last update: Feb. 18, 2003

Symposium on Planetary Science 2013

PROGRAM

Date: February 20-22, 2013

Location: Multimedia Education and Research Complex M601, Tohoku University
(Poster: Lobby of the 6th floor of the Multimedia Education and Research Complex bldg.)

Cosponsor: Planetary Plasma & Atmospheric Research Center (PPARC), Graduate School of Science, Tohoku University
Tohoku University Global COE Program "Global Education and Research Center for Earth and Planetary Dynamics"
Solar Terrestrial Environment Laboratory, Nagoya University

Information on oral presentation:
30min: 25min talk + 5min discussion / 20min: 15min talk + 5min discussion

Wednesday, Feb. 20

13:00－13:10 **Welcome:**
T. Obara (Tohoku Univ.)

Chair: T. Obara (Tohoku Univ.)

13:10－13:40 **Future Plan of Remote Sensing Planetary Atmospheric Survey (Invited)**
M. Nakamura and T. Imamura (ISAS/JAXA)

13:40－14:20 **(JUICE) (Invited)**
M. Fujimoto (ISAS/JAXA)

14:20－14:50 **Development of the Telescope Dedicated to the Observations of Planets and Exoplanets at Haleakala, Hawaii (Invited)**
Y. Kasaba, T. Sakanoi, M. Kagitani, H. Nakagawa, T. Obara (Tohoku Univ.),
I. Scholl, J. Kuhn (Univ. Hawaii) and S. Okano (Tohoku Univ./Univ. Hawaii)

14:50－15:05 **Break**

15:05－15:35 **ENA Imaging near Planetary Bodies: Interaction between Plasma, Exosphere and Surface (Invited)**
Y. Futaana (Swedish Institute of Space Physics)

15:35－16:05 **EXCEED is Ready! (Invited)**
I. Yoshikawa (Univ. Tokyo) and the EXCEED team

16:05－16:25 **The Performance of the EUV Spectroscope (EXCEED) onboard the SPRINT-A Mission**
K. Yoshioka, G. Murakami, A. Yamazaki, T. Kimura (ISAS/JAXA),
K. Uemizu (Nat'l Astron. Obs., Japan), K. Uji (Univ. Tokyo), F. Tsuchiya,
M. Kagitani (Tohoku Univ.) and I. Yoshikawa (Univ. Tokyo)

16:25－16:45 **Development of the Extreme Ultraviolet Spectrometer: EXCEED**
Go Murakami, K. Yoshioka (ISAS/JAXA), I. Yoshikawa (Univ. Tokyo), A. Yamazaki (ISAS/JAXA), F. Tsuchiya (Tohoku Univ.), K. Uji (Univ. Tokyo), K. Uemizu (Nat'l Astron. Obs., Japan), T. Kimura (ISAS/JAXA) and M. Kagitani (Tohoku Univ.)

16:45－17:00 **Break**

17:00－17:20 **Systematic Search for Solar Wind Charge Exchange X-ray Emission from the Earth's Exosphere with Suzaku**
K. Ishikawa, Y. Ezoe, T. Ohashi(Tokyo Metropol. Univ.), Y. Miyoshi (Nagoya Univ.), and N. Terada (Tohoku Univ.)

17:20－17:40 **Simulation on Soft-Xray Emission from Geospace**
Y. Miyoshi (Nagoya Univ.), Y. Matsumoto, Y. Ezoe, K. Ishikawa, I. Mitsuishi (Tokyo Metropol. Univ.) and geo-planetary X-ray observation team

17:40－18:00 **Water (H2O, OH) Formation and Reserve Model of the Planetary Bodies: New Approach**
Y. Miura (Yamaguchi Univ./AIC Univ.), N. Udagawa (Yamaguchi Pref. Univ.) and T. Tanosaki (Nat'l Inst.)

18:00－18:20 **Detection of Jovian Decameteric Radiation by using a Short Baseline Interferometer System**
T. Nakajo, T. Aoyama (Fukui Univ. Tech.) and H. Oya (Tohoku Univ.)

