



Nuclear Theory

The platinum nuclei: concealed configuration mixing and shape coexistence

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The role of configuration mixing in the Pt region is investigated. For this chain of isotopes, the nature of the ground state changes smoothly, being spherical around mass $A \sim 174$ and $A \sim 192$ and deformed around the mid-shell $N=104$ region. This has a dramatic effect on the systematics of the energy spectra as compared to the systematics in the Pb and Hg nuclei. Interacting Boson Model with configuration mixing calculations are presented for gyromagnetic factors, α -decay hindrance factors, and isotope shifts. The necessity of incorporating intruder configurations to obtain an accurate description of the latter properties becomes evident.

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