

Numazu Workshop 2015:

Challenges of modeling supernovae with nuclear data

Mishima, Shizuoka, Japan, September 1-4, 2015

We would like to have the workshop to discuss the nuclear physics for supernova simulations and its influence on supernova explosions and associated multi-messengers. As detailed multi-dimensional supernova simulations become feasible in coming years, importance of microphysics grows rapidly together with increasing need for unexpected extreme conditions. We want to get together to pin down the uncertainty of nuclear physics influence in explosion dynamics and the birth of compact objects and to envisage the next direction of nuclear data for simulations.

Topics to discuss:

Influence of nuclear physics to supernovae

Usage of tables of equation of state

Neutrino reactions and electron capture rates

Needs of nuclear data for astrophysical applications

With view of the current situation of nuclear physics impact on supernovae, we want to lively exchange ideas to clarify microphysics problems. We plan to have ample discussion time as much as possible in order to initiate new collaborations of supernova simulations through common usage and new construction of nuclear data.

Meeting place is located near Mishima station, which is within an hour from Tokyo by Shinkansen, Kodama-Express. Mishima is a popular sightseeing place for vacations near Mt. Fuji, having the historical Mishima-Taisha "Great Shrine" and cold spring water flow from Fuji-yama. Numazu is a neighboring town with a major fishing port and markets, providing fresh fishes for Sushi. Numazu and Mishima both consist of entry points to the Fuji-Hakone-Izu national park and the Izu-peninsula Geopark.

Workshop venue:

Meeting Rooms, The Mishima hamber of Commerce and Industry

3 min walk from Mishima station (South Exit)

<http://www.mishima-cci.or.jp>

(Unfortunately, it's only in Japanese. We provide further info later.)

List of invited speakers:

A. Dzhioev (JINR)

M. Hempel (Basel)

J. Holt (U. Washington)

E. O'Connor (North Carolina)

Y. Fujita (RCNP, Osaka)

S. Furusawa (NAOJ)
S. Nakamura (Osaka U.)
K. Nakazato (Tokyo U. Sci.)
S. Noji (RCNP, Osaka)
Y. Sekiguchi (Toho)
T. Takiwaki (RIKEN)
A. Tamii (RCNP, Osaka)
H. Togashi (RIKEN)
A. Ono (Tohoku U.)
T. Otsuka (U. Tokyo)

We are looking forward to having you in Mishima/Numazu to enjoy discussion and conversation with a relaxed atmosphere in the resort area with a view of Mt. Fuji.

Organizers:

Kohsuke Sumiyoshi, Kei Kotake and Shoichi Yamada

Supported by:

Grants-in-Aid for Scientific Research (Nos. A 24244036, C 15K05093)

Grants-in-Aid for Scientific Research on Innovative Areas (No. A05 24103006)

"New Developments in Astrophysics Through Multi-Messenger Observations of Gravitational Wave Sources"

Grants-in-Aid for Scientific Research on Innovative Areas (No. 24105001)

"Nuclear Matter in Neutron Stars Investigated by Experiments and Astronomical Observations"

HPCI Strategic Program Field 5 "The origin of matter and the universe"