

TRIAXIALITY OF EVEN-EVEN NUCLEI WITH QUADRUPOLE AND OCTUPOLE DEFORMATIONS

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The real observed excitation spectrum of deformed nuclei is complex and contains levels having both a rotational nature and levels arising from collective vibrations. The collective spectra of atomic nuclei with axial-symmetry quadrupole and octupole deformations are characterized by rotational bands with alternating parity.

Earlier energy sequences with alternating parity of deformed axial-symmetry even-even nuclei described within a collective model with non-adiabatically coupled quadrupole and octupole degrees of freedom. Satisfactorily reproduced the structure of the yrast and first non-yrast alternating-parity sequences in the rare-earth nuclei ^{150}Nd , $^{152,154}\text{Sm}$, $^{154,156,158}\text{Gd}$, ^{156}Dy , $^{162,164}\text{Er}$ and the actinides ^{224}Ra , ^{228}Th , $^{232;234;236;238}\text{U}$, ^{240}Pu . It should be noted that in the experiments one can observe energy bands, which cannot be explained framework the nuclei models with axially-symmetric multipole deformations. For example, the spectrum of γ -band energy levels. In present work we are attempt to describe energy spectrum of yrast-, non-yrast- and γ -bands even-even nuclei framework the model with triaxial-asymmetric multipole deformations.

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