Program

November 1 (Wednesday)

8:30-9:30 Registration and Continental Breakfast at the Workshop Venue
9:30-9:45 Welcoming Address and Introduction of KASI
Seok Jae Park (President of KASI)

Cosmology I
Chair: *Jongsoo Kim*

9:45-10:15 Radiative Feedback Effects of the First Objects in the Early Universe
Kyungjin Ahn, Paul R. Shapiro, Ilian T. Iliev, and Dongsu Ryu
10:15-10:45 Radiation-SPH Simulation on the Radiative Feedback of POPIII Stars
Hajime Susa

10:45-11:10 Coffee Break

Cosmology II
Chair: *Kazunari Shibata*

11:10-11:40 Shock Waves and Cosmic Rays in the Large Scale Structure of the Universe
Dongsu Ryu and Hyesung Kang
11:40-12:00 The Influence of Baryon on the Matter Distribution and Shape of Dark Matter Halos
Weipeng Lin, Y. P. Jing, S. Mao, L. Gao, and Mccarthy, I. G.
12:00-12:20 The Giant Arcs Statistics in the Three-year WMAP Cosmological Model
Guoliang Li, S. Mao, Y. P. Jing, H. J. Mo, L. Gao, and W. P. Lin
12:20-12:50 Simulations of Gravitational Lensing on High-z Supernovae
Premana Premadi and Hugo Martel

12:50-14:20 Lunch

Our Galaxy and Galactic Disks
Chair: *Yipeng Jing*

14:20-14:50 Magnetohydrodynamic Simulations of the Formation of Loop Structures in our Galactic Center
Mami Machida, R. Matsumoto, S. Nozawa, K. Takahashi, and Y. Fukui
14:50-15:10 Properties of the Structures formed by Parker-Jeans Instability
Young Min Seo, S. S. Hong, S. M. Lee, and J. Kim
15:10-15:40 Instability of Self-gravitating Disks in Astrophysics
Chi Yuan and Hsiang-Hsu Wang
15:40-16:00 Gas Flow Induced by a Strong Bar Potential: Straight Dust Lanes Connecting to a Nuclear Starburst Ring
David Chien-Chang Yen, Lien-Hsuan Lin, and Chi Yuan

16:00-16:30 Coffee Break

Galactic Disks and Accretion Disks
Chair: *M. Umemura*

16:30-17:00 Global SFR in Galactic Disks
Keiichi Wada and Colin Norman
17:00-17:30 Global Simulations of Time Variabilities in Magnetized Accretion Disks
Ryoji Matsumoto and M. Machida
17:30-18:00 MHD Simulations of Flares and Jets in the Sun, Stars, and Accretion Disks
Kazunari Shibata

18:30- Banquet at KASI

November 2 (Thursday)

8:30-9:00 Continental Breakfast at the Workshop Venue

Galaxies and Stars — Chair: *Jungyeon Cho*

9:00-9:30 The Evolution of Galaxies from Primeval Irregulars to Present-day Ellipticals
Masao Mori and Masayuki Umemura

9:30-10:00 Formation of Galactic Warps in Triaxial Haloes
Sungsoo S. Kim, M. W. Jeon, and H. B. Ann

10:00-10:30 Structured Red Giant Winds with Magnetized Hot Bubbles and the Dividing Line
Takeru K. Suzuki

10:30-10:50 Core Collapse And Supernova Explosion Of Massive Star Having Magnetic Field Inclined To The Rotation Axis
Hayato Mikami, Yuji Sato, Tomoyuki Hanawa, and Tomoaki Matsumoto

10:50-11:10 Coffee Break

Star Formation — Chair: *T. Hanawa*

11:10-11:30 The Virial Balance of Clumps and Cores in Molecular Clouds
Sami Dib, Jongsoo Kim, Andreas Burkert, Enrique Vazquez-Semadeni, Mohsen Shadmehri, and Thomas Henning

11:30-11:50 Dynamical Triggering of the Star / Molecular Cloud Formation around the Expanding HII Region and PDR
Takashi Hosokawa and Shu-ichiro Inutsuka

11:50-12:20 Fragmentation and Evolution of the First Core
Kohji Tomisaka and K. Saigo

12:20-12:50 Driving Mechanism of the Outflow and Jet in the Star Formation Process
Masahiro Machida, S. Inutsuka, and R. Matsumoto

12:50-14:20 Lunch

Turbulence — Chair: *Longlong Feng*

14:20-14:50 Protostellar Turbulence in Cluster Forming Regions
Fumitaka Nakamura and Zhi-Yun Li

14:50-15:20 Turbulence Driving and Cloud Formation in Galactic Spiral Arms
Woong-Tae Kim

15:20-15:50 Dynamics of Multi-Phase Interstellar Medium
Shu-ichiro Inutsuka

15:50-16:20 Statistical Properties of Density Fields in Isothermal Hydrodynamic Turbulent Flows
Jongsoo Kim and Dongsu Ryu

16:20-16:40 Coffee Break

Particle Acceleration — Chair: *Keiichi Wada*

16:40-17:10 MHD Turbulence and Particle Acceleration
Jungyeon Cho

17:10-17:40 Self-Similar Evolution of Cosmic Ray Modified Shocks
Hyesung Kang

17:40-18:10 Particle Acceleration in Relativistic Shock Waves
Masahiro Hoshino

November 3 (Friday)

