^{58}Ni(^{76}Ga,Xγ) 2005Ga01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 151, 1 (2018)	1-Apr-2018

^{59}Ti produced in fragmentation of $^{76}Ge^{30+}$ beam on a ^{58}Ni target. LISE3 achromatic spectrometer used to separate fragments; magnetic rigidity was tuned to optimize transmission of ^{62}V and ^{64}Cr fragments. Transmitted nuclei were identified by three consecutive Si detectors where two served for energy loss and time-of-flight measurements while the last one determined their residual energies.

Measured Eγ, Iγ, Iβ, $\gamma\gamma$, $\beta\gamma$ coin, γ(t), half-life with four Ge detectors placed around a thick Si telescope. Half-lives determined by fitting procedure involving five parameters: half-lives of mother, daughter and grand-daughter nuclei, the β-efficiency and the background rate over the 1 s collecting time.

^{59}Ti Levels

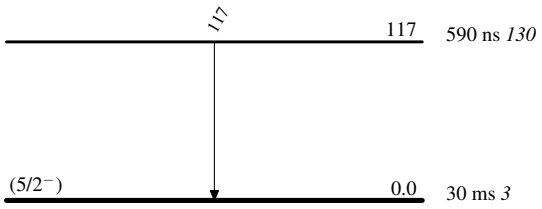
E(level)	J^π	$T_{1/2}$	Comments
0.0	(5/2$^-$)	30 ms *3*	J^π: Proposed in 2005Ga01 from shell model calculation. $T_{1/2}$: from β(t) (2005Ga01). Number of implanted fragments=424.
117 *2*		590 ns *130*	$T_{1/2}$: from γ(t) (2005Ga01).

γ(^{59}Ti)

E_γ	E_i(level)	E_f	J^π_f
117 *2*	117	0.0	(5/2$^-$)

^{58}Ni(^{76}Ga,Xγ) 2005Ga01

Level Scheme



$^{59}_{22}Ti_{37}$