Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 109,1383 (2008)	1-Mar-2008

Q(β^-)=−3426 *11*; S(n)=7929.5 *20*; S(p)=7337 *4*; Q(α)=−1930 *3* 2012Wa38
Note: Current evaluation has used the following Q record −3425 10 *7924* 8 *7336* 5 −1931 6 2003Au03.
1976Do01 analyzed band structures in ^{107}Cd using a ^{106}Cd core-plus-particle model; E(levels) and B(E2) values are compared (exp vs theory).

^{107}Cd Levels

Cross Reference (XREF) Flags

A	^{107}In ε decay (32.4 min)	D	^{106}Cd(d,p)
B	(HI,xnγ)	E	^{106}Cd(d,pγ)
C	^{105}Pd(α,2nγ),^{106}Pd(α,3nγ)	F	^{107}Ag(p,nγ)

E(level)[#]	J$^\pi$[‡]	T$_{1/2}$[†]	XREF	Comments
0.0[f]	5/2$^+$	6.50 h *2*	ABCD F	%ε+%β^+=100 μ=−0.6150554 *11* (1989Ra17); Q=+0.68 *7* (1989Ra17) J$^\pi$: from optical double resonance (1976Fu06) and π from L(d,p)=2, configuration=d5/2. E(level): Δ<r^2>=−0.53 (fm^2). T$_{1/2}$: from 1974Co16. γ-decay curves. Others: 6.49 h *5* (1962La10), 6.56 h *3* (1974Pa15). See also 1939De01, 1939Va02, 1941He01. μ=−0.615 exp optical double res, −0.62 theory confirms d5/2 single-particle character. Isotope shift: relative to ^{114}Cd (1981Bu15).
204.98[d] *3*	7/2$^+$	0.71 ns *4*	ABCD F	T$_{1/2}$: from (β^+)(205γ)(t) in ^{107}In ε decay (1973Ro30), scin. J$^\pi$: L=4 (d,p); M1+E2 transition to 5/2$^+$ g.s., configuration=g1/2. HF(M1,205γ) is in accord with predictions for ΔL=2 forbidden transitions (1g7/2 to 2d5/2); see 1973Ro30.
320.92 *3*	5/2$^+$	≤42 ps	A CD F	T$_{1/2}$: from (β^+)(321γ)(t) in ^{107}In ε decay (1973Ro30), scin. J$^\pi$: L=2 (d,p); $\gamma(\theta)$ in (α,2nγ).
365.31 *4*	3/2$^+$		A CD F	J$^\pi$: M1+E2 transition to 5/2$^+$ g.s.; Iγ excit and cross bombardments.
457.8 *5*	1/2$^+$		D F	J$^\pi$: L=0 (d,p). E(level): low-lying 1/2$^+$ states occur in ^{109}Cd, ^{111}Cd at 60, 0 keV, respectively; this level needs confirmation. 1973Ny03 in (p,nγ) state that they looked for this level and did not see it. But more 1990Vi07 (p,nγ) found 2 gammas deexciting this level.
505.49[f] *4*	7/2$^+$		ABC F	J$^\pi$: M1+E2 transitions to 5/2$^+$ and 7/2$^+$ states; 505$\gamma(\theta$, linear pol) (^{16}O,3nγ).
702.34 *11*	(3/2)$^+$		A D F	J$^\pi$: L=2 (d,p); M1 γ decay to 5/2$^+$ state; J^π=3/2$^+$ determined from excitation function in ^{106}Cd(p,p′) for probable IAR of 702 level.
809.01[g] *4*	9/2$^+$	3.0 ps *15*	ABC F	J$^\pi$: M1+E2 transitions to 7/2$^+$ states, $\gamma(\theta)$ in (α,2nγ).
840.20 *10*	(3/2)$^+$		A d F	XREF: d(843). J$^\pi$: based on γ decays to 3/2$^+$,5/2$^+$ states; excit.
845.54[a] *6*	11/2$^-$	71 ns *5*	AB d F	μ=−1.041 *11* (1989Ra17); Q=(−)0.94 *1* (1978Sp09,1989Ra17) XREF: d(843). μ,Q: μ: $\gamma(\theta$,H,t), Q using DPAD method. E(level): see 1973Ri14 for near-constant μ measurements of 11/2$^-$ isomers in odd-mass cadmium isotopes. T$_{1/2}$: from $\alpha\gamma$(t) in (α,xnγ) (1974Ha41,1974Be17), other: 74 ns *2* (1995Re15). J$^\pi$: E1 transition to 9/2$^+$ state, M2 to 7/2$^+$ state; HF(E1,M2); excit.
905.6 *7*	1/2$^+$		D F	J$^\pi$: L=0 (d,p), excit via (p,nγ).
919.43 *12*	(5/2)$^+$		A F	J$^\pi$: γ decay to 3/2$^+$; M1 to 7/2$^+$; excit.

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Adopted Levels, Gammas (continued)

^{107}Cd Levels (continued)

E(level)[#]	Jπ[‡]	$T_{1/2}$[†]	XREF	Comments
921.69[f] 7	(9/2)+	0.4 ps +2−1	A C F	Jπ: M1 transition to 7/2+ state, (E2) to 5/2+ state; excit.
933.04[d] 6	11/2+	4.8 ps 14	ABC F	$T_{1/2}$: from recoil-distance Doppler shift (1974Ha48), $T_{1/2}$>2 ps (1991Vi07). Jπ: E2 transition to 7/2+ state; excit.
998.61 9	(5/2)+		A D F	Jπ: L=2 (d,p); γ decay predominantly to 5/2+ states; excit.
1059 10	7/2+,9/2+		D	Jπ: L=4 (d,p).
1059.5 7	(5/2)−		F	Jπ: based on E1 γ decay to g.s. and excitation function;
1158.6 3	(5/2)		A D F	Jπ: tentative L(d,p)=1. Excitation function in (p,nγ).
1213.52 6	(3/2+,5/2+)		F	Jπ: γ's to 3/2+5/2+,7/2+.
1236.08 6	(3/2+,5/2+,7/2+)		F	Jπ: γ's to 3/2+5/2+,7/2+.
1244.59 6	(3/2+,5/2+)		F	Jπ: γ's to 3/2+5/2+,7/2+, γ to 1/2+ ruled out 7/2+.
1268.32 6	7/2+		A F	Jπ: deexcites to 3/2+ states; log *ft*=5.5 from 9/2+. Excit.
1278.95 7	1/2+		D F	Jπ: L=0 (d,p);
1319.65 19			A F	
1360.31[a] 10	15/2−	21.8 ps 12	BC	$T_{1/2}$: from 2007As05, 2007As07, recoil-distance Doppler shift in (HI,xnγ). Others: 16.3 ps 10 (1974Ha48), 18.3 ps 7 (2005An26). Jπ: E2 transition to 11/2− state; excit. β_2=0.12 1 (2007As05,2007As07).
1377.37 6	7/2+		A F	Jπ: γ decays to 3/2+ states; log *ft*=5.9 from 9/2+.
1420.53[f] 8	(11/2+)	0.8 ps +4−2	A C F	Jπ: tentative 11/2+ member of g.s. band (1976Do01).
1525.55 10	(3/2,5/2,7/2)		F	
1527 10	1/2+		D	Jπ: L=0 (d,p); multiple peak.
1530.49 21		0.16 ps +6−4	A C F	
1573.14 8	(3/2,5/2)		F	Jπ: γ's to 3/2+5/2−,1/2+.
1590.72 8	3/2+,5/2+		D F	Jπ: L=2 (d,p).
1645.81 10			F	
1653.5 4			A	
1675.3 4			F	
1692.3 9			C	
1712.8 5			A	
1719.43 8			F	
1731.1[g] 3	(13/2+)		C	Jπ: (E2) transition to 9/2+ state; doublet 922γ(θ); excit.
1749 10	1/2+		D	Jπ: L=0 (d,p); multiple peak.
1763.93 10			F	
1776.38 9	7/2+		A	Jπ: deexcites to 3/2+ states; log *ft*=5.6 from 9/2+.
1781.41 15			F	
1869.87 9			F	
1876.75 22			A	
1885.32 15			F	
1904 10	1/2+		D	Jπ: L=0 (d,p).
1908.84 20			A	
1920.18 21			F	
1922.18 12	7/2+		A	Jπ: deexcites to 3/2+ states; log *ft*=5.6 from 9/2+.
1923.27[d] 24	15/2+	0.90 ps 25	BC	Jπ: E2 transition to 11/2+ state; 990γ(θ, linear pol); excit.
1962.94 21			F	
2006.31 12	7/2+		A	Jπ: deexcites to 3/2+ states; log *ft*=5.6 from 9/2+.
2064.40 14	7/2+,9/2+		A	Jπ: deexcites to 5/2+ states; log *ft*=5.4.
2082.20 12			F	
2146.11 9			F	
2158.47[a] 12	19/2−	2.3 ps 7	BC	Jπ: E2 transition to 15/2− state; 798γ(θ, linear pol); excit. $T_{1/2}$: from 2005An26 using RDM lifetime measurements. Same value from 1991Vi07.
2183.4 3			A	
2204.06 11			F	
2209.97 8			F	

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Adopted Levels, Gammas (continued)

^{107}Cd Levels (continued)

