

Program

(JST = UTC + 9)

25 March 2025 (Tue)

Opening

10:20–10:30 Tomoya Naito (内藤智也) (RIKEN iTHEMS)
Opening

Invited Seminar

(Chair: TBA)

10:30–12:00 Kosuke Nakano (中野晃佑) (NIMS)
Recent developments and Future Perspectives of ab initio Quantum Monte Carlo Methods

Invited Seminar

(Chair: TBA)

13:30–15:00 Masayuki Matsuo (松尾正之) (Dept. Phys., Niigata U.)
Collective excitations and pair correlation in nuclear density functional theory

Workshop Session

(Chair: TBA)

15:20–15:40 Nobuo Hinohara (日野原伸生) (University of Tsukuba)
(15 + 5) Reduced-order emulator for nuclear time-dependent DFT calculations

15:40–16:00 Adlen Smiri (MathAM-OIL AIST)
(15 + 5) DFT Study of Tip-Enhanced Photoluminescence of Dark Exciton Activation
in 2D Transition Metal Dichalcogenide Semiconductors

16:00–16:20 Kouhei Washiyama (鷲山広平) (University of Tsukuba)
(15 + 5) Dynamical shape coexistence in ^{60}Ca

16:20–16:40 Jubin Park (Soongsil University, South Korea)
(15 + 5) Quantum Annealing for Optimizing Isotopic Substitutions in Fullerene: A DFT-Assisted Spectral Analysis

Workshop Session

(Chair: TBA)

17:00–17:20 Hiroyuki Sagawa (佐川弘幸) (RIKEN Nishina Center/University of Aizu)
(15 + 5) Subtracted Second Random Phase approximation and Lee-Suzuki similarity transformation

17:20–17:40 Jeffrey Tanudji (Osaka University)
(15 + 5) Computational Materials Design: DFT application in nuclear medicine

17:40–18:00 Xin Zhang (Kyoto University)
(15 + 5) Statistical analysis of nuclear low-lying states and double-beta decay with a covariant energy density functional

26 March 2025 (Wed)**Invited Seminar****(Chair: TBA)**

10:30–12:00 Kazuhiro Yabana (矢花一浩) (CCS, U. Tsukuba)
Time dependent density functional theory for extremely nonlinear optics

Workshop Session**(Chair: TBA)**

13:20–13:40 Ryota Masuki (増木亮太) (The University of Tokyo)
(15 + 5) Implementation of magnetic space group and spin space group symmetrization in first-principles electronic-structure calculation

13:40–14:00 Hitoshi Nakada (中田仁) (Chiba University)
(15 + 5) Extension of Kohn-Sham approach to low- to intermediate-energy nucleon-nucleus elastic scattering

14:00–14:20 Koun Shirai (白井光雲) (ISIR, Osaka University)
(15 + 5) First-principles calculation of entropy of liquids

14:20–14:40 Cong Pan (Anhui Normal University, China)
(15 + 5) Recent progress on exotic nuclei in relativistic density functional theory with deformation and continuum effects

14:40–15:00 Takumi Chida (千田拓実) (The University of Tokyo)
(15 + 5) Electron density calculations by the transcorrelated method: Application to the ionic Hubbard model and atomic systems

Workshop Session**(Chair: TBA)**

15:20–15:40 Kimura Masaaki (木村真明) (RIKEN Nishina Center)
(15 + 5) Low-energy nuclear reactions described by GCM

15:40–16:00 Hiroki Katow (加藤洋生) (The University of Tokyo)
(15 + 5) Emergence of a wave function geometry from a quantum electrodynamical effect

16:00–16:20 Futoshi Minato (湊太志) (Kyushu University)
(15 + 5) Analyses of transitions to 2-particle 2-hole states within second random phase approximation

16:20–16:40 Minkyu Lee (Soongsil University, South Korea)
(15 + 5) Determination of $^{12}\text{C}/^{13}\text{C}$ Ratios in Orion IRC2 Acetylene Isotopologues Using Topsegi and Quantum Chemical Calculations

Workshop Session**(Chair: TBA)**

17:00–17:20 Takashi Nakatsukasa (中務孝) (University of Tsukuba)
(15 + 5) Nuclear DFT studies on light clusters

