
Extending the Virtual Observatory to Solar System data: VESPA (Virtual European Solar & Planetary Access)

Stéphane Erard^{*1}

¹Laboratoire d'études spatiales et d'instrumentation en astrophysique – Observatoire de Paris :
UMR₈₁₀₉ – *France*

Résumé

VESPA (Virtual European Solar and Planetary Access) is an activity in the current Europlanet 2024 RI programme, started in 2015 during the previous Europlanet 2020 RI contract. VESPA is an infrastructure to publish data in the field of Solar System studies, and to search existing databases efficiently. It encompasses the fields of Planetary Science, Heliophysics, and Exoplanets.

VESPA relies on standards of the Virtual Observatory (VO), a very mature infrastructure to access astronomy data according to FAIR principles. This is complemented by a uniform vocabulary of metadata (EPNCore) describing Solar System data, including instrumental and observational conditions, and new functions added in the main VO tools to support specificities of the field.

A dedicated interface, the VESPA portal, allows cross-searches in databases, and is particularly fit to support coordinated observation programmes. The VESPA portal connects standards VO tools to visualize and process the data. There are currently 63 data services published worldwide (including ESA's PSA and datasets from NASA/PDS nodes) and many more in preparation.

VESPA also proposes a standard procedure for data providers to make their data accessible to the community, according to modern standards. This procedure is optimized for small research teams and will help fulfill the objectives of the Open Science policy economically. In France, the VESPA ANO5 service currently publishes ~ 30 data services, connecting elements from all SNOs in the field and derived data from space experiments which are not available from space agencies.

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^{*}Intervenant