

Access and scientific exploitation of planetary plasma datasets with the CDPP/AMDA web-based facility in relation to the Europlanet-RI IDIS plasma node activities

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Abstract

The field of planetary sciences has greatly expanded in recent years with space missions orbiting around most of the planets of our Solar System. The growing amount and wealth of data available make it difficult for scientists to exploit data coming from many sources that can initially be heterogeneous in their organization, description and format. It is an important objective of the Europlanet-RI and IMPEX projects (supported by EU within FP7) to add value to space missions by significantly contributing to the effective scientific exploitation of collected data; to enable space researchers to take full advantage of the potential value of data sets. To this end and to enhance the science return from space missions, innovative tools have to be developed and offered to the community. AMDA (Automated Multi-Dataset Analysis, <http://cdpp-amda.cesr.fr/>) is a web-based facility developed at CDPP Toulouse in France (<http://cdpp.cesr.fr>) for on line analysis of space physics data (heliosphere, magnetospheres, planetary environments) coming from either its local database

or distant ones. AMDA has been recently integrated as a service to the scientific community for the Plasma Physics thematic node of the Europlanet-RI IDIS (Integrated and Distributed Information Service, <http://www.europlanet-idis.fi/>) activities, in close cooperation with IWF Graz (<http://europlanet-plasmanode.oeaw.ac.at/index.php?id=9>). We will report the status of our current technical and scientific efforts to integrate in the local database of AMDA various planetary plasma datasets (at Mercury, Venus, Mars, Earth and moon, Jupiter, Saturn) from heterogeneous sources, including NASA/Planetary Data System (<http://ppi.pds.nasa.gov/>). We will also present our prototype Virtual Observatory activities to connect the AMDA tool to the IVOA Aladin astrophysical tool to enable pluridisciplinary studies of giant planet auroral emissions.