RIBF ULIC Symposium/mini-WS Report

* English only

Date: 3 Mar. 2023

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Title	[RIBF-ULIC-miniWS039: Nuclear Physics in Stellar Evolution and Explosive Objects]
Date	20, 21 Feb. 2023
Place	RIBF Large Conference Room, RNC, RIKEN
Language	[ ] English [✔] Japanese
HP address	https://indico2.riken.jp/event/4404/
Contact Person(s) (Name, Affiliation)	Nobuya Nishimura (CPR, RIKEN), Akira Dohi (Hiroshima U), D. Suzuki (RNC, RIKEN), Y. Taniguchi (National of Technology (KOSEN), Kagawa Collage)

Financial support from ULIC (Users Office Use Only)	Total : JPY
	[Breakdown]
Co-hosting / any financial support from other organization(s)	

Summary of discussions and its (expected) results:

In the workshop, we focused on the physics of nuclear reactions, which are particularly important for stellar nucleosynthesis. The recent activities and future perspective of RIBF in terms of astrophysical reactions were discussed. There were 11 scientific talks covering recent progress in theory, experiments and astrophysics. We also had discussion sessions on "problems of nuclear physics in X-ray bursts" and "key reactions for explosive nucleosynthesis" related to the talks and the status of RIBF facilities. X-ray bursts, an explosive phenomenon on the neutron star surface, provide several important subjects for nuclear experiments and theoretical studies. Based on recent progress in nuclear EOS and the physics of neutron stars, we agreed that considering more realistic astrophysical conditions is highly necessary for further investigations, particularly measurements of fusion reactions in the energy source. In addition, we discussed important nuclear reactions in the proton-rich heavy nuclei, based on the latest “key reactions” by nucleosynthesis calculations.

Participants list (Name, Affiliation):

Main participants:

A. Dohi (Hiroshima U), W. Iwakiri (Chiba U), T. Kawabata (Osaka U), S. Kubono (RIKEN), K. Mori (Fukuoka U), N. Nishimura (CPR, RIKEN), R. Sawada (U Tokyo), D. Suzuki (RNC, RIKEN), K. Takahashi (Tohoku U), Y. Taniguchi (National of Technology, Kagawa Collage), H. Yamaguchi (CNS, U Tokyo)

(The list of other participants is attached.)

Please attach other documents as needed.