http://cdsweb.u-strasbg.fr/simbad/refcode.html).</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Resource / @created

Namespace	No namespace
Annotations	The UTC date and time this resource metadata description was created. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.
Type	xs:dateTime
Properties	use: required
Used by	Complex Type vr:Resource
Source	<xs:attribute name="created" type="xs:dateTime" use="required"> <xs:annotation> <xs:documentation>The UTC date and time this resource metadata description was created.</xs:documentation> <xs:documentation>This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Resource / @updated

Namespace	No namespace

Annotations	The UTC date this resource metadata description was last updated. This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.
Type	xs:dateTime
Properties	use: required
Used by	Complex Type vr:Resource
Source	<xs:attribute name="updated" type="xs:dateTime" use="required"> <xs:annotation> <xs:documentation>The UTC date this resource metadata description was last updated.</xs:documentation> <xs:documentation>This timestamp must not be in the future. This time is not required to be accurate; it should be at least accurate to the day. Any insignificant time fields should be set to zero.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Resource / @status

Namespace	No namespace		
Annotations	a tag indicating whether this resource is believed to be still actively maintained.		
Type	restriction of xs:string		
Properties	use:	required	
Facets	enumeration	active	resource is believed to be currently maintained, and its description is up to date (default).
	enumeration	inactive	resource is apparently not being maintained at the present.
	enumeration	deleted	resource publisher has explicitly deleted the resource.
Used by	Complex Type	vr:Resource	
Source	<xs:attribute name="status" use="required"> <xs:annotation> <xs:documentation>a tag indicating whether this resource is believed to be still actively maintained.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="active"> <xs:annotation> <xs:documentation>resource is believed to be currently maintained, and its description is up to date (default).</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="inactive"> <xs:annotation> <xs:documentation>resource is apparently not being maintained at the present.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="deleted"> <xs:annotation> <xs:documentation>resource publisher has explicitly deleted the resource.</xs:documentation> </xs:annotation> </xs:enumeration> </xs:restriction> </xs:simpleType> </xs:attribute>		

Attribute vs:Format / @isMIMEType

Namespace	No namespace
Annotations	if true, then the content is a MIME Type
Type	xs:boolean
Properties	default: false

Used by	Complex Type	vs:Format
Source	<xs:attribute name="isMIMEType" type="xs:boolean" default="false"> <xs:annotation> <xs:documentation>if true, then the content is a MIME Type</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute STCReference / @id

Namespace	No namespace	
Type	xs:ID	
Properties	use:	optional
Used by	Attribute Group	STCReference
Source	<xs:attribute name="id" type="xs:ID" use="optional"/>	

Attribute STCReference / @idref

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Attribute Group	STCReference
Source	<xs:attribute name="idref" type="xs:IDREF" use="optional"/>	

Attribute STCReference / @ucd

Namespace	No namespace	
Type	xs:string	
Properties	use:	optional
Used by	Attribute Group	STCReference
Source	<xs:attribute name="ucd" type="xs:string" use="optional"/>	

Attribute STCReference / @ID_type

Namespace	No namespace	
Type	xs:string	
Properties	use:	optional
Used by	Attribute Group	STCReference
Source	<xs:attribute name="ID_type" type="xs:string" use="optional"/>	

Attribute STCReference / @IDREF_type

Namespace	No namespace	
Type	xs:string	
Properties	use:	optional
Used by	Attribute Group	STCReference
Source	<xs:attribute name="IDREF_type" type="xs:string" use="optional"/>	

Attribute coordRefFrameType / @ref_frame_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	content:	simple

Used by	Complex Type	coordRefFrameType
Source	<xs:attribute name="ref_frame_id" type="xs:IDREF"/>	

Attribute coordinateType / @frame_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	coordinateType
Source	<xs:attribute name="frame_id" type="xs:IDREF" use="optional"/>	

Attribute coordFlavorType / @coord_naxes

Namespace	No namespace	
Type	restriction of xs:integer	
Properties	default:	2
Facets	maxInclusive	3
	minInclusive	1
Used by	Complex Type	coordFlavorType
Source	<xs:attribute name="coord_naxes" default="2"> <xs:simpleType> <xs:restriction base="xs:integer"> <xs:minInclusive value="1"/> <xs:maxInclusive value="3"/> </xs:restriction> </xs:simpleType> </xs:attribute>	

Attribute coordFlavorType / @handedness

Namespace	No namespace	
Type	restriction of xs:string	
Properties	use:	optional
Facets	enumeration	left
	enumeration	right
Used by	Complex Type	coordFlavorType
Source	<xs:attribute name="handedness" use="optional"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="left"/> <xs:enumeration value="right"/> </xs:restriction> </xs:simpleType> </xs:attribute>	

Attribute coordsType / @coord_system_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	required
Used by	Complex Type	coordsType
Source	<xs:attribute name="coord_system_id" type="xs:IDREF" use="required"/>	

Attribute coordIntervalType / @lo_include

Namespace	No namespace

Annotations	Limit to be included?
Type	xs:boolean
Properties	default: true
Used by	Complex Type coordIntervalType
Source	<xs:attribute name="lo_include" type="xs:boolean" default="true"> <xs:annotation> <xs:documentation>Limit to be included?</xs:documentation> </xs:annotation> </xs:attribute>

Attribute coordIntervalType / @hi_include

Namespace	No namespace
Annotations	Limit to be included?
Type	xs:boolean
Properties	default: true
Used by	Complex Type coordIntervalType
Source	<xs:attribute name="hi_include" type="xs:boolean" default="true"> <xs:annotation> <xs:documentation>Limit to be included?</xs:documentation> </xs:annotation> </xs:attribute>

Attribute coordIntervalType / @fill_factor

Namespace	No namespace
Annotations	Fraction of interval that is occupied by data
Type	xs:float
Properties	use: optional default: 1.0
Used by	Complex Type coordIntervalType
Source	<xs:attribute name="fill_factor" type="xs:float" use="optional" default="1.0"> <xs:annotation> <xs:documentation>Fraction of interval that is occupied by data</xs:documentation> </xs:annotation> </xs:attribute>

Attribute coordIntervalType / @frame_id

Namespace	No namespace
Type	xs:IDREF
Properties	use: optional
Used by	Complex Type coordIntervalType
Source	<xs:attribute name="frame_id" type="xs:IDREF" use="optional"/>

Attribute coordAreaType / @coord_system_id

Namespace	No namespace
Type	xs:IDREF
Properties	use: required
Used by	Complex Type coordAreaType
Source	<xs:attribute name="coord_system_id" type="xs:IDREF" use="required"/>

