Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 110,507 (2009)	1-Oct-2008

Q(β^-)=−2660 *3*; S(n)=6757.1 *3*; S(p)=6524 *3*; Q(α)=1117 *4* 2012Wa38
Note: Current evaluation has used the following Q record −2659.3 276757.1 *3* 6525.6 *261115* 4 2003Au03.
Production cross section in ^{238}U(p,X): 2004AdZX.

^{145}Sm Levels

Cross Reference (XREF) Flags

A	^{146}Sm(pol d,t)	E	^{144}Sm(n,γ) E=thermal	I	^{145}Nd(α,4nγ)
B	^{145}Eu ε decay	F	^{144}Sm(d,p),(d,pγ)	J	^{124}Sn(^{29}Si,α4nγ):SD
C	^{142}Nd(α,nγ)	G	^{144}Sm(α,^{3}He)	K	(HI,xnγ)
D	^{144}Nd(α,3nγ)	H	^{144}Sm(^{13}C,^{12}C)		

E(level)‡	Jπ†	$T_{1/2}$[a]	XREF	Comments
0.0	7/2−	340 d *3*	BCDEFGHI K	%ε=100 μ=−1.11 *6* (1989Ra17,1992Le09); Q=−0.60 *17* (1992Le09) μ: Other: 0.92 *6* (1989Ra17), −1.123 *11* (1990En01). Q: others: −0.59 *17* (1989Ra17), −0.60 *7* (1990En01). Jπ: L=3 in (d,p), atomic beam (1978LeZA). Configuration=(ν $p_{3/2}$) (1997Ga22). $T_{1/2}$: from 1959Br65.
893.788 *18*	3/2−	36 ps *12*	BCDEFGH	Jπ: L=1 in (d,p), γ to 7/2− is ΔJ=2, E2. Configuration=(ν $p_{3/2}$) (1997Ga22). $T_{1/2}$: from 1975Be09 (^{145}Eu ε decay).
1105.03 *16*	13/2+	13.5 ns *15*	CD FG I K	Jπ: L=6 in (d,p); γ to 7/2− is E3 ($\gamma(\theta)$ and RUL in (α,3nγ)). $T_{1/2}$: from (α,3nγ). Other: 14 ns (HI,xnγ).
1423.24 *3*	9/2−		BCD FG	Jπ: L=5 in (d,p), γ to 7/2− is M1. Configuration=(ν $h_{9/2}$) (1997Ga22).
1436.363 *25*	1/2+&		ABC	Jπ: γ to 3/2− is E1, $\gamma\gamma(\theta)$.
1538.04 *16*	11/2−		CD K	Jπ: γ to 7/2− is ΔJ=2, Q; γ to 13/2+.
1547.302 *23*	3/2+&		ABC	Jπ: γ to 1/2+ is M1+E2.
1607.28 *3*	1/2−#		B EF H	Jπ: L=1 in (d,p).
1627.74 *4*	3/2+&		ABC	Jπ: γ to 1/2+ is M1+E2.
1658.563 *20*	5/2−@		BC F H	Jπ: L=3 in (d,p), γ to 3/2− is M1+E2.
1706.13 *19*	9/2−		D	Jπ: γ to 11/2− is M1+E2, γ to 7/2− is ΔJ=1 M1+E2.
1729.2 *10*	1/2+&		A C	Jπ: from $\sigma(\theta)$ in (pol d,t).
1774.07 *23*	(15/2+)		D	Jπ: γ to 13/2+ is D+Q, no γ to J<13/2.
1774.1 *3*	(9/2)−		F	
1780.32 *9*	9/2−@		BCD FG	Jπ: L=5 in (d,p), IAR data (1977Cl02).
1804.24 *4*	5/2+&		BC F	Jπ: γ to 7/2− is E1, γ to 3/2− is E1.
1848.1 *3*	9/2+&		BC F	Jπ: from $\gamma(\theta)$ in (α,nγ), details are not given.
1857.69 *3*	7/2+#&		BC f	Jπ: γ to 9/2− is E1; ε decay via 5/2+ parent.
1876.64 *4*	7/2−#@		BC f	Jπ: γ to 7/2− is M1+E2.
1950.81 *9*	−		B	Jπ: M1 to 7/2− g.s.
1963.30 *18*	1/2+,3/2+		B	Jπ: E1 to 1/2−.
1966	(11/2+)&		C	
1972.720 *20*	3/2−@		BC EF	Jπ: L=1 in (d,p), γ to 7/2− is E2.
1996.960 *24*	5/2−#		BC FGH	Jπ: L=3 in (d,p), γ to 3/2+.
2049.97 *24*	15/2−	≈3 ns	D I K	Jπ: γ to 13/2+ is ΔJ=1 M1 (from $\gamma(\theta)$ and $T_{1/2}$ in (α,3nγ)), no γ

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{145}Sm Levels (continued)

E(level)‡	Jπ†	$T_{1/2}$[a]	XREF	Comments
				to <13/2.
				$T_{1/2}$: from (α,3nγ) (1977Ha04).
2110.60 *5*	5/2⁻,7/2⁻,9/2⁻		B F	Jπ: γ to 7/2⁻ is M1.
2113.1 *8*	(11/2⁺)&		C	Jπ: from γ(θ) in (α,nγ).
2133.427 *24*	3/2⁻		B EF	Jπ: L=1 in (d,p), γ to 7/2⁻ is E2.
2155.49 *5*	(5/2⁻,7/2⁻)		B	Jπ: γ to 3/2⁻, M1 to 7/2⁻.
2160.3 *5*	1/2⁻		EF H	Jπ: L=1 in (d,p), IAR data in (p,p′) (1977Cl02).
2192.99 *5*	5/2⁻,7/2⁻,9/2⁻		B F	Jπ: γ to 7/2⁻ is M1.
2230.0 *3*	17/2⁻		D I K	Jπ: γ to 15/2⁻ is ΔJ=1, M1; no γ to J<15/2.
2276.55 *4*	5/2⁺#		B	Jπ: γ to 7/2⁻ is E1+(M2).
2292.82 *12*	9/2⁺		B F	Jπ: L=4 in (d,p), no γ to J≤5/2.
2329.30 *9*	5/2⁻,7/2⁻,3/2⁻		B	Jπ: γ to 7/2⁻ is E2,M1; log *ft*=8.4 via 5/2⁺ parent.
2340.62 *7*			B	
2346.39 *3*	5/2⁻		B F	Jπ: γ to 7/2⁻ is M1+(E2), γ to 3/2⁻ is M1+(E2).
2385.89 *4*	3/2⁺		B	Jπ: γ to 1/2⁺ is M1, γ to 5/2⁻.
2387.61 *7*	(⁻)		B F	Jπ: (M1) γ to 7/2⁻ g.s.
2425.96 *3*	5/2⁻		B F	Jπ: L=3 in (d,p), γ to 3/2⁻ is M1.
2437.99 *24*	17/2⁺		D I K	Jπ: γ to 13/2⁺ is ΔJ=2, E2.
2455	(11/2⁻)		C	Jπ: configuration=$(\nu\ h_{11/2})^{-1}$ (1997Ga22).
2482.15 *6*			B F	
2508.31 *7*	5/2⁻,7/2⁻		B f	Jπ: γ to 7/2⁻ is M1+E2, γ to 3/2⁻.
2512.97 *9*	⁻		B	Jπ: γ to 7/2⁻ is M1,E2.
2558.88 *10*			B F	
2629 *15*			F	
2670.0 *11*	(13/2⁺)&		C FG	Jπ: L=6 component in (d,p), L=6 in (α,^{3}He).
2678.3 *5*	1/2⁻,3/2⁻		EF	Jπ: L=1 in (d,p), primary γ in (n,γ) E=thermal.
2710.5 *3*	19/2⁻		D I K	Jπ: γ to 17/2⁻ is ΔJ=1, M1; no γ to J<17/2.
2713 *30*	(13/2)⁺		G	Jπ: L=6 in (α,^{3}He).
2724 *16*			F	
2750 *18*			F	
2797 *12*			F	
2810.5 *4*	(15/2)		K	
2824 *14*			F	
2842 *19*			F	
2899.2 *6*			K	
2926 *13*			F	
2931.2 *3*	21/2⁺		D I K	Jπ: γ to 17/2⁺ is ΔJ=2, E2; γ to 19/2 is ΔJ=1, E1.
2960 *16*			F	
2964.3 *5*	19/2(+)		D I K	Jπ: γ to 17/2⁻ is ΔJ=1, D; calc.
2978.8 *3*	21/2⁺	0.12 ns	D I K	Jπ: γ to 19/2 is ΔJ=1, E1; no γ to J≤15/2.
3018 *13*			F	
3029.8 *5*			K	
3096 *10*			F	Jπ: L=3 in (d,p), J^π=1/2⁻ from IAR in (p,p′) (1977Cl02).
3119.6 *3*	23/2⁺		D I K	Jπ: γ to 21/2⁺ is ΔJ=1, M1; no γ to J<21/2.
3131 *10*	(3/2)⁻		F	Jπ: L(d,p)=1.
3140.1 *5*	3/2⁻		EF	Jπ: L=1 in (d,p); IAR data in (p,p′) (1977Cl02).
3140.9 *5*			K	
3183 *15*			F	
3246 *20*			F	
3275 *20*			F	
3302 *13*			F	
3323.1 *5*	(21/2)		I K	
3335 *17*			F	
3366 *14*			F	
3369.3 *4*	25/2⁺		D	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{145}Sm Levels (continued)

E(level)[‡]	Jπ[†]	$T_{1/2}$[a]	XREF	Comments
3375.9 *7*			K	
3397 *14*			F	
3433 *17*			F	
3446 *20*			F	
3480 *20*			F	
3483.8 *4*	25/2$^+$		D I K	Jπ: γ to 23/2$^+$ is ΔJ=1, M1; no γ to J<23/2.
3506 *20*			F	
3534 *20*			F	
3558 *14*			F	
3596 *14*			F	
3633 *21*			F	
3655 *21*			F	
3679 *14*			F	
3726 *14*			F	
3783 *15*			F	
3833 *15*			F	
3856 *21*			F	
3882 *15*			F	
3916 *20*			F	
3922.4 *5*	27/2$^+$	1.1 ns *2*	K	$T_{1/2}$: from 1998El11 using recoil distance method in ^{139}La(^{10}B,4nγ).
4010 *20*			F	
4027 *15*			F	
4228.8 *5*	(27/2)		K	
4316.1 *6*			K	
4390.0 *6*			K	
4421.3 *5*	29/2$^+$		K	
4587.4 *8*			K	
4647.6 *6*	(29/2)		K	
4740.9 *5*	(29/2)		K	
4868.8 *7*	(29/2)		K	
5029.9 *5*	(31/2)		K	
5031.9 *5*	(31/2)		K	
5248.4 *6*	(31/2)		K	
5507.1 *5*	(33/2)		K	
5525.6 *6*			K	
5680.8 *6*	(33/2)		K	
5719.7 *6*			K	
5904.2 *6*	(35/2)		K	
5956.5 *6*			K	
6122.6 *7*			K	
6216.9 *6*	(37/2)		K	
6362.2 *6*	(37/2)		K	
6720.5 *6*	(39/2)		K	
6757.7 *7*	(39/2)		K	
7328.1 *7*	(43/2)		K	
7404.9 *7*	(41/2)		K	
7449.7 *8*	(41/2)		K	
7743.7 *8*	(45/2)		K	
7804.4 *8*	(45/2)		K	
7927.1 *7*	(41/2)		K	
8073.5 *9*	(47/2)		K	
8190.6 *8*	(45/2)		K	
8333.9 *7*	(45/2)		K	
8377.8 *9*	(47/2)		K	
8580.5 *9*	(47/2)		K	
8786.2 *7*	(49/2$^+$)	0.96 μs *+19−15*	K	%IT=100 $T_{1/2}$: from 1993Fe14. $T_{1/2}$=0.95 μs shown in partial level scheme

