Magnetospheres of the Outer Planets

July 11-15, 2011

Boston University

Local Organizing Committee

John Clarke (BU) – Chair
Christine Benoit (BU)
David Bradford (BU)
Nicole Cahill (BU)
Supriya Chakrabarti (BU)
Michael Mendillo (BU)
Luke Moore (BU)
Kurt Retherford (SwRI)
Paul Withers (BU)
Xiomara Forbes (BU)

Scientific Organizing Committee

Fran Bagenal (Univ. Colorado) – Chair
Anil Bhardwaj (VSSC)
Masaki Fujimoto (JAXA)
Tamas Gombosi (Univ. Michigan)
Denis Grodent (Univ. Liege)
Caitriona Jackman (UCL)
Yasumasa Kasaba (Tohoku Univ.)
Norbert Krupp (MPS, Katlenburg-Lindau)
Krishan Khurana (UCLA)
Atsushi Nishida (GUAS)
Tasuki Ogino (Nagoya Univ.)
Chris Paranicas (JHU/APL)
Joachim Saur (Univ. Koeln)
Patricia Schippers (Univ. Iowa)
Thomas Stallard (Univ. Leicester)
Jan-Erik Wahlund (IRFU)
J. Waite, Jr. (SwRI)
Philippe Zarka (Obs. Paris)

Invited tutorial talks = 20 + 5 = 25 mins (name, title in bold italics)

Invited topical talks = 20+5 = 25 mins (name, title in italics)

Contributed talks = 12+2 = 14 mins

Sunday		Monday		Tuesday		Wednesday		Thursday		Friday
	08.30	**1 - Moons**	08.30	**2 - Structure/Dynamics**	08.30	**4 - Saturn Rotation**	08.30	**5 - Aurora**	08.30	**7 - Modeling Workshops**
	10.03	Break	10.16	Break	10.16	Break	10.16	Break	10.00	Break
	10.35	**1 - Moons**	10.45	**2 - Structure/Dynamics**	10.45	**4 - Saturn Rotation**	10.45	**5 - Aurora**	10.30	**8 - Structure/Dynamics**
	12.00	Lunch	12.20	Lunch	12.23	Lunch	12.06	Lunch	12.19	Lunch
	1.45	**1 - Moons**	1.45	**2 - Structure/Dynamics**	2.00	**Excursion**	1.45	**5 - Aurora**	1.45	**8 - Structure/Dynamics**
	3.30	Break	3.30	Break			3.00	Break	3.00	Break
Reception* 5-7pm	4.00	**1 - Moons**		**3 - Posters**		**Excursion**		**6 - Posters / Rotation workshop**	3.30	**Future Missions**
								Banquet		

Sunday evening reception (5-7pm) will be held at The Castle, Boston University, 225 Bay State Road.

Also:

- MOP 2011 group photo - which will join photos of previous meetings posted at http://lasp.colorado.edu/mop/conference/
- Discussion of the next MOP meeting will be held before the break on Tuesday afternoon.
- Poster space is 36” (91 cm) high x 42” (107 cm) wide

Fran Bagenal takes full responsibility for any errors that may have crept into the program between your submission of an abstract and this program. She should also be blamed if the 14-minute-talk is a complete fiasco.

MONDAY

8.30 am Welcome – John Clarke, Boston University

SESSION 1 – Moons

8.45am 1 *Delamere, Peter* *Satellites and interactions*
9.10am 2 *Roussos, Elias* *Energetic charged particle absorption signatures in Saturn's magnetosphere: observations and applications*
9.35am 3 Saur, Joachim Moon-Planet and Exoplanet-Star Couplings: Common sub-Alfvenic Interaction Mechanisms Throughout the Universe
9.49am 4 Winglee, Robert Io's Plasma Interaction with the Plasma Torus within the Jovian Magnetosphere

10.03-10.35am - Break

10.35am 5 Roth, Lorenz Variations of the auroral emission from Io's atmosphere
10.49am 6 *Bertucci, Cesar* *Titan's Plasma Environment and Interaction*
11.14am 7 Johnson, Robert E Plasma-induced Sputtering and Heating of Titan's Atmosphere
11.28am 8 Sillanpää, Ilkka Cassini Data Comparison with Hybrid Model: Role of Oxygen Ions in Titan's Interaction
11.42am 9 Crary, Frank Titan's interaction with Saturn's magnetosphere: Plasma flow and composition observed by Cassini/CAPS

