^{240}Pu

In 1949, James et al. identified ^{240}Pu in "Products of helium-ion and deuteron bombardment of U^{235} and U^{238}" (1949Ja01). Natural uranium and ^{238}U targets were bombarded with 32 MeV α particles from the Berkeley 66-inch cyclotron forming ^{240}Pu in the (α,2n) reaction. X-rays, γ-rays and α particles were measured following chemical separation. "It was therefore concluded that this excess of α particles was due to Pu^{240}, which emits α particles with an energy very close to but slightly less than those of Pu^{239}. On the basis of this broadening, the range was taken as 3.60 cm of air; and from the yield of these α particles the half life of Pu^{240} was estimated to be approximately 6,000 years." James et al. credited a private communication by Chamberlain, Farwell and Segrè with the first observation of ^{240}Pu.

Adapted from reference (2013Fr02)

1949Ja01 R. A. James, A. E. Florin, H. H. Hopkins Jr., and A. Ghiorso, The Transuranium Elements: Research Papers, Book 2, Vol. 14B, paper 22. 8, G. T. Seaborg ed. , p. 1604 (1949).

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