E(level)[#]	Jπ[‡]	$T_{1/2}$[†]	XREF	Comments
2256.86 *11*			F	
2276 *10*	(3/2+,5/2+)		D	Jπ: L=(2) (d,p).
2279.0 *3*		0.55 ps *+25−15*	C	
2284.78 *13*	7/2+,9/2+		A	Jπ: deexcites to 5/2+,7/2+ states; log *ft*=5.3 from 9/2+.
2304.36 *13*	7/2+,9/2+		A	Jπ: deexcites to 5/2+,7/2+ states; log *ft*=5.2 from 9/2+.
2309.59 *11*			F	
2342.86 *11*			F	
2360 *10*	1/2+		D	Jπ: L=0 (d,p).
2366.10 *22*			A	
2405.7 *4*			A	
2421.6 *4*			F	
2425 *10*	3/2+,5/2+		D	Jπ: L=2 (d,p).
2447.62 *12*			F	
2462.54 *11*			F	
2481 *10*			D	
2504.45 *25*			A	
2545.9 *5*	(17/2−)	0.45 ps *15*	BC	Jπ: (M1+E2) transition to 15/2− state; 1185γ(θ); excit.
2547.9 *3*			A	
2559 *10*	1/2−,3/2−		D	Jπ: L=1 (d,p).
2584.1 *3*			A	
2629 *10*			D	
2637.9 *3*			A	
2645.8 *3*			B	
2652.6 *3*	7/2+,9/2+		A	Jπ: log *ft*=5.4 from 9/2+ parent, γ's to 5/2+.
2678.88 *15*	21/2+	55 ns *4*	BC	μ=+9.10 *10* (1989Ra17); Q=+1.21 *6* (1978Sp09) μ,Q: μ: γ(θ,H,t), Q using DPAD method. $T_{1/2}$: from αγ(t) in (α,xnγ) (1974Ha41), Other: 54 ns *3* (1995Re15). Jπ: E1 transition to 19/2− state; 520γ(θ, linear pol); excit interpreted by 1974Ha48 as a 3-particle configuration=((π $g_{9/2})^{-2}_{8+}$(ν $d_{5/2})^{+1}_{5/2+}$)21/2+. Using empirical g-factors for (π)g9/2, (ν)d5/2 states, calculated γ(21/2+)=+0.87 *1*, as for exp g=+0.866 *10*.
2700.9 *3*			A	
2719 *10*	(1/2+)		D	Jπ: L=(0) (d,p).
2764.23 *13*	7/2+,9/2+,11/2+		A	Jπ: deexcites to 7/2+,9/2+,11/2+ states; log *ft*=4.9 from 9/2+.
2806.79 *18*	(19/2+)	1.0 ps *4*	C	Jπ: (E2) transition to 15/2+ state; 884γ(θ); excit.
2811 *10*	(1/2+)		D	Jπ: L=(0) (d,p).
2811.9 *15*	7/2+,9/2+,11/2+		A	Jπ: log *ft*=5.4 from 9/2+ parent.
2818.7 *5*			A	
2875.49 *20*	7/2+,9/2+		A	Jπ: deexcites to 5/2+,7/2+ states; log *ft*=5.0 from 9/2+.
2922.2 *4*	7/2+,9/2+,11/2+		A	Jπ: log *ft*=5.4 from 9/2+ parent.
2986.1 *5*	7/2+,9/2+		A	Jπ: log *ft*=5.4 from 9/2+ parent. γ to 5/2+.
3001.8 *3*	7/2+,9/2+,11/2+		A	Jπ: log *ft*=5.4 from 9/2+ parent.
3049.0 *5*	21/2−	0.6 ps *2*	BC	Jπ: M1+E2 transition to 19/2− state; 890γ(θ, linear pol).
3063.2 *5*			C	
3114.48[a] *24*	23/2−	0.8 ps *3*	BC	Jπ: E2 transition to 19/2− state; 956γ(θ, linear pol); excit.
3117.9	19/2+		B	Jπ: E2 γ to 15/2+, E1 γ to 19/2−,configuration=(g7/2)(h11/2^2 (1992Je02).
3217.1	(17/2)		B	
3321 *10*	(7/2+,9/2+)		D	Jπ: L=4,(3) (d,p).
3383 *10*			D	E(level): complex peak.
3450 *10*			D	
3516 *10*			D	E(level): complex peak.
3579.9	(21/2)		B	
4009.3[h]	23/2+		B	Jπ: stretched E2 γ to 19/2+.

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Adopted Levels, Gammas (continued)

^{107}Cd Levels (continued)

E(level)[#]	Jπ[‡]	$T_{1/2}$[†]	XREF	Comments
4164.6[&] *5*	27/2⁻	0.40 ps *15*	BC	Jπ: E2 transition to 23/2⁻ state; 1050γ(θ, linear pol); excit.
4182.2[a]	27/2⁻		B	Jπ: stretched E2 γ to 23/2⁻.
4190.5[b] *5*	25/2⁺		BC	Jπ: 1076γ (E1) transition to 23/2⁻ state interpreted by 1978St01 as a 3-particle configuration=$((\nu\ h_{11/2})^{+2}_{10+}(\nu\ d_{5/2})^{+1}_{5/2+})25/2^+$.
4364[@]	27/2⁻		B	Jπ: stretched E2 γ to 23/2⁻.
4502.5[h]	27/2⁺		B	Jπ: stretched E2 γ to 23/2⁺, M1 γ to 25/2⁺.
4876.6[c] *11*	29/2⁺		B	Jπ: E2(686γ) decay to 25/2⁺ state.
5018.6[b]	29/2⁺		B	Jπ: stretched E2 γ to 25/2⁺.
5231.2[h]	31/2⁺		B	Jπ: stretched E2 γ to 25/2⁺.
5315[&]	31/2⁻		B	Jπ: stretched E2 γ to 27/2⁻.
5334[a]	(31/2⁻)		B	
5565[@]	(29/2)		B	
5815.6[c]	33/2⁺		B	Jπ: stretched E2 γ to 29/2⁺.
6035[b]	33/2⁺		B	Jπ: stretched E2 γ to 29/2⁺.
6183.3[h] *9*	35/2⁺		B	Jπ: stretched E2 γ to 31/2⁺.
6616[a]	(35/2⁻)		B	Jπ: stretched E2 γ to 31/2⁻.
6922.2[c]	37/2⁺		B	Jπ: stretched E2 γ to 33/2⁺.
7221[b]	37/2⁺		B	Jπ: stretched E2 γ to 33/2⁺.
7316.8[h]	39/2⁺		B	Jπ: stretched E2 γ to 35/2⁺.
7832[a]	(39/2⁻)		B	Jπ: stretched E2 γ to 35/2⁻.
8048	(37/2)		B	
8187[c]	41/2⁺		B	Jπ: stretched E2 γ to 37/2⁺.
8670.8[h]	43/2⁺		B	Jπ: stretched E2 γ to 39/2⁺.
9622[c]	45/2⁺		B	Jπ: stretched E2 γ to 41/2⁺.
9856	(45/2)		B	
10221[h]	47/2⁺		B	Jπ: stretched E2 γ to 43/2⁺.
11117	(47/2)		B	
11228[c]	(49/2⁺)		B	
11852[d]	(51/2⁺)		B	
0.0+x				
3115+x[e]			B	E(level): bandhead unknown.
3803+x[e]			B	
4440+x			B	
4527+x[e]			B	
4608+x			B	
5229+x[e]			B	
5614+x[e]			B	
5900+x			B	
6390+x			B	
6546+x			B	
6680+x			B	
6852+x			B	

[†] All $T_{1/2}$ in the range of ps are from Doppler shift (1991Vi07).
[‡] J^π without comments are based on band consideration.
[#] Level energy from least-squares adjustment.
[@] Band(A): Possible Π- band.
[&] Band(B): Possible Π- band.
[a] Band(C): νh11/2 decoupled band.

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Adopted Levels, Gammas (continued)

^{107}Cd Levels (continued)

[b] Band(D): π+ band built on $25/2^+$.
[c] Band(E): π+ band built on $7/2^+$.
[d] Band(F): π=+ band built on g9/2 *205* level.
[e] Band(G): bandhead unknown.
[f] Band(H): d5/2 g.s. band seen in (α,2nγ).
[g] Band(I): unfavored band built on νg7/2.
[h] Band(J): π=+ band built on $23/2^+$.

Adopted Levels, Gammas (continued)

$\gamma(^{107}Cd)$

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ	α[@]	Comments
204.98	$7/2^+$	204.97 *3*	100	0.0	$5/2^+$	M1+E2	+0.25 *1*	0.0682 *2*	B(M1)(W.u.)=0.0032 *2*; B(E2)(W.u.)=4.0 *3*
320.92	$5/2^+$	320.92 *3*	100	0.0	$5/2^+$	M1(+E2)		0.020	
365.31	$3/2^+$	365.31 *4*	100	0.0	$5/2^+$	M1(+E2)		0.015	
457.8	$1/2^+$	92.7 *1*	100 *5*	365.31	$3/2^+$				
		457.4 *3*	50 *3*	0.0	$5/2^+$				
505.49	$7/2^+$	300.45 *15*	1.35 *20*	204.98	$7/2^+$	M1(+E2)		0.024	
		505.51 *7*	100 *3*	0.0	$5/2^+$	M1+E2	−0.28 *8*	0.0066	
702.34	$(3/2)^+$	381.5 *3*	15 *4*	320.92	$5/2^+$	M1(+E2)		0.13	
		702.32 *12*	100 *7*	0.0	$5/2^+$	M1,E2			
809.01	$9/2^+$	303.53 *4*	19.4 *13*	505.49	$7/2^+$	M1(+E2)		0.023	
		488.3 *6*	2.5 *6*	320.92	$5/2^+$				
		604.00 *5*	41.0 *22*	204.98	$7/2^+$	M1+E2	−2.3 *3*		B(M1)(W.u.)=0.0013 *8*; B(E2)(W.u.)=16 *9*
		809.00 *6*	100 *5*	0.0	$5/2^+$	E2			B(E2)(W.u.)=11 *6*
840.20	$(3/2)^+$	475.0 *4*	35 *8*	365.31	$3/2^+$				
		519.28 *15*	100 *11*	320.92	$5/2^+$	M1,E2			
		840.16 *15*	70 *10*	0.0	$5/2^+$				
845.54	$11/2^-$	36.5 *1*	11.2 *12*	809.01	$9/2^+$	E1		2.80	B(E1)(W.u.)=6.6×10^{-6} *12*
		640.58 *10*	100 *4*	204.98	$7/2^+$	M2		0.0109	B(M2)(W.u.)=0.123 *10*
		845.5 *4*	2.3 *7*	0.0	$5/2^+$	[E3]			B(E3)(W.u.)=1.3 *4*
905.6	$1/2^+$	540.3	100	365.31	$3/2^+$	M1,E2			
		905.5	75	0.0	$5/2^+$				
919.43	$(5/2)^+$	413.7 *4*	100 *12*	505.49	$7/2^+$	M1(+E2)		0.011	
		554.16 *15*	94 *18*	365.31	$3/2^+$	M1,E2			
		598.3 *5*	30 *5*	320.92	$5/2^+$				
		919.6 *8*	41 *12*	0.0	$5/2^+$				
921.69	$(9/2)^+$	416.28 *7*	100 *4*	505.49	$7/2^+$	M1(+E2)		0.011	
		600.9 *5*	16 *3*	320.92	$5/2^+$				
		716.4 *3*	19 *9*	204.98	$7/2^+$				
		921.8 *3*	71 *8*	0.0	$5/2^+$	(E2)			B(E2)(W.u.)=24 *13*
933.04	$11/2^+$	728.06 *5*	100	204.98	$7/2^+$	E2			B(E2)(W.u.)=19 *6*
998.61	$(5/2)^+$	677.2 *2*	17 *3*	320.92	$5/2^+$				
		793.6 *2*	17 *3*	204.98	$7/2^+$				
		998.75[&] *12*	100[&] *6*	0.0	$5/2^+$	M1,E2			
1059.5	$(5/2)^-$	738.5 *3*	16	320.92	$5/2^+$				
		1059.5 *3*	100	0.0	$5/2^+$	E1			
1158.6	(5/2)	837.3 *2*	22 *2*	320.92	$5/2^+$				
		953.9 *3*	100 *10*	204.98	$7/2^+$				
		1158.0 *7*	34 *4*	0.0	$5/2^+$				
1213.52	$(3/2^+,5/2^+)$	756.3 *1*	22 *3*	457.8	$1/2^+$				
		848.1 *1*	83 *7*	365.31	$3/2^+$				
		892.5 *1*	39 *3*	320.92	$5/2^+$				

