

International Symposium on  
Equatorial Processes Including Coupling (EPIC)

March 18-22, 2002  
Kyoto University, Uji, Kyoto, Japan

## Program

### Outline of the Program

- |                |    |  |
|----------------|----|--|
| March 18 (Mon) | AM | Opening Session                                      |
|                |    | Stratosphere and Troposphere (1): ST-1 — ST-4        |
|                | PM | Stratosphere and Troposphere (2): ST-5 — ST-10       |
|                |    | Stratosphere and Troposphere (3): ST-11 — ST-14      |
| March 19 (Tue) | AM | Stratosphere and Troposphere (4): ST-15 — ST-21      |
|                | PM | Stratosphere and Troposphere (5): ST-22 — ST-27      |
|                |    | Stratosphere and Troposphere (6): ST-28 — ST-31      |
| March 20 (Wed) | AM | Mesosphere and Lower Thermosphere (1): ML-1 — ML-6   |
|                | PM | Mesosphere and Lower Thermosphere (2): ML-7 — ML-10  |
|                |    | Poster presentation: All posters                     |
|                |    | 7—9PM Party at New Miyako Hotel (5000JPY/person)     |
| March 21 (Thu) | AM | Mesosphere and Lower Thermosphere (3): ML-11 — ML-16 |
|                | PM | Thermosphere and Ionosphere (1): TI-1 — TI-5         |
|                |    | Thermosphere and Ionosphere (2): TI-6 — TI-10        |
| March 22 (Fri) | AM | Thermosphere and Ionosphere (3): TI-11 — TI-17       |
|                | PM | Thermosphere and Ionosphere (4): TI-18 — TI-23       |
|                |    | Closing Session                                      |

March 18 (Monday)

**8:30—9:30 Registration**

**Opening Session**

March 18, 2002 (Monday) 9:30—10:20

- 9:30—9:40     **Opening Address**  
EPIC Co-chairman  
Prof. S. Fukao (Kyoto University)
- 9:40—9:50     **Congratulatory Address**  
Ministry of Education, Culture, Sports, Science and Technology (MEXT)  
Science and Technology Policy Bureau  
Deputy Director-General  
Mr. K. Seyama
- 9:50—10:00   **Congratulatory Address**  
SCOSTEP Vice President  
Prof. R. A. Vincent (University of Adelaide)
- 10:00—10:10   **Congratulatory Address**  
Director of Meteorological Society of Japan  
Prof. I. Hirota (Professor Emeritus of Kyoto University)
- 10:10—10:20   **Congratulatory Address**  
Deputy Minister for Research, Science and Technology Program  
of the Republic of Indonesia  
Ms. Ir. SriWoro B Harijono

— COFFEE BREAK —

**Session: Stratosphere-Troposphere (1)**

March 18, 2002 (Monday) 10:45—12:25

Chair: Prof. K. Hamilton

- 10:45—11:15   ST-1     (invited)  
“**Convective Excitation of Low Latitude Vertically-Propagating Waves**”  
Lucrezia Ricciardulli, Remote Sensing Systems
- 11:15—11:45   ST-2     (invited)  
“**Low Latitude Gravity Waves in High Resolution GCMs: Source Variability and Wave Saturation**”  
Kevin Hamilton, University of Hawaii
- 11:45—12:05   ST-3  
“**Impact of Convectively Generated Gravity Wave Drag Parameterization in the NCAR CCM3**”  
Hye-Yeong Chun(1), In-Sun Song(1), and Jong-Jin Baik(2), (1) Yonsei University (2) Seoul National University

12:05—12:25 ST-4

**“The main entrance of the air to the tropical stratosphere”**

Hiroaki Hatsushika and Koji Yamazaki, Hokkaido University

— LUNCH BREAK —

**Session: Stratosphere-Troposphere (2)**

March 18, 2002 (Monday) 14:00—16:20

Chair: Dr. K. Sato

14:00—14:30 ST-5 (invited)

**“Convection across Northern Australia: DAWEX”**

Peter T. May, Bureau of Meteorology Research Centre

14:30—15:00 ST-6 (invited)

**“Boundary Layer Radar Measurements During DAWEX”**

Andrew MacKinnon, University of Adelaide

15:00—15:20 ST-7

**“MU radar three-dimensional studies of convection”**

R. M. Worthington, M. Yamamoto, and S. Fukao, Kyoto University

15:20—15:40 ST-8

**“Mesoscale simulation of convectively generated gravity waves”**

Takeshi Horinouchi and Jun-ichi Kosaka, Kyoto University

15:40—16:00 ST-9

**“A Numerical Study of Internal Gravity Waves in the Stratosphere Induced by Mesoscale Convective Storms”**

In-Sun Song and Hye-Yeong Chun, Yonsei University

16:00—16:20 ST-10

**“Relationship between Wind and Precipitation observed with a UHF radar, GPS rawinsondes and surface meteorological instruments at Kototabang, West Sumatera during September-October 1998”**

