^{98}Nb

"Short-lived Isotopes of Nb and Zr from Fission," published in 1960 by Orth and Smith, reported the first observation of ^{98}Nb (1960Or02). Enriched ^{235}U was irradiated with neutrons in the Los Alamos Laboratory water boiler reactor. ^{98}Nb was chemically separated and measured with β- and γ-scintillation spectrometers. "The resultant decay data, plotted in [the figure], showed components of half-life 51.5±1.0 min and 23 hr. The presence of a strong photopeak at 0.780 MeV which agrees in energy with the first excited (2^+) state of ^{98}Mo as determined by Coulomb excitation, suggested that the 51.5 min activity was that of ^{98}Nb. This tentative assignment was confirmed by (n,p) reaction on ^{98}Mo." The measured half-life corresponds to an isomeric state and the ground state was first observed by Hübenthal seven years later (1967Hu08).

Adapted from reference (2012Ny02)

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