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{145}Sm Levels (continued)

E(level)‡	Jπ†	$T_{1/2}$[a]	XREF	Comments
				(2002Go06). Jπ: Shape Isomer. Expected configuration=((NU f7/2 $h_{9/2}$)$^{i13/2}$(π $h_{11/2}$)^2) from syst of N=83 nuclides (2005Od03). Studied odd-even staggering with Z for shape isomers and found it similar to gs (2005Od04).
9980.7 *9*	(53/2)		K	
10251.0 *10*			K	
11147.5 *11*		7.4 ns *10*	K	$T_{1/2}$: from 1999Je02.
11455.6 *11*			K	
12078.1 *12*			K	
12335.3 *12*			K	
12718.6 *13*			K	
12820.6 *13*			K	
14044.5 *14*			K	
14428.4 *14*			K	
14559.4 *15*			K	
x[b]	J		J	Additional information 1. E(level): x>8786 isomer (1998Ha02).
1011.3+x[b] *4*	J+2		J	
2049.9+x[b] *6*	J+4		J	
3135.7+x[b] *8*	J+6		J	
4272.7+x[b] *10*	J+8		J	
5460.7+x[b] *14*	J+10		J	
6700.5+x[b] *15*	J+12		J	
7993.8+x[b] *16*	J+14		J	
9342.5+x[b] *16*	J+16		J	
10743.7+x[b] *18*	J+18		J	
12199.9+x[b] *19*	J+20		J	
13716+x[b] *3*	J+22		J	
15283+x[b] *3*	J+24		J	
y[c]	J1		J	Additional information 2. E(level): y>8786 isomer (1998Ha02).
945.1+y[c] *8*	J1+2		J	
1939.1+y[c] *22*	J1+4		J	
2983.9+y[c] *23*	J1+6		J	
4084.0+y[c] *25*	J1+8		J	
5233+y[c] *4*	J1+10		J	
6439+y[c] *4*	J1+12		J	
7699+y[c] *4*	J1+14		J	
9017+y[c] *4*	J1+16		J	
10388+y[c] *4*	J1+18		J	
11818+y[c] *5*	J1+20		J	

† Unless specific arguments are given the J^π assignments are from (HI,xnγ) reaction or super-deformed band studies.
‡ Deduced by evaluators from least-squares fit to adopted γ-ray energies, unless otherwise specified.
# From $\gamma(\theta)$ in ε decay of ^{145}Eu oriented nuclei (1982De26).
@ Component of $2^+\otimes(\nu,f7/2)$ multiplet.
& Component of $3^-\otimes(\nu,f7/2)$ multiplet.
[a] from 1998El11, Recoil Distance Method (RDM), unless given otherwise.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{145}Sm Levels (continued)

[b] Band(A): SD-1 band (1998Ha02).
[c] Band(B): SD-2 band (1998Ha02).

Adopted Levels, Gammas (continued)

$\gamma(^{145}Sm)$

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
893.788	$3/2^-$	893.73 *3*	100	0.0	$7/2^-$	E2		0.00316 *5*	B(E2)(W.u.)=0.61 *21* α(K)=0.00267 *4*; α(L)=0.000385 *6*; α(M)=8.29×10^{-5} *12*; α(N+..)=2.16×10^{-5} *3* α(N)=1.87×10^{-5} *3*; α(O)=2.76×10^{-6} *4*; α(P)=1.586×10^{-7} *23*
1105.03	$13/2^+$	1105.0 *2*	100	0.0	$7/2^-$	E3		0.00419 *6*	α(K)=0.00348 *5*; α(L)=0.000552 *8*; α(M)=0.0001200 *17*; α(N+..)=3.13×10^{-5} *5* α(N)=2.71×10^{-5} *4*; α(O)=3.97×10^{-6} *6*; α(P)=2.16×10^{-7} *3*; α(IPF)=6.84×10^{-8} *12* B(E3)(W.u.)=36 *4*
1423.24	$9/2^-$	1423.19 *5*	100	0.0	$7/2^-$	M1(+E2)	+0.48 *+6−3*	0.00169 *3*	α(K)=0.00140 *3*; α(L)=0.000184 *4*; α(M)=3.93×10^{-5} *8*; α(N+..)=6.46×10^{-5} *10* α(N)=8.92×10^{-6} *17*; α(O)=1.343×10^{-6} *25*; α(P)=8.56×10^{-8} *17*; α(IPF)=5.43×10^{-5} *8*
1436.363	$1/2^+$	542.57 *3*	100	893.788	$3/2^-$	E1		0.00359 *5*	α(K)=0.00308 *5*; α(L)=0.000406 *6*; α(M)=8.65×10^{-5} *13*; α(N+..)=2.26×10^{-5} *4* α(N)=1.95×10^{-5} *3*; α(O)=2.90×10^{-6} *4*; α(P)=1.752×10^{-7} *25*
1538.04	$11/2^-$	433.0 *3*	22 *9*	1105.03	$13/2^+$				
		1538.0 *2*	100 *13*	0.0	$7/2^-$	Q			
1547.302	$3/2^+$	110.943 *24*	12.8 *7*	1436.363	$1/2^+$	M1+E2	−1.98 *6*	1.538	α(K)=0.924 *13*; α(L)=0.477 *8*; α(M)=0.1097 *19*; α(N+..)=0.0273 *5* α(N)=0.0241 *4*; α(O)=0.00309 *5*; α(P)=4.45×10^{-5} *7*
		653.512 *25*	100 *5*	893.788	$3/2^-$	E1		0.00240 *4*	α(K)=0.00206 *3*; α(L)=0.000270 *4*; α(M)=5.74×10^{-5} *8*; α(N+..)=1.502×10^{-5} *21* α(N)=1.297×10^{-5} *19*; α(O)=1.93×10^{-6} *3*; α(P)=1.182×10^{-7} *17*
		1547.30 *8*	0.36 *3*	0.0	$7/2^-$	M2+E3	+0.62 *+12−10*	0.00292 *11*	α(K)=0.00245 *9*; α(L)=0.000338 *12*; α(M)=7.25×10^{-5} *25*; α(N+..)=5.81×10^{-5} *10* α(N)=1.64×10^{-5} *6*; α(O)=2.47×10^{-6} *9*; α(P)=1.54×10^{-7} *6*; α(IPF)=3.90×10^{-5} *6*
1607.28	$1/2^-$	713.48 *5*	100	893.788	$3/2^-$	M1		0.00888 *13*	α(K)=0.00759 *11*; α(L)=0.001020 *15*; α(M)=0.000218 *3*; α(N+..)=5.74×10^{-5} *8* α(N)=4.95×10^{-5} *7*; α(O)=7.45×10^{-6} *11*; α(P)=4.72×10^{-7} *7*
1627.74	$3/2^+$	80.46 *10*	2.42 *22*	1547.302	$3/2^+$				
		191.38 *3*	100 *5*	1436.363	$1/2^+$	M1+E2	+0.084 *16*	0.272	α(K)=0.231 *4*; α(L)=0.0326 *5*; α(M)=0.00700 *10*; α(N+..)=0.00184 *3*

$^{145}_{62}Sm_{83}$-6

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
									α(N)=0.001586 *23*; α(O)=0.000238 *4*; α(P)=1.466×10^{-5} *21*
1627.74	3/2$^+$	733.5 *4*	0.15 *6*	893.788	3/2$^-$	E1,M2		0.012 *11*	α(K)=0.010 *9*; α(L)=0.0015 *13*; α(M)=0.0003 *3*; α(N+..)=9.E−5 *8*
									α(N)=7.E−5 *7*; α(O)=1.1×10^{-5} *10*; α(P)=7.E−7 *6*
1658.563	5/2$^-$	764.74 *4*	11.3 *6*	893.788	3/2$^-$	M1+E2	+0.16 *7*	0.00742 *13*	α(K)=0.00634 *12*; α(L)=0.000852 *15*; α(M)=0.000182 *3*; α(N+..)=4.79×10^{-5} *8*
									α(N)=4.13×10^{-5} *7*; α(O)=6.22×10^{-6} *11*; α(P)=3.94×10^{-7} *7*
		1658.53 *5*	100 *5*	0.0	7/2$^-$	M1+E2	−2.07 *6*	0.001107 *16*	α(K)=0.000830 *12*; α(L)=0.0001095 *16*; α(M)=2.33×10^{-5} *4*; α(N+..)=0.000143
									α(N)=5.28×10^{-6} *8*; α(O)=7.93×10^{-7} *12*; α(P)=4.98×10^{-8} *8*; α(IPF)=0.0001377 *20*
1706.13	9/2$^-$	168.0 *3*	54 *12*	1538.04	11/2$^-$	M1+E2		0.383 *9*	α(K)=0.29 *4*; α(L)=0.070 *24*; α(M)=0.016 *6*; α(N+..)=0.0040 *14*
									α(N)=0.0035 *12*; α(O)=0.00048 *14*; α(P)=1.7×10^{-5} *5*
		283.1 *3*	27 *4*	1423.24	9/2$^-$				
		1706.0 *3*	100 *23*	0.0	7/2$^-$	M1+E2		0.00117 *15*	α(K)=0.00086 *13*; α(L)=0.000113 *16*; α(M)=2.4×10^{-5} *4*; α(N+..)=0.000169 *10*
									α(N)=5.5×10^{-6} *8*; α(O)=8.2×10^{-7} *12*; α(P)=5.2×10^{-8} *8*; α(IPF)=0.000163 *9*
1729.2	1/2$^+$	835.4	100	893.788	3/2$^-$				
1774.07	(15/2$^+$)	669.0 *3*	100 *17*	1105.03	13/2$^+$	D+Q			
1774.1	(9/2)$^-$	1774.1	100	0.0	7/2$^-$				
1780.32	9/2$^-$	1780.27 *10*	100	0.0	7/2$^-$				
1804.24	5/2$^+$	176.62 *9*	0.74 *6*	1627.74	3/2$^+$				
		256.89 *7*	2.03 *19*	1547.302	3/2$^+$	M1		0.1223	α(K)=0.1039 *15*; α(L)=0.01446 *21*; α(M)=0.00310 *5*; α(N+..)=0.000816 *12*
									α(N)=0.000704 *10*; α(O)=0.0001056 *15*; α(P)=6.58×10^{-6} *10*
		910.47 *11*	6.4 *4*	893.788	3/2$^-$	E1		0.001233 *18*	α(K)=0.001059 *15*; α(L)=0.0001367 *20*; α(M)=2.90×10^{-5} *4*; α(N+..)=7.61×10^{-6}
									α(N)=6.57×10^{-6} *10*; α(O)=9.82×10^{-7} *14*; α(P)=6.12×10^{-8} *9*
		1804.26 *5*	100 *5*	0.0	7/2$^-$	E1		0.000804 *12*	α(K)=0.000318 *5*; α(L)=4.01×10^{-5} *6*; α(M)=8.50×10^{-6} *12*; α(N+..)=0.000438 *7*
									α(N)=1.92×10^{-6} *3*; α(O)=2.89×10^{-7} *4*; α(P)=1.85×10^{-8} *3*; α(IPF)=0.000436 *6*
1848.1	9/2$^+$	1848.1 *3*	100	0.0	7/2$^-$				
1857.69	7/2$^+$	199.14 *3*	7.6 *8*	1658.563	5/2$^-$				
		434.43 *4*	43.4 *24*	1423.24	9/2$^-$	E1		0.00596 *9*	α(K)=0.00510 *8*; α(L)=0.000680 *10*; α(M)=0.0001450 *21*; α(N+..)=3.78×10^{-5} *6*
									α(N)=3.27×10^{-5} *5*; α(O)=4.84×10^{-6} *7*; α(P)=2.87×10^{-7} *4*
		963.8 *3*	0.17 *5*	893.788	3/2$^-$				