12.00-1.45pm – Lunch

1.45am 10 Wellbrock, Anne Density trends of negative ions at Titan
1.59pm 11 Ma, Yingjuan Multi-fluid MHD study on Ion Loss from Titan's Atmosphere
2.13pm 12 Snowden, Darci 3D Multi-fluid Modeling of Ion-neutral Interactions in Titan's Ionosphere
2.27pm 13 *Jones, Geraint H.* *Dust Observations at Rhea and Enceladus using Plasma Instrumentation*
2.52pm 14 Simon, Sven Plasma interactions of Saturn's icy satellites: Analytical modelling of Cassini MAG data from Enceladus, Dione and Rhea
3.06pm *Discussion*

3.30-4.00pm – Break

4.00pm 15 Jia, Yingdong Perpendicular Flow Separation in a Magnetized Counterstreaming Plasma: Application to the Dust Plume of Enceladus
4.14pm 16 Hill, Tom Charged nanograins in the Enceladus plume

4.28pm 17 Kriegel, Hendrik Influence of negatively charged plume grains on the structure of Enceladus' Alfven wings: hybrid simulations versus Cassini MAG data
4.42pm 18 Barabash, Stas Hybrid Simulations of the Callisto - Magnetosphere Interaction
4.56pm 19 Seufert, Mario Callisto's Plasma Interaction and Induced Fields from a Subsurface Ocean
5.10pm 20 Payan, Alexia Uncovering Local Magnetospheric Processes Governing the Variability of Ganymede's Aurora Using 3D Multi-Fluid Simulations of Ganymede's Magnetosphere
5.24pm *Discussion*

TUESDAY

8.30am 21 Coates, Andrew Electrons at Saturn's moons: selected CAPS-ELS results

SESSION 2 – Structure & Dynamics

8.44am **22** ***Kivelson, Margaret G.*** ***Magnetosphere: Structure and Dynamics***
9.09am 23 *Arridge, Chris* *Observations of Plasma Sheet Structure and Dynamics*
9.34am 24 Perry, Mark E. Cassini INMS Measurements of Ions and Neutrals in Saturn's Inner Magnetosphere
9.48am 25 Thomsen, Michelle F Evidence at Saturn of an Inner Magnetospheric Convection Pattern, Fixed in Local Time
10.02am 26 Schippers, Patricia Identification of field-aligned electric current systems in Saturn's inner magnetosphere

10.16-10.45am - Break

10.45am 27 *Brandt, Pontus C* *Global Magnetospheric Dynamics of Jupiter and Saturn Revealed by ENA Imaging*
11.10am 28 Sergis, Nick The Saturnian Ring Current
11.24pm 29 DiFabio, Robert Variations of 3-220 keV/e Ions with Energy and L in Saturn's Magnetosphere
11.38pm 30 Kane, Mark Hot Plasma Characteristics in the Outer Magnetosphere of Saturn
11.52pm 31 Paranicas, Chris Particle energization at Saturn
12.06pm 32 Jackman, Caitriona M Magnetotail reconnection and flux circulation: Jupiter and Saturn compared

12.20-1.45pm – Lunch

1.45pm 33 *Morooka, Michiko W.* *Dust and Low Temperature Plasma of Saturn*
2.10pm 34 *Kempf, Sascha* *Dust measurements with CDA on Cassini*
2.35am 35 Cao, Hao The Intrinsic Magnetic Field of Saturn: A Special One or an Averaged One
2.49pm *Discussion – including discussion of* ***next MOP meeting.***

3.30pm Break

SESSION 3 – POSTERS

Poster titles are listed below in alphabetical order of first author. The number is the poster and abstract number. The posters are arranged by number (and topic) in the poster hall.