Thursday, Feb. 21

Chair : T. Imamura (ISAS/JAXA) and H. Nakagawa (Tohoku Univ.)

9:00－9:20 **Concept of the Atmospheric Escape Mission to Mars (NOZOMI-reborn): Role of Atmospheric Escape in Evolution of Martian Environment**
K. Seki (Nagoya Univ.), A. Matsuoka (ISAS/JAXA), N. Terada (Tohoku Univ.), T. Abe, A. Yamazaki (ISAS/JAXA), and Martian Atmospheric Escape Mission Working Group

9:20－9:40 **A Simulation Study of Solar EUV Control of Atmospheric Escape from Mars with a DSMC Model**
K. Terada, N. Terada and Y. Kasaba (Tohoku Univ.)

9:40－10:00 **Characteristics of the Martian Magnetic Flux Ropes Observed by Mars Global Surveyor Orbiter**
T. Hara, K. Seki (Nagoya Univ.), H. Hasegawa (ISAS/JAXA), D. A. Brain (Univ. Colorado) and M. H. Saito (Nagoya Univ.)

10:00－10:20 **Asymmetric Penetration of Solar Wind Perturbations Down to 400-km Altitudes at Mars Observed by Mars Global Surveyor**
K. Matsunaga, K. Seki, T.Hara (Nagoya Univ.) and D. A. Brain (Univ. Colorado)

10:20－10:40 **CH4 and HDO/H2O Distributions on Mars Observed by SUBARU/IRCS**
S. Aoki, H. Nakagawa, Y. Kasaba (Tohoku Univ.), H. Sagawa (NiCT), and M. Giuranna (IAPS-INAF, Italy)

10:40－10:55 **Break**

10:55－11:15 **Numerical Modeling of Cloud-level Convection on Venus**
T. Higuchi (Univ. Tokyo), T. Imamura (ISAS/JAXA), Y. Maejima (MRI, JMA), M. Takagi (Kyoto Sangyo Univ.) and N. Sugimoto (Keio Univ.)

11:15－11:35 **Study of the Venus Cloud Upper Haze**
S. Takagi (Univ. Tokyo), A. Mahieux , S. Robert, V. Wilquet, R. Drummond, A.C. Vandaele (Belgian Inst. Space Aeron.) and N. Iwagami (Univ. Tokyo)

11:35－11:55 **Vertical Wavenumber Spectra of Gravity Waves in Terrestrial Planetary Atmospheres**
H. Ando (Univ. Tokyo) and T. Imamura (ISAS/JAXA)

11:55－12:15 **Observational Study on the Time Variation of Atmospheric Composition on Gas Giants Induced by Large Cometary Impact using mm/sub-mm Waveband**
T. Iino, A. Mizuno, T. Nakajima (Nagoya Univ.) and A. Hirota (NRO, NAOJ)

12:15－12:35 **Spectral Analysis of the Electron Density Fluctuation in the Solar Corona Obtained by Radio Occultation Experiments using the Akatsuki Spacecraft**
M. Miyamoto (Univ. Tokyo), T. Imamura (ISAS/JAXA), M. Tokumaru (Nagoya Univ.), H. Ando (Univ. Tokyo), H. Isobe, A. Asai (Kyoto Univ.), D. Shiota (RIKEN) and K. Yaji (Rikkyo Univ.)

12:35－13:30 **Lunch**

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13:30－14:30 **Poster Session: core time**
@Lobby of the 6th floor of the Multimedia Education and Research Complex bldg.
Posters can be displayed throughout the symposium.

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Chair： K. Fukazawa (Kyushu Univ.) and T. Kimura (ISAS/JAXA)

14:30－15:00 **Magnetosphere of Mercury - Science Target for BepiColombo – (Invited)**
H. Hayakawa, M. Fujimoto and M. Nishino (ISAS/JAXA)

15:00－15:20 **High-resolution Spectroscopic Observation of Sodium Atom Emitted from the Lunar Surface using a Haleakala 40-cm Telescope**
T. Suzuki, T. Sakanoi, M. Kagitani (Tohoku Univ.) and S. Okano (Univ. Hawaii)

15:20－15:50 **Saturn's Magnetosphere after the Cassini (Invited)**
M. Morooka (Tohoku Univ.)

