^{173}Re

In 1986, Szymanski et al. reported the existence of ^{173}Re in their paper entitled "Absolute gamma ray abundances of rhenium and tungsten isotopes: Part III, A=173" (1986Sz05). Thin holmium foils were bombarded with a 151.2 MeV ^{16}O beam from the Manchester heavy-ion linear accelerator and ^{173}Re was formed in the fusion-evaporation reaction ^{169}Ho(^{16}O,8n). Reaction products were removed from the target area with a helium jet recoil transportation system and γ-ray spectra were measured. "Three possible candidates for ^{173}Re photons emerged here, at 181.5, 190.7 and 373.6 keV. They were assigned on the basis of excitation function and half-life measurements... All three γ-rays were observed in two experiments, R1 and R2. The decay parameters are given in [the table]. Due to the longer irradiation counting scheme of R2, the peaks seen were of lower statistical accuracy and had fewer data points. The half-lives measured were consistent for both sets of values and the value proposed here is the mean of the six, i.e. $t_{1/2}$(^{173}Re) = 1.98$\pm$0.26 minutes." Previously a half-life of 0.6 min was assigned to either ^{172}Re or ^{173}Re (1973Be67).

Adapted from reference (2012Ro36)

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