Europa-Jupiter International Science Workshop

21-22 April 2008

ESA-ESRIN
Via Galileo Galilei, 00044 Frascati (Italy)
Building 1
Magellan Room

Final Agenda

Monday, 21 April 2008

09:30 – J.-P. Lebreton: Workshop opening and welcome

Session 1: Status and plans for the EJSM mission (09:35 – 11:00) – Chairmen: **A. Coradini /F. Tosi**

09:35-09:55 – M. Blanc/B. Pappalardo: Europa-Jupiter System Mission: top science goals and heritage from LAPLACE and NASA SDT studies

Programmatics and mission architectures for EJSM in the context of a joint international mission:

09:55-10:15 – K. Clark: NASA Europa Orbiter study
10:15-10:35 – J.-P. Lebreton: ESA Jupiter Planetary Orbiter study
10:35-10:50 – M. Fujimoto: JAXA participation: the JMO spacecraft and more
10:50-11:00 – L. Zelenyi: Roscosmos ideas for a Europa lander and other contributions to EJSM

11:00-11:30 : Coffee Break/Posters

Session 2: Science and mission profile contributions (11:30 – 13:30) – Chairman: **J.-P. Lebreton**

Invited contributions (15' + 5' discussion)

11:30-11:50 – B. Pappalardo/O. Grasset: Europa science objectives and measurement requirements
11:50-12:10 – H. Hussmann/B. Moore: Satellites science obiectives and measurement requirements
12:10-12:30 – N. Krupp/K. Khurana/M. McGrath: Magnetosphere science objectives and measurement requirements
12:30-12:50 – P. Drossart/J.Schubert: Jupiter science objectives
12:50-13:10 – A. Coradini: Origins objectives for EJSM
13:10-13:30 – O. Prieto Ballesteros/D. Prieur: Astrobiology objectives for EJSM

National agencies potential contributions to EJSM and p/l predevelopment plans (13.30 – 15.20)

13:30-13:45 – E. Flamini: ASI proposed contributions

13:45-14:45 : Lunch (at the ESRIN canteen)

Session 2 (continued) – National agencies potential contributions… (cont'd)
14:45-15:00 – M. Blanc: CNES early contributions
15:00-15:15 – Other national agency contributions (tbd)
(*M. Dougherty*: Early funding in the UK: to be presented on the second day)

Additional science contributions (10' sharp each)

15:20-15:30 – R. Tyler: Dynamic tides in the ocean of Europa
15:30-15:40 – M. Pauer: Europa ocean floor topography from gravity data
15:40-15:50 – J. Spencer: Io science
15:50-16:00 – M. McGrath: Io torus

16:00-16:30 : Coffee Break/Posters

16:30-16:40 – A. Showman: Ganymede science
16:40-16:50 – K. Stephan: Studying the chemical and physical surface properties of Ganymede by imaging spectrometers
16:50-17:00 – J. Moore: Callisto science
17:00-17:10 – L. Iess: Gravity fields and tides from Ka-band Doppler systems
17:10-17:20 – A. Adriani: Atmospheric science on Jupiter by JIRAM/JUNO
17:20-17:30 – P. Gaulme: Investigation of Jupiter's interior by seismology
17:30-17:40 – L. Gurvits: Planetary Radio Interferometry and Doppler Experiment for a Jupiter-Europa mission (PRIDE-JE)

17:40-18:00 – General discussion on science objectives and measurement requirements

Tuesday, 22 April 2008

Session 3: Science investigations and payloads for the EJSM spacecraft (9:30 – 16:00) – Chairmen: **N. Krupp/A. Coradini**

Invited contributions
09:30-10:00 – B. Pappalardo: Status of proposed payload for the Europa Orbiter
10:00-10:30 – M. Dougherty/M. Fujimoto: Status of proposed payloads for the JPO and JMO s/c
10:30-10:40 – M. Dougherty: Early funding in the UK

Other contributions (10' sharp each!)

