

## Direct measurement of the $^{26}\text{Si}(\alpha, p)^{29}\text{P}$ reaction at CRIB for the nucleosynthesis in the X-ray bursts

*Saturday, 20 August 2022 14:00 (15 minutes)*

Nuclear reactions in the  $\alpha p$ -process including the  $^{26}\text{Si}(\alpha, p)^{29}\text{P}$  are important for the nucleosynthesis in X-ray bursts. However, there are not sufficient experimental data of the reactions because radioactive-isotope (RI) beam is required to perform the experiment and the cross section is low. In order to acquire the sufficient nuclear data of the  $^{26}\text{Si}(\alpha, p)^{29}\text{P}$ , a direct measurement was performed at CNS RI beam separator (CRIB), located at RIKEN Nishina Center. We used inverse kinematics with a thick target method for the measurement. In this experiment, multiplexer circuit, Mesytec MUX, was used to acquire data. The details of the experimental conditions and the preliminary results of the analysis are discussed.

**Primary authors:** OKAWA, Kodai; KIM, Minju (Sungkyunkwan University); CHAE, Kyungyuk; HAYAKAWA, Seiya

**Co-authors:** ADACHI, Satoshi; CHA, Soomi; CHILLERY, Thomas; FURUNO, Tatsuya; GU, Gyungmo; HANAI, Shutaro (CNS, the university of Tokyo); IMAI, Nobu (CNS); KAHL, Daid (University of Edinburgh); KAWABATA, Takahiro; KIM, Chanhee; KIM, Dahee; KIM, Sohyun; KUBONO, Shigeru (RIKEN Nishina Center); KWAG, Minsik; LI, Jiatai (Center for Nuclear Study, University of Tokyo); MA, Nanru; MICHIMASA, Shin'ichiro (Center for Nuclear Study, the Univ. of Tokyo); NGUYEN KIM, Uyen; NGUYEN NGOC, Duy; SAKANASHI, Kohsuke; Mr SHIMIZU, Hideki (CNS, Univ. of Tokyo); SIRBU, Oana; YAMAGUCHI, Hidetoshi (Center for Nuclear Study, the University of Tokyo); YOKOYAMA, Rin; ZHANG, Qian

**Presenter:** OKAWA, Kodai

**Session Classification:** Young Scientist Session 1