^{145}Dy

In 1982, ^{145}Dy was simultaneously discovered by Nolte et al. in "Very proton rich nuclei with N≈82" (1982No08) and by Alkhazov et al. in "New neutron deficient isotopes with mass numbers A=136 and 145" (1982Al07). Nolte et al. used the Munich tandem and heavy-ion linear rf post accelerator to bombard ^{90}Zr with 233−250 MeV ^{58}Ni and ^{145}Dy was populated in the fusion-evaporation reaction ^{90}Zr(^{58}Ni,n2p). Gamma-ray singles and coincidence spectra were measured with Ge(Li) detectors. "From this fit, the half-life of ^{145}Dy was determined to be 13.6±1 s." Alkhazov et al. populated ^{145}Dy by spallation of 1 GeV protons on tungsten and tantalum targets. X-rays, γ-rays and conversion electrons were measured following mass separation with the IRIS on-line mass separator facility. "The new gamma lines with the following energies and intensities: 39.7 /?/, 578.2 /100/, 639.6 /93/ and 804.3 /77/ and with the accepted half-life $T_{1/2}$=18±3 s belong to the decay of ^{145}Dy." The primary credit is given to Alkhazov et al. because their paper was published in June of 1982, while the paper by Nolte et al. was published three months later in September 1982. A month earlier Gui et al. had reported the observation of γ-rays in ^{145}Dy without giving any details (1982Gu07). The observed level corresponds to an isomeric state and the ground state half-life (10.5(15) s) was measured eleven years later by Alkazov et al. (1993Al02).

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