$^{107}_{48}Cd_{59}$-6

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Mult.#	Comments
1213.52	$(3/2^+,5/2^+)$	1008.4 *2*	29 *3*	204.98	$7/2^+$		
		1213.3 *1*	100 *7*	0.0	$5/2^+$		
1236.08	$(3/2^+,5/2^+,7/2^+)$	871.0 *1*	43 *4*	365.31	$3/2^+$		
		915.0 *1*	55 *4*	320.92	$5/2^+$		
		1031.2 *2*	5.7 *14*	204.98	$7/2^+$		
		1236.0 *1*	100 *8*	0.0	$5/2^+$		
1244.59	$(3/2^+,5/2^+)$	786.7 *1*	48 *5*	457.8	$1/2^+$		
		879.5 *1*	72 *5*	365.31	$3/2^+$		
		1039.6 *1*	41 *5*	204.98	$7/2^+$		
		1244.7 *1*	100 *9*	0.0	$5/2^+$		
1268.32	$7/2^+$	349.3 *7*	3.0 *9*	919.43	$(5/2)^+$		
		459.3 *4*	3.3 *4*	809.01	$9/2^+$		
		762.86 *15*	13.6 *12*	505.49	$7/2^+$		
		903.3 *4*	8.7 *11*	365.31	$3/2^+$		
		947.31 *12*	15.7 *11*	320.92	$5/2^+$		
		1063.37 *15*	22.9 *18*	204.98	$7/2^+$		
		1268.33 *8*	100 *4*	0.0	$5/2^+$		
1278.95	$1/2^+$	373.4 *1*	12 *3*	905.6	$1/2^+$		
		438.6 *1*	33.8 *16*	840.20	$(3/2)^+$		
		821.4 *1*	100 *8*	457.8	$1/2^+$		
		1279.0 *2*	14 *7*	0.0	$5/2^+$		
1319.65		617.30 *15*	100	702.34	$(3/2)^+$		
1360.31	$15/2^-$	514.76 *7*	100	845.54	$11/2^-$	[E2]	B(E2)(W.u.)=23.8 *13* (2007As05,2007As07)
1377.37	$7/2^+$	456.1 *2*	36 *3*	921.69	$(9/2)^+$	M1,E2	
		871.67 *10*	37 *3*	505.49	$7/2^+$		
		1011.7 *7*	4.8 *16*	365.31	$3/2^+$		
		1056.59 *12*	50 *3*	320.92	$5/2^+$		
		1172.3 *3*	10.5 *19*	204.98	$7/2^+$		
		1377.33 *10*	100 *5*	0.0	$5/2^+$		
1420.53	$(11/2^+)$	499.3 *5*	20 *3*	921.69	$(9/2)^+$		
		611.38 *10*	50 *4*	809.01	$9/2^+$		I_γ: from ^{107}In ε decay. I(γ)/I(915γ)=0.70 *15* in (α,xnγ), 0.37 in (p,nγ).
		915.10 *12*	100 *6*	505.49	$7/2^+$		
1525.55	(3/2,5/2,7/2)	1020.1 *2*	38 *6*	505.49	$7/2^+$		
		1160.3 *1*	100 *9*	365.31	$3/2^+$		
		1204.8 *5*	50 *9*	320.92	$5/2^+$		
1530.49		1325.5 *2*	100	204.98	$7/2^+$		
1573.14	(3/2,5/2)	513.8 *1*	100 *4*	1059.5	$(5/2)^-$		
		667.6 *3*	7.1 *11*	905.6	$1/2^+$		
		1207.9 *2*	54 *4*	365.31	$3/2^+$		
		1252.0 *1*	27.3 *23*	320.92	$5/2^+$		
1590.72	$3/2^+,5/2^+$	432.3 *1*	29 *7*	1158.6	(5/2)		
		592.4 *2*	18 *7*	998.61	$(5/2)^+$		

$^{107}_{48}Cd_{59}$-7

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]
1590.72	3/2$^+$,5/2$^+$	888.1 *1*	71 *7*	702.34	(3/2)$^+$	
		1132.7 *2*	25 *10*	457.8	1/2$^+$	
		1225.5 *2*	82 *7*	365.31	3/2$^+$	
		1590.8 *2*	100 *11*	0.0	5/2$^+$	
1645.81		724.2 *1*	36 *9*	921.69	(9/2)$^+$	
		1140.3 *3*	100 *18*	505.49	7/2$^+$	
		1645.8 *2*	64 *18*	0.0	5/2$^+$	
1653.5		1653.5 *4*	100	0.0	5/2$^+$	
1675.3		834.3 *2*	100 *8*	840.20	(3/2)$^+$	
		1309.2 *2*	56 *8*	365.31	3/2$^+$	
		1674.7 *2*	52 *8*	0.0	5/2$^+$	
1712.8		1208.0 *10*	30 *13*	505.49	7/2$^+$	
		1508.1 *7*	100 *50*	204.98	7/2$^+$	
		1712.4 *6*	88 *23*	0.0	5/2$^+$	
1719.43		659.9 *1*	30 *3*	1059.5	(5/2)$^-$	
		1354.2 *1*	18 *3*	365.31	3/2$^+$	
		1719.5 *2*	100 *5*	0.0	5/2$^+$	
1731.1	(13/2$^+$)	922.1 *3*	100	809.01	9/2$^+$	(E2)
1763.93		1258.4 *1*	100 *8*	505.49	7/2$^+$	
		1764.3 *2*	40 *8*	0.0	5/2$^+$	
1776.38	7/2$^+$	777.0 *5*	5.3 *10*	998.61	(5/2)$^+$	
		967.5 *3*	11.3 *14*	809.01	9/2$^+$	
		1411.06 *12*	81 *5*	365.31	3/2$^+$	
		1455.53 *15*	51 *5*	320.92	5/2$^+$	
		1571.3 *2*	100 *7*	204.98	7/2$^+$	
1781.41		1416.0 *2*	11.5 *14*	365.31	3/2$^+$	
		1460.6 *2*	100 *5*	320.92	5/2$^+$	
1869.87		1549.5 *2*	36 *5*	320.92	5/2$^+$	
		1869.7 *1*	100 *8*	0.0	5/2$^+$	
1876.75		957.2 *8*	16 *3*	919.43	(5/2)$^+$	
		1067.5 *6*	100 *20*	809.01	9/2$^+$	
		1556.4 *5*	100 *10*	320.92	5/2$^+$	
1885.32		1427.6 *2*	48 *5*	457.8	1/2$^+$	
		1520.1 *2*	100 *5*	365.31	3/2$^+$	
1908.84		1403.8 *4*	100 *16*	505.49	7/2$^+$	
		1588.6 *6*	44 *12*	320.92	5/2$^+$	
		1704.3 *6*	32 *8*	204.98	7/2$^+$	
		1908.4 *3*	64 *8*	0.0	5/2$^+$	
1920.18		1599.2 *2*	100	320.92	5/2$^+$	
1922.18	7/2$^+$	1002.9 *5*	14.7 *16*	919.43	(5/2)$^+$	
		1081.9 *4*	9.2 *13*	840.20	(3/2)$^+$	
		1113.4 *5*	5.8 *13*	809.01	9/2$^+$	

