

$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71

Type	History		Literature Cutoff Date
	Author	Citation	
Full Evaluation	Jean Blachot	ENSDF	1-Jul-2008

Includes  $^{94}\text{Mo}(^{18}\text{O},p3n\gamma)$  E=85 MeV.

E=138 MeV. Measured  $E\gamma, I\gamma, \gamma\gamma, \gamma\gamma(\theta)$ (DCO), lifetimes by DSAM using  $8\pi$  array of 20 Compton-suppressed HPGe detectors and a 71-element inner BGO ball as a multiplicity filter. In a second experiment, Stony Brook array of 6 Compton-suppressed HPGe detectors combined with a 14-element BGO multiplicity filter was used.

 $^{108}\text{In}$  Levels

In the alignments, the lowest energy positive-parity neutron orbitals are represented by  $\alpha$  and  $\beta$ , whereas the negative-parity orbitals by E and F.

E(level) <sup>†</sup>	J <sup>π</sup>	T <sub>1/2</sub>	E(level) <sup>†</sup>	J <sup>π</sup>	T <sub>1/2</sub>
0.0	7 <sup>+</sup>		3828.41 <i>17</i>	15 <sup>-</sup>	
150.80 <sup>c</sup> 7	7 <sup>+</sup>		3838.87 <sup>d</sup> 17	14 <sup>-</sup>	
807.77 <sup>c</sup> 8	8 <sup>+</sup>		3910.10 <sup>@</sup> 16	15 <sup>-</sup>	0.42 ps +7-17
904.42 9	(7 <sup>-</sup> )		3972.38 17	14 <sup>(-)</sup>	
1119.48 <sup>#</sup> 6	8 <sup>-</sup>		4101.16 <sup>b</sup> 13	13 <sup>(-)</sup>	
1332.84 <sup>#</sup> 8	9 <sup>-</sup>		4135.5 <sup>d</sup> 6		
1396.58 <sup>e</sup> 7	9 <sup>+</sup>		4265.60 <sup>a</sup> 14	14 <sup>(-)</sup>	
1557.21 <sup>c</sup> 9	9 <sup>+</sup>		4330.84 <sup>&amp;</sup> 14	13 <sup>+</sup>	
1633.63 <sup>e</sup> 10	11 <sup>+</sup>		4382.98 20	15 <sup>(-)</sup>	
1861.29 <sup>a</sup> 7	8 <sup>(-)</sup>		4408.09 <sup>e</sup> 19	(15 <sup>+</sup> )	
1861.83 <sup>#</sup> 9	10 <sup>-</sup>		4471.37 <sup>d</sup> 20	(15 <sup>-</sup> )	
2077.76 12	9 <sup>(-)</sup>		4485.60 19	(16 <sup>-</sup> )	
2253.53 15			4517.03 <sup>&amp;</sup> 15	14 <sup>+</sup>	
2368.18 8	10 <sup>-</sup>		4571.25 <sup>@</sup> 17	16 <sup>-</sup>	0.308 ps +17-33
2431.2 6			4773.05 <sup>&amp;</sup> 16	15 <sup>+</sup>	
2439.39 <sup>a</sup> 8	10 <sup>(-)</sup>		4878.98 <sup>b</sup> 15	15 <sup>(-)</sup>	
2466.45 <sup>#</sup> 10	11 <sup>-</sup>		5076.86 <sup>f</sup> 18	(16 <sup>-</sup> )	
2515.15 <sup>@</sup> 8	10 <sup>-</sup>		5130.46 <sup>&amp;</sup> 17	16 <sup>+</sup>	0.299 ps +27-24
2617.14 13			5156.69 <sup>@</sup> 17	17 <sup>-</sup>	
2620.58 <sup>e</sup> 13	12 <sup>+</sup>		5186.08 18		
2662.07 <sup>@</sup> 8	11 <sup>-</sup>		5492.36 <sup>f</sup> 21	(17 <sup>-</sup> )	
2761.0 <sup>‡</sup> 4			5537.93 20		
2815.56 <sup>@</sup> 11	12 <sup>-</sup>		5603.39 20		
2879.43 <sup>d</sup> 11	11 <sup>-</sup>		5603.92 <sup>&amp;</sup> 18	17 <sup>+</sup>	0.155 ps +12-10
3008.07 <sup>#</sup> 13	12 <sup>-</sup>		5707.23 <sup>b</sup> 17	17	
3010.09 13			5807.23 17	17	
3046.37 <sup>@</sup> 14	13 <sup>-</sup>		5892.59 20	(18 <sup>-</sup> )	
3064.38 <sup>e</sup> 17	13 <sup>(+)</sup>		5954.36 <sup>f</sup> 23	(18 <sup>-</sup> )	
3102.92 <sup>d</sup> 11	12 <sup>-</sup>		6168.78 <sup>&amp;</sup> 18	18 <sup>+</sup>	0.110 ps 8
3274.11 <sup>a</sup> 12	12 <sup>(-)</sup>		6447.66 <sup>f</sup> 25	(19 <sup>-</sup> )	
3382.06 <sup>@</sup> 16	14 <sup>-</sup>	1.13 ps 4	6588.42 21	18 <sup>+</sup>	
3425.17 <sup>d</sup> 14	13 <sup>-</sup>		6611.38 <sup>b</sup> 18	19	
3445.97 17	(13 <sup>-</sup> )		6711.14 <sup>&amp;</sup> 19	19 <sup>+</sup>	0.038 ps +7-12
3548.08 <sup>b</sup> 12	11 <sup>(-)</sup>		7212.83 21	(19 <sup>+</sup> )	
3643.57 <sup>#</sup> 17	13 <sup>-</sup>		7235.14 <sup>&amp;</sup> 22	(20 <sup>+</sup> )	

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$^{76}\text{Ge}(^{37}\text{Cl}, 5n\gamma)$  2001Ch71 (continued) $^{108}\text{In}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup>	E(level) <sup>†</sup>	J <sup>π</sup>	E(level) <sup>†</sup>	J <sup>π</sup>	E(level) <sup>†</sup>	J <sup>π</sup>
7287.14 22	(20 <sup>+</sup> )	7748.3 5		8015.7 3	(21 <sup>+</sup> )	8571.4 <sup>&amp;</sup> 4	(22 <sup>+</sup> )
7613.79 <sup>b</sup> 20	21	7831.14 <sup>&amp;</sup> 24	(21 <sup>+</sup> )	8558.2? 5	(22 <sup>+</sup> )	8792.80 <sup>b</sup> 23	(23)

<sup>†</sup> From least-squares fit to E<sub>γ</sub>'s (by compilers). The least-squares adjustment procedure indicates that the Δ(E<sub>γ</sub>)'s, as quoted by 2001Ch71 may be either statistical uncertainties only or somewhat underestimated, since about 12 γ rays are poorly fitted, the deviations being 0.3 to 0.5 keV (Compilers' note).

