



国立研究開発法人理化学研究所 仁科加速器研究センター
第206回 RIBF核物理セミナー

RIKEN Nishina Center for Accelerator Based Science
The 206th RIBF Nuclear Physics Seminar

A candidate of a tetra-neutron state populated by ${}^4\text{He}({}^8\text{He}, {}^8\text{Be})$ reaction

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A possible existence of the tetra-neutron system forming a resonance state is still an open and fascinating question, while theoretical and experimental studies suggest that the tetra-neutron forming a bound state does not exist. Search of a tetra-neutron state has been performed by measuring the double-charge exchange reaction ${}^4\text{He}({}^8\text{He}, {}^8\text{Be})$ at 186 MeV/u at RIBF with the SHARQA spectrometer. Utilizing large positive Q-value of the $({}^8\text{He}, {}^8\text{Be})$ reaction, almost recoil-less condition of the four-neutron system was achieved so as to obtain weakly interacting four-neutron systems efficiently. A candidate of a tetra-neutron state has been found with 4.9σ significance level at the energy of $0.83 \pm 0.65(\text{stat.}) \pm 1.25(\text{sys.})$ MeV above the threshold of four-neutron decay. The detail of the experiment, its result and a possible interpretation will be presented.

* The talk will be given in English language..

July 21st (Tue.) 2015 13:30 ~
RIBF Hall (rm.201), RIBF bldg., RIKEN

Contact: Nuclear Physics Seminar Organizing Committee
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講演標題(日本語)

講演標題(英語)

?????氏

(所属日本語)

Dr. ???

(所属英語)

Abstract

* The talk will be given in English.

Feb 10(Tue.) 2015 15:30 ~
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