$^{107}_{48}Cd_{59}$-8

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	Comments
1922.18	7/2$^+$	1601.3 *3*	32 *4*	320.92	5/2$^+$		
		1716.8 *6*	17.4 *16*	204.98	7/2$^+$		
		1922.15 *15*	100 *6*	0.0	5/2$^+$		
1923.27	15/2$^+$	990.3 *3*	100	933.04	11/2$^+$	E2	B(E2)(W.u.)=22 *6*
1962.94		1758.0 *2*	100	204.98	7/2$^+$		
2006.31	7/2$^+$	1086.4 *6*	5.4 *12*	919.43	(5/2)$^+$		
		1197.2 *2*	15 *3*	809.01	9/2$^+$		
		1501.0 *3*	65 *4*	505.49	7/2$^+$		
		1640.8 *5*	7.5 *18*	365.31	3/2$^+$		
		1685.0 *4*	11.9 *15*	320.92	5/2$^+$		
		1801.5 *3*	9 *3*	204.98	7/2$^+$		
		2006.5 *3*	100 *5*	0.0	5/2$^+$		
2064.40	7/2$^+$,9/2$^+$	686.6 *3*	5.5 *9*	1377.37	7/2$^+$		
		906.4 *7*	11 *3*	1158.6	(5/2)		
		1144.9 *3*	47 *6*	919.43	(5/2)$^+$		
		1743.4 *3*	26.3 *17*	320.92	5/2$^+$		
		1859.4 *3*	20.8 *14*	204.98	7/2$^+$		
		2064.8 *3*	100 *4*	0.0	5/2$^+$		
2082.20		1624.5 *1*	100	457.8	1/2$^+$		
2146.11		1780.8 *2*	100 *11*	365.31	3/2$^+$		
		2146.1 *1*	49 *5*	0.0	5/2$^+$		
2158.47	19/2$^-$	798.16 *7*	100	1360.31	15/2$^-$	E2	B(E2)(W.u.)=25 *8*
2183.4		1978.3 *6*	100 *6*	204.98	7/2$^+$		
		2183.4[&] *3*	88[&] *10*	0.0	5/2$^+$		
2204.06		1838.8 *1*	100	365.31	3/2$^+$		
2209.97		1844.9 *1*	50 *8*	365.31	3/2$^+$		
		1888.8 *1*	100 *12*	320.92	5/2$^+$		
2256.86		1891.6 *1*	100	365.31	3/2$^+$		
2279.0		1433.4 *3*	100	845.54	11/2$^-$		
2284.78	7/2$^+$,9/2$^+$	1779.0 *3*	100 *5*	505.49	7/2$^+$		
		1964.0 *3*	33 *2*	320.92	5/2$^+$		
		2284.78 *15*	82 *7*	0.0	5/2$^+$		
2304.36	7/2$^+$,9/2$^+$	396.2 *7*	4.2 *16*	1908.84			
		1036.08 *15*	16 *3*	1268.32	7/2$^+$		
		1798.0 *4*	7.7 *3*	505.49	7/2$^+$		
		1983.8 *4*	97 *7*	320.92	5/2$^+$		
		2099.6 *4*	70 *6*	204.98	7/2$^+$		
		2304.0 *4*	100 *12*	0.0	5/2$^+$		
2309.59		1988.6 *1*	100	320.92	5/2$^+$		
2342.86		1977.6 *1*	100	365.31	3/2$^+$		
2366.10		1663.6 *3*	66 *7*	702.34	(3/2)$^+$		

$^{107}_{48}Cd_{59}$-9

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ	Comments
2366.10		2045.3 *3*	100 *7*	320.92	$5/2^+$			
2405.7		2201.7 *5*	55 *17*	204.98	$7/2^+$			
		2405.1 *4*	100 *10*	0.0	$5/2^+$			
2421.6		1916.2 *4*	100	505.49	$7/2^+$			
2447.62		1745.0 *1*	100	702.34	$(3/2)^+$			
2462.54		1957.1 *1*	100	505.49	$7/2^+$			
2504.45		1236.3 *4*	100 *27*	1268.32	$7/2^+$			
		2183.4[&] *3*	91[&] *27*	320.92	$5/2^+$			
2545.9	$(17/2^-)$	1185.6 *4*	100	1360.31	$15/2^-$	M1+E2	≈+1.6	B(M1)(W.u.)≈0.008249; B(E2)(W.u.)≈12.79
2547.9		2226.6 *5*	95 *20*	320.92	$5/2^+$			
		2342.8 *5*	100 *15*	204.98	$7/2^+$			
		2548.6 *6*	75 *10*	0.0	$5/2^+$			
2584.1		2078.8 *5*	71 *14*	505.49	$7/2^+$			
		2263.4 *8*	50 *12*	320.92	$5/2^+$			
		2583.8 *4*	100 *7*	0.0	$5/2^+$			
2637.9		1935.8 *5*	76 *12*	702.34	$(3/2)^+$			
		2433.1 *4*	100 *9*	204.98	$7/2^+$			
		2637.4 *5*	61 *15*	0.0	$5/2^+$			
2652.6	$7/2^+,9/2^+$	1732.9 *9*	34 *9*	919.43	$(5/2)^+$			
		2331.2 *4*	100 *8*	320.92	$5/2^+$			
		2653.1 *4*	53 *4*	0.0	$5/2^+$			
2678.88	$21/2^+$	520.4 *1*	100	2158.47	$19/2^-$	E1		B(E1)(W.u.)=3.9×10^{-8} *3*
2700.9		1767.8 *3*	100 *15*	933.04	$11/2^+$			
		2700.9 *5*	31 *4*	0.0	$5/2^+$			
2764.23	$7/2^+,9/2^+,11/2^+$	1343.54 *15*	100 *6*	1420.53	$(11/2^+)$			
		1831.2 *3*	52 *3*	933.04	$11/2^+$			
		1843.0 *6*	8.8 *14*	921.69	$(9/2)^+$			
		1955.5 *3*	46 *4*	809.01	$9/2^+$			
		2259.1 *5*	8.5 *14*	505.49	$7/2^+$			
2806.79	$(19/2^+)$	127.9 *1*	40 *6*	2678.88	$21/2^+$			
		883.6 *3*	100 *11*	1923.27	$15/2^+$	(E2)		B(E2)(W.u.)=25 *11*
2811.9	$7/2^+,9/2^+,11/2^+$	1878.8 *3*	100	933.04	$11/2^+$			
2818.7		1899.4 *6*	100 *16*	919.43	$(5/2)^+$			
		2818.6 *6*	48 *8*	0.0	$5/2^+$			
2875.49	$7/2^+,9/2^+$	998.75[&] *12*	22[&] *7*	1876.75				
		1606.8 *7*	14 *3*	1268.32	$7/2^+$			
		2554.2 *6*	13 *2*	320.92	$5/2^+$			
		2670.2 *8*	36 *6*	204.98	$7/2^+$			
		2875.5 *3*	100 *6*	0.0	$5/2^+$			
2922.2	$7/2^+,9/2^+,11/2^+$	2717.2 *4*	100	204.98	$7/2^+$			
2986.1	$7/2^+,9/2^+$	2666.2 *8*	100 *11*	320.92	$5/2^+$			

$^{107}_{48}Cd_{59}$-10

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ	Comments
2986.1	7/2$^+$,9/2$^+$	2985.7 *5*	23 *4*	0.0	5/2$^+$			
3001.8	7/2$^+$,9/2$^+$,11/2$^+$	2496.0 *4*	55 *7*	505.49	7/2$^+$			
		2681.0 *4*	100 *9*	320.92	5/2$^+$			
		2797.0 *10*	10 *4*	204.98	7/2$^+$			
3049.0	21/2$^-$	890.5 *4*	100	2158.47	19/2$^-$	M1+E2	+0.9 *3*	B(M1)(W.u.)=0.029 *13*; B(E2)(W.u.)=25 *13* E_γ: 1992Je02 found an E2 character for the 890γ and an other placement.
3063.2		384.3 *4*	100	2678.88	21/2$^+$			
3114.48	23/2$^-$	956.0 *2*	100	2158.47	19/2$^-$	E2		B(E2)(W.u.)=29 *11*
3117.9	19/2$^+$	959.5 *3*	100 *16*	2158.47	19/2$^-$	E1		
		1193.2 *5*	37 *15*	1923.27	15/2$^+$	E2		
3217.1	(17/2)	571.3 *3*	100	2645.8				Mult.: Δ′ J=0,−1.
3579.9	(21/2)	362.8 *1*	100 *5*	3217.1	(17/2)	E2		
		461.8 *2*	55 *4*	3117.9	19/2$^+$			Mult.: Δ′ J=0,−1.
4009.3	23/2$^+$	429.4 *1*	76 *4*	3579.9	(21/2)			Mult.: Δ′ J=0,−1.
		891.4 *2*	100 *5*	3117.9	19/2$^+$	E2		
4164.6	27/2$^-$	1050.1 *4*	100	3114.48	23/2$^-$	E2		B(E2)(W.u.)=37 *14*
4182.2	27/2$^-$	1067.8 *2*	100	3114.48	23/2$^-$	E2		
4190.5	25/2$^+$	1076.0 *4*	100	3114.48	23/2$^-$	(E1)		
4364	27/2$^-$	1249.4 *5*	100	3114.48	23/2$^-$	E2		
4502.5	27/2$^+$	312.6 *2*	21.9 *20*	4190.5	25/2$^+$	M1		
		493.2 *1*	100 *5*	4009.3	23/2$^+$	E2		
4876.6	29/2$^+$	686.1	100	4190.5	25/2$^+$	E2		
5018.6	29/2$^+$	827.6 *3*	100	4190.5	25/2$^+$	E2		
5231.2	31/2$^+$	728.7 *1*	100	4502.5	27/2$^+$	E2		
5315	31/2$^-$	1149.1 *4*	100	4164.6	27/2$^-$	E2		
5334	(31/2$^-$)	1151.8 *3*	100	4182.2	27/2$^-$	(E2)		
5565	(29/2)	1200.6 *7*	100	4364	27/2$^-$			Mult.: Δ′ J=0,1.
5815.6	33/2$^+$	939.0 *2*	100	4876.6	29/2$^+$	E2		
6035	33/2$^+$	1017.2 *3*	100	5018.6	29/2$^+$	E2		
6183.3	35/2$^+$	952.4 *3*	100	5231.2	31/2$^+$	E2		
6616	(35/2$^-$)	1282.0 *6*	100	5334	(31/2$^-$)	E2		
6922.2	37/2$^+$	1106.6 *2*	100	5815.6	33/2$^+$	E2		
7221	37/2$^+$	1186.3 *4*	100	6035	33/2$^+$	E2		
7316.8	39/2$^+$	1133.2 *2*	100	6183.3	35/2$^+$	E2		
7832	(39/2$^-$)	1215.8 *7*	100	6616	(35/2$^-$)	E2		
8048	(37/2)	1432.5 *7*	100	6616	(35/2$^-$)			Mult.: Δ′ J=0,−1.
8187	41/2$^+$	1265.1 *4*	100	6922.2	37/2$^+$	E2		
8670.8	43/2$^+$	1352.8 *3*	100	7316.8	39/2$^+$	E2		
9622	45/2$^+$	1434.4 *3*	100	8187	41/2$^+$	E2		
9856	(45/2)	1186.6 *7*	100	8670.8	43/2$^+$			Mult.: Δ′ J=0,−1.
10221	47/2$^+$	1551.1 *7*	100	8670.8	43/2$^+$	E2		

$^{107}_{48}Cd_{59}$-11

Adopted Levels, Gammas (continued)

γ(^{107}Cd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ ‡	E_f	J_f^π	Comments
11117	(47/2)	1260.6 *7*	100	9856	(45/2)	Mult.: Δ′ J=0,−1.
11228	(49/2$^+$)	1606.0 *12*	100	9622	45/2$^+$	
11852	(51/2$^+$)	1631 *1*	100	10221	47/2$^+$	
3115+x		3115 *1*		0.0+x		
3803+x		688.3 *3*	100	3115+x		
4527+x		724.3 *2*	100	3803+x		Mult.: Δ′ J=−1.
5229+x		620.6 *2*	80 *6*	4608+x		Mult.: Δ′ J=−1.
		701.7 *2*	46 *3*	4527+x		Mult.: Δ′ J=−1.
		789.2 *3*	100 *8*	4440+x		Mult.: Δ′ J=1.
5614+x		384.8 *2*	100	5229+x		Mult.: Δ′ J=1.
5900+x		286.0 *1*	100	5614+x		Mult.: Δ′ J=0,1.
6390+x		490.7 *2*	100 *8*	5900+x		Mult.: Δ′ J=0,1.
		777.6 *4*	11 *5*	5614+x		
6546+x		156.0 *1*	100	6390+x		Mult.: Δ′ J=0,1.
6680+x		290.1 *2*	100	6390+x		Mult.: Δ′ J=−1.
6852+x		171.3 *4*	100	6680+x		Mult.: Δ′ J=−1.

