

¹⁴⁰Tb

The first observation of ¹⁴⁰Tb was reported by Wilmarth et al. in their 1986 paper entitled “Beta-delayed proton emission in the lanthanide region” (1986Wi15). ⁵⁴Fe beams of 298 and 276 MeV from the Berkeley SuperHILAC bombarded a ⁹²Ru target. ¹⁴⁰Tb was produced in the (3p3n) fusion-evaporation reaction. Beta-delayed particles, X-rays and γ -rays were measured following mass separation with the on-line isotope separator OASIS. “Delayed protons with a half-life of 2.4 ± 0.5 s are associated with the new isotope ¹⁴⁰Tb based on coincident Gd K x-rays. The decay of the 329 keV (2^+ to 0^+) γ -ray following β -decay of ¹⁴⁰Tb yielded a half-life of 2.3 ± 0.6 s.”

Adapted from reference (2013Ma01)

1986Wi15 P. A. Wilmarth, J. M. Nitschke, R. B. Firestone, and J. Gilat, Z. Phys. A **325**, 485 (1986).

2013Ma01 E. May and M. Thoennessen, At. Data Nucl. Data Tables **99**, 1 (2013).

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