Attribute timeOffsetType / @unit

Namespace	No namespace

Type	timeUnitType

Type hierarchy	• xs:string
	  • unitType
	  • timeUnitType

Properties	use: optional default: s
Facets	enumeration s enumeration h enumeration d enumeration a enumeration yr enumeration cy enumeration
Used by	Complex Type timeOffsetType
Source	`<xs:attribute name="unit" type="timeUnitType" use="optional" default="s"/>`

Attribute `double1Type / @time_unit`

Namespace	No namespace
Type	timeUnitType

Type hierarchy	• xs:string
	  • unitType
	  • timeUnitType

Properties	use: optional
Facets	enumeration s enumeration h enumeration d enumeration a enumeration yr enumeration cy enumeration
Used by	Complex Type double1Type
Source	`<xs:attribute name="time_unit" type="timeUnitType" use="optional"/>`

Attribute `double1Type / @pos_unit`

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType

Properties	use: optional
Facets	enumeration deg enumeration deg deg m enumeration deg deg Mpc enumeration rad enumeration h enumeration arcmin

	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	double1Type
Source	<xs:attribute name="pos_unit" type="posUnitType" use="optional"/>	

Attribute double1Type / @pos_angle_unit

Namespace	No namespace	
Type	angleUnitType	
Type hierarchy	• xs:string • unitType • angleUnitType	
Properties	use:	optional
Facets	enumeration	deg
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
Used by	Complex Type	double1Type
Source	<xs:attribute name="pos_angle_unit" type="angleUnitType" use="optional"/>	

Attribute double1Type / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	double1Type
Source	<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>	

Attribute double1Type / @spectral_unit

Namespace	No namespace

Type	spectralUnitType	
Type hierarchy	• xs:string • unitType • spectralUnitType	
Properties	use:	optional
Facets	enumeration	Hz
	enumeration	kHz
	enumeration	MHz
	enumeration	GHz
	enumeration	m
	enumeration	mm
	enumeration	um
	enumeration	nm
	enumeration	Angstrom
	enumeration	eV
	enumeration	keV
	enumeration	MeV
	enumeration	GeV
	enumeration	TeV
Used by	Complex Type	double1Type
Source	<xs:attribute name="spectral_unit" type="spectralUnitType" use="optional"/>	

Attribute double1Type / @gen_unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	double1Type
Source	<xs:attribute name="gen_unit" type="unitType" use="optional"/>	

Attribute timeCoordinateType / @coord_system_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	timeCoordinateType
Source	<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>	

Attribute timeCoordinateType / @unit

Namespace	No namespace	
Type	timeUnitType	
Type hierarchy	• xs:string • unitType • timeUnitType	
Properties	use:	optional
	default:	s
Facets	enumeration	s

	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
	enumeration	
Used by	Complex Type	timeCoordinateType
Source	`<xs:attribute name="unit" type="timeUnitType" use="optional" default="s"/>`	

Attribute `spectralCoordinateType / @coord_system_id`

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	spectralCoordinateType
Source	`<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>`	

Attribute `spectralCoordinateType / @unit`

Namespace	No namespace	
Type	spectralUnitType	
Type hierarchy	• xs:string • unitType • spectralUnitType	
Properties	use:	optional
Facets	enumeration	Hz
	enumeration	kHz
	enumeration	MHz
	enumeration	GHz
	enumeration	m
	enumeration	mm
	enumeration	um
	enumeration	nm
	enumeration	Angstrom
	enumeration	eV
	enumeration	keV
	enumeration	MeV
	enumeration	GeV
	enumeration	TeV
Used by	Complex Type	spectralCoordinateType
Source	`<xs:attribute name="unit" type="spectralUnitType" use="optional"/>`	

Attribute `redshiftCoordinateType / @coord_system_id`

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	redshiftCoordinateType
Source	`<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>`	

Attribute `redshiftCoordinateType / @unit`

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType

Properties	use: `optional`
Facets	enumeration `deg` enumeration `deg deg m` enumeration `deg deg Mpc` enumeration `rad` enumeration `h` enumeration `arcmin` enumeration `arcsec` enumeration `m` enumeration `km` enumeration `mm` enumeration `AU` enumeration `pc` enumeration `kpc` enumeration `Mpc` enumeration `lyr` enumeration
Used by	Complex Type redshiftCoordinateType
Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`

Attribute `redshiftCoordinateType / @vel_time_unit`

Namespace	No namespace
Type	velTimeUnitType

Type hierarchy	• xs:string
	  • unitType
	  • velTimeUnitType

Properties	use: `optional`
Facets	enumeration `s` enumeration `h` enumeration `d` enumeration `a` enumeration `yr` enumeration `cy`
Used by	Complex Type redshiftCoordinateType
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`

Attribute `fitsType / @hdu_num`

Namespace	No namespace
Type	xs:integer
Properties	content: `simple`

Used by	Complex Type	fitsType
Source	`<xs:attribute name="hdu_num" type="xs:integer"/>`	

Attribute `fitsType / @hdu_name`

Namespace	No namespace	
Type	xs:string	
Properties	content:	`simple`
Used by	Complex Type	fitsType
Source	`<xs:attribute name="hdu_name" type="xs:string"/>`	

Attribute `orbitType / a / @unit`

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	`optional`
	default:	`AU`
Facets	enumeration	`deg`
	enumeration	`deg deg m`
	enumeration	`deg deg Mpc`
	enumeration	`rad`
	enumeration	`h`
	enumeration	`arcmin`
	enumeration	`arcsec`
	enumeration	`m`
	enumeration	`km`
	enumeration	`mm`
	enumeration	`AU`
	enumeration	`pc`
	enumeration	`kpc`
	enumeration	`Mpc`
	enumeration	`lyr`
	enumeration	
Used by	Element	orbitType/a
Source	`<xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>`	

Attribute `orbitType / q / @unit`

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	`optional`
	default:	`AU`
Facets	enumeration	`deg`

	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Element	orbitType/q
Source	<xs:attribute name="unit" type="posUnitType" use="optional" default="AU"/>	

Attribute orbitType / i / @unit

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	optional
	default:	deg
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Element	orbitType/i
Source	<xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>	

Attribute orbitType / Node / @unit

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
	default:	deg
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Element	orbitType/Node
Source	<xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>	

