^{193}At

Kettunen et al. reported the discovery of ^{193}At in the 2003 paper "Alpha-decay studies of the new isotopes ^{191}At and ^{193}At" (2003Ke08). A ^{141}Pr target was bombarded with 264−272 MeV ^{56}Fe beams from the Jyväskylä K-130 cyclotron forming ^{193}At in (4n) fusion-evaporation reactions. Recoil products were separated with the gas filled recoil separator RITU and implanted into a position sensitive Si detector which also measured subsequent α decay. "The corresponding mother activity with the alpha-decay energy E_α=7295(5) keV and half-life $T_{1/2}$=(28^{+5}_{-4})ms was assigned to originate from the equivalent $1/2^+$ state in ^{193}At..." Previously the observation of ^{193}At was reported in a conference proceeding (1995Le15). In addition to the ground state, Kettunen et al. measured the half-lives of two isomeric states (21±5 ms and 27^{+4}_{-3} ms).

Adapted from reference (2013Fr09)

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