

N2
Discipline working groups
Report 2006
presentation at General Assembly



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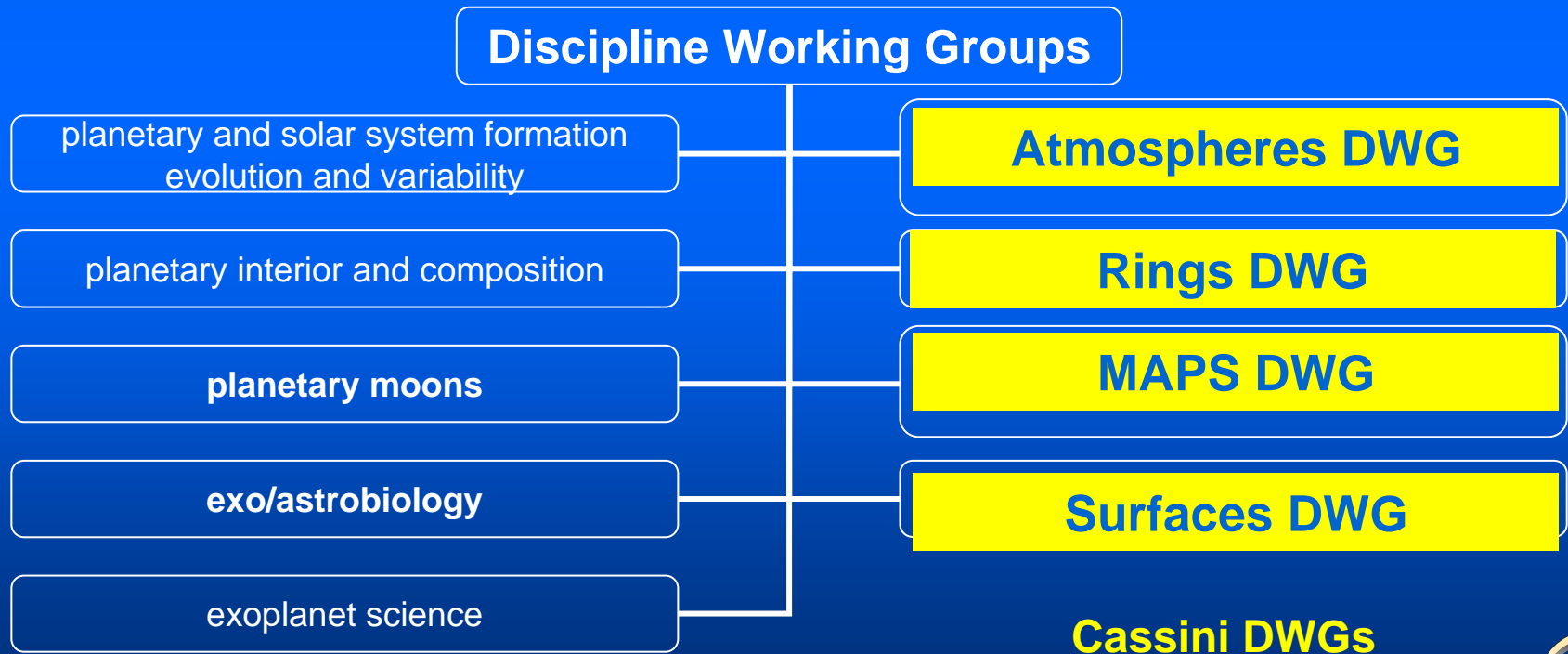
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- **N2 Website:**

<http://www.mps.mpg.de/de/projekte/europlanet>

Organisation

Step 1 : DWGs linked to the Cassini/Huygens mission.



- allocated:
 - 10% of 2 Mio € = 200000 € -> 50000 €/year
split into
 - 10000 coordinators
 - 2000 N1 management
 - 38000 N2 activities

- spent in 2006:
 - as of Dec 31: 42217,81 €

Month 14:	-N2-ISSI cooperation meeting #2, Bern, Switzerland
Month 15:	-Participation at N4 workshop in Toulouse, France
Month 16:	-Participation at N3 workshop in Vienna, Austria -N2-N7 workshop, Villafranca, Spain -Workshop topics selected and proposed to ISSI
Month 17:	-Europlanet coordinator meeting, Paris, France with N2 presentation
Month 20	-N2-meeting #2, Helsinki, Finland
Month 21	-Europlanet General Assembly with N2 presentation, Berlin, Germany -N2 presentations at EPSC #1, updated science cases, Berlin, Germany
Month 23	-Participation at N3 workshop in London, United Kingdom
Month 24	-Europlanet coordinator meeting, Paris, France, N2 supported presentation of N7 backup plan