Attribute orbitType / Aop / @unit

Namespace	No namespace	
Type	posUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
	default:	deg
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr

	enumeration	
Used by	Element	orbitType/Aop
Source	`<xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>`	

Attribute `orbitType / M / @unit`

Namespace	No namespace	
Type	posUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	`optional`
	default:	`deg`
Facets	enumeration	`deg`
	enumeration	`deg deg m`
	enumeration	`deg deg Mpc`
	enumeration	`rad`
	enumeration	`h`
	enumeration	`arcmin`
	enumeration	`arcsec`
	enumeration	`m`
	enumeration	`km`
	enumeration	`mm`
	enumeration	`AU`
	enumeration	`pc`
	enumeration	`kpc`
	enumeration	`Mpc`
	enumeration	`lyr`
	enumeration	
Used by	Element	orbitType/M
Source	`<xs:attribute name="unit" type="posUnitType" use="optional" default="deg"/>`	

Attribute `orbitType / P / @unit`

Namespace	No namespace	
Type	timeUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • timeUnitType	

Properties	use:	`optional`
	default:	`d`
Facets	enumeration	`s`
	enumeration	`h`
	enumeration	`d`
	enumeration	`a`
	enumeration	`yr`
	enumeration	`cy`
	enumeration	

Used by	Element	orbitType/P
Source	<xs:attribute name="unit" type="timeUnitType" use="optional" default="d"/>	

Attribute `redshiftFrameType / @value_type`

Namespace	No namespace	
Type	restriction of xs:string	
Properties	use:	optional
	default:	VELOCITY
Facets	enumeration	VELOCITY
	enumeration	REDSHIFT
Used by	Complex Type	redshiftFrameType
Source	<xs:attribute name="value_type" use="optional" default="VELOCITY"> <xs:simpleType> <xs:restriction base="xs:string"> <xs:enumeration value="VELOCITY"/> <xs:enumeration value="REDSHIFT"/> </xs:restriction> </xs:simpleType> </xs:attribute>	

Attribute `spectralIntervalType / @unit`

Namespace	No namespace	
Type	spectralUnitType	
Type hierarchy	• xs:string • unitType • spectralUnitType	
Properties	use:	required
Facets	enumeration	Hz
	enumeration	kHz
	enumeration	MHz
	enumeration	GHz
	enumeration	m
	enumeration	mm
	enumeration	um
	enumeration	nm
	enumeration	Angstrom
	enumeration	eV
	enumeration	keV
	enumeration	MeV
	enumeration	GeV
	enumeration	TeV
Used by	Complex Type	spectralIntervalType
Source	<xs:attribute name="unit" type="spectralUnitType" use="required"/>	

Attribute `redshiftIntervalType / @unit`

Namespace	No namespace
Type	posUnitType
Type hierarchy	• xs:string • unitType

	• posUnitType	
Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	redshiftIntervalType
Source	<xs:attribute name="unit" type="posUnitType" use="optional"/>	

Attribute redshiftIntervalType / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	redshiftIntervalType
Source	<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>	

Attribute vs:ServiceReference / @ivo-id

Namespace	No namespace
Annotations	The URI form of the IVOA identifier for the service describing the capability refered to by this element.
Type	vr:IdentifierURI
Properties	content: simple
Facets	pattern ivo://[\w\d][\w\d\-_\.!~*'\(\)\+=]{2,}(/[\w\d\-_\.!~*'\(\)\+=]+(/[\w\d\-_\.!~*'\(\)\+=]+)*)?

Used by	Complex Type vs:ServiceReference
Source	<xs:attribute name="ivo-id" type="vr:IdentifierURI"> <xs:annotation> <xs:documentation>The URI form of the IVOA identifier for the service describing the capability refered to by this element.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:DataType / @arraysize

Namespace	No namespace
Annotations	the shape of the array that constitutes the value the default is "1"; i.e. the value is a scalar.
Type	vs:ArrayShape
Properties	default: 1
Facets	pattern ([0-9]+x)*[0-9]*[*]?
Used by	Complex Type vs:DataType
Source	<xs:attribute name="arraysize" type="vs:ArrayShape" default="1"> <xs:annotation> <xs:documentation>the shape of the array that constitutes the value</xs:documentation> <xs:documentation>the default is "1"; i.e. the value is a scalar.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:DataType / @delim

Namespace	No namespace
Annotations	the string that is used to delimit elements of an array value when arraysize is not "1". Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=","). the default is " "; i.e. the values are delimited by spaces.
Type	xs:string
Properties	default:
Used by	Complex Type vs:DataType
Source	<xs:attribute name="delim" type="xs:string" default=" "> <xs:annotation> <xs:documentation>the string that is used to delimit elements of an array value when arraysize is not "1".</xs:documentation> <xs:documentation>Unless specifically disallowed by the context, applications should allow optional spaces to appear in an actual data value before and after the delimiter (e.g. "1, 5" when delim=",").</xs:documentation> <xs:documentation>the default is " "; i.e. the values are delimited by spaces.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:DataType / @extendedType

Namespace	No namespace
Annotations	The data value represented by this type can be interpreted as of a custom type identified by the value of this attribute. If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type. This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the

	type.
Type	xs:string
Properties	content: simple
Used by	Complex Type vs:DataType
Source	<xs:attribute name="extendedType" type="xs:string"> <xs:annotation> <xs:documentation>The data value represented by this type can be interpreted as of a custom type identified by the value of this attribute.</xs:documentation> <xs:documentation>If an application does not recognize this extendedType, it should attempt to handle value assuming the type given by the element's value. string is a recommended default type.</xs:documentation> <xs:documentation>This element may make use of the extendedSchema attribute and/or any arbitrary (qualified) attribute to refine the identification of the type.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:DataType / @extendedSchema

Namespace	No namespace
Annotations	An identifier for the schema that the value given by the extended attribute is drawn from. This attribute is normally ignored if the extendedType attribute is not present.
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type vs:DataType
Source	<xs:attribute name="extendedSchema" type="xs:anyURI"> <xs:annotation> <xs:documentation>An identifier for the schema that the value given by the extended attribute is drawn from.</xs:documentation> <xs:documentation>This attribute is normally ignored if the extendedType attribute is not present.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:TableParam / @std

Namespace	No namespace
Annotations	If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.
Type	xs:boolean
Properties	content: simple
Used by	Complex Type vs:TableParam
Source	<xs:attribute name="std" type="xs:boolean"> <xs:annotation> <xs:documentation>If true, the meaning and use of this parameter is reserved and defined by a standard model. If false, it represents a database-specific parameter that effectively extends beyond the standard. If not provided, then the value is unknown.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:Table / @type

