^{263}Rf

The first observation of ^{263}Rf was reported by Kratz et al. in the 2003 paper "An EC-branch in the decay of 27-s ^{263}Db: Evidence for the isotope ^{263}Rf" (2003Kr20). A 123.1 MeV ^{18}O beam from the Paul Scherrer Institut (PSI) Philips Cyclotron in Villingen, Switzerland, bombarded a ^{249}Bk target forming ^{263}Db in the (4n) fusion-evaporation reaction. ^{263}Rf was then populated by electron capture. Recoil products were transported to a collection site with a helium gas containing KCl aerosols. Alpha-particles and spontenous fission events were measured with sixteen passivated implanted planar silicon detectors. "Thus, there is growing evidence for a small EC-branch in the decay of ^{263}Db through which the new isotope ^{263}Rf is formed. ^{263}Rf has a relatively long half life of tens of minutes and decays predominantly by SF." More recently a spontaneous fission half-life of 8^{+40}_{-4} s was measured for ^{263}Rf (2008Dv02, 2010Gr04) without referencing the Kratz et al. results. This apparent discrepancy has not been resolved.

Adapted from reference (2013Th02)

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