^{171}Re

In 1987, Runte et al. identified ^{171}Re in their paper "The decay of the new isotope ^{171}Re" (1987Ru05). A 239 MeV ^{36}Ar beam from the Hahn-Meitner-Institut VICKSI accelerator facility bombarded $^{139}LaF_3$ targets. Reaction products were transported to a helium chamber containing NaCl aerosols and then sprayed onto a transport tape between two germanium detectors, where γ-ray spectra were measured. "The comparison of the excitation functions leads to the conclusion that the emitter of the new activity is generated in a four particle evaporation reaction. The observation of coincidences with W-X-rays and annihilation radiation pins down the element rhenium and therefore proves the identification of the new isotope ^{171}Re." About six months earlier, Szymanski et al. reported an upper limit of 20 s for the half-life of ^{171}Re (1987Sz03).

Adapted from reference (2012Ro36)

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