$^{145}_{62}Sm_{83}$-7

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
1857.69	7/2$^+$	1857.66 *5*	100 *5*	0.0	7/2$^-$	E1		0.000827 *12*	α(K)=0.000303 *5*; α(L)=3.82×10^{-5} *6*; α(M)=8.10×10^{-6} *12*; α(N+..)=0.000477 *7* α(N)=1.83×10^{-6} *3*; α(O)=2.76×10^{-7} *4*; α(P)=1.765×10^{-8} *25*; α(IPF)=0.000475 *7*
1876.64	7/2$^-$	218.11 *9*	0.69 *10*	1658.563	5/2$^-$				
		249.5 *6*		1627.74	3/2$^+$				
		269.1 *3*	0.02 *1*	1607.28	1/2$^-$				
		453.42 *6*	2.66 *20*	1423.24	9/2$^-$	M1+(E2)	+0.03 *12*	0.0276 *5*	α(K)=0.0235 *4*; α(L)=0.00321 *5*; α(M)=0.000688 *11*; α(N+..)=0.000181 *3* α(N)=0.0001560 *24*; α(O)=2.34×10^{-5} *4*; α(P)=1.47×10^{-6} *3*
		982.62 *16*	0.15 *5*	893.788	3/2$^-$				
		1876.67 *6*	100 *5*	0.0	7/2$^-$	M1+E2	−1.29 *+6−7*	0.001039 *16*	α(K)=0.000685 *11*; α(L)=8.95×10^{-5} *14*; α(M)=1.91×10^{-5} *3*; α(N+..)=0.000246 *4* α(N)=4.32×10^{-6} *7*; α(O)=6.50×10^{-7} *10*; α(P)=4.13×10^{-8} *7*; α(IPF)=0.000241 *4*
1950.81	−	292.25 *9*	100 *10*	1658.563	5/2$^-$				
		1950.76 *21*	51 *5*	0.0	7/2$^-$	M1		0.001143 *16*	α(K)=0.000728 *11*; α(L)=9.48×10^{-5} *14*; α(M)=2.02×10^{-5} *3*; α(N+..)=0.000301 *5* α(N)=4.58×10^{-6} *7*; α(O)=6.91×10^{-7} *10*; α(P)=4.45×10^{-8} *7*; α(IPF)=0.000295 *5*
1963.30	1/2$^+$,3/2$^+$	355.2 *4*	100	1607.28	1/2$^-$	E1		0.00966 *14*	α(K)=0.00825 *12*; α(L)=0.001111 *16*; α(M)=0.000237 *4*; α(N+..)=6.17×10^{-5} *9* α(N)=5.34×10^{-5} *8*; α(O)=7.87×10^{-6} *12*; α(P)=4.59×10^{-7} *7*
1972.720	3/2$^-$	314.13 *3*	10.4 *6*	1658.563	5/2$^-$	M1+(E2)	+0.04 *+27−29*	0.0715 *22*	α(K)=0.0608 *22*; α(L)=0.00842 *12*; α(M)=0.00181 *3*; α(N+..)=0.000475 *7* α(N)=0.000409 *6*; α(O)=6.15×10^{-5} *10*; α(P)=3.84×10^{-6} *17*
		344.92 *10*	2.1 *3*	1627.74	3/2$^+$				
		365.51 *5*	11.5 *8*	1607.28	1/2$^-$	M1+E2	−2.2 *+7−13*	0.0339 *24*	α(K)=0.0275 *23*; α(L)=0.00501 *13*; α(M)=0.001101 *24*; α(N+..)=0.000283 *7* α(N)=0.000247 *6*; α(O)=3.50×10^{-5} *12*; α(P)=1.58×10^{-6} *17*
		425.48 *7*	4.2 *3*	1547.302	3/2$^+$	E1		0.00626 *9*	α(K)=0.00535 *8*; α(L)=0.000715 *10*; α(M)=0.0001524 *22*; α(N+..)=3.98×10^{-5} *6* α(N)=3.44×10^{-5} *5*; α(O)=5.08×10^{-6} *8*; α(P)=3.01×10^{-7} *5*
		536.15 *10*	6.0 *14*	1436.363	1/2$^+$				

$^{145}_{62}Sm_{83}$-8

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
1972.720	3/2⁻	1078.91 *3*	100 *5*	893.788	3/2⁻	M1+E2	+0.04 *1*	0.00329 *5*	α(K)=0.00281 *4*; α(L)=0.000373 *6*; α(M)=7.97×10^{-5} *12*; α(N+..)=2.10×10^{-5} *3* α(N)=1.81×10^{-5} *3*; α(O)=2.72×10^{-6} *4*; α(P)=1.738×10^{-7} *25*
		1972.77 *4*	22.2 *14*	0.0	7/2⁻	E2		0.000935 *13*	α(K)=0.000566 *8*; α(L)=7.38×10^{-5} *11*; α(M)=1.570×10^{-5} *22*; α(N+..)=0.000280 α(N)=3.56×10^{-6} *5*; α(O)=5.34×10^{-7} *8*; α(P)=3.37×10^{-8} *5*; α(IPF)=0.000276 *4*
1996.960	5/2⁻	120.44 *8*	0.24 *9*	1876.64	7/2⁻				
		338.37 *3*	0.75 *5*	1658.563	5/2⁻	M1+E2	+1.9 *+14−8*	0.043 *5*	α(K)=0.035 *5*; α(L)=0.00647 *16*; α(M)=0.00142 *3*; α(N+..)=0.000366 *9* α(N)=0.000319 *7*; α(O)=4.51×10^{-5} *18*; α(P)=2.0×10^{-6} *4*
		449.7 *4*		1547.302	3/2⁺				
		573.55 *12*	0.09 *2*	1423.24	9/2⁻				
		1103.12 *25*	0.08 *1*	893.788	3/2⁻				
		1997.00 *4*	100 *6*	0.0	7/2⁻	M1+E2	+0.241 *11*	0.001115 *16*	α(K)=0.000683 *10*; α(L)=8.90×10^{-5} *13*; α(M)=1.89×10^{-5} *3*; α(N+..)=0.000323 *5* α(N)=4.30×10^{-6} *6*; α(O)=6.48×10^{-7} *10*; α(P)=4.17×10^{-8} *6*; α(IPF)=0.000318 *5*
2049.97	15/2⁻	944.9 *2*	100	1105.03	13/2⁺	E1		0.001148 *16*	B(E1)(W.u.)≈9.7×10^{-8} α(K)=0.000987 *14*; α(L)=0.0001271 *18*; α(M)=2.70×10^{-5} *4*; α(N+..)=7.08×10^{-6} α(N)=6.11×10^{-6} *9*; α(O)=9.14×10^{-7} *13*; α(P)=5.71×10^{-8} *8*
2110.60	5/2⁻,7/2⁻,9/2⁻	674.33 *17*	0.7 *4*	1436.363	1/2⁺	M2		0.0289	α(K)=0.0243 *4*; α(L)=0.00362 *5*; α(M)=0.000784 *11*; α(N+..)=0.000206 *3* α(N)=0.0001780 *25*; α(O)=2.66×10^{-5} *4*; α(P)=1.634×10^{-6} *23*
		2110.58 *5*	100	0.0	7/2⁻	M1		0.001094 *16*	α(K)=0.000611 *9*; α(L)=7.95×10^{-5} *12*; α(M)=1.693×10^{-5} *24*; α(N+..)=0.000386 α(N)=3.84×10^{-6} *6*; α(O)=5.80×10^{-7} *9*; α(P)=3.74×10^{-8} *6*; α(IPF)=0.000381 *6*
2113.1	(11/2⁺)	575		1538.04	11/2⁻				
		690		1423.24	9/2⁻				
2133.427	3/2⁻	160.70 *6*	7.2 *6*	1972.720	3/2⁻				
		474.89 *10*	11.3 *15*	1658.563	5/2⁻				
		526.10 *4*	43.9 *27*	1607.28	1/2⁻	M1+E2	+0.31 *+10−9*	0.0183 *5*	α(K)=0.0155 *5*; α(L)=0.00214 *5*; α(M)=0.000458