127 **Achilleos**, Nicholas Self-sustaining Axial Asymmetries in the Thermosphere as a Driver of Rotational Periodicities in the Magnetosphere
77 **Ågren**, Karin Currents and Associated Electric Fields in Titan's Ionosphere
116 **Andrews**, David J Planetary period oscillations in Saturn's magnetosphere: Evidence in magnetic field phase data for rotational modulation of Saturn kilometric radiation emissions
111 **Arridge**, Chris Active Current Sheets in Saturn's Outer Magnetosphere
115 **Arridge**, Chris Plasma Populations in Saturn's High Latitude Magnetosphere and their Mapping to the Ionosphere
131 **Badman**, Sarah Cassini observations of ion and electron beams and their relationship to infrared auroral
100 **Bagenal**, Fran Comparative Planetary Magnetotails
101 **Bagenal**, Fran Jupiter's Plasmasheet: Voyager and Galileo Observations
134 **Bagenal**, Fran Anticipating Juno: Mission to Jupiter's Poles
125 **Bonfond**, Bertrand The multiple spots of the Ganymede footprint
117 **Brandt**, Pontus C In Search for a Self-consistent Hypothesis for Saturn's Periodicities: Shielding Effects of a Partial Ring Current
137 **Cecconi**, Baptiste Natural Radio Emission of Jupiter as Interferences for Radar Investigations of the Icy Satellites of Jupiter
132 **Corbin**, Benjamin Andrew High Resolution Spectrum Analysis of Jupiter's Lyman-alpha Bulge
113 **Delamere**, Peter Kelvin-Helmholtz Instability at Saturn's Magnetopause: Cassini Ion Data Analysis and Hybrid Simulation
88 **Dols**, Vincent Model of Io's Local Interaction: a Coupled MHD-Hall/Chemistry Model
82 **Dong**, Yaxue The water vapor plumes of Enceladus
76 **Edberg**, Niklas Structured Ionospheric Escape at Titan: RPWS/LP, MAG and ELS Measurements

80 **Fleshman**, Bobby L. The Roles of Dissociation and Velocity-Dependent Charge Exchange in Saturn's Extended Neutral Clouds

135 **Gladstone**, G. Randall The Ultraviolet Spectrograph (UVS) on Juno

94 **Grava**, Cesare Study On Post-Eclipse Brightening Of Io Sodium Cloud

112 **Hansen**, Kenneth The Michigan Solar WInd Model (mSWiM) Extended With STEREO A and B Data: Results and Validation

85 **Hendrix,** Amanda R Plasma-Surface Interactions at the Icy Saturnian Moons: UV Surface Effects

95 **Hess**, Sébastien Longitudinal modulation of hot electrons in the Io plasma torus.

103 **Hess**, Sébastien Model of the Jovian magnetic field topology constrained by the Io auroral emissions

96 **Higgins**, Chuck Long Term Analysis of Jupiter's DAM Sources

110 **Jackman**, Caitriona M Statistical properties of the magnetic field in the kronian magnetotail lobes and current sheet.

83 **Jones**, Geraint H. Surface charging of Saturn's moon Rhea

85 **Jones**, Geraint H. Electron signatures at Hyperion

92 **Kagitani**, Masato Variability of Io plasma torus in response to solar wind

109 **Kanani**, Sheila J A Survey of Atypical Injection Events in Saturn's Inner Magnetosphere

98 **Katoh**, Yuto Whistler-Mode Chorus Enhancements and Anisotropic Electrons in the Jovian Inner Magnetosphere

86 **Kimura**, Tomoki Non-MHD Aspects of Ganymede's Magnetosphere: Investigation of Wave-Particle Interaction Based on Multi-Instrumental Observations by Galileo

124 **Lamy**, Laurent Variability of SKR modulations and validity of the strobe-like picture

126 **Lamy**, Laurent Simultaneous multi-wavelength observations of Saturn's aurorae : energy budget and magnetospheric dynamics

90 **Matsuda**, Kazuya The Role of the Electron Convection Term for the Parallel Electric Field and Electron Acceleration in the Io-Jupiter System

133 **Melin**, Henrik Seasonal variability in the ionosphere of Uranus

99 **Misawa**, Hiroaki Solar Wind Response of Jupiter's Magnetosphere Viewed From Radio Spectrum Analyses

129 **Moore**, Luke Cassini End of Mission Model Predictions

128 **Nichols**, Jonathan Magnetosphere-ionosphere Coupling in Jupiter's Middle Magnetosphere: Computations Including a Self-Consistent Current Sheet Magnetic Field Model

78 **Paty**, Carol Initial Results: Coupling Eruptive Dynamics Models to Multi-fluid Plasma Dynamic Simulations at Enceladus

