

**PHYSICAL STUDIES OF PLANETS AND SATELLITES**  
**ETUDE PHYSIQUE DES PLANETES ET DES SATELLITES**

**Report of Meetings**

PRESIDENT: André Brahic

**Business Meeting:**

At the 21<sup>th</sup> General Assembly of the I.A.U., Commission 16 held its business meeting, which opened at 2:00 p.m. on 30 July 1991, under the chairmanship of the President, Pr. André Brahic (France).

It is with great sadness that we have to report the death of Harold Masursky on August 24, 1990 at the age of 66. Harold Masursky was the President of the Working Group for Planetary Nomenclature and a member of the Organizing Committee of Commission 16. He was well known for his active participation to space exploration of the planets. He was one of the pioneers of planetary geology. He wrote many important contributions on planetary surfaces.

The minutes of Commission 16's last business meeting of 10 August 1988 were distributed, discussed and accepted by the Commission. Pr. Brahic made a brief report of his activities on behalf of the Commission.

**Planetary nomenclature:**

Dr. Kaare Aksnes (Norway), President of the Working Group for Planetary System Nomenclature (W.G.P.S.N.), presented a report on this group's activities during the last triennium. W.G.P.S.N. held its 17<sup>th</sup> meeting in Paris and Fréhel, France (19-22 October 1989), its 18<sup>th</sup> meeting in Den Haag, Holland (2 July 1990), its 19<sup>th</sup> meeting in Florence, Italy (29-30 April 1991) and the 20<sup>th</sup> meeting in Buenos Aires, Argentina (30 July 1991) during the I.A.U. General Assembly. Largely due to the discoveries with the Voyager and Magellan spacecrafts, there has been an increasing need for new nomenclature. The following nomenclature has been recommended to the I.A.U. by W.G.P.S.N. (they have the approval of the I.A.U. Executive Committee since August 1991):

1. Surface features on Moon, Venus, Mars, and Triton. The corresponding names are listed in Reports on Astronomy, vol. XXIA, 613-619 (1991) and in vol. XXIB in the Transactions from the I.A.U. General Assembly in Buenos Aires. In particular, three new feature categories are introduced for Venus:

RETICULUM, RETICULA	reticular form (netlike) pattern
FARRUM, FARRA	row of pancake-like structures
VALLIS, VALLES	sinuous valley

2. Satellites of Saturn and Neptune.

Temporary Designation	Permanent designation	Name	Distance from Planet's Center
1981S13	Saturn XVIII	Pan	133 600 km
1989N6	Neptune III	Naiad	48 230 km
1989N5	Neptune IV	Thalassa	50 070 km
1989N3	Neptune V	Despina	52 530 km
1989N4	Neptune VI	Galatea	61 950 km
1989N2	Neptune VII	Larissa	73 550 km
1989N1	Neptune VIII	Proteus	117 640 km

3. Neptune Rings and Ring Arcs.

Temporary Designation	Name	Distance from Planet's Center
1989N3R	Galle (N42)	41 900 km
1989N2R	Leverrier (N53)	53 200 km
1989N1R	Adams (N63)	62 900 km
"Leading" ring arc	Liberté	62 900 km
"Equidistant" ring arc	Egalité	62 900 km
"Following" ring arc	Fraternité	62 900 km

For the next triennium, W.G.P.S.N. will have the following membership:

President:	K. Aksnes	Norway
Members:	R. Batson	U.S.A.
	A. Brahic	France
	M. Ya Marov	U.S.S.R.
	D. Morrison	U.S.A.
	T.C. Owen	U.S.A.
	V.V. Shevchenko	U.S.S.R.
	B.A. Smith	U.S.A.
Consultants:	L.A. Soderblum	U.S.A.
	J.M. Boyce	U.S.A.
	P. Masson	France

Changes in the membership in the Task Groups under W.G.P.S.N. will be decided on later.

