CHIRAL BANDS IN ^{193}TL

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Research conducted at iThemba LABS showed that chiral symmetry can develop in the thallium isotopes in the 190 mass region [1-5]. In order to increase the knowledge about chirality in this mass region, a ɣ-spectroscopy study of ^{193}Tl was performed at iThemba LABS. The previous level scheme of ^{193}Tl [6] was modified and extended. Spin and parity were assigned to most of the levels. Three negative parity bands showing similar properties were identified. These bands were associated with the same $\pi h_{9/2} x \nu i_{13/2}^{2}$ configuration which is suitable for chiral symmetry. The observed near-degeneracy is good and indicates the presence of chiral symmetry. The results from theoretical calculations using the Cranked Nilsson-Strutinsky (CNS) codes and the multi-particle-plus-triaxial rotor (MPR) model of Carlsson and Ragnarsson [7-9] are in agreement with the proposed observation of chiral symmetry. Possible multiplet of chiral systems will be discussed.

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