^{145}Pm

^{145}Pm was first observed in 1951 by Butement from the Atomic Energy Research Establishment in Harwell, UK, as described in "Radioactive samarium-145 and promethium-145" (1951Bu18). Neutron irradiation of a very pure samarium oxide sample was used to produce ^{145}Sm which then decayed to ^{145}Pm. Characteristic K X-rays were measured following chemical separation. "It is concluded that samarium-145 decays by orbital electron capture, with a half-life of 410 days, into promethium-l45, which also decays by orbital electron capture into stable neodymium-145. By measuring the relative K X-ray activities of the samarium-145, and the promethium-145 descended from it in a known time, and assuming equal counting efficiencies for these two X-rays of nearly equal energies, the half-life of promethium-145 was calculated to be approximately thirty years."

Adapted from reference (2012Ma48)

1951Bu18 F. D. S. Butement, Nature **167**, 400 (1951).
2012Ma48 E. May and M. Thoennessen, At. Data Nucl. Data Tables **98**, 960 (2012).

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