

$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08

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Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

1992Li01: $^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ E=51 MeV, 6 escape-suppressed Ge detectors with 14 BGO; measured γ , $\gamma\gamma$, DCO, $\gamma(\theta)$, deduced multipolarity and J^π .

1991Li18: $^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ E=51 MeV, 6 escape-suppressed Ge detectors with 14 BGO's; measured γ , $\gamma\gamma$, DCO, $\gamma(\theta)$, deduced multipolarity and J^π .

1994Wa08: $^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ E=51 MeV, a BGO escape-suppressed Ge detector; measured doppler-shift attenuation; deduced level half-lives.

 ^{121}I Levels

E(level)	J^π ^b	$T_{1/2}$ ^c	E(level)	J^π ^b
0.0 [†]	5/2 ⁺	189 ps 7	3023.7 ^{& 6}	(19/2 ⁻)
132.79 ^{† 19}	7/2 ⁺		3085.8 ^{‡ 5}	(23/2 ⁺)
433.59 ^{‡ 24}	(9/2) ⁺		3105.4 ^{† 7}	(23/2 ⁺)
445.52 ^{# 23}	(7/2) ⁺		3158.6 15	
529.21 ^{† 21}	(9/2) ⁺		3248.3 7	
649.87 19	(9/2) ⁺		3271.7 14	
748.5 ^{‡ 4}	(11/2) ⁺		3273.6 ^{@ 6}	(27/2 ⁻)
801.5 ^{† 4}	(11/2) ⁺		3281.3 12	
811.3 ^{@ 3}	(11/2) ⁻		3353.6 15	
1031.1 ^{# 4}	(11/2) ⁺	58 ps 12	3439.3 12	
1077.2 ^{‡ 4}	(13/2) ⁺		3471.9 12	
1134.0 ^{† 4}	(13/2) ⁺		3487.4 ^{& 9}	(21/2 ⁻)
1239.4 ^{@ 4}	(15/2) ⁻		3496.9 ^{† 12}	(25/2 ⁺)
1326.1 ^{& 4}	(11/2) ⁻		3510.7 ^{a 7}	(23/2 ⁺)
1435.8 ^{‡ 4}	(15/2) ⁺		3517.6 ^{# 7}	(23/2 ⁺)
1575.0 ^{† 5}	(15/2) ⁺		3534.0 ^{‡ 5}	(25/2 ⁺)
1721.9 ^{& 5}	(13/2) ⁻		3583.4 6	(25/2 ⁺)
1746.3 ^{# 5}	(15/2) ⁺		3604.3 12	
1780.5 ^{@ 4}	(19/2) ⁻		3638.9 12	
1814.7 ^{‡ 4}	(17/2) ⁺		3676.9 ^{† 7}	
1846.8 8			3684.3 12	
1864.2 ^{† 5}	(17/2) ⁺		3704.1 ^{a 7}	(25/2 ⁺)
2132.3 ^{& 5}	(15/2) ⁻		3763.1 7	(27/2 ⁺)
2201.4 11			3929.3 15	
2219.2 ^{‡ 4}	(19/2) ⁺		3966.6 ^{‡ 5}	(27/2 ⁺)
2285.9 8			4005.7 ^{a 8}	(27/2 ⁺)
2378.2 11			4096.6 18	
2426.3 ^{@ 5}	(23/2) ⁻		4098.9 16	
2440.8 ^{† 6}	(19/2) ⁺		4164.6 ^{@ 6}	(31/2) ⁻
2570.1 ^{& 6}	(17/2) ⁻		4233.9 ^{† 16}	(29/2 ⁺)
2621.3 ^{# 6}	(19/2) ⁺		4321.1 ^{a 8}	(29/2 ⁺)
2642.7 ^{‡ 4}	(21/2) ⁺		4377? ^{‡ 1}	(29/2 ⁺)
2684.6 11			4381.6 12	
2728.9 ^{† 6}	(21/2) ⁺		4436.6 12	
2776.7 9			4534? ^{† 1}	
2858.5 11			4635.9 16	

Continued on next page (footnotes at end of table)

$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ [1992Li01,1991Li18,1994Wa08](#) (continued) ^{121}I Levels (continued)

E(level)	J^{π^b}	$T_{1/2}^c$	Comments
4662.9 19			
4676.1 ^a 13	(31/2 ⁺)		
4922? 1			
5001.1 ^a 17	(33/2 ⁺)		
5041.0 [@] 7	(35/2 ⁻)		
5255.6 16			
5338.1 ^a 19	(35/2 ⁺)		
5432.5 8	(39/2 ⁻)	263 ps 22	
5655.1 ^a 22	(37/2 ⁺)		
6244.6 8	(41/2 ⁻)		
6537.1 9	(43/2 ⁻)		
7206.1 12	(43/2 ⁻)		
7446.6 12			
8134.6 16			
x			Additional information 1.
x+495.0 10			
x+1124.0 15			
x+1868.0 18			
x+2705.0 20			

† Band(A): 2d_{5/2} (g.s.).‡ Band(B): 9/2⁺[404].# Band(C): 1g_{7/2}.@ Band(D): 1h_{11/2} or 1/2⁻[550].& Band(E): 11/2⁻[505].^a Band(F): 3quasi-particle state on 23/2⁺. probable configuration=((π 1h_{11/2})(ν 1h_{11/2})(ν 1g_{7/2})).^b From Adopted Levels.^c From recoil-distance method ([1994Wa08](#)).

