

Frontiers in Gamma Ray Spectroscopy FIG18

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Evidence of γ -instability in ^{124}Te

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Content :

Investigation of Te-nuclei has been subject of considerable interest because of their transitional character. Particularly, the $h_{11/2}$ orbital play important role in Te nuclei, because the alignments of low- Ω $h_{11/2}$ valance protons outside the core drive the nucleus towards prolate shape and the aligned high- Ω neutrons drive the nucleus towards oblate shape and induces tri-axiality. As of this, bands associated with β and γ deformation have been observed in these nuclei. Systematically, band structures associated with particle-hole configurations have been studied up to high spin, however, the structures of low lying non-yrast states are not well studied in these nuclei. The experimental data is very limited in the literature regarding non yrast states, hence, low lying states of ^{124}Te were investigated via $^{122}\text{Sn}(^9\text{Be}, \alpha^3n)^{124}\text{Te}$ reaction using INGA facility installed at 15 UD Pelletron accelerator at IUAC, New Delhi. The non-yrast states have been studied up to 12 \hbar . Results of the investigation will be discussed in the conference.

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