15:50－16:10 **Investigation of Ion Density and Velocity Variations in the Inner Plasma Torus of Saturn**
M. Holmberg (Swedish Inst. Space Phys. / Tohoku Univ.), J.-E. Wahlund (Swedish Inst. Space Phys.) and M. Morooka (Tohoku Univ.)

16:10－16:25 **Break**

16:25－16:45 **Long-term Variations of Saturn's Auroral Radio Emissions by the Solar Ultraviolet Flux and Solar Wind**
T. Kimura (ISAS/JAXA), L. Lamy (Paris Obs.), C. Tao, S. V. Badman, S. Kasahara (ISAS/JAXA), B. Cecconi, P. Zarka (Paris Obs.), A. Morioka (Tohoku Univ.), Y. Miyoshi (Nagoya Univ.), Y. Kasaba, D. Maruno (Tohoku Univ.) and M. Fujimoto (ISAS/JAXA)

16:45－17:05 **Solar Wind - Magnetosphere Coupling via Magnetic Reconnection Likely Becomes Less Efficient the Further a Planetary Magnetosphere is from the Sun**
A. Masters (ISAS/JAXA)

17:05－17:25 **Key Parameter of Planetary Magnetospheric Configuration**
K. Fukazawa (Kyushu Univ./CREST, JST), T. Ogino (Nagoya Univ.) and R. J. Walker (UCLA, NSF)

17:25－17:45 **Investigation of the Solar UV/EUV Heating Effect on the Jovian Radiation Belt based on Radio/Infrared Observation**
H. Kita, H. Misawa, F. Tsuchiya, T. Uno (Tohoku Univ.), C Tao (Ecole de Polytech., France), T. Sakanoi, Y. Kasaba and A. Morioka (Tohoku Univ.)

17:45－18:05 **Mid-infrared Observation of Io's Volcanism**
M. Yoneda (Tohoku Univ.) and T. Miyata (Univ. Tokyo)

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18:30－20:00 **Banquet**
@Bee Arena Café: 2min walk from the Multimedia Education and Research Complex bldg.

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Friday, Feb. 22

Chair : M. N. Nishino (ISAS/JAXA) and F. Tsuchiya (Tohoku Univ.)

9:00－9:20 **Radiative Heat Balances in Jupiter's Stratosphere: Development of a Radiation Code for the Implementation to a GCM**
T. Kuroda (Tohoku Univ.), A.S. Medvedev and P. Hartogh (Max Planck Inst.)

9:20－9:40 **Vertical and Horizontal Structures of Jovian Infrared H2 and H3+ Aurora**
T. Uno, Y. Kasaba and T. Sakanoi (Tohoku Univ.)

9:40－10:00 **Statistical Study on Jovian Magnetospheric Response to Solar Wind Dynamic Pressure**
H. Kitagawa (Univ. Tokyo, ISAS/JAXA), S. Kasahara (ISAS/JAXA), C. Tao (Ecole de Polytech., France), T. Kimura and M. Fujimoto (ISAS/JAXA)

10:00－10:20 **Study of Occurrence Processes of the Jovian Substorm-like Events: Examination of an Internal Drive Hypothesis**
T. Mizuguchi, H. Misawa, F. Tsuchiya, T. Obara (Tohoku Univ.) and S. Kasahara (ISAS/JAXA)

10:20－10:40 **Jovian Io-C Modulation Lanes Observed by LWA1**
K. Imai (Kochi Nati'l Coll. Tech.), T. Clarke (Naval Res. Lab., USA), K. Fukushima, A. Ujihara (Kochi Nati'l Coll. Tech.) and M. Imai (Kyoto Univ.)