$\gamma(^{121}\text{I})$										
E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [@]	δ^b	α^c	$I_{(\gamma+ce)}$	Comments
83 [#] 1		529.21	(9/2) ⁺	445.52	(7/2) ⁺	E2 ^{&}		3.40 16		$\alpha(\text{K})=2.12$ 9; $\alpha(\text{L})=1.02$ 6; $\alpha(\text{M})=0.217$ 13; $\alpha(\text{N}+..)=0.045$ 3 $\alpha(\text{N})=0.0416$ 25; $\alpha(\text{O})=0.00380$ 22
121 1	<1	649.87	(9/2) ⁺	529.21	(9/2) ⁺					
132.6 3	86 [‡] 9	132.79	7/2 ⁺	0.0	5/2 ⁺	M1+E2 ^{&}	-0.06 2	0.339 6	116 20	$\text{ce}(\text{K})/(\gamma+\text{ce})=0.218$ 3; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.0285$ 5; $\text{ce}(\text{M})/(\gamma+\text{ce})=0.00575$ 10; $\text{ce}(\text{N}+)/(\gamma+\text{ce})=0.001299$ 23 $\text{ce}(\text{N})/(\gamma+\text{ce})=0.001163$ 21; $\text{ce}(\text{O})/(\gamma+\text{ce})=0.0001359$ 23 Mult.: DCO=0.29 1, $A_2=-0.33$ 5, $A_4=-0.11$ 7.
159 [#] 1		2378.2		2219.2	(19/2) ⁺					
161.4 3	76 [‡] 8	811.3	(11/2) ⁻	649.87	(9/2) ⁺	D			80 8	Mult.: DCO=0.33 1, $A_2=-0.36$ 5, $A_4=-0.06$ 7.
179.7 3	7 1	3763.1	(27/2 ⁺)	3583.4	(25/2 ⁺)	D+Q	-0.27 14			Mult.: $A_2=-0.45$ 15, $A_4=-0.17$ 19.
186 1	3 1	3704.1	(25/2 ⁺)	3517.6	(23/2 ⁺)	D(+Q)				Mult.: DCO=0.60 6.
193.5 3	5 1	3704.1	(25/2 ⁺)	3510.7	(23/2 ⁺)	D(+Q)				Mult.: DCO=0.43 4, $A_2=-0.7$ 3, $A_4=-0.1$ 4.
204.3 3	5 1	649.87	(9/2) ⁺	445.52	(7/2) ⁺	M1(+E2) ^a		0.124 21		$\alpha(\text{K})=0.102$ 14; $\alpha(\text{L})=0.017$ 6; $\alpha(\text{M})=0.0035$ 13; $\alpha(\text{N}+..)=0.0008$ 3 $\alpha(\text{N})=0.00070$ 24; $\alpha(\text{O})=7.5\times 10^{-5}$ 21 Mult.: DCO=0.38 4.
241 1	<2	7446.6		7206.1	(43/2 ⁻)					
273 [#] 1		801.5	(11/2 ⁺)	529.21	(9/2) ⁺					
282.2 3	26 3	811.3	(11/2) ⁻	529.21	(9/2) ⁺	D				Mult.: DCO=0.41 1, $A_2=-0.23$ 6, $A_4=-0.09$ 7.
286 1	<1	1721.9	(13/2 ⁻)	1435.8	(15/2 ⁺)					
292.4 3	6 1	6537.1	(43/2 ⁻)	6244.6	(41/2 ⁻)	D+Q	-0.06 4			Mult.: DCO=0.52 6, $A_2=-0.32$ 18, $A_4=+0.08$ 22.
300.8 3	78 [‡] 8	433.59	(9/2) ⁺	132.79	7/2 ⁺	M1+E2 ^{&}	+0.11 3	0.0371	81 8	$\text{ce}(\text{K})/(\gamma+\text{ce})=0.0309$ 5; $\text{ce}(\text{L})/(\gamma+\text{ce})=0.00394$ 6; $\text{ce}(\text{M})/(\gamma+\text{ce})=0.000793$ 12; $\text{ce}(\text{N}+)/(\gamma+\text{ce})=0.000179$ 3 $\text{ce}(\text{N})/(\gamma+\text{ce})=0.0001606$ 24; $\text{ce}(\text{O})/(\gamma+\text{ce})=1.88\times 10^{-5}$ 3 Mult.: DCO=0.52 2; $A_2=-0.06$ 6, $A_4=-0.02$ 7 for 300.8 γ + 301.6 γ . Mult.: DCO=0.48 3; $A_2=-0.06$ 6, $A_4=-0.02$ 7 for 301.6 γ + 300.8 γ .
301.6 ^e 3	3 ^e 1	4005.7	(27/2 ⁺)	3704.1	(25/2 ⁺)	D(+Q)				Mult.: DCO=0.72 3; $A_2=+0.09$ 6, $A_4=+0.01$ 7 for 314.7 γ + 315.4 γ .
314.7 3	75 [‡] 10	748.5	(11/2) ⁺	433.59	(9/2) ⁺	(D+Q)	+0.10 3		77 8	Mult.: $A_2=+0.09$ 6, $A_4=+0.01$ 7 for 314.7 γ + 315.4 γ .
315.4 3	2.5 3	4321.1	(29/2 ⁺)	4005.7	(27/2 ⁺)	D(+Q)				Mult.: $A_2=+0.09$ 6, $A_4=+0.01$ 7 for 314.7 γ + 315.4 γ .
317 ^e 1	<1 ^e	2132.3	(15/2 ⁻)	1814.7	(17/2) ⁺					
317 ^e 1	<2 ^e	5655.1	(37/2 ⁺)	5338.1	(35/2 ⁺)	D(+Q)				Mult.: DCO=0.44 11, 0.61 11 in $^{96}\text{Zr}(^{30}\text{Si},4n\gamma)$.
325 ^e 1	<3 ^e	3929.3		3604.3						
325 1	<1	5001.1	(33/2 ⁺)	4676.1	(31/2 ⁺)					

$\gamma(^{121}\text{I})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. @	δ^b	α^c	$I_{(\gamma+ce)}$	Comments
328.4 3	47‡ 5	1077.2	(13/2) ⁺	748.5	(11/2) ⁺	D+Q	+0.21 3		48 5	Mult.: DCO=0.47 2, A ₂ =+0.09 6, A ₄ =+0.01 7.
332 1	3 1	1134.0	(13/2) ⁺	801.5	(11/2) ⁺					
337 1	<3	5338.1	(35/2 ⁺)	5001.1	(33/2 ⁺)	D(+Q)				Mult.: DCO=0.52 12, 0.63 11 in $^{96}\text{Zr}(^{30}\text{Si},4n\gamma)$.
355 1	<3	4676.1	(31/2 ⁺)	4321.1	(29/2 ⁺)	D(+Q)				E _γ : 335 given in table 2 (1992Li01) is a misprint.
										E _γ =355 in level scheme.
358.4 3	42 5	1435.8	(15/2) ⁺	1077.2	(13/2) ⁺	D+Q	+0.15 1			Mult.: DCO=0.38 20 in $^{96}\text{Zr}(^{30}\text{Si},4n\gamma)$.
378.5 3	32 3	1814.7	(17/2) ⁺	1435.8	(15/2) ⁺	M1+E2 ^a	+0.26 5	0.0205		Mult.: DCO=0.49 2, A ₂ =+0.01 6, A ₄ =+0.01 7.
										α(K)=0.0177 3; α(L)=0.00226 4; α(M)=0.000454 7;
										α(N+...)=0.0001027 15
										α(N)=9.19×10 ⁻⁵ 14; α(O)=1.076×10 ⁻⁵ 16
391.5 3	19 2	5432.5	(39/2 ⁻)	5041.0	(35/2 ⁻)	E2		0.01747		Mult.: DCO=0.53 2, A ₂ =+0.17 6, A ₄ =+0.03 7.
										α(K)=0.01469 21; α(L)=0.00223 4; α(M)=0.000454 7;
										α(N+...)=0.0001005 15
										α(N)=9.06×10 ⁻⁵ 13; α(O)=9.97×10 ⁻⁶ 15
										Mult.: DCO=0.80 3, A ₂ =+0.36 7, A ₄ =+0.01 80; RUL
										consistent with E2.
395.9 3	7 1	1721.9	(13/2 ⁻)	1326.1	(11/2 ⁻)	D(+Q)				Mult.: DCO=0.48 3; A ₂ =-0.33 5, A ₄ =+0.06 7 for 395.9γ
										+ 3396.5γ.
396.5 3	38 4	529.21	(9/2) ⁺	132.79	7/2 ⁺	M1(+E2) ^a	-0.23 18	0.0182		α(K)=0.0157 3; α(L)=0.00200 4; α(M)=0.000402 7;
										α(N+...)=9.09×10 ⁻⁵ 14
										α(N)=8.13×10 ⁻⁵ 13; α(O)=9.54×10 ⁻⁶ 14
										Mult.: DCO=0.27 2; A ₂ =-0.33 5, A ₄ =+0.06 7 for 395.9γ
										+ 396.5γ.
404.4 3	25 2	2219.2	(19/2) ⁺	1814.7	(17/2) ⁺	M1+E2 ^a	+0.26 7	0.01728		α(K)=0.01491 22; α(L)=0.00190 3; α(M)=0.000382 6;
										α(N+...)=8.64×10 ⁻⁵ 13
										α(N)=7.73×10 ⁻⁵ 11; α(O)=9.07×10 ⁻⁶ 13
410.6 3	6 1	2132.3	(15/2 ⁻)	1721.9	(13/2 ⁻)	D(+Q)				Mult.: DCO=0.70 3, A ₂ =+0.15 6, A ₄ =+0.08 7.
411 ^f 1	<3	4377?	(29/2 ⁺)	3966.6	(27/2 ⁺)					Mult.: DCO=0.50 3.
423.5 3	8 1	2642.7	(21/2 ⁺)	2219.2	(19/2) ⁺	D+Q	+0.26 8			
428.1 3	99‡ 5	1239.4	(15/2) ⁻	811.3	(11/2) ⁻	E2		0.01338	100	Mult.: DCO=0.62 3, A ₂ =+0.15 8, A ₄ =+0.09 10.
										ce(K)/(γ+ce)=0.01114 16; ce(L)/(γ+ce)=0.001651 24;
										ce(M)/(γ+ce)=0.000335 5; ce(N+)/(γ+ce)=7.44×10 ⁻⁵ 11
										ce(N)/(γ+ce)=6.70×10 ⁻⁵ 10; ce(O)/(γ+ce)=7.43×10 ⁻⁶ 11
433 1	<3	3966.6	(27/2 ⁺)	3534.0	(25/2 ⁺)	(D+Q)				Mult.: DCO=0.80 1, A ₂ =+0.44 7, A ₄ =-0.11 10.
433.6 3	27 3	433.59	(9/2) ⁺	0.0	5/2 ⁺	E2&		0.01289		Mult.: A ₂ =+0.15 6, A ₄ =+0.06 7 for 433γ + 433.6γ.
										α(K)=0.01088 16; α(L)=0.001607 23; α(M)=0.000326 5;
										α(N+...)=7.24×10 ⁻⁵ 11
										α(N)=6.52×10 ⁻⁵ 10; α(O)=7.24×10 ⁻⁶ 11
437.8 3	4 1	2570.1	(17/2 ⁻)	2132.3	(15/2 ⁻)	D(+Q)				Mult.: A ₂ =+0.15 6, A ₄ =+0.06 7 for 433γ + 433.6γ.
439.1 3	3 1	2285.9		1846.8						

