EUROPlaNet - Plasma Node
Status and Future Aspects

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Introduction to the Plasma Node

Dedicated to IWF, Graz and CDPP, Toulouse with the aims of:

- Establish collaborative work in the field of Plasma Science.
- Exchanging well established databases and tools.
- Collecting knowledge of effective Information Management.
- Define and precise Science and Use Cases regarding IDIS.
- Specification of the User Requirements and Recommendation for the future system.

Actually there are two „side-projects“ in progress:

1. Setup of the Plasma Node homepage platform hosted by IWF.
2. Extension of the AMDA-Tool (Automated Multi-Dataset Analysis) by CDPP.

Status

Information homepage for all N7-activities related to Plasma Science:

http://europlanet-plasmanode.oeaw.ac.at

- Based on typo3, a Content Management System.
- Clear and simple structure to prevent overloading.
- Easy to establish and administer.

Information available so far (October, 2nd 2007)

Content

- Aims of EUROPlaNet and IDIS in general.
- General Information about the thematic node.
- List of active and future participating institutes.
- Coordination Meetings section (including all relevant documents).
- Newsticker for upcoming Events and Meetings.
- Recent changes of the homepage (for better view).

Content contd.

- External link to the AMDA System:
  http://cdpp-amda.cesr.fr
- External link to the Global Resource Inventory (GRI) hosted by CESR:
  http://europlanet.cesr.fr/n7/ (login required)
- A additional link section to other relevant resources, regarding N7 and EUROPlaNet.
- Mailing List of all responsible persons at IWF and CDPP.
- A Sitemap to get an overview of all content.

Content contd.

The main part of the homepage is the Node Resource Inventory (NRI) including a Search Box

Main Categories: (collected by a Questionaire)

1. *Software-Tools:* Interactive Software, Limited Access Software, Open Software/Libraries
2. *Ground-based facilities:* Descriptions, Data (Missions)
3. *Space-based facilities:* Descriptions, Data
4. *Laboratory facilities:* actually no Resources!
5. *Virtual Observatories:* Dedicated VOs, Web-based data catalogues, Space Weather
6. *Communications and Public Outreach:* Publications (incl. IWF Abstract Service), Education

Planned Topics

- Publish Questionaire (as we used in the interviews for collecting resources).
- Continue increasing the Node Resource Inventory.
- Provide Non-Public Developers Section consisting of a TWIKI-System.
- Extend the Use Case Analysis and publish new models; narrow on Science Case 4 (Solar wind at Jupiter/Saturn: Aurorae).
- Implementation of a Science Case domain.
- Accounting for the Homepage-CMS - Necessary for collaborating people?

Planned Topics - Developers Section

Simplify exchanging Ideas and Plans between *IWF* and *CDPP*:

- Document Repository (internal documents, ideas, standards)
- Presentation of existing norms (IVOA, SPASE, PDS)
- Models for Data Organziation/Definitions of Plasma Node (past, present, future)
- AMDA norms (SOAP protocol, CDF - Common Data Format)
- Link to AMDA-TWIKI consisting of architecture descriptions `http://iapetus.cesr.fr/twiki/` (english?)

Planned Topics - Use Case Analysis

Goals:

- Specify/recommend the content of the data model
- Specify/recommend an architecture

Practical approach: (in focus of the Plasma Node homepage)

- Defining an information system (data model and architecture).
- Data model for a „Node Resource Inventory“.
- Find out what is used by scientists in the specified model-categories (Questionaire).
- Study of Connection to the Science Case 4.
- Extract needs of scientists by analyzing the resources.

Definition

*A **„Virtual Observatory“** (VO) is:*

1. a suite of software applications on a set of computers.
2. it allows users to uniformly find, access and use resources. (data, software, document and image products and services using these)
3. resources are stored in a collection of distributed product repositories and service providers.

In fact a VO is a service that unites services and/or multiple repositories.

AMDA in detail

Automated Multi-Dataset Analysis (prototype)

- Automated access to data from local or *external database*.
- User defined computation/visualisation on the content of the data (workspace).
- Automated or semi-automated search on the data content.
- Web-service integration.

Constrain: database needs to implement interface for data feeding.

1. *Project for FP6:* **integration of planetary plasma data**
2. *Project for FP7:* tools for comparative studies

Access can be obtained by mailing to: amda@cesr.fr

AMDA plans

Extension of the existing Virtual Observatory with:

- More distant/external data-access for computing inside AMDA
- Addtional routines and tools related to plasma physics (TBD)
- Focus on integration of plasma related data from IWF, Graz

Planned approach:

- VEX Magnetometer / ASPERA data provided via ftp from Graz (partly established)
- CDAWEB, MAPSKP, HST data integration
- Implement exchange-norms of AMDA at Graz-Dataservers for dynamic data-providing (SOAP-Protocol, CDF (Common Data Format)

Thank you for listening!

Notes, further suggestions, even corrections are most welcome!