

¹⁴²Eu

¹⁴²Eu was observed in 1966 by Malan et al. as reported in “The europium isotopes ¹⁴²Eu, ¹⁴³Eu, and ¹⁴⁴Eu” (1966Ma15). The Karlsruhe cyclotron was used to bombard enriched ¹⁴⁴Sm₂O₃ targets with 15–40 MeV deuterons and ¹⁴²Eu was formed in the reaction ¹⁴⁴Sm(d,4n). Gamma-ray spectra were measured with two NaI(Tl) detectors following chemical separation. “Both for chemical and genetic reasons the one-minute component is therefore identified as ¹⁴²Eu. Calculation of the half-lives by means of the IBM computer gave 1.2±0.2 min for ¹⁴²Eu and 72.49±0.05 min for ¹⁴²Sm.” This level corresponds to an isomeric state and the ground state half-life (2.4(2) s) was measured nine years later by Kennedy et al. (1975Ke08).

Adapted from reference (2013Ma01)

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