

## Scientific Program for the 10th APRIM

(Version on July 28, 2008)

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### Plenary Session

#### August 3 Morning

**Chair: Yan Li**

08:30-09:00 Opening ceremony

**Chair: Narlikar**

09:00-09:35 **Norio Kaifu:** *IYA-2009 and Asian cooperation*

09:35-10:10 **Chris Pritchett:** *the Supernovae Legacy Survey*

10:10-10:45 **Rendong Nan:** *FAST - its Sciences and Technologies*

10:45-11:20 Break (Group Photography)

11:20-11:55 **Boris M. Shustov:** *WSO/UV - a Window to Ultraviolet Universe*

11:55-12:30 **Saku Tsuneta:** *the General Report of the HINODE Observations*

#### August 3 Afternoon

**Chair: Narlikar**

14:00-14:35 **Shuangnan Zhang:** *Introduction of China's Future Space Astronomy Missions*

14:35-15:10 **Ajit Kembhavi:** *the Virtual Observatory Program as Developed in China and India*

15:10-15:45 **Pushpa Khare:** *Quasar Spectroscopy*

15:45-16:10 **Michael Dopita:** *Panchromatic Spectral Energy Modelling of Starburst Galaxies*

16:10-16:40 Break

16:40-17:15 **Rolf Kudritzki:** *Extragalactic Stellar Astronomy with the Brightest Stars in the Universe*

17:15-17:50 **Jounghun Lee:** *Large Scale Structure Formation of the Universe*

17:50-18:25 **Wing IP:** *Working on Frontier Astrophysical Problems from Taiwan*

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## Session 1 Solar and planetary physics

4 invited talks (30+5) and 22 contributed talks (15+5)

### ----- A -----

**Monday 4 August      Chair: Kim**

- 09:00-09:35      Leonid Kitchatinov: *The solar dynamo***
- 09:35-09:55      Alexander Stepanov: physical processes in solar and stellar coronal loops
- 09:55-10:15      Jun Lin: Comparisons of magnetic reconnection outflows in CME/flare current sheets and in the magnetotail
- 10:15-10:35      Arnab Rai Choudhuri: Prediction of the solar cycle from the dynamo model
- 10:35-11:00      Break
- 11:00-11:20      Yu Liu: The Solar Coronal Magnetic Field Measurement with SOLARC
- 11:20-11:40      Iraida Kim: On total solar eclipse projects in the space epoch
- 11:40-12:00      Elchin Babayev: The Sun-Earth interaction: potential effects of solar activity and related geomagnetic disturbances on Earth
- 12:00-12:20      General discussion

### ----- B -----

**Monday 4 August      Chair: Kim**

- 14:00-14:35      Kazunari Shibata: *New aspects of the Sun from HINODE observations***
- 14:35-14:55      Rui Liu: Kink instability and solar filaments
- 14:55-15:15      Veronika Reznikova: Dynamics of microwave brightness distribution in the giant 24 August flare loop
- 15:15-15:35      Vladimir Slemzin: EUV and soft X-ray studies of the solar corona under the CORONAS space project
- 15:35-16:00      Break
- 16:00-16:20      Cheng Fang: Magnetic reconnection and how it is responsible for solar small-scale activity in the lower solar atmosphere
- 16:20-16:40      Emanuel Mumpuni: The fundamental relations between Lorentz

kinematics and the solar wind of charged ions

16:40-17:00 Guiyun Liang: Laboratory benchmark for EUV emission lines of Fe~X and Fe~XI in astrophysical plasmas

17:00-17:20 General Discussion

----- C -----

**Tuesday 5 August Chair: Hearnshaw**

**09:00-09:35 Phil Yock: *The latest developments on detecting and characterizing low-mass Earth-like planets***

09:35-09:55 Bijay Kumar Sharma: Theoretical formulation of the Phobos (moon of Mars) rate of altitudinal loss

09:55-10:15 Li-Yong Zhou: The dynamics of Neptune's Trojans

10:15-10:35 Zhi-Wei Zhang: First results from the Taiwanese-American occultation survey (TAOS)

