^{138}Pm

"Structure of even-even ^{138}Nd from the decay ^{138}Pm" by Deslauriers et al. from the Foster Radiation Laboratory at McGill University, reported the observation of ^{138}Pm in 1981 (1981De38). Nd_2O_3 targets enriched in ^{142}Nd were bombarded with 35−80 MeV protons and ^{138}Pm was formed in the reactions ^{142}Nd(p,5n). Conversion electron spectra, as well as γ- and X-rays were measured. "The decay half-life of ^{138}Pm was measured accurately by the following time decay of the intense 437.4, 493.1, 520.9, 729.0, 1,279.1 keV gamma rays over a period of about 5 half-lives. The data were corrected for electronic dead time effects using the constant rate pulser technique and an average value of 3.24±0.05 m was obtained for the half-life of ^{138}Pm. This is in agreement with the value of 3.5±0.3 m measured by van Klinken et al. (1973VaYZ)." The van Klinken reference mentioned in the quote is only an internal report and was not published in a refereed journal. The ground state was first observed two years later (1983Al06).

Adapted from reference (2012Ma48)

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