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
									10; α(N+..)=0.000120 *3* α(N)=0.0001038 *23*; α(O)=1.56×10^{-5} *4*; α(P)=9.7×10^{-7} *3*
2133.427	3/2$^-$	586.06 *9*	9.3 *15*	1547.302	3/2$^+$				
		1239.60 *6*	54.9 *30*	893.788	3/2$^-$	M1+E2	−0.61 +*7*−*9*	0.00218 *6*	α(K)=0.00185 *5*; α(L)=0.000246 *6*; α(M)=5.26×10^{-5} *13*; α(N+..)=2.51×10^{-5} *5* α(N)=1.19×10^{-5} *3*; α(O)=1.79×10^{-6} *5*; α(P)=1.13×10^{-7} *3*; α(IPF)=1.124×10^{-5} *17*
		2133.42 *5*	100 *12*	0.0	7/2$^-$	E2		0.000924 *13*	α(K)=0.000491 *7*; α(L)=6.37×10^{-5} *9*; α(M)=1.354×10^{-5} *19*; α(N+..)=0.000356 *5* α(N)=3.07×10^{-6} *5*; α(O)=4.61×10^{-7} *7*; α(P)=2.92×10^{-8} *4*; α(IPF)=0.000353 *5*
2155.49	(5/2$^-$,7/2$^-$)	497.3 *4*	3.3 *6*	1658.563	5/2$^-$				
		1261.9 *2*	3.3 *6*	893.788	3/2$^-$				
		2155.46 *5*	100 *5*	0.0	7/2$^-$	M1		0.001086 *16*	α(K)=0.000584 *9*; α(L)=7.59×10^{-5} *11*; α(M)=1.615×10^{-5} *23*; α(N+..)=0.000410 α(N)=3.66×10^{-6} *6*; α(O)=5.53×10^{-7} *8*; α(P)=3.57×10^{-8} *5*; α(IPF)=0.000406 *6*
2192.99	5/2$^-$,7/2$^-$,9/2$^-$	388.95 *18*	3.3 *10*	1804.24	5/2$^+$				
		2192.96 *5*	100 *6*	0.0	7/2$^-$	M1		0.001081 *16*	α(K)=0.000562 *8*; α(L)=7.30×10^{-5} *11*; α(M)=1.555×10^{-5} *22*; α(N+..)=0.000430 α(N)=3.53×10^{-6} *5*; α(O)=5.32×10^{-7} *8*; α(P)=3.43×10^{-8} *5*; α(IPF)=0.000426 *6*
2230.0	17/2$^-$	180.0 *2*	100	2049.97	15/2$^-$	M1		0.323	Mult.: see comment in ^{145}Eu ε decay data set. α(K)=0.274 *4*; α(L)=0.0384 *6*; α(M)=0.00825 *12*; α(N+..)=0.00217 *4* α(N)=0.00187 *3*; α(O)=0.000281 *4*; α(P)=1.741×10^{-5} *25*
2276.55	5/2$^+$	729.09 *14*	26 *3*	1547.302	3/2$^+$				
		2276.54 *4*	100 *6*	0.0	7/2$^-$	E1+(M2)	+0.067 *30*	0.001026 *15*	α(K)=0.000224 *6*; α(L)=2.81×10^{-5} *7*; α(M)=5.95×10^{-6} *15*; α(N+..)=0.000768 *11* α(N)=1.35×10^{-6} *4*; α(O)=2.03×10^{-7} *5*; α(P)=1.31×10^{-8} *4*; α(IPF)=0.000766 *11*
2292.82	9/2$^+$	869.6 *3*	10 *5*	1423.24	9/2$^-$				Mult.: mult=M1,E2 suggested by 1998Om01 is in conflict with J^π.
		2292.80 *13*	100 *13*	0.0	7/2$^-$				
2329.30	5/2$^-$,7/2$^-$,3/2$^-$	2329.28 *9*	100	0.0	7/2$^-$	E2,(M1)		0.00100 *8*	α(K)=0.00046 *4*; α(L)=5.9×10^{-5} *5*; α(M)=1.26×10^{-5} *11*; α(N+..)=0.00048 *3*

$^{145}_{62}Sm_{83}$-10

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
									α(K)=0.00046 *4*; α(L)=5.9×10^{-5} *5*; α(M)=1.26×10^{-5} *11*; α(N+..)=0.00048 *3* α(N)=2.85×10^{-6} *25*; α(O)=4.3×10^{-7} *4*; α(P)=2.8×10^{-8} *3*; α(IPF)=0.00047 *3*
2340.62		185.2 *4*	2.8 *16*	2155.49	(5/2$^-$,7/2$^-$)				
		230.0 *2*	16 *4*	2110.60	5/2$^-$,7/2$^-$,9/2$^-$				
		463.7 *6*	8 *4*	1876.64	7/2$^-$				
		560.24 *13*	19 *4*	1780.32	9/2$^-$				
		917.13 *20*	5.6 *22*	1423.24	9/2$^-$				
		2340.64 *9*	100 *10*	0.0	7/2$^-$				
2346.39	5/2$^-$	212.94 *6*	10.7 *7*	2133.427	3/2$^-$	E2		0.1693	α(K)=0.1237 *18*; α(L)=0.0355 *5*; α(M)=0.00803 *12*; α(N+..)=0.00202 *3* α(N)=0.001777 *25*; α(O)=0.000237 *4*; α(P)=6.22×10^{-6} *9*
		349.43 *5*	14.1 *10*	1996.960	5/2$^-$	M1		0.0541	α(K)=0.0460 *7*; α(L)=0.00635 *9*; α(M)=0.001360 *19*; α(N+..)=0.000358 *5* α(N)=0.000308 *5*; α(O)=4.63×10^{-5} *7*; α(P)=2.90×10^{-6} *4*
		373.68 *4*	31.8 *17*	1972.720	3/2$^-$	M1+(E2)	−0.19 *+21−41*	0.045 *4*	α(K)=0.038 *4*; α(L)=0.00529 *20*; α(M)=0.00113 *4*; α(N+..)=0.000298 *11* α(N)=0.000257 *9*; α(O)=3.86×10^{-5} *18*; α(P)=2.4×10^{-6} *3*
		469.66 *10*	13 *5*	1876.64	7/2$^-$	M1,(E2)		0.020 *5*	α(K)=0.017 *5*; α(L)=0.0026 *4*; α(M)=0.00055 *8*; α(N+..)=0.000144 *22* α(N)=0.000125 *18*; α(O)=1.8×10^{-5} *3*; α(P)=1.0×10^{-6} *4*
		687.83 *6*	15.1 *13*	1658.563	5/2$^-$				
		923.15 *19*	3.0 *7*	1423.24	9/2$^-$				
		1452.60 *5*	35.8 *23*	893.788	3/2$^-$	(M1)		0.001713 *24*	α(K)=0.001413 *20*; α(L)=0.000186 *3*; α(M)=3.96×10^{-5} *6*; α(N+..)=7.53×10^{-5} *11* α(N)=8.98×10^{-6} *13*; α(O)=1.354×10^{-6} *19*; α(P)=8.69×10^{-8} *13*; α(IPF)=6.49×10^{-5} *9*
		2346.42 *10*	100 *5*	0.0	7/2$^-$	M1+(E2)	+0.81 *+18−10*	0.001019 *20*	α(K)=0.000457 *10*; α(L)=5.91×10^{-5} *13*; α(M)=1.26×10^{-5} *3*; α(N+..)=0.000491 *9* α(N)=2.85×10^{-6} *7*; α(O)=4.30×10^{-7} *10*; α(P)=2.76×10^{-8} *7*; α(IPF)=0.000487 *9*
2385.89	3/2$^+$	422.40 *19*	0.5 *3*	1963.30	1/2$^+$,3/2$^+$				
		581.60 *12*	18.5 *19*	1804.24	5/2$^+$				
		727.34 *10*	46 *10*	1658.563	5/2$^-$				
		758.13 *6*	44 *4*	1627.74	3/2$^+$	E2,M1		0.0061 *16*	α(K)=0.0052 *14*; α(L)=0.00073 *16*;

$^{145}_{62}Sm_{83}$-11

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
								α(M)=0.00016 *4*; α(N+..)=4.1×10^{-5} *9* α(N)=3.5×10^{-5} *8*; α(O)=5.3×10^{-6} *12*; α(P)=3.2×10^{-7} *9*
2385.89	3/2$^+$	778.60 *7*	34 *3*	1607.28	1/2$^-$			
		838.61 *4*	100 *6*	1547.302	3/2$^+$	M1	0.00600 *9*	α(K)=0.00513 *8*; α(L)=0.000686 *10*; α(M)=0.0001465 *21*; α(N+..)=3.85×10^{-5} *6* α(N)=3.32×10^{-5} *5*; α(O)=5.00×10^{-6} *7*; α(P)=3.18×10^{-7} *5*
		949.53 *5*	72 *4*	1436.363	1/2$^+$	M1	0.00445 *7*	α(K)=0.00381 *6*; α(L)=0.000507 *8*; α(M)=0.0001083 *16*; α(N+..)=2.85×10^{-5} *4* α(N)=2.46×10^{-5} *4*; α(O)=3.70×10^{-6} *6*; α(P)=2.36×10^{-7} *4*
		2385.2 *3*	0.49 *13*	0.0	7/2$^-$			
2387.61	(−)	965.1 *3*	14.6 *24*	1423.24	9/2$^-$			
		2387.55 *7*	100 *7*	0.0	7/2$^-$	(M1)	0.001075 *15*	α(K)=0.000467 *7*; α(L)=6.06×10^{-5} *9*; α(M)=1.289×10^{-5} *18*; α(N+..)=0.000535 *8* α(N)=2.92×10^{-6} *4*; α(O)=4.41×10^{-7} *7*; α(P)=2.85×10^{-8} *4*; α(IPF)=0.000531 *8*
2425.96	5/2$^-$	270.48 *30*	0.8 *2*	2155.49	(5/2$^-$,7/2$^-$)	(E2)	0.0778	α(K)=0.0597 *9*; α(L)=0.01420 *21*; α(M)=0.00318 *5*; α(N+..)=0.000805 *12* α(N)=0.000706 *11*; α(O)=9.62×10^{-5} *14*; α(P)=3.15×10^{-6} *5*
		292.47 *4*	7.3 *6*	2133.427	3/2$^-$	(M1)	0.0865	α(K)=0.0735 *11*; α(L)=0.01019 *15*; α(M)=0.00219 *3*; α(N+..)=0.000575 *8* α(N)=0.000496 *7*; α(O)=7.44×10^{-5} *11*; α(P)=4.65×10^{-6} *7*
		429.25 *15*	1.9 *4*	1996.960	5/2$^-$			
		549.34 *12*	4.8 *10*	1876.64	7/2$^-$			
		621.79 *8*	1.5 *2*	1804.24	5/2$^+$			
		1002.77 *10*	3.1 *6*	1423.24	9/2$^-$			
		1532.14 *7*	100 *5*	893.788	3/2$^-$	M1	0.001554 *22*	α(K)=0.001251 *18*; α(L)=0.0001642 *23*; α(M)=3.50×10^{-5} *5*; α(N+..)=0.000103 α(N)=7.94×10^{-6} *12*; α(O)=1.198×10^{-6} *17*; α(P)=7.69×10^{-8} *11*; α(IPF)=9.43×10^{-5} *14*
		2425.96 *6*	39.6 *21*	0.0	7/2$^-$	M1	0.001078 *15*	α(K)=0.000452 *7*; α(L)=5.85×10^{-5} *9*; α(M)=1.245×10^{-5} *18*; α(N+..)=0.000555 *8* α(N)=2.82×10^{-6} *4*; α(O)=4.26×10^{-7} *6*; α(P)=2.75×10^{-8} *4*; α(IPF)=0.000552 *8*
2437.99	17/2$^+$	1333.0 *2*	100	1105.03	13/2$^+$	E2	0.001412 *20*	α(K)=0.001182 *17*; α(L)=0.0001598 *23*; α(M)=3.42×10^{-5} *5*; α(N+..)=3.61×10^{-5} α(N)=7.73×10^{-6} *11*; α(O)=1.153×10^{-6} *17*; α(P)=7.04×10^{-8} *10*; α(IPF)=2.72×10^{-5} *4*
2482.15		485.1 *6*	16 *9*	1996.960	5/2$^-$	E1	0.00462 *7*	α(K)=0.00395 *6*; α(L)=0.000525 *8*; α(M)=0.0001118 *16*; α(N+..)=2.92×10^{-5} *5* α(N)=2.52×10^{-5} *4*; α(O)=3.74×10^{-6} *6*; α(P)=2.24×10^{-7} *4*