<sup>‡</sup> No decay γ's known.

# Band(A): Magnetic-rotational band #1. Configuration= $\pi(g_{9/2}^{-1})\nu h_{11/2}$ .

@ Band(B): Magnetic-rotational band #2. Configuration= $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})^2)(h_{11/2})$ .

& Band(C): Magnetic-rotational band #3. Configuration= $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})(h_{11/2}^2))$  below the alignment, and  $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})^2)(h_{11/2}^2)$  above the alignment.

<sup>a</sup> Band(D): Anti-magnetic rotational band #1. Configuration= $\pi(g_{9/2}^{-2})(d_{5/2})\nu h_{11/2}$  below the alignment, and  $\pi(g_{9/2}^{-2})(d_{5/2})\nu(h_{11/2}^3)$  above the alignment.

<sup>b</sup> Band(E):  $\pi((g_{9/2}^{-2})(g_{7/2}))\nu h_{11/2}$  below the alignment and  $\pi((g_{9/2}^{-2})(g_{7/2})\nu(h_{11/2}^3))$  above the alignment.

<sup>c</sup> Band(F):  $\pi(g_{9/2}^{-1})\nu g_{7/2}$  below the alignment and  $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})^3)$  above the alignment.

<sup>d</sup> Band(G):  $\pi(g_{9/2}^{-1})\nu((g_{7/2}/d_{5/2})^2)(h_{11/2})(\text{ABF})$ .

<sup>e</sup> Band(H): Band based on 9<sup>+</sup>.

<sup>f</sup> Band(I): Band based on (16<sup>-</sup>).

 $\gamma(^{108}\text{In})$ 

DCO ratios correspond to gates on ΔJ=1, dipole transitions, unless otherwise stated.

E <sub>γ</sub>	I <sub>γ</sub> <sup>†</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult.	Comments
147.0 1	53.9 16	2662.07	11 <sup>-</sup>	2515.15	10 <sup>-</sup>	M1+E2	DCO=0.97 2. Other I <sub>γ</sub> =37.6 11.
150.4 <sup>#</sup> 1	29.0 6	150.80	7 <sup>+</sup>	0.0	7 <sup>+</sup>	M1+E2	E <sub>γ</sub> : Level-energy difference=150.8. DCO=1.68 6. DCO(ΔJ=2, Q gated)=0.98 6. Other I <sub>γ</sub> =8.3 8.
153.5 1	88 3	2815.56	12 <sup>-</sup>	2662.07	11 <sup>-</sup>	M1+E2	DCO=0.96 1. Other I <sub>γ</sub> =60.2 18.
186.2 1	2.5 1	4517.03	14 <sup>+</sup>	4330.84	13 <sup>+</sup>	M1+E2	DCO=1.09 17. Other I <sub>γ</sub> =2.5 1.
213.1 1	100 3	1332.84	9 <sup>-</sup>	1119.48	8 <sup>-</sup>	M1+E2	DCO=0.94 1. DCO(ΔJ=2, Q gated)=0.50 5. Other I <sub>γ</sub> =100 3.
223.3 1	7.0 3	3102.92	12 <sup>-</sup>	2879.43	11 <sup>-</sup>	M1+E2	DCO=0.85 10. Other I <sub>γ</sub> =7.3 3.
230.8 1	96 3	3046.37	13 <sup>-</sup>	2815.56	12 <sup>-</sup>	M1+E2	DCO=0.97 1. Other I <sub>γ</sub> =86 3.
237.0 1	29.2 9	1633.63	11 <sup>+</sup>	1396.58	9 <sup>+</sup>	E2	
255.9 1	10.8 3	4773.05	15 <sup>+</sup>	4517.03	14 <sup>+</sup>	M1+E2	DCO=0.92 4. Other I <sub>γ</sub> =12.9 4.
290.3 1	1.5 1	2368.18	10 <sup>-</sup>	2077.76	9 <sup>(-)</sup>		Other I <sub>γ</sub> =2.1 8.
293.7 1	5.1 2	2662.07	11 <sup>-</sup>	2368.18	10 <sup>-</sup>	M1+E2	DCO=0.88 5. Other I <sub>γ</sub> =6.2 2.
307.1 1	0.7 1	5186.08		4878.98	15 <sup>(-)</sup>		

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$^{76}\text{Ge}(^{37}\text{Cl}, 5n\gamma)$  2001Ch71 (continued) $\gamma(^{108}\text{In})$  (continued)