Fumie Murata(1), Manabu D. Yamanaka (1)(2), Shin-Ya Ogino (1), Masatomo Fujiwara(3), Hiroyuki Hashiguchi (3), Shoichiro Fukao(3), Eddy Kelana(4), Mahally Kudsy(5), Tien Sribimawati(5) and Sri Woro B. Harijono(5), (1) Kobe University, (2) Frontier Observation Research System for Global Change, (3) Kyoto University, (4) Indonesian Meteorological and Geophysical Agency, (5) Agency for the Assessment and Application of Technology

— COFFEE BREAK —

**Session: Stratosphere-Troposphere (3)**

March 18, 2002 (Monday) 16:50—18:30

Chair: Dr. T. Horinouchi

16:50—17:20 ST-11 (invited)

**“A Preliminary Report of Radiosonde Campaigns during DAWEX”**

Toshitaka Tsuda(1), Peter T. May(2), Robert A. Vincent (3), Andrew MacKinnon(3), Michael Reeder(4), M. Joan Alexander(5), (1) Kyoto University, (2) Bureau of Meteorology Research

Center (BMRC), (3) Adelaide University, (4) Monash University, (5) Colorado Research Associates (CORA)

17:20—17:50 ST-12 (invited)

**“Wave Generation by Hector-like storms and implications for airglow”**

Richard L. Walterscheid, The Aerospace Corporation

WITHDRAWN

17:50—18:10 ST-13

**“Some sources of gravity waves as seen from MST radar observations”**

Nastrom, G.D(1), F. D. Eaton(2), and A. R. Hansen(1), (1) St. Cloud State University, (2) Air Force Research Laboratory

18:10—18:30 ST-14

**“An episodic study of meso-scale processes in the stratosphere over the equator employing CRISTA measurements and a regional chemistry transport model”**

A. Ebel(1), D. Offermann(2), H. Feldmann(1), P. Preusse(2), and B. Schaeler(2), (1) University of Cologne, (2) University of Wuppertal

March 19 (Tuesday)

**Session: Stratosphere-Troposphere (4)**

March 19, 2002 (Tuesday) 9:15—12:30

Chair: Dr. L Gray

9:15— 9:45 ST-15 (invited)

**“The Meridional Scan of the Stratosphere Over the Ocean in 2001 (MeSSO2001)”**

K. Sato(1), M. Yamamori(2), S. Ogino(3), N. Takahashi(4), and Y. Tomikawa(2), (1) National Institute of Polar Research, (2) University of Tokyo, (3) Kobe University, (4) Kyoto University

9:45—10:15 ST-16 (invited)

**“Equatorial Waves in the Middle Atmosphere - New Results from Unique Campaigns in the Indian Zone”**

M. N. Sasi, Vikram Sarabhai Space Centre

10:15—10:35 ST-17

**“Observable signatures of convectively generated wave field over Tropics using Indian MST radar at Gadanki (13.50N, 79.20E)”**

S. K. Dhaka(1), R. K. Choudhary(2), S. Malik(3), Y. Shibagaki(4), M. D. Yamanaka(5) and S. Fukao(6), (1) University of Tokyo, (2) National Physical Laboratory, (3) University of Delhi, (4) Osaka Electro-Communication University, (5) Kobe University, (6) Kyoto University

— COFFEE BREAK —

11:00—11:30 ST-18 (invited)

**“Wave driving of the QBO: What do we know and what is missing?”**

Timothy J. Dunkerton, Northwest Research Associates

11:30—11:50 ST-19

**“The effect of volcanic aerosols to the stratospheric quasi-biennial oscillation”**

Masaharu Ninagawa(1), Masaaki Takahashi(1), Masayuki Takigawa(2), Fumio Hasebe(3),

(1) University of Tokyo, (2)Frontier Research System for Global Change, (3) Ibaraki University

11:50—12:10 ST-20

**“Forcing of the Quasi Biennial Oscillation from a Broad Spectrum of Atmospheric Waves”**

M. A. Giorgetta, E. Manzini, and E. Roeckner, Max Planck Institute for Meteorology

12:10—12:30 ST-21

**“A Study of Energetics in the Equatorial Lower Stratosphere, Quasi-Biennial Oscillation (QBO) and Large-Scale Tropical Circulations”**

R. Suseela Reddy, Jackson State University

— LUNCH BREAK —

**Session: Stratosphere-Troposphere (5)**

March 19, 2002 (Tuesday) 14:00—16:20

Chair: Prof. H.-Y. Chun

14:00—14:30 ST-22 (invited)

**“The Sea Breeze and Diurnal Wind Variations in The Tropics as Seen from Boundary Layer Radar Observations”**

Tri W. Hadi, Institut Teknologi Bandung

14:30—15:00 ST-23 (invited)

**“Equatorial Atmosphere Radar: System and First Results”**

Shoichiro Fukao, Hiroyuki Hashiguchi, and Mamoru Yamamoto, Kyoto University

15:00—15:20 ST-24

**“Role of equatorial Kelvin waves in stratosphere-troposphere exchange”**

M. Fujiwara(1), F. Hasebe(2), M. Shiotani(1), M. Takahashi(3), N. Nishi(1), H. Vomel(4), and S.J. Oltmans(5), (1) Kyoto University, (2) Ibaraki University, (3) University of Tokyo, (4) University of Colorado, (5) NOAA/CMDL

