

Coulomb and Nuclear breakup of ${}^6\text{He}$

Wednesday, 19 August 2020 17:25 (15 minutes)

We performed exclusive measurements of breakup reactions of ${}^6\text{He}$ into ${}^4\text{He}+2n$ on CH₂, C, Sn, and Pb targets at 184 MeV/nucleon using the SAMURAI setup at the RI-beam factory (RIBF).

The highest-statistics experiments in these reactions owing to the combination of NeuLAND and NEBULA neutron detector arrays [1, 2] allowed us to study in detail these breakup reactions, the low-lying excited states, and their decays of neutron-halo nucleus ${}^6\text{He}$. In this presentation, the spectra of the excited state of ${}^6\text{He}$ and the inclusive cross-section for each reaction target will be discussed.

[1] T. Aumann et al., the R3B collaboration, R3B technical design report (2011).

[2] Y. Kondo et al., Nucl. Inst. and Meth. B 463 (2020) 173-178

Field of your work

Experiential nuclear physics

Primary author: SAITO, Atsumi

Co-authors: SAMURAI37 COLLABORATION; Prof. NAKAMURA, Takashi (Tokyo Institute of Technology); Prof. AUMANN, Thomas (TU darmstadt); Dr KONDO, Yosuke (Tokyo Institute of Technology)

Presenters: SAITO, Atsumi; Prof. NAKAMURA, Takashi (Tokyo Institute of Technology)

Session Classification: Young Scientist Session 3