8:30-9:00 Continental Breakfast at the Workshop Venue

Compact Objects and Relativistic Flows — Chair: *Ryoji Matsumoto*

9:00-9:30 General Relativistic MHD Simulations with Finite Conductivity
Shinji Koide, T. Kudoh, and K. Shibata

9:30-9:50 Two-fluid Dynamics in Extremely Strong Magnetic Field
Yasufumi Kojima

9:50-10:10 Magnetohydrodynamic Simulations of Collapsars
Shin-ichiro Fujimoto, Kei Kotake, Shoichi Yamada, and Masa-aki Hashimoto

10:10-10:30 Simulation of Relativistic Outflows in Astrophysics
Indranil Chattopadhyay and Dongsu Ryu

10:30-10:50 Coffee Break

Numerical Algorithms, Methods and Tools I — Chair: *Chi Yuan*

10:50-11:20 Gas-kinetic Schemes for Astrophysical Flow Simulations
Kun Xu

11:20-11:40 An Efficient High Resolution Shock-capturing Scheme for Multi-dimensional Astrophysical flows
Cong Yu

11:40-12:10 Minimum Numerical Viscosity to Care the Carbuncle Instability
Tomoyuki Hanawa, H. Mikami, and T. Matsumoto

Poster Session — Chair: *Hyesung Kang*

12:10-13:00 Short (2 minutes) presentations of poster papers

13:00-14:30 Lunch

Numerical Algorithms, Methods and Tools II — Chair: *Kohji Tomisaka*

14:30-15:00 A New Fast Algorithm in Computational Cosmology
Longlong, Feng

15:00-15:30 SFUMATO: Self-gravitational MHD AMR Code
Tomoaki Matsumoto

15:30-16:00 FIRST Project: Ground Challenge for Radiation Hydrodynamic Simulations
Masayuki Umemura and FIRST Project Team

16:00-16:30 Coffee Break

Numerical Algorithms, Methods and Tools III — Chair: *Dongsu Ryu*

16:30-16:50 Efficient Monte Carlo Radiative Transfer with SKIRT
Maarten Baes

16:50-17:10 A New Method for Treating the Energy Equation in SPH
Dimitris Stamatellos and A. P. Whitworth

Discussions — Chair: *Dongsu Ryu*

17:10-17:40 Review Summary
Shin Mineshige

17:40-18:10 Discussions

Posters

(P1) The SZ-Galaxy Relation
Jiawei Shao, Pengjie Zhang, Weipeng Lin, and Yipeng Jing

(P2) The Dynamics of Galactic Globular Cluster NGC 6656
Chen Ding, Wang Jiaji, and Chen Li

(P3) Formation of Globurar Clusters under the influence of UV Radiation
Kenji Hasegawa and Masayuki Umemura

(P4) The Response of Galactic Gas Disks to A Spiral Density-wave Potential
Hsiang Hsu Wang, C. Yuan, and David C. C. Yen

(P5) Planet Migration in a Proto-planetary Disk
Hui Zhang, Chi Yuan, and Chien-Chang Yen

(P6) The Structure of Accretion Disks Formed by Merging of White Dwarfs
Toshinao Shioya, T. Sano, T. Tsuribe, and H. Takabe

(P7) Long Term Simulations Of Astrophsical Jets; Energy Structure and Quasi-Periodic Ejection
Ahmed Ibrahim and Kazunari Shibata

(P8) Evidence for Episodic Particle Acceleration in M87 Jet
Chun-Cheng Wang and Yao-Quan Chu

(P9) Numerical Simulations on the Dynamical Evolutions of the Supernova Remnants near the Edges of the Molecular Clouds
WanKee Cho, Jongsoo Kim and Bon-Chul Koo

(P10) Three-dimensional MHD Simulations of Magnetized Molecular Cloud Fragmentation with Turbulence and Ion-neutral Friction
Takahiro Kudoh and Shantanu Basu

(P11) Interstellar Turbulence Driving by Galactic Spiral Shocks
Chang-Goo Kim, Woong-Tae Kim, and Eve C. Ostriker

(P12) Numerical Simulations of Relativistic Expansion of Magnetic Arcades in Magnetars
Eiji Asano, H. Takahashi, and R. Matsumoto

(P13) Particle Acceleration by Relativistic Expansion of Magneitc Arcades
Hiroyuki Takahashi, E. Asano, and R. Matsumoto

(P14) Behaviour of Dissipative Accretion Flows around Black Holes
Santabrata Das

(P15) Optimization of SPH for Numerical Simulation of Subcluster Acquisition in Formation of Galaxy Clusters
Takuya Akahori

(P16) P3MSPH-GRAPE Simulations with FIRST Cluster
Tamon Suwa, Masayuki Umemura, and FIRST Project Team

(P17) Development of MHD-GRAPE Code for FIRST Simulator
Yoshiaki Kato and Masayuki Umemura

(P18) Hydrodynamics of Molten Droplet in Millimeter Scale
Hitoshi Miura, Taishi Nakamoto, and Masao Doi

(P19) Dynamical Transport of Asteroid Fragments from the nu6 Resonance
Takashi Ito and Renu Malhotra

(P20) Application of Picard-Chebyshev Method to Orbital Dynamics
Hideyoshi Arakida, T. Ito, and T. Fukushima