Be(^{238}U,Xγ) 2012Ka36

History

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

^{238}U beam at E=345 MeV/nucleon provided by the RIBF accelerator complex at RIKEN facility. Fission fragments were separated and analyzed by BigRIPS separator, transported to focal plane of ZeroDegree spectrometer and finally implanted in an aluminum stopper. Particle identification was achieved by ΔE-tof-Bρ method. Delayed γ rays from microsecond isomers were detected by three clover-type HPGe detectors. Measured Eγ, Iγ, $\gamma\gamma$-coin, isomer half-life. Deduced levels, J, π.

^{59}Ti Levels

E(level)	J$^\pi$	T$_{1/2}$	Comments
0.0	(5/2$^-$)		J$^\pi$: From systematics of ^{55}Ti and ^{57}Ti nuclei.
109.0 *6*	(1/2$^-$)	587 ns *+57−51*	Number of implanted fragments=1.1×10^4. J$^\pi$: Proposed in 2012Ka36, assuming 109.0γ E2 to (5/2$^-$) g.s. T$_{1/2}$: From γ(t) (2012Ka36).

γ(^{59}Ti)

E$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	$\alpha^\dagger$	Comments
109.0 *6*	109.0	(1/2$^-$)	0.0	(5/2$^-$)	[E2]	0.245 *5*	E$_\gamma$: Uncertainty estimated by the evaluator based on the note in 2012Ka36 that systematic uncertainty of γ-ray energy was 0.5 keV and statistical uncertainty was much smaller, evaluator assume 0.3 keV. Mult.: Proposed in 2012Ka36 considering similar E2 isomers such as ^{54m}Sc and ^{56m}Sc. Higher multipolarities excluded, based on RUL.

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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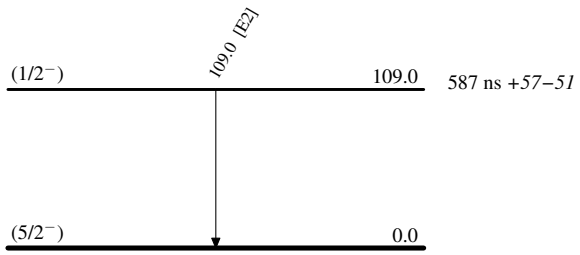
Level Scheme



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