15:20—15:40 ST-25

**“Simulation of Meridional and Zonal Wind over Indonesia with High Resolution Climate Model”**

Mezak A. Ratag, National Institute of Aeronautics and Space (LAPAN)

15:40—16:00 ST-26

**“Frequency domain interferometry observations using the Equatorial Atmosphere Radar: First results”**

H. Luce, H. Hashiguchi, M. Yamamoto, and S. Fukao, Kyoto University

16:00—16:20 ST-27

**“Observation System for Equatorial Convective Activities at Koto Tabang, Sumatra”**

Toshiaki Kozu(1), Toyoshi Shimomai(1), Yasushi Fujiyoshi(2), Yoshiaki Shibagaki(3), Hiroyuki Hashiguchi(4), Jun'ichi Furumoto(4), and Toshitaka Tsuda(4), (1)Shimane University (2) Hokkaido University, (3) Osaka Electro-Communication University, (4) Kyoto University

— COFFEE BREAK —

**Session: Stratosphere-Troposphere (6)**

March 19, 2002 (Tuesday) 16:50—18:30

Chair: Prof. G. Nastrom

16:50—17:20 ST-28 (invited)

**“Effects in Gravity Wave Studies of Time and Space Variations in Sources like Tropical Convection”**

Joan Alexander, Colorado Research Associates

17:20—17:50 ST-29 (invited)

**“Superpressure balloon studies of gravity waves in the equatorial lower stratosphere”**

F. Vial, CNRS, Echole Polytechnique

17:50—18:10 ST-30

**“A numerical experiment on QBO effects on the wintertime stratospheric circulation”**

Yoko Naito, Masakazu Taguchi, and Shigeo Yoden, Kyoto University

18:10—18:30 ST-31

**“The Influence of the Semi Annual and Quasi Biennial Oscillations on the Northern Hemisphere Winter Circulation”**

Lesley J. Gray(1), S. Sparrow(2), M. Jukes(1), D. G. Andrews(2), A. O’Neill(3), (1) Rutherford Appleton Laboratory, (2) Oxford University (3)Reading University

**March 20 (Wednesday)**

**Session: Mesosphere-Lower Thermosphere (1)**

March 20, 2002 (Wednesday) 9:15—12:10

Chair: Prof. R. A. Vincent

9:15— 9:45 ML-1 (invited)

**“Evidence and Consequences of Local Body Forcing by Gravity Waves in the Middle Atmosphere”**

Dave Fritts(1), Sharon Vadas(1), and Yoshinori Yamada(2), (1) Colorado Research Associates, (2) Tohoku University

9:45—10:15 ML-2 (invited)

**“MF Radar Studies of Equatorial Mesosphere-Lower Thermosphere Dynamics”**

R. A. Vincent, Adelaide University

10:15—10:35 ML-3

**“Numerical Simulation of the Intraseasonal Oscillation in the MLT region”**

Yasunobu Miyoshi, Kyushu University

— COFFEE BREAK —

11:00—11:30 ML-4 (invited)

**“Imager Studies of Gravity Waves Observed in Airglow: First Results from DAWEX”**

Gary R. Swenson(1), J. H. Hecht(2), and M. J. Taylor(3), (1) University of Illinois, (2) Aerospace Corp., (3) Utah State University

11:30—11:50 ML-5

**“Mesospheric gravity waves over tropical convective region observed by OH airglow imaging in Indonesia”**

Takuji Nakamura(1), Tomokazu Aono(1), Toshitaka Tsuda(1), Agustinus G. Admiranto(2), Dyah R. Martinigrum(2), Effendy Achmad(2), and Suratno(3), (1) Kyoto University (2) National Institute of Aeronautics and Space

11:50—12:10 ML-6

**“Observational evidence of the gravity wave activity related to tropospheric cloud convection: Sources and directionality in the South American tropical region”**

A. F. Medeiros(1), H. Takahashi(2), M. J. Taylor(3) P. P. Batista(2), D. Gobbi(2), (1) Universidade Federal da Paraiba, (2) Instituto Nacional de Pesquisas Espaciais (INPE), (3) Utah State University”

— LUNCH BREAK —

**Session: Mesosphere-Lower Thermosphere (2)**

March 20, 2002 (Wednesday) 13:30—15:10

Chair: Dr. D. C. Fritts

13:30—14:00 ML-7 (invited)

**“Large-scale dynamics of the equatorial MLT”**

S. Gurubaran, Equatorial Geophysical Research Laboratory”

14:00—14:30 ML-8 (invited)

**“Mechanisms Responsible for the Seasonal Variation of the Diurnal Tide in the Mesosphere and Lower Thermosphere”**

Charles McLandress, University of Toronto

14:30—14:50 ML-9

**“Coupling between gravity wave activity and equatorial waves in the tropical middle atmosphere: Observational evidence”**

