^{139}Eu

^{139}Eu was observed by van Klinken and Feenstra in 1975 as reported in "Shape implications of unhindered $11/2^- \rightarrow 11/2^-$ β decays in the region with N<82 and Z>50" (1975Va14). Alpha beams accelerated to 140 MeV by the KVI cyclotron in Groningen bombarded enriched ^{144}Sm and ^{142}Nd, and natural praseodymium targets. Gamma- and beta-rays were measured at the end of a pneumatic transport system. "Similarly an $11/2^- \rightarrow 11/2^-$ branch of more than 50% is proposed for the decay of ^{139}Eu, an isotope previously known only through its 112-keV transition." The 22 s half-life is noted in a level scheme. The previous observation of the 112 keV transition mentioned in the quote and a half-life of 22(3) s was only published in a conference proceeding (1973WeZK).

Adapted from reference (2013Ma01)

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