^{54}Fe(^{24}Mg,α2pγ) 2001Pa03

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 111,1 (2010)	1-May-2009

E=104 MeV. Measured Eγ, $\gamma\gamma$ and lifetimes using five Compton-suppressed HPGe detectors and a Compton-suppressed Clover detector.

^{72}Se Levels

E(level)[†]	J$^\pi$	T$_{1/2}$	Comments
0[‡]	0$^+$		
862.0[‡] *3*	2$^+$		
937.1 *5*	0$^+$		
1636.5[‡] *5*	4$^+$		
1998.8 *4*	2$^+$		
2433.5[#] *4*	3$^-$		
2467.1[‡] *6*	6$^+$		E(level): 2476.0 in Table I of 2001Pa03 is a misprint.
3173.1[#] *5*	5$^-$		
3424.0[‡] *6*	8$^+$	0.42 ps *9*	
3770.0 *6*	7$^-$		
3917.2[#] *6*	7$^-$	0.62 ps *+17−21*	
4503.4[‡] *7*	10$^+$	0.21 ps *3*	
4762.8[#] *6*	(9$^-$)	0.59 ps *8*	
5708.8[‡] *8*	12$^+$	0.15 ps *+6−4*	
5830.8[#] *7*	(11$^-$)	0.83 ps *10*	
6686.8 *10*	(11$^-$)		
7036.5[‡] *8*	14$^+$	0.104 ps *+7−10*	
7041.8[#] *7*	(13$^-$)	<0.69 ps	
7190.8 *10*	(12$^-$)		
7795.8 *14*	(13$^-$)		
8089.8[#] *10*	(14$^-$)		
8493.5[‡] *9*	16$^+$	0.040 ps *7*	
10093.5[‡] *9*	18$^+$	0.042 ps *10*	
11830.6[‡] *10*	20$^+$	0.069 ps *14*	
13740.6[‡] *10*	22$^+$	<0.05 ps	
15894.6[‡] *14*	24$^+$		

[†] From least-squares fit to Eγ's, assuming Δ(Eγ)=0.3 keV for transitions with energies given to the nearest tenth of a KeV, and 1 keV for transitions given to the nearest KeV.
[‡] Band(A): g.s. Band.
[#] Band(B): 3$^-$ Band.

γ(^{72}Se)

E$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
75	937.1	0$^+$	862.0	2$^+$
504	7190.8	(12$^-$)	6686.8	(11$^-$)
596.7	3770.0	7$^-$	3173.1	5$^-$
605	7795.8	(13$^-$)	7190.8	(12$^-$)

Continued on next page (footnotes at end of table)

^{54}Fe(^{24}Mg,α2pγ) 2001Pa03 (continued)

$\gamma(^{72}Se)$ (continued)

E_γ †	E_i(level)	J_i^π	E_f	J_f^π	Comments
739.5	3173.1	5^-	2433.5	3^-	
744.0	3917.2	7^-	3173.1	5^-	E_γ: 744.1 in figure 1 of 2001Pa03.
774.7	1636.5	4^+	862.0	2^+	
831.1	2467.1	6^+	1636.5	4^+	E_γ: 830.1 in figure 1 of 2001Pa03.
845.5	4762.8	(9^-)	3917.2	7^-	E_γ: 845.6 in figure 1 of 2001Pa03.
861.9	862.0	2^+	0	0^+	E_γ: 862.0 in figure 1 of 2001Pa03.
899	8089.8	(14^-)	7190.8	(12^-)	
937	937.1	0^+	0	0^+	
956.8	3424.0	8^+	2467.1	6^+	E_γ: 958.0 in figure 1 of 2001Pa03.
992.8	4762.8	(9^-)	3770.0	7^-	
1048	8089.8	(14^-)	7041.8	(13^-)	
1061.7	1998.8	2^+	937.1	0^+	
1068.0	5830.8	(11^-)	4762.8	(9^-)	
1079.4	4503.4	10^+	3424.0	8^+	E_γ: 1079.5 in figure 1 of 2001Pa03.
1136.9	1998.8	2^+	862.0	2^+	
1205.4	5708.8	12^+	4503.4	10^+	
1211.0	7041.8	(13^-)	5830.8	(11^-)	
1303.3	3770.0	7^-	2467.1	6^+	
1327.7	7036.5	14^+	5708.8	12^+	
1338	4762.8	(9^-)	3424.0	8^+	
1360	7190.8	(12^-)	5830.8	(11^-)	
1450.3	3917.2	7^-	2467.1	6^+	
1457.0	8493.5	16^+	7036.5	14^+	
1536.1	3173.1	5^-	1636.5	4^+	
1571.6	2433.5	3^-	862.0	2^+	
1600.0	10093.5	18^+	8493.5	16^+	
1737.0	11830.6	20^+	10093.5	18^+	
1910.0	13740.6	22^+	11830.6	20^+	
1924	6686.8	(11^-)	4762.8	(9^-)	
2154	15894.6	24^+	13740.6	22^+	
2433	2433.5	3^-	0	0^+	

† Values taken from Table I of 2001Pa03.

