^{84}Nb

"Investigation of Neutron Deficient Zr and Nb Nuclei with Heavy Ion Induced Compound Reactions," published in 1977 by Korschinek et al., described the first observation of ^{84}Nb (1977Ko05). ^{32}S beams with energies between 93 and 120 MeV were used to bombard enriched ^{58}Ni targets at the Munich MP tandem accelerator. ^{84}Nb was formed in the fusion evaporation reaction ^{58}Ni(^{32}S,npα) and identified by the γ-ray spectra measured with a set of coaxial Ge(Li) detectors. "The ground state band up to J^{π} = (4^{+}) in ^{84}Zr and up to J^{π} = (8^{+}) in ^{86}Zr were observed in the present γ spectra of the residual activities of the irradiation ^{58}Ni + ^{32}S with half-lives of $T_{1/2}$ = 12±3 s and $T_{1/2}$ = 80±12 s, respectively. These activities are believed to originate from the decay of the new isotopes ^{84}Nb and ^{86}Nb, respectively."

Adapted from reference (2012Ny02)

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