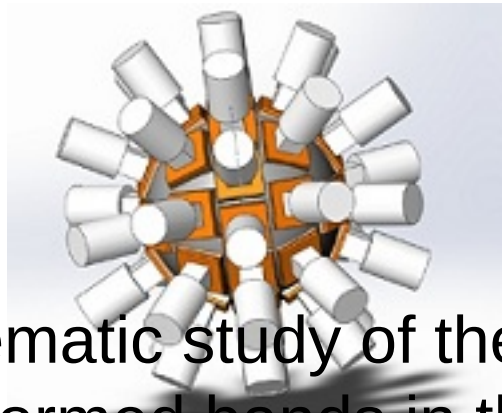


Frontiers in Gamma Ray Spectroscopy

FIG18

Contribution ID : 4



Systematic study of the “flat” superdeformed bands in the $A \approx 190$ mass region

Content :

A systematic study of the “flat” SD bands of odd-A isotopes of Pb is done by using the two parameter exponential model with pairing attenuation. The least-squares fitting procedure is employed to extract the fitting parameters of the 9 superdeformed bands of the Pb isotopes which show almost constant variation of the dynamic moment of inertia with rotational frequency. The effective pairing parameter Δ_0 obtained using exponential model flat bands reveals very astonishing results. The Δ_0 parameter, which may be analogous to the dynamic pairing parameter [1], obtained is almost negligible for the flat SD bands. The systematic study also reveals that, smaller the effective pairing gap parameter is, more quenched is the increase of the dynamic MoI with increasing rotational frequency. The Mottelson-Valatin effect [2] suppress the static pairing in the SD bands and any remaining correlations are of dynamic character [3]. The present study reveals that for the flat bands, the static and dynamic pairing correlations do not play a significant role.

References:

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Session classification : --not yet classified--

Track classification : --not yet classified--

Type : Poster