Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 117, 1 (2014)	1-Oct-2013

Q(β^-)=−3037 *10*; S(n)=8141.37 *28*; S(p)=7583.1 *4*; Q(α)=1986.9 *10* 2012Wa38

^{148}Sm Levels

The band designations and suggested configurations are from (HI,xnγ).

Cross Reference (XREF) Flags

A	^{148}Nd 2β^- decay	I	^{147}Sm(n,γ) E=3.4 eV	Q	^{148}Sm(d,d′)
B	^{148}Pm β^- decay (5.368 d)	J	^{147}Sm(n,γ) E=24.5 keV	R	^{149}Sm(d,t)
C	^{148}Pm β^- decay (41.29 d)	K	^{147}Sm(n,X):resonances	S	^{150}Sm(p,t)
D	^{148}Eu ε decay	L	^{147}Sm(d,p)	T	^{151}Eu(μ^-,3nγ)
E	^{152}Gd α decay	M	^{148}Sm(γ,γ')	U	Coulomb excitation
F	^{147}Sm(n,γ) E=thermal	N	^{148}Sm(e,e′)	V	(HI,xnγ)
G	^{147}Sm(n,γ) E=0.020-1.0 keV	O	^{148}Sm(n,n′γ)		
H	^{147}Sm(n,γ) E=0.1-10 keV	P	^{148}Sm(p,p′), (pol p,p′)		

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
0.0@	0+	7×10^{15} y *3*	ABCDEFGHIJ LMNOPQRSTUV	%α=100 $T_{1/2}$: from 1970Gu14. Others: 8×10^{15} y *2* (1968Ko06),>3×10^{15} y (1987AlZX), see also 1960Ka23, 1961Ma05, 1946Cu01. rms charge radius <r^2>$^{1/2}$=5.0009 fm *16* (2004An14).
550.255@ *8*	2+	7.72 ps *32*	ABCD FGHIJ LMNOPQRSTUV	μ=+0.508 *42* (2005St24,1987Ba65) Q=−0.98 *27* (2005St24,1973ClZF) Jπ: E2 to 0+. $T_{1/2}$: from 2001Ra27, based on their adopted B(E2)↑=0.720 *30* derived from Coul. ex., (e,e′), and $T_{1/2}$ from RDM. μ, other: +0.61 *7* (1987Be08).
1161.529& *12*	3−	0.6 ps *+4−2*	BCD FGH J LM OPQRS UV	Jπ: E1 to 2+ and L(d,t)=0. $T_{1/2}$: from thermal-neutron capture data using γ-ray induced Doppler (GRID) broadening technique. B(E3)↑=0.37 *3* (Coul. ex., 1968Ke04).
1180.261@ *12*	4+	2.39 ps *24*	CD FGH J L OPQRS UV	$T_{1/2}$: from B(E2)(2+ to 4+)=0.43 *4* (Coul. ex., 1968Ke04). Jπ: J=4 from $\gamma\gamma(\theta)$ in β^- decay; π=+ from E2 to 2+.
1424.46 *4*	0+		AB G L Op S U	Jπ: J=0 from $\gamma\gamma(\theta)$ in β^- decay; π=+ from L(p,t)=0.
1434.0 *8*			F H p	
1454.115 *13*	2+	285 fs *28*	AB D FGHIJ M O QRS U	$T_{1/2}$: from ^{148}Sm(γ,γ'); other: 0.36 ps *11* (Coul. ex., from B(E2)↑=0.36 ps *11* and and branching 1454g=0.499 *5*). Jπ: E2 to 0+.
1461.1	(1,2+)		l p U	Jπ: γ to 0+.
1465.137 *11*	1−	92 fs *8*	B D FGH lM OpQ U	$T_{1/2}$: from ^{148}Sm(γ,γ'). B(E1)↑=0.013 *5* (Coul. ex., 1968Ve01). Jπ: J=1 from $\gamma\gamma(\theta)$ in β^- decay; π=− from E1 to 0+.
1594.247& *12*	5−		CD FGH L OPQ S V	Jπ: J=5 from $\gamma\gamma(\theta)$ in β^- decay; π=− from E1 to 4+. This disagrees with J=3− or 4− from

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
				average-resonance capture in (n,γ).
1659.4 *8*	(2,3,4+)		F	Jπ: thermal-neutron capture γ assumed to be D from 3−,4− capturing state and γ to 2+.
1664.278 *22*	2+	0.25 ps *8*	B D GHIJ L OPQRS U	$T_{1/2}$: from B(E2)=0.03 *1* and 1664γ branching=0.34 *1*. Jπ: J=2 from γ(θ) in β− decay; π=+ from L(d,p)=3.
1717.8 *10*			F	
1733.465 *12*	4+		CD FGH J L OPQRS V	Jπ: J=4 from γγ(θ) in ε decay; π=+ from L(d,p)=1+3.
1894.824 *14*	4+		CD FGHI O R	Jπ: J=4 from γγ(θ) in ε decay; π=+ from L(d,t)=3.
1903.773 *18*	3+		D GH O	Jπ: 3+,4+ from average neutron capture, and M1 to 2+.
1905.908@ *13*	6+		CD G L OP R UV	Jπ: J=6 from γγ(θ) in β− decay; π=+ from E1 to 5−.
1920.97 *6*	0+		B G M O S	Jπ: L(p,t)=0.
1972.480 *21*	2+		G I L OP R	Jπ: L(d,t)=1 and γ to 0+.
2031.403 *13*	4−		D FGH O R V	Jπ: L(d,t)=0, and log *ft*=8.9 via 5− parent in ε decay.
2041 *8*			L	
2057.960 *22*	2−		B G O	Jπ: J=2 from γγ(θ) in β− decay; π=− from M1 to 1−.
2095.595b *13*	6+		CD GH L OpQRS V	Jπ: J=6 from γγ(θ) in β− decay; π=+ from E1 to 5−.
2111.053 *13*	4+		D FGHI L OpQR	Jπ: E2 to 2+ and E1+M2 to 5−. Disagrees with J=3+ (1984Kr09) in ε decay.
2128.64& *7*	7−‡		D G O V	
2142.5 *20*	(2,3,4)		I	Jπ: from 3− (n,γ) resonance and average-resonance neutron capture.
2146.35 *3*	2+#	<64.1 fs	FGH M O q	$T_{1/2}$: from ^{148}Sm(γ,γ′).
2147.499 *13*	5+		D G L OPqRS	Jπ: J=5 from γ(θ) in ε decay; π=+ from L(d,p)=1+3.
2194.061 *14*	6+‡		CD GH L O R V	
2204.99 *15*	0+		G O S	Jπ: L(p,t)=0.
2208.85 *7*	(1,2+)		GH O	Jπ: γ to 0+.
2214.215 *15*	5+		D FGH L Op R	Jπ: J=5 from γ(θ) in ε decay; π=+ from L(d,t)=1.
2228.042 *17*	4+		D FGHI L OpQRS	Jπ: J=4 from γ(θ) in ε decay; π=+ from L(d,p)=1+3.
2277 *3*	+		l R	Jπ: L(d,t)=3.
2284.406 *21*	(1,2+)	46 fs *5*	B G lM O	Jπ: γ to 0+. $T_{1/2}$: from ^{148}Sm(γ,γ′).
2313.57 *8*	2+		B GH O Q	Jπ: J=2 from γγ(θ) in β− decay; π=+ from E1 to 3−.
2318.5 *5*	+		D L R	Jπ: L(d,t)=1.
2327.09 *5*	4+#		D FGHI O	
2327.62 *9*	3+#		G O	
2339.21 *8*	3−#		D GH L O QR	
2344 *3*	3−,4−		R	Jπ: L(d,t)=0.
2358 *4*	0+		S	Jπ: L(p,t)=0.
2374.447 *16*	5+,6+		D G O Q	Jπ: J=5,6 from γ(θ) in ε decay; π=+ from M1 to 6+.
2381.67 *10*	2+#	87 fs *17*	G LM O QR	Jπ: from ^{148}Sm(γ,γ′) based on angular correlations (π=+ from linear polarization In ^{148}Sm(n,n′γ)). $T_{1/2}$: from ^{148}Sm(γ,γ′).
2390.43 *7*	3+#		D GHI O	
2392.32 *7*	7+‡		D G O V	
2397.8 *10*			F L R	
2440.8 *10*			F H	
2442.29 *10*	(2+)		G O	Jπ: γ to 0+ and γ to 4+.
2467.38 *8*	3(−)#		G O Q	
2472.48 *16*	1#	37 fs *3*	G M O R	$T_{1/2}$: from ^{148}Sm(γ,γ′).
2490.004 *14*	4+		D GH O	Jπ: J=4 from γ(θ) in ε decay; π=+ from M1,E2 to 4+.
2496 *3*	+		L R	Jπ: L(d,p)=1.
2513.50 *18*	1#	99 fs *5*	GH M O	$T_{1/2}$: from ^{148}Sm(γ,γ′).

