International symposium: TRIP Usecase: Nuclear Transmutation 2025

Report of Contributions

https://indico2.riken.jp/e/5014

Contribution ID: **1** Type: **not specified**

Opening and Overview of TRIP

Monday 10 March 2025 09:45 (15 minutes)

Presenter: KIMURA, Masaaki (RIKEN Nishina Center)

Contribution ID: **2** Type: **not specified**

Collaborations through TRIP: Emulators and Quantum Computing as examples

Monday 10 March 2025 10:00 (25 minutes)

Presenter: YOSHIDA, Sota (Utsunoimya University/RIKEN)

Contribution ID: **3** Type: **not specified**

Nuclear ab initio calculations with chiral effective field theory

Monday 10 March 2025 10:25 (25 minutes)

Presenter: MIYAGI, Takayuki

Contribution ID: **4** Type: **not specified**

What can AI/ML do for us? Exploring the power (and potential problems) of AI/ML in nuclear physics

Monday 10 March 2025 11:10 (30 minutes)

Presenter: GODBEY, Kyle (Michigan State University)

Contribution ID: **5** Type: **not specified**

Linear-response emulator for nuclear excited state calculations

Monday 10 March 2025 11:40 (25 minutes)

Presenter: HINOHARA, Nobuo (Center for Computational Sciences, University of Tsukuba)

Contribution ID: **6** Type: **not specified**

Nuclear data for nuclear reactor physics

Monday 10 March 2025 13:35 (25 minutes)

Presenter: CHIBA, Go (Hokkaido University)

Contribution ID: **7** Type: **not specified**

Nuclear data evaluation in developing JENDL

Monday 10 March 2025 14:00 (25 minutes)

Presenter: IWAMOTO, Osamu (Japan Atomic Energy Agency)

Contribution ID: **8** Type: **not specified**

New Approaches in Nuclear Data Evaluation through Bayesian Machine Learning - Towards More Reliable, Sustainable, and Comprehensive Nuclear Dataset

Monday 10 March 2025 14:25 (25 minutes)

Presenter: IWAMOTO, Hiroki (Japan Atomic Energy Agency)

Contribution ID: **9** Type: **not specified**

Statistical analysis of nuclear low-lying states and double-beta decay with a covariant energy density functional

Monday 10 March 2025 15:20 (25 minutes)

Presenter: ZHANG, Xin (Kyoto University)

Contribution ID: **10** Type: **not specified**

Statistical tools for studies of the rapid neutron capture process

Monday 10 March 2025 15:45 (30 minutes)

Abstract:
The rapid neutron capture process (r-process) is believed to be responsible for the synthesis of the heaviest elements in the Universe and to occur in extreme astrophysical events such as compact binary mergers. Despite a multitude of efforts and developments to understand the workings of the r-process both in nuclear physics and astrophysics, many challenges and unknowns remain. One of such challenges is to quantitatively gauge our understanding of the r-process, in other words, to obtain comprehensive uncertainty estimates in the theoretical reproduction of observable quantities.

Theoretical calculations of r-process observables are known to be sensitive to the choice of nuclear physics inputs, such as mass model, beta-decay rates, neutron capture rates, fission properties, and more. Quantification and incorporation of the uncertainty of nuclear physics inputs in the r-process calculations is still a topic of active investigation. In this talk, applications of several statistical techniques to handle the uncertainty of nuclear physics inputs in the r-process studies will be discussed.

Presenter: SAITO, Yukiya (Facility for Rare Isotope Beams, Michigan State University)

Contribution ID: **11** Type: **not specified**

Some examples of the use of data-scientific methods in astrophysics

Monday 10 March 2025 16:15 (25 minutes)

Presenter: Dr ICHINOHE, Yuto (RIKEN)

Contribution ID: **12** Type: **not specified**

Signature of shell evolution from reaction cross section measurement

Tuesday 11 March 2025 09:45 (30 minutes)

Presenter: ONG, Hooi Jin (Institute of Modern Physics, Chinese Academy of Sciences)

Contribution ID: **13** Type: **not specified**

Overview of TRIP-S3CAN Project

Tuesday 11 March 2025 10:15 (25 minutes)

Presenter: NISHIMURA, Daiki (Tokyo City University)

Contribution ID: **14** Type: **not specified**

Complete Glauber model analysis for total reaction and elastic scattering cross sections

Tuesday 11 March 2025 10:40 (25 minutes)

Presenter: HORIUCHI, Wataru (Osaka Metropolitan University)

Contribution ID: **15** Type: **not specified**

Elastic and quasi-elastic scattering with Active Targets

Tuesday 11 March 2025 11:25 (30 minutes)

Presenter: MITTIG, Wolfgang (Michigan State University)

Contribution ID: **16** Type: **not specified**

Overview of TRIP-MESA and ESPRI Project

Tuesday 11 March 2025 11:55 (25 minutes)

Presenter: ZENIHIRO, Juzo (Department of Physics, Kyoto University)