$^{145}_{62}Sm_{83}$-12

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
2482.15		823.3 *5*	1.1 *4*	1658.563	5/2⁻			Mult.: suggested mult=E1 for 485γ in conflict with mult=M2 for 823γ in 1996Vy01.
		1058.75 *12*	33 *4*	1423.24	9/2⁻			
		1588.42 *20*	31 *6*	893.788	3/2⁻			
		2482.17 *6*	100 *5*	0.0	7/2⁻			
2508.31	5/2⁻,7/2⁻	1614.67 *15*	30 *9*	893.788	3/2⁻	(D,E2)		
		2508.24 *8*	100 *7*	0.0	7/2⁻	M1+E2	0.00102 *7*	α(K)=0.00039 *3*; α(L)=5.1×10^{-5} *4*; α(M)=1.08×10^{-5} *8*; α(N+..)=0.00057 *4* α(N)=2.45×10^{-6} *18*; α(O)=3.7×10^{-7} *3*; α(P)=2.37×10^{-8} *19*; α(IPF)=0.00056 *4*
2512.97	⁻	172.4 *4*	4.5 *16*	2340.62				
		2512.95 *9*	100	0.0	7/2⁻	E2,M1	0.00102 *7*	α(K)=0.00039 *3*; α(L)=5.1×10^{-5} *4*; α(M)=1.08×10^{-5} *8*; α(N+..)=0.00057 *4* α(N)=2.44×10^{-6} *18*; α(O)=3.7×10^{-7} *3*; α(P)=2.36×10^{-8} *19*; α(IPF)=0.00057 *4*
2558.88		218.19 *11*	46 *8*	2340.62				
		425.50 *14*	100 *17*	2133.427	3/2⁻			
		2559.4 *4*	79 *13*	0.0	7/2⁻			
2670.0	(13/2⁺)	1565	100	1105.03	13/2⁺			
2710.5	19/2⁻	480.4 *2*	100	2230.0	17/2⁻	M1	0.0238	α(K)=0.0203 *3*; α(L)=0.00277 *4*; α(M)=0.000593 *9*; α(N+..)=0.0001559 *22* α(N)=0.0001344 *19*; α(O)=2.02×10^{-5} *3*; α(P)=1.273×10^{-6} *18*
2750		346.9[@] *3*	100 *40*	2387.61	(⁻)			
		555.0[@] *3*	100 *40*	2192.99	5/2⁻,7/2⁻,9/2⁻			
2810.5	(15/2)	1705.5 *3*	100.0	1105.03	13/2⁺			
2899.2		669.2 *5*	100.0	2230.0	17/2⁻			
2931.2	21/2⁺	221.0 *2*	20 *2*	2710.5	19/2⁻	E1	0.0324	α(K)=0.0276 *4*; α(L)=0.00381 *6*; α(M)=0.000813 *12*; α(N+..)=0.000211 *3* α(N)=0.000183 *3*; α(O)=2.66×10^{-5} *4*; α(P)=1.476×10^{-6} *21*
		493.6 *2*	100 *7*	2437.99	17/2⁺	E2	0.01327	α(K)=0.01089 *16*; α(L)=0.00187 *3*; α(M)=0.000409 *6*; α(N+..)=0.0001056 *15* α(N)=9.18×10^{-5} *13*; α(O)=1.314×10^{-5} *19*; α(P)=6.26×10^{-7} *9*
2964.3	19/2$^{(+)}$	734.3 *4*	100	2230.0	17/2⁻	D		
2978.8	21/2⁺	268.0 *2*	100 *8*	2710.5	19/2⁻	E1	0.0196	α(K)=0.01672 *24*; α(L)=0.00228 *4*; α(M)=0.000487 *7*; α(N+..)=0.0001266 *18* α(N)=0.0001096 *16*; α(O)=1.605×10^{-5} *23*; α(P)=9.11×10^{-7} *13* B(E1)(W.u.)=9.7×10^{-5}
		540.0 *3*	7 *3*	2437.99	17/2⁺			
3029.8		219.3 *3*	100	2810.5	(15/2)			
3119.6	23/2⁺	140.2 *2*	75 *6*	2978.8	21/2⁺	D		

$^{145}_{62}Sm_{83}$-13

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[‡]	α[†]	Comments
3119.6	23/2$^+$	189.0 *2*	100 *8*	2931.2	21/2$^+$	M1	0.282	α(K)=0.239 *4*; α(L)=0.0336 *5*; α(M)=0.00720 *11*; α(N+..)=0.00189 *3* α(N)=0.001634 *24*; α(O)=0.000245 *4*; α(P)=1.522×10^{-5} *22*
3140.9		209.8 *4*	100.0	2931.2	21/2$^+$			
3323.1	(21/2)	392.0 *4*	100	2931.2	21/2$^+$	(D)		
3369.3	25/2$^+$	438.1 *2*	100	2931.2	21/2$^+$	E2	0.0184	α(K)=0.01494 *21*; α(L)=0.00270 *4*; α(M)=0.000594 *9*; α(N+..)=0.0001526 *22* α(N)=0.0001329 *19*; α(O)=1.89×10^{-5} *3*; α(P)=8.48×10^{-7} *12*
3375.9		235.5 *8*	35 *4*	3140.9				
		396.7 *8*	100 *12*	2978.8	21/2$^+$			
3483.8	25/2$^+$	364.2 *2*	100	3119.6	23/2$^+$	M1	0.0486	α(K)=0.0413 *6*; α(L)=0.00569 *8*; α(M)=0.001219 *18*; α(N+..)=0.000321 *5* α(N)=0.000276 *4*; α(O)=4.15×10^{-5} *6*; α(P)=2.60×10^{-6} *4*
3922.4	27/2$^+$	438.4 *4*	100.0	3483.8	25/2$^+$	M1	0.0301	α(K)=0.0256 *4*; α(L)=0.00351 *5*; α(M)=0.000751 *11*; α(N+..)=0.000197 *3* α(N)=0.0001702 *25*; α(O)=2.56×10^{-5} *4*; α(P)=1.609×10^{-6} *23* B(M1)(W.u.)=0.00023 *5* Mult.: from α(K)exp (1991Pi06), γ(θ) (1997Od01).
4228.8	(27/2)	306.0 *4*	100 *7*	3922.4	27/2$^+$			
		745.3 *4*	91 *7*	3483.8	25/2$^+$			
4316.1		393.8 *4*		3922.4	27/2$^+$			
4390.0		1067.3 *10*	38 *5*	3323.1	(21/2)			
		1270.4 *8*	100 *13*	3119.6	23/2$^+$			
4421.3	29/2$^+$	192.4 *3*	43 *6*	4228.8	(27/2)			
		499.0 *2*	100 *3*	3922.4	27/2$^+$			
4587.4		1467.6 *10*	100.0	3119.6	23/2$^+$			
4647.6	(29/2)	725.2 *3*	100.0	3922.4	27/2$^+$			
4740.9	(29/2)	1257.0 *5*	100.0	3483.8	25/2$^+$			
4868.8	(29/2)	281.3 *7*	21 *10*	4587.4				
		1385.1 *8*	100 *9*	3483.8	25/2$^+$			
5029.9	(31/2)	160.9 *11*	83 *13*	4868.8	(29/2)			
		288.8 *4*	41 *8*	4740.9	(29/2)			
		608.4 *4*	30 *9*	4421.3	29/2$^+$			
		640.0 *8*	65 *6*	4390.0				
		715.2 *19*	1.0×10^2 *3*	4316.1				
5031.9	(31/2)	610.6 *2*	100.0	4421.3	29/2$^+$			
5248.4	(31/2)	1326.2 *5*	100.0	3922.4	27/2$^+$			
5507.1	(33/2)	477.2 *2*	100 *4*	5029.9	(31/2)			
		766.3 *5*	30 *4*	4740.9	(29/2)			
5525.6		877.9 *4*	18 *4*	4647.6	(29/2)			
		1104.2 *8*	100 *13*	4421.3	29/2$^+$			
5680.8	(33/2)	432.5 *5*	4.×10^1 *4*	5248.4	(31/2)			
		1259.3 *5*	100 *19*	4421.3	29/2$^+$			
5719.7		690.0 *4*	100.0	5029.9	(31/2)			
5904.2	(35/2)	397.2 *5*	1.0×10^2 *3*	5507.1	(33/2)			

$^{145}_{62}Sm_{83}$-14

Adopted Levels, Gammas (continued)