K. Rajeev(1), K. Parameswaran(1), M. N. Sasi(1) Geetha Ramkumar(1) and B. V. Krishna Murthy(2), (1) Vikram Sarabhai Space Centre, (2) Anna University

14:50—15:10 ML-10

**“Upper Stratospheric and Lower Mesospheric Vertical Wind Velocities Observed by the Jicamarca VHF Doppler Radar”**

Yasuyuki Maekawa(1), Mamoru Yamamoto(2), Shoichiro Fukao(2), and Ronald F. Woodman(3), (1) Osaka Electro-Communication University, (2) Kyoto University, (3) Jicamarca Radio Observatory

— COFFEE BREAK —

**15:40—17:40 Poster Presentation**

**19:00—21:00 Party at New Miyako Hotel (near Kyoto Station)**

March 21 (Thursday)

**Session: Mesosphere-Lower Thermosphere (3)**

March 21, 2002 (Thursday) 9:15—12:10

Chair: Prof. T. Tsuda

9:15—9:45 ML-11 (invited)

**“Simulation of Atmospheric Tides with the Whole Atmosphere Community Climate Model”**

R. R. Garcia and F. Sassi, National Center for Atmospheric Research

9:45—10:15 ML-12 (invited)

**“Nonmigrating Diurnal Tides in the Tropical Mesosphere and lower Thermosphere”**

Jeffrey M. Forbes(1), Maura E. Hagan(2), Saburo Miyahara(3) and Yasunobu Miyoshi(3), (1) University of Colorado (2) HAO/NCAR (3) Kyushu University

10:15—10:35 ML-13

**“Study on Oxygen atmospheric band dayglow: Global and seasonal variations deduced from High Resolution Doppler Imager observations”**

M. Venkat Ratnam, C. M. Shen, W. N. Chen and J. B. Nee, National Central University

— COFFEE BREAK —

11:00—11:30 ML-14 (invited)

**“Equatorial Atmosphere Research Satellite: EQUARS”**

H. Takahashi(1), H. Carvalho(1), T. Tsuda(2), D. D. Sentman (3), R. P. Lowe (4), M. J. Taylor(5), M. A. Abdu(1), (1) INPE, (2) Kyoto University, (3)University of Alaska at Fairbanks, (4) University of Western Ontario, (5) Utah State University

11:30—11:50 ML-15

**“Simultaneous Observations of Iron Sporadic Layers using Lidar and Sporadic E using Incoherent Scatter Radar from Arecibo”**

Shikha Raizada and Craig Tepley, Arecibo Observatory/Cornell University

11:50—12:10 ML-16

**“Observation of Vertical Structure of the Equatorial Atmosphere by Lidar”**

Chikao Nagasawa, Makoto Abo and Yasukuni Shibata, Tokyo Metropolitan University

— LUNCH BREAK —

**Session: Thermosphere-Ionosphere (1)**

March 21, 2002 (Thursday) 13:30—15:30

Chair: Prof. J. M. Forbes

13:30—14:00 TI-1 (invited)

**“Possible Ionospheric F Region Effects of Strong Tropospheric Events”**

Sandro M. Radicella(1), Petra Sauli(2), and Luigi Cirraolo(3), (1) Abdus Salam International Centre for Theoretical Physics, (2) Institute of Atmospheric Physics, (3) Istituto per la Ricerca delle Onde Elettromagnetiche

14:00—14:20 TI-2

**“Global distribution of the medium-scale traveling ionospheric disturbances detected**



**with global positioning system”**

A. Saito(1)(2), M. C. Kelly(2), T. Tsugawa(1), and Y. Otsuka(3), (1) Kyoto University, (2) Cornell University, (3) Nagoya University

14:20—14:40 TI-3

**“Vertical Group and Phase Velocities of Ionospheric Waves Derived from Incoherent Scatter Measurements with the Middle and Upper Atmosphere Radar”**

J. Y. Liu(1), C. C. Hsiao(1) S. Fukao(2), and M. Yamamoto(2), (1) National Central University, (2) Kyoto University”

14:40—15:00 TI-4

**“An additional layer in the equatorial F region”**

N. Balan(1)(5), S. Watanabe(1), I. S. Batista(4), T. Maruyama(2), and S. Fukao (3), (1) Hokkaido University, (2) CRL, (3) Kyoto University, (4) INPE, (5) University of Wales

15:00—15:30 TI-5 (invited)

**“Magnetic Storm Response of the Equatorial Ionosphere”**

Tim Fuller-Rowell, Mihail Codrescu(1), Naomi Maruyama, George Millward(2), George Millward(3) and Arthur Richmond (4), (1) Space Environment Center, (2) Hokkaido University, (3) University College London, (4) HAO/NCAR

— COFFEE BREAK —

**Session: Thermosphere-Ionosphere (2)**

March 21, 2002 (Thursday) 16:00—18:00

Chair: Dr. R. T. Tsunoda

16:00—16:30 TI-6 (invited)

