Ni(^{40}Ca,X) 2012Ka12

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, E. A. Mccutchan	NDS 165, 1 (2020)	1-Mar-2020

Determination of the energy of the low-spin isomeric state.

2012Ka12: ^{90}Tc isotope was produced through the Ni(^{40}Ca,X) at E=210 MeV using HIGISOL facility via JYFLTRAP mass measurement. Measured isomer excitation energy from difference in mass excess. Deduced $T_{1/2}$ of high-spin ground state analyzing data from 2008We10.

^{90}Tc Levels

E(level)	J^{π}	$T_{1/2}$	Comments
0	(8$^+$)	50.7 s 63	$T_{1/2}$,J^{π}: from 2012Ka12 based on analysis of β(t) data from 2008We10.
144.1 17	(1$^+$)	8.7 s 2	$T_{1/2}$: from the Adopted Levels.
			E(level): from Penning-trap mass measurement (2012Ka12): mass excess=−70724.7 keV 11 for ^{90}Tc g.s. and −70580.6 keV 13 for ^{90}Tc isomer (2012Ka12). Fit to TOF spectra yields fractions of lower-mass and and higher mass state as 89 % 5 and 11 % 5, respectively (2012Ka12). As the high-spin state is more favorably produced in the reaction utilized in 2012Ka12, the ground state is most likely the high-spin level and the isomer the low-spin level.
			J^{π}: from the Adopted Levels.