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
2524.101 *16*	4^+		D FGHI O Q	Jπ: J=4 from γ(θ) in ε decay; π=+ from M1 to 4^+.
2532.39 *4*	$4^-,5^-$		D G L O R	Jπ: J=4,5 from γγ(θ) in ε decay; π=− from M1,E2 from $5^-,6^-$. This contradicts Jπ=+ from L(d,p)=L(d,t)=1 for levels at 2532 *3*, and 2531 *3*, respectively, both observed by 1975Oe01. In (d,t), the level is an unresolved doublet; hence, the L assignments could be suspect.
2539.82 *17*	3^-[#]		GH O S	
2541.8 *10*			F	
2544.67[b] *15*	8^+[‡]		V	
2567.89 *19*	2^+[#]		G l O	
2570.832 *19*	$4^{(-)}$[#]		D GH l O	
2583.862 *16*	$4^{(-)}$[#]		D G l O	
2631.8 *10*			F	
2633.15 *8*	3^-[#]		G O Q	
2641.222 *17*	5^+[#]		D FGH O	
2645.50 *15*	$4^+,5^+$		G L R	Jπ: L(d,p)=L(d,t)=1; γ to 5^-.
2673.07 *4*	4^+		D G O	Jπ: J=4 from γ(θ) in ε decay; π=+ from polarization data in (n,γ) E=0.020-1.0 keV.
2675.20 *14*	$(3^+,4,5^-)$		D	Jπ: gammas to 3^- and 5^+.
2681.8 *10*			F	
2683.467 *12*	$4^-,5^-$		D G L O R	Jπ: J=4,5 from γ(θ) in ε decay; π from M1 to 5^-.
2692.8 *10*			F	
2697.77 *12*	$3^+,4^+$[#]		G O	
2698.539 *16*	$5^-,6^-$		D	Jπ: J=5,6 from γ(θ) in ε decay; π=− from M1 to 5^-.
2701.92 *4*	$4^{(-)},(3^-)$[#]		D G O	
2704.6 *5*	$(1,2^+)$	20.1 fs *12*	G LM O R	Jπ: γ to 0^+. $T_{1/2}$: from ^{148}Sm(γ,γ′).
2711.8 *10*			F q	
2713.334 *20*	$3^+,4^+$[#]		D G O q	
2714.98[@] *16*	8^+[‡]		V	
2716.05 *4*	$(4^+,5,6^+)$		D G	Jπ: γ′s to 4^+, 6^+.
2719.8 *5*	$(3^-,4^-)$		G R	Jπ: L(d,t)=(0).
2723.506 *23*	4^+		D FG O Q S	Jπ: J=3,4 from γγ(θ) in ε decay and γ to 6^+; π=+ from M1 to 4^+.
2727.31 *6*	5^+		D G L O R	Jπ: J=5,6 from γ(θ) in (n,γ), γ to 3^- makes J=6 unlikely; π=+ from L(d,p)=1+3.
2734.44 *19*	(3)		D O	Jπ: gammas to 1^- and 3^- and log *ft*=10.0 from 5^-.
2738.79 *20*	(8^+)[‡]		V	
2753.15 *6*	3^+[#]		FG O	E(level): from (n,γ).
2762.1 *5*	1^+	7.5 fs *4*	LM R	Jπ: from ^{148}Sm(γ,γ′) based on angular correlations and L(d,p)=1+3.
2801.752 *13*	5^+		D G O	Jπ: J=5 from γγ(θ) in ε decay; π=+ from M1 to 5^+.
2806.73 *10*	$3^+,4^+$[#]		G O	
2807.35[&] *16*	9^-[‡]		V	
2809 *3*			L	
2812.8 *10*			F	
2815.584 *18*	4^-		D G O	Jπ: J=4 from γ(θ) in ε decay; π=− from M1 to 5^-.
2822 *2*	$^+$		L R	Jπ: L(d,t)=1.
2828.13 *15*			G O	
2830.660 *14*	5^+		D G	Jπ: J=5 from γ(θ) in ε decay; π=+ from M1 to 5^+.
2846.9 *3*	$(3^-,4^-)$		G O QR	Jπ: L(d,t)=(0).
2861.07 *8*	$4^-,5^-$		D FG O	Jπ: J=4,5 from γ(θ) in ε decay; π=− from M1 to 5^-.

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
				J=3,4 from γ(θ) in (n,γ) E=0.020-1.0 keV; however, M1 to 5⁻ rules out J=3.
2862.06 *11*	3⁺,4⁺[#]		G L O QRS	
2891.8 *5*			FG L	
2908.13 *22*	3⁻,4⁻		D G R	Jπ: L(d,t)=0.
2917.8 *10*			F	
2928.84 *5*	(4,5,6)⁺		D G L O R	Jπ: γ's to 4⁺, 6⁺ and L(d,p)=1+3.
2931.98 *20*			G O R	
2941.1 *7*	2⁺,3⁻[#]		G	
2942.82 *18*	8⁻[‡]		V	
2952.7 *9*			G L RS	
2967.6 *7*	3⁺,4⁺[#]		FG O	
2976.32 *20*	8⁻[‡]		V	
2980.50 *19*	3⁺,4⁺[#]		G O	
2991.78 *16*	3⁺,4⁺[#]		FG L O R	
2993 *3*			R	
3004 *3*			L R	
3014.1 *6*	3⁻,4⁻		G O R	Jπ: L(d,t)=0.
3022 *3*			L	
3038.8 *6*	1	41.4 fs *22*	M	Jπ: from ^{148}Sm(γ,γ′) based on angular correlations. $T_{1/2}$: from ^{148}Sm(γ,γ′).
3045 *2*	⁺		L R	Jπ: L(d,p)=1+3.
3050.5 *4*			FG O R	
3063.25 *22*	3⁻[#]		FG l O	
3073 *3*			l R	
3082.1 *4*	1	10.2 fs *7*	M	Jπ: from ^{148}Sm(γ,γ′) based on angular correlations. $T_{1/2}$: from ^{148}Sm(γ,γ′).
3089.84 *23*	2⁺,3⁻[#]		FG	
3095.25 *19*	9(⁺)[‡]		V	
3098 *3*	(3⁻,4⁻)		R	Jπ: L(d,t)=(0).
3107.8 *4*	3⁺,4⁺[#]		FG O	
3112 *2*	⁺		L R	Jπ: L(d,p)=1+3.
3138.46 *11*	3(⁻),4(⁻)[#]		FG O R	
3153.5 *3*	⁺		G L R	Jπ: L(d,p)=1+3.
3164.8 *4*	3⁺,4⁺[#]		FG	
3178.0 *15*	⁺		G L R	Jπ: L(d,p)=1+3.
3188.31[e] *17*	9⁻[‡]		V	
3189.8 *8*	2⁺,3⁻[#]		G	
3197.4 *10*	3⁻,4⁻		G R	Jπ: L(d,t)=0.
3216.15 *18*	9⁻[‡]		V	
3221.2 *4*			G l O	
3224.83 *19*			G l R	
3235.23[b] *17*	10⁺[‡]		V	
3235.8 *10*			F	
3245 *3*	⁺		L R	Jπ: L(d,p)=1+3.
3253.45 *17*	10⁻[‡]		V	
3255.3 *5*	(1,2⁺)		M	Jπ: γ to 0⁺. B(E1)↑=4.4×10⁻⁵ *3* (γ,γ′, 1993Zi05).
3261.8 *10*			F	
3276.2 *5*			G L O R	
3286.8 *10*			F	

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)[†]	Jπ	XREF	Comments
3291.5 *5*	(1,2$^+$)	M	Jπ: γ to 0$^+$. B(E1)↑=1.7×10^{-5} *2* (γ,γ′, 1993Zi05).
3308.8 *10*		F L R	
3322.6 *3*	(10$^+$)[‡]	V	
3337.8 *10*		F	
3347 *3*	$^+$	L R	Jπ: L(d,p)=1.
3375.8 *10*		F	
3387.8 *10*	3$^-$,4$^-$	F l R	Jπ: L(d,t)=0.
3397 *3*		l R	
3398.13[@] *16*	10$^+$[‡]	V	
3403.8 *10*		F L R	
3413.8 *10*		F R	
3421.90[c] *16*	11$^-$[‡]	V	
3428 *3*		R	
3437.8 *10*		F	
3451.9 *5*	(1,2$^+$)	LM R	Jπ: γ to 0$^+$.
3465.8 *10*		F R	
3479.8 *10*		F L	
3483.6 *5*	(1,2$^+$)	M	Jπ: γ to 0$^+$. B(E1)↑=6.0×10^{-5} *15* (γ,γ′, 1993Zi05).
3488 *4*	(3$^-$,4$^-$)	R	Jπ: L(d,t)=(0).
3507.8 *10*		F R	
3519.8 *10*		F l	
3526.57 *18*	10$^-$[‡]	V	
3530 *4*	(3$^-$,4$^-$)	l R	Jπ: L(d,t)=(0).
3534.9 *5*	(1,2$^+$)	lM	Jπ: γ to 0$^+$. B(E1)↑=5.8×10^{-5} *4* (γ,γ′, 1993Zi05).
3545.63 *17*	10$^-$[‡]	V	
3546 *4*	(3$^-$,4$^-$)	l R	Jπ: L(d,t)=(0).
3562.8 *10*		F l	
3572 *4*		R	
3586.0 *5*	(1,2$^+$)	LM	Jπ: γ to 0$^+$.
3598.8 *10*	(3$^-$,4$^-$)	F R	Jπ: L(d,t)=(0).
3613.8 *10*		F l	
3614.76[&] *17*	11$^-$[‡]	V	
3628 *4*	(3$^-$,4$^-$)	l R	Jπ: L(d,t)=(0).
3635.8 *10*		F	
3640.4 *4*	(11)[‡]	V	
3652 *4*	(3$^-$,4$^-$)	L R	Jπ: L(d,t)=(0).
3668 *10*		L	
3674 *4*		R	
3701.8 *10*	(3$^-$,4$^-$)	F l R	Jπ: L(d,t)=(0).
3714 *4*		l R	
3734 *4*	(3$^-$,4$^-$)	L R	Jπ: L(d,t)=(0).
3752 *4*		l R	
3766.8 *10*		F l	
3774 *4*	(3$^-$,4$^-$)	L R	Jπ: L(d,t)=(0).
3797 *4*		L R	
3806.98[e] *18*	11$^-$[‡]	V	
3812.0 *5*	(1,2$^+$)	M	Jπ: γ to 0$^+$.
3817 *4*	3$^-$,4$^-$	R	Jπ: L(d,t)=0.
3831.8 *10*		F	
3843.6 *5*	(1,2$^+$)	M	Jπ: γ to 0$^+$. B(E1)↑=0.6×10^{-5} *2* (γ,γ′, 1993Zi05).