† Weighted average of values from (α,xnγ) and ^{107}In ε decay except for gammas with no ΔE which are from (p,nγ).

‡ Relative photon branching from each level. Values are from ^{107}In ε decay, except for the 845 level where data are from (α,xnγ), and data with no uncertainties which are from (p,nγ). Uncertainties in Iγ from (p,nγ) range from 5%−30%.

From (α,xnγ), ^{109}In ε decay, and (p,nγ), (HI,xnγ).

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

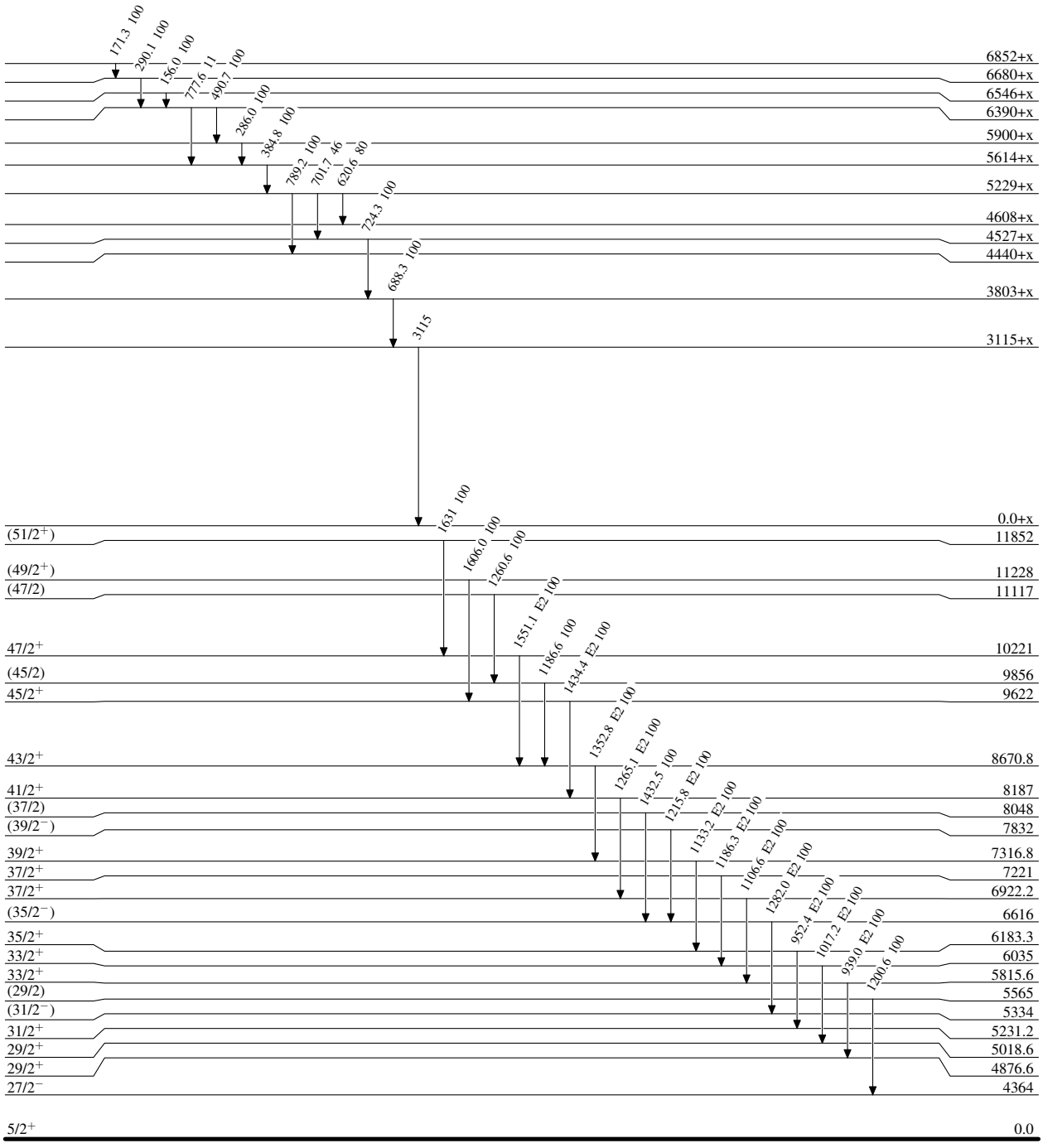
& Multiply placed with undivided intensity.