Election of officers:

The Organizing Committee of Commission 16 was then discussed. The following slate was presented and elected unanimously by the members present:

President: David Morrison (U.S.A.)

Vice Presidents: Catherine de Bergh (France)  
Michael Ya. Marov (U.S.S.R.)

Members: Alexandr Basilevsky (U.S.S.R.)  
Michael Belton (U.S.A.)  
André Brahic (France)  
Dale P. Cruikshank (U.S.A.)  
Merton Davies (U.S.A.)  
Thérèse Encrenaz (France)  
Daniel Gautier (France)  
Vasily I. Moroz (U.S.S.R.)  
Tobias Owen (U.S.A.)  
Jurgen Rahe (U.S.A.)  
Bruno Sicardy (France)  
Bradford Smith (U.S.A.)  
David Tholen (U.S.A.)

New Members of the Commission:

The following list of new members of the Commission was unanimously endorsed by the members present:

Richard P. Benzel	(U.S.A.)	Commissions 15, 16, 20
Maria Teresa Capria	(Italy)	Commissions 15, 16
Maria M. Carsmaru	(Rumania)	Commission 16
Jean Claude M. C. Gérard	(Belgium)	Commission 16
Alan Harris	(U.S.A.)	Commissions 15, 16
M.A. Lopez-Valverde	(Spain)	Commission 16
Takafumi Matsui	(Japan)	Commission 16
Michael E. Mickelson	(U.S.A.)	Commissions 14, 16, 41
Keith Stephen Noll	(U.S.A.)	Commissions 15, 16
Jean Marc Petit	(France)	Commissions 7, 16, 28
Colin Pillinger	(G.B.)	Commissions 15, 16, 22
Zdenek Pokorny	(Czechoslovakia)	Commissions 16, 46
Carolyn Porco	(U.S.A.)	Commission 16
Irina Predeanu	(Rumania)	Commission 16
Jurgan Rahe	(U.S.A.)	Commissions 15, 16
Françoise Roques	(France)	Commission 16
Agustin Sanchez-Lavega	(Spain)	Commission 16
Bruno Sicardy	(France)	Commission 16
Alta Sharon Walker	(U.S.A.)	Commissions 15, 16, 51

The Commission Membership is the following: U.S.A. (129), U.S.S.R. (21), France (19), U.K. (12), Spain (7), Germany (7), Japan (4), ...

Future activities:

The future activities of Commission 16 were discussed with Pr. Brahic leading the discussion. Several items were discussed, among them:

- We had two good scientific sessions, with respectively 150 to 200 participants and 30 to 50 participants, but most of the attendees were interested astronomers from other areas rather than members of the planetary community.
- Concern was expressed about the declining number of planetary scientists attending the I.A.U. General Assembly, and especially the decreasing number of planetary scientists active in Commission 16. In order to assure continued interest in planetary science, especially by young scientists at the beginning of their career, the establishment of summer schools for graduate and undergraduate planetary science students was discussed as well as issuing a Commission 16 Newsletter on a regular basis.
- The need for descriptions of current missions and results derived from them, was particularly felt at this General Assembly, and a consensus was reached that a special effort should be made to present highlights of these missions during the next General Assembly in the Netherlands.
- Already during the Baltimore General Assembly it was suggested to broaden the scope of Commission 16 by including the search for and characterization of other planetary systems without changing the Commission's name. This recommendation was reiterated in Buenos Aires but a decision was not made.

Future meetings:

Future meetings of interest to Commission Members were discussed:

- The Conference on Solar System Astronomy, which had scheduled to take place in China and which was discussed already in the 1988 meeting, has been canceled. Dr. Morrison was asked to pursue this idea further, and the Commission agreed to endorse it should it be proposed.
- Dr. D. Cruikshank's and Dr. T. Gehrels' plan was discussed to organize a meeting on Neptune in 1992, i.e. one year before A. Brahic plans to hold another meeting on the same planet in France to commemorate the birthday of its discovery. The Commission recommended that the organizers of the two meetings coordinate their plans.
- Finally it was mentioned that Dr. D. Tholen is contemplating to organize a conference on Pluto in 1992 or 1993. Again, no formal proposal was submitted.

