^{248}Cm SF decay 2012Sm02

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Kumar(a), J. Chen(b) and F. G. Kondev	NDS 137, 1 (2016)	31-May-2016

Parent: ^{248}Cm: E=0.0; $J^\pi=0^+$; $T_{1/2}=3.48\times10^5$ y *6*; %SF decay=8.39 *16*

2012Sm02: Measured Eγ, γγγ-, γγγγ-coin, Doppler-broadened lineshapes, level lifetimes using EUROGAM-2 array in conjunction with the Doppler Profile Method.

^{109}Ru Levels

E(level)†	Jπ‡	$T_{1/2}$	Comments
0.0#	$(5/2^+)$		
96.15@ *17*	$(5/2^-)$		
131.85@ *17*	$(7/2^-)$		
230.08@ *24*	$(9/2^-)$		
304.2@ *4*	$(11/2^-)$		
618.9@ *5*	$(13/2^-)$		
678.9@ *5*	$(15/2^-)$		
1184.0@ *6*	$(17/2^-)$		
1220.5@ *6*	$(19/2^-)$		
1912.0@ *8*	$(23/2^-)$	1.45 ps *22*	$T_{1/2}$: from 2012Sm02. statistical uncertainty=0.16 ps, systematic uncertainty=0.15 ps.
2734.0@ *10*	$(27/2^-)$	0.56 ps *8*	$T_{1/2}$: from 2012Sm02. statistical uncertainty=0.062 ps, systematic uncertainty=0.055 ps.

† From a least-square fit to Eγ.
‡ From Adopted Levels.
# Band(A): $K^\pi=5/2^+$, a mixture between $\nu5/2^+[413]$ and $\nu5/2^+[402]$ Nilsson orbitals.
@ Band(B): $K^\pi=5/2^-$ band, $\nu5/2[532]$ Nilsson orbital.

γ(^{109}Ru)

E_γ†	I_γ	E_i(level)	J_i^π	E_f	J_f^π	Comments
35.7 *2*	88 *6*	131.85	$(7/2^-)$	96.15	$(5/2^-)$	
36.5 *5*		1220.5	$(19/2^-)$	1184.0	$(17/2^-)$	
60.0 *5*		678.9	$(15/2^-)$	618.9	$(13/2^-)$	
74.2 *5*	100 *10*	304.2	$(11/2^-)$	230.08	$(9/2^-)$	
96.2 *2*	100	96.15	$(5/2^-)$	0.0	$(5/2^+)$	
98.2 *2*	100	230.08	$(9/2^-)$	131.85	$(7/2^-)$	
131.8 *2*	100 *10*	131.85	$(7/2^-)$	0.0	$(5/2^+)$	
134.2 *5*	7	230.08	$(9/2^-)$	96.15	$(5/2^-)$	
172.3 *5*	26 *10*	304.2	$(11/2^-)$	131.85	$(7/2^-)$	
314.7 *5*	100	618.9	$(13/2^-)$	304.2	$(11/2^-)$	
374.7 *5*	100	678.9	$(15/2^-)$	304.2	$(11/2^-)$	
388.9 *5*	63	618.9	$(13/2^-)$	230.08	$(9/2^-)$	
505.1 *5*	54	1184.0	$(17/2^-)$	678.9	$(15/2^-)$	
541.6 *5*	100	1220.5	$(19/2^-)$	678.9	$(15/2^-)$	
565.1 *5*	100	1184.0	$(17/2^-)$	618.9	$(13/2^-)$	
691.5 *5*		1912.0	$(23/2^-)$	1220.5	$(19/2^-)$	E_γ: 691.5 in 2012Sm02.
822.0 *5*		2734.0	$(27/2^-)$	1912.0	$(23/2^-)$	E_γ: 828 in 2012Sm02.

† From Adopted Gammas. Values quoted in 2012Sm02 are given in the Comments.