**“Electrical Coupling Between High and Low Latitudes During Geomagnetic Storms and Substorms”**

Takashi Kikuchi, Kenro Nozaki, and Kumiko Hashimoto, Communications Research Laboratory

16:30—16:50 TI-7

**“Equatorial Ionosphere Dynamics During Magnetic Storms as Result of Solar Wind-Magnetosphere Ionosphere Coupling”**

L.Z. SIZOVA(1) and M.I. Pudovkin(2), (1) Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, (2) St. Petersburg State University

16:50—17:10 TI-8

**“Electric Field in the Ionosphere Induced by Magnetic Storms”**

K. Nozaki(1), T. Kikuchi(1), H. Shima(2), E.A. Orosco(3), H. Bulanon(3), and K. Kita(4), (1) Communications Research Laboratory, (2) Tokyo Gakugei University, (3) University of San Carlos, (4) Fukui National College of Technology

17:10—17:30 TI-9

**“The Plausible linkages between the Equatorial Temperature Anomaly (ETA), the Midnight Temperature Maximum (MTM) and the Counter electrojet during solar minimum”**

R Raghavarao(1), R Suhasini(1), N. Jyoti(2), and Tarun Kumar Pant(2), (1) Nitya Laboratories Ltd., (2) Space Physics Laboratory

WITHDRAWN

17:30—18:00 TI-10 (invited)

**“Equatorial Spread F Variability and related coupling processes”**

M. A. Abdu, Instituto Nacional de Pesquisas Espaciais- INPE

**March 22 (Friday)**

**Session: Thermosphere-Ionosphere (3)**

March 22, 2002 (Friday) 9:15—12:30

Chair: Dr. S. M. Radicella

9:15—9:45 TI-11 (invited)

**“Theory of the Evening Plasma Drift Vortex in the Low Latitude Ionosphere”**

Vince Eccles, Space Environment Corporation.

9:45—10:15 TI-12 (invited)

**“Studies of Equatorial F-region Structures using ROCSAT”**

H. C. Yeh, S. Y. Su, C. K. Chao, J. M. Wu, K. Y. Chen, C. C. Lee, H. H. Ho and C. H. Huang (1), and R. A. Heelis (2), (1) Institute of Space Science, National Central University, (2) The University of Texas at Dallas”

10:15—10:35 TI-13

**“Longitudinal dependence of prereversal enhancement of equatorial ionospheric vertical plasma drifts deduced from topside electron density”**

Takashi Maruyama, Communications research Laboratory

— COFFEE BREAK —

11:00—11:30 TI-14 (invited)

**“Seasonal and Longitudinal Variations of the Equatorial Electrojet”**

Roland T. Tsunoda, SRI International

11:30 – 11:50 TI-15

**“First radar observations of two-stream E-region irregularities under daytime counter equatorial electrojet conditions over Jicamarca”**

R.F. Woodman and J. L. Chau, Radio Observatorio de Jicamarca

11:50—12:10 TI-16

**“Low altitude quasi-periodic radar echoes observed by the Gadanki VHF radar”**

C. J. Pan(1), and P. B. Rao(2), (1) National Central University, Taiwan (2) National MST Radar Facility,”

12:10—12:30 TI-17

**“One-dimensional Spectrum of Plasma Irregularities Resulted from Turbulent Motions of Neutral Gas in the Equatorial Ionosphere”**

Yurij Kzyurov, Main Astronomical Observatory NASU, Ukraine

— LUNCH BREAK —

**Session: Thermosphere-Ionosphere (4)**

March 22, 2002 (Friday) 14:00—16:10

Chair: Prof. H. C. Yeh

14:00—14:20 TI-18

**“Rocket/ground-based simultaneous observation of ionospheric E-region irregularity: SEEK-2”**

Mamoru Yamamoto and Shoichiro Fukao, Kyoto University

14:20—14:40 TI-19

**“The Intermediate Layers Observed by a Digisonde in the Equatorial Anomaly Region”**

C. C. Lee, J. Y. Liu, and C. J. Pan, National Central University

14:40—15:00 TI-20

**“Low-latitude ionospheric irregularities observed with the Equatorial Atmosphere Radar in the E and F region”**

Yuichiro Ozawa, Mamoru Yamamoto, Hiroyuki Hashiguchi, Shoichiro Fukao, Kyoto University”

15:00—15:30 TI-21 (invited)

**“Study of the Ionosphere and Thermosphere Over Indonesia Using Radio and Optical Methods”**

Tadahiko Ogawa(1), Kazuo Shiokawa(1), Yuichi Otsuka(1), and Mamoru Yamamoto(2), (1) Nagoya University (2) Kyoto University

15:30—15:50 TI-22

**“Recent Results of All-sky Imaging Observations from Indian Low Latitude Region”**

G. K. Mukherjee, Indian Institute of Geomagnetism

15:50—16:10 TI-23

**“Conjugate Observations of Equatorial Plasma Bubbles with Airglow Imagers in Japan and Australia”**

Yuichi Otsuka, Kazuo Shiokawa and Tadahiko Ogawa, Nagoya University”