γ(^{145}Sm) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π
5904.2	(35/2)	872.5 *4*	49 *4*	5031.9	(31/2)
5956.5		275.7 *8*	100 *11*	5680.8	(33/2)
		430.2 *11*	81 *8*	5525.6	
6122.6		403.0 *4*	100.00	5719.7	
6216.9	(37/2)	260.4 *5*	50 *8*	5956.5	
		313.0 *4*	100 *6*	5904.2	(35/2)
		497.2 *6*	19 *4*	5719.7	
		709.3 *5*	11 *4*	5507.1	(33/2)
6362.2	(37/2)	239.7 *5*	24 *4*	6122.6	
		405.6 *4*	100 *7*	5956.5	
		458.1 *4*	67 *6*	5904.2	(35/2)
6720.5	(39/2)	358.2 *5*	100 *10*	6362.2	(37/2)
		503.6 *4*	90 *8*	6216.9	(37/2)
		816.2 *9*	79 *7*	5904.2	(35/2)
6757.7	(39/2)	396.1 *10*	5.×10[1] *4*	6362.2	(37/2)
		540.5 *6*	100 *5*	6216.9	(37/2)
7328.1	(43/2)	570.4 *2*	100.0	6757.7	(39/2)
7404.9	(41/2)	684.3 *5*	100.0	6720.5	(39/2)
7449.7	(41/2)	729.6 *8*	100.00	6720.5	(39/2)
7743.7	(45/2)	415.6 *2*	100.0	7328.1	(43/2)
7804.4	(45/2)	1046.8 *4*	100.0	6757.7	(39/2)
7927.1	(41/2)	1206.7 *5*	100.00	6720.5	(39/2)
8073.5	(47/2)	329.9 *5*	100.0	7743.7	(45/2)
8190.6	(45/2)	862.5 *3*	100.0	7328.1	(43/2)
8333.9	(45/2)	406.8 *5*	29 *8*	7927.1	(41/2)
		884.3 *5*	73 *11*	7449.7	(41/2)
		929.0 *4*	100 *12*	7404.9	(41/2)
8377.8	(47/2)	186.9 *12*	100.0	8190.6	(45/2)
8580.5	(47/2)	776.5 *10*	72 *16*	7804.4	(45/2)
		836.8 *10*	100 *16*	7743.7	(45/2)
8786.2	(49/2$^+$)	205.9 *7*	29 *4*	8580.5	(47/2)
		408.4 *5*	36 *11*	8377.8	(47/2)
		452.3 *5*	84 *5*	8333.9	(45/2)
		595.6 *5*	80 *6*	8190.6	(45/2)
		713.3 *19*	100 *22*	8073.5	(47/2)
		981.9 *4*	61 *5*	7804.4	(45/2)
8786.2	(49/2$^+$)	1042.7 *7*	10 *3*	7743.7	(45/2)
		1457.8 *6*	22.9 *25*	7328.1	(43/2)
9980.7	(53/2)	1194.5 *5*	100.0	8786.2	(49/2$^+$)
10251.0		270.3 *5*	100.0	9980.7	(53/2)
11147.5		896.3 *5*		10251.0	
11455.6		1204.7 *5*		10251.0	
12078.1		930.6 *5*	100.0	11147.5	
12335.3		879.8 *5*		11455.6	
		1187.7 *5*	100 *18*	11147.5	
12718.6		640.5 *5*		12078.1	
12820.6		485.3 *5*	100.0	12335.3	
14044.5		1223.9 *5*		12820.6	
14428.4		1607.8 *5*		12820.6	
1011.3+x	J+2	1011.3 *4*		x	J
2049.9+x	J+4	1038.6 *4*		1011.3+x	J+2
3135.7+x	J+6	1085.8 *5*		2049.9+x	J+4
4272.7+x	J+8	1137.0 *6*		3135.7+x	J+6
5460.7+x	J+10	1188 *1*		4272.7+x	J+8
6700.5+x	J+12	1239.8 *4*		5460.7+x	J+10
7993.8+x	J+14	1293.3 *5*		6700.5+x	J+12
9342.5+x	J+16	1348.7 *5*		7993.8+x	J+14
10743.7+x	J+18	1401.2 *6*		9342.5+x	J+16
12199.9+x	J+20	1456.2 *7*		10743.7+x	J+18
13716+x	J+22	1516 *2*		12199.9+x	J+20
15283+x	J+24	1567 *1*		13716+x	J+22
945.1+y	J1+2	945.1 *8*		y	J1
1939.1+y	J1+4	994 *2*		945.1+y	J1+2
2983.9+y	J1+6	1044.8 *8*		1939.1+y	J1+4
4084.0+y	J1+8	1100.1 *8*		2983.9+y	J1+6
5233+y	J1+10	1149 *2*		4084.0+y	J1+8
6439+y	J1+12	1205.9 *8*		5233+y	J1+10
7699+y	J1+14	1260 *1*		6439+y	J1+12
9017+y	J1+16	1318 *1*		7699+y	J1+14
10388+y	J1+18	1371 *2*		9017+y	J1+16
11818+y	J1+20	1430 *2*		10388+y	J1+18

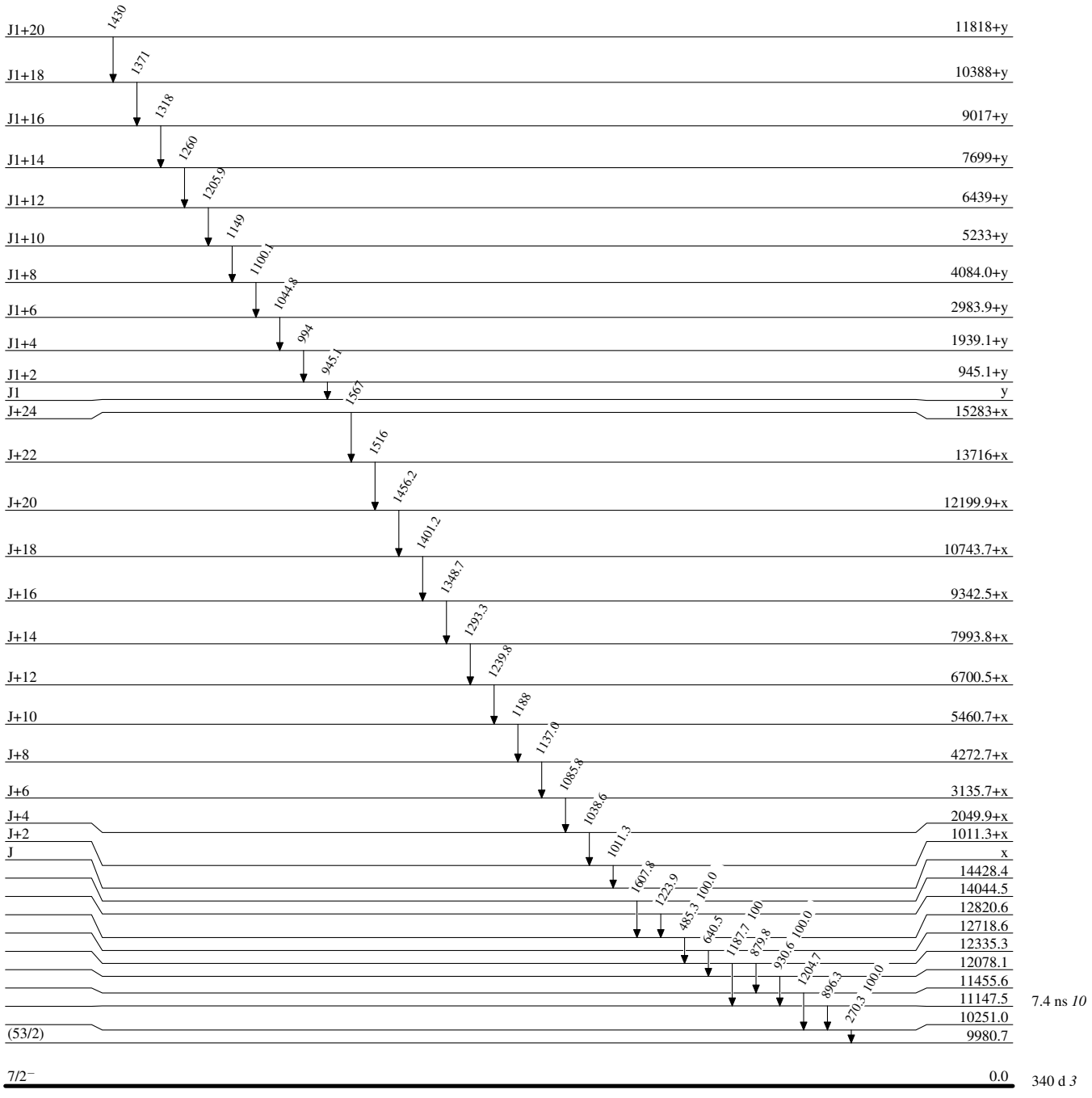
† Additional information 3.
‡ Mostly from ^{145}Eu ε decay.
# From ^{145}Eu ε Decay, ^{144}Nd(α,3nγ), ^{145}Nd(α,4nγ), and (HI,xnγ).
@ Placement of transition in the level scheme is uncertain.

