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EPN-IDIS Data Modeling

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Abstract

IDIS (Integrated and Distributed Information System) is part of the Europlanet project and aims to develop a prototype of a planetology Virtual Observatory. In the frame of its participation to this project, the CDPD (Data Centre for Plasma Physics, based in Toulouse) is developing a new data model to describe the wide variety of data products that can be found in the planetology community, which includes a wide variety of science thematics such as plasma physics, planetary surfaces, interiors, atmospheres or small bodies. This data model is making extensive use of existing standards provided by various groups (IVOA, SPASE, OGC, XSAMS...). The scope of this data model is to describe the scientific content of the data sets, in order to be able to locate and retrieve the data files corresponding to a given request. Hence, the data model is organized around 6 types of metadata: Generic Information, Observation Target, Instrument, Axis, Physical Parameter, Support Parameter.

An initial version has been developed to describe plasma data, which can be very heterogeneous (time series, spectra, dynamic spectra, maps...). The model has been tested in collaboration with VO-Paris (Virtual Observatory Paris Data Centre) and other groups within IDIS in order to take into account characteristics of data from other thematics of planetary sciences.

IDIS Data Model Science Working Group

This working group is composed of scientists from all EPN science nodes, in order to cover all possible data type in the IDIS Data Model. Hence, the proposed scientists must have an expertise on specific data types

used within their thematic nodes. The Working Group members are also encouraged to test the Data Model on their own dataset.

Three tasks have been identified:

1. The first task consists in listing the various data types and propose a set of query criteria that are relevant for data search in each discipline. This task has been already partially addressed in the preliminary version of the Data Model Specification Document, but input are expected from all nodes.
2. The second task consists in discussing how to define the PDAP extensions that are to be proposed to the IPDA. This second task should be a natural outcome of the first task.
3. The third task consists in proposing, defining and/or selecting metadata keywords and dictionaries for the IDIS Data Model (i.e., select the standard sources for the possible values describing the data).

The Working Group started immediately after the February 2011 IDIS General Meeting. We encouraged all nodes to propose a few science representatives to join this working group.

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