10:35-11:00 Break

11:00-11:20 Bun'ei Sato: A search for planets around giant stars

11:20-11:40 Motohide Tamura: Subaru strategic exploration of exoplanets and disks with HiCIAO/AO188

11:40- 12:00 General Discussion

----- D -----

**Tuesday 5 August Chair: Hearnshaw**

**14:00-14:35 Jilin Zhou: *Planet formation: a comparison of theory and observation***

14:35-14:55 Su Wang: The effect of giant planets on the formation of planetary systems

14:55-15:15 Li-Chin Yeh: The maximum-likelihood estimation of the distribution of extrasolar planets

15:15-15:35 Ing-Guey Jiang: The grain dynamics of Vega's outer disk

15:35-16:00 Break

16:00-16:20 Nur Hasanah: Simulation of planetary formation using SPH

16:20-16:40 Eiichiro Kokubo: Formation of terrestrial planets from protoplanets under a realistic accretion condition

16:40-17:20 General discussion

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## Session 2&4 Stellar Evolution and the Milky Way

8 invited talks (25+10) and 21 contributed talks (15+5)

----- **Stellar Evolution, Activities and Binaries** -----

----- **A** -----

**Aug. 4 Morning Chair: Malasan**

**09:00 – 09:35 Edwin Budding: *The Joint Southern Hemisphere Binaries Programme of COMU and the Carter National Observatory of New Zealand***

09:35 – 09:55 Siramas Komonjinda: New analyzed orbits of southern double-lined spectroscopic binary systems

09:55 – 10:15 Yuangui Yang: The minimum Mass ratio of overcontact binaries

10:15 – 10:30 Break

**10:30 – 11:05 M. Uemura: *A New Era of Transient Object Astronomy with Small Telescopes: Cataclysmic Variables, X-Ray Binaries, and Gamma-Ray Bursts***

11:05 – 11:25 Hao Yang: The Magnetic Fields on T Tauri Stars in the Orion Nebula Cluster

11:25 – 11:45 Shenghong Gu: Magnetic Activity of Cool stars

11:45 – 12:05 Liyun Zhang: Chromosphere activity of RS CVn stars

----- **B** -----

**Aug. 4 Afternoon Chair: Fahlman**

**14:00 – 14:35 Hyung Mok Lee: *Dynamics of Rotating Stellar Systems***

14:35 – 14:55 Wenping chen: To Be or Not to Be --- What Causes the Classical Be Star Phenomena?

14:55 – 15:15 Herbert Lau: Evolution and Fate of extremely metal poor stars.

15:15 – 15:45 Break

**15:45 – 16:20 Zhanwen Han: *Hot subdwarfs and Far UV excess in E-galaxies***

16:20 – 16:40 Puji Irwati: Population Synthesis of Cataclysmic Variable Star at Post Common-envelope Stage

16:40 – 17:00 Yuefang Wu: Rapid progress of massive star formation study

17:00 – 17:20 Zenghua Zhang: Uncover Low-Mass Stars and Brown Dwarfs with

Large Area Surveys

17:20 – 17:50 General Discussion

----- **The Milky Way, Interstellar Matter and Star Formation** -----

----- **C** -----

**Aug. 5 Morning Chair: Chen**

**09:00 – 09:35 Hideyuki Kobayashi: *Direct distance measurements of Milky Way stars with VERA***

09:35 – 09:55 Shahram Abbassi: Beta Viscose Prescription in Self-Gravitating Disks

09:55 – 10:15 Da-Li Kong: Stellar Kinematics from Revised Hipparcos Catalogue

10:15 – 10:35 Shuro Takano: Nobeyama 45m Legacy Project: Line Survey

10:35 – 10:50 Break

**10:50 – 11:25 Sun Kwok: *Synthesis of Organic Compounds in the Late Stages of Stellar Evolution***

11:25 – 11:45 Kazuyuki Omukai: Star Formation from Low-Metallicity Gas

11:45 – 12:05 Anil Pandey: Triggered star formation in young star clusters

----- **D** -----

**Aug. 5 Afternoon Chair: Kwok**

**14:00 – 14:35 Itsuki Sakon: *Infrared Observation of Interstellar Dust by AKARI***

14:35 – 14:55 Bon-Chul Koo: AKARI Observations of Supernova Remnants

14:55 – 15:15 Satoshi Mayama: Near-Infrared High Resolution Images of low-mass YSO