Namespace	No namespace
Annotations	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.
Type	xs:string

Properties	content:	simple
Used by	Complex Type	vs:Table
Source	<xs:attribute name="type" type="xs:string"> <xs:annotation> <xs:documentation>a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute vr:AccessURL / @use

Namespace	No namespace		
Annotations	A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files. The default value assumed when one is not given depends on the context.		
Type	restriction of xs:NMTOKEN		
Properties	content:	simple	
Facets	enumeration	full	Assume a full URL--that is, one that can be invoked directly without alteration. This usually returns a single document or file.
	enumeration	base	Assume a base URL--that is, one requiring an extra portion to be appended before being invoked.
	enumeration	dir	Assume URL points to a directory that will return a listing of files.
Used by	Complex Type	vr:AccessURL	
Source	<xs:attribute name="use"> <xs:annotation> <xs:documentation>A flag indicating whether this should be interpreted as a base URL, a full URL, or a URL to a directory that will produce a listing of files.</xs:documentation> <xs:documentation>The default value assumed when one is not given depends on the context.</xs:documentation> </xs:annotation> <xs:simpleType> <xs:restriction base="xs:NMTOKEN"> <xs:enumeration value="full"> <xs:annotation> <xs:documentation>Assume a full URL--that is, one that can be invoked directly without alteration. This usually returns a single document or file.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="base"> <xs:annotation> <xs:documentation>Assume a base URL--that is, one requiring an extra portion to be appended before being invoked.</xs:documentation> </xs:annotation> </xs:enumeration> <xs:enumeration value="dir"> <xs:annotation> <xs:documentation>Assume URL points to a directory that will return a listing of files.</xs:documentation> </xs:annotation> </xs:enumeration> </xs:restriction> </xs:simpleType> </xs:attribute>		

Attribute psr:Format / @compressed

Namespace	No namespace	
Type	xs:boolean	
Properties	default:	false

Used by	Complex Type	psr:Format
Source	<xs:attribute name="compressed" type="xs:boolean" default="false"/>	

Attribute psr:InstrumentType / psr:facility / @class

Namespace	No namespace	
Type	psr:FacilityClassType	
Properties	content:	simple
Facets	enumeration	Spacecraft
	enumeration	LaboratoryExperiment
	enumeration	FieldAnalog
	enumeration	GroundBasedTelescope
	enumeration	Simulation
Used by	Element	psr:InstrumentType/psr:facility
Source	<xs:attribute name="class" type="psr:FacilityClassType"/>	

Attribute psr:InstrumentType / @id

Namespace	No namespace
Annotations	A key which identify the instrument used to collect the data contain or managed by a resource.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:InstrumentType
Source	<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>A key which identify the instrument used to collect the data contain or managed by a resource.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute psr:TargetType / @id

Namespace	No namespace
Annotations	A key which identify the instrument used to collect the data contain or managed by a resource.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:TargetType
Source	<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>A key which identify the instrument used to collect the data contain or managed by a resource.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute cha:CharCoordAreaType / @coord_system_id

Namespace	No namespace	
Type	xsd:IDREF	
Properties	use:	required
Used by	Complex Type	cha:CharCoordAreaType
Source	<xsd:attribute name="coord_system_id" type="xsd:IDREF" use="required"/>	

Attribute psr:ParameterAxisType / @parameterAxis-id

Namespace	No namespace

Type	xs:string
Properties	content: simple
Used by	Complex Type psr:ParameterAxisType
Source	`<xs:attribute name="parameterAxis-id" type="xs:string"/>`

Attribute psr:GranuleType / @id

Namespace	No namespace
Annotations	Token providing a unique identifier to the granule. It could be a numeric value or a short string.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:GranuleType
Source	`<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>Token providing a unique identifier to the granule. It could be a numeric value or a short string.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute psr:GranuleType / @table-id

Namespace	No namespace
Annotations	Token pointing to a unique identifier of a table in a tableset element. It could be a numeric value or a short string.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:GranuleType
Source	`<xs:attribute name="table-id" type="xs:token"> <xs:annotation> <xs:documentation>Token pointing to a unique identifier of a table in a tableset element. It could be a numeric value or a short string.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute psr:DatasetType / @id

Namespace	No namespace
Annotations	Token providing a unique identifier to the dataset. It could be a numeric value or a short string.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:DatasetType
Source	`<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>Token providing a unique identifier to the dataset. It could be a numeric value or a short string.</xs:documentation> </xs:annotation> </xs:attribute>`

Attribute psr:ResourceType / @class

Namespace	No namespace
Annotations	The key which identify the class of the resource, a dataset or a granule
Type	psr:ResourceClassType
Properties	use: required
Facets	enumeration dataset enumeration granule

Used by	Complex Type psr:ResourceType
Source	<xs:attribute name="class" type="psr:ResourceClassType" use="required"> <xs:annotation> <xs:documentation>The key which identify the class of the resource, a dataset or a granule</ xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:SecurityMethod / @standardID

Namespace	No namespace
Annotations	A URI identifier for a standard security mechanism. This provides a unique way to refer to a security specification standard. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type vr:SecurityMethod
Source	<xs:attribute name="standardID" type="xs:anyURI"> <xs:annotation> <xs:documentation>A URI identifier for a standard security mechanism.</xs:documentation> <xs:documentation>This provides a unique way to refer to a security specification standard. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Interface / @version

Namespace	No namespace
Annotations	The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.
Type	xs:string
Properties	default: 1.0
Used by	Complex Type vr:Interface
Source	<xs:attribute name="version" type="xs:string" default="1.0"> <xs:annotation> <xs:documentation>The version of a standard interface specification that this interface complies with. When the interface is provided in the context of a Capability element, then the standard being refered to is the one identified by the Capability's standardID element. If the standardID is not provided, the meaning of this attribute is undefined.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vr:Interface / @role

Namespace	No namespace
Annotations	A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute. For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.
Type	xs:NMTOKEN
Properties	content: simple

Used by	Complex Type vr:Interface
Source	<xs:attribute name="role" type="xs:NMTOKEN"> <xs:annotation> <xs:documentation>A tag name the identifies the role the interface plays in the particular capability. If the value is equal to "std" or begins with "std:", then the interface refers to a standard interface defined by the standard referred to by the capability's standardID attribute.</xs:documentation> <xs:documentation>For an interface complying with some registered standard (i.e. has a legal standardID), the role can be match against interface roles enumerated in standard resource record. The interface descriptions in the standard record can provide default descriptions so that such details need not be repeated here.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `vr:Capability / @standardID`

