

Study of Alternating-Parity Spectra in Ba-Ce Nuclei

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We study the specific features of alternating-parity spectra in the region of Ba and Ce nuclei in comparison to the structure of analogous excitations in heavier rare-earth and actinide nuclei. The spectra in Ba-Ce nuclei are characterized by larger parity-shift at low angular momenta, compared to the other regions, which sharply decreases at the higher levels forming a single band with irregular-staggering structure. In addition our analysis shows that the structure of the even-parity level-sequences strongly deviates from the pure rotation behaviour, whereas the odd-parity sequences exhibit rather well pronounced rotation structure. Given the above peculiarities of the considered spectra we examine the possibility to describe them within the framework of the Quadrupole-Octupole Rotation Model (QORM) earlier developed in Sofia group. Preliminary results of model calculations performed for several nuclei are presented.