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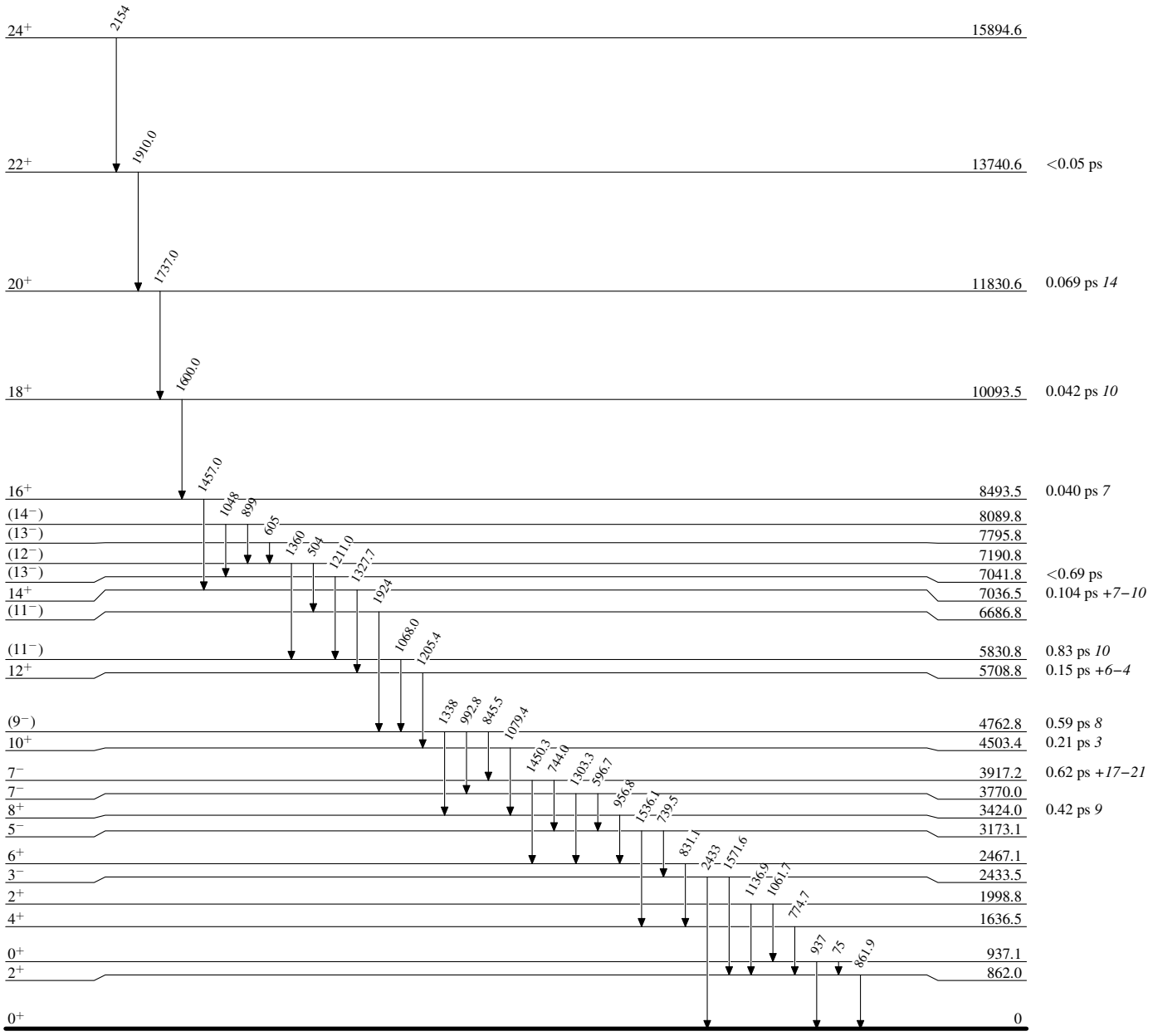
Level Scheme



$^{72}_{34}Se_{38}$

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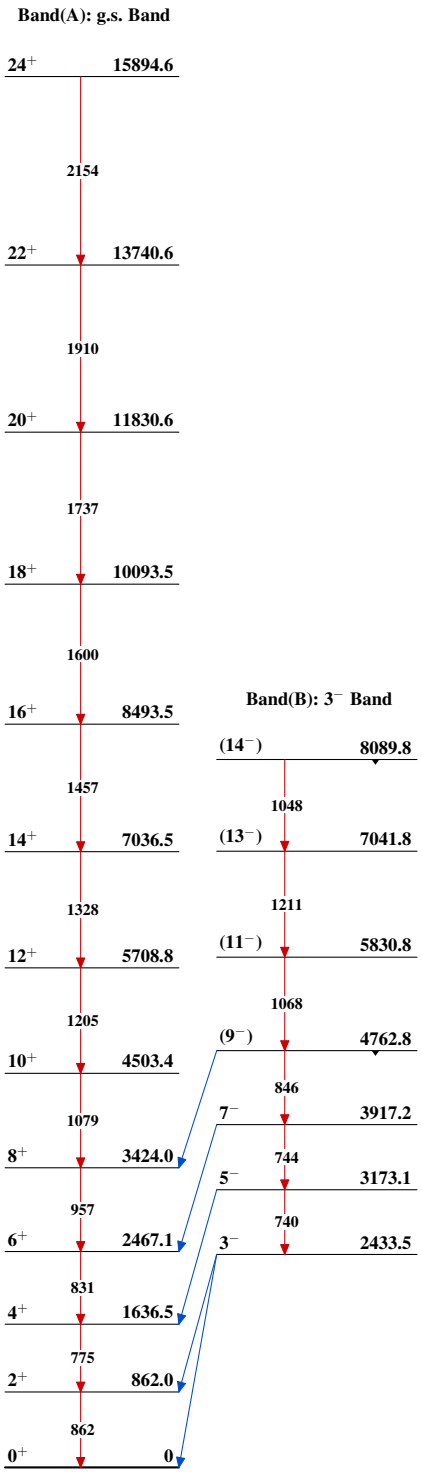

$^{72}_{34}Se_{38}$