

Adopted Levels, Gammas

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

$Q(\beta^-) = -3544$ 13; $S(n) = 9889$ 10; $S(p) = 4403$ 9; $Q(\alpha) = -1699$ 9 [2012Wa38](#)

Note: Current evaluation has used the following Q record -3549 169895 104406 9 -1701 9 [2009AuZZ](#).

Theory references: [1977Va17](#), [1970Se04](#), [1970Va17](#), [1971De49](#), [1971Go34](#), [1971Va07](#), [1973Pe17](#), [1982Li14](#), [1983Le23](#).

 ^{117}Sb LevelsCross Reference (XREF) Flags

A	$^{117}\text{Te } \beta^+ \text{ decay}$	G	$^{116}\text{Sn(d,n)}$	M	$^{117}\text{Sn(d,2n}\gamma)$
B	$^{117}\text{Sb IT decay (355 } \mu\text{s)}$	H	$^{116}\text{Sn}(^3\text{He,d)}$	N	$^{117}\text{Sn}(^3\text{He,t)}$
C	$^{114}\text{Cd}(^6\text{Li,3n}\gamma)$	I	$^{116}\text{Sn}(^{16}\text{O},^{15}\text{N})$	O	$^{118}\text{Sn(p,2n}\gamma)$
D	$^{115}\text{In}(\alpha,2\text{n}\gamma)$	J	$^{117}\text{Sn(p,n)}$	P	$^{116}\text{Sn(p,n)}$
E	$(\text{HI,xn}\gamma)$	K	$^{117}\text{Sn(p,np)}$		
F	$^{116}\text{Sn(p,p)}$	L	$^{117}\text{Sn(p,n}\gamma)$		

E(level) [†]	J^π [‡]	$T_{1/2}$	XREF	Comments
0.0	$5/2^+$	2.80 h 1	ABCDE GHIJKL NO	$\% \beta^+ = 1.7$ 3; $\% \varepsilon + \% \beta^+ = 100$ $Q = -0$ 2 (2005St24) $\mu = +3.43$ 6 (2005St24) μ, Q : AB (1974Ek01). $T_{1/2}$: from (1967Ha27). Other: 2.76 h 6 (1961Fi05). $T_{1/2} = 3.19$ h 4 reported by 1972Pa13 not used. Others: 1939Li05 , 1947Co04 . J^π : from atomic beam (1976Fu06), L(d,n)=2. Configuration= $\pi d5/2$.
527.31 8	$7/2^+$		BCDE GHIJ L	J^π : M1 γ to $5/2^+$, L($^3\text{He,d}$)=4. Configuration= $\pi g7/2$.
719.7 5	$1/2^+$		A GHIJ L	J^π : L($^3\text{He,d}$)=0. Configuration= $\pi s1/2$.
923.9 6	$3/2^+$	118 fs +70–35	A GHIJ L	J^π : L(p)=2, log ft=6.4 from $1/2^+$ parent. $T_{1/2}$: from 1995Bu15 in (p,n γ); other: 520 fs +170–140 (1995LoZZ).
1089.34 14	$7/2^+$	1.5×10^2 fs +15–6	DE J L	J^π : M1,E2 γ to $5/2^+$ g.s. $T_{1/2}$: from 1995Bu15 in (p,n γ).
1159.99 ^b 8	$9/2^+$	>2 ps	BCDE J L	J^π : E2 γ to $5/2^+$, E1 γ from $11/2^-$. $T_{1/2}$: from 1995LoZZ in ($\alpha,2\text{n}\gamma$).
1310.62 14	$9/2^+$	>50 fs	BCDE J L	$T_{1/2}$: from 1995Bu15 in (p,n γ); other: 2.0 ps 6 (1995LoZZ).
1322.86 12	$11/2^-$	3.8 ns 2	BCDE H L O	J^π : E2 γ to $5/2^+$, M1,E2 γ to $7/2^+$. $\mu = +5.35$ 9 (2001StZZ) J^π : L($^3\text{He,d}$)=5, M2 γ to $7/2^+$, Configuration= $\pi h11/2$. μ : Atomic beam magnetic res. Others: 5.35 9 (1980Le05), 5.61 39 (1978Ke04). $T_{1/2}$: from 3.8 ns 2 (1978Ke04), 3.8 2 (1980Le05). Others: 3.9 2 (1978Su05), 3.5 ns 3 (1990Ko42); $T_{1/2} = 1.5$ ns 3 reported by 1975Fr10 not used.
1354.4 10	(1/2,3/2)		A J L	J^π : from log ft=6.9 from $1/2^+$. $J^\pi = 1/2^-$ reported in $^{117}\text{Sn(p,n)}$.
1378.8 8	$7/2$	1.5×10^2 fs +15–6	L	$T_{1/2}$: from 1995Bu15 in (p,n γ).
1380 10	$3/2^+, 5/2^+$		H J	E(level): not the same as 1378.9 (7/2) level reported in $^{117}\text{Sn(p,n}\gamma)$. J^π : L($^3\text{He,d}$)=2.
1396.01 22			D	