15:15 – 15:35 Kate Brooks: Physical properties of 18 massive star-forming regions at high spatial resolution

15:35 – 16:00 Break

**16:00 – 16:35 Jinlin Han: *Measuring the magnetic fields of our Galaxy***

16:35 – 16:55 Shaolan Bi: Stellar models with arbitrary magnetic fields

16:55 – 17:15 Kohji Tomisaka: Effect of Magnetic Fields in Star Formation Process

17:15 – 17:35 Hesti Wulandari: Study of Membership and Physical Properties of New Open Clusters in Near Infrared

17:35 – 17:50 General Discussion

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## Session 3 Compact Objects, Active Galactic Nucleus and High Energy Astrophysics

4 invited talks: 140 min. (25 min. talk + 10 min. discussion each)

21 contributed talks: 420 min. (15 min. talk + 5 min. discussion each)

### ----- A -----

#### 4 August morning Chair: Zhang

**09:00 – 09:35 Katsuji Koyama: *High Energy Phenomena of the Galactic Center as Observed with the Suzaku Satellite***

09:35 – 09:55 Mehmet Emin Özel: Problematic consensus on the nature of gamma-ray bursts

09:55 – 10:15 Hao Tong: The physics of strong magnetic field in neutron stars and magnetars

10:15 – 10:45 Break

10:45 – 11:05 Xia Zhou: Thermal Radiation from Compact Star with Millisecond Period

11:05 – 11:25 Yongjun Chen: Multi-Waveband Polarimetric observations of NRAO 530 on Parsec-Scale

11:25 – 11:45 Ishwara Chandra Chenakkod: Search for Ultra Steep spectrum Sources using GMRT 150 MHz Band

### ----- B -----

#### 4 August afternoon Chair: Zhang

**14:00 – 14:35 Biman Nath: *Clusters of Galaxies***

14:35 – 14:55 Jinming Bai: The second order inverse-Compton scattering in relativistic jets

14:55 – 15:15 Xuebing Wu: Black hole - bulge relation of quasars

15:15 – 15:35 Jian Hu: Black hole mass-host galaxy correlation: bulges versus pseudobulges

15:35 – 16:00 Break

16:00 – 16:20 Fukun Liu: Supermassive binary black holes in AGNs and normal galactic nuclei.

- 16:20 – 16:40 Jun Yang: The Apparent “Angular Size – Frequency” Dependence in ~3000 Parsec-scale Jets  
16:40 – 17:00 Liang Chen: The Possible Gamma Ray Emission of Seyfert Galaxy III Zw 2  
17:00 – 17:30 General Discussion

----- C -----

**5 August morning Chair: Mineshige**

- 09:00 – 09:35 K. S. Cheng: *High Energy Emission from the Galactic Black Hole***  
09:35 – 09:55 Weimin Yuan: Very radio-loud narrow line Seyfert 1 AGN  
09:55 – 10:15 Shuangnan Zhang Evidence for an intermediate line region in AGN's inner torus region and its evolution from narrow to broad line Seyfert I galaxies  
10:15 – 10:45 Break  
10:45 – 11:05 Shu Zhang: High Energy Properties of PKS 1830-211  
11:05 – 11:25 Minfeng Gu: The anti-correlation between the hard X-ray photon index and the Eddington ratio in LLAGNs  
11:25 – 11:45 Tao An: VLBI observations of CSS quasar 3C48