10:40－10:55 **Break**

10:55－11:15 **Type-II Entry of Solar Wind Protons into the Lunar Wake as a General Phenomenon**
M. N. Nishino, M. Fujimoto, Y. Saito (ISAS/JAXA), M. Kawamura(ISAS/JAXA,

Univ. Tokyo), H. Tsunakawa (Tokyo Inst. Tech.), Y. Kasahara (Kanazawa Univ.), M. Matsushima, F. Takahashi (Univ. Tokyo), H. Shibuya (Kumamoto Univ.), H. Shimizu (Univ. Tokyo), Y. Goto (Kanazawa Univ.), K. Hashimoto, Y. Omura (Kyoto Univ.), A. Kumamoto, T. Ono (Tohoku Univ.) and S. Yokota (ISAS/JAXA)

11:15－11:35 **Determination of the Permittivity of the Lunar Surface based on the Radar Echo Intensity Observed by the Kaguya**
A. Kumamoto, K. Ishiyama (Tohoku Univ.), T. Kobayashi (KIGAM, Korea) and T.Ono (Tohoku Univ.)

11:35－11:55 **Relocation of Iitate 60-cm Telescope to Haleakala Observatories**
M. Kagitani, T. Sakanoi, T. Obara (Tohoku Univ.), S. Okano (Univ. Hawaii), Y. Kasaba and H. Nakagawa (Tohoku Univ.)

11:55－12:00 **Final Words**
T. Obara (Tohoku Univ.)

Posters

Information on poster presentation:

Session core time: 13:30-14:30 on Thursday, Feb. 21
Location : Lobby of the 6th floor of the Multimedia Education and Research Complex bldg.
Board size: 90cm (width) x 210cm(height)
#Posters can be displayed throughout the symposium.

1. Observation of Planets by a Circumpolar Stratospheric Telescope
M. Taguchi, M. Yamamoto (Rikkyo Univ.), K. Yoshida, Y. Sakamoto, T. Nakano (Tohoku Univ.), Y. Shoji (ISAS/JAXA), Y. Takahashi, M. Watanabe, K. Hamamoto, J. Nakamoto and M. Imai (Hokkaido Univ.)

2. External Cavity for QCL Installed in IR Heterodyne Spectroscopy
H. Nakagawa, S. Aoki, Y. Kasaba, I. Murata (Tohoku Univ.) and S. Okano (Univ. Hawaii**)**

3. The Development of an InSb Array Driving Electronics for the Infrared Imager and the Echelle Spectrometer
E.Noguchi, T.Uno, T.Sakanoi, T.Ichikawa and K.Kotani (Tohoku Univ.)

4. Current Status of Movement of the Iitate 60-cm Telescope to Haleakala, Hawaii
T. Sakanoi, M. Kagitani, T. Obara (Tohoku Univ.), S. Okano (Univ. Hawaii), Y. Kasaba and H. Nakagawa (Tohoku Univ.)

5. EXCEED onboard Data Processing and Pointing Control
F. Tsuchiya (Tohoku Univ.), A. Yamazaki (ISAS/JAXA), T. Sakanoi (Tohoku Univ.), K. Uemizu (NAOJ), K. Yoshioka, G. Murakami(ISAS/JAXA), Y. Kasaba, M. Kagitani (Tohoku Univ.), I. Yoshikawa (Univ. Tokyo) and EXCEED mission team

6. Instrumentation of the Mars Ionspheric Imaging
A. Yamazaki (ISAS/JAXA), H. Nakagawa, T. Sakanoi (Tohoku Univ.) and M. Taguchi (Rikkyo Univ.)

7. Wave-Particle Interaction Analyzer: Direct Measurements of Wave-Particle Interactions in the Jovian Inner Magnetosphere
Y. Katoh (Tohoku Univ.) and H. Kojima (Kyoto Univ.)

8. Radio Scintillation Observations of the Solar Wind Velocity near the Sun under Strong Scattering Conditions
T. Imamura (ISAS/JAXA), M. Miyamoto, H. Ando (Univ. Tokyo), N. Mochizuki (ISAS/JAXA), H. Isobe, A. Asai (Kyoto Univ.), D. Shiota (RIKEN), K. Yaji (Rikkyo Univ.), Y. Futaana (Swedish Inst. Space Phys.) and A. Nabatov (Ukrainian Acad. Sci.)