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)[†]	Jπ	XREF	Comments
3844.8 *10*		F L	
3865.8 *10*	3⁻,4⁻	F R	Jπ: L(d,t)=0.
3884.3 *5*	(1,2⁺)	lM R	Jπ: γ to 0⁺.
3895.4 *5*	(1,2⁺)	M	Jπ: γ to 0⁺.
3902 *4*	3⁻,4⁻	l R	Jπ: L(d,t)=0.
3920.8 *10*	3⁻,4⁻	F L R	Jπ: L(d,t)=0.
3951 *4*		L R	
3971.8 *10*	(3⁻,4⁻)	F R	Jπ: L(d,t)=(0).
3990 *4*	(3⁻,4⁻)	L R	Jπ: L(d,t)=(0).
3992.62[b] *17*	12⁺‡	V	
4005 *4*		R	
4011 *4*		R	
4026 *4*	3⁻,4⁻	L R	Jπ: L(d,t)=0.
4041 *4*		L R	
4085 *10*		L	
4104.39[@] *17*	12⁺‡	V	
4107 *10*		L	
4108.70 *18*	12⁻‡	V	
4110.68[c] *17*	13⁻‡	V	
4122.8 *10*		F L	
4166 *10*		L	
4189.28 *19*	12⁺‡	V	
4192 *10*		L	
4196.25 *18*	12⁻‡	V	
4214 *10*		L	
4228 *10*		L	
4241.52 *21*	13⁻‡	V	
4255 *10*		L	
4290 *10*		L	
4334 *10*		L	
4357 *10*		L	
4383 *10*		L	
4397.78[&] *18*	13⁻‡	V	
4402 *10*		L	
4444 *10*		L	
4466 *10*		L	
4510 *10*		L	
4512.91[e] *19*	13⁻‡	V	
4516.75 *19*	13⁺‡	V	
4535 *10*		L	
4573 *10*		L	
4592 *10*		L	
4630 *10*		L	
4649 *10*		L	
4675 *10*		L	
4735 *10*		L	
4784 *10*		L	
4805.18[@] *18*	14⁺‡	V	
4824 *10*		L	
4842.69[c] *18*	15⁻‡	V	
4864.69[b] *17*	14⁺‡	V	
4876 *10*		L	
4889.71 *19*	14⁻‡	V	

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Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
4909.65 *19*	14^{+}‡		V	
4917.55 *18*	14^{-}‡		V	
4951.75 *23*	$14^{(-)}$‡		V	
5087.55 *19*	15^{-}‡		V	
5136.13& *19*	15^{-}‡		V	
5217.20 *20*	$15^{(-)}$‡		V	
5274.93 *20*	15^{+}‡		V	
5287.77e *25*	15^{-}‡		V	
5320.28 *19*	16^{-}‡		V	
5496.39@ *19*	16^{+}‡		V	
5524.48b *19*	16^{+}‡		V	
5556.54 *21*	16^{-}‡		V	
5561.19c *20*	17^{-}‡		V	
5578.31 *21*	$16^{(+)}$‡		V	
5649.57 *20*	17^{-}‡		V	
5777.74 *21*	17^{+}‡		V	
5837.32a *22*	17^{-}‡		V	
5946.08@ *19*	18^{+}‡		V	
6011.15 *21*	18‡		V	
6029.22 *21*	18^{-}‡		V	
6195.29a *21*	19^{-}‡		V	
6392.23 *23*	19^{-}‡		V	
6477.07 *20*	19^{-}‡		V	
6557.5? *4*	(19)‡		V	
6592.79@ *21*	$20^{(+)}$‡		V	
6694.32d *21*	$21^{(-)}$‡	32 ns *3*	V	$T_{1/2}$: from DSAM in (HI,xnγ) (1998UrZZ).
6913.3a *3*	$21^{(-)}$‡		V	
7329.3@ *3*	$22^{(+)}$‡		V	
7332.92d *23*	$23^{(-)}$‡		V	
7620.4a *3*	$23^{(-)}$‡		V	
7942.5 *3*	(22)‡		V	
7977.6@ *3*	$24^{(+)}$‡		V	
8010.61d *25*	$25^{(-)}$‡		V	
8214.5a *3*	$25^{(-)}$‡		V	
8358.8 *3*	(24)‡		V	
8602.2d *3*	$27^{(-)}$‡		V	
8659.5@ *5*	$26^{(+)}$‡		V	
8931.5? *7*	(27)‡		V	
9045.9 *3*	(26)‡		V	
9601.2d *4*	29‡		V	
9898.2 *11*	(28)‡		V	
10439.0d *4*	31‡		V	
10609.1 *4*	(30)‡		V	
11524.7 *5*	(32)‡		V	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{148}Sm Levels (continued)

† From the data sets which provided Eγ, and other particle-transfer reactions.
‡ From (HI,xnγ) based on γ-ray excitation functions, $\gamma(\theta)$, DCO ratios, γ-ray linear polarization, Ice spectra, $T_{1/2}$, prompt and delayed Ice spectra. π of levels upto J=19 were deduced from linear-polarization data. J^{π} assignments of high-spin levels should be considered as tentative pending publication of detailed data.
# From $\gamma(\theta)$, primary-capture γ Iγ/E_{γ}^{5}, and linear-polarization data in (n,γ) E=0.020-1.0 keV and (n,n$'\gamma$).
@ Band(A): band 1; g.s. band.
& Band(B): band 2; octupole band.
a Band(C): band 3.
b Band(D): band 4.
c Band(E): band 5.
d Band(F): band 6.
e Band(G): band 7.

Adopted Levels, Gammas (continued)

γ(^{148}Sm)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
550.255	2+	550.273 *9*	100	0.0	0+	E2		0.00998 *14*	α=0.00998 *14*; α(K)=0.00825 *12*; α(L)=0.001360 *19*; α(M)=0.000296 *5*; α(N+..)=7.67×10^{-5} *11* α(N)=6.66×10^{-5} *10*; α(O)=9.59×10^{-6} *14*; α(P)=4.78×10^{-7} *7* B(E2)(W.u.)=31.2 *13*
1161.529	3−	611.293 *8*	100	550.255	2+	E1		0.00277 *4*	α=0.00277 *4*; α(K)=0.00237 *4*; α(L)=0.000312 *5*; α(M)=6.63×10^{-5} *10*; α(N+..)=1.735×10^{-5} *25* α(N)=1.498×10^{-5} *21*; α(O)=2.23×10^{-6} *4*; α(P)=1.358×10^{-7} *19* B(E1)(W.u.)=0.0018 *+6−12* Mult.: E1+M2 with δ=+0.026 *13* from ^{148}Sm β$^-$ decay, +0.08 *4* from (HI,xnγ), and<0.4 from (n,n′γ). However, RUL estimate of δ is≤0.007 and the evaluator has set the mult=E1.
1180.261	4+	629.987 *8*	100	550.255	2+	E2		0.00710 *10*	B(E2)(W.u.)=51 *6* α=0.00710 *10*; α(K)=0.00591 *9*; α(L)=0.000932 *13*; α(M)=0.000202 *3*; α(N+..)=5.25×10^{-5} *8* α(N)=4.55×10^{-5} *7*; α(O)=6.61×10^{-6} *10*; α(P)=3.46×10^{-7} *5*
1424.46	0+	874.18 *3*	100	550.255	2+	E2		0.00332 *5*	α=0.00332 *5*; α(K)=0.00280 *4*; α(L)=0.000406 *6*; α(M)=8.74×10^{-5} *13*; α(N+..)=2.28×10^{-5} *4* α(N)=1.97×10^{-5} *3*; α(O)=2.91×10^{-6} *4*; α(P)=1.663×10^{-7} *24*
1434.0		884.2 *10*	100	550.255	2+				
1454.115	2+	903.831 *15*	100 *2*	550.255	2+	M1+E2	+2.32[c] *10*	0.00339 *6*	α=0.00339 *6*; α(K)=0.00287 *5*; α(L)=0.000406 *7*; α(M)=8.72×10^{-5} *14*; α(N+..)=2.28×10^{-5} *4* α(N)=1.97×10^{-5} *3*; α(O)=2.92×10^{-6} *5*; α(P)=1.72×10^{-7} *3* B(M1)(W.u.)=0.0082 *11*; B(E2)(W.u.)=30 *3*
		1454.110 *20*	99.6 *2*	0.0	0+	E2		0.001230 *18*	α=0.001230 *18*; α(K)=0.001000 *14*; α(L)=0.0001338 *19*; α(M)=2.86×10^{-5} *4*; α(N+..)=6.78×10^{-5} α(N)=6.46×10^{-6} *9*; α(O)=9.66×10^{-7} *14*; α(P)=5.96×10^{-8} *9*; α(IPF)=6.03×10^{-5} *9* B(E2)(W.u.)=3.3 *4*
1461.1	(1,2+)	910.7	56	550.255	2+				
		1461.1	100	0.0	0+				
1465.137	1−	303.59 *3*	0.17 *2*	1161.529	3−				If E2 B(E2)(W.u.)=67.
		914.916 *15*	51.6 *4*	550.255	2+	E1		0.001221 *17*	α=0.001221 *17*; α(K)=0.001050 *15*; α(L)=0.0001354 *19*; α(M)=2.88×10^{-5} *4*; α(N+..)=7.54×10^{-6} α(N)=6.51×10^{-6} *10*; α(O)=9.73×10^{-7} *14*; α(P)=6.07×10^{-8} *9* B(E1)(W.u.)=0.00117 *11*
		1465.101 *13*	100 *3*	0.0	0+	E1		0.000704 *10*	α=0.000704 *10*; α(K)=0.000449 *7*; α(L)=5.70×10^{-5} *8*;

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Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
									α(M)=1.208×10^{-5} *17*; α(N+..)=0.000186 *3* α(N)=2.74×10^{-6} *4*; α(O)=4.11×10^{-7} *6*; α(P)=2.61×10^{-8} *4*; α(IPF)=0.000183 *3* B(E1)(W.u.)=0.00055 *6*
1594.247	5$^-$	414.028 *12*	100 *3*	1180.261	4$^+$	E1+M2	−0.013[a] *10*	0.00670 *11*	α=0.00670 *11*; α(K)=0.00573 *9*; α(L)=0.000766 *13*; α(M)=0.000163 *3*; α(N+..)=4.26×10^{-5} *7* α(N)=3.68×10^{-5} *6*; α(O)=5.45×10^{-6} *9*; α(P)=3.22×10^{-7} *6*
		432.745 *8*	27.6 *15*	1161.529	3$^-$	E2		0.0190	α(K)=0.01544 *22*; α(L)=0.00281 *4*; α(M)=0.000617 *9*; α(N+..)=0.0001587 *23* α(N)=0.0001382 *20*; α(O)=1.96×10^{-5} *3*; α(P)=8.75×10^{-7} *13*
1659.4	(2,3,4$^+$)	1109 *1*	100	550.255	2$^+$				
1664.278	2$^+$	1113.92 *3*	100 *3*	550.255	2$^+$	M1+E2	−0.565[c] *21*	0.00279 *5*	B(M1)(W.u.)=0.032 *11*; B(E2)(W.u.)=4.5 *15* α=0.00279 *5*; α(K)=0.00239 *4*; α(L)=0.000319 *5*; α(M)=6.81×10^{-5} *10*; α(N+..)=1.85×10^{-5} *3* α(N)=1.544×10^{-5} *23*; α(O)=2.32×10^{-6} *4*; α(P)=1.466×10^{-7} *23*; α(IPF)=5.65×10^{-7} *8*
		1664.20 *4*	51.6 *16*	0.0	0$^+$	E2		0.001042 *15*	B(E2)(W.u.)=1.3 *5* α=0.001042 *15*; α(K)=0.000775 *11*; α(L)=0.0001023 *15*; α(M)=2.18×10^{-5} *3*; α(N+..)=0.000143 α(N)=4.94×10^{-6} *7*; α(O)=7.40×10^{-7} *11*; α(P)=4.62×10^{-8} *7*; α(IPF)=0.0001375 *20*
1733.465	4$^+$	279.30 *5*	0.65 *3*	1454.115	2$^+$	E2		0.0703	α(K)=0.0542 *8*; α(L)=0.01261 *18*; α(M)=0.00282 *4*; α(N+..)=0.000715 *10* α(N)=0.000627 *9*; α(O)=8.56×10^{-5} *12*; α(P)=2.87×10^{-6} *4*
		553.231 *14*	100 *17*	1180.261	4$^+$	M1+E2	+1.66[b] *20*	0.0117 *4*	α(K)=0.0098 *4*; α(L)=0.00150 *4*; α(M)=0.000324 *8*; α(N+..)=8.43×10^{-5} *22* α(N)=7.31×10^{-5} *18*; α(O)=1.07×10^{-5} *3*; α(P)=5.83×10^{-7} *24*
		571.962 *7*	74 *2*	1161.529	3$^-$	E1		0.00320 *5*	α=0.00320 *5*; α(K)=0.00274 *4*; α(L)=0.000361 *5*; α(M)=7.68×10^{-5} *11*; α(N+..)=2.01×10^{-5} *3* α(N)=1.735×10^{-5} *25*; α(O)=2.58×10^{-6} *4*; α(P)=1.564×10^{-7} *22*
		1183.208 *16*	12.8 *3*	550.255	2$^+$	E2		0.001761 *25*	α=0.001761 *25*; α(K)=0.001496 *21*; α(L)=0.000205 *3*; α(M)=4.40×10^{-5} *7*; α(N+..)=1.555×10^{-5} *2* α(N)=9.94×10^{-6} *14*; α(O)=1.480×10^{-6} *21*; α(P)=8.91×10^{-8} *13*; α(IPF)=4.04×10^{-6} *6*
1894.824	4$^+$	300.65 *7*	2.9 *2*	1594.247	5$^-$	[E1]		0.01463	α(K)=0.01248 *18*; α(L)=0.001694 *24*; α(M)=0.000362 *5*; α(N+..)=9.40×10^{-5} *14*