Namespace	No namespace
Annotations	A URI identifier for a standard service. This provides a unique way to refer to a service specification standard, such as a Simple Image Access service. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type vr:Capability
Source	<xs:attribute name="standardID" type="xs:anyURI"> <xs:annotation> <xs:documentation>A URI identifier for a standard service.</xs:documentation> <xs:documentation>This provides a unique way to refer to a service specification standard, such as a Simple Image Access service. The use of an IVOA identifier here implies that a VOResource description of the standard is registered and accessible.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `psr:TableParam / @id`

Namespace	No namespace
Annotations	Token providing a unique identifier to the parameter. It could be a numeric value or a short string.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:TableParam
Source	<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>Token providing a unique identifier to the parameter. It could be a numeric value or a short string.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute `psr:Table / @id`

Namespace	No namespace
Annotations	Token providing a unique identifier to the tableset. It could be a numeric value or a short string. It could be used to link a granule and the description of its content (in terms of columns of data).
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:Table
Source	<xs:attribute name="id" type="xs:token"> <xs:annotation> <xs:documentation>Token providing a unique identifier to the tableset. It could be a numeric value or a short string. It could be used to link a granule and the description of its content (in terms of columns of data).</xs:documentation> </xs:annotation>

```
</xs:attribute>
```

Attribute psr:Table / @type

Namespace	No namespace
Annotations	a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.
Type	xs:string
Properties	content: simple
Used by	Complex Type psr:Table
Source	<xs:attribute name="type" type="xs:string"> <xs:annotation> <xs:documentation>a name for the role this table plays. Recognized values include "output", indicating this table is output from a query; "base_table", indicating a table whose records represent the main subjects of its schema; and "view", indicating that the table represents a useful combination or subset of other tables. Other values are allowed.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:SimpleDataType / @arraysize

Namespace	No namespace
Type	vs:ArrayShape
Properties	default: 1
Facets	pattern ([0-9]+x)*[0-9]*[*]?
Used by	Complex Type vs:SimpleDataType
Source	<xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>

Attribute vs:SimpleDataType / @delim

Namespace	No namespace
Type	xs:string
Properties	default:
Used by	Complex Type vs:SimpleDataType
Source	<xs:attribute name="delim" type="xs:string" default=" "/>

Attribute vs:SimpleDataType / @extendedType

Namespace	No namespace
Type	xs:string
Properties	content: simple
Used by	Complex Type vs:SimpleDataType
Source	<xs:attribute name="extendedType" type="xs:string"/>

Attribute vs:SimpleDataType / @extendedSchema

Namespace	No namespace
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type vs:SimpleDataType
Source	<xs:attribute name="extendedSchema" type="xs:anyURI"/>

Attribute vs:InputParam / @use

Namespace	No namespace		
Annotations	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".		
Type	vs:ParamUse		
Properties	default:	optional	
Facets	enumeration	required	the parameter is required for the application or service to work properly.
	enumeration	optional	the parameter is optional but supported by the application or service.
	enumeration	ignored	the parameter is not supported and thus is ignored by the application or service.
Used by	Complex Type	vs:InputParam	
Source	<xs:attribute name="use" type="vs:ParamUse" default="optional"> <xs:annotation> <xs:documentation>An indication of whether this parameter is required to be provided for the application or service to work properly.</xs:documentation> <xs:documentation>Allowed values are "required" and "optional".</xs:documentation> </xs:annotation> </xs:attribute>		

Attribute vs:InputParam / @std

Namespace	No namespace	
Annotations	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.	
Type	xs:boolean	
Properties	default:	true
Used by	Complex Type	vs:InputParam
Source	<xs:attribute name="std" type="xs:boolean" default="true"> <xs:annotation> <xs:documentation>If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.</xs:documentation> </xs:annotation> </xs:attribute>	

Attribute vs:VOTableType / @arraysize

Namespace	No namespace	
Type	vs:ArrayShape	
Properties	default:	1
Facets	pattern	([0-9]+x)*[0-9]*[*]?
Used by	Complex Type	vs:VOTableType
Source	<xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>	

Attribute vs:VOTableType / @delim

Namespace	No namespace	
Type	xs:string	
Properties	default:	
Used by	Complex Type	vs:VOTableType

Source	<xs:attribute name="delim" type="xs:string" default=" "/>

Attribute vs:VOTableType / @extendedType

Namespace	No namespace	
Type	xs:string	
Properties	content:	simple
Used by	Complex Type	vs:VOTableType
Source	<xs:attribute name="extendedType" type="xs:string"/>	

Attribute vs:VOTableType / @extendedSchema

Namespace	No namespace	
Type	xs:anyURI	
Properties	content:	simple
Used by	Complex Type	vs:VOTableType
Source	<xs:attribute name="extendedSchema" type="xs:anyURI"/>	

Attribute vs:TAPDataType / @size

Namespace	No namespace
Annotations	the length of the fixed-length value This corresponds to the size Column attribute in the TAP_SCHEMA and can be used with data types that are defined with a length (CHAR, BINARY).
Type	xs:positiveInteger
Properties	content: simple
Used by	Complex Type vs:TAPDataType
Source	<xs:attribute name="size" type="xs:positiveInteger"> <xs:annotation> <xs:documentation>the length of the fixed-length value</xs:documentation> <xs:documentation>This corresponds to the size Column attribute in the TAP_SCHEMA and can be used with data types that are defined with a length (CHAR, BINARY).</xs:documentation> </xs:annotation> </xs:attribute>

Attribute vs:TAPType / @arraysize

Namespace	No namespace	
Type	vs:ArrayShape	
Properties	default:	1
Facets	pattern	([0-9]+x)*[0-9]*[*]?
Used by	Complex Type	vs:TAPType
Source	<xs:attribute name="arraysize" type="vs:ArrayShape" default="1"/>	

Attribute vs:TAPType / @delim

Namespace	No namespace	
Type	xs:string	
Properties	default:	
Used by	Complex Type	vs:TAPType
Source	<xs:attribute name="delim" type="xs:string" default=" "/>	

Attribute vs:TAPType / @extendedType

Namespace	No namespace

Type	xs:string
Properties	content: simple
Used by	Complex Type vs:TAPType
Source	`<xs:attribute name="extendedType" type="xs:string"/>`

