^{187}Bi

In the 1999 article "Behavior of intruder based states in light Bi and Tl isotopes: The study of ^{187}Bi α decay," Batchelder et al. announced the discovery of ^{187}Bi (1999Ba45). ^{92}Mo accelerated to 420 MeV at the Argonne ATLAS facility bombarded an enriched ^{97}Mo target producing ^{187}Bi in the (1p1n) fusion evaporation reaction. Recoils were separated with a fragment mass analyzer and implanted in a double-sided silicon strip detector which also recorded subsequent α decay. "The previously unobserved ^{187}Bi ground state ($h_{9/2}$) to ^{183}Tl ground state ($s_{1/2}$) α transition was identified, establishing the ^{187}Bi intruder state excitation energy to be 112(21) keV, 70 keV less than that of the same level in ^{189}Bi." The half-lives of the ground an an isomeric state were 32(3) ms and $290^{+90}_{-50}\mu$s, respectively. Earlier a half-life of 35(4) ms half-life was only reported in an unpublished thesis (1984ScZQ).

Adapted from reference (2013Fr04)

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