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Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
									α(N)=8.14×10^{-5} *12*; α(O)=1.195×10^{-5} *17*; α(P)=6.86×10^{-7} *10*
1894.824	4$^+$	714.769 *13*	91 *2*	1180.261	4$^+$	M1+E2		0.0070 *18*	α=0.0070 *18*; α(K)=0.0060 *16*; α(L)=0.00084 *18*; α(M)=0.00018 *4*; α(N+..)=4.7×10^{-5} *10* α(N)=4.1×10^{-5} *9*; α(O)=6.1×10^{-6} *14*; α(P)=3.6×10^{-7} *11* δ: +0.25 *10* or −1.5 *5* from γγ(θ); −0.03≤δ≤+1.02 from γ(θ,T); all from ^{148}Eu ε decay.
		1344.740 *23*	100 *8*	550.255	2$^+$	E2		0.001391 *20*	α=0.001391 *20*; α(K)=0.001162 *17*; α(L)=0.0001569 *22*; α(M)=3.35×10^{-5} *5*; α(N+..)=3.86×10^{-5} α(N)=7.59×10^{-6} *11*; α(O)=1.133×10^{-6} *16*; α(P)=6.92×10^{-8} *10*; α(IPF)=2.98×10^{-5} *5* δ(M3/E2)=−0.01 *8*.
1903.773	3$^+$	449.66 *9*	7 *3*	1454.115	2$^+$				
		723.58 *5*	15.4 *7*	1180.261	4$^+$				
		742.16 *11*	4.5 *4*	1161.529	3$^-$				
		1353.509 *17*	100 *2*	550.255	2$^+$	M1+E2	+8.2[c] *12*	0.001385 *20*	α=0.001385 *20*; α(K)=0.001155 *17*; α(L)=0.0001558 *22*; α(M)=3.33×10^{-5} *5*; α(N+..)=4.07×10^{-5} α(N)=7.53×10^{-6} *11*; α(O)=1.125×10^{-6} *16*; α(P)=6.89×10^{-8} *10*; α(IPF)=3.20×10^{-5} *5*
1905.908	6$^+$	311.570 *20*	14.2 *3*	1594.247	5$^-$	E1		0.01337	α(K)=0.01141 *16*; α(L)=0.001547 *22*; α(M)=0.000330 *5*; α(N+..)=8.58×10^{-5} *12* α(N)=7.43×10^{-5} *11*; α(O)=1.092×10^{-5} *16*; α(P)=6.29×10^{-7} *9*
		725.673 *9*	100 *2*	1180.261	4$^+$	E2		0.00506 *7*	α=0.00506 *7*; α(K)=0.00424 *6*; α(L)=0.000642 *9*; α(M)=0.0001389 *20*; α(N+..)=3.61×10^{-5} *5* α(N)=3.13×10^{-5} *5*; α(O)=4.58×10^{-6} *7*; α(P)=2.50×10^{-7} *4*
1920.97	0$^+$	1370.71 *6*	100	550.255	2$^+$				
1972.480	2$^+$	308.29 *11*	9.5 *10*	1664.278	2$^+$				
		810.65 *14*	12 *2*	1161.529	3$^-$				
		1422.216 *20*	100 *3*	550.255	2$^+$	M1+E2	−0.556[c] *24*	0.001663 *25*	α=0.001663 *25*; α(K)=0.001379 *21*; α(L)=0.000182 *3*; α(M)=3.88×10^{-5} *6*; α(N+..)=6.40×10^{-5} *9* α(N)=8.80×10^{-6} *13*; α(O)=1.325×10^{-6} *20*; α(P)=8.43×10^{-8} *13*; α(IPF)=5.38×10^{-5} *8*
		1972.8 *3*	9.9 *8*	0.0	0$^+$				
2031.403	4$^-$	437.18 *4*	3.5 *1*	1594.247	5$^-$	M1		0.0303	α(K)=0.0258 *4*; α(L)=0.00353 *5*; α(M)=0.000756 *11*; α(N+..)=0.000199 *3* α(N)=0.0001715 *24*; α(O)=2.58×10^{-5} *4*; α(P)=1.621×10^{-6} *23*
		851.4 *5*	0.28 *13*	1180.261	4$^+$				
		869.891 *8*	100 *2*	1161.529	3$^-$	M1+E2	−1.7[b] *3*	0.00391 *18*	α=0.00391 *18*; α(K)=0.00331 *16*; α(L)=0.000466 *19*; α(M)=0.000100 *4*; α(N+..)=2.62×10^{-5} *11* α(N)=2.26×10^{-5} *9*; α(O)=3.36×10^{-6} *14*; α(P)=2.00×10^{-7} *11*

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Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2057.960	2⁻	393.80 *3*	1.6 *2*	1664.278	2⁺				
		592.83 *3*	36.0 *7*	1465.137	1⁻	M1+E2		0.011 *3*	α(K)=0.009 *3*; α(L)=0.0014 *3*; α(M)=0.00029 *6*; α(N+..)=7.7×10⁻⁵ *15* α(N)=6.6×10⁻⁵ *13*; α(O)=9.8×10⁻⁶ *21*; α(P)=5.7×10⁻⁷ *18* δ: +11 *+11−4* or −0.20 *5* from ^{148}Pm β⁻ decay.
		896.42 *3*	100 *1*	1161.529	3⁻	M1+E2	+1.32[&] *9*	0.00386 *9*	α=0.00386 *9*; α(K)=0.00328 *8*; α(L)=0.000456 *10*; α(M)=9.77×10⁻⁵ *20*; α(N+..)=2.56×10⁻⁵ *6* α(N)=2.21×10⁻⁵ *5*; α(O)=3.29×10⁻⁶ *7*; α(P)=1.99×10⁻⁷ *5*
		1507.68 *3*	0.6 *1*	550.255	2⁺				
2095.595	6⁺	189.721 *16*	6.9 *2*	1905.908	6⁺	M1,E2		0.264 *16*	α(K)=0.21 *3*; α(L)=0.045 *12*; α(M)=0.010 *3*; α(N+..)=0.0025 *7* α(N)=0.0022 *6*; α(O)=0.00031 *7*; α(P)=1.2×10⁻⁵ *4*
		362.09 *3*	1.0 *2*	1733.465	4⁺				
		501.312 *11*	37.4 *8*	1594.247	5⁻	E1+M2	−0.017[a] *14*	0.00431 *8*	α=0.00431 *8*; α(K)=0.00369 *7*; α(L)=0.000489 *9*; α(M)=0.0001041 *20*; α(N+..)=2.72×10⁻⁵ *5* α(N)=2.35×10⁻⁵ *5*; α(O)=3.49×10⁻⁶ *7*; α(P)=2.09×10⁻⁷ *4*
		915.331 *8*	100 *2*	1180.261	4⁺	E2		0.00300 *5*	α=0.00300 *5*; α(K)=0.00254 *4*; α(L)=0.000364 *5*; α(M)=7.83×10⁻⁵ *11*; α(N+..)=2.04×10⁻⁵ *3* α(N)=1.769×10⁻⁵ *25*; α(O)=2.61×10⁻⁶ *4*; α(P)=1.508×10⁻⁷ *22*
2111.053	4⁺	216.16 *6*	2.2 *2*	1894.824	4⁺	M1		0.195	α(K)=0.1657 *24*; α(L)=0.0232 *4*; α(M)=0.00497 *7*; α(N+..)=0.001307 *19* α(N)=0.001127 *16*; α(O)=0.0001691 *24*; α(P)=1.052×10⁻⁵ *15*
		377.560 *20*	11.6 *26*	1733.465	4⁺	M1		0.0442	α(K)=0.0376 *6*; α(L)=0.00518 *8*; α(M)=0.001109 *16*; α(N+..)=0.000292 *4* α(N)=0.000251 *4*; α(O)=3.78×10⁻⁵ *6*; α(P)=2.37×10⁻⁶ *4*
		446.52 *6*	3.0 *2*	1664.278	2⁺	(E2)		0.01744	α(K)=0.01419 *20*; α(L)=0.00255 *4*; α(M)=0.000559 *8*; α(N+..)=0.0001437 *21* α(N)=0.0001252 *18*; α(O)=1.778×10⁻⁵ *25*; α(P)=8.07×10⁻⁷ *12*
		516.793 *14*	31 *1*	1594.247	5⁻	E1+M2	0.48 *8*	0.015 *3*	α(K)=0.013 *3*; α(L)=0.0019 *4*; α(M)=0.00041 *9*; α(N+..)=0.000108 *23* α(N)=9.3×10⁻⁵ *20*; α(O)=1.4×10⁻⁵ *3*; α(P)=8.4×10⁻⁷ *18* δ: calculated from %E1=81 *5* estimated from Ice data in ^{148}Eu ε decay.
		656.93 *3*	10.3 *6*	1454.115	2⁺				
		930.807 *19*	100 *21*	1180.261	4⁺	E2		0.00290 *4*	α=0.00290 *4*; α(K)=0.00245 *4*; α(L)=0.000350 *5*; α(M)=7.53×10⁻⁵ *11*; α(N+..)=1.97×10⁻⁵ *3* α(N)=1.701×10⁻⁵ *24*; α(O)=2.51×10⁻⁶ *4*; α(P)=1.455×10⁻⁷ *21* Mult.: from Ice data in ^{148}Eu ε decay. M1+E2 from (n,n′γ); however, since this γ is doubly placed in this reaction, the result is suspect.
		949.590 *20*	17.6 *4*	1161.529	3⁻				

