^{142}Ho

In 2001, Xu et al. described the observation of ^{142}Ho in "β-delayed proton decay of the proton drip-line nucleus ^{142}Ho" (2001Xu02). The Lanzhou sector-focusing cyclotron was used to bombard enriched ^{106}Cd targets with a 232-MeV ^{40}Ca beam and ^{142}Ho was formed in the (p3n) fusion-evaporation reaction. A combination of a He jet and tape system transported the reaction products to a counting station. Protons were measured with silicon surface barrier detectors and γ- and X-rays were detected with a coaxial HpGe(GMX) detector. "The decay curve of the 307-keV γ line coincident with 2.5-6.5 MeV protons, from which the half-life of the new nuclide ^{142}Ho was extracted to be 0.4$\pm$0.1 s, is shown in the inset of [the figure]."

Adapted from reference (2013Fr10)

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