$\gamma(^{121}\text{I})$ (continued)

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [@]	δ^b	α^c	Comments
442.8 3	6 1	3085.8	(23/2 ⁺)	2642.7	(21/2 ⁺)	D(+Q)			Mult.: $A_2=+0.04$ 10, $A_4=+0.23$ 12.
445.4 3	22 2	445.52	(7/2 ⁺)	0.0	5/2 ⁺	M1+E2 ^{&}	-0.18 10	0.01359 21	$\alpha(\text{K})=0.01174$ 18; $\alpha(\text{L})=0.001482$ 21; $\alpha(\text{M})=0.000298$ 5; $\alpha(\text{N}+..)=6.74\times 10^{-5}$ 10 $\alpha(\text{N})=6.03\times 10^{-5}$ 9; $\alpha(\text{O})=7.09\times 10^{-6}$ 11 Mult.: DCO=0.23 1, $A_2=-0.58$ 5, $A_4=-0.09$ 8.
448.2 3	4 1	3534.0	(25/2 ⁺)	3085.8	(23/2 ⁺)				
453.7 3	<3	3023.7	(19/2 ⁻)	2570.1	(17/2 ⁻)				
464 1	<2	3487.4	(21/2 ⁻)	3023.7	(19/2 ⁻)				
474 1	<2	3158.6		2684.6					
491 1	3 1	2776.7		2285.9					
495 ^e 1	<2 ^e	x+495.0		x					E_γ : triplet.
495 ^e 1	<2 ^e	3271.7		2776.7					E_γ : triplet.
495 ^e 1	<2 ^e	3353.6		2858.5					E_γ : triplet.
502 [#] 1		1031.1	(11/2 ⁺)	529.21	(9/2 ⁺)				
516.9 3	22 2	649.87	(9/2 ⁺)	132.79	7/2 ⁺	M1(+E2) ^a		0.0086 9	$\alpha=0.0086$ 9; $\alpha(\text{K})=0.0074$ 8; $\alpha(\text{L})=0.00098$ 5; $\alpha(\text{M})=0.000197$ 8; $\alpha(\text{N}+..)=4.44\times 10^{-5}$ 22 $\alpha(\text{N})=3.98\times 10^{-5}$ 19; $\alpha(\text{O})=4.6\times 10^{-6}$ 4 Mult.: DCO=0.3 1, $A_2=-0.58$ 5, $A_4=+0.01$ 8.
529.4 3	38 4	529.21	(9/2 ⁺)	0.0	5/2 ⁺	E2 ^{&}		0.00731 11	$\alpha=0.00731$ 11; $\alpha(\text{K})=0.00622$ 9; $\alpha(\text{L})=0.000874$ 13; $\alpha(\text{M})=0.0001769$ 25; $\alpha(\text{N}+..)=3.95\times 10^{-5}$ 6 $\alpha(\text{N})=3.55\times 10^{-5}$ 5; $\alpha(\text{O})=4.00\times 10^{-6}$ 6 Mult.: DCO=0.95 3, $A_2=+0.35$ 7, $A_4=-0.01$ 7.
541.1 2	89 9	1780.5	(19/2 ⁻)	1239.4	(15/2 ⁻)	E2 ^a		0.00688 10	$\alpha=0.00688$ 10; $\alpha(\text{K})=0.00586$ 9; $\alpha(\text{L})=0.000820$ 12; $\alpha(\text{M})=0.0001659$ 24; $\alpha(\text{N}+..)=3.70\times 10^{-5}$ 6 $\alpha(\text{N})=3.33\times 10^{-5}$ 5; $\alpha(\text{O})=3.75\times 10^{-6}$ 6 Mult.: DCO=1.01 3, $A_2=+0.46$ 7, $A_4=-0.07$ 7.
564 1	<1	4662.9		4098.9					
571.5 3	4 1	3676.9		3105.4	(23/2 ⁺)				
577.8 3	11 5	1326.1	(11/2 ⁻)	748.5	(11/2 ⁺)	D			Mult.: $A_2=+0.40$ 8, $A_4=-0.09$ 9.
585.6 3	13 1	1031.1	(11/2 ⁺)	445.52	(7/2 ⁺)	E2 ^a		0.00556 8	$\alpha=0.00556$ 8; $\alpha(\text{K})=0.00475$ 7; $\alpha(\text{L})=0.000654$ 10; $\alpha(\text{M})=0.0001321$ 19; $\alpha(\text{N}+..)=2.95\times 10^{-5}$ 5 $\alpha(\text{N})=2.65\times 10^{-5}$ 4; $\alpha(\text{O})=3.01\times 10^{-6}$ 5 Mult.: DCO=0.85 4, $A_2=+0.38$ 8, $A_4=+0.04$ 8. Mult.: DCO=0.85 2, $A_2=+0.21$ 6, $A_4=+0.02$ 7.
604.8 3	43 4	1134.0	(13/2 ⁺)	529.21	(9/2 ⁺)	Q			
608 1	3 1	1846.8		1239.4	(15/2 ⁻)				
612 [#] 3		1746.3	(15/2 ⁺)	1134.0	(13/2 ⁺)				
627 1	<1	4098.9		3471.9					
629 1	<1	x+1124.0		x+495.0					
643.7 3	29 3	1077.2	(13/2 ⁺)	433.59	(9/2 ⁺)	Q			Mult.: DCO=1.35 8; $A_2=+0.42$ 7, $A_4=-0.03$ 7 for 645.7 γ + 643.7 γ .
644 1	<2	1721.9	(13/2 ⁻)	1077.2	(13/2 ⁺)	D			$A_2=+0.42$ 7, $A_4=-0.03$ 7 for 645.7 γ + 643.7 γ .

