Excitations of transitional nuclei near A $\sim$110

R. Palit,[1] J. Sethi,[1] S. Saha,[1] T. Trivedi,[1] and for INGA collaboration

[1]*Tata Institute of Fundamental Research, Mumbai-400005, INDIA*

Study of band structures of nuclei from symmetry consideration plays an important role in understanding different phenomena in nuclear structure. In selected regions of nuclear landscape, axial symmetry is broken and these nuclei, referred to as transitional nuclei, are described using the triaxial deformed mean-field. There are several empirical observations indicating that axial symmetry is broken in transitional regions. The structure of the gamma vibrational bands and its decay provide information about the nature of triaxial shapes. In addition, the chiral rotation is uniquely related to the triaxial nuclear shapes. Recently, RMF calculations [1] predict multiple chiral bands in some of the odd-odd isotopes of Ag, Rh and In owing to their triaxial shape. Here, we would discuss the recent results from gamma-spectroscopy study on odd-odd isotopes in A $\sim$ 110 region [2–4]. The experiments were performed using the Indian National Gamma Array (INGA) consisting of 24 Compton suppressed clover detectors coupled to a digital data acquisition system [5]. The polarization, angular correlation and lifetime measurements were performed in the different bands of ^{108}Ag and ^{112}In. Comparison of the tilted axis cranking model and projected shell model calculations with the measured energy levels and transition strengths will be discussed for these nuclei to probe their triaxial structure.

Acknowledgement: Authors would like to thank the INGA collaboration for the support. The help of the accelerator staff for providing stable beam during the campaign is gratefully acknowledged. This work was partially funded by the Department of Science and Technology, Government of India (No. IR/S2/PF-03/2003-I).

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