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Level Scheme

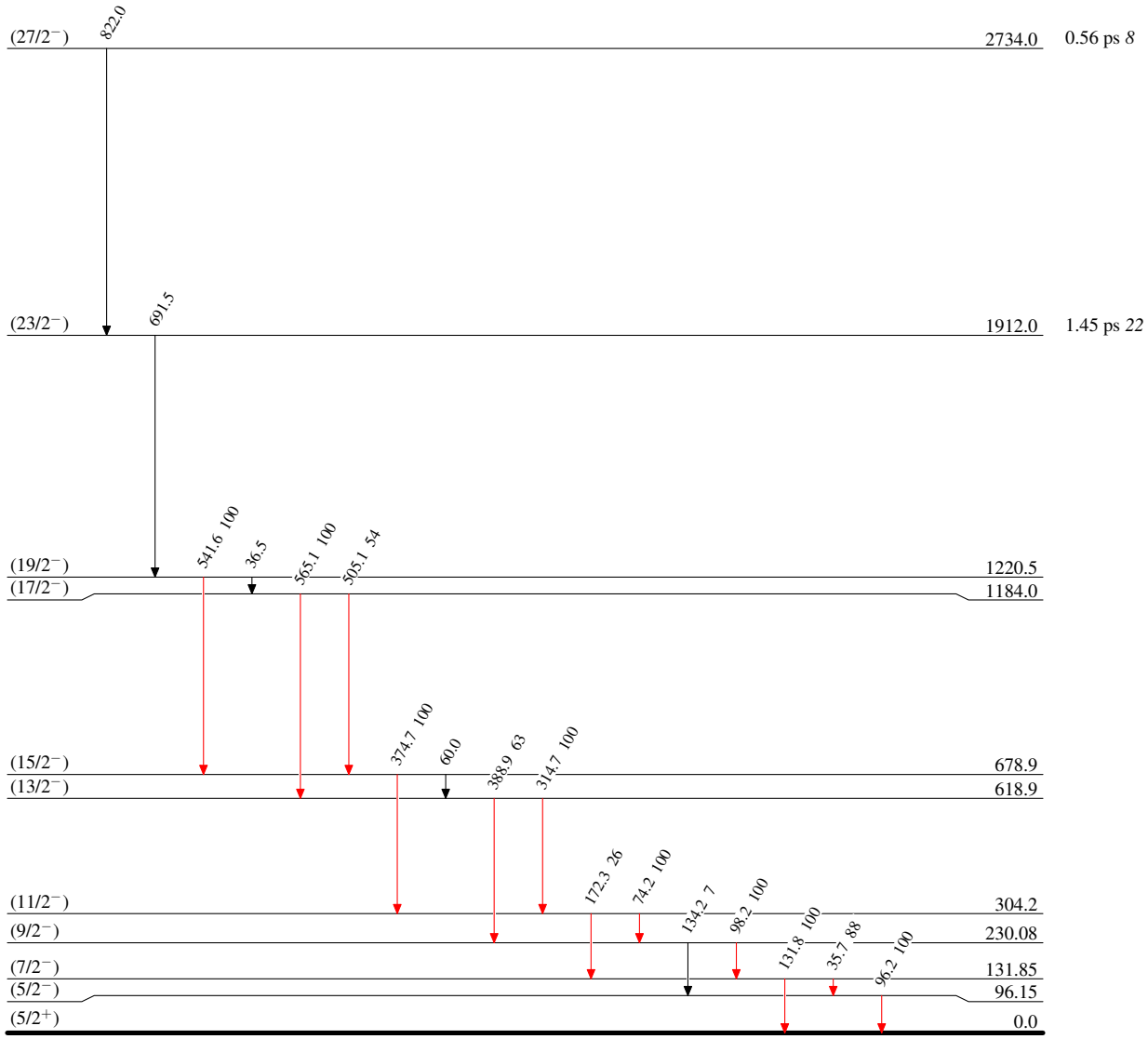
Intensities: Relative I_γ

Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$



$^{109}_{44}Ru_{65}$

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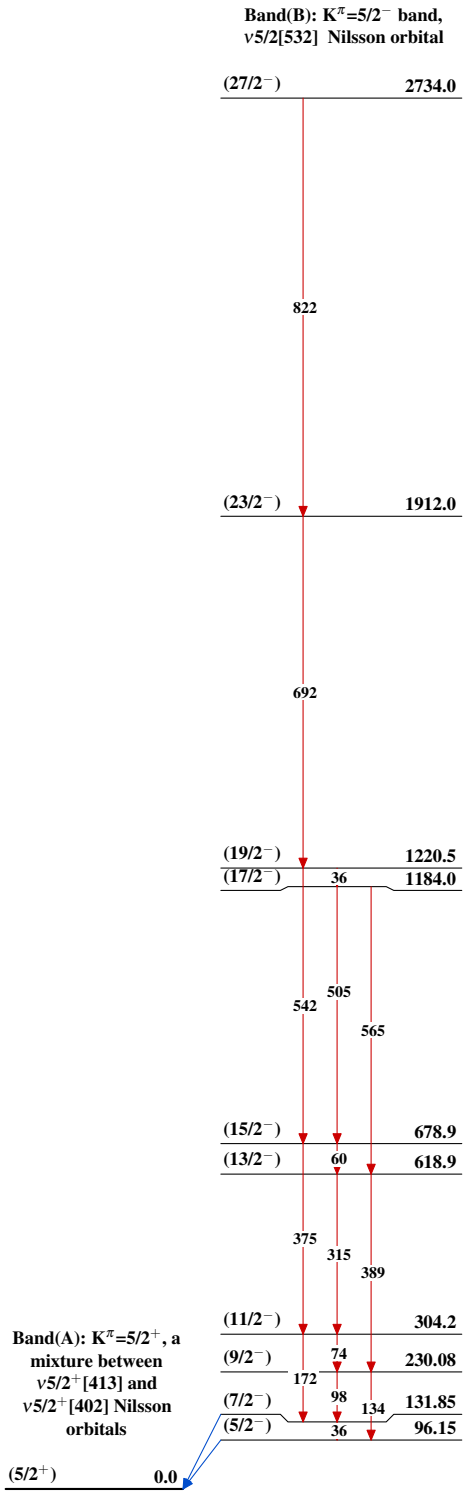

$^{109}_{44}Ru_{65}$