----- D -----

**5 August afternoon Chair: Boyle**

- 14:00 – 14:35 Ronald Taam: *The Common Envelope Phase of Binary Evolution***  
14:35 – 14:55 Bifang Liu: Formation of Inner Cool Disks in Black Hole Low State  
14:55 – 15:15 Shin Mineshige: Supercritical accretion flow  
15:15 – 15:35 Xuening Bai: Modeling gamma-ray light curves from pulsars using realistic magnetospheric geometries  
15:35 – 16:00 Break  
16:00 – 16:20 Robert Soria: Searching for young X-ray pulsars from historical SNe  
16:20 – 16:40 Xiaoping Zheng: Deconfinement heat generation and cooling of neutron stars  
**16:40 – 17:10 General discussion on high-energy astrophysics (moderator: S. Mineshige)**

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## Session 5 Galaxies and Cosmology

Invited talks: 4 x (25 minutes talk + 10 minutes discussion)

Contributed talks: 22 x (15 minutes talk + 5 minutes discussion)

### ----- A -----

#### **4 August morning Chair: Ikeuchi**

- 09:00 – 09:35 Anatolij V. Zasov: *How massive are the disks of spiral galaxies?***  
09:35 – 09:55 Hong Bae Ann: Probing Galactic Satellite Systems in SDSS  
09:55 – 10:15 Yiping Ao: Molecular Gas and Atomic Carbon in IRAS F10214+4724  
10:15 – 10:35 Ajit Kembhavi: TBD  
10:35 – 11:00 Break  
11:00 – 11:20 Gopal Krishna: Radio galaxies  
11:20 – 11:40 Karl Glazebrook: Observing the formation of galaxies  
11:40 – 12:00 Nario Kuno: NRO Legacy Project: Survey of Giant Molecular Clouds in M33

### ----- B -----

#### **4 August afternoon Chair: Ikeuchi**

- 14:00 – 14:35 Yipeng Jing: *Mergers of galaxies: evidences and challenges***  
14:35 – 14:55 Myung Gyoon Lee: Stellar populations in the mysterious galaxy M82  
14:55 – 15:15 Zhongmu Li: Using colours to determine ages and metallicities of stellar populations  
15:15 – 15:35 Masahiro Nagashima: The Metal Enrichment of the Milky Way and its Satellites in a Hierarchical Galaxy Formation Model  
15:35 – 16:00 Break  
16:00 – 16:20 Wentao Wu: The Correlations between Luminosity and Ring Size in Resonance-ringed Galaxies  
16:20 – 16:40 Eric Peng: Early-Type Galaxies in the ACS Virgo and Fornax Cluster Surveys  
16:40 – 17:00 Vivian U: Color and Morphological Properties of Local and High-z (U) LIRGs

17:00 – 17:30 General Discussion

----- C -----

**5 August morning Chair: Premadi**

**09:00 – 09:35 Masahiro Takada: *The frontier of cosmology that bridges observation and theory***

09:35 – 09:55 Induk Lee: Bright Quasar Survey at Low Galactic Latitude

09:55 – 10:15 Habib Khosroshahi: Halo and Galaxy Properties of Fossil Groups: Observations and Simulations

10:15 – 10:45 Break

10:45 – 11:05 Dading Nugroho: Galaxies and Environment in Non-Relaxed Clusters of Galaxies CL 0024+1654 and RX J0152.7-1357

11:05 – 11:25 Motokazu Takizawa: Mass Estimation of Merging Clusters of Galaxies

11:25 – 11:50 General Discussion

----- D -----

**5 August afternoon Chair: Premadi**

**14:00 – 14:35 S.V. Dhurandhar: *Detecting gravitational waves from inspiraling binaries with a network of detectors: coherent versus coincident strategies***

14:35 – 14:55 Matthew Colless: Cosmology in the Near and Far Field at the AAO

14:55 – 15:15 Shuang-Nan Zhang: A Cosmology Independent Calibration of Gamma-Ray Burst Luminosity Relations and the Hubble Diagram

15:15 – 15:35 Xuele Chen: Baryon acoustic oscillation

15:35 – 16:00 Break

16:00 – 16:20 Warrick Couch: The "WiggleZ" dark energy survey

16:20 – 16:40 Jai-chan Hwang: General relativistic cosmological weakly nonlinear perturbations

16:40 – 17:00 Nguyen Lan: Dark Energy from Late Decaying Dark Matter and Bulk Viscosity

