



独立行政法人 理化学研究所

原子核グループ

第8回 RIBF 核物理セミナー

RIKEN Nuclear Physics Group

The 8th RIBF Nuclear Physics Seminar

Nuclear Shape Isomers, Shape Coexistence, and Nuclear Ground State Reflection and Axial Shape Asymmetries

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Laboratory, USA)

Abstract

In a macroscopic-microscopic approach we have calculated the nuclear potential energy as a function of several shape-degrees of freedom, including axial asymmetry for more than 7000 nuclei. Many nuclei exhibit oblate-prolate shape isomerism and others triple shape isomerism or even more complex shape isomerism. Our approach enables us to calculate the saddle-point heights between all pairs of minima. We expect that higher saddles indicate that the isomeric minima are more stabilized with respect to decay. We survey systematically where different types of shape isomerism occurs in the chart of the nuclides. We also obtain that the ground-state shapes of some nuclei are axially asymmetric. We compare our results to observed level spectra and discuss the effect of axial asymmetry on calculated nuclear masses.

The seminar will be given in English

Dec. 15 (Tue), 2005 10:30-
Conference Hall, RIBF Bldg. 2F

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