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2111.053	4^+	1560.786 *17*	61.6 *16*	550.255	2^+	E2		0.001118 *16*	α=0.001118 *16*; α(K)=0.000874 *13*; α(L)=0.0001161 *17*; α(M)=2.48×10^{-5} *4*; α(N+..)=0.000103 α(N)=5.61×10^{-6} *8*; α(O)=8.40×10^{-7} *12*; α(P)=5.21×10^{-8} *8*; α(IPF)=9.68×10^{-5} *14*
2128.64	7^-	222.71 *12*	22.9 *21*	1905.908	6^+	E1		0.0318	α(K)=0.0270 *4*; α(L)=0.00373 *6*; α(M)=0.000796 *12*; α(N+..)=0.000206 *3* α(N)=0.000179 *3*; α(O)=2.61×10^{-5} *4*; α(P)=1.448×10^{-6} *21*
		534.38 *7*	100 *21*	1594.247	5^-	E2		0.01077	α(K)=0.00888 *13*; α(L)=0.001480 *21*; α(M)=0.000323 *5*; α(N+..)=8.35×10^{-5} *12* α(N)=7.25×10^{-5} *11*; α(O)=1.043×10^{-5} *15*; α(P)=5.14×10^{-7} *8*
2146.35	2^+	985.16 *20*	10.4 *12*	1161.529	3^-				
		1596.08 *3*	100 *3*	550.255	2^+	M1+E2	−0.11[c] *5*	0.001447 *21*	α=0.001447 *21*; α(K)=0.001137 *17*; α(L)=0.0001491 *22*; α(M)=3.18×10^{-5} *5*; α(N+..)=0.000128 α(N)=7.21×10^{-6} *11*; α(O)=1.087×10^{-6} *16*; α(P)=6.98×10^{-8} *11*; α(IPF)=0.0001206 *17* B(M1)(W.u.)>0.069; B(E2)(W.u.)>0.019
		2146.3	<17	0.0	0^+				
2147.499	5^+	116.01 *4*	1.49 *4*	2031.403	4^-	E1		0.184	α(K)=0.1556 *22*; α(L)=0.0225 *4*; α(M)=0.00481 *7*; α(N+..)=0.001234 *18* α(N)=0.001073 *15*; α(O)=0.0001528 *22*; α(P)=7.69×10^{-6} *11*
		241.653 *15*	14.3 *3*	1905.908	6^+	M1+E2	−0.34[b] *11*	0.141 *3*	α(K)=0.119 *3*; α(L)=0.0176 *4*; α(M)=0.00379 *10*; α(N+..)=0.000991 *23* α(N)=0.000857 *21*; α(O)=0.0001269 *23*; α(P)=7.41×10^{-6} *25*
		243.83 *4*	3.2 *1*	1903.773	3^+	E2		0.1086	α(K)=0.0817 *12*; α(L)=0.0210 *3*; α(M)=0.00472 *7*; α(N+..)=0.001192 *17* α(N)=0.001046 *15*; α(O)=0.0001413 *20*; α(P)=4.22×10^{-6} *6*
		252.60 *3*	1.33 *4*	1894.824	4^+	M1,E2		0.112 *16*	α(K)=0.091 *18*; α(L)=0.0167 *17*; α(M)=0.0037 *5*; α(N+..)=0.00095 *10* α(N)=0.00083 *9*; α(O)=0.000117 *7*; α(P)=5.4×10^{-6} *16*
		414.057 *16*	100 *5*	1733.465	4^+	M1+E2	−1.8[b] *8*	0.025 *4*	α(K)=0.020 *4*; α(L)=0.00343 *23*; α(M)=0.00075 *5*; α(N+..)=0.000194 *13* α(N)=0.000168 *11*; α(O)=2.42×10^{-5} *20*; α(P)=1.19×10^{-6} *24*
		553.260 *15*	50 *21*	1594.247	5^-	E1		0.00344 *5*	α=0.00344 *5*; α(K)=0.00295 *5*; α(L)=0.000389 *6*; α(M)=8.28×10^{-5} *12*; α(N+..)=2.16×10^{-5} *3* α(N)=1.87×10^{-5} *3*; α(O)=2.78×10^{-6} *4*; α(P)=1.680×10^{-7} *24*
		967.306 *17*	26.9 *6*	1180.261	4^+	M1+E2		0.0035 *8*	α=0.0035 *8*; α(K)=0.0030 *7*; α(L)=0.00040 *9*; α(M)=8.6×10^{-5} *18*; α(N+..)=2.3×10^{-5} *5* α(N)=2.0×10^{-5} *4*; α(O)=2.9×10^{-6} *7*; α(P)=1.8×10^{-7} *5* δ: +0.42 *10* or +2.0 *5* from γγ(θ); +0.55 *+17−11* or −2.8 *+11−9* from γ(θ,T) all from ^{148}Eu ε decay.
2194.061	6^+	98.530 *20*	12.2 *2*	2095.595	6^+	M1+E2	0.18	1.79 *3*	α(K)=1.486 *21*; α(L)=0.235 *4*; α(M)=0.0511 *8*; α(N+..)=0.01330 *19*

$^{148}_{62}Sm_{86}$-13

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
									α(N)=0.01152 *17*; α(O)=0.001689 *24*; α(P)=9.40×10^{-5} *14* δ: from M1/E2=30 from ^{148}Eu ε decay.
2194.061	6$^+$	288.141 *13*	61.9 *4*	1905.908	6$^+$	M1+E2	+0.088[a] *21*	0.0898	α(K)=0.0763 *11*; α(L)=0.01061 *15*; α(M)=0.00228 *4*; α(N+..)=0.000599 *9* α(N)=0.000516 *8*; α(O)=7.75×10^{-5} *11*; α(P)=4.82×10^{-6} *7*
		299.1 *2*	0.44 *9*	1894.824	4$^+$				
		460.80 *20*	2.06 *9*	1733.465	4$^+$				
		599.81 *3*	61.8 *6*	1594.247	5$^-$	E1+M2	−0.021[a] *11*	0.00290 *5*	α=0.00290 *5*; α(K)=0.00249 *4*; α(L)=0.000327 *6*; α(M)=6.96×10^{-5} *12*; α(N+..)=1.82×10^{-5} *3* α(N)=1.57×10^{-5} *3*; α(O)=2.34×10^{-6} *4*; α(P)=1.423×10^{-7} *24*
		1013.808 *11*	100 *1*	1180.261	4$^+$	E2+M3	−0.025[a] *14*	0.00243 *4*	α=0.00243 *4*; α(K)=0.00206 *4*; α(L)=0.000290 *5*; α(M)=6.22×10^{-5} *10*; α(N+..)=1.62×10^{-5} *3* α(N)=1.404×10^{-5} *22*; α(O)=2.08×10^{-6} *4*; α(P)=1.224×10^{-7} *20* Additional information 1.
2204.99	0$^+$	1654.72 *15*	100	550.255	2$^+$				
2208.85	(1,2$^+$)	1658.58 *7*	100 *4*	550.255	2$^+$				
		2208.9 *3*	24 *4*	0.0	0$^+$				
2214.215	5$^+$	66.72 *9*	0.33 *4*	2147.499	5$^+$	M1		5.43	α(K)=4.60 *7*; α(L)=0.656 *10*; α(M)=0.1410 *21*; α(N+..)=0.0370 *6* α(N)=0.0319 *5*; α(O)=0.00478 *7*; α(P)=0.000294 *5* I_γ: from ce(K) and α(K).
		182.83 *3*	1.9 *4*	2031.403	4$^-$	E1		0.0537	α(K)=0.0456 *7*; α(L)=0.00636 *9*; α(M)=0.001359 *19*; α(N+..)=0.000351 *5* α(N)=0.000305 *5*; α(O)=4.42×10^{-5} *7*; α(P)=2.39×10^{-6} *4*
		308.45 *10*	0.96 *9*	1905.908	6$^+$	E2,M1		0.063 *12*	α(K)=0.052 *12*; α(L)=0.00882 *13*; α(M)=0.00193 *5*; α(N+..)=0.000498 *7* α(N)=0.000433 *7*; α(O)=6.23×10^{-5} *24*; α(P)=3.1×10^{-6} *10*
		310.14 *10*	1.9 *4*	1903.773	3$^+$	E2		0.0507	α(K)=0.0397 *6*; α(L)=0.00863 *13*; α(M)=0.00192 *3*; α(N+..)=0.000489 *7* α(N)=0.000428 *6*; α(O)=5.90×10^{-5} *9*; α(P)=2.15×10^{-6} *3*
		319.270 *20*	2.0 *1*	1894.824	4$^+$	M1,E2		0.057 *12*	α(K)=0.047 *11*; α(L)=0.00792 *18*; α(M)=0.001730 *25*; α(N+..)=0.000448 *10* α(N)=0.000389 *7*; α(O)=5.6×10^{-5} *3*; α(P)=2.8×10^{-6} *9*
		480.89 *8*	1.21 *6*	1733.465	4$^+$	M1		0.0238	α(K)=0.0203 *3*; α(L)=0.00276 *4*; α(M)=0.000591 *9*; α(N+..)=0.0001555 *22* α(N)=0.0001340 *19*; α(O)=2.02×10^{-5} *3*; α(P)=1.269×10^{-6} *18*
		620.04 *3*	11.6 *7*	1594.247	5$^-$	E1+M2	+0.13[b] *5*	0.0033 *5*	α=0.0033 *5*; α(K)=0.0028 *5*; α(L)=0.00037 *7*; α(M)=8.0×10^{-5} *14*; α(N+..)=2.1×10^{-5} *4* α(N)=1.8×10^{-5} *4*; α(O)=2.7×10^{-6} *5*; α(P)=1.6×10^{-7} *3*