$\gamma(^{121}\text{I})$ (continued)

E_γ †	I_γ †	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. @	α^c	Comments
645.7 3	79 8	2426.3	(23/2) ⁻	1780.5	(19/2) ⁻	(E2)	0.00431 6	$\alpha=0.00431$ 6; $\alpha(\text{K})=0.00369$ 6; $\alpha(\text{L})=0.000499$ 7; $\alpha(\text{M})=0.0001006$ 15; $\alpha(\text{N}+..)=2.25\times 10^{-5}$ 4 $\alpha(\text{N})=2.02\times 10^{-5}$ 3; $\alpha(\text{O})=2.31\times 10^{-6}$ 4 Mult.: DCO=1.01 2; $A_2=+0.42$ 7, $A_4=-0.03$ 7 for 645.7 γ + 643.7 γ .
650.0 3	67 7	649.87	(9/2) ⁺	0.0	5/2 ⁺	E2 ^a	0.00424 6	$\alpha=0.00424$ 6; $\alpha(\text{K})=0.00363$ 6; $\alpha(\text{L})=0.000490$ 7; $\alpha(\text{M})=9.88\times 10^{-5}$ 14; $\alpha(\text{N}+..)=2.21\times 10^{-5}$ 4 $\alpha(\text{N})=1.99\times 10^{-5}$ 3; $\alpha(\text{O})=2.27\times 10^{-6}$ 4 Mult.: DCO=0.88 2, $A_2=+0.42$ 7, $A_4=-0.04$ 7. Mult.: DCO=0.97 5, $A_2=+0.24$ 10, $A_4=-0.08$ 11. Mult.: DCO=0.89 3, $A_2=+0.34$ 7, $A_4=-0.04$ 8. Mult.: DCO=1.26 13, $A_2=+0.27$ 8, $A_4=-0.19$ 9. Mult.: DCO=0.50 12.
664.6 3	12 1	3105.4	(23/2 ⁺)	2440.8	(19/2 ⁺)	Q		
668.6 3	28 3	801.5	(11/2 ⁺)	132.79	7/2 ⁺	Q		
687.4 3	14 2	1435.8	(15/2) ⁺	748.5	(11/2) ⁺	Q		
688 1	<2	8134.6		7446.6		D		
696 [#] 1		2132.3	(15/2 ⁻)	1435.8	(15/2) ⁺			
715.2 3	14 2	1746.3	(15/2 ⁺)	1031.1	(11/2) ⁺	Q		Mult.: DCO=1.16 6, $A_2=+0.21$ 8, $A_4=-0.13$ 9.
730.2 3	31 3	1864.2	(17/2) ⁺	1134.0	(13/2) ⁺	E2	0.00317 5	$\alpha=0.00317$ 5; $\alpha(\text{K})=0.00272$ 4; $\alpha(\text{L})=0.000360$ 5; $\alpha(\text{M})=7.25\times 10^{-5}$ 11; $\alpha(\text{N}+..)=1.628\times 10^{-5}$ 23 $\alpha(\text{N})=1.460\times 10^{-5}$ 21; $\alpha(\text{O})=1.677\times 10^{-6}$ 24 Mult.: DCO=1.17 5, $A_2=+0.39$ 7, $A_4=+0.02$ 7. Mult.: $A_2=+0.35$ 8, $A_4=-0.03$ 9 for 737 γ + 737.5 γ . Mult.: DCO=1.26 6; $A_2=+0.35$ 8, $A_4=-0.03$ 9 for 737 γ + 737.5 γ .
737 1	3 1	4233.9	(29/2 ⁺)	3496.9	(25/2 ⁺)	(Q)		
737.5 3	15 1	1814.7	(17/2) ⁺	1077.2	(13/2) ⁺	Q		
743 ^e 1	<2 ^e	3471.9		2728.9	(21/2 ⁺)			
743 1	<1	4096.6		3353.6				
744 1	<1	x+1868.0		x+1124.0				
768.1 3	11 1	3496.9	(25/2 ⁺)	2728.9	(21/2 ⁺)	Q		Mult.: DCO=1.20 10, $A_2=+0.44$ 12, $A_4=-0.13$ 14.
773.5 3	29 3	1575.0	(15/2 ⁺)	801.5	(11/2) ⁺	Q		Mult.: DCO=1.03 5, $A_2=+0.36$ 7, $A_4=-0.03$ 7.
783.4 3	16 1	2219.2	(19/2) ⁺	1435.8	(15/2) ⁺	E2 ^a	0.00268 4	$\alpha=0.00268$ 4; $\alpha(\text{K})=0.00230$ 4; $\alpha(\text{L})=0.000301$ 5; $\alpha(\text{M})=6.06\times 10^{-5}$ 9; $\alpha(\text{N}+..)=1.361\times 10^{-5}$ 20 $\alpha(\text{N})=1.221\times 10^{-5}$ 18; $\alpha(\text{O})=1.406\times 10^{-6}$ 20 Mult.: DCO=0.82 5, $A_2=+0.32$ 8, $A_4=-0.11$ 8.
806.0 10	<1	2132.3	(15/2 ⁻)	1326.1	(11/2 ⁻)			
807.5 3	6 1	3248.3		2440.8	(19/2 ⁺)			
812.1 3	11 2	6244.6	(41/2 ⁻)	5432.5	(39/2 ⁻)	D(+Q)		Mult.: DCO=0.60 8, $A_2=+0.04$ 8, $A_4=-0.07$ 10.
819 1	<1	5255.6		4436.6				
825 ^{#f} 1		4922?		4096.6				
828.1 3	11 1	2642.7	(21/2 ⁺)	1814.7	(17/2) ⁺	Q		Mult.: DCO=1.28 10, $A_2=+0.34$ 8, $A_4=-0.17$ 9.
837 1	<1	x+2705.0		x+1868.0				
844 ^{#f} 1		4377?	(29/2 ⁺)	3534.0	(25/2 ⁺)			
847.3 3	54 5	3273.6	(27/2 ⁻)	2426.3	(23/2) ⁻	Q		Mult.: DCO=1.03 3, $A_2=+0.32$ 6, $A_4=-0.03$ 7.
848 1	<1	2570.1	(17/2 ⁻)	1721.9	(13/2 ⁻)			
854 ^{#f} 1		4534?		3676.9				
854.5 3	4 1	3583.4	(25/2 ⁺)	2728.9	(21/2 ⁺)	Q		Mult.: DCO=1.02 8.
855 1	<1	3281.3		2426.3	(23/2) ⁻			