$^{107}_{48}Cd_{59}$-12

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

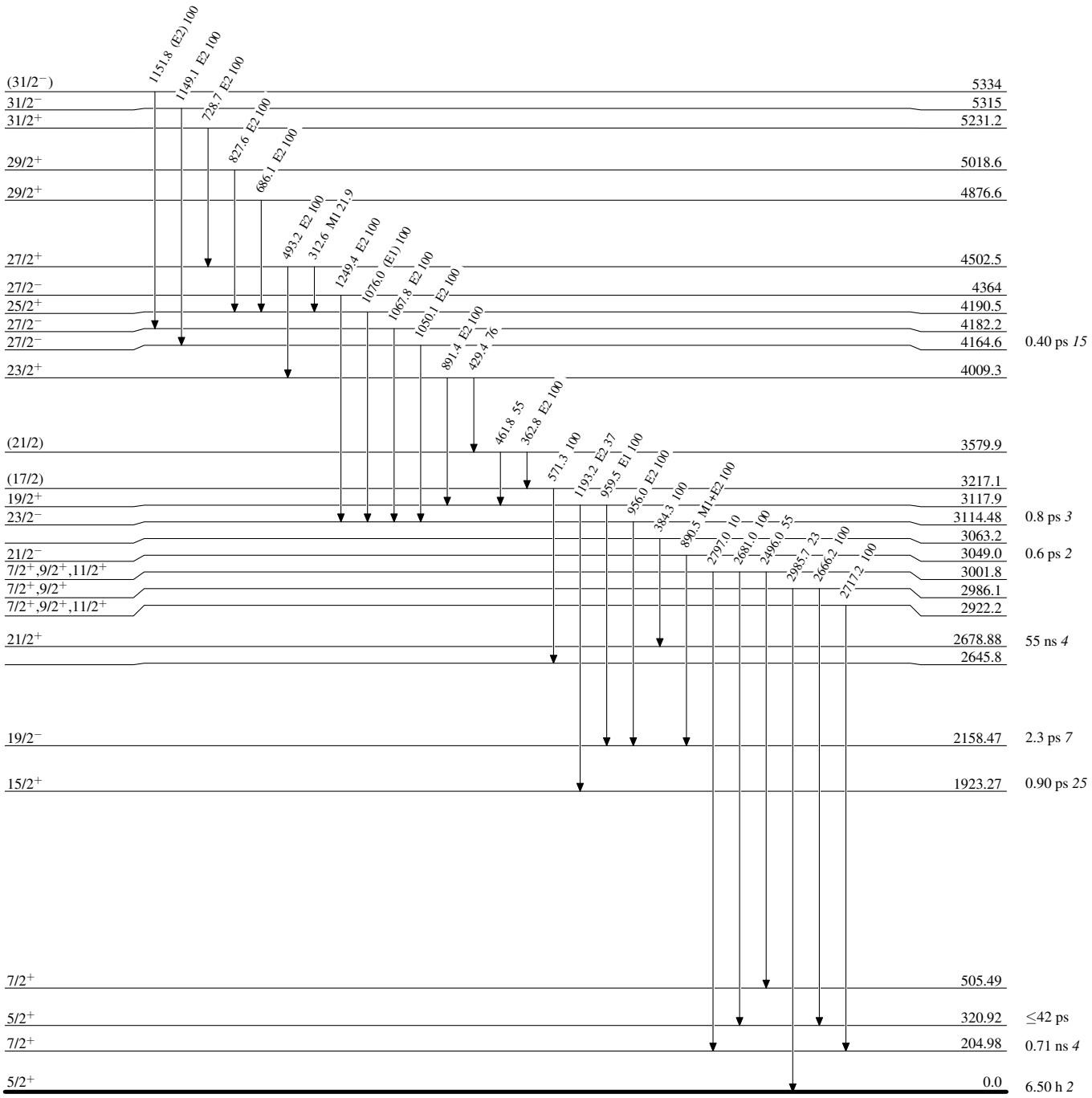


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

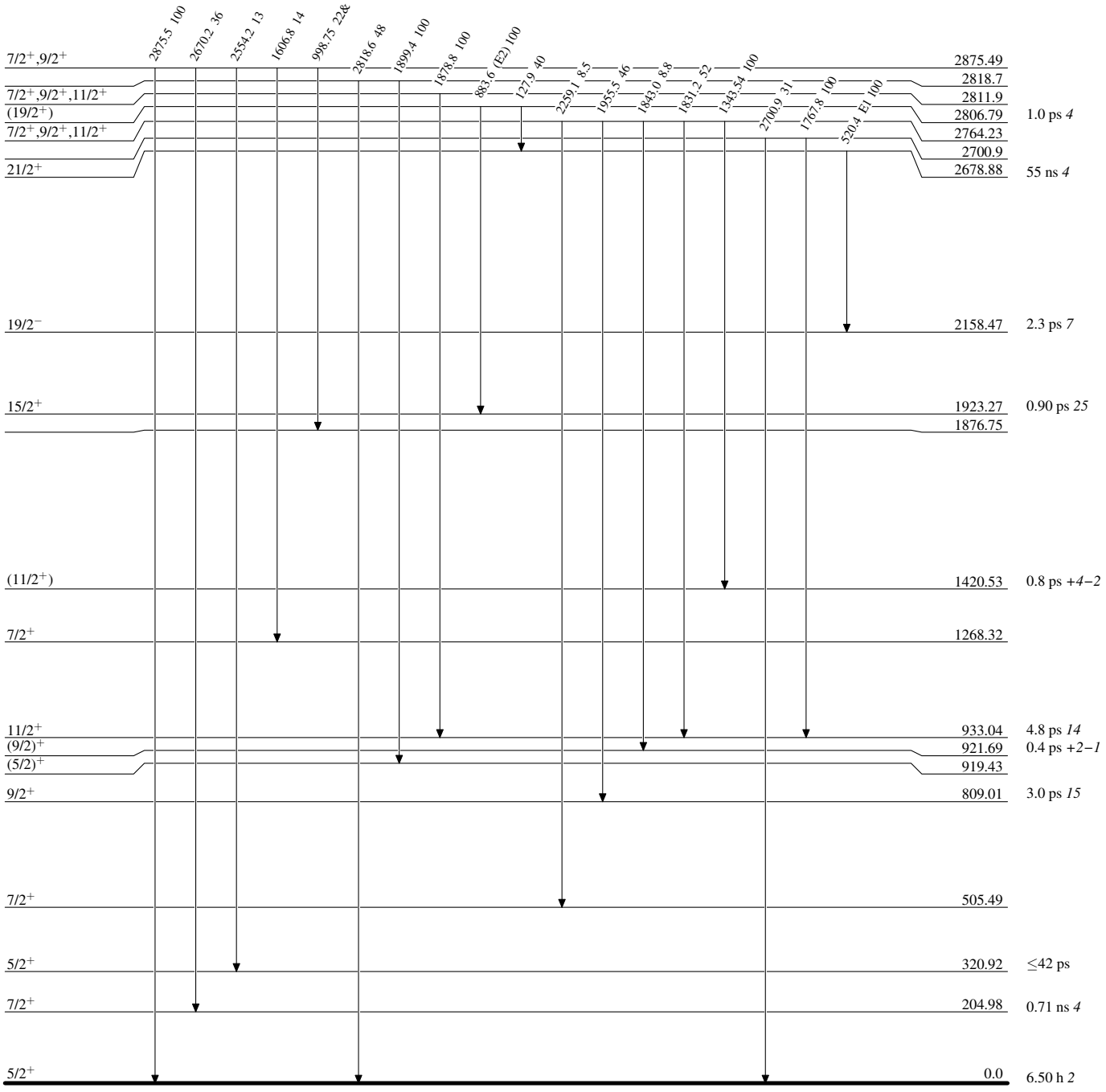


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

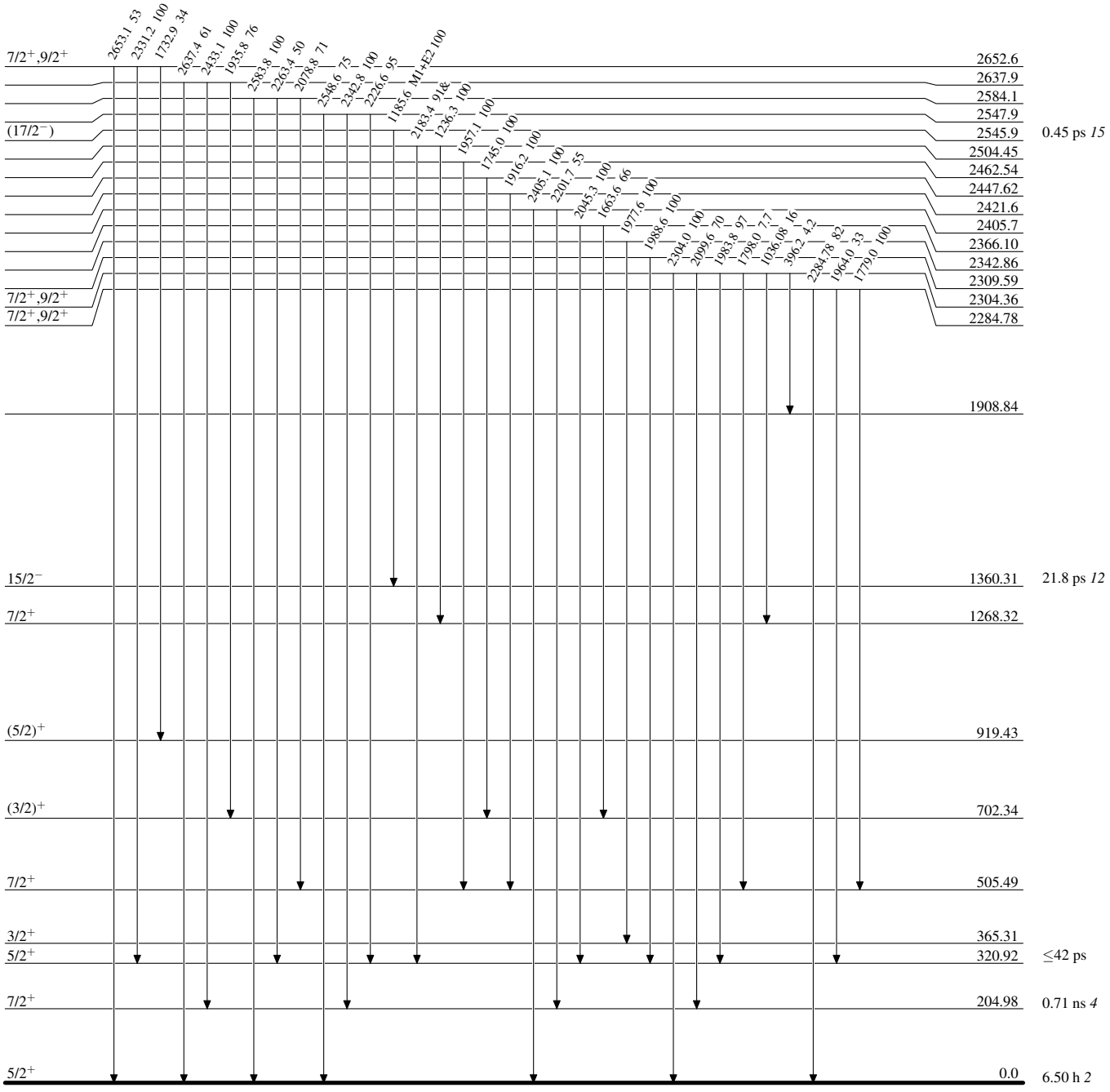


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

