

Monday, October 7, 2024 - Panasonic Hall, YITP (as of Oct. 6)

8:20 - 8:50 **Registration** - Panasonic Hall

8:50 - 9:00 **Opening**

Session 1 [Kojo (chair); Swarnim Shirke, Asanosuke Jinno (microphone)]

9:00 - 9:50 "Current Status of Astronomical Observations of Neutron Stars" ENOTO, Teruaki

9:50 - 10:10 "Neutron stars and Constraints for the Equation of State of Dense Matter" DEXHEIMER, Veronica

10:10 - 10:30 "Astrophysics and Nuclear Physics Informed Interactions in Dense Matter: Inclusion of PSR J0437-4715" MALIK, TUHIN

10:30 - 11:00 **Coffee break**

Session 2 [Manuel (chair); Swarnim Shirke, Asanosuke Jinno (microphone)]

11:00 - 11:50 "Recent NICER Analyses" SALMI, Tuomo

11:50 - 12:10 "Bayesian inference of hybrid neutron star equation of state from multi-messenger astronomy" AYRIYAN, Alexander

12:10 - 12:30 "Framework for phase transitions between the Maxwell and Gibbs constructions" ZHAO, Tianqi

12:30 - 14:00 **Lunch**

Session 3 [Renxin Xu (chair); Dan Kondo, Muhammad Azzam Alwan (microphone)]

14:00 - 14:50 "Lattice results for the speed of sound in dense QCD-like theories" ITOU, Etsuko

14:50 - 15:10 "A study of neutron star property based on the PDM-NJL crossover model" HARADA, Masayasu

15:10 - 15:40 **Coffee break**

Session 4 [Togashi (chair); Dan Kondo, Muhammad Azzam Alwan (microphone)]

15:40- **Young Researcher Session**

"Reconciling constraints from the multi-messenger constraints with the parity doublet model" GAO, Bikai

"The Effect of Isovector Scalar Meson on Neutron Star Matter Based on a Parity Doublet Model" KONG, Yuk Kei

"Two-flavor color superconducting quark stars may not exist" YUAN, Wen-Li

"Renormalization Group Consistent treatment of NJL Color Superconductivity (online)" GHOLAMI, Hosein

"Constraining Coupling Parameters of NJL Color Superconductivity for Compact Stars" RATHER, Ishfaq Ahmad

"Holographic model for neutron star with color superconductivity in the inner core" HOANG VU, Nguyen

"Equation of state in neutron stars from a bottom-up holographic QCD" IWANAKA, Akihiro

"Superfluid Band Calculations for Neutron Star Inner Crust" YOSHIMURA, Kenta

Tuesday, October 8, 2024 - Panasonic Hall, YITP

Session 1 [Blaschke (chair); Bikai Gao, Yuk Kei Kong (microphone)]

9:00 - 9:50 "Features of Quarkyonic Matter" MCLERRAN, Larry

9:50 - 10:10 "Which first order phase transitions to quark matter are possible in neutron stars?" CHRISTIAN, Jan-Erik

10:10 - 10:30 "Possibility of phase transition on superfluid vortex under Higgs-confinement crossover" KONDO, Dan

10:30 - 11:00 **Coffee break**

Session 2 [Dexheimer (chair); Bikai Gao, Yuk Kei Kong (microphone)]

11:00 - 11:50 "Long term evolution of binary neutron star merger and nucleosynthesis" FUJIBAYASHI, Sho

11:50 - 12:10 "Damping of density oscillations from bulk viscosity in quark matter" MANUEL, Cristina

12:10 - 12:30 "Properties of kaon condensation in hyperon-mixed matter with three-baryon repulsion" MUTO, Takumi

12:30 - 14:00 **Lunch**

Session 3 [Kitazawa (chair); Josuke Minamiguchi, Akihiro Iwanaka (microphone)]

--Tribute to Prof. Akira Ohnishi--

14:00 - 14:30 "Analytic Inversion of the TOV Equation and EOS Predictions From M,R Data" LATTIMER, JAMES

14:30 - 15:00 "Twin stars and the QCD phase diagram" BLASCHKE, David

15:00 - 15:30 "In memory of Prof. Akira Ohnishi: Hyperon puzzle of neutron stars examined through heavy-ion collisions and hypernuclei" JINNO, Asanosuke

15:30 - 16:00 **Coffee break**

Session 4 [Yasutake (chair); Josuke Minamiguchi, Akihiro Iwanaka (microphone)]

16:00- 17:00 **Young Researcher Session**

"Quark nucleation in compact stars" GUERRINI, Mirco

"New modelling for hybrid stars with an elastic quark core" DONG, Zoey

"Constraining Quark Matter in Neutron Stars and the prospects of detecting Quark Stars" SHIRKE, Swarnim

