^{214}Fr

Rotter et al. observed ^{214}Fr in 1967 and reported their results in the paper "The new isotope Ac^{216}" (1966Ro12). An 78 MeV ^{12}C beam from the Dubna 1.5 m cyclotron bombarded a bismuth target forming actinium in (xn) reactions. ^{214}Fr was populated by α decay of ^{218}Ac. Recoil nuclei were collected on an aluminum foil and α-particle spectra were measured with a silicon surface barrier detector. "We obtained the following α-particle energies: Rn^{213} - 8.14 MeV, Fr^{214} - 8.53 MeV, and Ra^{215} - 8.73 MeV." This α energy corresponds to an isomeric state. Rotter et al. did not consider this observation a discovery referring to an earlier conference abstract (1962Gr42). The half-lives of the ground state (5.5(5) ms) and the isomeric state (3.6(5) ms) were measured a year later by Valli and Hyde (1968Va18).

Adapted from reference (2013Fr09)

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Please cite this abstract as: "FRIB Nuclear Data Group, *Discovery of Nuclides Project*, Isotope Database, doi:10.11578/frib/2279152"