Attribute vs:TAPType / @extendedSchema

Namespace	No namespace
Type	xs:anyURI
Properties	content: simple
Used by	Complex Type vs:TAPType
Source	`<xs:attribute name="extendedSchema" type="xs:anyURI"/>`

Attribute vs:TAPType / @size

Namespace	No namespace
Type	xs:positiveInteger
Properties	content: simple
Used by	Complex Type vs:TAPType
Source	`<xs:attribute name="size" type="xs:positiveInteger"/>`

Attribute geodType / @radius

Namespace	No namespace
Type	xs:double
Properties	use: optional default: 6378140
Used by	Complex Type geodType
Source	`<xs:attribute name="radius" type="xs:double" use="optional" default="6378140"/>`

Attribute geodType / @inv_flattening

Namespace	No namespace
Type	xs:double
Properties	use: optional default: 298.257
Used by	Complex Type geodType
Source	`<xs:attribute name="inv_flattening" type="xs:double" use="optional" default="298.257"/>`

Attribute geodType / @unit

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType

Properties	use: optional default: m
Facets	enumeration deg enumeration deg deg m enumeration deg deg Mpc

	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	geodType
Source	<xs:attribute name="unit" type="posUnitType" use="optional" default="m"/>	

Attribute sphericalRefFrameType / @id

Namespace	No namespace	
Type	xs:ID	
Properties	use:	optional
Used by	Complex Type	sphericalRefFrameType
Source	<xs:attribute name="id" type="xs:ID" use="optional"/>	

Attribute double2Type / @unit

Namespace	No namespace	
Type	posUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	double2Type

Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`

Attribute double2Type / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	double2Type
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`	

Attribute double2Type / @gen_unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	double2Type
Source	`<xs:attribute name="gen_unit" type="unitType" use="optional"/>`	

Attribute posAngleType / @unit

Namespace	No namespace	
Type	angleUnitType	
Type hierarchy	• xs:string • unitType • angleUnitType	
Properties	default:	deg
Facets	enumeration	deg
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
Used by	Complex Type	posAngleType
Source	`<xs:attribute name="unit" type="angleUnitType" default="deg"/>`	

Attribute posAngleType / @reference

Namespace	No namespace	
Type	posAngleReferenceType	
Properties	default:	X
Facets	enumeration	North

	enumeration	X
	enumeration	Y
Used by	Complex Type	posAngleType
Source	<xs:attribute name="reference" type="posAngleReferenceType" default="X"/>	

Attribute double4Type / @unit

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	double4Type
Source	<xs:attribute name="unit" type="posUnitType" use="optional"/>	

Attribute double4Type / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	double4Type
Source	<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>	

Attribute double4Type / @gen_unit

Namespace	No namespace
Type	unitType
Properties	use: optional
Used by	Complex Type double4Type
Source	<xs:attribute name="gen_unit" type="unitType" use="optional"/>

Attribute double3Type / @unit

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType

Properties	use: optional
Facets	enumeration deg enumeration deg deg m enumeration deg deg Mpc enumeration rad enumeration h enumeration arcmin enumeration arcsec enumeration m enumeration km enumeration mm enumeration AU enumeration pc enumeration kpc enumeration Mpc enumeration lyr enumeration
Used by	Complex Type double3Type
Source	<xs:attribute name="unit" type="posUnitType" use="optional"/>

Attribute double3Type / @vel_time_unit

Namespace	No namespace
Type	velTimeUnitType

Type hierarchy	• xs:string
	  • unitType
	  • velTimeUnitType

Properties	use: optional
Facets	enumeration s enumeration h enumeration d enumeration a enumeration yr enumeration cy

Used by	Complex Type	double3Type
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`	

Attribute `double3Type / @gen_unit`

Namespace	No namespace	
Type	unitType	
Properties	use:	`optional`
Used by	Complex Type	double3Type
Source	`<xs:attribute name="gen_unit" type="unitType" use="optional"/>`	

Attribute `double9Type / @unit`

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	`optional`
Facets	enumeration	`deg`
	enumeration	`deg deg m`
	enumeration	`deg deg Mpc`
	enumeration	`rad`
	enumeration	`h`
	enumeration	`arcmin`
	enumeration	`arcsec`
	enumeration	`m`
	enumeration	`km`
	enumeration	`mm`
	enumeration	`AU`
	enumeration	`pc`
	enumeration	`kpc`
	enumeration	`Mpc`
	enumeration	`lyr`
	enumeration	
Used by	Complex Type	double9Type
Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`	

Attribute `double9Type / @vel_time_unit`

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	`optional`
Facets	enumeration	`s`
	enumeration	`h`
	enumeration	`d`

	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	double9Type
Source	<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>	

Attribute double9Type / @gen_unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	double9Type
Source	<xs:attribute name="gen_unit" type="unitType" use="optional"/>	

Attribute cart1DRefFrameType / @id

Namespace	No namespace	
Type	xs:ID	
Properties	use:	optional
Used by	Complex Type	cart1DRefFrameType
Source	<xs:attribute name="id" type="xs:ID" use="optional"/>	

Attribute cart1DRefFrameType / @projection

Namespace	No namespace		
Type	projectionType		
Properties	use:	optional	
	default:		
Facets	enumeration		Planar (i.e., linear cartesian-to-cartesian) projection
	enumeration	LOG	Linear-to-logarithmic cartesian-to-cartesian projection
	enumeration	TAN	Tangent plane projection
	enumeration	SIN	Sine projection
	enumeration	STG	Stereographic projection
	enumeration	ARC	Zenithal equidistant projection
	enumeration	ZEA	Zenithal equal-area projection
	enumeration	AIR	Airy projection
	enumeration	CEA	Cylindrical equal-area projection
	enumeration	CAR	Plate Carree projection
	enumeration	MER	Mercator projection
	enumeration	SFL	Sanson-Flamsteed projection
	enumeration	PAR	Parabolic projection
	enumeration	MOL	Mollweide projection
	enumeration	AIT	Hammer-Aitoff projection
	enumeration	COE	Conic equal-area projection
	enumeration	COD	Conic equidistant projection
	enumeration	COO	Conic orthomorphic projection
	enumeration	BON	Bonne equal-area projection
	enumeration	PCO	Polyconic projection
	enumeration	TSC	Tangential spherical cube projection

	enumeration	CSC	COBE quadrilateralized spherical cube projection
	enumeration	QSC	Quadrilateralized spherical cube projection
Used by	Complex Type	cart1DRefFrameType	
Source	<xs:attribute name="projection" type="projectionType" use="optional" default=""/>		