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	Comments
311.6 <i>I</i>	1.8 <i>I</i>	1119.48	8 <sup>-</sup>	807.77	8 <sup>+</sup>	E1	DCO=1.6 3.
322.2 <i>I</i>	10.8 4	3425.17	13 <sup>-</sup>	3102.92	12 <sup>-</sup>	M1+E2	Other $I_\gamma=1.0$ 1. DCO=0.77 14.
335.4 <i>I</i>	62.6 19	3382.06	14 <sup>-</sup>	3046.37	13 <sup>-</sup>	M1+E2	DCO( $\Delta J=2, Q$ gated)=0.41 3. Other $I_\gamma=13.0$ 5. DCO=0.99 2.
341.9 3	0.4 <i>I</i>	3102.92	12 <sup>-</sup>	2761.0			Other $I_\gamma=60.5$ 18.
349.1 <i>I</i>	14.7 5	2815.56	12 <sup>-</sup>	2466.45	11 <sup>-</sup>	M1+E2	Other $I_\gamma=2.4$ 2. DCO=1.03 3.
357.3 <i>I</i>	16.8 5	5130.46	16 <sup>+</sup>	4773.05	15 <sup>+</sup>	M1+E2	Other $I_\gamma=15.6$ 5. DCO=0.92 4.
361.6 <i>I</i>	1.6 <i>I</i>	2439.39	10 <sup>(-)</sup>	2077.76	9 <sup>(-)</sup>	M1+E2	Other $I_\gamma=21.2$ 7. Other $I_\gamma=0.7$ 1.
410.6 <i>I</i>	1.5 <i>I</i>	4382.98	15 <sup>(-)</sup>	3972.38	14 <sup>(-)</sup>	M1+E2	DCO=0.92 12. Other $I_\gamma=1.6$ 1.
413.7 <i>I</i>	8.5 3	3838.87	14 <sup>-</sup>	3425.17	13 <sup>-</sup>	M1+E2	DCO=0.99 11. DCO( $\Delta J=2, Q$ gated)=0.51 5. Other $I_\gamma=10.5$ 4.
415.5 <i>I</i>	1.6 <i>I</i>	5492.36	(17 <sup>-</sup> )	5076.86	(16 <sup>-</sup> )	M1+E2	Other $I_\gamma=2.3$ 1.
437.9 <i>I</i>	2.1 2	3445.97	(13 <sup>-</sup> )	3008.07	12 <sup>-</sup>	M1+E2	Other $I_\gamma=2.4$ 2.
443.8 <i>I</i>	2.7 <i>I</i>	3064.38	13 <sup>(+)</sup>	2620.58	12 <sup>+</sup>	M1+E2	DCO( $\Delta J=2, Q$ gated)=0.47 6. Other $I_\gamma=3.3$ 3.
462.0 <i>I</i>	1.4 <i>I</i>	5954.36	(18 <sup>-</sup> )	5492.36	(17 <sup>-</sup> )	M1+E2	Other $I_\gamma=1.4$ 1.
473.0 <sup>#</sup> <i>I</i>	14.2 4	5603.92	17 <sup>+</sup>	5130.46	16 <sup>+</sup>	M1+E2	$E_\gamma$ : Level-energy difference=473.5. DCO=0.87 4. Other $I_\gamma=22.3$ 7.
493.3 <sup>@</sup> <i>I</i>	1.0 <i>I</i>	6447.66	(19 <sup>-</sup> )	5954.36	(18 <sup>-</sup> )	M1+E2	Other $I_\gamma=1.7$ 1.
506.0 <sup>#</sup> <i>I</i>	2.6 2	2368.18	10 <sup>-</sup>	1861.83	10 <sup>-</sup>	M1+E2	$E_\gamma$ : Level-energy difference=506.3. DCO=1.24 21. Other $I_\gamma=3.4$ 2.
511.0 <i>I</i>	10.8 5	2879.43	11 <sup>-</sup>	2368.18	10 <sup>-</sup>	M1+E2	DCO=1.38 10. Other $I_\gamma=6.0$ 4.
524.0 <i>I</i>	5.3 2	7235.14	(20 <sup>+</sup> )	6711.14	19 <sup>+</sup>	M1+E2	Other $I_\gamma=11.7$ 4.
527.7 <sup>#@</sup>	3.8 2	1861.29	8 <sup>(-)</sup>	1332.84	9 <sup>-</sup>	M1+E2	DCO=1.07 1. $E_\gamma$ : Uncertainty of 0.1 keV quoted by 2001Ch71 seems to be underestimated since the least-squares adjustment gives $E_\gamma=528.4$ keV.
527.8 <i>I</i>	31.6 10	3910.10	15 <sup>-</sup>	3382.06	14 <sup>-</sup>	M1+E2	DCO=1.07 1. Other $I_\gamma=35.1$ 11.
528.6 <sup>#</sup> <i>I</i>	45.4 15	1861.83	10 <sup>-</sup>	1332.84	9 <sup>-</sup>	M1+E2	$E_\gamma$ : Level-energy difference=529.0. DCO=1.07 1. Other $I_\gamma=54.0$ 17.
541.5 <i>I</i>	14.2 5	3008.07	12 <sup>-</sup>	2466.45	11 <sup>-</sup>	M1+E2	DCO=0.90 4. Other $I_\gamma=16.7$ 6.
542.4 <i>I</i>	4.3 2	6711.14	19 <sup>+</sup>	6168.78	18 <sup>+</sup>	M1+E2	Other $I_\gamma=9.7$ 3.
542.5 <sup>@</sup> 3	0.3 <i>I</i>	8558.2?	(22 <sup>+</sup> )	8015.7	(21 <sup>+</sup> )	M1+E2	Other $I_\gamma=1.1$ 2.
553.1 <i>I</i>	4.1 2	4101.16	13 <sup>(-)</sup>	3548.08	11 <sup>(-)</sup>	E2	DCO( $\Delta J=2, Q$ gated)=0.89 13. Other $I_\gamma=4.3$ 2.
564.4 <sup>#</sup> <i>I</i>	8.1 3	6168.78	18 <sup>+</sup>	5603.92	17 <sup>+</sup>	M1+E2	$E_\gamma$ : Level-energy difference=564.9. DCO=0.58 7. Other $I_\gamma=17.3$ 5.
570.7 <i>I</i>	2.9 2	3010.09		2439.39	10 <sup>(-)</sup>		
575.5 <i>I</i>	1.1 <i>I</i>	4485.60	(16 <sup>-</sup> )	3910.10	15 <sup>-</sup>	M1+E2	Other $I_\gamma=3.0$ 2.
576.0 <i>I</i>	0.7 <i>I</i>	7287.14	(20 <sup>+</sup> )	6711.14	19 <sup>+</sup>	M1+E2	Other $I_\gamma=2.9$ 1.

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$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71 (continued) $\gamma(^{108}\text{In})$  (continued)