$\gamma(^{121}\text{I})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\dagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [@]	Comments
864.7 3	22 2	2728.9	(21/2 ⁺)	1864.2	(17/2 ⁺)	Q	Mult.: DCO=1.30 8; $A_2=+0.41$ 7, $A_4=-0.16$ 7 for 864.7 γ + 866.7 γ .
865.8 3	19 2	2440.8	(19/2 ⁺)	1575.0	(15/2 ⁺)	Q	Mult.: DCO=1.13 6; $A_2=+0.41$ 7, $A_4=-0.16$ 7 for 864.7 γ + 866.7 γ .
866.7 3	7 1	3085.8	(23/2 ⁺)	2219.2	(19/2 ⁺)	(Q)	
875.0 3	7 1	2621.3	(19/2 ⁺)	1746.3	(15/2 ⁺)	Q	Mult.: DCO=1.26 7; $A_2=+0.31$ 7, $A_4=-0.20$ 8 (for 875.0 γ + 876.4 γ).
876.4 3	27 3	5041.0	(35/2 ⁻)	4164.6	(31/2 ⁻)	Q	Mult.: DCO=1.20 8, $A_2=+0.31$ 7, $A_4=-0.20$ 8 for 875.0 γ + 876.4 γ .
880.8 3	<2	3966.6	(27/2 ⁺)	3085.8	(23/2 ⁺)		
889.4 3	4 1	3510.7	(23/2 ⁺)	2621.3	(19/2 ⁺)	Q	Mult.: DCO=0.96 9.
891 1	<1	3023.7	(19/2 ⁻)	2132.3	(15/2 ⁻)		
891.0 3	41 4	4164.6	(31/2 ⁻)	3273.6	(27/2 ⁻)	Q	Mult.: DCO=1.20 5, $A_2=+0.26$ 7, $A_4=-0.24$ 7.
891.4 3	6 1	3534.0	(25/2 ⁺)	2642.7	(21/2 ⁺)		
893 1	<2	1326.1	(11/2 ⁻)	433.59	(9/2 ⁺)		
896.2 3	3 1	3517.6	(23/2 ⁺)	2621.3	(19/2 ⁺)	Q	Mult.: DCO=1.01 7.
904 1	<2	2684.6		1780.5	(19/2 ⁻)		
909 1	<2	7446.6		6537.1	(43/2 ⁻)		
910 1	<2	3638.9		2728.9	(21/2 ⁺)		
917 1	<1	3487.4	(21/2 ⁻)	2570.1	(17/2 ⁻)		
962 ^d 1	<2 ^d	2201.4		1239.4	(15/2 ⁻)		
962 ^d 1	<2 ^d	7206.1	(43/2 ⁻)	6244.6	(41/2 ⁻)		
996 1	<2	2776.7		1780.5	(19/2 ⁻)		
997 [#] 1		4635.9		3638.9			
1013 1	<2	3439.3		2426.3	(23/2 ⁻)		
1046 1	<2	2285.9		1239.4	(15/2 ⁻)		
1078 1	<2	2858.5		1780.5	(19/2 ⁻)		
1105 1	<2	6537.1	(43/2 ⁻)	5432.5	(39/2 ⁻)		
1108 1	<1	4381.6		3273.6	(27/2 ⁻)		
1163 1	<2	4436.6		3273.6	(27/2 ⁻)		
1178 1	<1	3604.3		2426.3	(23/2 ⁻)		
1258 1	<2	3684.3		2426.3	(23/2 ⁻)		

[†] [1992Li01](#) presented transition intensities with $I(\gamma+ce)(428.1\gamma)=100$; evaluator approximated $I(\gamma+ce)$ by I_γ when a small conversion coefficient was expected; unless otherwise noted; ΔI_γ was estimated by evaluator assuming it to be 10% for strong transitions given in 2 digits, $\Delta I_\gamma=1$ for weak or less precise transitions given in 1 digit.

[‡] Corrected by evaluator for internal conversion coefficient from the $I(\gamma+ce)$ given in [1992Li01](#);

[#] Only given in decay scheme ([1992Li01](#)).

[@] From DCO ratios and $\gamma\gamma(\theta)$, unless noted otherwise;

[&] Additional information on $\alpha(K)\text{exp}$, $\alpha(L)\text{exp}$ from ^{121}Xe $\varepsilon+\beta^+$ decay ([1972Mu03](#)).

^a Additional information from RUL in $^{118}\text{Sn}(^6\text{Li},3n\gamma)$ ([1994Ko13](#)).

^b From [1992Li02](#).

$\gamma(^{121}\text{I})$ (continued)

^c 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.

^d Multiply placed with undivided intensity.

^e Multiply placed with intensity suitably divided.

^f Placement of transition in the level scheme is uncertain.

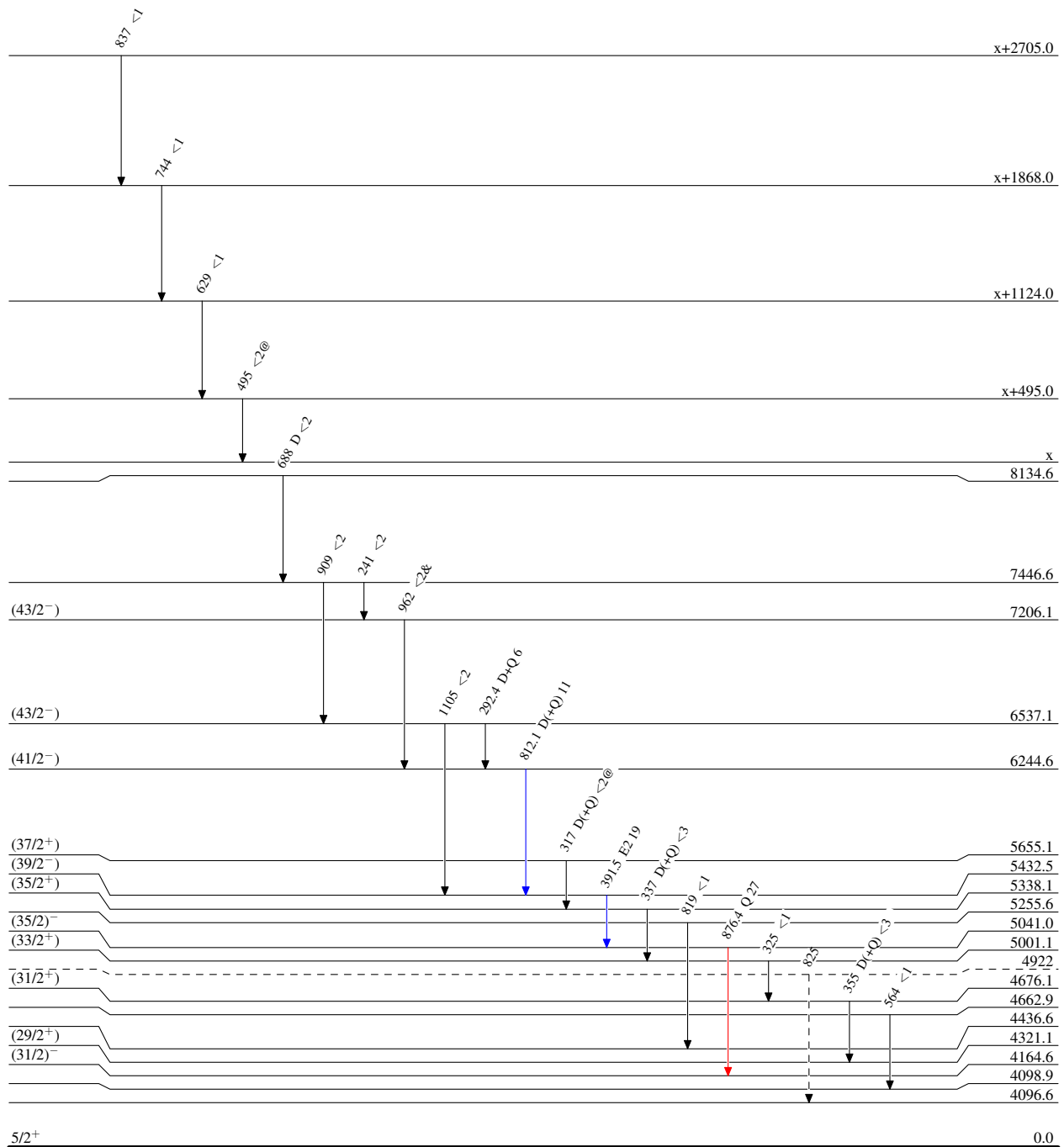
$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08