17:00 – 17:30 General Discussion

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## Session 6 Astronomical Instrumentation and Techniques

4 invited talks: 140 min. (25 min. talk + 10 min. discussion each)

20 contributed talks: 400 min. (15 min. talk + 5 min. discussion each)

General discussion (depends on session): 60 - 100 min. in total

### ----- A -----

#### **4 August morning Chair: Kaifu Developments in Existing Facilities**

**09:00 – 09:35 Yuriy Y. Balega: *High-Angular Imaging in Astronomy***

09:35 – 09:55 Shaoming Hu: An introduction to Weihai Observatory of Shandong University

09:55 – 10:15 Hanindyo Kuncarayakti: Science with the Dichroic-Mirror Camera (DMC), 15-color simultaneous imager

10:15 – 10:40 Break

10:40 – 11:00 Jinghai Sun: End-to-end simulation for the cabin suspension of FAST telescope

11:00 – 11:20 Mohammad Ridwan Hidayat: Optimization Techniques of Cassegrainian Telescope for CCD Imaging

11:20 – 11:40 Yaoheng Xiong: Development and Application of Adaptive Optics at Yunnan Observatory

### ----- B -----

#### **4 August afternoon Chair: Li Developments in Existing Facilities (cont.)**

14:00 – 14:20 John Hearnshaw: Latest results and developments with the Hercules echelle spectrograph at Mt John Observatory, New Z

14:20 – 14:40 Daisuke Kinoshita: Current status of Lulin 2-m telescope construction project

14:40 – 15:00 Hajime Ezawa: Progress of ASTE: The Atacama Submillimeter Telescope Experiment

15:00 – 15:20 Break

15:20 – 15:40 Qinghui Liu: Same-beam VLBI observations for SELENE (KAGUYA)

using eight VLBI stations

15:40 – 16:00 Hideki Takami: The recent science results and the future plan of the Subaru Telescope

16:00 – 17:00 General discussion

----- C -----

**5 August morning Chair: Li**

**Developments of Ongoing Projects**

**09:00 – 09:35 Tetsuo Hasegawa: *ALMA: construction status and operation planning***

09:35 – 09:55 Hsiang-Kuang Chang: The Nuclear Compton Telescope (NCT) Project

09:55 – 10:15 Masaru Matsuoka: Promising observations of variable X-ray objects with MAXI on ISS-JEM

10:15 – 10:35 Break

10:35 – 10:55 Margarita Safonova: TAUDEX: UV space observatory on a geostationary orbit

10:55 – 11:15 Zhengqiu Yao: LAMOST thermal control system

11:15 – 11:35 A.S.Hojaev: RT70-Suffa: Big Radio Telescope for Future mm-Wave Astronomy

11:35 – 11:55 Makoto Inoue: Status of VSOP-2 Mission

11:55 – 12:25 General discussion

----- D -----

**5 August afternoon Chair: Li**

**Toward Large Scale Future Projects**

**14:00 – 14:35 Xiangqun Cui: *Site survey and future large telescopes in China***

14:35 – 14:55 Hideki Takami: Subaru Laser Guide Adaptive Optics and Japan's Research and Developments for ELT era

14:55 – 15:15 Yongqiang Yao: Astronomical Site Survey and Evaluation in West China

15:15 – 15:45 Break

**15:45 – 16:20 Gregory Fahlman: *Canadian Technology development for the international SKA***

16:20 – 16:50 Ilana Feain: Science with the Australian SKA Pathfinder

16:50 – 17:20 Lister Staveley-Smith: HI Surveys with SKA Pathfinders

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17:20 – 17:50 General discussion

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## Session 7 Astrometry, Virtual Observatory and Others

4 invited talks (30+10) and 3 contributed talks (20+5)

----- A -----

**Aug. 4 Morning    Chair: Lee**

**09:00 – 09:40 J.J. Kavelaars from Herzberg Institute of Astrophysics, Canada,  
on *The JCMT Data Archive: application of IVO standards***

09:40 – 10:05 Qingyu Peng: Newest results of positions for Saturn and its major  
satellites

