

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 $R_4/2$, 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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