

Doctoral training 2017, planetary science

Observatory of Paris, M2 astrophysique

1) OV-planéto / VESPA Presentation
VESPA_FormDoc_2017

2) Tutorials

- Titan : http://voparis-europlanet.obspm.fr/utilities/Tuto_Titan_TopCat.pdf

Basic use of VESPA search interface & VO tools

Follow tutorial. Pages on VOplot are optional

In addition:

- Look for profiles located between long 340°E and 30°E, N hemisphere
- Look for profiles acquired during N hemisphere summer
(parameter solar_longitude in Advanced Query Form)
- Look for CO₂ profiles, then temperature profiles only
(parameters: species, then measurement_type; look in service results

how it is encoded)

- Plot footprints in Mizar, on Cassini global mosaic
- Play with Activate Actions in TOPCAT

- VIRTIS on Venus-Express: http://voparis-europlanet.obspm.fr/utilities/Tuto_TopCat_VEx.pdf

More elaborate use of VESPA search interface & VO tools

Follow tutorial. Pages on SpecView and VOspec are optional (both getting old)

Use Venus_Magellan_C3-MDIR_ClrTopo_Global_Mosaic_1024.jpg

Search on footprint intercepts is currently only a demo (dummy footprint implemented in data service)

In addition:

Look for visible spectra only (range *in* μm < 1.2 μm)

- Mars craters

Advanced planetary plots in Aladin

Select all craters > 200 km diameter in VESPA (from Mars_craters in Advanced Query Form)

Plot in Aladin over a MOLA HiPS computed from a cylindrical map

Mars_MGS_colorhillshade_mola_1024.jpg

Image > Astrometrical calibration

(scale = $360^\circ / 1024 \text{ px} = 21.12' / \text{px}$; use Cartesian mode)

Tool > Convert current image to a HiPS

Send from VESPA as footprint > s_region

- Mars atmospheric profiles, observations vs simulations

Use of VESPA search interface with 2 services

Pick up a profile from SPICAM

Try and get closest simulation from MCD, compare in TOPCAT

Then try to call MCD script with the exact same parameters as SPICAM

(look at access_url links)