^{169}Hf

^{169}Hf was observed by Arlt et al. as reported in the 1969 paper "The new neutron-deficient isotopes ^{169}Hf, ^{167}Hf, ^{166}Hf, and ^{166}Lu and the decay scheme of ^{169}Hf" (1969Ar23). Protons were accelerated to 660 MeV by the Dubna JINR synchrocyclotron and bombarded Ta_2O_5 targets to form hafnium isotopes in the Ta(p,2pxn) reaction. Gamma-ray spectra were measured with NaI(Tl) and Ge(Li) detectors in singles and coincidences following chemical separation. "To clear up the discrepancies in the data on the A = 169 chain we examined the accumulation of ^{169}Lu after 6 min in the Hf fraction isolated from a Ta target 4 min after the end of the 20 min irradiation. [The Figure] shows the decay curve of the parent as plotted from the intensities of the 191 and 96.2 keV γ rays of ^{169}Lu, and the 198 keV γ ray of ^{169}Yb in Lu preparations separated at 6 min from the Hf fraction. Three runs gave T = 5 $\pm$ 0.5 min for the parent isobar. We have assigned this half-life to ^{169}Hf on the assumption that the Hf fraction did not contain any other elements." A previously reported half-life of 1.5 h (1961Me05) was incorrect. An unsuccessful search for the 1.5 h half-life determined an upper limit of 8 min (1966Ha32).

Adapted from reference (2012Gr19)

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