

Surfaces - initial status at the onset of EPN2024

From [presentation at ASOV in March 2020](#) (French context, but of general interest)

Objectives

- Need to serve two communities: VO-related one (astronomers, physicists, including management of space experiments) and OGC/GIS one (geologists, geomorphologists...)
- Need to make all results available in handy form to all researchers
- Need to support in situ data (rovers, landers) - close to Field analogues support in EPN2024

Actions on EPN-TAP services

- Complete data description of resolved (orbital) EPN-TAP services: s_region should always be provided for 2D data, as well as the 3 illumination angles
- Complete data description of disk (telescopic) EPN-TAP services: region observed / illuminated (C1/C2 + s_region), i/e angle ranges (in addition to phase)
- Try and provide imaging data as geofits when relevant

Actions on tools

- Strong need to identify Coordinate Systems (body-fixed) and to define related IDs (CRS)
- Extend both geojson and STC-S to support planetary surfaces (add CRS in both strings? Or associate with CRS parameter when SAMPing?)
- Conversions between geojson and STC-S; implement in portal?
- Assessment of space MOC and space-time MOC, especially for complete datasets
- Procedure to generate new HiPS from USGS maps (used to be supported by Chiara)?
- Check and refine existing VO-GIS bridge with QGIS
- Check if other planetary GIS can be connected (by adding SAMP?)
- Check fits support in GDAL v 3.0 (reported incomplete, TBC)
- Refine access to PDS data, in particular PDS3 (at least images)
- Camera model for spectral cubes to be defined? Restart Chiara's action in EPN2020
- Assessment of Paraview in this context

References

- [GeoFITS: FITS format for Planetary Surfaces](#) (including assessment of fits spectral cubes)
- [VESPA infrastructure](#)
- [VESPA Progress and prospects](#)
- [Other publications](#)