Level Scheme

Intensities: Relative I_γ
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

Legend

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



263 ps 22

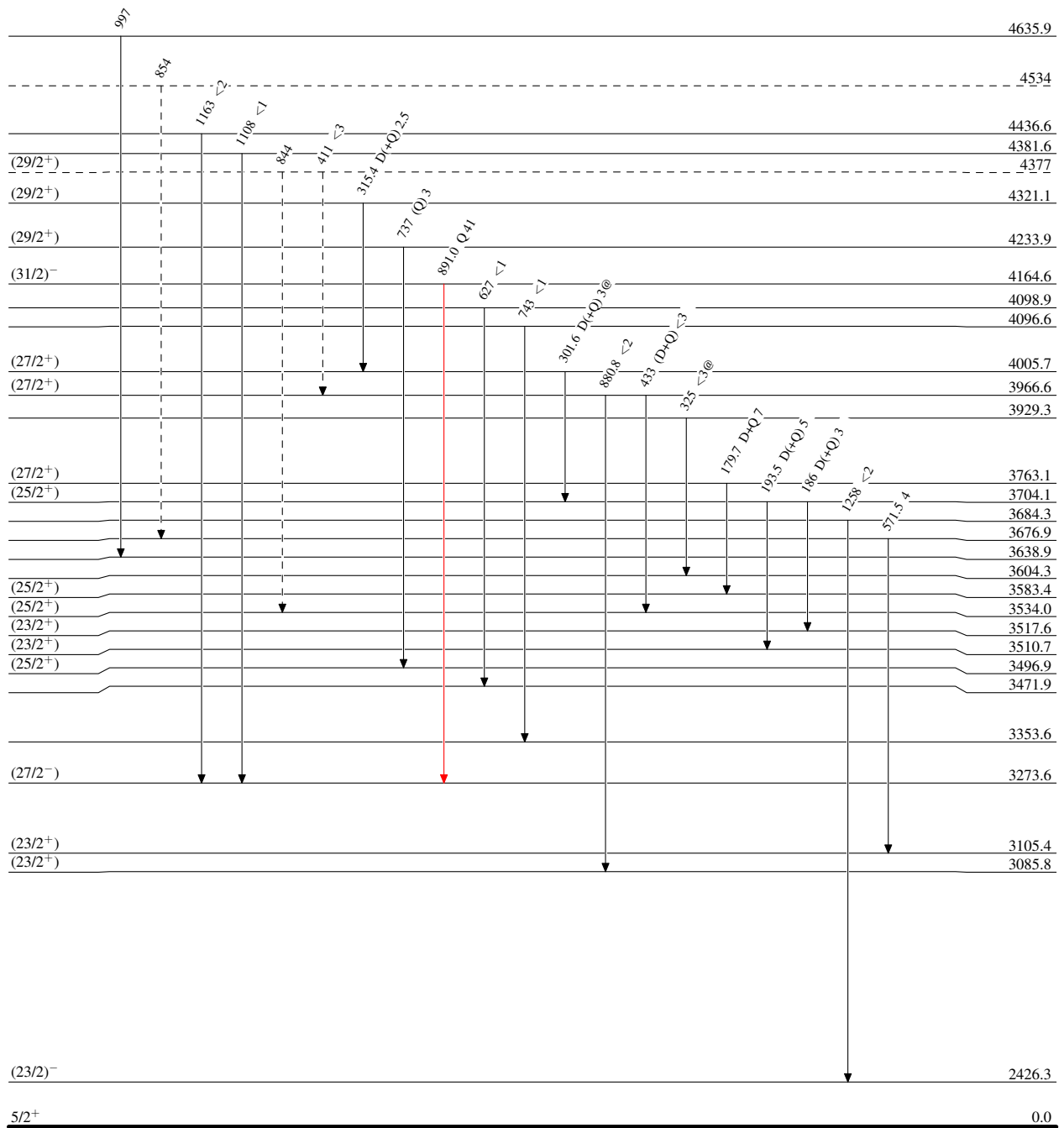
$^{114}\text{Cd}(^{11}\text{B},4\text{n}\gamma)$ 1992Li01,1991Li18,1994Wa08

Level Scheme (continued)

Legend

Intensities: Relative I_γ
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

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



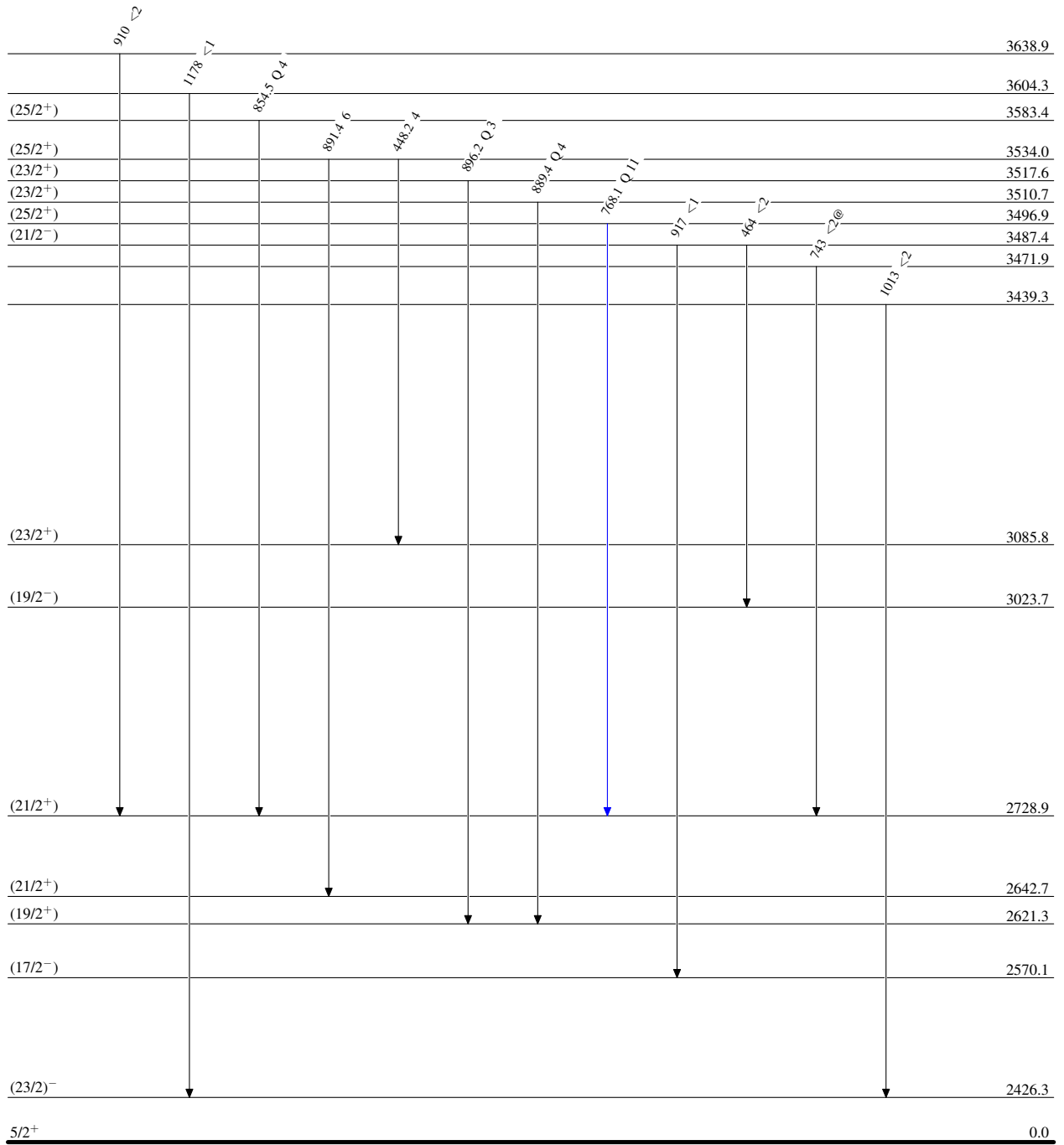
$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08