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Adopted Levels, Gammas (continued) ^{117}Sb Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF			Comments
1454.2 12	1/2 ⁺ , 3/2 ⁺ , 5/2 ⁺		A	J	L	J ^π : γ to 5/2 ⁺ , γ from 1/2 ⁺ . If $\varepsilon+\beta^+$ feeding from 1/2 ⁺ is non-zero then J ^π =5/2 ⁺ is ruled out.
1471.7 8	7/2	≥367 fs			L	T _{1/2} : from 1995Bu15 in (p,n γ).
1487.65 15	9/2 ⁺	0.8 ps 3	DE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
1534.60 ^b 12	11/2 ⁺		CDE	L		J ^π : M1,E2 γ to 9/2 ⁺ $\Delta J=1$.
1536.53 16	(9/2 ⁺)	≥243 fs	D	L		T _{1/2} : from 1995Bu15 in (p,n γ).
1623.9 12	3/2	≥132 fs			L	J ^π : M1+E2 γ to 7/2 ⁺ , γ to 5/2 ⁺ .
1710.63 16	11/2 ⁺	1.4 ps +4-3	DE			T _{1/2} : from 1995Bu15 in (p,n γ).
1716.4 6	1/2 ⁺ , 3/2 ⁺	32 fs +7-6	A	L		T _{1/2} : from 1995LoZZ in (α ,2n γ).
1751.9 6		2.4×10 ² fs +31-9		L		J ^π : from log ft=5.3 from 1/2 ⁺ parent.
1761.21 12	9/2 ⁺		DE			T _{1/2} : from 1995Bu15 in (p,n γ).
1810.5 7	1/2 ⁺ , 3/2 ⁺		A	H	L	J ^π : from log ft=5.6 from 1/2 ⁺ parent.
1871.48 ^b 13	13/2 ⁺		BCDE	H	L	J ^π : M1,E2 γ to 11/2 ⁺ , $\Delta J=1$.
2033.35 24	(11/2 ⁺)		D			
2040.00 16	11/2 ⁺	1.4 ps +14-3	DE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
2085.2 10		66 fs +30-18		L		T _{1/2} : from 1995Bu15 in (p,n γ).
2187.45 [@] 14	13/2 ⁺	0.7 ps +4-2	DE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
2213.0 15	3/2 ⁺ , 5/2 ⁺		A	H		J ^π : E2 γ to 9/2 ⁺ .
2228.42 25		≈0.5 ps	D			J ^π : L(³ He,d)=2.
2237.49 ^b 13	15/2 ⁺		BCDE	L		T _{1/2} : from 1995LoZZ in (α ,2n γ).
2242.01 24	(13/2 ⁺)		D			J ^π : M1,E2 γ to 13/2 ⁺ , E2 γ to 11/2 ⁺ .
2284.8 7	1/2 ⁺		A	H		J ^π : L(³ He,d)=0.
2300.1 7	1/2 ⁺ , 3/2 ⁺	14 fs +10-8	A	L		J ^π : from log ft=5.1 from 1/2 ⁺ parent.
2323.05 13	15/2 ⁻	>2 ps	BCDE	L		T _{1/2} : from 1995Bu15 in (p,n γ).
2355.62 ^d 25	13/2 ⁺		E			T _{1/2} : from 1995LoZZ in (α ,2n γ).
2410 30	1/2 ⁺			H		J ^π : E2 γ to 11/2 ⁺ .
2412.64 15	15/2 ⁻		B DE			J ^π : L=2+4 reported in ¹¹⁶ Sn(³ He,d).
2520 30			CD	H		J ^π : M1 γ to 15/2 ⁻ .
2525.3 ^e 2	17/2 ⁻		BCDE			J ^π : E2 γ to 11/2 ⁺ .
2526.8 [#] 2	15/2 ⁺		DE			J ^π : L=0+2(+4) reported in ¹¹⁶ Sn(³ He,d).
2610 30				H		
2624.60 ^b 14	17/2 ⁺	≈1 ps	BCDE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
2760 30	+			H		J ^π : M1 γ to 15/2 ⁺ .
2778.65 [@] 25	17/2 ⁺	>1.4 ps	DE			J ^π : L=0+2(+4) reported in ¹¹⁶ Sn(³ He,d).
2780.15 18	19/2 ⁻	0.50 ns 15	BCDE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
2841.76 16	17/2 ⁻	1.1 ps +4-3	DE			J ^π : E2 γ to 15/2 ⁻ .
2845.50 ^{&} 20	19/2 ⁻		DE			T _{1/2} : from 1990Ko42 in ¹¹⁵ In(α ,2n γ).
2875.10 14	19/2 ⁻	<0.2 ns	BCDE			J ^π : E1 γ to 15/2 ⁺ , M1,E2 γ to 15/2 ⁺ .
3057.65 ^b 21	19/2 ⁺		CDE			T _{1/2} : from 1995LoZZ in (α ,2n γ).
3060.5 ^d 4			E			J ^π : E2 γ to 15/2 ⁻ .
3072.64 ^e 17	(21/2) ⁻	<0.1 ns	BCDE			T _{1/2} : from 1990Ko42 in ¹¹⁵ In(α ,2n γ).

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Adopted Levels, Gammas (continued) ^{117}Sb Levels (continued)

E(level) [†]	J ^π [‡]	T _{1/2}	XREF	Comments
3098.4 3			D	
3130.76 19	(25/2) ⁺	355 μs 17	BCD	%IT=100 Q=-0.75 9 (2005St24); μ=1.500 9 (2005St24) J ^π : M2 γ to 21/2 ⁻ . μ: NMR; others: 1.437 75 (1975Fr10), 1.450 30 (1972Me15), 1.512 30 (1975Iv02). T _{1/2} : weighted average: 340 μs 20 (1970He13), 390 μs 30 (1972Me15).
3173.9 3			D	
3214.13 15	19/2 ⁻	>1.4 ps	DE	J ^π : γ's to 17/2 ⁺ , 19/2 ⁻ , (21/2 ⁻). T _{1/2} : from 1995LoZZ in (α,2nγ).
3230.1 [#] 2	19/2 ⁺		E	
3230.7 ^a 2	(23/2 ⁻)	290 ns 5	DE	Q=2.5 3 (2005St24); μ=+5.03 6 (2005St24) J ^π : (E2) γ to (19/2 ⁻). Agreement of μ between the calculated and experimental values for configuration=((π 1g _{9/2}) ⁻¹ (ν 1h _{11/2})(ν 2d _{3/2}) ⁻⁷ . T _{1/2} : from 1987Io01. μ: also given in 1987Io01.
3416.0 ^{&} 3	(23/2 ⁻)	1.1 ps 3	DE	T _{1/2} : from 1995LoZZ in (α,2nγ).
3437.7 ^a 3	(25/2 ⁻)		E	
3485.9 [@] 4	(21/2 ⁺)		E	
3495.1 4			D	
3501.9 ^e 3			DE	
3522.66 ^b 21	(21/2 ⁺)		DE	
3741.1 ^a 5	(27/2 ⁻)		E	
3836.8 ^d 4			E	
4001.49 ^b 23	(23/2 ⁺)		DE	
4029.6 [#] 4	23/2 ⁺		E	
4076.6 ^e 4			E	
4106.6 ^a 4	(29/2 ⁻)		E	
4116.2 ^{&} 4	(27/2 ⁻)		E	
4296.6 [@] 4	(25/2 ⁺)		E	
4424.83 ^c 25	(25/2 ⁺)		E	
4509.4 ^a 4	(31/2 ⁻)		E	
4555.32 ^b 25	(25/2 ⁺)		E	
4679.1 ^d 5			E	
4749.3 4			E	
4759.0 ^c 4	27/2 ⁺		E	
4901.8 [#] 4	27/2 ⁺		E	
4929.2 ^{&} 4	(31/2 ⁻)		E	
4937.1 ^a 4	(33/2 ⁻)		E	
5027.9 ^b 3	(27/2 ⁺)		E	
5170.2 ^e 4			E	
5172.4 ^c 4	(29/2 ⁺)		E	
5182.8 [@] 5	(29/2 ⁺)		E	
5394.2 ^a 4	(35/2 ⁻)		E	
5572.1 ^c 5	(31/2 ⁺)		E	
5823.7 [#] 5	(31/2 ⁺)		E	
5837.2 ^{&} 5	(35/2 ⁻)		E	