$^{145}_{62}Sm_{83}$-15

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

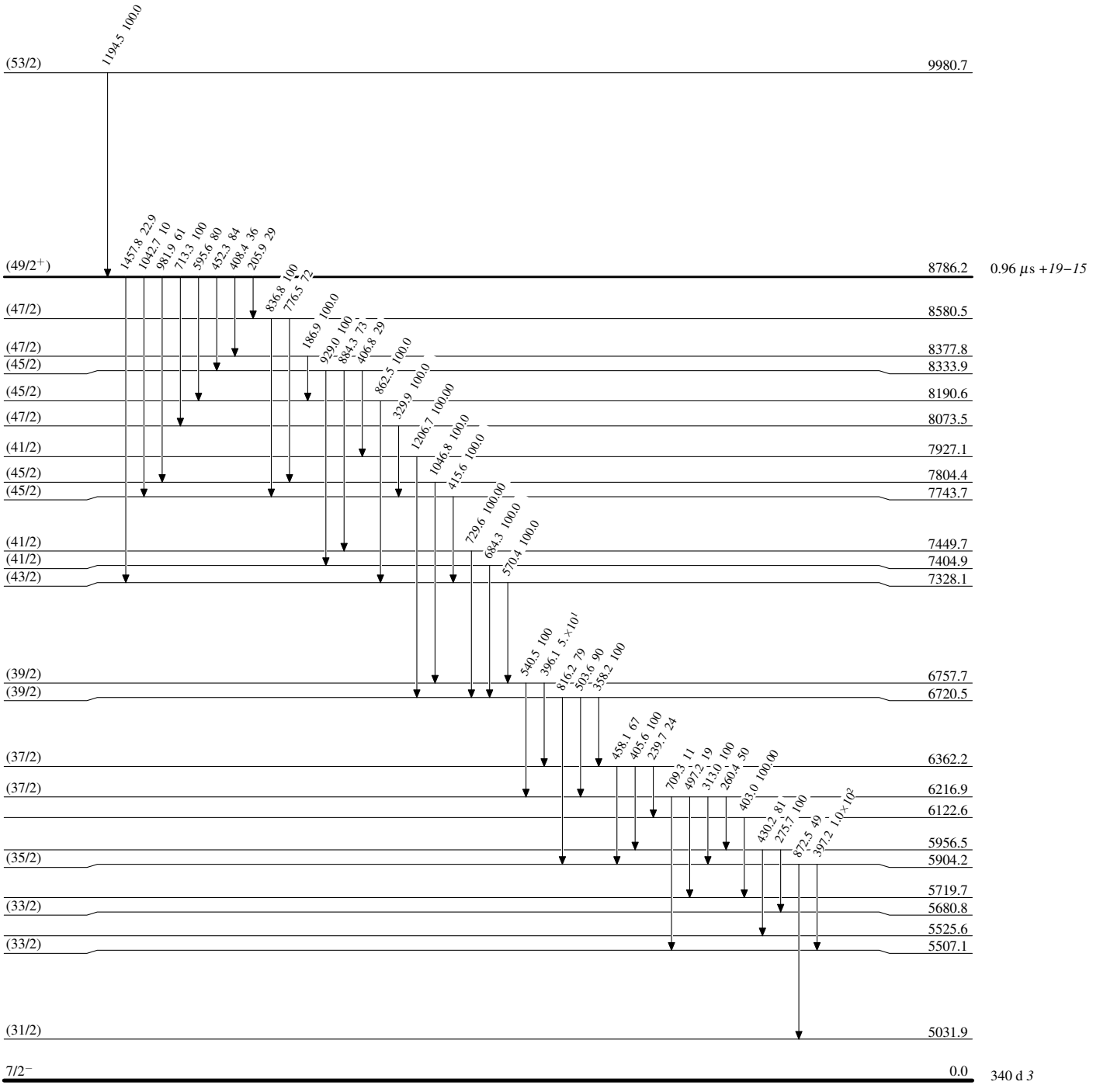


$^{145}_{62}Sm_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

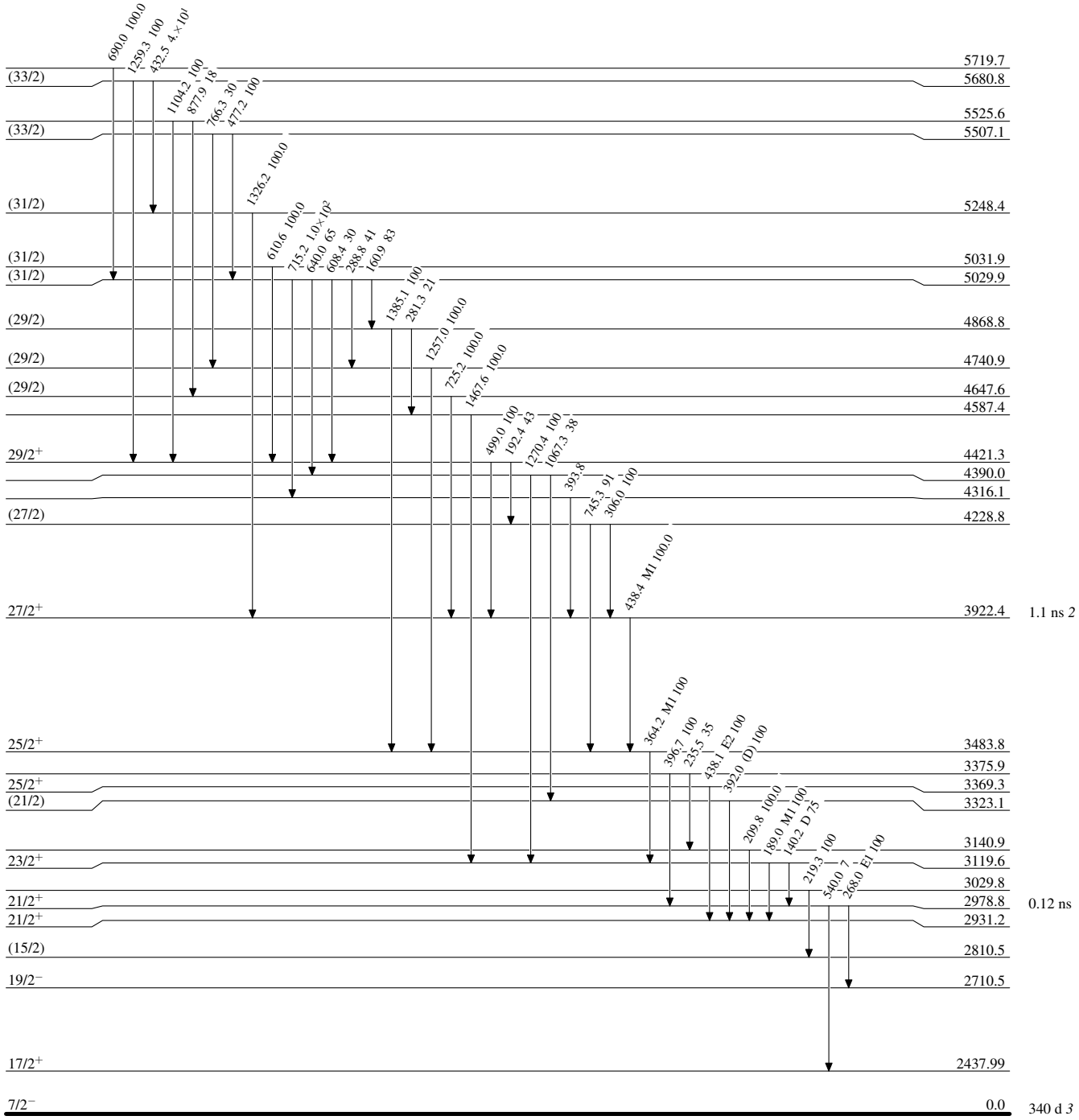


$^{145}_{62}Sm_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{145}_{62}Sm_{83}$

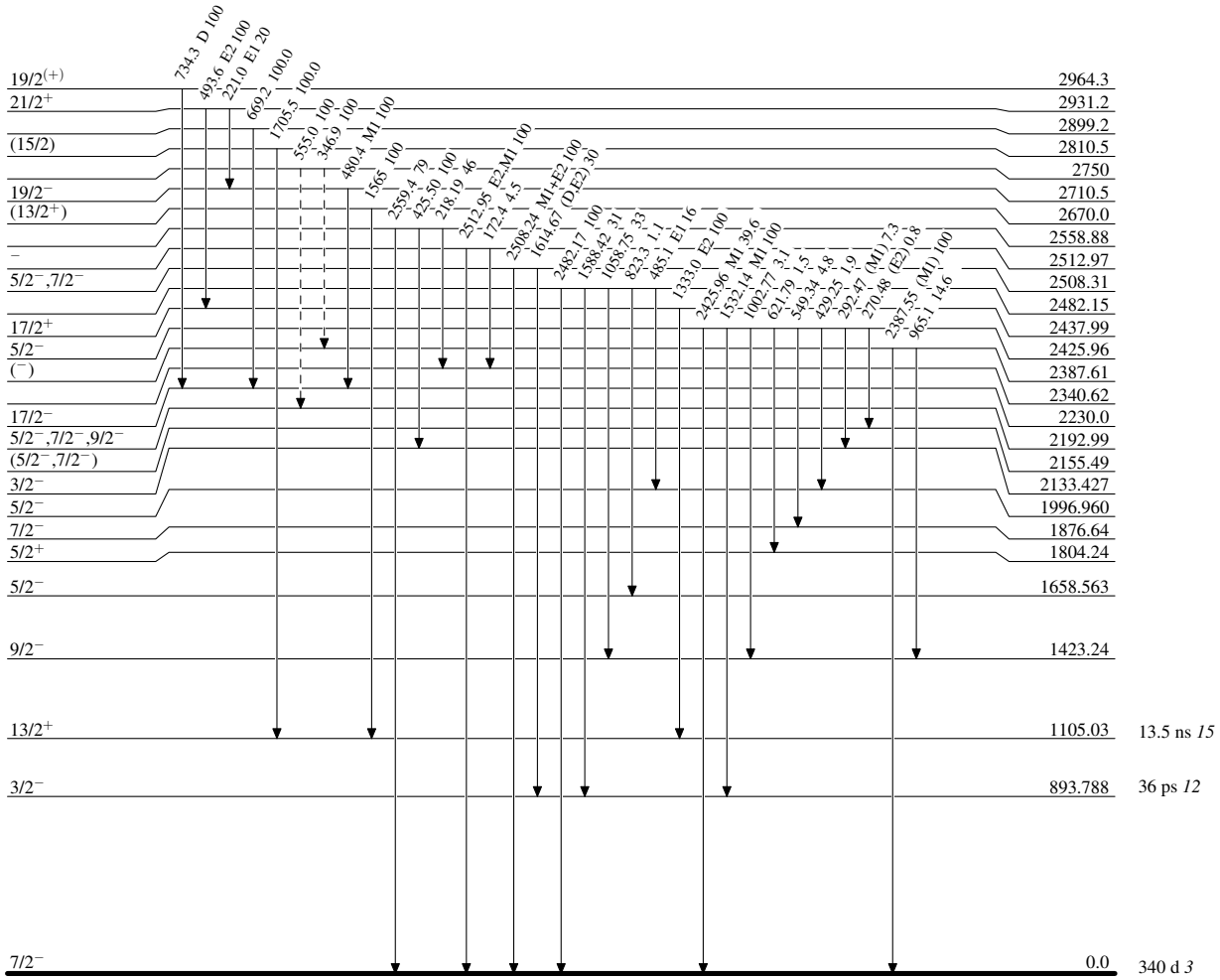
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