1. **Understanding super-rotation (Grieger)**
2. **Ion-neutral chemistry at Titan (Leblanc)**
3. **Solar wind interaction at Jupiter and Saturn including aurorae (Krupp)**
4. **What is the origin of the planetary modulated (quasi-periodic) signatures at Saturn? (Krupp)**
5. **Investigation of the interaction of magnetospheric plasma with icy moons in the Saturnian system and other giant planet systems (Krupp)**
6. **Definition and archiving of ground-based observations in support of space missions (Coustenis)**
7. **Catalogue of IR and Raman spectra of gas CH₄ coefficients, organics (Coustenis)**
8. **Dating planetary surfaces from cratering processes: formation of the solar system (Coustenis)**
9. **Quantifying the Martian geochemical reservoirs (Toplis)**
10. **Exchange processes between surface and interior of icy moons (Grasset)**
11. **What are the relative contributions of asteroidal dust, cometary dust, meteor streams, interstellar dust and circumplanetary dust to the structure of zodiacal cloud as a function of heliocentric distance, latitude and time (Graps)**
12. **What is the dynamical and morphological structure of the Kuiper belt (Graps)**
13. **How can we best optimize from observations, numerical experiments, lab simulations, further analysis of past mission data, the science return of Rosetta**
14. **Solar wind-comet surface interaction (Schmidt)**
15. **Surface material composition (Schmidt)**
16. **Distant activity, outbursts, splitting and disruption of cometary nuclei (Makinen)**
17. **Planets under extreme stellar conditions (Lammer)**

1. **Circulation in atmospheres of terrestrial planets (Grieger)**
2. **Planetary atmospheric electricity (Lebreton, Leblanc)**
3. **Solar wind interaction at Jupiter and Saturn including aurorae (Krupp) (2008)**
4. **Planetary chemistry issues in support to the analysis of space mission data (Coustenis)**
5. **Quantifying the Martian geochemical reservoirs (Toplis)**
6. **Exchange processes between surface and interior of icy moons (Grasset)**
7. **What are the connections between TNOs, Centaurs, Trojans, comets and icy satellites and what is the dynamical and morphological structure of the Kuiper belt (Graps)**
8. **How can we best optimize from observations, numerical experiments, lab simulations, further analysis of past mission data, the science return of Rosetta (Graps)**
9. **Distant activity, outbursts, splitting and disruption of cometary nuclei (Makinen)**
10. **Planets under extreme stellar conditions (Lammer) (2008)**

**A1. EPSC2006-A-00395 Krupp, N.
Planetary aurorae and their electrodynamic drivers: solar wind vs. internal processes**

**A2. EPSC2006-A-00306 Leblanc, F.
IDIS Science Case: Titan Ion-Neutral chemistry: understanding observations and
constraining models**

**A3. EPSC2006-A-00393 Grieger, B.; Leblanc, F.; Fränz, M.; Lammer, H.; Siili, T.;
Tokano, T.
A science case on atmospheric circulation**

**A4. EPSC2006-A-00422 Coustenis, A.; EUROPLANET WG3&5
Catalogue of IR and Raman spectra of gas CH₄ and other molecules' coefficients,
organics, minerals and ices**

**A5. EPSC2006-A-00321 Grasset, O.
Exchange processes from the deep interior to the surface of icy moons**

**A6. EPSC2006-A-00417 Coustenis, A.; EUROPLANET WG3&5
Dating planetary surfaces from cratering processes: formation of the solar system**

**A7. EPSC2006-A-00405 Lammer, H.; Selsis, F. ; Eiroa, C. ; Fridlund, M.
Planets under Extreme Stellar Conditions**

**A8. EPSC2006-A-00416 Coustenis, A.; EUROPLANET WG3&5
Definition and archiving of ground-based observations in support of space missions**

year	Workshop title	proposed by
2007	Planetary atmospheric electricity	Lebreton, Leblanc
2008	Exchange processes from the deep interior to the surface of icy moons	Grasset
	Quantifying the Martian geochemical reservoirs	Toplis
	Planetary aurorae and their electrodynamic drivers: solar wind vs. internal processes	Krupp

- further N2-N7 meetings
 - March 5/6 @ MPS :
 - a new plan for IDIS work
- Dedicated N2-N3 meetings
- FP7 proposal

