^{104}Rh

The credit for the discovery of ^{104}Rh is given to Crittenden from Cornell University for the 1939 paper "The beta-ray spectra of Mg^{27}, Cu^{62} and the nuclear isomers of Rh^{104}" (1939Cr03). Rhodium samples were irradiated with neutrons produced by the bombardment of 1.2 MeV deuterons on lithium. The decay curves of the resulting activities were measured. "The half-life of the long period activity was determined to be 4.37±0.05 minutes. Subtracting the ordinates of the line from the ordinates of the decay curve for small values of the time resulted in the curve shown in curve II [of the figure]. This gave a half-life of 42±2 seconds for the short period activity." The shorter half-life corresponds to the ground state of ^{104}Rh. Half-lives of 44 s (1935Am01, 1938Po10), 3.9 min (1935Am01), 4.2 min (1938Po10), and 4.0 min (1937Po04) were previously reported without definite mass assignments. Crittenden did not consider this observation the discovery of ^{104}Rn, giving credit to a paper by Pontecorvo (1938Po09). However, Pontecorvo had assigned the observed activities incorrectly to ^{105}Rh.

Adapted from reference (2012Pa21)

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