

EQUILIBRIUM SHAPES AND HIGH-SPIN PROPERTIES OF THE NEUTRON-RICH $A \approx 100$ NUCLEI¹

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Shapes and high-spin properties of nuclei from the neutron-rich ($N > 56$) zirconium region are calculated using the Nilsson-Strutinsky method with the cranked Woods-Saxon average potential and a monopole pairing residual interaction. The shape coexistence effects and the competition between rotationally aligned $1h_{11/2}$ neutron and $1g_{9/2}$ proton bands is discussed. Predictions are made for the low-lying superdeformed bands in this mass region, characterized by the intruder states originating from the $\mathcal{N}=5$ and 6 oscillator shells.

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