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Europlanet-RI: Access to Planetary Data, Tools, Models and Support Information

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During the past three years the Europlanet Research Infrastructure consortium with financial support from the EU's 7th framework program has developed a wide range of tools to support all aspects of planetary research. During the final year of the project these are being integrated into the "Integrated and Distributed Information Service IDIS" [1]. The challenge is the diversity of research fields involved in planetary research, each with its own way of collecting and archiving data and publishing its results. Nevertheless the results of one field are needed by others to be able to correctly interpret their observations, and to design new kinds of measurements to advance our knowledge of the Solar system.

The IDIS team in close cooperation with the efforts of the International Planetary Data Alliance (IPDA) has developed a data model which allows the registration of a wide range of data sources including the results from modelling efforts thereby providing Virtual Observatory (IDIS-VO) [2,3] services for the community to register and access data from planetary data centres, laboratory measurements, spectral- and molecular data bases and simulations. Once a data set from any of these sources is registered with IDIS, it can be accessed, its used archive format translated into a compatible internal format and combined with other data using the visualization tools developed in connection with IDIS.

Tools to calculate ephemeris data for a wide range of solar system bodies, to visualize their locations or identify them from existing images can be found as well as interactive tools to evaluate chemical reaction paths, spectral information from gas or solids or the mapping of planetary surfaces. Additionally information about ground observation possibilities, test facilities, laboratories, research institutes and scientists with detailed contact information is made available to the user. For the developers of new space instruments and operators of active missions support information is collected in the data access system of IDIS.

By the end of the project in 2012 data from most planetary missions can be accessed, combined and correlated with spectral data bases for atmospheric gases and solids, laboratory measurements related to space observations and the results of model runs simulating the observations of different parameters around and at planets under various boundary conditions. The VO-structure will allow the access to these data through graphical interfaces including optimized visualization tools or alternatively through a command interface for further integration into other applications.

Reference:

[1] Details to IDIS and the Europlanet-RI via Web-site: http://www.idis.europlanet-ri.eu/
[2] Demonstrator implementation for Plasma-VO AMDA:
http://cdpp-amda.cesr.fr/DDHTML/index.html
[3] Demonstrator implementation for the IDIS-VO: http://www.idis-dyn.europlanet-ri.eu/vodev.shtml