

⁴⁷Sc

⁴⁷Sc was identified correctly for the first time by Hibdon and Pool in the 1945 paper “Radioactive Scandium. II” (1945Hi04). 20 MeV α -particles, 10 MeV deuterons and 5 MeV protons were accelerated by the Ohio State University 42-inch cyclotron and decay curves were measured with a Wulf unifilar electrometer (1945Hi05). “This radioactive isotope [Sc^{47}] has been reported to have a half-life of 2.62 days and to emit 1.1 Mev electrons. These observations are not confirmed. A new radioactive isotope has, however, been produced by bombarding calcium with alpha-particles and to some extent by bombarding calcium with deuteron and proton. It emits beta-rays of 0.46 Mev and has a half-life of 3.4 days. This assignment is made to Sc^{47} .” In addition to the mentioned incorrect observation published in 1940 (1940Wa01), a 1938 paper had tentatively assigned the half-life of 28 h measured by Pool et al. (1937Po04) to ⁴⁷Sc (1938Co01).

Adapted from reference (2011Me01)

- 1937Po04 M. L. Pool, J. M. Cork, and R. L. Thornton, Phys. Rev. **52**, 239 (1937).
1938Co01 J. M. Cork and R. L. Thornton, Phys. Rev. **53**, 866 (1938).
1940Wa01 H. Walke, Phys. Rev. **57**, 163 (1940).
1945Hi04 C. T. Hibdon and M. L. Pool, Phys. Rev. **67**, 313 (1945).
1945Hi05 C. T. Hibdon, M. L. Pool, and J. D. Kurbatov, Phys. Rev. **67**, 289 (1945).
2011Me01 D. Meierfrankenfeld, A. Bury, and M. Thoennessen, At. Data Nucl. Data Tables **97**, 134 (2011).

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