

^{119}Ru IT decay (0.383 μs) 2012Ka36

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	20-Jul-2015

Parent: ^{119}Ru : E=227.1 7; $T_{1/2}$ =0.383 μs +22-21; %IT decay=100.0

Isomer produced in $^9\text{Be}(^{238}\text{U},\text{F})$, E=345 MeV/nucleon reaction.

2012Ka36: ^{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- $B\rho$ method. Delayed gamma rays from microsecond isomers were detected by three clover-type HPGe detectors. Measured E_γ , I_γ , $\gamma\gamma$ -coin, isomer half-life. Deduced levels.

 ^{119}Ru Levels

E(level)	$T_{1/2}$	Comments
0.0		
136.3? 5		E(level): reverse ordering of the 90.8-136.3 γ cascade is also possible, which will give a level at 90.8 keV, instead of 136.3.
227.1 7	0.383 μs +22-21	Number of implanted fragments= 1.6×10^4 . $T_{1/2}$: from $\gamma(t)$ method (2012Ka36).

 $\gamma(^{119}\text{Ru})$

E_γ	I_γ	$E_i(\text{level})$	E_f	Mult.	α^\ddagger	Comments
90.8 [†] 5	69 6	227.1	136.3?	(D,E2)	1.0 8	Mult.: from intensity balance. α : overlaps E1, M1 or E2.
136.3 [†] 5	100 7	136.3?	0.0			$\alpha=0.24$ 18 overlaps mult=E1, M1 or E2.

[†] Reverse ordering of the 90.8-136.3 γ cascade is also possible.

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

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%IT=100.0

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$