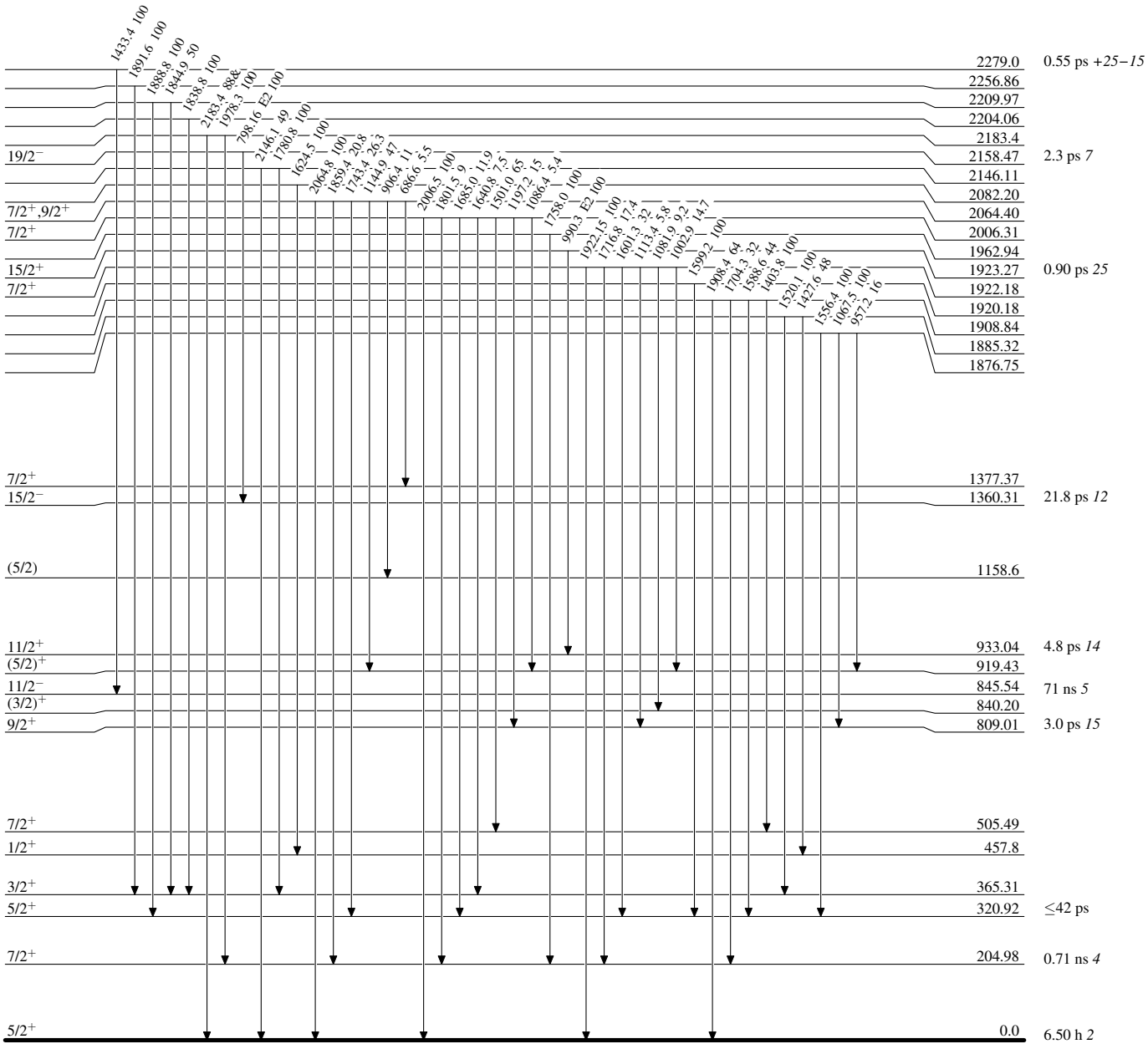


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

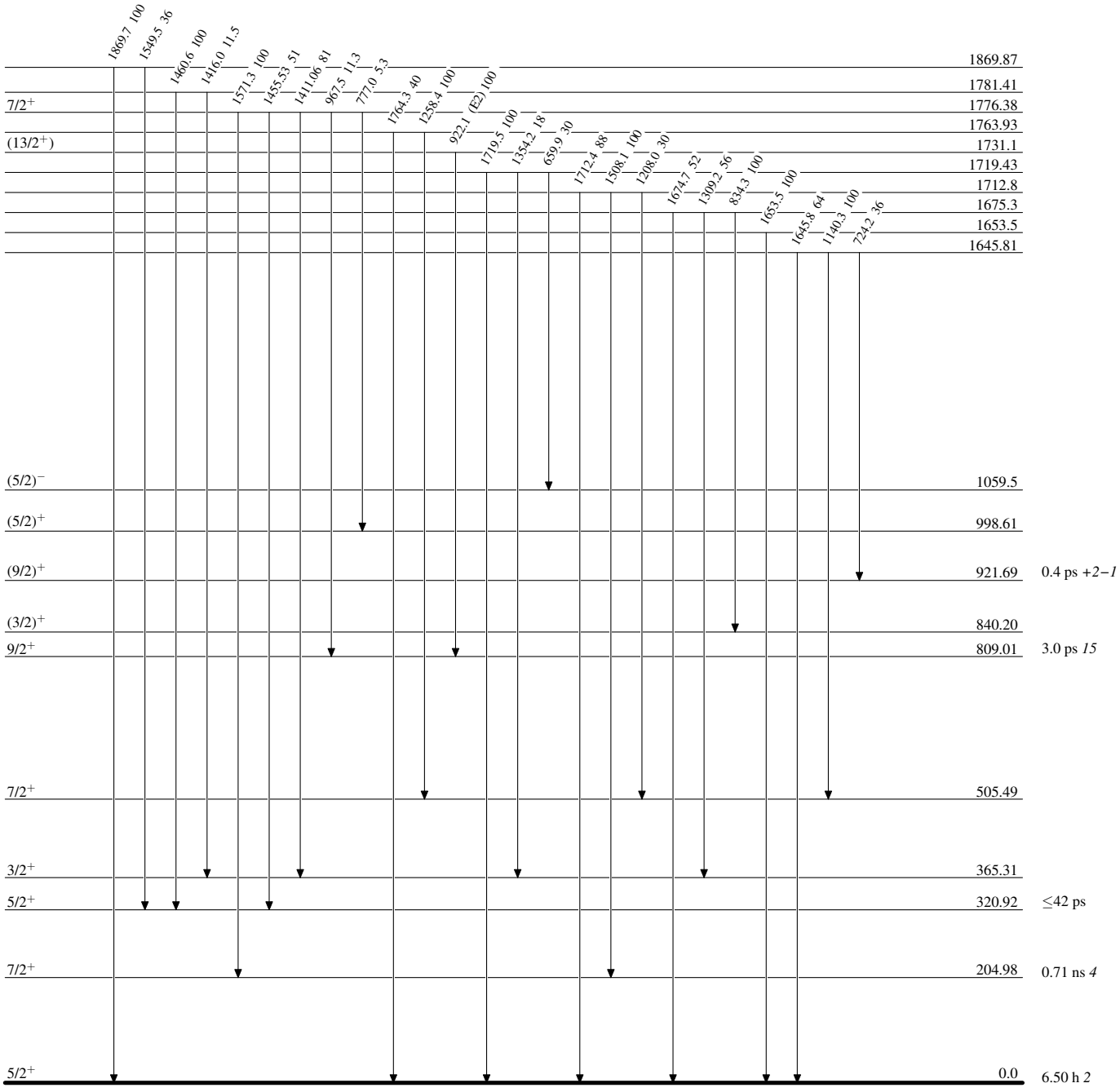


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

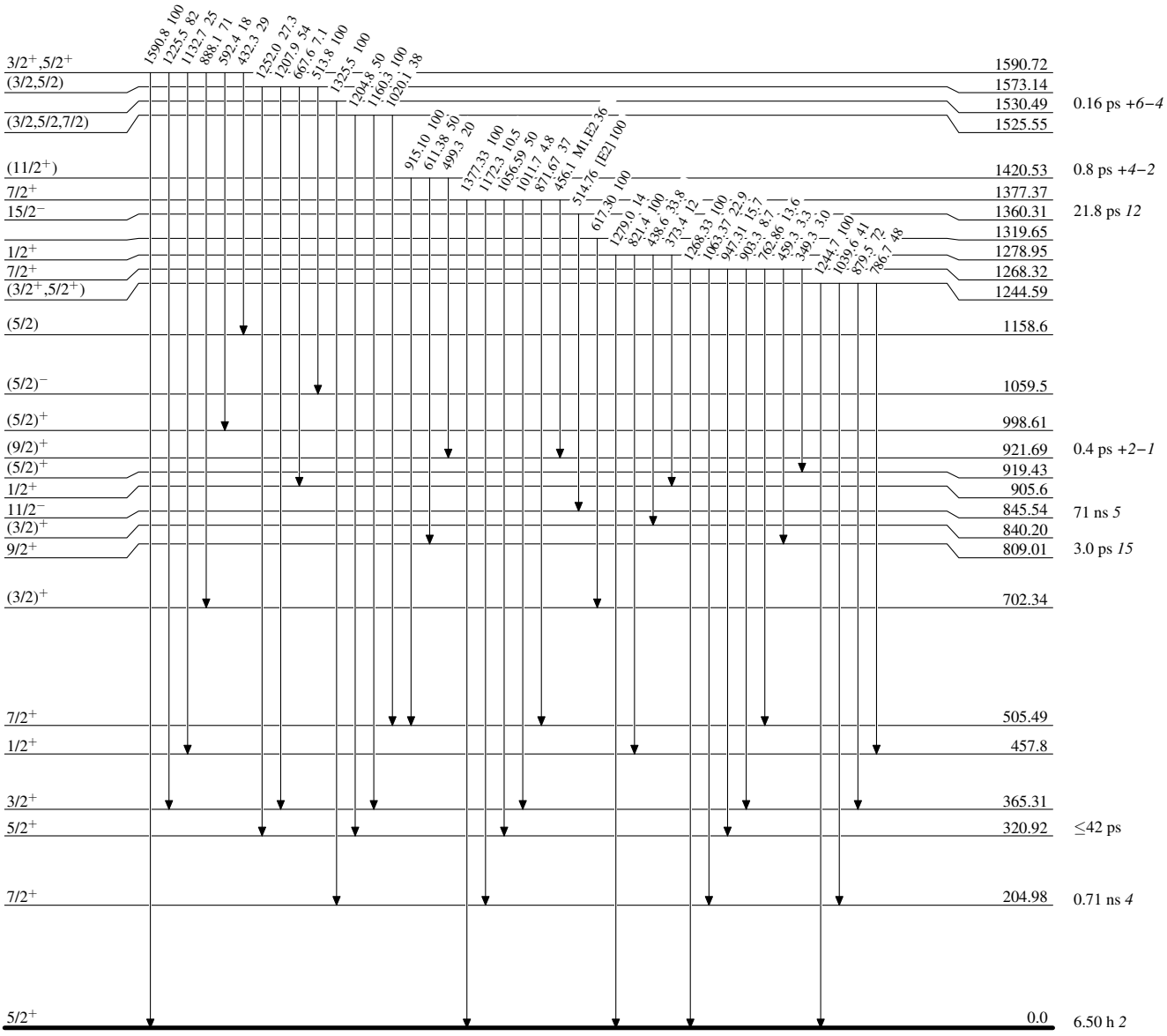


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

Level Scheme (continued)