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	Comments
577.3@ 2	1.3 1	2439.39	10 <sup>(-)</sup>	1861.83	10 <sup>-</sup>	M1+E2	DCO( $\Delta J=2, Q$ gated)=0.94 5 for doublet. Other $I_\gamma=5.3$ 2.
577.9 1	13.3 5	2439.39	10 <sup>(-)</sup>	1861.29	8 <sup>(-)</sup>	E2	DCO( $\Delta J=2, Q$ gated)=0.94 5 for doublet. Other $I_\gamma=8.3$ 4.
585.1# 1	7.2 3	5156.69	17 <sup>-</sup>	4571.25	16 <sup>-</sup>	M1+E2	$E_\gamma$ : Level-energy difference=585.4. DCO=0.70 9. Other $I_\gamma=14.4$ 5.
588.7 1	2.7 2	1396.58	9 <sup>+</sup>	807.77	8 <sup>+</sup>	M1+E2	
596.0 1	2.8 1	7831.14	(21 <sup>+</sup> )	7235.14	(20 <sup>+</sup> )	M1+E2	Other $I_\gamma=7.6$ 3.
604.3# 1	31.2 10	2466.45	11 <sup>-</sup>	1861.83	10 <sup>-</sup>	M1+E2	$E_\gamma$ : Level-energy difference=604.6. DCO=1.13 3. Other $I_\gamma=34.9$ 11.
613.4 1	2.8 1	4878.98	15 <sup>(-)</sup>	4265.60	14 <sup>(-)</sup>	M1+E2	Other $I_\gamma=3.3$ 2.
619.9‡@		2253.53		1633.63	11 <sup>+</sup>		
625.9 1	3.1 2	2879.43	11 <sup>-</sup>	2253.53			Other $I_\gamma=3.3$ 3.
632.5@ 1	3.1 2	4471.37?	(15 <sup>-</sup> )	3838.87	14 <sup>-</sup>	M1+E2	Other $I_\gamma=2.1$ 3.
635.5 1	2.7 2	3643.57	13 <sup>-</sup>	3008.07	12 <sup>-</sup>	M1+E2	DCO=1.26 16. Other $I_\gamma=3.9$ 2.
656.5# 1	21.6 7	807.77	8 <sup>+</sup>	150.80	7 <sup>+</sup>	M1+E2	$E_\gamma$ : Level-energy difference=657.0. DCO=1.55 13. Other $I_\gamma=11.0$ 4.
660.9 1	12.7 4	4571.25	16 <sup>-</sup>	3910.10	15 <sup>-</sup>	M1+E2	DCO=0.94 7. Other $I_\gamma=18.8$ 6.
728.6 2	0.3 1	8015.7	(21 <sup>+</sup> )	7287.14	(20 <sup>+</sup> )	M1+E2	Other $I_\gamma=1.6$ 1.
735.9 1	2.1 1	5892.59	(18 <sup>-</sup> )	5156.69	17 <sup>-</sup>	M1+E2	Other $I_\gamma=3.8$ 2.
740.3 3	0.5 1	8571.4	(22 <sup>+</sup> )	7831.14	(21 <sup>+</sup> )	M1+E2	Other $I_\gamma=2.2$ 1.
741.6 1	3.3 2	1861.29	8 <sup>(-)</sup>	1119.48	8 <sup>-</sup>	M1+E2	Other $I_\gamma=0.1$ 2.
744.9‡@		2077.76	9 <sup>(-)</sup>	1332.84	9 <sup>-</sup>		
749.2 1	9.1 3	1557.21	9 <sup>+</sup>	807.77	8 <sup>+</sup>	M1+E2	DCO=1.30 13. Other $I_\gamma=6.1$ 3.
753.4 1	1.4 2	904.42	(7 <sup>-</sup> )	150.80	7 <sup>+</sup>	E1	Other $I_\gamma=0.8$ 2.
777.8 1	15.5 5	4878.98	15 <sup>(-)</sup>	4101.16	13 <sup>(-)</sup>	E2	DCO=2.08 20. DCO( $\Delta J=2, Q$ gated)=1.02 8. Other $I_\gamma=17.6$ 6.
782.0 1	3.0 2	3828.41	15 <sup>-</sup>	3046.37	13 <sup>-</sup>	E2	DCO=2.1 3. Other $I_\gamma=3.1$ 2.
800.3 1	3.1 1	2662.07	11 <sup>-</sup>	1861.83	10 <sup>-</sup>	M1+E2	DCO=1.55 25. Other $I_\gamma=3.5$ 2.
804.1 1	4.6 2	6611.38	19	5807.23	17	E2	DCO( $\Delta J=2, Q$ gated)=0.94 13. Other $I_\gamma=6.6$ 3.
804.8 2	0.9 1	3425.17	13 <sup>-</sup>	2620.58	12 <sup>+</sup>	E1	Other $I_\gamma=1.2$ 3.
827.0 1	10.0 4	4101.16	13 <sup>(-)</sup>	3274.11	12 <sup>(-)</sup>	M1+E2	DCO=1.44 15. DCO( $\Delta J=2, Q$ gated)=0.52 9. Other $I_\gamma=11.9$ 5.
828.3 1	7.9 2	5707.23	17	4878.98	15 <sup>(-)</sup>	E2	DCO=1.44 15. Other $I_\gamma=11.5$ 4.
834.7 1	19.0 7	3274.11	12 <sup>(-)</sup>	2439.39	10 <sup>(-)</sup>	E2	DCO=1.76 18. DCO( $\Delta J=2, Q$ gated)=1.10 10. Other $I_\gamma=18.4$ 7.
856.9‡@		2253.53		1396.58	9 <sup>+</sup>		
864.2# 1	2.0 1	3910.10	15 <sup>-</sup>	3046.37	13 <sup>-</sup>	E2	B(E2)(W.u.)=5.4 +23-10 $E_\gamma$ : Level-energy difference=863.7.
904.2 1	7.2 3	6611.38	19	5707.23	17	E2	DCO( $\Delta J=2, Q$ gated)=1.05 10. Other $I_\gamma=10.2$ 4.

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$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71 (continued) $\gamma(^{108}\text{In})$  (continued)

