



独立行政法人理化学研究所 仁科加速器研究センター

第94回RIBF核物理セミナー

RIKEN Nishina Center for Accelerator Based Science

The 94th RIBF Nuclear Physics Seminar

Triaxiality of excited states in sd-shell nuclei

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Various structures coexist in nuclei, such as cluster structure, shape coexistence, superdeformation, and triaxial deformation. In this talk, triaxiality of excited states in sd-shell nuclei will be discussed. A main topic is triaxial superdeformed (SD) states in ^{40}Ar . A $K = 0^+$ SD band was confirmed very recently [1]. Using the deformed-basis antisymmetrized molecular dynamics and the generator coordinate method, the $K = 0^+$ SD states are reproduced. Intra-band E2 strengths of the $K = 0^+$ SD band match experimental data. Main components of the SD band form triaxial shapes, and owing to the triaxial deformations a $K = 2^+$ band is obtained.

To understand nuclear structure, it is important to take into account triaxiality.

Ref.

[1] E. Ideguchi et al, arXiv:0910.5079 (2009).

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Nishina Hall, RIKEN

The seminar will be given in English.

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