17:20–17:40 Takeru Yokota (横田猛) (RIKEN Quantum Computer Center)
(15 + 5) Analysis of three-dimensional classical liquids via density functional flow equations

17:40–18:00 Hiroki Kida (木田浩樹) (Kyushu University)
(15 + 5) Effects of antisymmetric spin-orbit forces due to three-body nuclear forces using density functional theory

18:00–18:20 Amrit Sarmah (RIKEN CCS)
(15 + 5) Decoding Protein Misfolding via Conductance Modulation in Peptide Junctions

18:20–18:40 Kota Yoshinaga (吉永孝太) (University of Tsukuba)
(15 + 5) Evaluation of shell model with density functionals understanding shell structure

Banquet with Poster Session (Held in front of the auditorium)

- 19:00–21:30** **Kenta Hagihara** (萩原健太) (University of Tsukuba)
Electromagnetic Dependence of Nuclear Deformation and the Neutron Drip Line
toward the r-process application
- Tatsuhiko Hattori** (服部竜大) (Institute of Science Tokyo)
Microscopic Numerical Analysis of the Interaction Between Superfluid Neutron Quantum Vortices
and Superconducting Proton Fluxtubes in Neutron Stars
- Atsuya Kanai** (金井敦哉) (University of Tsukuba)
Calculation of $0\nu/2\nu\beta\beta$ decay phase space factor using Coulomb potential derived by density functional theory
- Kotaro Koga** (古賀幸太郎) (Institute of Science Tokyo)
Development of Axially-Symmetric Skyrme Hartree-Fock Code to Realize
an Imaginary-Time Method for Many-Body Tunneling Phenomena
- Hyukjin Kwon** (Institute of Science Tokyo)
Self-Consistent Field Method for the Structure of Rotating Neutron Stars with DFT-Rooted Equations of State
- Paras Poswal** (National Institute of Technology Patna, India)
A first principles study of inducing magnetism in bilayers WSe_2 by $3d$ transition metal atom doping
- Teruyuki Saito** (斉藤照之) (Japan Atomic Energy Agency)
(proton-neutron) continuum QRPA for neutron capture reaction on neutron rich nuclei
- Kazuyuki Sekizawa** (関澤一之) (Institute of Science Tokyo)
Exploring Neutron 3P_2 Pairing Gap with Cooling Analysis of Cassiopeia A using BSk Equations of State
toward the r-process application
- Kenta Suzuki** (鈴木健太) (Hokkaido University)
An exploration of shape-coexistence in Te isotopes with nuclear density functional theory

27 March 2025 (Thu)

Invited Seminar

(Chair: TBA)

10:30–12:00 Atsushi Hariki (播木敦) (School of Engineering, Osaka Metropolitan U.)
DFT-Based Quantum Embedding Approaches for X-ray Spectroscopy Calculations

Invited Seminar

(Chair: TBA)

13:30–15:00 Shuichiro Ebata (江幡修一郎) (Dept. Phys., Saitama U./RIKEN Nishina Center)
DFT applicaiton on nuclear dynamics

Closing

15:00–15:10 Ryosuke Akashi (明石遼介) (National Institutes for Quantum Science and Technology)
Closing

Venue & Access

Auditorium (8F), Integrated Innovation Building (融合連携イノベーション推進棟: IIB), RIKEN Kobe Campus

The IIB building is connected to the east exit of P07 Iryo Center (Shimin Byoin Mae) [医療センター (市民病院前)] station of the Port Liner (ポータルライナー) train via the pedestrian deck. It takes 15 min. from Sannomiya (三宮) station. You should not take a train for Kita-Futo (北埠頭).

Wi-Fi Connection

You can use eduroam and RIKEN guest Wi-Fi (RIKEN_guest). We cannot provide a visitor account of eduroam.

Organizers

- Ryosuke Akashi (明石遼介) (National Institutes for Quantum Science and Technology)
- Tomoya Naito (内藤智也) (RIKEN iTHEMS/Dept. Phys., U. Tokyo)
- Kenichi Yoshida (吉田賢市) (Research Center for Nuclear Physics, Osaka U./RIKEN Nishina Center)