Level Scheme (continued)

Intensities: Relative I_γ
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

Legend

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



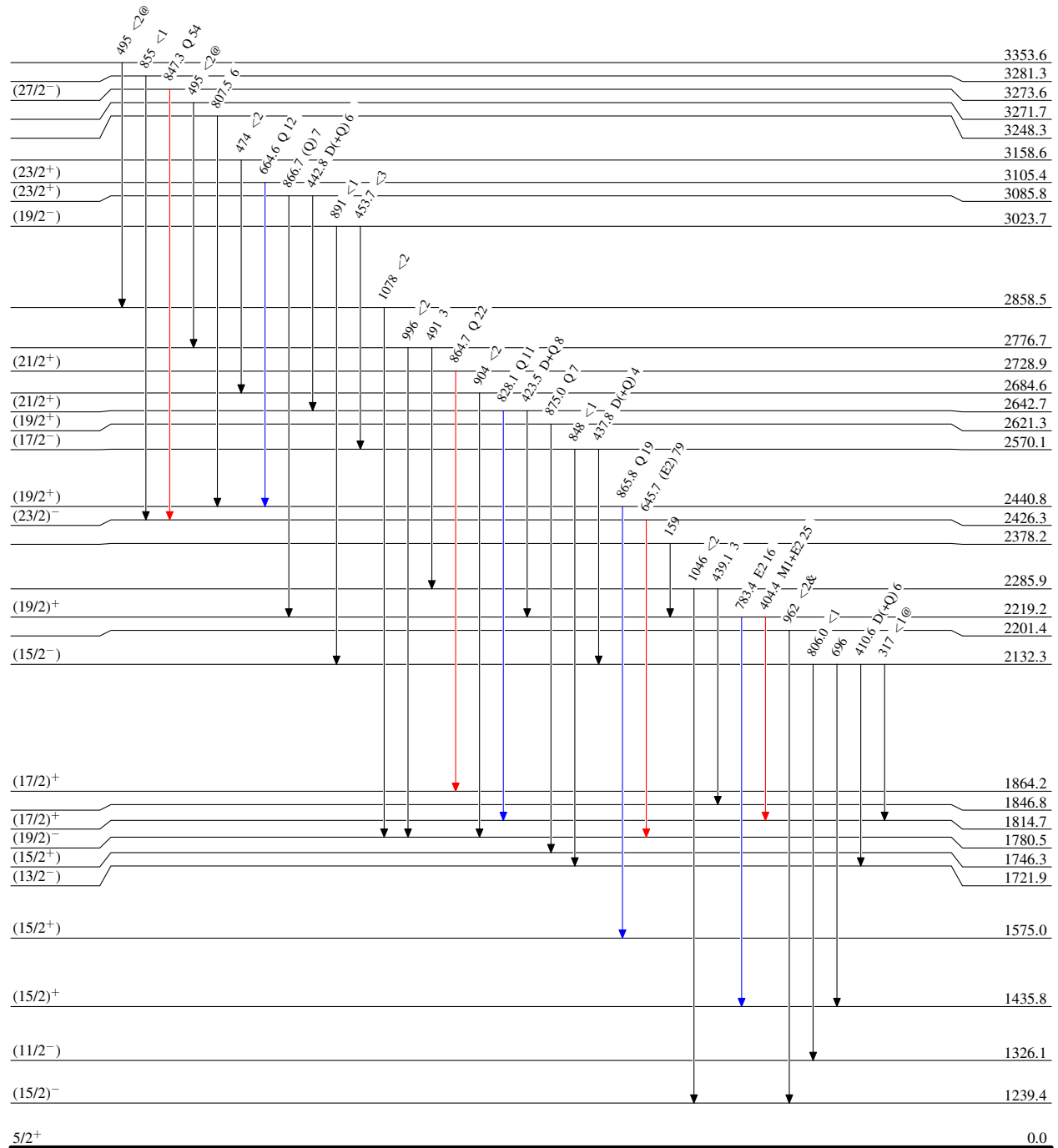
$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08

Level Scheme (continued)

Intensities: Relative I_γ
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

Legend

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



58 ps /2

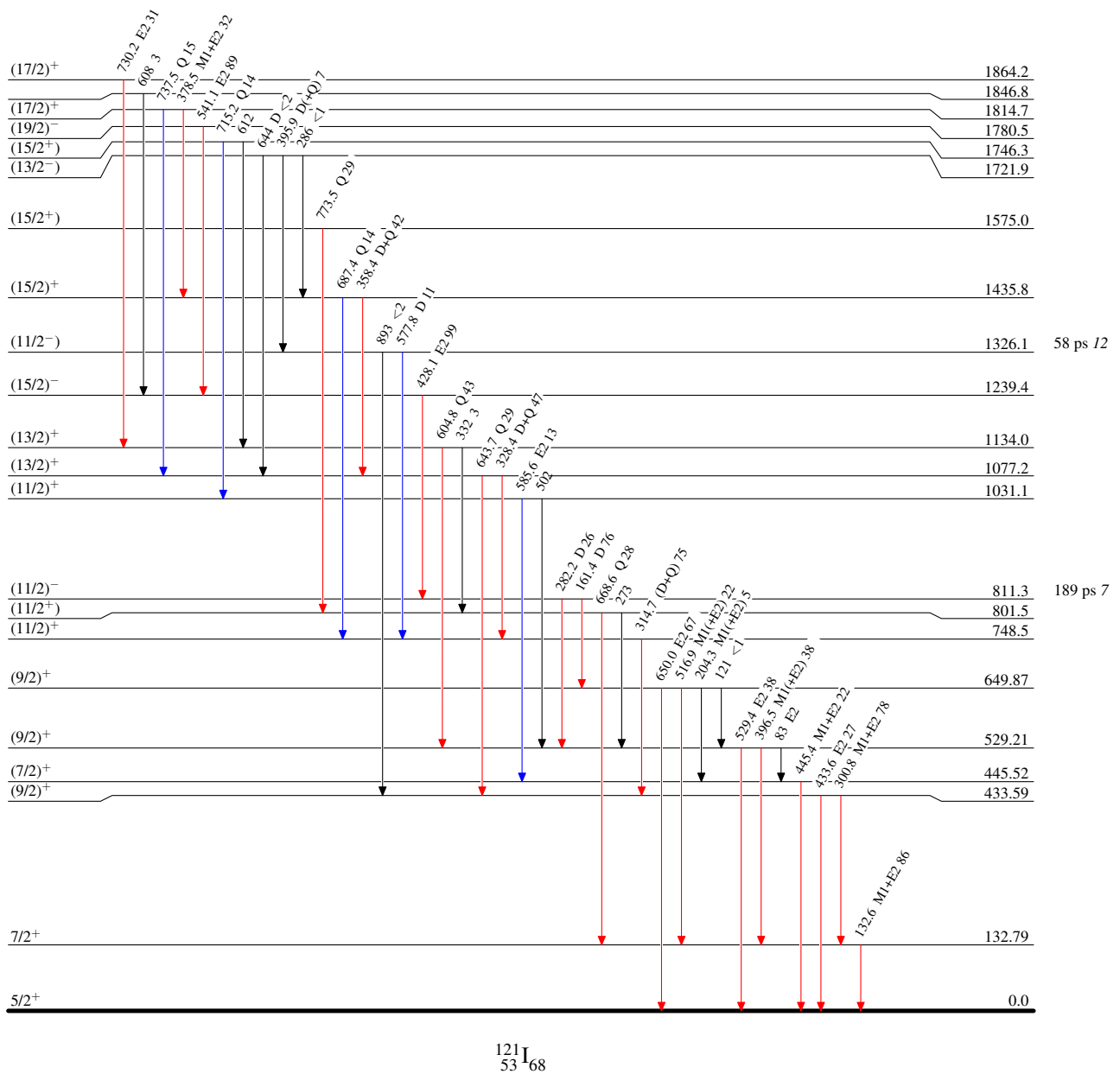
$^{114}\text{Cd}(^{11}\text{B}, 4n\gamma)$ 1992Li01, 1991Li18, 1994Wa08

