



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244回 RIBF核物理セミナー
RIKEN Nishina Center for Accelerator Based Science
The 244th RIBF Nuclear Physics Seminar

Probing neutron-neutron correlation in ^{11}Li through the quasi-free (p,pn) reaction

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Dineutron correlation is one of the phenomena expected to appear in neutron drip-line nuclei. ^{11}Li is one of the best suited systems to study the dineutron correlation because it is considered to play a major role in the binding mechanism.

It has long been studied using different approaches. However, the currently available data seems insufficient in terms of (i) the decomposition of high-angular-momentum components, (ii) the extraction of a core excitation, (iii) and the effect of the final state interactions (FSIs).

To overcome these problems, we performed the kinematically complete measurement on ^{11}Li by employing the quasi-free (p,pn) reaction. The experiment was carried out at the RIKEN RIBF by using the SAMURAI spectrometer combined with the liquid hydrogen target system MINOS. Recoil particles were measured by the neutron detector WINDS and a recoil proton detector, developed for this project.

It was suggested experimentally for the first time that the dineutron correlation in ^{11}Li is developed in the surface region. The averaged opening angle indicates the dineutron correlation in ^{11}Li is weaker than previously reported.

* The talk will be given in English language..

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RIBF Hall, RIBF bldg., RIKEN

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