— COFFEE BREAK —

**16:40—17:10 Closing Session**

16:40—17:00 **“Future Program: CAWSES (Climate and Weather of the Sun-Earth System)”**

SCOSTEP Secretary General

Dr. J. H. Allen (NOAA)

17:00—17:10 **Closing Address**

EPIC Co-chairman

Prof. J. M. Forbes (University of Colorado)

==== List of Poster Presentations ====

March 20, 2002 (Wednesday) 15:40—17:40

**Session: Stratosphere-Troposphere**

ST-P1

**“Influence of Solar Activities, ENSO, and Stratospheric Aerosols on Cloud Amounts over Western Indonesia”**

Thomas Djamaluddin, National Institute of Aeronautics and Space (LAPAN)

ST-P2

**“Lidar Observations of Low-latitude Stratospheric Cooling Associated with Stratwarm Events”**

M. N. Sasi, Geetha Ramkumar, K. Parameswaran, K. Rajeev(1), B. V. Krishna Murthy (2), and Y. Bhavanikumar (3), (1) Vikram Sarabhai Space Centre, (2) Anna University, (3) National MST Radar Facility”

ST-P3

**“Characteristics of zonal and meridional wind velocity in the troposphere and lower stratosphere with the EAR”**

Eddy Hermawan and Buldan Muslim, The Indonesian National Institute of Aeronautics and Space (LAPAN)

ST-P4

**“Relationship between gravity wave amplitude and convective activity in the equatorial region revealed with radiosonde observations in Indonesia”**

Yosuke Iwama(1), T. Horinouchi(1), T. Tsuda(1), S. Saraspriya(2), T. Manik(2), (1) Kyoto University, (2) LAPAN

ST-P5

**“Seasonal and International variations of tropopause over Indonesia”**

Noriko Okamoto(1), Shin-Ya Ogino(1), Manabu D. Yamamaka(1)(2), Hiroyuki Hashiguchi(3), Noriyuki Nishi(3), and Tien Sribimawati(4), (1) Kobe University, (2) Frontier Observational Research System for Global Change, (3) Kyoto University, (4) Agency for the Assessment and Application of Technology, Indonesia

ST-P6

**“Retrieval of latent heating within convective systems from Doppler radar and its applications”**

Masayuki Kawashima and Yasushi Fujiyoshi, Hokkaido University

ST-P7

**“Quasi-2-Day Variation of Cloud Activity over the Java Sea”**

Akira Watanabe, Fukushima University

ST-P8

**“The effect of the activity of cumulus convection on the QBO cycle”**

Koichiro Tsuji, Masaaki Takahashi, and Yoshio Kawatani, The University of Tokyo

ST-P9

**“The disturbances in the Intertropical Convergence Zone”**

Akira Hirano, Masaaki Takahashi, and Yoshio Kawatani, The University of Tokyo

ST-P10

**“Multistatic Configuration of the Equatorial Atmosphere Radar with Digital Receiver Arrays”**

Toru Sato, Mamoru Yamamoto, and Masayuki Yamamoto, Kyoto University

ST-P11

**“Development of the Equatorial Atmosphere Radar”**

M. K. Yamamoto(1), T. Ishihara(1), H. Hashiguchi(1), S. Fukao(1), T. Tsuda(1), M. Yamamoto(1), T. Nakamura(1), M. Oyamatsu(1), T. Sato(1), M. Hagio(2) and Y. Yabugaki(2), (1) Kyoto University, (2) Mitsubishi Electric Corporation

ST-P12

**“Westward Generation of Eastward-Moving Tropical Convective Bands in TOGA COARE”**

Shoichi Shige(1) and Takehiko Satomura (2), (1) National Space Development Agency of Japan, (2) Kyoto University

ST-P13

**“Vertical structure of the tropical circulation in the upper troposphere”**

NISHI, Noriyuki and HAMADA, Atsushi, Kyoto University

ST-P14

**“The new RASC lidar at Shigaraki observatory for profiling temperature, humidity, and optical particle properties”**

Andreas Behrendt, Takuji Nakamura, Michitaka Onishi, and Toshitaka Tsuda, Kyoto University

ST-P15

**“Understanding of Monsoon Precipitating clouds over Gadanki, Southern India Using Atmospheric Wind Profilers and Disdrometer”**

K. Krishna Reddy(1) and Toshiaki Kozu(2), (1) Frontier Observational Research System for Global Change, (2) Shimane University

ST-P16

**“Boundary Layer Radar Measurements during 2001-intensive field experiments on the Meiyu frontal precipitation cloud systems in downstream of the Yangtze River”**

K. Krishna Reddy(1), Biao Geng(1), Hiroyuki Yamada(1) and Hiroshi Uyeda(2), (1) Frontier Observational Research System for Global Change, (FORSGC), (2) FORSGC/Nagoya University"

