^{197}Rn

In the 1995 article "New α-decaying neutron deficient isotopes ^{197}Rn and ^{200}Fr," Morita et al. announced the identification of ^{197}Rn (1995Mo14). A 273.6 MeV ^{36}Ar beam from the RIKEN ring cyclotron bombarded an enriched ^{166}Er target forming ^{197}Rn in (5n) fusion-evaporation reactions. Reaction products were separated with the gas-filled recoil separator GARIS and implanted in a position-sensitive silicon detector which also measured subsequent α decay. "The α-decay energies (half-lives) of ^{197}Rn, ^{197m}Rn and ^{200}Fr have been determined to be 7261$\pm$30 keV (51^{+35}_{-15} ms), 7370$\pm$30 keV (18^{+9}_{-5} ms), and 7500$\pm$30 keV, (570^{+270}_{-140} ms), respectively." Three months later Enquist et al.(1996En02) independently reported the observation of this isomeric state which agreed with the value of Morita et al.

Adapted from reference (2013Fr09)

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