Attribute cart2DRefFrameType / @id

Namespace	No namespace	
Type	xs:ID	
Properties	use:	optional
Used by	Complex Type	cart2DRefFrameType
Source	<xs:attribute name="id" type="xs:ID" use="optional"/>	

Attribute cart2DRefFrameType / @projection

Namespace	No namespace		
Type	projectionType		
Properties	use:	optional	
	default:		
Facets	enumeration		Planar (i.e., linear cartesian-to-cartesian) projection
	enumeration	LOG	Linear-to-logarithmic cartesian-to-cartesian projection
	enumeration	TAN	Tangent plane projection
	enumeration	SIN	Sine projection
	enumeration	STG	Stereographic projection
	enumeration	ARC	Zenithal equidistant projection
	enumeration	ZEA	Zenithal equal-area projection
	enumeration	AIR	Airy projection
	enumeration	CEA	Cylindrical equal-area projection
	enumeration	CAR	Plate Carree projection
	enumeration	MER	Mercator projection
	enumeration	SFL	Sanson-Flamsteed projection
	enumeration	PAR	Parabolic projection
	enumeration	MOL	Mollweide projection
	enumeration	AIT	Hammer-Aitoff projection
	enumeration	COE	Conic equal-area projection
	enumeration	COD	Conic equidistant projection
	enumeration	COO	Conic orthomorphic projection
	enumeration	BON	Bonne equal-area projection
	enumeration	PCO	Polyconic projection
	enumeration	TSC	Tangential spherical cube projection
	enumeration	CSC	COBE quadrilateralized spherical cube projection
	enumeration	QSC	Quadrilateralized spherical cube projection
Used by	Complex Type	cart2DRefFrameType	
Source	<xs:attribute name="projection" type="projectionType" use="optional" default=""/>		

Attribute cart3DRefFrameType / @id

Namespace	No namespace
Type	xs:ID

Properties	use:	optional
Used by	Complex Type	cart3DRefFrameType
Source	<xs:attribute name="id" type="xs:ID" use="optional"/>	

Attribute cart3DRefFrameType / @projection

Namespace	No namespace	
Type	projectionType	
Properties	use:	optional
	default:	
Facets	enumeration	Planar (i.e., linear cartesian-to-cartesian) projection
	enumeration LOG	Linear-to-logarithmic cartesian-to-cartesian projection
	enumeration TAN	Tangent plane projection
	enumeration SIN	Sine projection
	enumeration STG	Stereographic projection
	enumeration ARC	Zenithal equidistant projection
	enumeration ZEA	Zenithal equal-area projection
	enumeration AIR	Airy projection
	enumeration CEA	Cylindrical equal-area projection
	enumeration CAR	Plate Carree projection
	enumeration MER	Mercator projection
	enumeration SFL	Sanson-Flamsteed projection
	enumeration PAR	Parabolic projection
	enumeration MOL	Mollweide projection
	enumeration AIT	Hammer-Aitoff projection
	enumeration COE	Conic equal-area projection
	enumeration COD	Conic equidistant projection
	enumeration COO	Conic orthomorphic projection
	enumeration BON	Bonne equal-area projection
	enumeration PCO	Polyconic projection
	enumeration TSC	Tangential spherical cube projection
	enumeration CSC	COBE quadrilateralized spherical cube projection
	enumeration QSC	Quadrilateralized spherical cube projection
Used by	Complex Type	cart3DRefFrameType
Source	<xs:attribute name="projection" type="projectionType" use="optional" default=""/>	

Attribute healpixType / @healpix_H

Namespace	No namespace	
Type	xs:integer	
Properties	default:	4
Used by	Complex Type	healpixType
Source	<xs:attribute name="healpix_H" type="xs:integer" default="4"/>	

Attribute healpixType / @healpix_K

Namespace	No namespace	
Type	xs:integer	
Properties	default:	3

Used by	Complex Type	healpixType
Source	`<xs:attribute name="healpix_K" type="xs:integer" default="3"/>`	

Attribute `pixelFrameType / @axis1_order`

Namespace	No namespace	
Type	xs:integer	
Properties	use:	`required`
Used by	Complex Type	pixelFrameType
Source	`<xs:attribute name="axis1_order" type="xs:integer" use="required"/>`	

Attribute `pixelFrameType / @axis2_order`

Namespace	No namespace	
Type	xs:integer	
Properties	content:	`simple`
Used by	Complex Type	pixelFrameType
Source	`<xs:attribute name="axis2_order" type="xs:integer"/>`	

Attribute `pixelFrameType / @axis3_order`

Namespace	No namespace	
Type	xs:integer	
Properties	content:	`simple`
Used by	Complex Type	pixelFrameType
Source	`<xs:attribute name="axis3_order" type="xs:integer"/>`	

Attribute `pixelFrameType / @ref_frame_id`

Namespace	No namespace	
Type	xs:IDREF	
Properties	content:	`simple`
Used by	Complex Type	pixelFrameType
Source	`<xs:attribute name="ref_frame_id" type="xs:IDREF"/>`	

Attribute `curve2Type / @curve_shape`

Namespace	No namespace	
Type	xs:string	
Properties	use:	`optional`
	default:	`line`
Used by	Complex Type	curve2Type
Source	`<xs:attribute name="curve_shape" type="xs:string" use="optional" default="line"/>`	

Attribute `curve3Type / @curve_shape`

Namespace	No namespace	
Type	xs:string	
Properties	use:	`optional`
	default:	`line`
Used by	Complex Type	curve3Type

Source	`<xs:attribute name="curve_shape" type="xs:string" use="optional" default="line"/>`

Attribute `stringCoordinateType / @unit`

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	stringCoordinateType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute `scalarCoordinateType / @unit`

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	scalarCoordinateType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute `genVector2CoordinateType / @unit`

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	genVector2CoordinateType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute `genVector3CoordinateType / @unit`

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	genVector3CoordinateType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute `posVector1CoordinateType / @coord_system_id`

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	posVector1CoordinateType
Source	`<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>`	

Attribute `posVector1CoordinateType / @unit`

Namespace	No namespace	
Type	posUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m

	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	posVector1CoordinateType
Source	<xs:attribute name="unit" type="posUnitType" use="optional"/>	

Attribute posVector2CoordinateType / @coord_system_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	posVector2CoordinateType
Source	<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>	

Attribute posVector2CoordinateType / @unit

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	

Used by	Complex Type	posVector2CoordinateType
Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`	

