

⁴⁹Fe

⁴⁹Fe was first observed by Cerny et al. in 1970 and reported in the paper “⁴⁹Fe: A New $T_z = -3/2$ Delayed-Proton Emitter” (1970Ce02). The reaction $^{40}\text{Ca}(^{12}\text{C},3n)$ using 65 A·MeV carbon ions accelerated by the Harwell variable-energy cyclotron was used to produce ⁴⁹Fe. Beta-delayed protons were measured with a semiconductor telescope consisting of two surface-barrier detectors. “[The figure] presents a proton spectrum from ⁴⁹Fe produced from a 2.2 mg/cm² Ca target. A single peak corresponding to a c.m. energy of 1.96(0.5) MeV, after correction for energy loss in the target, dominates the proton decay.” The half-life was measured to be 75(10) ms.

Adapted from reference (2010Sc18)

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