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 Max-Planck-Institut für Sonnensystemforschung

 Europlanet
European Planetology Network

Launched on January 1st 2005, The European Union-funded project "European Planetology Network" (EuroPlaNet, Project 001637 Integrating Activity Implemented as Coordination Action) will provide an important added value to the European Planetology Community and the science produced by the international planetary missions. During four years, EuroPlaNet will strengthen the networking of the European Planetary Sciences community by promoting the exchanges between its different partners and providing a support to the planetary exploration missions. The primary objective of the network will be to support the Cassini-Huygens mission. In the meantime, this project will take a particular attention to associate through specific outreach activities the European citizens to the planetary exploration programme in Europe. EuroPlaNet co-ordinates activities in Planetary Sciences in order to achieve a long-term integration of this discipline in Europe.

Science Objectives

- ▶ **MPS contribution**
 - ▶ Actions
- ▶ **EuroPlaNet Homepage**
- ▶ **Contact**
- ▶ **Links**

The objectives are to:

1. Increase the productivity of planetary projects with European investment, with emphasis on major planetary exploration missions
2. Initiate a long-term integration of the European planetary science community
3. Improve European scientific competitiveness, develop and spread expertise in this research area
4. Improve public understanding of planetary environments

These objectives will be achieved by:

1. maximizing synergies between different fields contributing to planetary sciences: space observations, earth-based observations, laboratory studies, numerical simulations, data base development
2. co-ordinating the design and development of an Integrated and Distributed Information Service (IDS) providing access to the full set of data sources produced by these complementary fields. EuroPlaNet integrates most of the European planetary exploration work, with initial focus on the Cassini/Huygens mission to Saturn and Titan, operative between 2004 and 2006. The considerable involvement of the European science community in this mission, the broad diversity of its research objectives and the urgent need to achieve a balanced share of data analysis and its results with American colleagues make Cassini/Huygens an ideal test-bed for the development of activities and tools which will contribute to the optimal exploitation of subsequent planetary missions

In addition to overall co-ordination, 6 further activities N2-N7 will be carried out over a 4-year period:

- a. N2 discipline working groups
- b. N3 co-ordinate Earth-based observations to support and complement space missions
- c. N4 develop an outreach strategy
- d. N5 exchange of personnel
- e. N6 EuroPlaNet-specific meetings and conferences
- f. N7 definition of the basic requirements for future implementation of IDS for planetary sciences

MPS contribution

MPS is co-ordinating activity N2 (discipline working groups) in collaboration with the Finnish Meteorological Institute (FMI). The objective of this activity is to initiate a long-term integrating force that will allow the coherent and effective use of large European space- or ground-based facilities. It is the major task of discipline working groups to bring the experts in the different science areas of planetary sciences together to co-ordinate and maximize the outcome.

 List of discipline working groups and group members



Actions

Within activity N2, meetings of the discipline working groups are conducted.

- ▶ **First Europlanet N2 Meeting**
Nov. 21-23, 2005
Waldhotel Gesundbrunnen
Northheim, Germany



- ▶ **Europlanet N2-N7 Workshop**
April 24 - 26, 2006
ESAC
Villafraña, Spain



- ▶ **ISSI Workshop Proposals**
May 12, 2006

- ▶ **ISSI science committee results**
May 18, 2006
Workshop topics "selected" from ISSI
(Outcome of ISSI science committee meeting, May 2006)
For 2007

- Planetary atmospheric electricity (Lebreton, Leblanc)

For 2008

- Exchange processes from the deep interior to the surface of icy moons (Grasset)
 - Quantifying the Martian geochemical reservoirs (Toplis)

in addition possible:

- Planetary aurorae and their electrodynamic drivers: solar wind vs. internal processes (Krupp)

- ▶ **Europlanet Coordinator Meeting, ESA HQ, Paris**
May 22-23, 2006

During the face-to-face Europlanet coordinator meeting at ESA HQ in Paris on May 22-23, 2006 the N2 coordinators Norbert Krupp, Ari-Matti Harri and Bjoern Grieger presented the status of N2 for the first 17 months of the project.

- ▶ **Second Europlanet N2 Meeting**
Aug 21-23, 2006
Finnish Meteorological Institute (FMI)
Helsinki, Finland



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Links

- ▶ EuroPlaNet Homepage
- ▶ First Europlanet N2 Meeting
- ▶ Europlanet N2-N7 Workshop
- ▶ ISSI Workshop Proposals
- ▶ Second Europlanet N2 Meeting