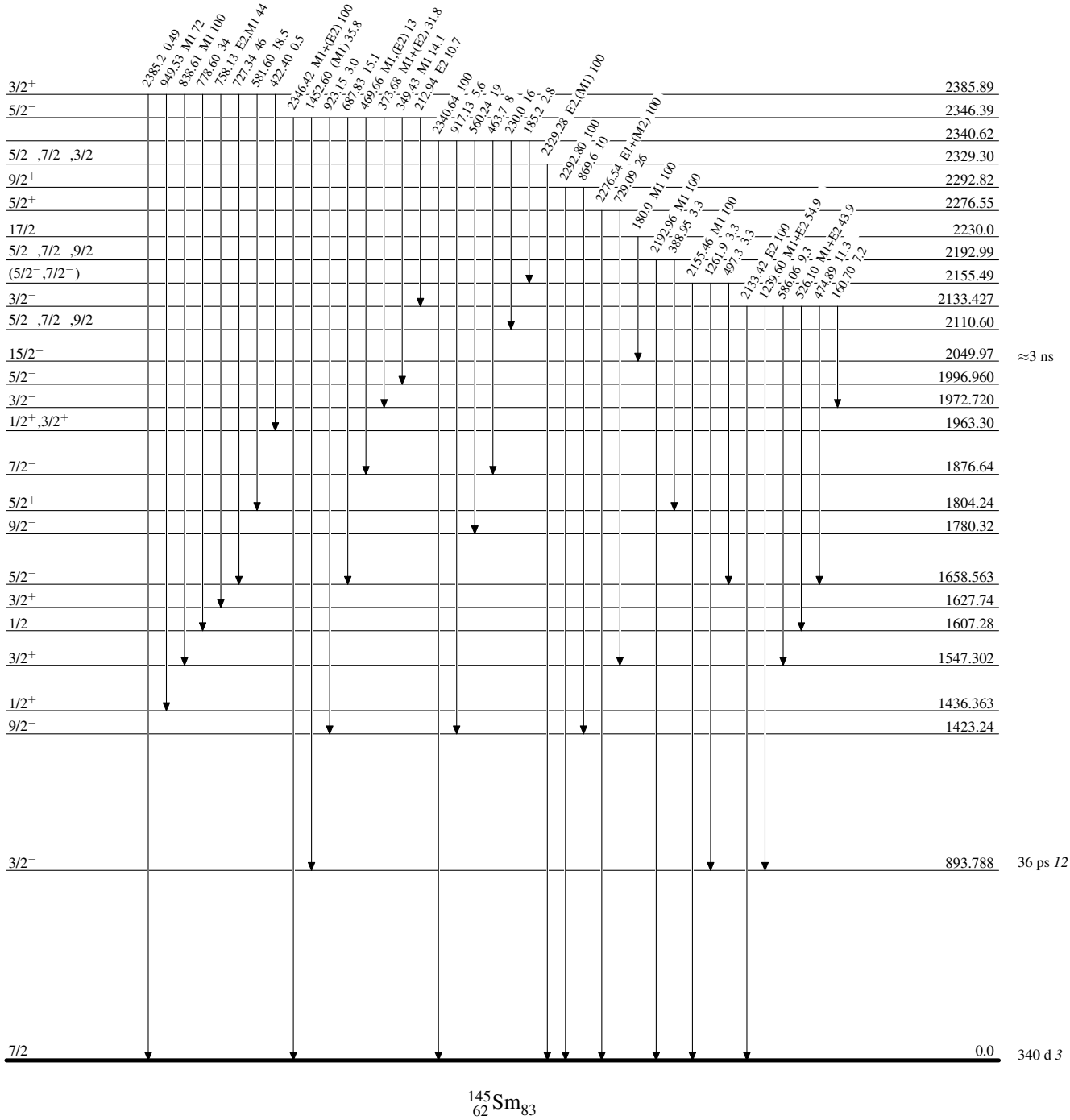


$^{145}_{62}Sm_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

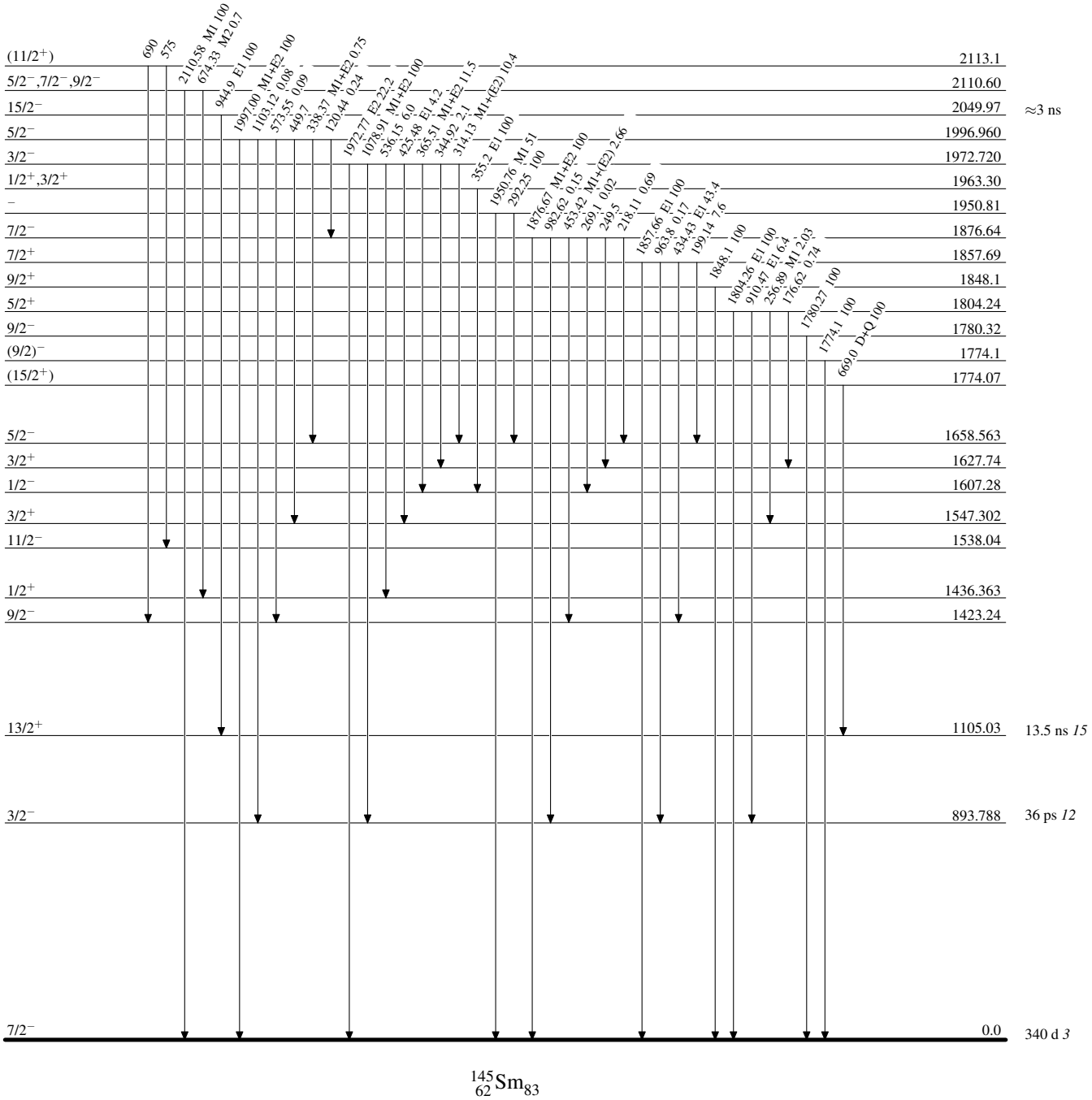


$^{145}_{62}Sm_{83}$

Adopted Levels, Gammas

Level Scheme (continued)

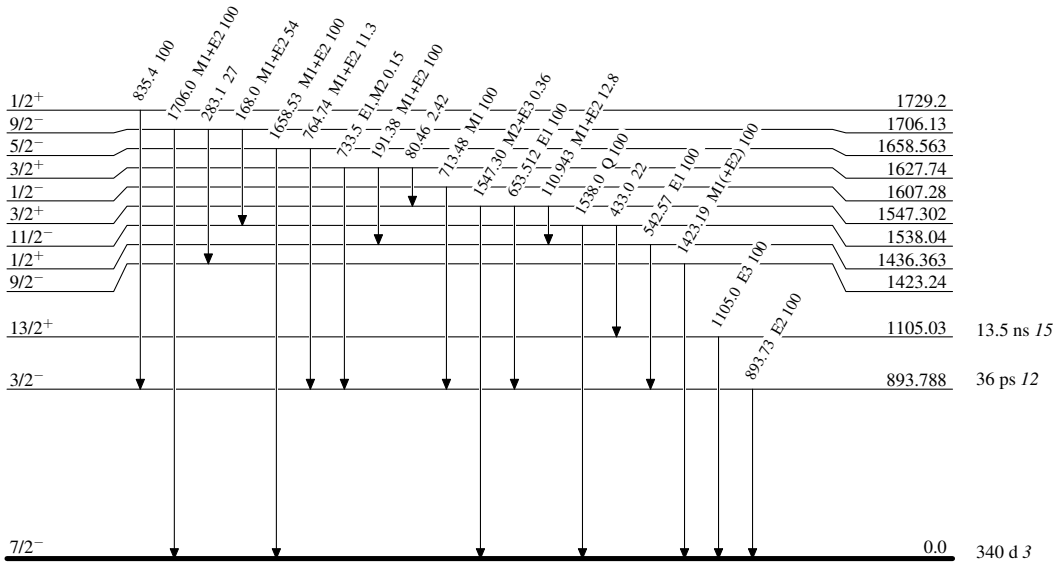
Intensities: Relative photon branching from each level



Adopted Levels, Gammas

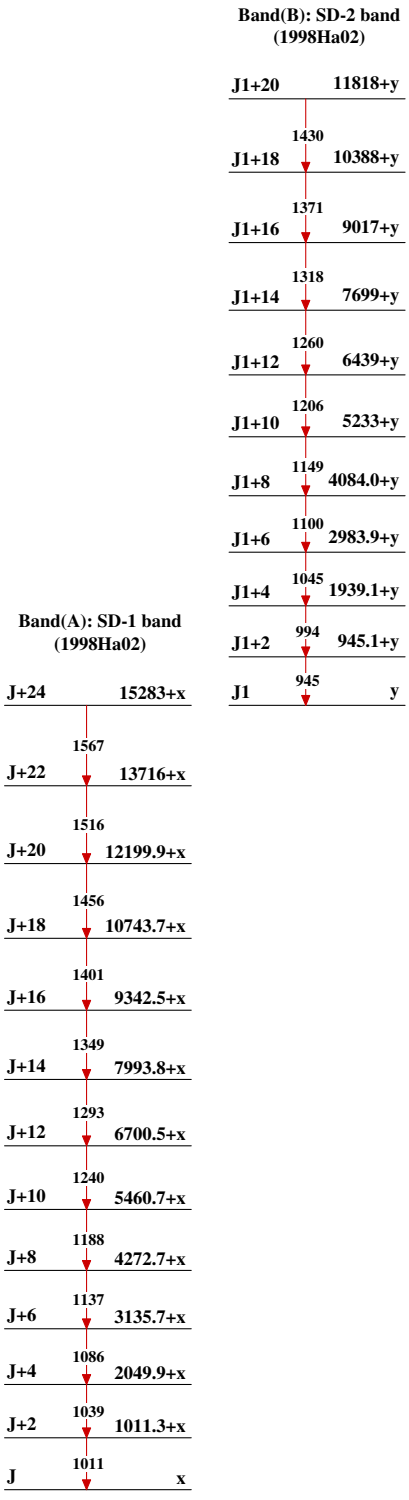
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{145}_{62}Sm_{83}$

Adopted Levels, Gammas



$^{145}_{62}Sm_{83}$