



国立研究開発法人理化学研究所 仁科加速器科学研究センター
第310回 RIBF核物理セミナー
RIKEN Nishina Center for Accelerator Based Science
The 310th RIBF Nuclear Physics Seminar

A four-neutron system probed via alpha knockout reaction from 8He

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Whether multi-neutron systems can exist as weakly bound states or very short-lived unbound resonant states has been a long-standing quest. The discovery of such a system would have far-reaching implications for many aspects of nuclear physics, from the nature of the force itself up to the way it builds nuclei, and also for the modeling of neutron stars. The experimental search for isolated multi-neutron systems has been going for six decades, with a particular focus on the four-neutron system, the tetra-neutron, resulting in up to date only few indications for its existence, leaving it an elusive nuclear system. In this seminar I will present our very recent result, published in Nature[1], from an experiment performed at the SAMURAI experimental setup. Using a new experimental approach based on a knockout reaction of an alpha particle at large momentum transfer from radioactive high-energy 8He beam we were able to investigate the four-neutron system. [1] M. Duer et al., Nature 606, 678 (2022)

July 26th (Tue), 2022 16:00 ~
via Zoom Meeting System



* The talk will be given in English language.

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