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	Comments
905.3@ 2	0.5 1	904.42	(7 <sup>-</sup> )	0.0	7 <sup>+</sup>	E1	
926.0 1	3.3 2	3972.38	14 <sup>(-)</sup>	3046.37	13 <sup>-</sup>	M1+E2	DCO=1.5 3. Other $I_\gamma=4.3$ 2.
928.2 1	6.0 2	5807.23	17	4878.98	15 <sup>(-)</sup>	E2	DCO=1.6 4. DCO( $\Delta J=2, Q$ gated)=1.02 10. Other $I_\gamma=7.3$ 3.
956.7 1	3.5 2	1861.29	8 <sup>(-)</sup>	904.42	(7 <sup>-</sup> )	M1+E2	Other $I_\gamma=0.1$ 2.
957.8 1	8.6 3	2515.15	10 <sup>-</sup>	1557.21	9 <sup>+</sup>	E1	DCO=1.10 11. Other $I_\gamma=7.2$ 2.
958.0 3	0.5 2	2077.76	9 <sup>(-)</sup>	1119.48	8 <sup>-</sup>	M1+E2	Other $I_\gamma=1.2$ 7.
968.7 1	7.4 1	1119.48	8 <sup>-</sup>	150.80	7 <sup>+</sup>		DCO=0.91 9. Other $I_\gamma=5.2$ 8.
971.7 1	1.8 1	2368.18	10 <sup>-</sup>	1396.58	9 <sup>+</sup>	E1	Other $I_\gamma=2.0$ 2.
984.5 1	1.6 1	6588.42	18 <sup>+</sup>	5603.92	17 <sup>+</sup>	M1+E2	DCO=1.5 3. Other $I_\gamma=4.8$ 2.
987.0 1	4.3 2	2620.58	12 <sup>+</sup>	1633.63	11 <sup>+</sup>	M1+E2	DCO( $\Delta J=2, Q$ gated)=0.63 6. Other $I_\gamma=5.0$ 6.
991.5 1	4.5 2	4265.60	14 <sup>(-)</sup>	3274.11	12 <sup>(-)</sup>	E2	DCO( $\Delta J=2, Q$ gated)=0.95 26. Other $I_\gamma=6.1$ 4.
1002.4 1	4.6 2	7613.79	21	6611.38	19	E2	DCO( $\Delta J=2, Q$ gated)=0.95 13. Other $I_\gamma=9.7$ 4.
1017.9 2	1.1 1	2879.43	11 <sup>-</sup>	1861.83	10 <sup>-</sup>	M1+E2	DCO=1.3 4. Other $I_\gamma=1.2$ 1.
1028.2 1	2.2 1	2662.07	11 <sup>-</sup>	1633.63	11 <sup>+</sup>	E1	DCO=2.2 5. DCO( $\Delta J=2, Q$ gated)=0.79 21. Other $I_\gamma=2.1$ 2.
1035.1 1	2.5 2	2368.18	10 <sup>-</sup>	1332.84	9 <sup>-</sup>	M1+E2	Other $I_\gamma=4.8$ 3.
1038.8# 1	1.3 1	6168.78	18 <sup>+</sup>	5130.46	16 <sup>+</sup>	E2	B(E2)(W.u.)=19.3 22 $E_\gamma$ : Level-energy difference=1038.3. Other $I_\gamma=2.3$ 2.
1043.0 1	4.6 2	2439.39	10 <sup>(-)</sup>	1396.58	9 <sup>+</sup>	E1	DCO( $\Delta J=2, Q$ gated)=0.48 12. Other $I_\gamma=4.6$ 3.
1098.4 6	0.5 2	2431.2		1332.84	9 <sup>-</sup>		Other $I_\gamma=3.6$ 4.
1106.6 1	3.6 2	2439.39	10 <sup>(-)</sup>	1332.84	9 <sup>-</sup>	M1+E2	Other $I_\gamma=4.1$ 2.
1107.7 1	1.0 1	6711.14	19 <sup>+</sup>	5603.39		E2	B(E2)(W.u.)=55 +19-12 Other $I_\gamma=1.1$ 1.
1108.7 1	4.5 3	3548.08	11 <sup>(-)</sup>	2439.39	10 <sup>(-)</sup>	M1+E2	Other $I_\gamma=4.5$ 5.
1119.4 1	156.6 10	1119.48	8 <sup>-</sup>	0.0	7 <sup>+</sup>	E1	DCO=1.06 2. Other $I_\gamma=74$ 3.
1133.8 1	4.8 3	2466.45	11 <sup>-</sup>	1332.84	9 <sup>-</sup>	E2	DCO=1.77 16. Other $I_\gamma=4.6$ 3.
1146.7 2	1.4 2	3008.07	12 <sup>-</sup>	1861.83	10 <sup>-</sup>	E2	Other $I_\gamma=0.4$ 3.
1159.9 4	1.0 1	7748.3		6588.42	18 <sup>+</sup>		$I_\gamma$ : from thin target.
1179.0 1	2.0 1	8792.80	(23)	7613.79	21	E2	Other $I_\gamma=6.1$ 3.
1182.2 1	18.9 6	2515.15	10 <sup>-</sup>	1332.84	9 <sup>-</sup>	M1+E2	DCO=2.50 10. Other $I_\gamma=18.7$ 6.
1189.1 1	1.4 1	4571.25	16 <sup>-</sup>	3382.06	14 <sup>-</sup>	E2	B(E2)(W.u.)=2.51 +34-24
1220.5 1	2.5 1	5130.46	16 <sup>+</sup>	3910.10	15 <sup>-</sup>	E1	B(E1)(W.u.)=7.1×10 <sup>-5</sup> +7-8 DCO=1.4 5. Other $I_\gamma=3.1$ 1.
1245.9 1	3.6 2	1396.58	9 <sup>+</sup>	150.80	7 <sup>+</sup>	E2	DCO( $\Delta J=2, Q$ gated)=1.04 15.
1246.9# 1	1.0 1	5156.69	17 <sup>-</sup>	3910.10	15 <sup>-</sup>	E2	$E_\gamma$ : Level-energy difference=1246.6.
1248.8 2	1.2 1	2368.18	10 <sup>-</sup>	1119.48	8 <sup>-</sup>	E2	Other $I_\gamma=1.2$ 2.
1256.1 5	0.7 2	4135.5		2879.43	11 <sup>-</sup>		
1284.3 1	1.6 2	2617.14		1332.84	9 <sup>-</sup>		Other $I_\gamma=0.5$ 3.

Continued on next page (footnotes at end of table)

$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71 (continued) $\gamma(^{108}\text{In})$  (continued)

$E_\gamma$	$I_\gamma^\dagger$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult.	Comments
1329.5 1	21.8 7	2662.07	11 <sup>-</sup>	1332.84	9 <sup>-</sup>	E2	DCO=1.97 13. Other $I_\gamma$ =18.7 6.
1343.7 1	1.1 1	4408.09	(15 <sup>+</sup> )	3064.38	13 <sup>(+)</sup>	E2	Other $I_\gamma$ =1.0 2.
1391.0 1	8.1 3	4773.05	15 <sup>+</sup>	3382.06	14 <sup>-</sup>	E1	DCO=0.90 10. Other $I_\gamma$ =10.2 3.
1396.0 <sup>#</sup> 1	24.5 8	2515.15	10 <sup>-</sup>	1119.48	8 <sup>-</sup>	E2	$E_\gamma$ : Level-energy difference=1395.7. DCO=1.89 11. Other $I_\gamma$ =22.7 7.
1396.8 1	33.4 19	1396.58	9 <sup>+</sup>	0.0	7 <sup>+</sup>	E2	DCO( $\Delta J=2, Q$ gated)=1.11 4. Other $I_\gamma$ =7.2 8.
1406.5 1	2.8 1	1557.21	9 <sup>+</sup>	150.80	7 <sup>+</sup>	E2	
1469.4 1	4.1 2	3102.92	12 <sup>-</sup>	1633.63	11 <sup>+</sup>	E1	DCO( $\Delta J=2, Q$ gated)=0.60 7. Other $I_\gamma$ =4.6 3.
1470.5 1	9.9 3	4517.03	14 <sup>+</sup>	3046.37	13 <sup>-</sup>	E1	DCO=1.04 9. Other $I_\gamma$ =9.8 3.
1515.3 1	1.9 1	4330.84	13 <sup>+</sup>	2815.56	12 <sup>-</sup>	E1	DCO=0.89 22. Other $I_\gamma$ =2.3 2.
1581.4 10	0.2 1	5492.36	(17 <sup>-</sup> )	3910.10	15 <sup>-</sup>	E2	
1608.9 1	1.1 1	7212.83	(19 <sup>+</sup> )	5603.92	17 <sup>+</sup>	E2	
1694.8 1	2.7 1	5076.86	(16 <sup>-</sup> )	3382.06	14 <sup>-</sup>	E2	Other $I_\gamma$ =1.8 1.
1709.5 1	1.3 1	5537.93		3828.41	15 <sup>-</sup>		Other $I_\gamma$ =0.4 1.
1774.8 2	0.5 1	5603.39		3828.41	15 <sup>-</sup>		
1861.5 1	7.3 4	1861.29	8 <sup>(-)</sup>	0.0	7 <sup>+</sup>	E1	DCO( $\Delta J=2, Q$ gated)=0.52 4. Other $I_\gamma$ =0.3 6.