9. Hydrodynamic Escape from Early Terrestrial Atmospheres and Effects of Solar Flares
N. Furuhashi, K.Terada (Tohoku Univ.), T. Sasaki (Tokou Univ.), K. Seki (Nagoya Univ.), H. Fujiwara (Seikei Univ.), N.Terada and Y.Kasaba (Tohoku Univ.)

10. Modeling Studies of Comparative Aeronomy for the Terrestrial Planets
H. Fujiwara (Seikei Univ.), N. Hoshino (Software Cradle CO., Ltd.), Y. Ichikawa, N. Terada and Y. Kasaba (Tohoku Univ.)

11. Temporal variability of sodium density in Mercury's atmosphere
H. Dairoku, S. Kameda, A. Fusegawa (Rikkyo Univ.), *M. Kagitani (Tohoku Univ.) and S. Okano (Univ. Hawaii)

12. Gravity Waves Propagating and Dissipating in the Martian Thermosphere
N. Terada (Tohoku Univ.)

13. Latitudinal Cloud Structure in the Venusian Northern Hemisphere Evaluated from Venus Express/VIRTIS Observations with GCM Simulations

M. Kuroda, T. Kuroda, *Y. Kasaba (Tohoku Univ.), P. Drossart (Obs. Paris), G. Piccioni (INAF-IAPS), K. Ikeda (JAMSTEC), and M. Takahashi (Univ. Tokyo)

14. Development of a Sulfuric Acid Cloud Transfer/Condensation/Evaporation Scheme in a Venusian GCM

A.Nitta, T.Kuroda, M.Kuroda, Y.Kasaba (Tohoku Univ.) and M.Takahashi (Univ. Tokyo)

15. Test-particle Simulation of Electron Pitch Angle Scattering due to H2O Originated from Enceladus

H. Tadokoro (Tokyo Univ. Tech.) and Y. Katoh (Tohoku Univ.)

16. Study of the Electron Density Structure in the Enceladus Torus

E.Odanaka, M.Morooka and T.Obara (Tohoku Univ.)

17. Short-term Intense Burst of Saturn Kilometric Radiation: Relationship to the Rotation Phase and North-South Difference

D. Maruno, Y. Kasaba (Tohoku Univ.), T.Kimura (ISAS/JAXA), A. Morioka (Tohoku Univ.) and B. Cecconi (Obs. Paris)

18. Occurrence Characteristics of the Jovian Auroral Emission in the Low-Latitude region

K. Yamamoto, *H. Misawa, F. Tsuchiya and T. Obara (Tohoku Univ.)

19. Short-term Variation Phenomena in Jupiter's Radiation Belt: Their Relation with the Magnetospheric Events

H. Misawa and T. Mizuguchi (Tohoku Univ.)

20. Statistical Analysis of the Repetition Frequency of S-bursts of Jovian Decametric Radiation

S. Kakimoto, *A. Kumamoto, T. Ono, Y. Katoh and H. Misawa (Tohoku Univ.)

21. Estimation of the Bulk Permittivity and Porosity of the Lunar Uppermost Basalt Layer Based on the SELENE Radar and Camera Observations

K. Ishiyama, A. Kumamoto, T. Ono (Tohoku Univ.), Y. Yamaguchi (Nagoya Univ.), J. Haruyama, M. Ohtake (ISAS/JAXA), Y. Katoh, N. Terada (Tohoku Univ.) and S. Oshigami (NAOJ)

22. The Effect of Magnetic Anomalies on the Detection of Moon Originating Ions

M.Kawamura (Univ. Tokyo), Y.Saito, M.N.Nishino (ISAS/JAXA), K.Uemura (Univ. Tokyo), S.Yokota (ISAS/JAXA) and H.Tsunakawa (Tokyo Inst. Tech.)

23. Millimter-wave Band Observations of Middle Atmosphere of Solar Planets with SPART Telescope

H.Maezawa (Osaka Pref. Univ.), N.Moribe (Nagoya Univ.), A.Nishimura , Y.Ikeda, S.Osaki, K.Horiuchi (Osaka Pref. Univ.) et al.