WITHDRAWN

ST-P17

**“Software Development for Lidar Data Analysis”**

R. K. Baishya, A. K. Barbara, and M. Devi, Gauhati University

ST-P18

**“Micro Pulse Lidar: Development and its Application to Aerosol and Cloud Monitoring”**

M. Devi, A. K. Barbara, and R.K. Baishya, Gauhati University

ST-P19

**“Tropospheric and lower Stratospheric Temperature Measurement by Rayleigh Lidar**

**over Chung-Li (250N, 1210E)”**

W. N. Chen and J. B. Nee, National Central University

ST-P20

**“The Characteristics of Zonal-Meridional Winds in Global Atmospheric Watch (GAW) Kototabang during 2001”**

Edison Kurniawan, Department of Communications, Meteorological and Geophysical Agency (BMG), Indonesia

ST-P21

**“Analysis of QBO in the equatorial troposphere from GMS time sequential data using wavelet transform”**

Shigenori Naito and Chikao Nagasawa, Tokyo Metropolitan University, Japan

ST-P22

**“Representation of the QBO by Nonlinear Principal Component Analysis”**

Kevin Hamilton(1), and William W. Hsieh(2), (1) University of Hawaii, (2) University of British Columbia

**Session: Mesosphere-Lower Thermosphere**

ML-P1

**“Long-term Trend in Thermal Structure of the Middle Atmosphere over the Equatorial Region”**

Gufran Beig and S. Fadnavis, Indian Institute of Tropical Meteorology

ML-P2

**“Detailed study on Mesospheric Temperature Inversions (MTI) and possible mechanisms over a tropical station (13.50N, 79.20E) using Lidar and Satellite data”**

M. Venkat Ratnam(1), W. N. Chen(1), J. B. Nee(1), V. Sivakumar(2), and P. B. Rao(2), (1) National Central University, (2) National MST Radar Facility

WITHDRAWN

ML-P3

**“Gravity Wave Observation Through Airglow Imaging: Initial Results From the DAWEX Campaign”**

Kazuo Shiokawa(1), Yuichi Otsuka(1), Tadahiko Ogawa(1), and P. Wilkinson(2), (1) Nagoya University, (2) IPS Radio and Space Services

ML-P4

**“Statistical Study of Short-Period Gravity Waves in OH and OI Nightglow Images at Two Separated Sites”**

M. K. Ejiri(1), K. Shiokawa(1), T. Ogawa(1), K. Igarashi(2), T. Nakamura(3), and T. Tsuda(3), (1) Nagoya University, (2) Communications Research Laboratory, (3) Kyoto University

ML-P5

**“Events of gravity wave breaking signature in all-sky nightglow images at Cachoeira Paulista (22.7°S)”**

Delano Gobbi(1), H. Takahashi(1), A. F. de Medeiros(1), P. P. Batista(1), M. J. Taylor(2), (1) Instituto Nacional de Pesquisas Espaciais, (2) Utah State University

ML-P6

**“Gravity wave characteristics in the tropical middle atmosphere during the winter of 1999 and 2000 at Gadanki (13.5°N, 79.2°E)”**

K. Rajeev(1), K. Parameswaran(1), M. N. Sasi(1), Geetha Ramkumar(1), and B. V. Krishna Murthy(2), (1) Vikram Sarabhai Space Centre, (2) Anna University

ML-P7

**“Daytime and Nighttime Observation of Mesospheric Na Layers”**

Makoto Abo, Chikao Nagasawa, and Yasukuni Shibata, Tokyo Metropolitan University

ML-P8

**“Quasi-2-day wave interactions with gravity waves, tides and lower frequency planetary waves”**

S. Sridharan, S. Gurubaran and R. Rajaram, Indian Institute of Geomagnetism

ML-P9

**“Interpretation of MF radar drifts in the equatorial region: Potential problems”**

T. K. Ramkumar, S. Gurubaran and R. Rajaram, Institute of Geomagnetism

ML-10

**“Vertical structure of planetary wave activity from MF radar observation at Pontianak”**

Buldan Muslim, Mezaq A. Ratag and Eddy Hermawan, National Institute of Aeronautics and Space (LAPAN)

ML-P11

**“Stationary-Wave Impact on Thermal Tides in a Linear Model”**

U. Achatz, N. Grieger, and G. Schmitz, Leibniz-Institut fuer Atmosphaerenphysik an der Universitaet Rostock

ML-P12

**“A Saturated Kelvin Wave and UV Cloud Feature in the Venus Atmosphere”**

Takeshi Imamura(1), and George L. Hashimoto(2), (1) Institute of Space and Astronautical Science, (2) University of Tokyo

### **Session: Thermosphere-Ionosphere**

TI-P1

**“A search for a superposed global current system during equatorial counter-electrojet events”**

S. Gurubaran, Indian Institute of Geomagnetism

TI-P2

**“Analysis of the reverse equatorial electrojet signature seen in Oersted satellite data”**

Geeta Jadhav and R. Rajaram, Indian Institute of Geomagnetism

TI-P3

**“Direct and indirect effects of meridional neutral wind on the ionosphere over the MU radar”**

S. Kawamura(1), N. Balan(1)(2)(3), Y. Otsuka(4), and S. Fukao(1), (1) Kyoto University, (2) Hokkaido University, (3) University of Wales, (4) Nagoya University