<sup>†</sup> For backed target. Intensities from thin target are given under comments as 'Other  $I_\gamma$ '.

<sup>‡</sup> From figure 2 of 2001Ch71.

<sup>#</sup> Poor fit. Least-squares fitted value deviates by 0.3-0.5 keV from the measured value given in Table iii of 2001Ch71. The value from level-energy difference is given under comments.

<sup>@</sup> Placement of transition in the level scheme is uncertain.

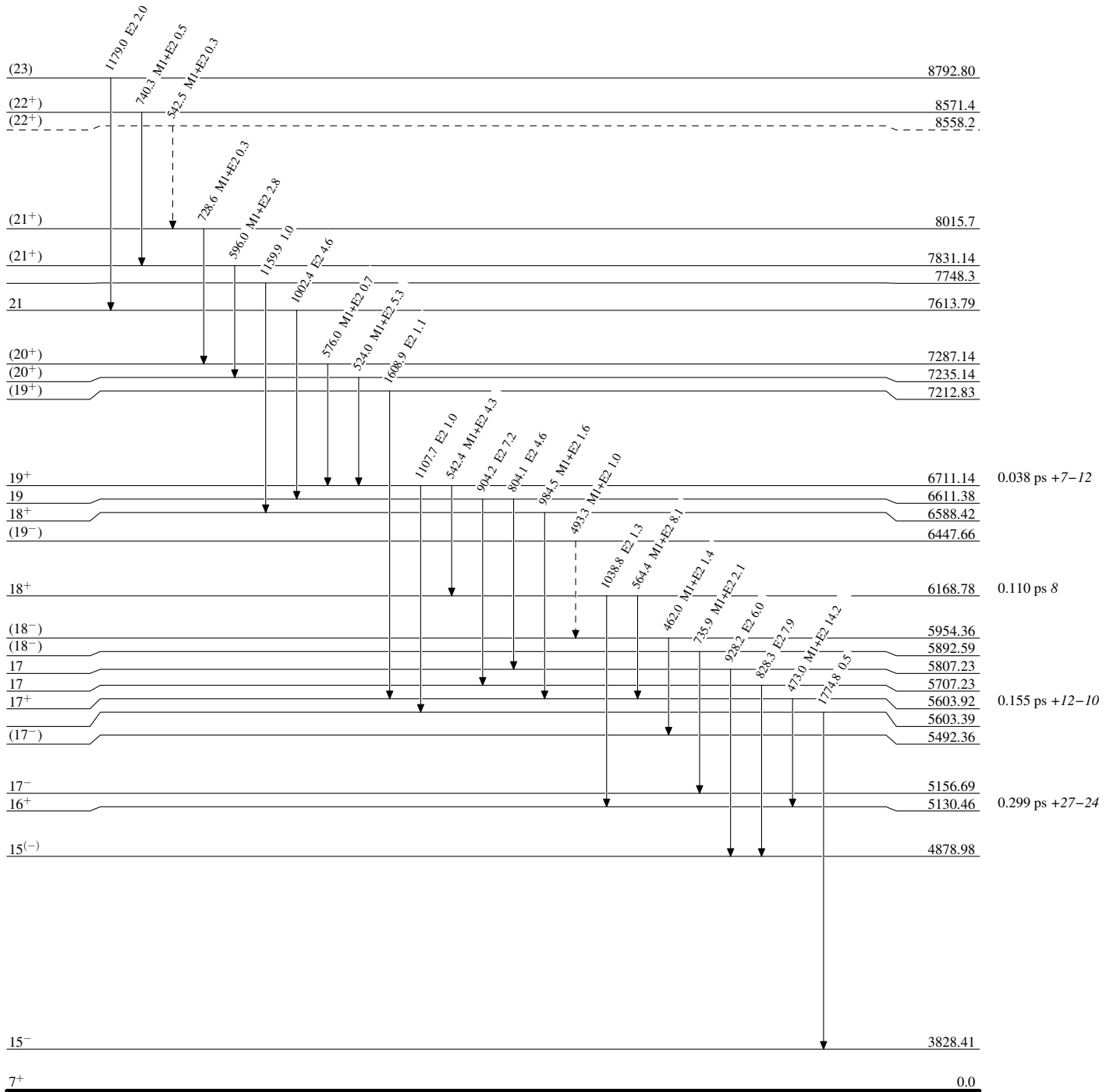
$^{76}\text{Ge}(^{37}\text{Cl}, 5n\gamma)$  2001Ch71

Legend

## Level Scheme

Intensities: Relative  $I_\gamma$ 

- ▶  $I_\gamma < 2\% \times I_\gamma^{\max}$
- ▶  $I_\gamma < 10\% \times I_\gamma^{\max}$
- ▶  $I_\gamma > 10\% \times I_\gamma^{\max}$
- - - -▶  $\gamma$  Decay (Uncertain)