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Adopted Levels, Gammas (continued) ^{117}Sb Levels (continued)

E(level) [†]	J^π [‡]	XREF	Comments
5882.8 ^a 4	(37/2 ⁻)	E	
6009.2 ^c 5	(33/2 ⁺)	E	
6121.4 [@] 5	(33/2 ⁺)	E	
6403.6 ^a 4	(39/2 ⁻)	E	
6762.4 [#] 5	(35/2 ⁺)	E	
6829.3 ^{&} 5	(39/2 ⁻)	E	
6950.9 ^a 4	(41/2 ⁻)	E	
7116.8 [@] 5	(37/2 ⁺)	E	
7905.8 ^{&} 6	(43/2 ⁻)	E	
8184.6 [@] 6	(41/2 ⁺)	E	
11280 10	1/2 ⁺	F N P	$\Gamma_p=16.5$ keV J^π : IAS of g.s. ^{117}Sn s1/2.
11430 10	3/2 ⁺	F P	$\Gamma_p=8.3$ keV J^π : IAS, analog of 158 keV ^{117}Sn d3/2.
$\approx 11.5 \times 10^3$	(11/2 ⁻)	H	J^π : IAS.
12290 15	(5/2 ⁺)	F P	$\Gamma_p=1.8$ keV J^π : IAS, analog of 1019 keV ^{117}Sn d5/2.
12455 15	5/2 ⁺	F P	$\Gamma_p=1.4$ keV J^π : IAS, analog of 1180 keV ^{117}Sn d53/2.
12587 15	(7/2 ⁻)	P	J^π : IAS, analog of 1304 keV ^{117}Sn f7/2.

[†] From least-squares fit to $E\gamma$'s.[‡] J^π 's without comments are from band considerations combined with γ multiplicities.# Band(A): band-1 with $\Delta J=2$, 1% total intensity.@ Band(B): band-2 with $\Delta J=2$, 2.5% total intensity.& Band(C): band-3 with $\Delta J=2$, 7% total intensity.^a Band(D): Band-4 strongly coupled band, $\approx 9\%$ total intensity. Band built on the 290 ns isomer.^b Band(E): Band-5a, $\approx 22\%$ total intensity. Composed of two bands of opposite signature connected by strong M1+E2 transitions.^c Band(F): Band-5b.^d Band(G): Sequence-1.^e Band(H): Sequence-2.

Adopted Levels, Gammas (continued)

$\gamma(^{117}\text{Sb})$

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\oplus$	E_f	J_f^π	Mult. [‡]	$\delta^\#$	$\alpha^\&$	$I_{(\gamma+ce)}$	Comments
527.31	7/2 ⁺	527.3 1	100	0.0	5/2 ⁺	M1(+E2)	-0.06 6			
719.7	1/2 ⁺	719.7 7	100	0.0	5/2 ⁺	E2				
923.9	3/2 ⁺	923.9 7	100	0.0	5/2 ⁺					
1089.34	7/2 ⁺	1089.3 2	100	0.0	5/2 ⁺	M1,E2				
1159.99	9/2 ⁺	632.7 1	3.4 2	527.31	7/2 ⁺	E2				B(E2)(W.u.)<2.7
		1160.0 1	100 2	0.0	5/2 ⁺	E2				B(E2)(W.u.)<3.8
1310.62	9/2 ⁺	221.7		1089.34	7/2 ⁺					
		783.2 3	17 3	527.31	7/2 ⁺	M1+E2	-0.16 8			B(E2)(W.u.)<8.1; B(M1)(W.u.)<0.13
		1310.5 2	100 2	0.0	5/2 ⁺	E2				B(E2)(W.u.)<74
1322.86	11/2 ⁻	12 1		1310.62	9/2 ⁺				28 1	
		163.1 2	15 2	1159.99	9/2 ⁺	E1		0.0477		B(E1)(W.u.)=1.34×10 ⁻⁶ 20
		795.5 2	48.8 4	527.31	7/2 ⁺	M2				B(M2)(W.u.)=0.271 16
		1322.8 2	100 2	0.0	5/2 ⁺	E3				B(E3)(W.u.)=28.8 17
1354.4	(1/2,3/2)	634.5 15	88 34	719.7	1/2 ⁺					
		1354.5 15	100	0.0	5/2 ⁺					
1378.8	7/2	289.3		1089.34	7/2 ⁺					
		1378.9		0.0	5/2 ⁺					
1396.01		868.7 2	100	527.31	7/2 ⁺					
1454.2	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	1454.5 15	100	0.0	5/2 ⁺					
1487.65	9/2 ⁺	960.4 2	100	527.31	7/2 ⁺					
1534.60	11/2 ⁺	374.6 1	100	1159.99	9/2 ⁺	M1,E2		0.0180 3		
1536.53	(9/2 ⁺)	447.1 2	5.6 11	1089.34	7/2 ⁺					
		1009.2 6	100 3	527.31	7/2 ⁺	M1+E2	-0.4 3			B(E2)(W.u.)<17; B(M1)(W.u.)<0.077
		1536.6 2	14.4 11	0.0	5/2 ⁺					
1623.9	3/2	700.0		923.9	3/2 ⁺					
1710.63	11/2 ⁺	1183.3 2	100	527.31	7/2 ⁺	E2				B(E2)(W.u.)=5.1 15
1716.4	1/2 ⁺ ,3/2 ⁺	996.7 7	24.9 24	719.7	1/2 ⁺					
		1716.4 7	100 10	0.0	5/2 ⁺					
1751.9		662.4		1089.34	7/2 ⁺					
		1032.4		719.7	1/2 ⁺					
		1751.8		0.0	5/2 ⁺					
1761.21	9/2 ⁺	671.9 2	100 3	1089.34	7/2 ⁺	M1,E2				
		1233.8 2	<100	527.31	7/2 ⁺	M1,E2				
		1761.3 2	26.0 14	0.0	5/2 ⁺					
1810.5	1/2 ⁺ ,3/2 ⁺	886.7 7	22 3	923.9	3/2 ⁺					
		1090.7 7	100 10	719.7	1/2 ⁺					
1871.48	13/2 ⁺	336.9 1	100 2	1534.60	11/2 ⁺	M1+E2	0.19 6	0.0244 11		
		711.4 2	23 3	1159.99	9/2 ⁺	E2				
2033.35	(11/2 ⁺)	944.0 2	100	1089.34	7/2 ⁺					
2040.00	11/2 ⁺	552.3 2	100 9	1487.65	9/2 ⁺					
		1512.7 2	78 3	527.31	7/2 ⁺	E2				B(E2)(W.u.)=0.7 7

Adopted Levels, Gammas (continued)