TI-P4

**“The “Ion Rain” Phenomenon Observed on Tidal Ion Layers and Its Possible Interpretation”**

C. J. Zamlutti, Instituto Nacional de Pesquisas Espaciais - INPE

TI-P5

**“Dynamic and Energetic Coupling of the Equatorial Ionosphere-Thermosphere System”**

Naomi Maruyama(1), Shigeto Watanabe(1) and Tim Fuller-Rowell(2), (1) Hokkaido University, (2) Space Environment Center

TI-P6

**“Study of the irregularities of ionosphere at equator region”**

Effendy and Slamet Saraspriya, National Institute of Aeronautics and Space (LAPAN)

TI-P7

**“Possible Changes in Sporadic-E Irregularity Spectrum with Increasing the Metal Ion Concentration in the Layer”**

Yurij Kyzyurov, Main Astronomical Observatory NASU

TI-P8

**“Field Line Oscillations at Low and Equatorial Latitudes and Ionospheric Irregularities”**

A.K. Sinha and R. Rajaram, Indian Institute of Geomagnetism

TI-P9

**“3-dimensional numerical simulation of polarization electric fields as a source of field-aligned irregularities”**

T. Yokoyama, M. Yamamoto, and S. Fukao, Kyoto University

TI-P10

**“Seasonal effects in 630nm airglow patterns and their dynamics observed in the dip-equator region of eastern Asian, Vietnam”**

Kanji Hayashi(1), Nobumoto Ichiba(1), and Hoang Thai Lan(2), (1) The University of Tokyo, (2) National Center of Natural Science and Technology

TI-P11

**“Simultaneous mesosphere-thermosphere-ionosphere observations during geomagnetic storms”**

N. Balan (1) (2) (5), S. Kawamura (2), T. Nakamura (2), M. Yamamoto(2), S. Fukao(2), S. Watanabe(1), K. Igarashi(3), K. Shiokawa(4), Y. Otsuka(4), and T. Ogawa(4), (1) Hokkaido University, (2) Kyoto University, (3) CRL, (4) Nagoya University (5) University of Wales

TI-P12

**“Nighttime low-latitude D-region electron density distributions by twec observations during the magnetic storm”**

H. Ohya (1), M. Nishino (2), and K. Igarashi (3), (1) Chiba University, (2) Nagoya University, (3) Communications Research Laboratory

TI-P13

**“Evidence for possible energy input into the Equatorial and low latitude ionosphere from Indian Satellite data”**



B. M. Reddy(1), D. R. Lakshmi(2) and S. C. Garg(2), (1) National Geophysical Research Institute, (2) National Physical Laboratory

TI-P14

**“The Indian Infrasound Array: On The Detection and Identification of Infrasound”**

M. Lal, K.U. Nair, C. Panneerselvam, and S. Selvaraj, Indian Institute of Geomagnetism”

TI-P15

**“Longitudinal Variations of Equatorial Ionospheric Parameters During 10 March 1998 Magnetic Storm”**

L. Z. SIZOVA(1), T. Maruyama(2), and K. Nozaki(2), (1) Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, (2) Communication Research Laboratory

TI-P16

**“Effect of Interplanetary Magnetic Field on the Height of Equatorial Ionosphere”**

L. Z. SIZOVA(1), T. Maruyama(2), and K. Nozaki(2), (1) Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, (2) Communication Research Laboratory

TI-P17

**“Characteristic Properties of Equatorial Ionosphere as Deduced from Intercosmos-19 Topside Sounding Data During the Storm of March 22-29, 1979”**

A. T. KARPACHEV, and L. Z. SIZOVA, Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation

TI-P18

**“Latitudinal variability of planetary wave activity in ionosphere”**

Buldan Muslim and Sarmoko Saroso, The National Institute of Aeronautics and Space (LAPAN)

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List of withdrawn papers

ST-12 “Wave Generation by Hector-like storms and implications for airglow”

Richard L. Walterscheid

ST-P16 “Boundary Layer Radar Measurements during 2001-intensive field experiments on the Meiyu frontal precipitation cloud systems in downstream of the Yangtze River”

K. Krishna Reddy, Biao Geng, Hiroyuki Yamada and Hiroshi Uyeda

ML-13 “Study on Oxygen atmospheric band dayglow: Global and seasonal variations deduced from High Resolution Doppler Imager observations”

M. Venkat Ratnam, C. M. Shen, W. N. Chen and J. B. Nee

ML-P2 “Detailed study on Mesospheric Temperature Inversions (MTI) and possible mechanisms over a tropical station (13.50N, 79.20E) using Lidar and Satellite data”

M. Venkat Ratnam, W. N. Chen, J. B. Nee, V. Sivakumar, and P. B. Rao

TI-9 “The Plausible linkages between the Equatorial Temperature Anomaly (ETA), the Midnight Temperature Maximum (MTM) and the Counter electrojet during solar minimum”

R Raghavarao, R Suhasini, N. Jyoti, and Tarun Kumar Pant