When the meeting adjourned at about 15:45 p.m., approximately 15 to 20 people were in attendance.

Working Group on Cartographic Coordinates:

A meeting of the I.A.U./I.A.G./C.O.S.P.A.R. Working Group on Cartographic Coordinates and Rotational Elements of the Planets and the Satellites was held with members of both Commissions 4 and 16 in attendance under the chairmanship of Dr. Merton E. Davies (U.S.A.). The report of the Working Group is included in the I.A.U. Transactions.

Scientific Meetings:

Good scientific sessions with a large attendance had been organized. Most of the attendees were interested astronomers from other areas rather than members of the planetary community. Many planetary astronomers did not come to Buenos Aires. As a comparison, it has been observed that the attendance to the Commission 16 meetings was specially poor during the 1985 General Assembly in New Delhi, and was rather large during the 1988 General Assembly in Baltimore. Several participants to the Scientific Meetings expressed their satisfaction concerning the inter-disciplinary exchanges during these meetings. The program of the Joint Discussion Meeting and of the Commission Meeting is given below:

## 1. Joint Discussion with Commissions 7, 15, 20, 22, 28, 33, 35, 37, 45, 48, and 51

Organizing Committee: A.H. Batten, A. Brahic (Chairman), M. Golay, G.L. Harris, A. Henrard, C.S.L. Keay, A. Maeder, G. Marx, M. Mayor, R.A. Sunyaev, G.A. Tamman, R. West.

- |  |                          |
|--|--------------------------|
| - Planetary Atmospheres and Chemical Constraints       | T. Owen                  |
| - Comets and Solar System Formation                    | A.C. Levasseur-Regourd   |
| - Planetary Rings and Dynamical Constraints            | A. Brahic                |
| - From Planetoids to Planets                           | P. Barge and R. Pellat   |
| - Search for Extra Solar Planets from Space            | R. Terrile               |
| - The $\beta$ Pictoris Disk                            | B. Smith                 |
| - Circumstellar Disks and Star Formation               | L. Hartmann and M. Gomez |
| - Circumstellar Environment of Young Stellar Objects   | T. Montmerle             |
| - Magnetic Activity around T Tauri Stars               | T. Montmerle             |
| - Effects of Interactions Involving Protostellar Disks | R. Larson                |

## 2. Commission 16 Scientific Meeting

- Study of Rings from Voyager to Cassini
- International Jupiter Watch
- The Pluto - Charon System
- Possible Detection of the Surface of Titan
- Gallery of Magellan Venus Photos
- Origin of Inner Planet Atmospheres
- Possible Lunar Transient Event
- Possible Venus Transient Event

C. Porco  
 D. Morrison  
 D. Tholen  
 K. Noll  
 M. Davies and D. Morrison  
 T. Owen  
 J. Seiradakis  
 H. Varvoglis

## 3. Posters

- Vertical Structure and Granulometry of High Martian Clouds  
 from Solar Occultation

E. Chassefière and J.E. Blamont

- Mutual Phenomena of Jupiter Satellites observed with  
 a CCD camera

J. Colin, J.F. Le Campion, M. Rapaport, G. Montignac,  
 J.M. Desbats, F. Chauvet and G. Dourneau

- The 5:3 Jovian Resonance

S. Fernandez and M. Mosconti

- Solid Bodies around  $\beta$  Pictoris?

A.M. Lagrange-Henri, H. Beust, A. Vidal-Madjar and

E. Chassefière

- Hydrocarbons Abundances in the Titan's Atmosphere. Comparison  
 between a Photochemical Model and Observations

L.M. Lara, A. Coustenis, R. Rodrigo, P. Romani,  
 J.J. Lopez-Moreno and E. Chassefière