$\gamma(^{117}\text{Sb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\oplus$	E_f	J_f^π	Mult. [‡]	$\delta^\#$	$\alpha^\&$	Comments
2085.2		1557.9		527.31	7/2 ⁺				
2187.45	13/2 ⁺	426.3 2	100	1761.21	9/2 ⁺	E2			B(E2)(W.u.)=1.6×10 ³ 9
		476.8 2	<2	1710.63	11/2 ⁺	M1,E2			
		699.9 2		1487.65	9/2 ⁺				
		876.7 2	5.2 2	1310.62	9/2 ⁺	E2			B(E2)(W.u.)=2.2 13
2213.0	3/2 ⁺ ,5/2 ⁺	2213.0 15	100	0.0	5/2 ⁺				
2228.42		917.8 2	100	1310.62	9/2 ⁺				
2237.49	15/2 ⁺	366.0 1	100 2	1871.48	13/2 ⁺	M1,E2		0.0193 4	
		702.8 2	34.4 5	1534.60	11/2 ⁺	E2			
2242.01	(13/2 ⁺)	480.8 2	100	1761.21	9/2 ⁺	(E2)			
2284.8	1/2 ⁺	568.8 15	67 13	1716.4	1/2 ⁺ ,3/2 ⁺				
		831.0 15	53 13	1454.2	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺				
		930.2 15	20 13	1354.4	(1/2,3/2)				
		1360.5 15	47 13	923.9	3/2 ⁺				
		1565.1 15	100 13	719.7	1/2 ⁺				
		2284.8 15	40 13	0.0	5/2 ⁺				
2300.1	1/2 ⁺ ,3/2 ⁺	1580.5 15	1.7 12	719.7	1/2 ⁺				
		2300.0 7	100 10	0.0	5/2 ⁺				
2323.05	15/2 ⁻	1000.1 1	100	1322.86	11/2 ⁻	E2			B(E2)(W.u.)<8.3
2355.62	13/2 ⁺	1045.0 2	100	1310.62	9/2 ⁺	E2			
2412.64	15/2 ⁻	1090.2 2	100	1322.86	11/2 ⁻	E2			
2525.3	17/2 ⁻	202.2 2	100	2323.05	15/2 ⁻	M1		0.0889	
2526.8	15/2 ⁺	486.8 2	<50	2040.00	11/2 ⁺	E2			
		816.2 2	100	1710.63	11/2 ⁺	E2			
2624.60	17/2 ⁺	387.1 1	100 2	2237.49	15/2 ⁺	M1+E2	0.15 5	0.0165 1	B(E2)(W.u.)=31 20; B(M1)(W.u.)=0.270 4
		753.1 2	35.8 5	1871.48	13/2 ⁺	E2			B(E2)(W.u.)=2.E+1 +20-2
2778.65	17/2 ⁺	591.2 2	100	2187.45	13/2 ⁺	E2			B(E2)(W.u.)<1.6×10 ²
2780.15	19/2 ⁻	254.5 3	100 2	2525.3	17/2 ⁻	M1,E2		0.048	B(M1)(W.u.)=0.0016 5
		456.9 2	50 1	2323.05	15/2 ⁻	E2		0.010	B(E2)(W.u.)=0.54 17
2841.76	17/2 ⁻	316.6 2	23 2	2525.3	17/2 ⁻				
		518.8 2	100 3	2323.05	15/2 ⁻	M1,E2			
		604.2 2	80 3	2237.49	15/2 ⁺	E1			B(E1)(W.u.)=0.00046 17
2845.50	19/2 ⁻	433.0 2	100 10	2412.64	15/2 ⁻	E2			
		522.3 2	9 5	2323.05	15/2 ⁻	E2			
2875.10	19/2 ⁻	250.4 2	40 4	2624.60	17/2 ⁺	E1		0.01456	B(E1)(W.u.)>1.5×10 ⁻⁵
		349.8 2	56 4	2525.3	17/2 ⁻	M1+E2	0.17 4	0.0219 8	B(E2)(W.u.)>0.056; B(M1)(W.u.)>0.00057
		462.5 1	44.9 10	2412.64	15/2 ⁻	E2			
		552.0 1	100 10	2323.05	15/2 ⁻	E2			B(E2)(W.u.)>0.67
3057.65	19/2 ⁺	432.8 ^a 10	100 10	2624.60	17/2 ⁺	M1,E2			
		820.2 2	40 10	2237.49	15/2 ⁺	E2			
3060.5		704.9 2	100	2355.62	13/2 ⁺				

Adopted Levels, Gammas (continued)

