^{87}Mo

"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 ^{87}Mo (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. ^{87}Mo was formed in the fusion evaporation reaction ^{58}Ni(^{32}S,n2p) and identified by the γ-ray spectra measured with a set of coaxial Ge(Li) detectors. "We observe a growth with $T_{1/2}$ = 14.6±1.5 s for all strong activity lines from the decay ^{87}Nb→^{87}Zr except for the 134.9 keV line. This growth can only be explained by the existence of a 14.6 s state located either in ^{87}Nb or ^{87}Mo, thus feeding the 2.6 min state in ^{87}Nb. Since it would be difficult with respect to the observed spins of levels in the neighbouring nuclei to explain three long lived states in ^{87}Nb the assignment of the 14.6 s activity to ^{87}Mo seems most probable to us."

Adapted from reference (2012Pa21)

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