"3D Pion crystal from the chiral anomaly" EVANS, Geraint

"Baryonic Vortex and Magnetic Field Generation" QIU, Zebin

17:30- 18:30 **IAC meeting** (hybrid @panasonic hall)

Wednesday, October 9, 2024 - Panasonic Hall, YITP

Session 1 [Sumiyoshi (chair); Kenta Yoshimura, Mirco Guerrini (microphone)]

9:00 - 9:50 "Progress and open questions in core-collapse supernova theory" NAGAKURA, Hiroki

9:50 - 10:30 **Young Researcher Session**

"Constraints on dark matter mass-momentum space in light of GW170817 data" KUMAR, Ankit

"Gravitational waves from the quark-hadron phase transition" OSAKWE, CJ

"Quasi normal oscillations in newly born compact star considering effects of phase transition" KUMAR, Anil

10:30 - 11:00 **Coffee break**

Session 2 [Incera (chair); Kenta Yoshimura, Mirco Guerrini (microphone)]

11:00 - 11:50 "Parity violation of the weak interaction and supernovae" YAMAMOTO, Naoki

11:50 - 12:50 **Young Researcher Session**

"On the ejecta properties of binary quark star or quark star-black hole mergers" MIAO, zhiqiang

"Nucleosynthesis with Quark nugget" LUO, Yudong

"New alternatives of compact stars and related gravitational-wave signatures (online)" ZHANG, Chen

"Neutron Star in Covariant $f(Q)$ Gravity" ALWAN, Muhammad Azzam

"The energy budget of fast radio burst: Quake from pulsar-like compact star" WANG, Weiyang

12:50- **Free**

Thursday, October 10, 2024 - Panasonic Hall, YITP

Session 1 [Kyutoku (chair); Nguyen Hoang Vu, CJ Osakwe (microphone)]

9:00 - 9:50 "Investigating ultra-high-density equations of state through gravitational waves from binary neutron stars mergers" BAIOTTI, Luca

9:50 - 10:10 "g-mode oscillations in neutron stars with hyperons" JAIKUMAR, Prashanth

10:10 - 10:30 "Supernova gravitational waves and protoneutron stars" SOTANI, Hajime

10:30 - 11:00 **Coffee break**

Session 2 [Mannarelli (chair); Nguyen Hoang Vu, CJ Osakwe (microphone)]

11:00 - 11:50 "Heavy Hadron Spectroscopy and Quark Confinement in the Quark Model" OKA, Makoto

11:50 - 12:10 "Sound velocity peak driven by chiral partners in dense two-color QCD" SUENAGA, Daiki

12:10 - 12:30 "Impact of hot and cold dense matter on quasinormal oscillation modes in compact stars"

THAPA, Vivek Baruah

12:30 - 14:00 **Lunch**

Session 3 [Lattimer (chair); Bikram Keshari Pardhan, Anil Kumar (microphone)]

14:00 - 14:50 "Probing the QCD phase structure with heavy-ion collisions" VOVCHENKO, Volodymyr

14:50 - 15:10 "The status of the Compressed Baryonic Matter experiment at FAIR" KUGLER, Andrej

15:10 - 15:30 "The low-density EoS under core-collapse supernova and heavy-ion collisions conditions" PAIS, Helena

15:30 - 16:00 **Coffee break**

Session 4 [Jaikumar (chair); Bikram Keshari Pardhan, Anil Kumar (microphone)]

16:00 - 16:20 "Strangeon matter: from stars to nuggets" XU, Renxin

16:20 - 16:40 "Identifying Viable Inhomogeneous Chiral Phases for Neutron Star Matter" INCERA, Vivian

16:40 - 17:00 "Effects of charge neutrality and beta equilibrium on the magnetic dual chiral density wave phase in dense QCD" GYORY, Will

18:00-20:00 **Banquet**

Friday, October 11, 2024 - Panasonic Hall, YITP

Session 1 [Kojo (chair); Akash Singh, Zoey Zhiyuan Dong (microphone)]

9:30 - 10:20 "TBA (online)" HAN, Sophia

10:20 - 10:40 "Phase diagram of QCD matter with magnetic field: domain-wall Skyrmion chain in chiral soliton lattice" NISHIMURA, Kentaro

10:40 - 11:10 **Coffee break**

Session 2 [Sotani (chair); Akash Singh, Zoey Zhiyuan Dong (microphone)]

11:10 - 11:40 "Impact of first-principles calculations on the QCD phase diagram and equation of state" FUJIMOTO, Yuki

11:40 - 12:00 "Emulating neutron stars with dipolar supersolids" MANNARELLI, Massimo

12:00 - 12:20 "Exploring dense QCD through hamiltonian lattice simulations in (1+1) dimensions" HIDAKA, Yoshimasa

12:20 - 12:30 **Closing & award to young researchers**