118 **Provan**, Gabby Dual periodicities in 'planetary period' magnetic field oscillations in Saturn's tail

122 **Pryor**, Wayne R. Cassini UVIS Observations of Varying Auroral Emissions on Saturn's Night Side

120 **Radioti**, Aikaterini Auroral signatures of injections in the magnetosphere of Saturn

89 **Retherford**, Kurt D Io's Extended Atmosphere Observed with New Horizons Alice

107 **Roussos,** Elias Modeling of Energetic Proton Profiles at Saturn

87 **Schneider**, Nick Initial Modeling of a New High-Speed Atmospheric Ejection Process at Io

136 **Sittler**, Edward Charles Plasma IMS Composition Measurements for Europa, Ganymede, and the Jovian System

121 **Sonnabend,** Guido Studies of the Infrared Aurora by Very High-Resolution Spectroscopy of Stratospheric Trace Species

123 **Stallard**, Tom Comparing the region of Solar Wind influence in Jupiter's auroral region with current magnetospheric models.

104 **Steffl**, Andrew J. Energetic Electrons in the Jovian Magnetosphere Detected by the Alice UV Spectrograph Aboard New Horizons

114 **Szego**, Karoly Investigation of the low latitude outer magnetosphere of Saturn using ion data measured by the Cassini Plasma Spectrometer

130 **Tao**, Chihiro North-South asymmetry of Saturn magnetosphere-ionosphere coupling system

79 **Taubenschuss**, Ulrich Observational evidence for a conversion of upper hybrid resonances into electromagnetic modes at the Enceladus plasma torus

91 **Trafton**, Laurence M. Discovery of an Unidentified Emission Band in Io's Eclpse Spectrum

106 **Tseng**, Wendy The Hydrogen Atoms in the Saturnian Magnetosphere

97 **Tsuchiya**, Fuminori Short-term Changes in Jupiter's Synchrotron Radiation Caused by Enhanced Radial Diffusion Driven by Solar UV/EUV Heating

138 **Tsuchiya**, Fuminori Plan for Observing Magnetospheres of Outer Planets by Using the EUV Spectrograph Onboard the SPRINT-A/EXCEED Mission

102 **Uno**, Takeru Investigation of Jovian Thermospheric Temperature by the Observation of H_2 and H_3^+ Auroral Emission

105 **Vasyliunas**, Vytenis M Global Stress Balance of the Jovian Magnetotail

119 **Vogt**, Marissa F. Simulating the effect of rapid rotation on the local time dependence of Jupiter's plasma sheet thickness

108 **Wilson**, Rob J Saturn's Magnetosphere: Cassini CAPS Observations

93 **Yoneda**, Mizuki Io's volcanic effect on Jupiter's megnetospheric activity

81 **Zastrow**, Mark Upper limits on Enceladus' airglow emission

WEDNESDAY

SESSION 4 – Saturn's Rotation/Periodicity

8.30am 36 *Lamy, Laurent* *Saturn's rotation*
8.55am 37 *Provan, Gabby* *The chiming of Saturn's magnetosphere at planetary periods.*
9.20am 38 Tseng, Wendy Time Variability of the Saturn's Ring Atmosphere and Ionosphere
9.34am 39 Andrews, David J Saturn's magnetic equinox: results from a survey of the amplitude and phase of dual-period magnetic field oscillations using Cassini data.
9.48am 40 Ramer, Katherine M Plasma and Magnetic Periodicities in Saturn's Equatorial Ring Current
10.02am 41 Carbary, James Periodicities in Saturn's ENA and their Correlation with SKR

10.16-10.45am - Break

10.45am 42 Rymer, Abigail Saturn's Magnetospheric Period.
10.59am 43 Mitchell, Donald Saturn's 10.8 Hour Periodicity - Relationship Between Cold, Sub-corotating Plasma and Hot Ring Current Particles
11.13am 44 Southwood, David Post-Equinox Saturn Magnetic Rotation
11.27pm 45 Jia, Xianzhe An Atmospheric Vortex as the Driver of Saturn's Electromagnetic Periodicities: 1. Global Simulation
11.41pm 46 Kivelson, M. G. An Atmospheric Vortex as the Driver of Saturn's Electromagnetic Periodicities: 2. Magnetospheric and Ionospheric Responses
11.55pm 47 Khurana, Krishan K A Magnetospheric Vortex as the Source of Periodicities in Saturn's Magnetosphere
12.09pm 48 Vasyliunas, Vytenis M Periodicities in Saturn's Magnetosphere: An Example of Murphy's Law?