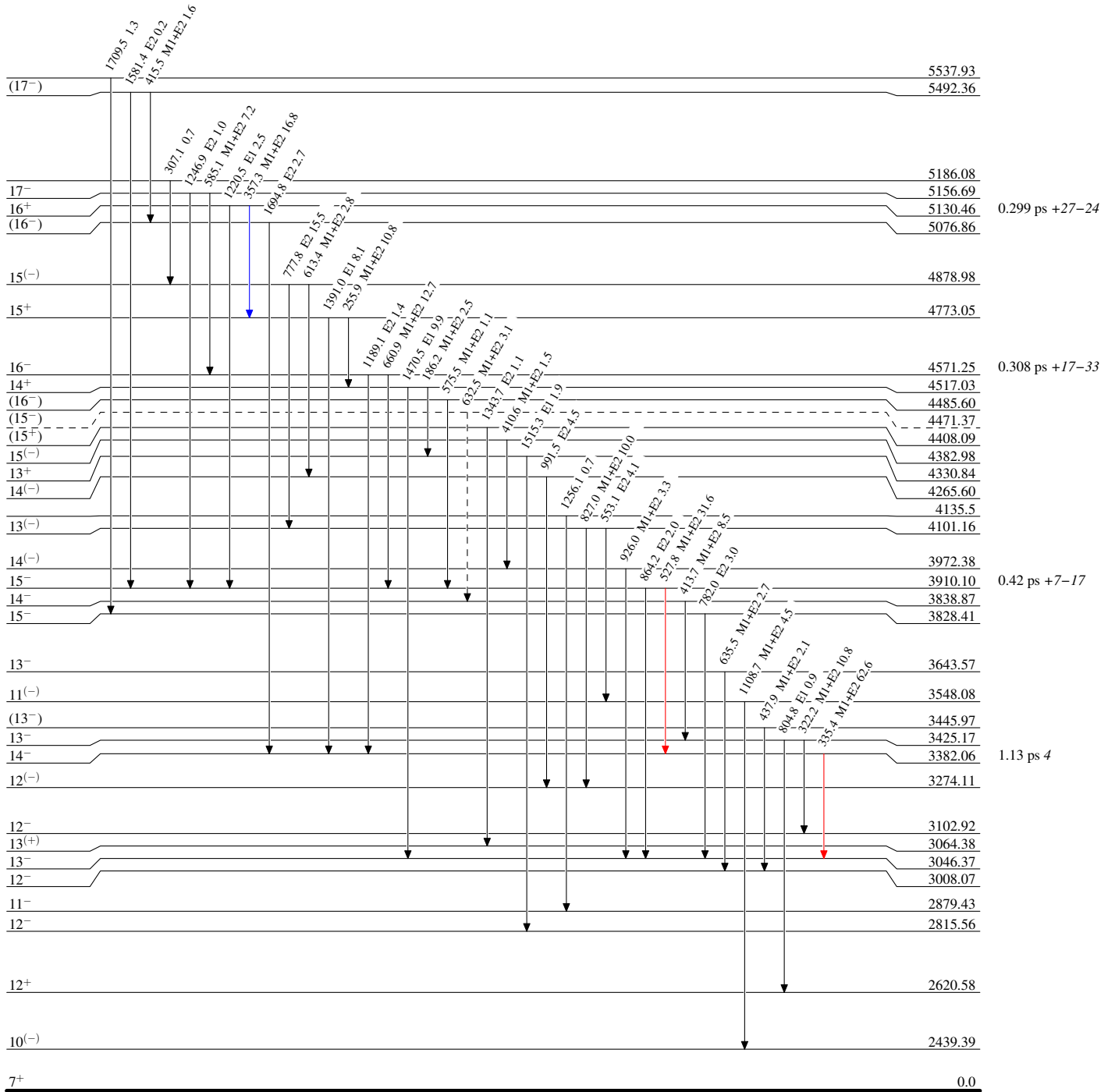
$^{76}\text{Ge}(^{37}\text{Cl}, ^5\text{n}\gamma)$  2001Ch71

Level Scheme (continued)

Intensities: Relative  $I_\gamma$

Legend

- ▶  $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- ▶  $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- ▶  $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - -▶  $\gamma$  Decay (Uncertain)





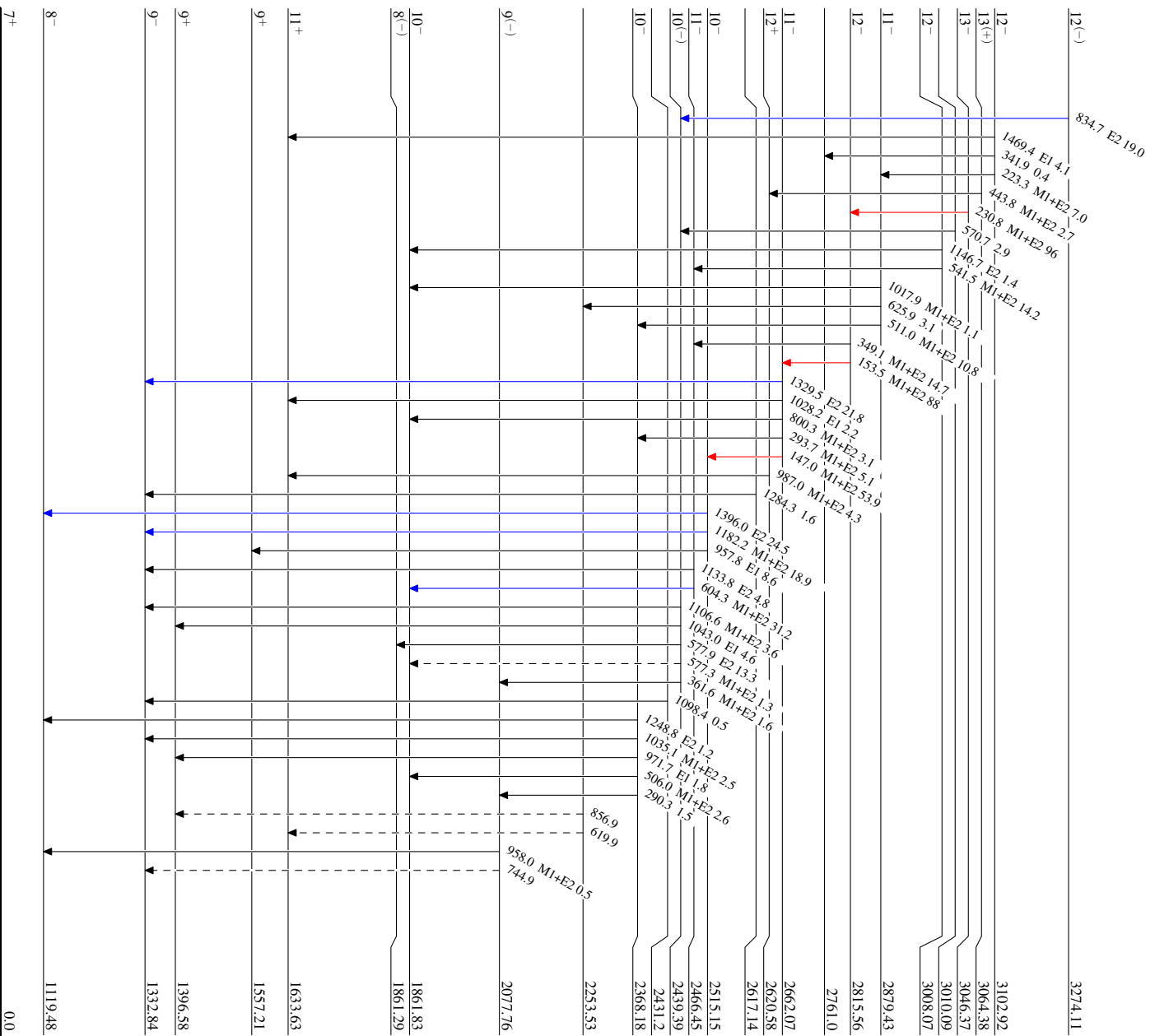
<sup>76</sup>Ge(<sup>37</sup>Cl,5n $\gamma$ ) 2001Ch71