$^{148}_{62}Sm_{86}$-14

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2214.215	5$^+$	1033.986 *14*	100 *2*	1180.261	4$^+$	M1+E2	−1.9[b] *6*	0.00260 *21*	α=0.00260 *21*; α(K)=0.00222 *18*; α(L)=0.000306 *22*; α(M)=6.5×10^{-5} *5*; α(N+..)=1.71×10^{-5} *13* α(N)=1.48×10^{-5} *11*; α(O)=2.21×10^{-6} *17*; α(P)=1.33×10^{-7} *12*
2228.042	4$^+$	322 *1*	4.6 *24*	1905.908	6$^+$				
		495.25 *6*	11 *5*	1733.465	4$^+$	M1		0.0221	α(K)=0.0188 *3*; α(L)=0.00256 *4*; α(M)=0.000548 *8*; α(N+..)=0.0001442 *21* α(N)=0.0001243 *18*; α(O)=1.87×10^{-5} *3*; α(P)=1.177×10^{-6} *17*
		774.2 *5*	2.4 *12*	1454.115	2$^+$				
		1047.570 *20*	46 *7*	1180.261	4$^+$	M1		0.00353 *5*	α=0.00353 *5*; α(K)=0.00302 *5*; α(L)=0.000401 *6*; α(M)=8.55×10^{-5} *12*; α(N+..)=2.25×10^{-5} *4* α(N)=1.94×10^{-5} *3*; α(O)=2.92×10^{-6} *4*; α(P)=1.87×10^{-7} *3*
		1066.75 *3*	91.7 *22*	1161.529	3$^-$				
		1677.85 *3*	100 *3*	550.255	2$^+$	E2		0.001034 *15*	α=0.001034 *15*; α(K)=0.000763 *11*; α(L)=0.0001007 *15*; α(M)=2.15×10^{-5} *3*; α(N+..)=0.000148 α(N)=4.86×10^{-6} *7*; α(O)=7.28×10^{-7} *11*; α(P)=4.55×10^{-8} *7*; α(IPF)=0.0001432 *20*
2284.406	(1,2$^+$)	362.8[f] *2*	<5	1920.97	0$^+$				
		819.27 *3*	30 *5*	1465.137	1$^-$				
		1734.12 *3*	87 *2*	550.255	2$^+$				
		2284.39 *3*	100 *5*	0.0	0$^+$	D			
2313.57	2$^+$	1152.20 *15*	42 *3*	1161.529	3$^-$	E1+M2	−0.10[c] *9*	0.00086 *15*	α=0.00086 *15*; α(K)=0.00073 *13*; α(L)=9.5×10^{-5} *18*; α(M)=2.0×10^{-5} *4*; α(N+..)=1.50×10^{-5} *8* α(N)=4.5×10^{-6} *9*; α(O)=6.8×10^{-7} *14*; α(P)=4.3×10^{-8} *9*; α(IPF)=9.7×10^{-6} *3*
		1763.26 *8*	100 *4*	550.255	2$^+$	M1+E2	+2.2[c] *5*	0.00104 *3*	α=0.00104 *3*; α(K)=0.000732 *22*; α(L)=9.6×10^{-5} *3*; α(M)=2.05×10^{-5} *6*; α(N+..)=0.000189 *4* α(N)=4.64×10^{-6} *14*; α(O)=6.97×10^{-7} *21*; α(P)=4.39×10^{-8} *14*; α(IPF)=0.000183 *3*
		2314.0[f] *2*	<4	0.0	0$^+$				
2318.5	$^+$	1138.4[f] *5*	100	1180.261	4$^+$				
2327.09	4$^+$	216.16 *6*	0.99 *7*	2111.053	4$^+$				
		423.5 *4*	1.9 *5*	1903.773	3$^+$				
		432.745 *8*	5 *3*	1894.824	4$^+$	M1		0.0311	α(K)=0.0265 *4*; α(L)=0.00363 *5*; α(M)=0.000776 *11*; α(N+..)=0.000204 *3* α(N)=0.0001761 *25*; α(O)=2.65×10^{-5} *4*; α(P)=1.664×10^{-6} *24*
		662.79 *5*	5.1 *2*	1664.278	2$^+$				
		732.99 *7*	2.9 *3*	1594.247	5$^-$				
		1146.805 *14*	100 *2*	1180.261	4$^+$	M1+E2	−2.0[b] *5*	0.00207 *11*	α=0.00207 *11*; α(K)=0.00176 *10*; α(L)=0.000240 *12*;

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
									α(M)=5.14×10^{-5} *25*; α(N+..)=1.51×10^{-5} *7* α(N)=1.16×10^{-5} *6*; α(O)=1.74×10^{-6} *9*; α(P)=1.06×10^{-7} *7*; α(IPF)=1.61×10^{-6} *3*
2327.09	4$^+$	1165.54 *5*	4.1 *2*	1161.529	3$^-$				
		1776.87 *4*	3.3 *1*	550.255	2$^+$				
2327.62	3$^+$	1166.08 *17*	11.3 *16*	1161.529	3$^-$				
		1777.35 *10*	100 *4*	550.255	2$^+$				
2339.21	3$^-$	885.6 *8*	19 *3*	1454.115	2$^+$				
		1159.15 *20*	30 *4*	1180.261	4$^+$				
		1177.6 *4*	8 *5*	1161.529	3$^-$				
		1788.90 *9*	100 *4*	550.255	2$^+$	E1+M2	+0.06[c] *4*	0.000804 *15*	α=0.000804 *15*; α(K)=0.000328 *12*; α(L)=4.15×10^{-5} *16*; α(M)=8.8×10^{-6} *4*; α(N+..)=0.000425 *7* α(N)=1.99×10^{-6} *8*; α(O)=2.99×10^{-7} *11*; α(P)=1.91×10^{-8} *7*; α(IPF)=0.000423 *7*
2374.447	5$^+$,6$^+$	468.500 *12*	100 *2*	1905.908	6$^+$	M1+E2	≥0.41[b]	0.020 *5*	α(K)=0.016 *4*; α(L)=0.0025 *4*; α(M)=0.00055 *7*; α(N+..)=0.000142 *19* α(N)=0.000123 *16*; α(O)=1.8×10^{-5} *3*; α(P)=1.0×10^{-6} *3*
		780.11 *6*	27.4 *9*	1594.247	5$^-$				
		1194.185 *17*	30.4 *7*	1180.261	4$^+$				
2381.67	2$^+$	1831.40 *10*	100	550.255	2$^+$	M1+E2	+0.46[c] *8*	0.001167 *21*	α=0.001167 *21*; α(K)=0.000804 *15*; α(L)=0.0001051 *20*; α(M)=2.24×10^{-5} *5*; α(N+..)=0.000235 α(N)=5.07×10^{-6} *10*; α(O)=7.65×10^{-7} *15*; α(P)=4.91×10^{-8} *10*; α(IPF)=0.000229 *4* B(M1)(W.u.)<0.042; B(E2)(W.u.)>0.79
2390.43	3$^+$	1229.6 *5*	59 *30*	1161.529	3$^-$				
		1840.06 *8*	100 *6*	550.255	2$^+$	M1+E2	−1.37[c] *12*	0.001047 *18*	α=0.001047 *18*; α(K)=0.000707 *13*; α(L)=9.25×10^{-5} *17*; α(M)=1.97×10^{-5} *4*; α(N+..)=0.000228 *4* α(N)=4.47×10^{-6} *8*; α(O)=6.72×10^{-7} *13*; α(P)=4.26×10^{-8} *8*; α(IPF)=0.000223 *4*
2392.32	7$^+$	263.96 *20*	20 *4*	2128.64	7$^-$	Q+D			
		486.45 *6*	100 *5*	1905.908	6$^+$	M1+E2	−0.15[d] *8*	0.0229 *5*	α(K)=0.0195 *4*; α(L)=0.00267 *5*; α(M)=0.000571 *9*; α(N+..)=0.0001500 *24* α(N)=0.0001294 *21*; α(O)=1.94×10^{-5} *4*; α(P)=1.220×10^{-6} *24*
2442.29	(2$^+$)	778.19 *11*	25 *2*	1664.278	2$^+$				
		1262.0 *3*	15 *3*	1180.261	4$^+$				
		2441.88 *20*	100 *6*	0.0	0$^+$				
2467.38	3$^{(-)}$	1305.75 *10*	42 *4*	1161.529	3$^-$				
		1917.25 *12*	100 *5*	550.255	2$^+$				
2472.48	1	1922.28 *25*	100 *12*	550.255	2$^+$				
		2472.41 *20*	71 *14*	0.0	0$^+$	D			
2490.004	4$^+$	583.4 *5*	1.5 *8*	1905.908	6$^+$				

