^{144}Tb

^{144}Tb was first observed in 1982 by Sousa et al. published in "Identification of ^{145}Tb and ^{144}Tb and levels in the N=81 nucleus, ^{145}Gd" (1982So02). Enriched ^{144}Sm oxide targets were bombarded with a 129 MeV ^{10}B from the Texas A&M isochronous cyclotron and ^{144}Tb was formed in the reaction ^{144}Sm(^{10}B,α6n). Gamma-ray spectra were measured with Ge(Li) detectors in combination with a He-jet system. "One of the latter peaks, 742.9 keV, is assigned to the new isotope ^{144}Tb. The assignment is based mainly on two facts: (1) the γ ray is in coincidence with gadolinium K x rays, and (2) its energy corresponds to the known 2^+ (first excited state) $\rightarrow$ 0^+ (ground state) transition in ^{144}Gd. In addition, the γ ray was first observed at a ^{10}B energy of 114 MeV, that is, approximately 20-25 MeV above the threshold for the production of ^{145}Tb." The measured half-life of 5(1) s corresponds to an isomeric state. Five month later, Nolte et al. independently measured a 4.5(5) s half-life as well as a 1.5(1) s half-life corresponding to the ground state of ^{144}Tb (1982No08).

Adapted from reference (2013Ma01)

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