

# VA-Task 2. sub-task Exoplanets

## Sub-Task Description

These services will require a preliminary design phase: a common exoplanet Data Model must be finalized to make services interoperable (INAF/OATS & ObsParis, related to an action in the H2020 ASTERICS programme. This will be submitted as an IVOA standard and used as EPN-TAP extension). It will be used in new services, including a unique catalogue of exoplanetary disks, which now involve thousands of objects (ObsParis, with observational data and fitting tools), multifractal simulations of topography (IPSL, with visualisation based on Planetary Cesium Viewer) and atmospheres (INAF/OATS, from existing ARTECS archive of terrestrial exoplanet simulations), and retrieved atmospheric compositions. The latter is based on the TauREX AI framework (UCL, from ExoAI ERC grant [Schmitt et al., 2018]) and will be installed on the OPUS platform developed in JRA2 to allow runs on demand.

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## Topography of exoplanets

The service of online 3D viewer of multifractal topography that is relevant for exoplanets is based on CESIUM. It's available here : <https://data.ipsl.fr/exotopo/>

There is a module to incorporate the atmosphere, but only very naive atmosphere are available yet. The tool is for public outreach purpose anyway, so no need to have a precise atmosphere.

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## Link to other relevant tasks

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### Contributors

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### Publications

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### Useful Links

- <https://github.com/ePN-vespa> and repositories therein
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### (GitHub) Projects