

Program of BNGSP 2025

wifi — SSID: astroinfo (pass: astroinfo_SN) or SSID: astroinfo5 (pass: astroinfo_SN5)

26 Feb. 2025 :

Session 1 : Supernova General & Chiral Effects

10:00-10:25 Registration

10:25-10:30 Youhei Masada “Opening Remarks”

10:30-11:20 Ko Nakamura (I) “Multi-dimensional modeling of supernova explosions”

11:20-11:40 Masamitsu Mori (R) “Long-term simulation and analysis method of nearby supernovae”

11:40-12:00 Masamichi Zaizen (R) “Nonlinear Dynamics of Neutrino Flavor Conversion in Supernovae”

Lunch (12:00-13:30)

13:30-14:20 Naoki Yamamoto (I) “From parity violation of the weak interaction to chiral MHD turbulence in supernovae”

14:20-15:10 Jennifer Schober (I) “Numerical Simulation of Chiral Plasma Instability”

Coffee break (15:10-15:30)

15:30-16:20 Kanji Mori (I) “Recent progress on astro-particle physics in supernovae”

16:20-16:40 Tsurugi Takata (R) “Impact of Rotation on an ALP Parameter Constraint from SN 1987A”

16:40-16:50 Lightning Talk & Poster:

Shinsei Eyama (L+P) : “PINNs analysis of the dynamics of S-stars in the Galactic center and the constraints on the cosmological parameter Λ ”

Takuma Moriyama (L+P) : “Bayesian Classification Analysis of Stellar Magnetic Activity with Latent Variable Model”

Yu Yokoyama (P) : “Anisotropic Neutrino Emission from Core-Collapse Supernova”

27 Feb. 2025 :

Session 2 : Stellar and Neutron star evolutions

9:30-10:20 Clara Dehman (I) “Chiral Magnetic Instability in Neutron Star Crust: A Possible Origin of Magnetar Fields”

10:20-10:40 Youhei Masada (R) “MHD dynamo in proto-neutron stars”

Coffee break (10:40-11:00)

11:00-11:50 Nobutoshi Yasutake (I) “Equation of State and evolution of Neutron Stars”

Lunch (11:50-13:30)

13:30-14:20 Koh Takahashi (I) “Evolution of magnetic-rotating stars”

14:20-14:40 Kengo Shinoda (R) “Impact of Progenitor Hydrogen Envelope on Supernova Fallback”

Coffee break (14:40-15:00)

15:00-15:50 Shota Kisaka (I) “Magnetic evolution of neutron stars”

15:50-16:10 Jin Matsumoto (R) “Magnetic effect in 3D supernova simulations”

16:10-16:30 Tomotaka Nishikawa (R) “Observational prediction of gamma-ray emission from knee-energy cosmic rays accelerated by core-collapse supernova shock wave”

16:30-16:50 Hiroki Kawashimo (R) “Discovering the most important temperatures of helium burning reactions in pair-instability supernova nucleosynthesis”

28 Feb. 2025 :

Session 3 : Modeling and Machine Learning Approaches for Supernova Physics

9:30-10:20 Shunsuke Sasaki (I) “1D modeling of turbulent supernovae”

Coffee break (10:20-10:40)

10:40-11:30 Nobumitsu Yokoi (I) “Turbulence modeling in supernovae”

11:30-11:50 Shubham Bhardwaj (R) “Transient Search and Classification in Subaru/Hyper Supreme-Cam Data Using Machine Learning”

Lunch (11:50-13:20)

13:20-14:10 Akira Harada (I) “Machine learning approaches in supernovae”

14:10-15:00 Motoki Nakata (I) “Data-driven modeling and information-theoretic analysis of kinetic plasma turbulence”

15:00- Kei Kotake “Concluding Remarks”