# $^{157}$Lu

The observation of $^{157}$Lu was reported by Hagberg et al. in the 1977 paper "Alpha decay of neutron-deficient ytterbium isotopes and their daughters" (1977Ha48). The CERN synchro-cyclotron was used to bombard tantalum with 600 MeV protons. $^{157}$Lu was separated with the ISOLDE on-line mass separator facility and $\alpha$ particles were measured with two silicon surface-barrier detectors. "At this mass number, we have also observed two short-lived activities with $\alpha$-energies 4.98±0.02 MeV and 5.11±0.02 MeV. The latter corresponds well to the known $\alpha$-decay energy of $^{153}$Tm and thus we assign the 4.98 MeV activity to its $\alpha$-decay parent $^{157}$Lu." Hagberg et al. mention that their result differs significantly from a previous measurement referring to a conference abstract (1972GaZR). The measured $\alpha$ energy corresponds to a decay from the 4.5(15) s isomeric state (1979Ho10) and the half-life of the ground state (9.6(8) s) was measured fourteen years later by Lewandowski et al. (1991Le15).

Adapted from reference (2012Gr19)


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