A prototype service to access planetary data using the IPDA/PDAP protocol

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Abstract

In EuroPlaNet-RI, JRA4 must prepare essential tools allowing the planetary science community to interrogate some selected data centres, access and process data and visualize the results.
The first requirement for enabling access to different data centres is to use a standard protocol.
This protocol, PDAP (Planetary Data Access Protocol) has been defined by the IPDA to enable standard access to PDS and PSA data archives.
In this paper , we present a prototype service that enables access to planetary data from several data providers, different from PSA and PDS, using the PDAP protocol.

The specific mission of the **IPDA (International Planetary Data Alliance)** is to facilitate global access and exchange of high quality scientific data products across international boundaries. The data standards within the IPDA, including data models and dictionaries are based on the NASA Planetary Data System (PDS) that is the de-facto standard for all planetary data.
The main existing outcome of IPDA is PDAP (Planetary Data Access Protocol) to access datasets, products and images. The PDAP protocol has been designed close to SIAP protocol from IVOA, but with planetary data in mind:
- PDS Keywords for the metadata
- PDS format for the data

PDAP is flexible and open. This flexibility allows the handling of different data types: images, spectra, plasma time series, etc

PDAP is currently very basic, and takes into account a limited subset of PDS keywords.
This is why the JRA 4 activity of IDIS/EuroPlaNet RI is currently defining extensions to the PDAP protocol. The first of these extensions will provide the capability to search for and acquire plasma physics data. Other extensions, for planetary atmospheres or surfaces will be added in the future.
The prototype presented deals with planetary plasma physics data accessible through different data providers which implement the PDAP protocol in different ways.