 $\gamma(^{117}\text{Sb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^\text{@}$	E_f	J_f^π	Mult. ‡	$\delta^\#$	$\alpha^\&$	Comments
3072.64	(21/2) ⁻	197.4 2	100 8	2875.10	19/2 ⁻	M1+E2	0.11 2	0.0948	B(E2)(W.u.)>1.7; B(M1)(W.u.)>0.011
		292.6 2	35.2 16	2780.15	19/2 ⁻	M1+E2	0.14 4	0.037 4	B(E2)(W.u.)>0.094; B(M1)(W.u.)>0.0012
		547.8 2	98 16	2525.3	17/2 ⁻	Q			
3098.4		318.2 2	100	2780.15	19/2 ⁻				
3130.76	(25/2) ⁺	58.1 1	100	3072.64	(21/2) ⁻	M2		50.6	B(M2)(W.u.)=0.107 6
3173.9		393.7 2	100	2780.15	19/2 ⁻				
3214.13	19/2 ⁻	141.5 2	2.0 5	3072.64	(21/2) ⁻				
		372.5 2	87 4	2841.76	17/2 ⁻	M1,E2			
		433.5 2	21 1	2780.15	19/2 ⁻	M1,E2			
		589.6 2	100 5	2624.60	17/2 ⁺	E1			B(E1)(W.u.)<0.00036
		801.6 2	3.6 5	2412.64	15/2 ⁻	E2			B(E2)(W.u.)<0.47
		891.3 2	62 2	2323.05	15/2 ⁻	E2			B(E2)(W.u.)<4.8
3230.1	19/2 ⁺	703.9 2	100	2526.8	15/2 ⁺	E2			
3230.7	(23/2) ⁻	16.4 2	10.0 4	3214.13	19/2 ⁻	(E2)		2760	B(E2)(W.u.)=17.5 18
		99.6 2	100 30	3130.76	(25/2) ⁺	[E1]		0.192	B(E1)(W.u.)=3.6×10 ⁻⁹ 11
3416.0	(23/2) ⁻	570.5 2	100	2845.50	19/2 ⁻	E2			B(E2)(W.u.)=2.5×10 ² 7
3437.7	(25/2) ⁻	207.6 2	100	3230.7	(23/2) ⁻	M1,E2			
3485.9	(21/2) ⁺	707.2 2	100	2778.65	17/2 ⁺	E2			
3495.1		396.7 2	100	3098.4					
3501.9		429.3 2	100	3072.64	(21/2) ⁻				
3522.66	(21/2) ⁺	464.9 2	100	3057.65	19/2 ⁺	M1+E2	0.11 3		
		898.0 2	67 17	2624.60	17/2 ⁺	E2			
3741.1	(27/2) ⁻	302.8 2	100 13	3437.7	(25/2) ⁻	(M1,E2)			
		511.0 2	<25	3230.7	(23/2) ⁻	(E2)			
3836.8		776.3 2	100	3060.5					
4001.49	(23/2) ⁺	478.6 2	100 25	3522.66	(21/2) ⁺	M1+E2	0.04 4		
		944.0 2	75 25	3057.65	19/2 ⁺	E2			
4029.6	23/2 ⁺	800.4 2	100	3230.1	19/2 ⁺	E2			
4076.6		574.7 2	100	3501.9					
4106.6	(29/2) ⁻	366.6 2	100 14	3741.1	(27/2) ⁻	(M1,E2)			
		669.4 2	<29	3437.7	(25/2) ⁻	(E2)			
4116.2	(27/2) ⁻	700.2 2	100	3416.0	(23/2) ⁻	E2			
4296.6	(25/2) ⁺	810.7 2	100	3485.9	(21/2) ⁺	E2			
4424.83	(25/2) ⁺	423.2 2	100 33	4001.49	(23/2) ⁺	M1,E2			
		902.3 2	67 33	3522.66	(21/2) ⁺	E2			
4509.4	(31/2) ⁻	402.5 2	100 33	4106.6	(29/2) ⁻	(M1,E2)			
		769.7 2	67 33	3741.1	(27/2) ⁻	(E2)			
4555.32	(25/2) ⁺	553.5 2	100	4001.49	(23/2) ⁺	(M1,E2)			
		1032.6 2	100	3522.66	(21/2) ⁺	(E2)			
4679.1		842.3 2	100	3836.8					
4749.3		239.9 2	100	4509.4	(31/2) ⁻				
4759.0	27/2 ⁺	334.2 2	100	4424.83	(25/2) ⁺	(M1,E2)			

Adopted Levels, Gammas (continued)

$\gamma(^{117}\text{Sb})$ (continued)

$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^@$	E_f	J_f^π	Mult. [‡]	$E_i(\text{level})$	J_i^π	$E_\gamma^\dagger$	$I_\gamma^@$	E_f	J_f^π	Mult. [‡]
4901.8	27/2 ⁺	872.2 2	100	4029.6	23/2 ⁺	E2	5882.8	(37/2 ⁻)	488.3 2	100	5394.2	(35/2 ⁻)	(M1,E2)
4929.2	(31/2 ⁻)	813.0 2	100	4116.2	(27/2 ⁻)	E2			945.7 2	100	4937.1	(33/2 ⁻)	(E2)
4937.1	(33/2 ⁻)	427.6 2	100 50	4509.4	(31/2 ⁻)	(M1,E2)	6009.2	(33/2 ⁺)	437.1 2	100	5572.1	(31/2 ⁺)	(M1,E2)
		830.5 2	<100	4106.6	(29/2 ⁻)	(E2)	6121.4	(33/2 ⁺)	938.6 2	100	5182.8	(29/2 ⁺)	(E2)
5027.9	(27/2 ⁺)	472.2 2	100	4555.32	(25/2 ⁺)	(M1,E2)	6403.6	(39/2 ⁻)	520.3 2	100	5882.8	(37/2 ⁻)	(M1,E2)
		1026.8 2	100	4001.49	(23/2 ⁺)	(E2)			1009.5 2	100	5394.2	(35/2 ⁻)	(E2)
5170.2		1093.5 2	100	4076.6			6762.4	(35/2 ⁺)	938.7 2	100	5823.7	(31/2 ⁺)	(E2)
5172.4	(29/2 ⁺)	413.4 2	100	4759.0	27/2 ⁺	(M1,E2)	6829.3	(39/2 ⁻)	992.1 2	100	5837.2	(35/2 ⁻)	(E2)
5182.8	(29/2 ⁺)	886.2 2	100	4296.6	(25/2 ⁺)	E2	6950.9	(41/2 ⁻)	546.9 2	100	6403.6	(39/2 ⁻)	(M1,E2)
5394.2	(35/2 ⁻)	456.9 2	100	4937.1	(33/2 ⁻)	(M1,E2)			1068.5 2	100	5882.8	(37/2 ⁻)	(E2)
		885.0 2	100	4509.4	(31/2 ⁻)	(E2)	7116.8	(37/2 ⁺)	995.4 2	100	6121.4	(33/2 ⁺)	(E2)
5572.1	(31/2 ⁺)	399.7 2	100	5172.4	(29/2 ⁺)	(M1,E2)	7905.8	(43/2 ⁻)	1076.5 2	100	6829.3	(39/2 ⁻)	(E2)
5823.7	(31/2 ⁺)	921.9 2	100	4901.8	27/2 ⁺	(E2)	8184.6	(41/2 ⁺)	1067.8 2	100	7116.8	(37/2 ⁺)	
5837.2	(35/2 ⁻)	908.0 2	100	4929.2	(31/2 ⁻)	(E2)							

[†] From weighted average of all available data.

[‡] From ce and DCO in (HI,xn γ).

[#] From $\gamma(\theta)$ in (α ,2n γ).

