

¹⁴⁵Sm

¹⁴⁵Sm was discovered in 1947 by Inghram et al. as reported in the paper “Activities induced by pile neutron bombardment of samarium” ([1947In07](#)). A Sm₂O₃ sample was irradiated with neutrons at the Hanford Pile. ¹⁴⁵Sm was subsequently identified by mass spectroscopy at Argonne National Laboratory. “The Sm¹⁴⁵ was formed by (*n,γ*) reaction on Sm¹⁴⁴. It probably decays by K-capture or positron emission to 61¹⁴⁵. Since the ratio of blackening at 145 and 161 positrons is that characteristic of samarium, the half-life of the 61¹⁴⁵ can not be the same order of magnitude as the half-life of Sm¹⁴⁵. The half-lives of Sm¹⁴⁵ and Gd¹⁵³ were shown to be greater than 72 days by comparison with the decay of 72-day Tb¹⁶⁰.”

Adapted from reference ([2013Ma01](#))

[1947In07](#) M. G. Inghram, R. J. Hayden, and D. C. Hess Jr., Phys. Rev. **71**, 643 (1947).

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

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