M1 and E2 band structures in the Sn–Xe–Ba region

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Abstract. In the present talk I will discuss some ‘rare’ aspects of the E2 band structures and the novel features concerning the dipole bands in this mass region. Reliable and accurate lifetimes have been measured using coincidence recoil distance method. The results of $^{120,130}$Ba will be discussed. In contrast to the predictions of the tilted axis cranking model, the dipole bands in Sb–Xe–Ba nuclei can be nicely described as high-K prolate bands. New data from multi-detector arrays has established extended bands structure, their decay to low lying states have been established and the angular correlation supports the predominant, $\Delta I = 1$ character. Finally the sensitive measures, i.e. $B(M1)$ rates of the tilted axis model are compared with the high-K formula based on 1-dim cranking model.

Keywords. Nuclear structure; recoil distance method; cranking model.

PACS Nos 21.10.Tg; 23.20.Lv

*For the Köln Group and Collaborators in Italy, Heidelberg, Risø.