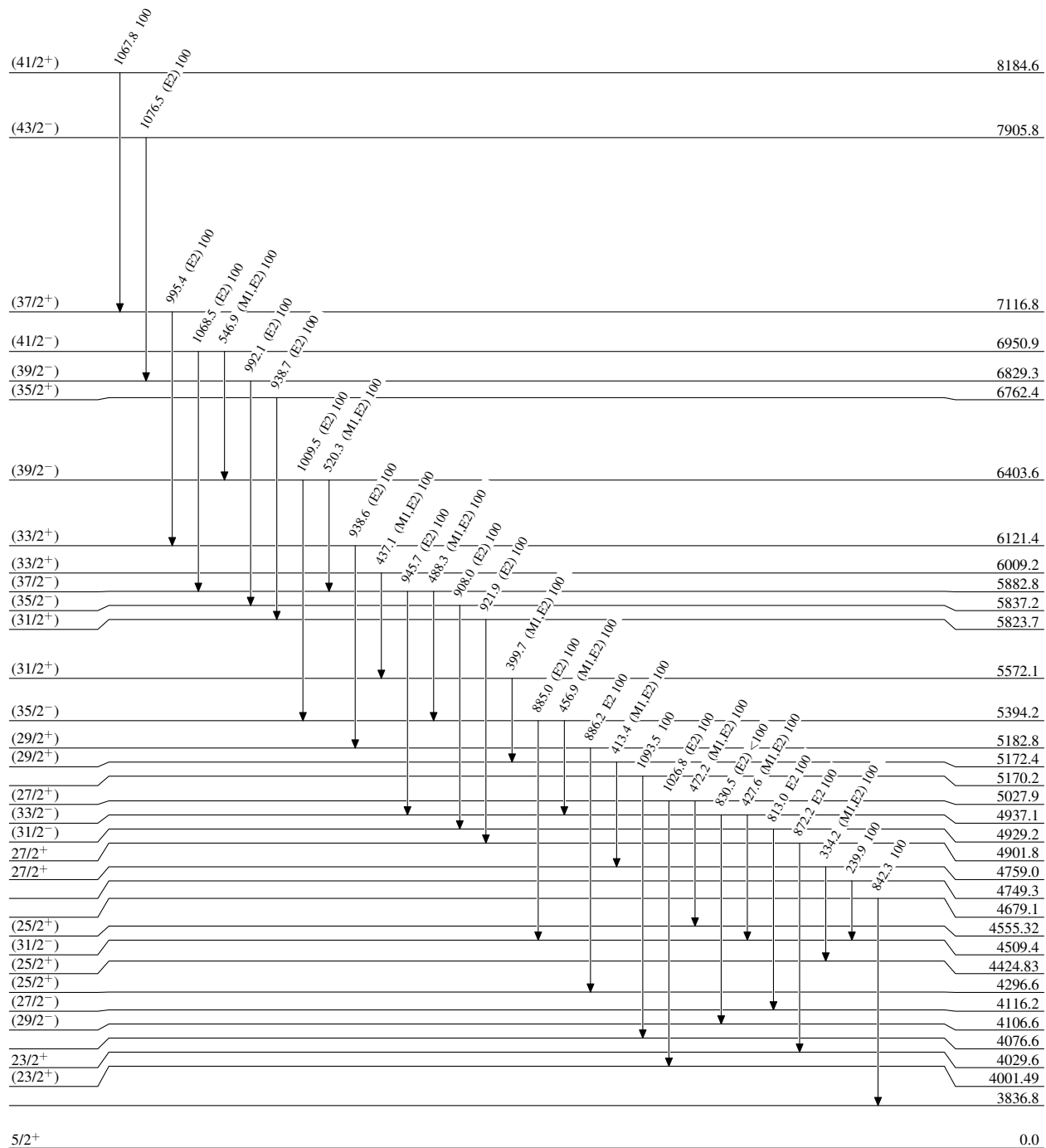
[@] Photon branching ratios for each level.

[&] 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.

