

¹⁴²Dy

The first observation of ¹⁴²Dy was reported by Wilmarth et al. in their 1986 paper entitled “Beta-delayed proton emission in the lanthanide region” (1986Wi15). A 247 MeV ⁵⁴Fe beam from the Berkeley Super HILAC bombarded a ⁹²Mo target and ¹⁴²Dy was produced in the fusion-evaporation reaction ⁹²Mo(⁵⁴Fe,2p2n). Beta-delayed particles, X-rays and γ -rays were measured following mass separation with the on-line isotope separator OASIS. “A β -delayed proton activity with a single component half-life of 1.8 ± 0.6 s is assigned to the new isotope ¹⁴²Dy, on the basis of Tb K x-rays observed in coincidence with protons. Independent analysis of the decay of the Tb x-rays and associated γ -rays results in a ¹⁴²Dy half-life of 2.3 ± 0.8 s.”

Adapted from reference (2013Fr10)

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

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

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