RIBF ULIC Symposium/Mini-WS Report

Report date	

Name of Applicant	**Tetsufumi Hirano**	Affiliation	**Sophia university**

Workshop reference number	**RIBF-ULIC Mini-WS042**
Title	**Exploring nuclear shapes through RIBF studies and high-energy nuclear collisions**
Date	**2024 Sep. 30**
Venue	**RIBF #201**
Language	**Japanese**
Workshop website	**https://indico2.riken.jp/event/4878/**
Contact Person(s) (Name, Affiliation)	**T. Hirano(Sophia), K. Hagino(Kyoto), C. Nonaka(Hiroshima), M. Kitazawa(京都), S. Nishimura(RIKEN)**

Summary of discussions and its (expected) results

Recent advancements in transport models and machine learning techniques have enabled detailed investigations of nuclear properties using event-by-event analysis of heavy-ion collision data. This workshop brought together experts from both fields to discuss recent developments and explore new research directions. We aimed to foster collaboration between researchers in heavy-ion collisions and nuclear structure/reaction physics, with a focus on understanding nuclear shapes and deformations through the analysis of flow data.

Presentations and Discussions:
The workshop featured presentations from both heavy-ion and nuclear structure communities. The invited speakers [Murase, Sakai, Nara, Yamagami, Hagino, Fukuda, Nishimura] gave talks on their respective research areas, covering topics such as:
- The theoretical foundations of flow simulations in heavy-ion collisions
- Analysis of experimental data from Xe+Xe collisions
- Microscopic transport models for heavy-ion collisions
- Basics of Nuclear deformation and its impact on nuclear properties
- Measurements of reaction cross sections using polarized beams

The presentations were followed by lively discussions, which highlighted the complementarity of the two fields.

Outcomes and Future Directions:
The workshop was highly successful in fostering collaboration between the two communities. Key outcomes include:
- A deeper understanding of the connections between nuclear structure and heavy-ion collision phenomena.
- The initiation of several new collaborative projects.
- A consensus to organize the next workshop