Attribute posVector3CoordinateType / @coord_system_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	posVector3CoordinateType
Source	`<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>`	

Attribute posVector3CoordinateType / @unit

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	posVector3CoordinateType
Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`	

Attribute velVector1CoordinateType / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d

	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	velVector1CoordinateType
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`	

Attribute velVector2CoordinateType / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	velVector2CoordinateType
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`	

Attribute velVector3CoordinateType / @vel_time_unit

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	optional
Facets	enumeration	s
	enumeration	h
	enumeration	d
	enumeration	a
	enumeration	yr
	enumeration	cy
Used by	Complex Type	velVector3CoordinateType
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="optional"/>`	

Attribute regionAreaType / @linearAreaUnit

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	required

Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	regionAreaType
Source	<xs:attribute name="linearAreaUnit" type="posUnitType" use="required"/>	

Attribute regionAreaType / @validArea

Namespace	No namespace	
Type	xs:boolean	
Properties	use:	required
Used by	Complex Type	regionAreaType
Source	<xs:attribute name="validArea" type="xs:boolean" use="required"/>	

Attribute spatialIntervalType / @epoch

Namespace	No namespace	
Type	xs:decimal	
Properties	use:	optional
Used by	Complex Type	spatialIntervalType
Source	<xs:attribute name="epoch" type="xs:decimal" use="optional"/>	

Attribute spatialIntervalType / @unit

Namespace	No namespace	
Type	posUnitType	

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec

	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	spatialIntervalType
Source	`<xs:attribute name="unit" type="posUnitType" use="optional"/>`	

Attribute regionType / @note

Namespace	No namespace	
Type	xs:string	
Properties	use:	optional
Used by	Complex Type	regionType
Source	`<xs:attribute name="note" type="xs:string" use="optional"/>`	

Attribute regionType / @coord_system_id

Namespace	No namespace	
Type	xs:IDREF	
Properties	use:	optional
Used by	Complex Type	regionType
Source	`<xs:attribute name="coord_system_id" type="xs:IDREF" use="optional"/>`	

Attribute uCoordScalarIntervalType / @unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	uCoordScalarIntervalType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute uCoord2VecIntervalType / @unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	uCoord2VecIntervalType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute uCoord3VecIntervalType / @unit

Namespace	No namespace	
Type	unitType	
Properties	use:	optional
Used by	Complex Type	uCoord3VecIntervalType
Source	`<xs:attribute name="unit" type="unitType" use="optional"/>`	

Attribute `velocityIntervalType / @vel_time_unit`

Namespace	No namespace	
Type	velTimeUnitType	
Type hierarchy	• xs:string • unitType • velTimeUnitType	
Properties	use:	`required`
Facets	enumeration	`s`
	enumeration	`h`
	enumeration	`d`
	enumeration	`a`
	enumeration	`yr`
	enumeration	`cy`
Used by	Complex Type	velocityIntervalType
Source	`<xs:attribute name="vel_time_unit" type="velTimeUnitType" use="required"/>`	

Attribute `sphereType / @radius_unit`

Namespace	No namespace	
Type	posUnitType	
Type hierarchy	• xs:string • unitType • posUnitType	
Properties	use:	`optional`
	default:	`deg`
Facets	enumeration	`deg`
	enumeration	`deg deg m`
	enumeration	`deg deg Mpc`
	enumeration	`rad`
	enumeration	`h`
	enumeration	`arcmin`
	enumeration	`arcsec`
	enumeration	`m`
	enumeration	`km`
	enumeration	`mm`
	enumeration	`AU`
	enumeration	`pc`
	enumeration	`kpc`
	enumeration	`Mpc`
	enumeration	`lyr`
	enumeration	
Used by	Complex Type	sphereType
Source	`<xs:attribute name="radius_unit" type="posUnitType" use="optional" default="deg"/>`	

Attribute `velocitySphereType / @radius_unit`

Namespace	No namespace
Type	posUnitType

Type hierarchy	• xs:string
	  • unitType
	  • posUnitType	

Properties	use:	optional
	default:	deg
Facets	enumeration	deg
	enumeration	deg deg m
	enumeration	deg deg Mpc
	enumeration	rad
	enumeration	h
	enumeration	arcmin
	enumeration	arcsec
	enumeration	m
	enumeration	km
	enumeration	mm
	enumeration	AU
	enumeration	pc
	enumeration	kpc
	enumeration	Mpc
	enumeration	lyr
	enumeration	
Used by	Complex Type	velocitySphereType
Source	<xs:attribute name="radius_unit" type="posUnitType" use="optional" default="deg"/>	

Attribute psr:TemplateQueryType / @use

Namespace	No namespace		
Annotations	An indication of whether this parameter is required to be provided for the application or service to work properly. Allowed values are "required" and "optional".		
Type	vs:ParamUse		
Properties	default:	optional	
Facets	enumeration	required	the parameter is required for the application or service to work properly.
	enumeration	optional	the parameter is optional but supported by the application or service.
	enumeration	ignored	the parameter is not supported and thus is ignored by the application or service.
Used by	Complex Type	psr:TemplateQueryType	
Source	<xs:attribute name="use" type="vs:ParamUse" default="optional"> <xs:annotation> <xs:documentation>An indication of whether this parameter is required to be provided for the application or service to work properly.</xs:documentation> <xs:documentation>Allowed values are "required" and "optional".</xs:documentation> </xs:annotation> </xs:attribute>		

Attribute psr:TemplateQueryType / @std

Namespace	No namespace
Annotations	If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the

	service or application.
Type	xs:boolean
Properties	default: true
Used by	Complex Type psr:TemplateQueryType
Source	<xs:attribute name="std" type="xs:boolean" default="true"> <xs:annotation> <xs:documentation>If true, the meaning and behavior of this parameter is reserved and defined by a standard interface. If false, it represents an implementation-specific parameter that effectively extends the behavior of the service or application.</xs:documentation> </xs:annotation> </xs:attribute>

Attribute psr:TemplateQueryType / @granule-id

Namespace	No namespace
Annotations	Token pointing to a unique identifier of a granule. It could be a numeric value or a short string.
Type	xs:token
Properties	content: simple
Used by	Complex Type psr:TemplateQueryType
Source	<xs:attribute name="granule-id" type="xs:token"> <xs:annotation> <xs:documentation>Token pointing to a unique identifier of a granule. It could be a numeric value or a short string.</xs:documentation> </xs:annotation> </xs:attribute>