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ [‡]	I_γ [#]	E_f	J_f^π	Mult. [@]	δ	α [†]	Comments
2490.004	4+	594.89 *4*	14.7 *5*	1894.824	4+				
		756.581 *12*	23.1 *5*	1733.465	4+	M1,E2		0.0061 *16*	α=0.0061 *16*; α(K)=0.0052 *14*; α(L)=0.00073 *16*; 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*
		826.30 *16*	2.0 *2*	1664.278	2+				
		1036 *1*	8.2 *16*	1454.115	2+				
		1309.778 *16*	36.1 *8*	1180.261	4+	M1+E2		0.0018 *4*	α=0.0018 *4*; α(K)=0.0015 *3*; α(L)=0.00020 *4*; α(M)=4.3×10^{-5} *8*; α(N+..)=3.4×10^{-5} *3* α(N)=9.7×10^{-6} *18*; α(O)=1.5×10^{-6} *3*; α(P)=9.2×10^{-8} *19*; α(IPF)=2.31×10^{-5} *9* δ: −0.21≤δ≤+1.47 from ^{148}Eu ε decay.
		1328.504 *15*	100 *2*	1161.529	3−	E1		0.000708 *10*	α=0.000708 *10*; α(K)=0.000531 *8*; α(L)=6.76×10^{-5} *10*; α(M)=1.434×10^{-5} *20*; α(N+..)=9.44×10^{-5} *1* α(N)=3.25×10^{-6} *5*; α(O)=4.87×10^{-7} *7*; α(P)=3.09×10^{-8} *5*; α(IPF)=9.06×10^{-5} *13*
		1939.17 *4*	5.2 *2*	550.255	2+				
2513.50	1	2513.48 *18*	100	0.0	0+	D			
2524.101	4+	296.21 *7*	3.2 *2*	2228.042	4+	M1		0.0836	α(K)=0.0711 *10*; α(L)=0.00985 *14*; α(M)=0.00211 *3*; α(N+..)=0.000555 *8* α(N)=0.000479 *7*; α(O)=7.19×10^{-5} *10*; α(P)=4.49×10^{-6} *7*
		310.14 *10*	6.0 *17*	2214.215	5+	M1		0.0740	α(K)=0.0630 *9*; α(L)=0.00871 *13*; α(M)=0.00187 *3*; α(N+..)=0.000491 *7* α(N)=0.000424 *6*; α(O)=6.36×10^{-5} *9*; α(P)=3.98×10^{-6} *6*
		620.04 *3*	11.9 *26*	1905.908	6+				
		790.20 *20*	2.4 *3*	1733.465	4+				
		859.90 *20*	2.1 *3*	1664.278	2+				
		929.85 *3*	72 *13*	1594.247	5−	[E1]		0.001184 *17*	α=0.001184 *17*; α(K)=0.001018 *15*; α(L)=0.0001312 *19*; α(M)=2.79×10^{-5} *4*; α(N+..)=7.30×10^{-6} α(N)=6.30×10^{-6} *9*; α(O)=9.43×10^{-7} *14*; α(P)=5.88×10^{-8} *9*
		1069.82 *4*	13.0 *4*	1454.115	2+				
		1343.87 *3*	100 *8*	1180.261	4+	M1+E2	+0.20 [b]	0.00198 *3*	α=0.00198 *3*; α(K)=0.001668 *24*; α(L)=0.000220 *3*; α(M)=4.69×10^{-5} *7*; α(N+..)=4.41×10^{-5} *7* α(N)=1.064×10^{-5} *15*; α(O)=1.604×10^{-6} *23*; α(P)=1.026×10^{-7} *15*; α(IPF)=3.18×10^{-5} *5*
		1362.640 *19*	35.3 *8*	1161.529	3−	E1		0.000702 *10*	α=0.000702 *10*; α(K)=0.000509 *8*; α(L)=6.46×10^{-5} *9*; α(M)=1.371×10^{-5} *20*; α(N+..)=0.0001155 α(N)=3.10×10^{-6} *5*; α(O)=4.66×10^{-7} *7*; α(P)=2.95×10^{-8} *5*; α(IPF)=0.0001119 *16*
		1973.81 *4*	3.2 *1*	550.255	2+				
2532.39	4−,5−	157.8 *5*	9 *4*	2374.447	5+,6+				
		938.10 *9*	100 *4*	1594.247	5−				
		1370.97 *17*	16.7 *12*	1161.529	3−				

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2539.82	3⁻	1378.31 *23*	100 *10*	1161.529	3⁻				
		1989.52 *25*	73 *7*	550.255	2⁺				
2544.67	8⁺	152.1 *2*	1.23	2392.32	7⁺				
		350.5 *2*		2194.061	6⁺				
		415.9 *1*	100 *5*	2128.64	7⁻	E1		0.00661 *10*	α=0.00661 *10*; α(K)=0.00565 *8*; α(L)=0.000755 *11*; α(M)=0.0001610 *23*; α(N+..)=4.20×10^{-5} *6* α(N)=3.63×10^{-5} *5*; α(O)=5.37×10^{-6} *8*; α(P)=3.18×10^{-7} *5*
		449.0 *11*	35 *4*	2095.595	6⁺	E2		0.0172 *3*	α(K)=0.01398 *22*; α(L)=0.00250 *4*; α(M)=0.000549 *9*; α(N+..)=0.0001413 *23* α(N)=0.0001230 *20*; α(O)=1.75×10^{-5} *3*; α(P)=7.96×10^{-7} *13*
		638.5 *1*	32	1905.908	6⁺	E2		0.00687 *10*	α=0.00687 *10*; α(K)=0.00573 *8*; α(L)=0.000899 *13*; α(M)=0.000195 *3*; α(N+..)=5.06×10^{-5} *7* α(N)=4.39×10^{-5} *7*; α(O)=6.38×10^{-6} *9*; α(P)=3.35×10^{-7} *5*
2567.89	2⁺	2017.65 *19*	100 *7*	550.255	2⁺	M1+E2		0.00102 *10*	α=0.00102 *10*; α(K)=0.00061 *7*; α(L)=7.9×10^{-5} *9*; α(M)=1.69×10^{-5} *19*; α(N+..)=0.000319 *18* α(N)=3.8×10^{-6} *5*; α(O)=5.8×10^{-7} *7*; α(P)=3.7×10^{-8} *5*; α(IPF)=0.000314 *18* δ: −0.46 *19* or 1/δ=+0.01 *13* from (n,n′γ).
		2567.0 *10*	30 *6*	0.0	0⁺				
2570.832	4(−)	356.47 *15*	8.7 *20*	2214.215	5⁺				
		423.5 *4*	27 *7*	2147.499	5⁺				
		539.1 *5*	7 *4*	2031.403	4⁻				
		667.170 *20*	76 *15*	1903.773	3⁺				
		976.50 *4*	57.6 *15*	1594.247	5⁻				
		1390.44 *14*	6.9 *8*	1180.261	4⁺				
		1409.160 *20*	100 *3*	1161.529	3⁻	D+Q			δ: +0.04 *12* if J=4⁻;>+0.47 or<−0.47 if J=3⁻, from ^{148}Eu ε decay.
2583.862	4(−)	989.606 *10*	100 *2*	1594.247	5⁻	M1,E2		0.0033 *8*	α=0.0033 *8*; α(K)=0.0028 *7*; α(L)=0.00038 *8*; α(M)=8.2×10^{-5} *17*; α(N+..)=2.1×10^{-5} *5* α(N)=1.9×10^{-5} *4*; α(O)=2.8×10^{-6} *6*; α(P)=1.7×10^{-7} *5*
		1422.21 *18*	2.9 *2*	1161.529	3⁻				
2633.15	3⁻	1471.61 *16*	21.8 *20*	1161.529	3⁻				
		2082.88 *9*	100 *4*	550.255	2⁺	E1		0.000931 *13*	α=0.000931 *13*; α(K)=0.000253 *4*; α(L)=3.17×10^{-5} *5*; α(M)=6.73×10^{-6} *10*; α(N+..)=0.000640 *9* α(N)=1.523×10^{-6} *22*; α(O)=2.29×10^{-7} *4*; α(P)=1.471×10^{-8} *21*; α(IPF)=0.000638 *9*
2641.222	5⁺	493.51 *20*	4.9 *18*	2147.499	5⁺				
		735.00 *5*	10.5 *18*	1905.908	6⁺	M1+E2	−1.1[b] *6*	0.0064 *12*	α=0.0064 *12*; α(K)=0.0055 *11*; α(L)=0.00077 *12*; α(M)=0.000165 *24*; α(N+..)=4.3×10^{-5} *7* α(N)=3.7×10^{-5} *6*; α(O)=5.6×10^{-6} *9*; α(P)=3.3×10^{-7} *7*
		736.90 *20*	1.8 *4*	1903.773	3⁺				
		745.87 *5*	4.6 *3*	1894.824	4⁺				
		1047.570 *20*	4.3 *25*	1594.247	5⁻				

$^{148}_{62}Sm_{86}$-18

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2641.222	5$^+$	1460.630 *19*	100 *2*	1180.261	4$^+$	M1+E2	+2.1[b] *16*	0.0013 *3*	α=0.0013 *3*; α(K)=0.00107 *25*; α(L)=0.00014 *4*; α(M)=3.0×10^{-5} *7*; α(N+..)=7.1×10^{-5} *6* α(N)=6.9×10^{-6} *16*; α(O)=1.03×10^{-6} *24*; α(P)=6.4×10^{-8} *17*; α(IPF)=6.3×10^{-5} *4*
2645.50	4$^+$,5$^+$	1051.25 *14*	100	1594.247	5$^-$				
2673.07	4$^+$	478.4 *4*	22 *3*	2194.061	6$^+$				
		1219.01 *9*	51 *4*	1454.115	2$^+$				
		1492.81 *4*	100 *3*	1180.261	4$^+$				
		1511.49 *7*	42 *3*	1161.529	3$^-$				
		2122.75 *8*	13.9 *6*	550.255	2$^+$				
2675.20	(3$^+$,4,5$^-$)	460.80 *20*	100 *12*	2214.215	5$^+$				
		643.90 *20*	84 *7*	2031.403	4$^-$				
		1513.9 *4*	46 *12*	1161.529	3$^-$				
2683.467	4$^-$,5$^-$	455.30 *15*	13.3 *14*	2228.042	4$^+$				
		489.2 *5*	9 *5*	2194.061	6$^+$				
		587.52 *6*	57.2 *21*	2095.595	6$^+$				
		651.5 *5*	9 *5*	2031.403	4$^-$				
		787.98 *18*	13.0 *18*	1894.824	4$^+$				
		1089.154 *18*	100 *2*	1594.247	5$^-$	M1		0.00322 *5*	α=0.00322 *5*; α(K)=0.00275 *4*; α(L)=0.000365 *6*; α(M)=7.79×10^{-5} *11*; α(N+..)=2.05×10^{-5} *3* α(N)=1.767×10^{-5} *25*; α(O)=2.66×10^{-6} *4*; α(P)=1.701×10^{-7} *24*
		1503.200 *2*	91 *2*	1180.261	4$^+$				
		1521.85 *3*	75 *2*	1161.529	3$^-$				
2697.77	3$^+$,4$^+$	1517.81 *22*	24 *3*	1180.261	4$^+$				
		1536.03 *22*	55 *8*	1161.529	3$^-$				
		2147.47 *16*	100 *8*	550.255	2$^+$				
2698.539	5$^-$,6$^-$	166.15 *3*	18.4 *6*	2532.39	4$^-$,5$^-$	M1,E2		0.397 *8*	α(K)=0.30 *4*; α(L)=0.073 *25*; α(M)=0.016 *6*; α(N+..)=0.0041 *15* α(N)=0.0036 *13*; α(O)=0.00050 *15*; α(P)=1.7×10^{-5} *5*
		504.57 *7*	37.6 *14*	2194.061	6$^+$				
		587.52 *6*	31.9 *12*	2111.053	4$^+$				
		602.62 *3*	9 *4*	2095.595	6$^+$				
		667.170 *20*	18 *6*	2031.403	4$^-$				
		792.59 *6*	32.1 *14*	1905.908	6$^+$				
		1104.321 *16*	100 *2*	1594.247	5$^-$	M1		0.00311 *5*	α=0.00311 *5*; α(K)=0.00267 *4*; α(L)=0.000353 *5*; α(M)=7.54×10^{-5} *11*; α(N+..)=2.02×10^{-5} *3* α(N)=1.710×10^{-5} *24*; α(O)=2.58×10^{-6} *4*; α(P)=1.646×10^{-7} *23*; α(IPF)=4.01×10^{-7} *6*
2701.92	4$^{(-)}$,(3$^-$)	1107.67 *3*	100 *3*	1594.247	5$^-$				
		1540.27 *15*	61 *6*	1161.529	3$^-$				
2704.6	(1,2$^+$)	2154.6 *3*	33.5 *22*	550.255	2$^+$				