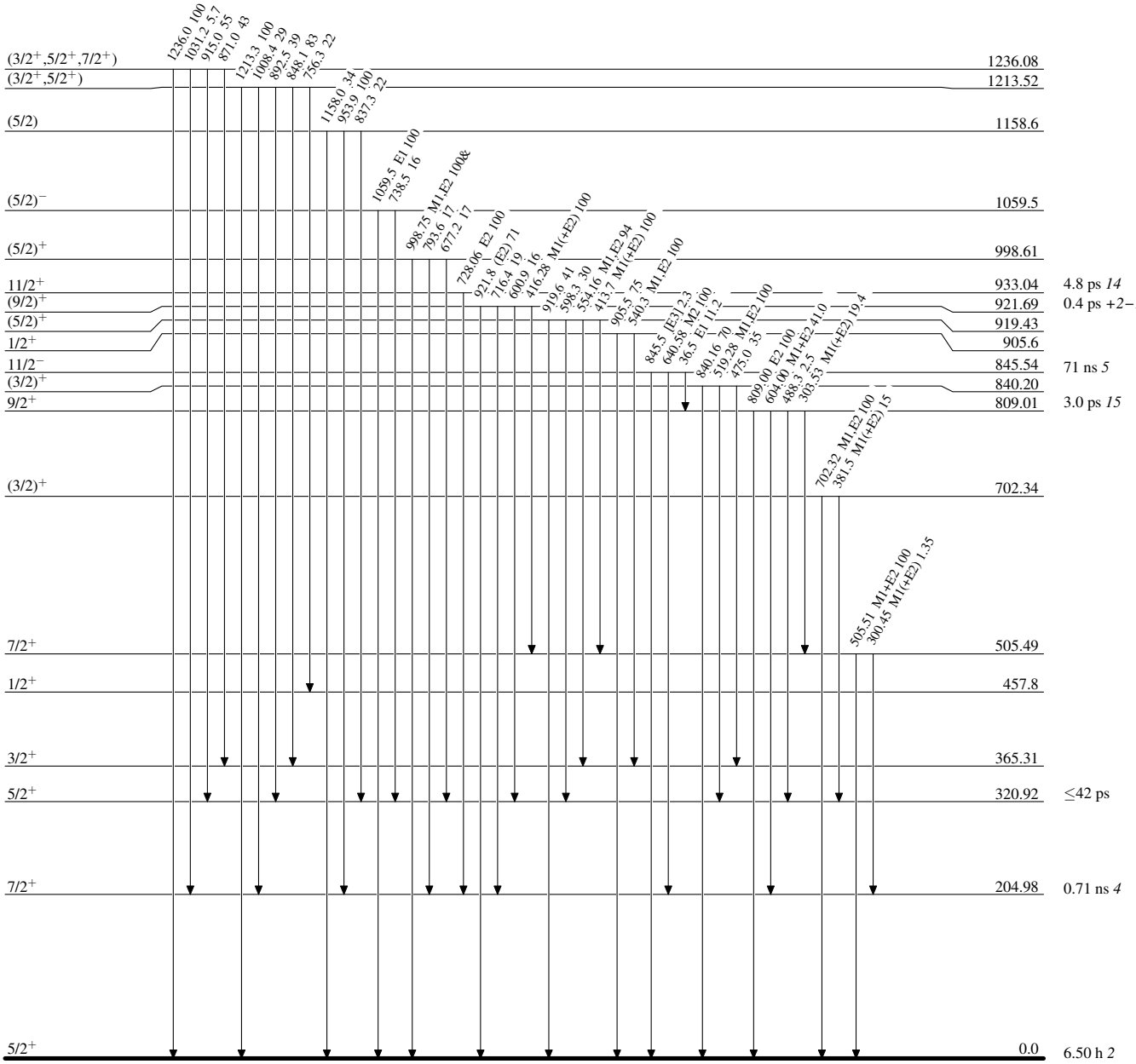
Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

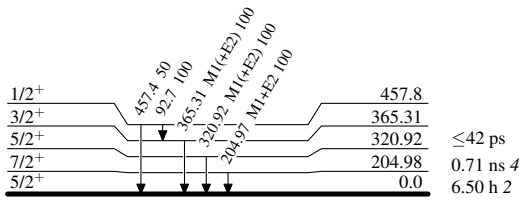


$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas

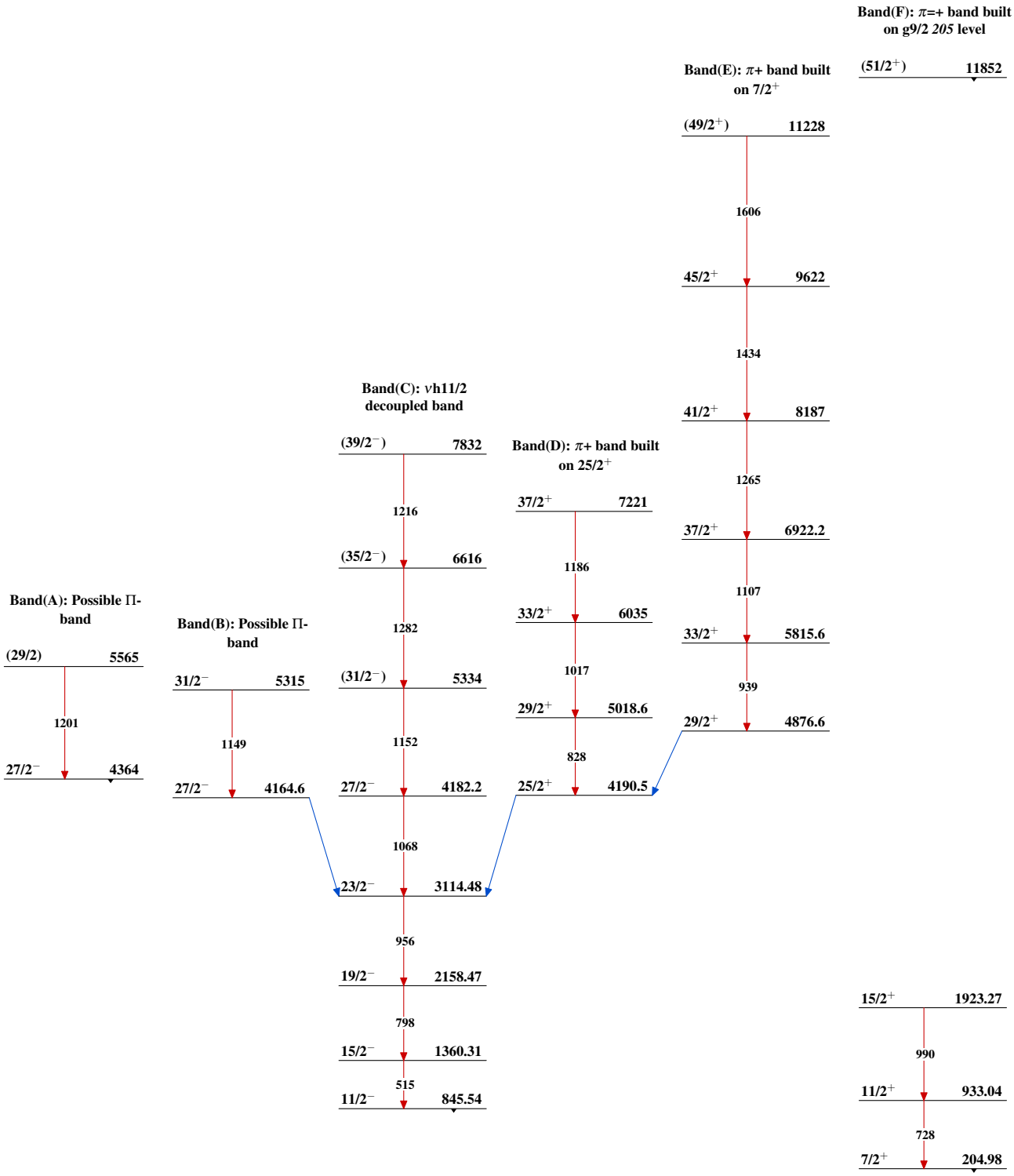
Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



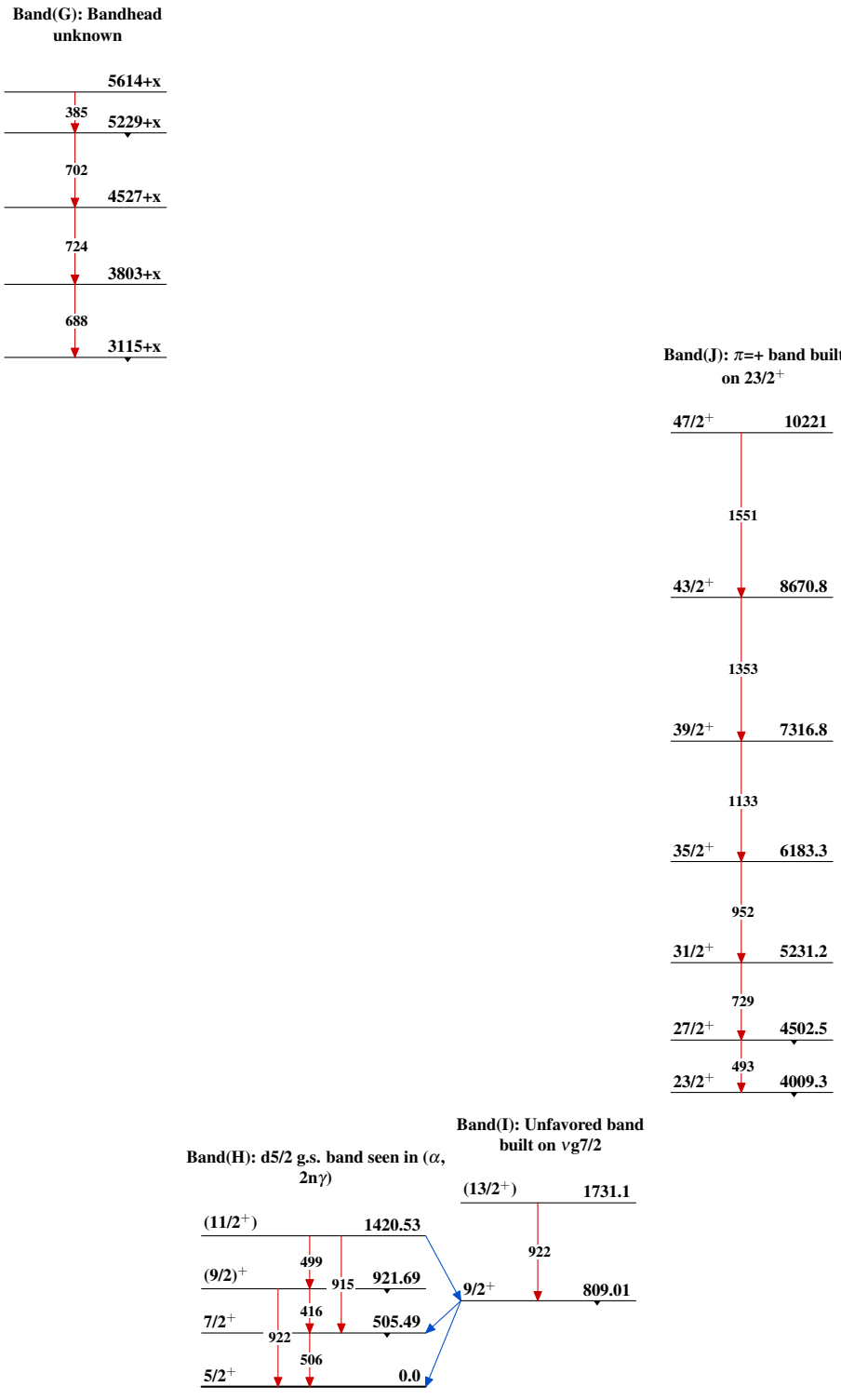
$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas



$^{107}_{48}Cd_{59}$

Adopted Levels, Gammas (continued)



$^{107}_{48}Cd_{59}$