J. Oberst: Camera package for EO and JPO
J. Oberst: Laser altimeter for EO and JPO

11:00-11:30 : Coffee Break/Posters

Session 3 (continued)

G. Filacchione: VIS/NIR imaging spectrometer for the exploration of the Jovian system
E. Bunce: Imaging Jupiter's aurora
P. Hartogh: Sub-mm investigations of Jupiter's and Europa's atmospheres
S. Kraft: Highly Integrated payload for EO

A. Milillo: Low-energy ENA detection at Europa
H. Kruger: Dust released from Europa: a tool for direct surface composition analysis
M. Dougherty: Magnetometer specifications for an orbiter instrument
A. Coates: UK Europa penetrator studies
A. Coates: Plasma and X-ray instrumentation
M. Moncuquet: Passive r.f. electric antennas as in situ detectors of plasmas in the Jupiter magnetosphere
A. Vaivads: Electric field and plasma measurements in the Jupiter system

13:45-14:45 : Lunch (at the ESRIN canteen)

M. Volwerk: Magnetic field investigations around Europa and the Graz magnetometer chip
J. Saur: Joint understanding of Europa's plasma interaction and electromagnetic induction processes to probe for its ocean
L. Bruzzone: Radar sounding for Europa: a feasibility study
W. Kofman: GPR for the Europa orbiter
B. Cecconi: A radiowave investigation for JMO
S. Pogrebenko: Radio astronomy support of Direct-to-Earth data transmission for the Jupiter-Europa mission

16:00-16:30 : Coffee Break/Posters

Session 4: Synthesis of the workshop in terms of recommendations to JSDT on science objectives, mission profile and payload definition (16:30 – 17:30) – Chairmen: **M. Blanc/R. Pappalardo**

17:30 – Adjourn.

Poster contributions (both days). All panels are <u>vertical</u> (120 × 90 cm, or 47.3 × 35.4 inches).

1. J. Helbert: Thermal IR measurements
2. A. Milillo et al.: ENA detection: a tool for the study of the Jupiter satellites system
3. V. Iafolla et al.: ISA around Jupiter: useful applications of accelerometers for planetary mission support
4. K. Stephan et al.: Ganymede's impact crater Melkart: An example for a combination of high-resolution spectral and geological analyses in the Jovian system
5. P. Gaulme et al.: ECHOES : a Doppler imager for Jovian seismology and atmospheric dynamics
6. G. Filacchione et al.: VIS/NIR imaging spectrometer for the exploration of the Jovian system
7. A. Coradini et al.: VIS-NIR Imaging spectrometers for planetary exploration: the Italian heritage towards innovation
8. A. Adriani et al.: JIRAM, the Jupiter Infrared Auroral Mapper on JUNO
9. A. Coradini et al.: The Jupiter subnebula: characteristic timescales, physical parameters and thermal properties
10. D. Turrini et al.: The science in the outer Jovian system
11. E. Bunce et al: A UV auroral imager for the Laplace mission
12. W. Magnes et al: Features and resource requirements of a magnetometer front-end ASIC
13. P. Irwin: High-Resolution Sub-millimetre Wave (Terahertz) Spectroscopy of the Jovian Upper Atmosphere
14. S. Casotto et al: Detecting solid tides on Europa with an orbiting altimeter
15. D. Delcourt et al: A mass spectrum analyser onboard Laplace
16. F. Cipriani et al.: Studying Europa's exosphere/surface coupling : a window towards Europa's

interior and its surface radiolysis
17. R. Moreno: Submm investigation of Io
18. SORA Team (ASI, CISAS, CORISTA, INFOCOM, IRSPS, TAS-I): SORA Esperiment
19. G. Alberti et al: Planetary Radar Processing Center (PROC) : the Italian facility for planetary data processing
20. M. Barthelemy et al: Light polarization : an underused observable for the understanding of the jovian system