^{165}W

^{165}W was discovered by Toth et al. in 1975 as reported in "Production and investigation of tungsten α emitters including the new isotopes, ^{165}W and ^{166}W" (1975To05). The isotope was produced with ^{16}O beams from the Oak Ridge isochronous cyclotron bombarding a ^{156}Dy target. The ORIC gas-jet-capillary system transported the nuclei to a collection chamber where the decay of fusion-evaporation residues was measured. ^{165}W undergoes α decay with a half-life of 5.1(5) s and an associated energy of $E_\alpha = 4.909(5)$ MeV. The identification was supported by the following statements: "... the energies determined in this work for ^{165}W and ^{166}W fit well not only as an extension of the data of Eastham and Grant (1973Ea01) but also into the general α-decay systematics in this mass region." Furthermore "... stringent arguments can be presented to exclude the assignment of the new α emitters to isotopes of elements below hafnium. Thus, ... we believe that the two new α groups represent the α decay of ^{165}W and ^{166}W."

Adapted from reference (2010Fr08)

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