Level Scheme (continued)

Intensities: Relative I <sub>$\gamma$</sub>

Legend

- I <sub>$\gamma$</sub>  < 2% × I <sub>$\gamma$</sub> <sup>max</sup>
- I <sub>$\gamma$</sub>  < 10% × I <sub>$\gamma$</sub> <sup>max</sup>
- I <sub>$\gamma$</sub>  > 10% × I <sub>$\gamma$</sub> <sup>max</sup>
- - -→  $\gamma$  Decay (Uncertain)



<sup>108</sup>In<sub>59</sub>

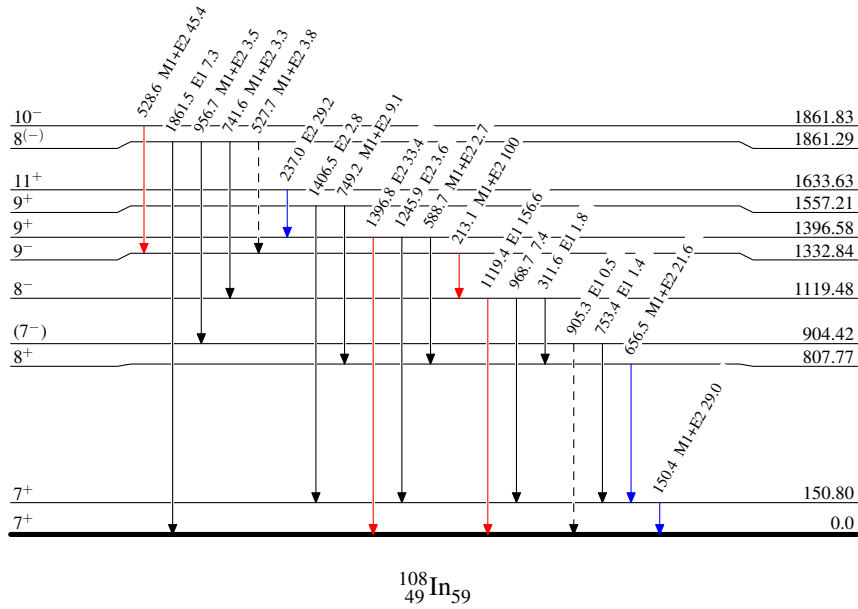
$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71

## Level Scheme (continued)

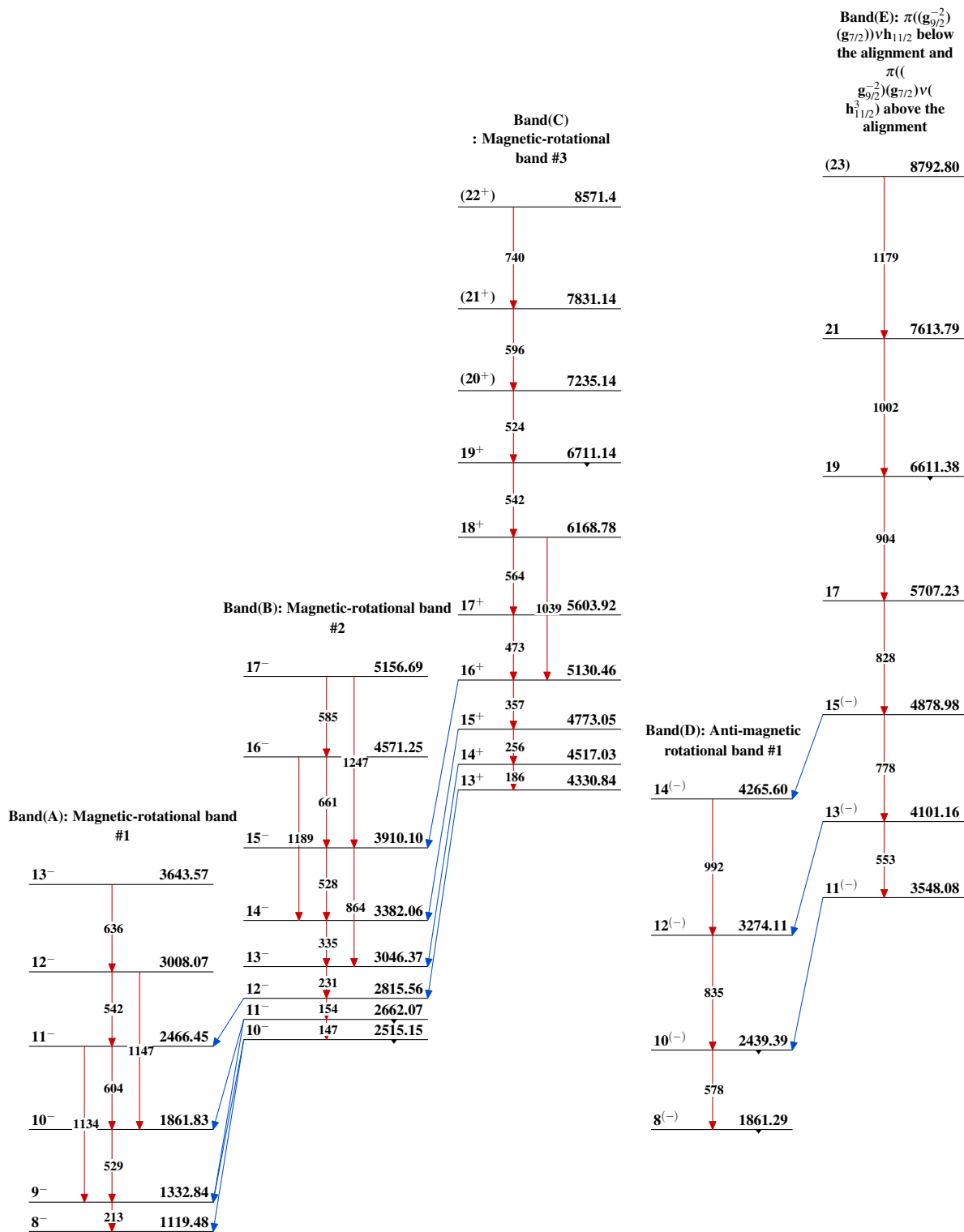
Intensities: Relative  $I_\gamma$ 

## Legend

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



$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71



$^{76}\text{Ge}(^{37}\text{Cl},5n\gamma)$  2001Ch71 (continued)