Frontiers in Gamma Ray Spectroscopy FIG18

Contribution ID : 38

Negative Parity States in 124Te

Content :

Investigation of Te-nuclei could provide a base to study shape and phase evolution in nuclei, as it lies between spherical vibrator (Sn) and γ-soft triaxial rotor (Xe, Ba). Systematically, coexistence of collective and non-collective states has been observed in 118-122Te [1-3]. In order to extend systematic on Te-nuclei, high spin states of 124Te has been populated via 124Sn(9Be,α3n)124Te reaction using INGA array, with 48 MeV beam energy provided by 15UD pelletron accelerator facility at IUAC, New Delhi. Several new excited energy levels have been found in recent measurement based on γ-γ coincidence method. Spin and parity of these excited states have been assigned on the basis of angular correlation and linear polarization measurement. Preliminary results of this work have been reported in ref. [4]. Negative parity states, which may be formed by coupling of υh11/2 orbital with available υg7/2, υd5/2 υs1/2 and υd3/2 orbitals lying near N=72 Fermi surface, have been established in present work.

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