10:05 – 10:35 Break

**10:35 – 11:15 A. Ambastha: *Gong project of solar surface observations***

11:15 – 11:45 General Discussion

----- B -----

**Aug. 4 Afternoon    Chair: Kembhavi**

**14:00 – 14:40 Masatoshi Ohishi: *Construction of the Virtual Observatory in the  
World***

**14:40 – 15:20 Chenzhou Cui: *Virtual Observatory Research Activities in China***

15:20 – 15:45 Yuji Shirasaki: Design and Implementation of the Japanese Virtual  
Observatory (JVO) system

15:45 – 17:00 Free discussion on Virtual Observatory

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## Session 8 Education and Popularization of Astronomy

4 invited talks: 140 min. (25 min. talk + 10 min. discussion each)

22 contributed talks: 440 min. (15 min. talk + 5 min. discussion each)

### ----- A -----

#### 4 August morning

##### **Sub-session 1: Education and general reports (chair: S. Mineshige)**

**09:00 – 09:35 Masafumi Matsumura: *Education Activities of Astronomy in Japan***

09:35 – 09:55 Elchin Safaraly-oghlu BABAYEV: Astronomy and Space Science in Azerbaijan: Research, Education and Popularization in post-soviet era

09:55 – 10:15 Acharya Jayanta: Astronomy Educating in Nepal

10:15 – 10:40 Break

**10:40 – 11:15 S.K. Pandey: *The use of telescope in classroom teaching***

11:15 – 11:35 Mohd Zambri Zainuddin: Astronomy Education Awareness in Malaysia

11:35 – 11:55 Hideo Shinohara: Astro-HS: An Astronomical Observation Network for High School Students in Japan

### ----- B -----

#### 4 August afternoon

##### **Sub-session 1: Education and general reports (cont.) (chair: S. Mineshige)**

14:00 – 14:20 Xiaoqing Jian: Practice & Observation Through the Visual Lab of Astronomy

14:20 – 14:40 Premana W. Premadi: Universe Awareness for Children

**14:40 – 15:10 Comments and general discussion on Education (moderator: S. Mineshige)**

15:10 – 15:30 Break

##### **Sub-session 2. Asian network of astronomy (chair: J. V. Narlikar)**

**15:30 – 16:05 Hakim L. Malasan: *South-East Asia Astronomical Network***

16:05 – 16:25 Busaba Kramer: Information System for the Southeast Asia Astronomy Network (SEAAN)

16:25 – 16:45 Osamu Hashimoto: International collaboration activities of Gunma Astronomical Observatory

**16:45 – 17:15 Comments and general discussion on Asian network (moderator: J. V. Narlikar)**

----- C -----

**5 August morning**

**Sub-session 3. Popularization and IYA (chair: J. Narlikar)**

**09:00 – 09:35 Jin Zhu: *Popularization Activities in China***

09:35 – 09:55 Hidehiko Agata: Introduction to the New Public Understanding of research Experiments in Japan

09:55 – 10:15 F.R. Sarker: Popularization of Astronomy in Bangladesh

10:15 – 10:40 Break

10:40 – 11:00 Dewi Pramesti K.: Folklore as an Astronomical Study of Indonesian Traditional Society, Case Study: Bima Sakti and Betara Kala

11:00 – 11:20 Antonieta Garcia: Informal Astronomy Education and Light Pollution Awareness: The case of Gemini Observatory

11:20 – 11:40 Avivah Yamani R: Communicating Astronomy through Online Media

11:40 – 12:00 General Discussion

----- D -----

**5 August afternoon**

**Sub-session 3. Popularization and IYA (cont.) (chair: N. Kaifu)**

14:00 – 14:20 Hiroyuki Naito: SNOW@site program at Nishi-Harima Astronomical Observatory

14:20 – 14:40 Sze-leung Cheung: The International Year of Astronomy 2009 in Hong Kong

xx. Other reports on IYA planning from individual countries/regions

**Comments and general discussion on popularization and IYA (moderator: N. Kaifu, 60 min.)**