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

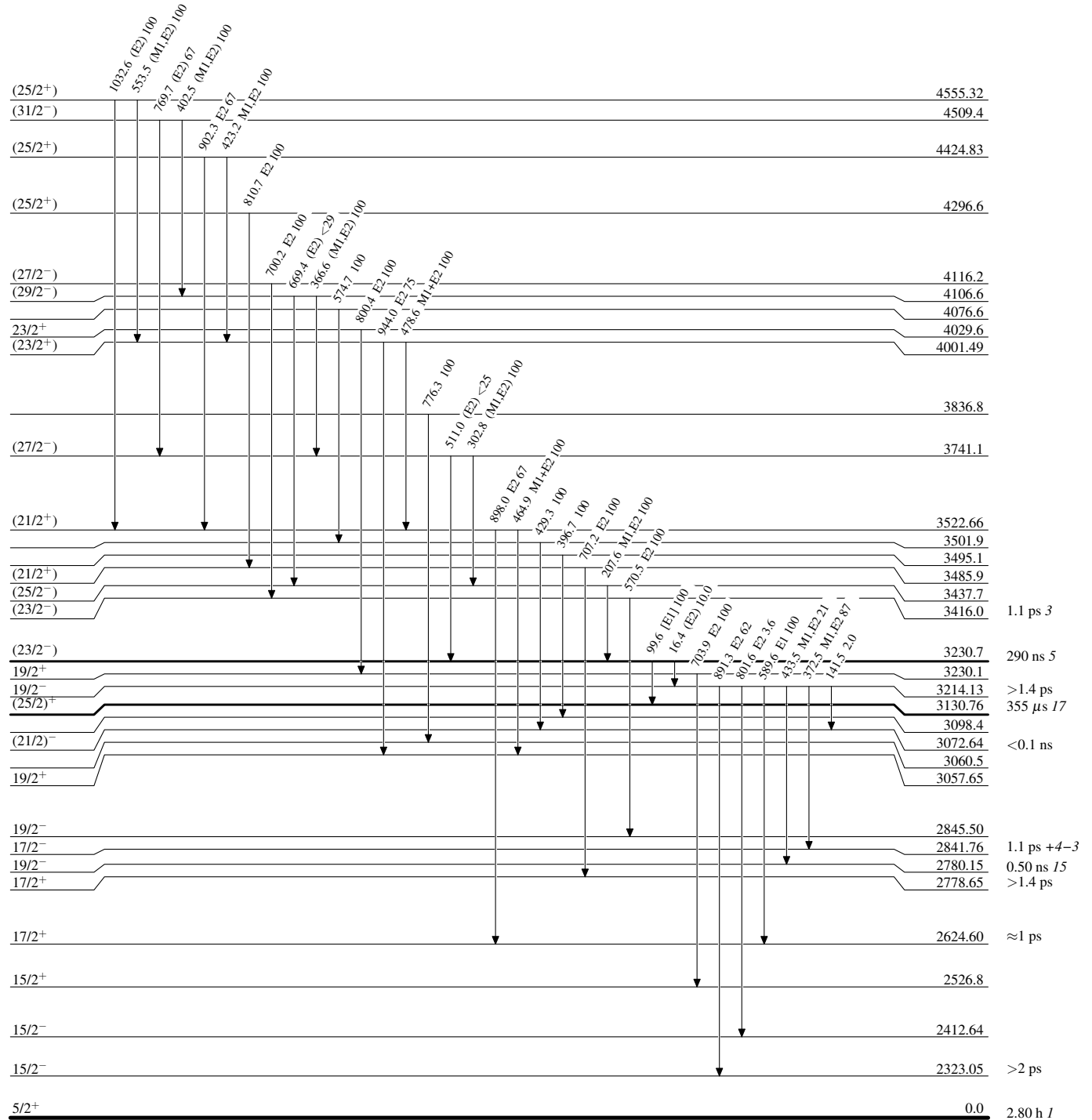
Adopted Levels, GammasLevel Scheme

Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level

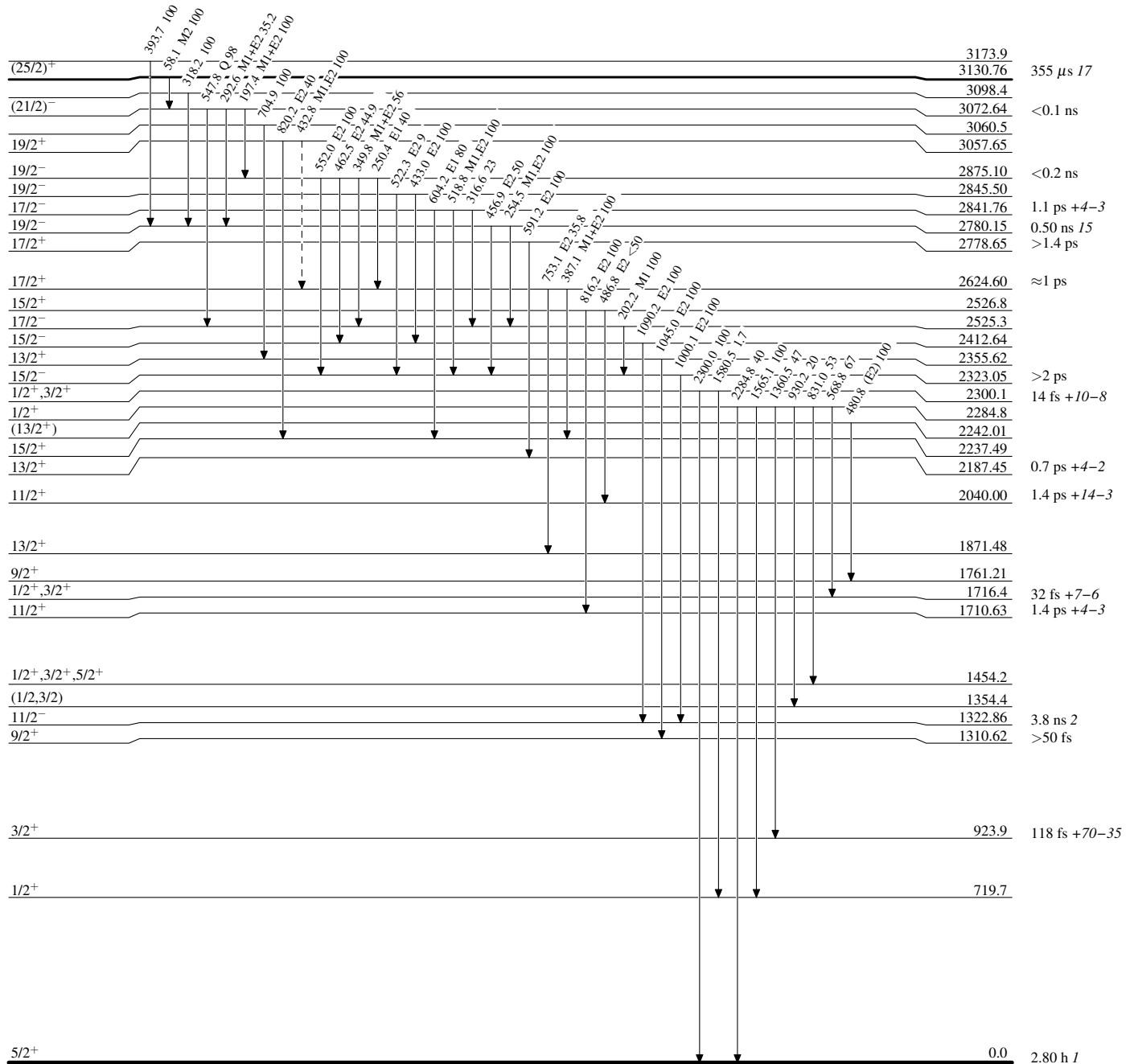


Adopted Levels, Gammas

Legend

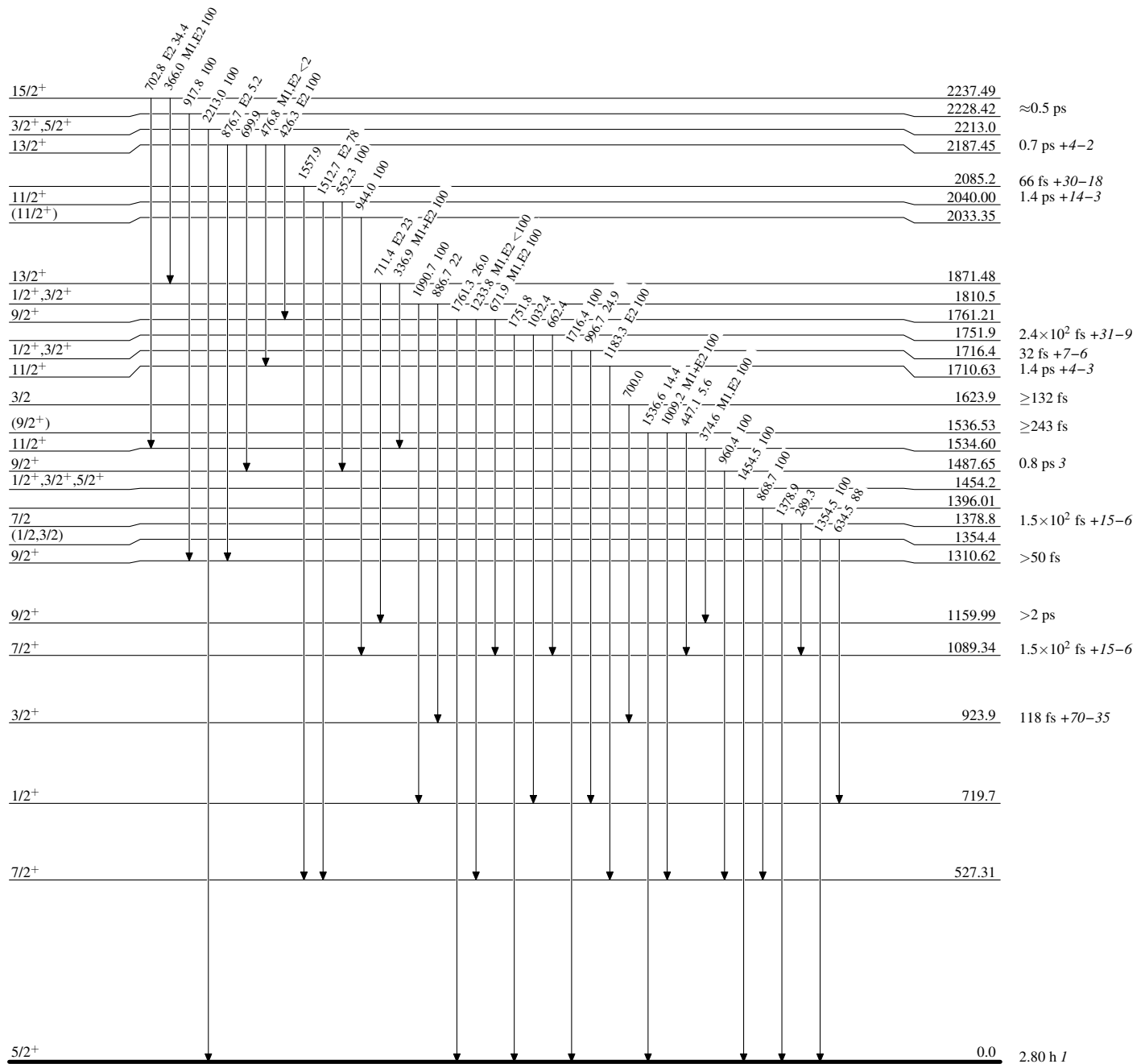
Level Scheme (continued)

Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)

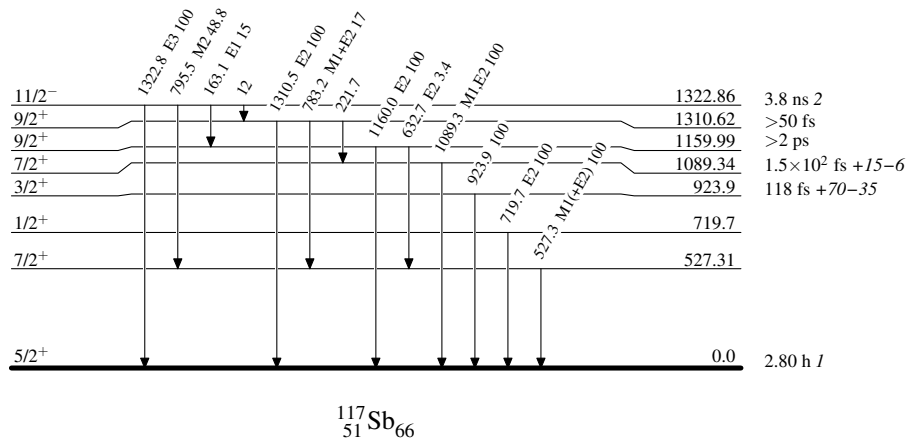
Adopted Levels, GammasLevel Scheme (continued)

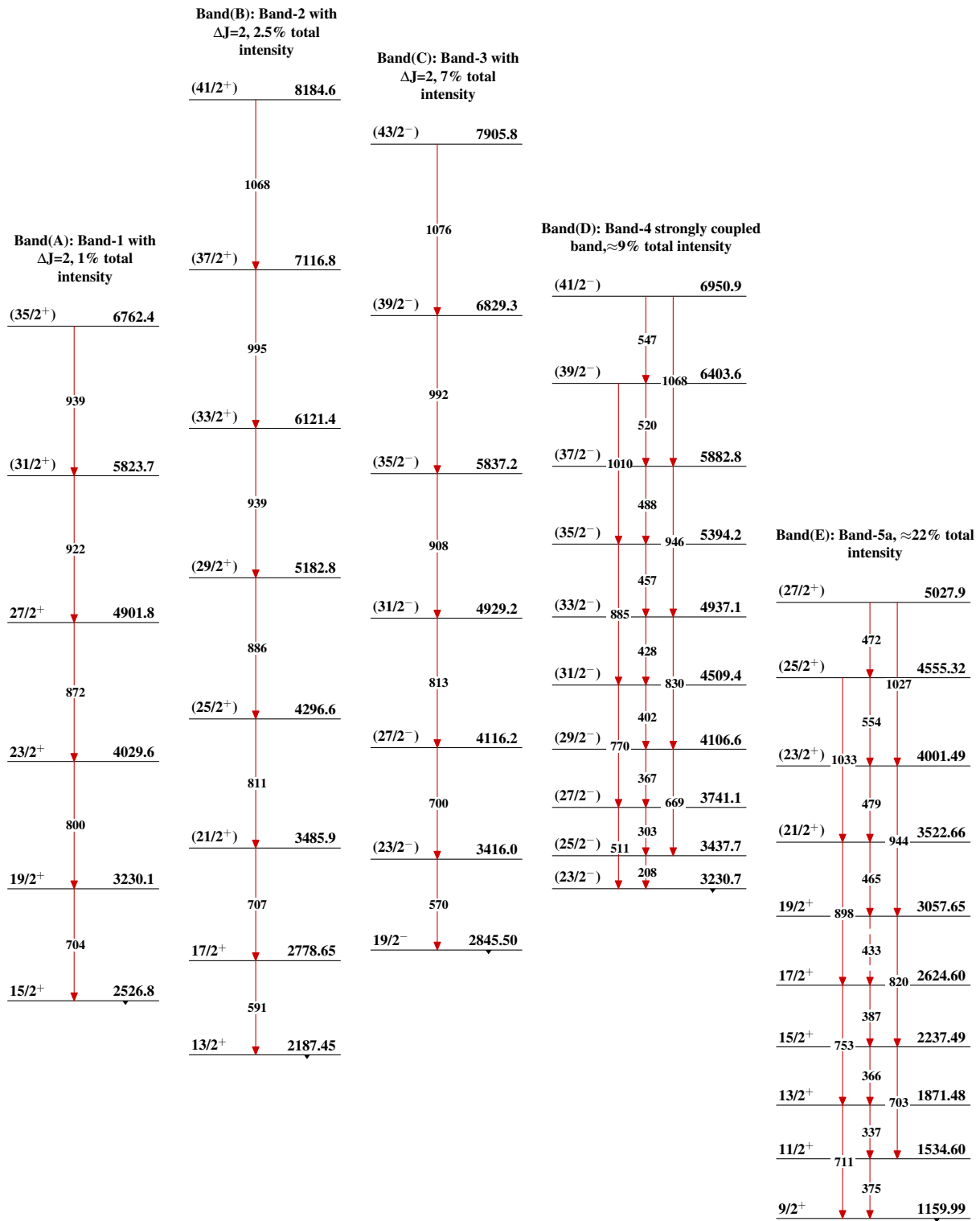
Intensities: Relative photon branching from each level



Adopted Levels, Gammas**Level Scheme (continued)**

Intensities: Relative photon branching from each level



Adopted Levels, Gammas

Adopted Levels, Gammas (continued)