

## THE $^{157}\text{Yb}$ DECAY

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The investigations of the nuclei characteristics in the transition area ( $N = 88$ ;  $Z = 67, 68$ ) in the odd-odd nuclei  $^{156}\text{Ho}$ ,  $^{158}\text{Ho}$ ,  $^{160}\text{Ho}$  have been accomplished and the detailed research of the transition area:  $^{158}\text{Tm}$ ,  $^{160}\text{Tm}$ ,  $^{162}\text{Tm}$  has been begun in the program of studies.

The comprehension of odd-odd nuclei's characteristics and structures may be of great importance about the characteristics and structures lying near odd/even and odd/odd nuclei. The characteristics of odd/even nucleus  $^{157}\text{Tm}$  (a decay of  $^{157}\text{Yb}$ ,  $^{157}\text{Tm}$ ) together with  $^{157}\text{Er}$  could be perceived as a basis to  $^{158}\text{Tm}$  and it is suggested to be discussed at this moment.

The decay scheme  $^{157}\text{Yb} \rightarrow ^{157}\text{Tm}$  has been justified by the results of  $\gamma$ - $\gamma$ -coincidence measurements. Based on the measurements of the spectra of electron conversion, at the decay of  $^{157}\text{Yb}$ , we have determined internal conversion rate for number of transitions and the characteristics of  $I^\pi$  for some of the excited states (105.7 keV,  $I^\pi = 3/2^+$ ; 164.7 keV,  $I^\pi = 3/2^-$ ; 231.1 keV,  $I^\pi = 3/2^+$ ; 347.8 keV,  $I^\pi = 5/2^+$ ; 353.9 keV,  $I^\pi = 5/2^-$ ), and also the characteristics  $I^\pi$  of the isomeric state 35.3 keV. This state is popular with  $\gamma$ -transition 129.3 keV of the type E2 from the level of 164.5 keV, from this level also follows the E1-transition in the ground state of  $^{157}\text{Tm}$  ( $1/2^-$ ). Therefore, probably, the isomer has the characteristics as it follows:  $I^\pi = 7/2^-$ .

1. V.I.Stegailov *et al.* // Abstr. of conf. on Nuclear Physics "Nucleus 1994" St.-Pb., 1994. P.66.