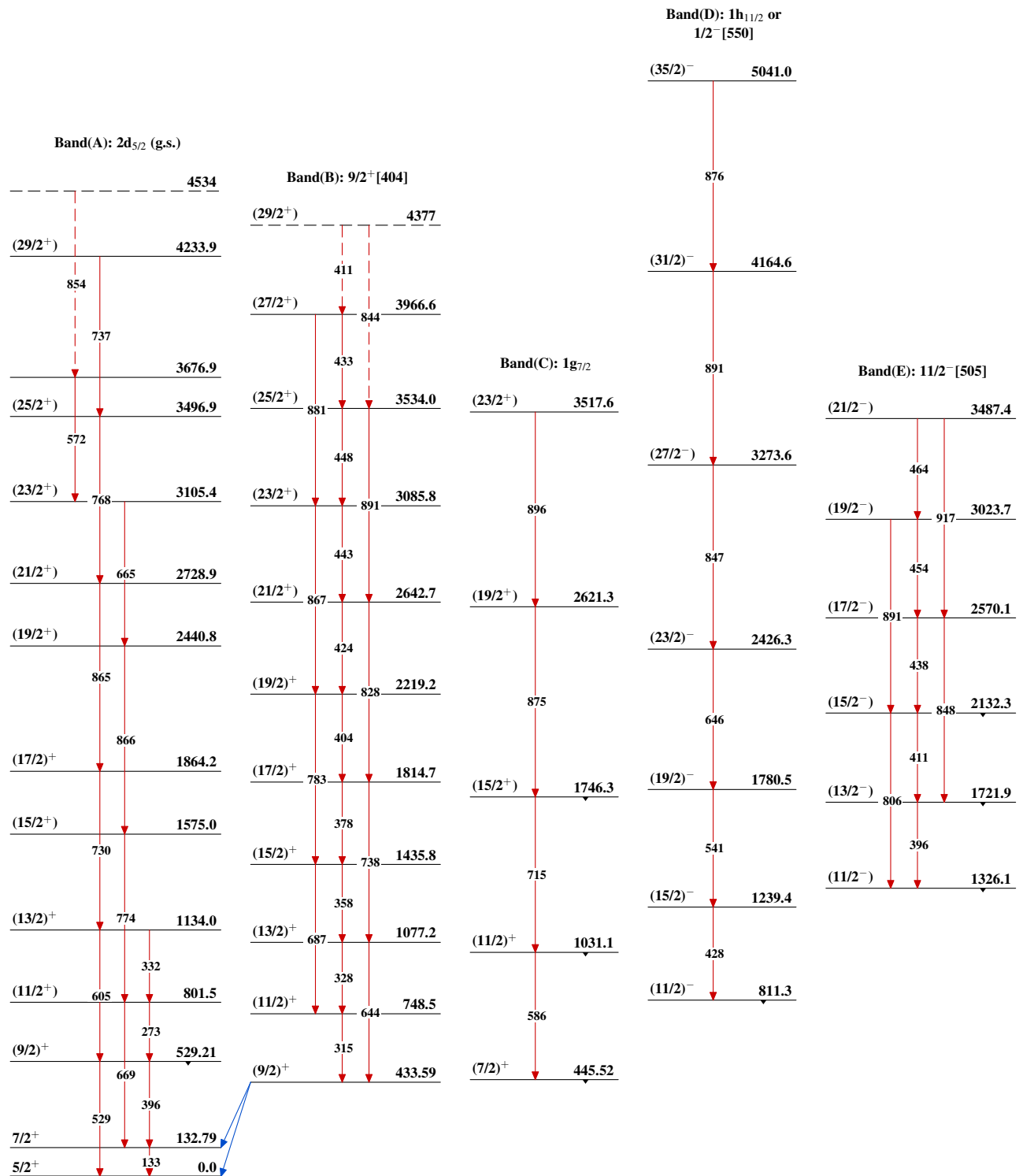
Level Scheme (continued)

Intensities: Relative I_γ
 & Multiply placed: undivided intensity given
 @ Multiply placed: intensity suitably divided

Legend

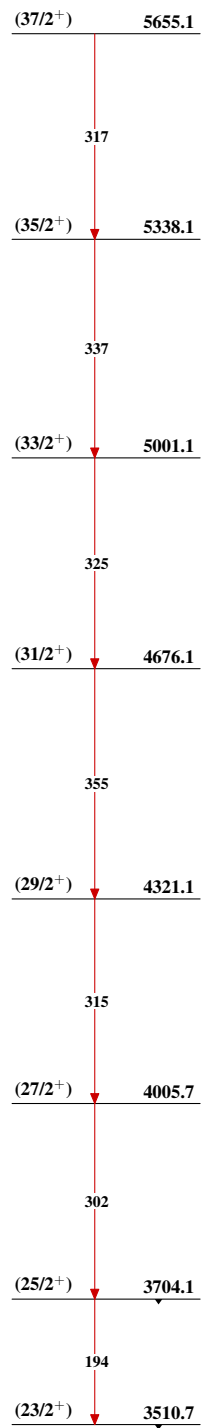
—▶ $I_\gamma < 2\% \times I_\gamma^{\max}$
 —▶ $I_\gamma < 10\% \times I_\gamma^{\max}$
 —▶ $I_\gamma > 10\% \times I_\gamma^{\max}$

 $^{121}_{53}\text{I}_{68}$

$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08

$^{114}\text{Cd}(^{11}\text{B},4n\gamma)$ 1992Li01,1991Li18,1994Wa08 (continued)

Band(F): 3quasi-particle
state on $23/2^+$



$^{121}_{53}\text{I}_{68}$