Frontiers in Gamma Ray Spectroscopy FIG18

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A global analysis of the nature of γ-bands in A = 100-200 mass nuclei

Content :

The nature of γ-bands is discussed through the variation of the energy of the lowest 2+ excitation and the energies of excited level sequence of γ-bands with respect to various parameters. The shape phase transition observed at N = 88-90 is reviewed through the γ-band. We attempted to find a correlation between the properties of ground band and the γ-band. The band head energy of γ-band is found to be correlated with the collective shape signature observable R4/2, however, in the excited level sequence of γ-band, this correlation is not well understood. The collectivity in the γ-band is observed to be different than that of the ground state, hence, the two bands differ in deformation. The growth of collectivity in γ-band is not similar in particle-particle and particle-hole regions.

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