

¹⁵⁴Tm

“Alpha-decay properties of some thulium and ytterbium isotopes near the 82-neutron shell” by Macfarlane announced the discovery of ¹⁵⁴Tm in 1964 ([1964Ma45](#)). Praseodymium oxide and neodymium oxide (enriched in ¹⁴²Nd) were bombarded with 131–195 MeV ²⁰Ne and 121–185 MeV ¹⁹F beams from the Berkeley heavy-ion linear accelerator Hilac. ¹⁵⁴Tm was formed in (7n) fusion evaporation reactions and identified by measuring excitation functions and α -decay spectra. “A second Tm alpha group decaying with a half-life of 2.98 sec was observed at an alpha-particle energy of 5.04 MeV. On the basis of alpha-decay systematics the most likely mass assignment appeared to be Tm¹⁵⁴.” In addition, an alpha decay with a half-life of 5 s was measured for ¹⁵⁴Tm. The latter half-life corresponds to the ground state.

Adapted from reference ([2013Fr10](#))

[1964Ma45](#) R. D. Macfarlane, Phys. Rev. **136**, B941 (1964).

[2013Fr10](#) C. Fry and M. Thoennessen, At. Data Nucl. Data Tables **99**, 520 (2013).

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