12.23-2.00pm – Lunch

2.00pm FREE TIME / EXCURSIONS

THURSDAY

SESSION 5 – Aurora

8.30am 49 *Gerard, Jean-Claude M. C.* *Aurora : Global Features*

8.55am 50 *Clarke, John T The Response to the Solar Wind of the Jovian and Saturnian Auroras*
9.20am **51** ***Hess, Sebastien*** ***Aurora - Micro Processes***
9.34am 52 Zarka, Philippe Saturation of Cyclotron Maser Instability in Jupiter's Radiosources ?
9.48am 53 Kopf, Andy A statistical study of kilometric radiation fine structure striations observed at Jupiter and Saturn
10.02pm 54 Bonfond, Bertrand Inside the Jupiter Main Auroral Emissions: Flares, Spots, Arc...and Satellite Footprints?

10.16-10.45am - Break

10.45am 55 *Badman, Sarah Cassini VIMS Observations of Saturn's Infrared Aurora*
11.10am 56 Dyudina, Ulyana Saturn's North and South aurora observed by Cassini camera in visible wavelengths
11.24am 57 Melin, Henrik Simultaneous infrared and ultraviolet observations of Saturn's aurora using Cassini VIMS and UVIS
11.38am 58 Grodent, Denis Grapes from Saturn : focus on Saturn's main ring of emission with Cassini-UVIS
11.52am 59 Krupp, Norbert Open-Closed Field Line Boundary Characterization of Saturn's Magnetosphere Using Cassini MIMI-LEMMS Data And Auroral Observations From HST And Cassini-UVIS

12.06-1.45pm – Lunch

1.45pm 60 *Ozak, Nataly Auroral X-ray Emission at the Outer Planets*
2.10pm 61 Vogt, Marissa F. Mapping Jupiter's auroral features to magnetospheric sources: Comparing results from three different models for Jupiter's ionospheric magnetic field
2.24pm 62 Higgins, Chuck Jupiter's Radio Rotation Period: A 50-year Average
2.38pm *Discussion*

3.00pm - Break

SESSION 6 – POSTERS / ROTATION WORKSHOP

FRIDAY

SESSION 7 – Workshops on Modeling
8.30-10.00am

10.00-10.30am - Break

SESSION 8 – Structure/Dynamics/Atmospheric Coupling

10.30am 63 Steffl, Andrew J. The Io Plasma Torus During the Cassini Flyby of Jupiter
10.44am 64 Dessler, Alex Dawn-Dusk Oscillation of Jupiter's Io Torus and the Vasyliunas E-V Theorem
10.58am 65 Achilleos, Nicholas The role of the atmosphere in ionosphere-magnetosphere coupling
11.12am 66 ***Galand, Marina*** ***Neutral Atmosphere - Ionosphere - Magnetosphere Coupling***
11.37am 67 Chané, Emmanuel The MI-coupling in global simulations of the Jovian and Kronian magnetospheres
11.51am 68 Yates, Japheth Nesta Influence of Upstream Solar Wind on Thermospheric Flows at Jupiter
12.05pm 69 Ray, Licia C Current - Voltage Relationships in the Saturnian System

12.19-1.15pm – Lunch

1.15pm 70 Desroche, Mariel The Interaction Between the Solar Wind and Jupiter's Magnetosphere
1.29pm 71 Ye, Shengyi Jovian anomalous continuum radiation
1.43pm 72 Lai, Hairong No Evidence for Erosion of the Saturn Magnetopause by Northward IMF
1.57pm 73 Liu, Xin The growth of plasma convection in Saturn's inner magnetosphere
2.11pm 74 DeJong, Anna Field-Aligned Currents Associated with Interchange Injection at Saturn
2.25pm 75 *Hansen, Kenneth* *Modeling of Large-scale systems: The Magnetospheres of Jupiter and Saturn*
2.50pm *Discussion*

3.00-3.30pm Break

3.30pm *Discussion of future missions*

End of MOP 2011!