Contribution ID: **17** Type: **not specified**

AMD simulation for reaction and fragmentation cross sections

Tuesday 11 March 2025 13:50 (25 minutes)

Presenter: ONO, Akira (Tohoku University)

Contribution ID: **18** Type: **not specified**

IS and IV densities vs. Symmetry energy and ISB

Tuesday 11 March 2025 14:15 (25 minutes)

Presenter: SAGAWA, Hiroyuki (RIKEN/University of Aizu)

Contribution ID: **19** Type: **not specified**

From Density to Energy Density Functional

Tuesday 11 March 2025 14:40 (25 minutes)

Presenter: Dr NAITO, Tomoya (RIKEN iTHEMS)

Contribution ID: **20** Type: **not specified**

Bayesian inference on nuclear ground state and giant resonance data

Tuesday 11 March 2025 15:05 (30 minutes)

Presenter: ROCA MAZA, Xavier (University of Barcelona and University of Milan)

Contribution ID: **21** Type: **not specified**

Poster

Tuesday 11 March 2025 16:20 (1 hour)

Contribution ID: **22** Type: **not specified**

Predictions of beta-decay half-lives and beta-delayed neutron emissions within Skyrme-QRPA

Wednesday 12 March 2025 09:45 (25 minutes)

Presenter: MINATO, Futoshi (Kyushu university)

Contribution ID: **23** Type: **not specified**

Some results from macroscopic-microscopic nuclear-structure calculations that may serve as suitable tests for AI.

Wednesday 12 March 2025 10:10 (30 minutes)

Presenter: MOLLER, Peter (Department of Mathematical Physics, Lund University, Lund,Sweden)

Contribution ID: **24** Type: **not specified**

TBA

Wednesday 12 March 2025 11:00 (25 minutes)

Presenter: Dr LIANG, Haozhao (The University of Tokyo)

Contribution ID: **25** Type: **not specified**

TRIP 2025 plan and Closing

Wednesday 12 March 2025 11:25 (25 minutes)

Presenter: BABA, Hidetada (RIKEN)

Contribution ID: **26** Type: **not specified**

P1:Measurement of the interaction cross sections for nuclei near the N=Z line between 40Ca and 56Ni

Tuesday 11 March 2025 16:20 (10 minutes)

Presenter: INOUE, Chinami (Tokyo City University)

Contribution ID: **27** Type: **not specified**

P3:Measurement of interaction cross sections for neutron-rich nuclei in the vicinity of Z = 14 at RIBF

Tuesday 11 March 2025 16:30 (10 minutes)

Presenter: MATSUYAMA, Kento (Tokyo City University)

Contribution ID: **28** Type: **not specified**

P2:Development of methods and tools for photogrammetry survey for more efficient and effective data utilization

Tuesday 11 March 2025 16:20 (10 minutes)

Presenter: MURAYAMA, Rie (RIKEN)

Contribution ID: **29** Type: **not specified**

P4:Measurement of proton elastic scattering for 50Ca with telescope array DELTA in TRIP MESA program

Tuesday 11 March 2025 16:30 (10 minutes)

Presenter: NAKADA, Tomoya (Kyoto University)

Contribution ID: **30** Type: **not specified**

P5:Measurement of proton elastic scattering of 44Ti in the TRIP-MESA

Tuesday 11 March 2025 16:40 (10 minutes)

Presenter: TAKESHIGE, Shoko

Contribution ID: **34** Type: **not specified**

Round-table conference

Tuesday 11 March 2025 17:20 (1h 40m)

Banquet

Contribution ID: **35** Type: **not specified**

P7:Measurement of Interaction Cross Sections and Investigation of Deformation Effects in Neutron-rich Zr Isotopes

Tuesday 11 March 2025 16:50 (10 minutes)

Presenter: TAKAYAMA, gen

Contribution ID: **36** Type: **not specified**

P9:Measurement of proton elastic scattering from 136Xe at 200 and 300 MeV/nucleon

Tuesday 11 March 2025 17:00 (10 minutes)

Presenter: YANO, Takayuki (Kyoto University)

Contribution ID: **37** Type: **not specified**

P6:Systematic Study on Interaction Cross Sections and Neutron Skin Thickness for Ni Isotopes

Tuesday 11 March 2025 16:40 (10 minutes)

Presenter: FUKUTOME, Miki (Osaka University)

Contribution ID: **39** Type: **not specified**

P8:Measurements of Isomer Ratio of 12Be beams and Precise Branching Ratio and Half-Life

Tuesday 11 March 2025 16:50 (10 minutes)

Presenter: TAGUCHI, Ryo (Osaka University)

Contribution ID: **40** Type: **not specified**

P10:Charge states of heavy ion beams near atomic number 40 in the energy region 250 MeV/u

Tuesday 11 March 2025 17:00 (10 minutes)

Presenter: TSUJISAKA, Tasuku

Contribution ID: **41** Type: **not specified**

P11:Measurements of isomers around the A~100 region for TRIP-S3CAN

Tuesday 11 March 2025 17:10 (10 minutes)

Presenter: ITO, Nao