$^{148}_{62}Sm_{86}$-19

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	α[†]	Comments
2704.6	(1,2$^+$)	2704.6 *5*	100	0.0	0$^+$			
2713.334	3$^+$,4$^+$	385.9 *6*	7 *3*	2327.09	4$^+$			
		485.90 *14*	7.4 *13*	2228.042	4$^+$			
		979.843 *15*	100 *2*	1733.465	4$^+$			
		1533.10 *20*	15.1 *13*	1180.261	4$^+$			
		2163.9 *3*	2.6 *3*	550.255	2$^+$			
2714.98	8$^+$	586.2 *1*		2128.64	7$^-$	E1	0.00303 *5*	α=0.00303 *5*; α(K)=0.00260 *4*; α(L)=0.000342 *5*; α(M)=7.27×10^{-5} *11*; α(N+..)=1.90×10^{-5} *3* α(N)=1.643×10^{-5} *23*; α(O)=2.44×10^{-6} *4*; α(P)=1.484×10^{-7} *21*
		808.7 *1*		1905.908	6$^+$	E2	0.00395 *6*	α=0.00395 *6*; α(K)=0.00333 *5*; α(L)=0.000490 *7*; α(M)=0.0001056 *15*; α(N+..)=2.75×10^{-5} *4* α(N)=2.38×10^{-5} *4*; α(O)=3.50×10^{-6} *5*; α(P)=1.97×10^{-7} *3*
2716.05	(4$^+$,5,6$^+$)	810.12 *4*	74.8 *24*	1905.908	6$^+$			
		1121.70 *20*	22.8 *24*	1594.247	5$^-$			
		1535.84 *10*	100 *4*	1180.261	4$^+$			
2719.8	(3$^-$,4$^-$)	2169.5 *5*	100	550.255	2$^+$			
2723.506	4$^+$	332.91 *13*	1.4 *3*	2390.43	3$^+$			E$_\gamma$: 1985Si16 relate this γ to ^{150}Eu ε decay.
		495.25 *6*	35 *1*	2228.042	4$^+$	M1	0.0221	α(K)=0.0188 *3*; α(L)=0.00256 *4*; α(M)=0.000548 *8*; α(N+..)=0.0001442 *21* α(N)=0.0001243 *18*; α(O)=1.87×10^{-5} *3*; α(P)=1.177×10^{-6} *17*
		575.97 *10*	6.2 *8*	2147.499	5$^+$			
		817.5 *5*	1.4 *7*	1905.908	6$^+$			
		828.61 *12*	4.7 *4*	1894.824	4$^+$			
		1058.7 *5*	1.4 *7*	1664.278	2$^+$			
		1269.3 *4*	1.8 *4*	1454.115	2$^+$			
		1543.289 *27*	100 *3*	1180.261	4$^+$	M1+E2	0.00133 *21*	α=0.00133 *21*; α(K)=0.00106 *17*; α(L)=0.000140 *22*; α(M)=3.0×10^{-5} *5*; α(N+..)=0.000102 *6* α(N)=6.8×10^{-6} *11*; α(O)=1.02×10^{-6} *16*; α(P)=6.4×10^{-8} *12*; α(IPF)=9.5×10^{-5} *5* δ: −0.17 *11* or +1.35 *30* from ^{148}Eu ε decay.
		2173.28 *4*	31.2 *8*	550.255	2$^+$			
2727.31	5$^+$	832.82 *14*	27.6 *16*	1894.824	4$^+$			
		1133.12 *8*	52.8 *24*	1594.247	5$^-$			
		1547.14 *10*	100 *16*	1180.261	4$^+$			
		1565.29 *11*	35.8 *16*	1161.529	3$^-$			
2734.44	(3)	1269.3 *4*	100 *21*	1465.137	1$^-$			
		1572.90 *20*	84 *7*	1161.529	3$^-$			
2738.79	(8$^+$)	544.6 *2*		2194.061	6$^+$			
		643.0 *2*		2095.595	6$^+$			
2753.15	3$^+$	2202.88 *6*	100	550.255	2$^+$	M1+E2	0.00100 *8*	α=0.00100 *8*; α(K)=0.00051 *5*; α(L)=6.6×10^{-5} *7*; α(M)=1.41×10^{-5} *14*; α(N+..)=0.000412 *24* α(N)=3.2×10^{-6} *3*; α(O)=4.8×10^{-7} *5*; α(P)=3.1×10^{-8} *4*;

$^{148}_{62}Sm_{86}$-20

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
									α(IPF)=0.000409 *24* δ: +0.05 *6* or −5.6 *+30−14* from (n,n′γ).
2762.1	1+	2213.0 *10*	68 *4*	550.255	2+				
		2762.1 *5*	100	0.0	0+				
2801.752	5+	161.00 *6*	0.62 *3*	2641.222	5+				
		474.2 *4*	0.11 *6*	2327.62	3+				
		574 *1*	0.42 *22*	2228.042	4+				
		654.220 *8*	34.8 *8*	2147.499	5+	M1+E2	+0.9[b] *3*	0.0090 *9*	α=0.0090 *9*; α(K)=0.0076 *8*; α(L)=0.00108 *8*; α(M)=0.000231 *17*; α(N+..)=6.1×10^{-5} *5* α(N)=5.2×10^{-5} *4*; α(O)=7.8×10^{-6} *6*; α(P)=4.7×10^{-7} *5*
		690.74 *3*	2.62 *6*	2111.053	4+				
		705.91 *18*	0.37 *9*	2095.595	6+				
		770.307 *10*	9.1 *2*	2031.403	4−				
		895.847 *10*	13.9 *3*	1905.908	6+	M1+E2	−0.20[b] *11*	0.00504 *12*	α=0.00504 *12*; α(K)=0.00431 *11*; α(L)=0.000576 *13*; α(M)=0.000123 *3*; α(N+..)=3.24×10^{-5} *8* α(N)=2.79×10^{-5} *7*; α(O)=4.20×10^{-6} *10*; α(P)=2.67×10^{-7} *7*
		906.87 *3*	4.5 *1*	1894.824	4+				
		1068.25 *10*	2.0 *2*	1733.465	4+				
		1207.473 *14*	13.6 *3*	1594.247	5−	E1+M2		0.003 *3*	α=0.003 *3*; α(K)=0.0029 *23*; α(L)=0.0004 *4*; α(M)=8.E−5 *7*; α(N+..)=3.8×10^{-5} *4* α(N)=1.9×10^{-5} *16*; α(O)=2.9×10^{-6} *24*; α(P)=1.8×10^{-7} *15*; α(IPF)=1.5×10^{-5} *14* δ: −0.36≤δ≤+1.52 from ^{148}Eu ε decay.
		1621.510 *20*	100 *2*	1180.261	4+	M1+E2		0.00124 *18*	α=0.00124 *18*; α(K)=0.00096 *15*; α(L)=0.000126 *19*; α(M)=2.7×10^{-5} *4*; α(N+..)=0.000133 *8* α(N)=6.1×10^{-6} *9*; α(O)=9.2×10^{-7} *14*; α(P)=5.8×10^{-8} *10*; α(IPF)=0.000126 *7* δ: +4.1 *6*, or +1.75 *50*, or +0.45 *10* from ^{148}Eu ε decay.
2806.73	3+,4+	1073.32 *16*	74 *5*	1733.465	4+				
		1626.38 *18*	54 *5*	1180.261	4+				
		1645.7 *3*	43 *5*	1161.529	3−				
		2256.36 *16*	100 *7*	550.255	2+				
2807.35	9−	92.2 *2*		2714.98	8+	E1		0.343 *6*	α(K)=0.289 *5*; α(L)=0.0429 *7*; α(M)=0.00918 *14*; α(N+..)=0.00234 *4* α(N)=0.00204 *4*; α(O)=0.000288 *5*; α(P)=1.384×10^{-5} *21*
		262.5	18	2544.67	8+	E1		0.0207	α(K)=0.01764 *25*; α(L)=0.00241 *4*; α(M)=0.000514 *8*; α(N+..)=0.0001336 *19* α(N)=0.0001157 *17*; α(O)=1.694×10^{-5} *24*; α(P)=9.59×10^{-7} *14*
		678.6 *1*	100 *6*	2128.64	7−	E2		0.00593 *9*	α=0.00593 *9*; α(K)=0.00496 *7*; α(L)=0.000764 *11*; α(M)=0.0001656 *24*; α(N+..)=4.30×10^{-5} *6* α(N)=3.73×10^{-5} *6*; α(O)=5.43×10^{-6} *8*; α(P)=2.91×10^{-7} *4*

$^{148}_{62}Sm_{86}$-21

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
2815.584	4⁻	92.6 *5*	10 *5*	2723.506	4⁺				
		291.3 *3*	5.7 *8*	2524.101	4⁺				
		441.23 *14*	6.1 *11*	2374.447	5⁺,6⁺				
		587.52 *6*	62 *2*	2228.042	4⁺				
		704.4 *3*	10 *3*	2111.053	4⁺				
		1082.096 *17*	100 *2*	1733.465	4⁺				
		1151.3 *4*	10 *5*	1664.278	2⁺				
		1221.37 *4*	73 *3*	1594.247	5⁻	M1		0.00247 *4*	α=0.00247 *4*; α(K)=0.00211 *3*; α(L)=0.000278 *4*; α(M)=5.94×10^{-5} *9*; α(N+..)=2.44×10^{-5} *4* α(N)=1.347×10^{-5} *19*; α(O)=2.03×10^{-6} *3*; α(P)=1.299×10^{-7} *19*; α(IPF)=8.80×10^{-6} *13*
		1635.31 *3*	84 *2*	1180.261	4⁺	E1+M2		0.0018 *11*	α=0.0018 *11*; α(K)=0.0014 *11*; α(L)=0.00019 *14*; α(M)=4.E−5 *3*; α(N+..)=0.00019 *12* α(N)=9.E−6 *7*; α(O)=1.4×10^{-6} *11*; α(P)=9.E−8 *7*; α(IPF)=0.00018 *13* δ: −0.05≤δ≤+1.06 from ^{148}Eu ε decay.
		1654.02 *15*	62 *7*	1161.529	3⁻				
2828.13		1233.88 *14*	100	1594.247	5⁻				
2830.660	5⁺	157.8 *5*	0.27 *14*	2673.07	4⁺				
		602.62 *3*	8.0 *2*	2228.042	4⁺				
		636.86 *7*	0.78 *14*	2194.061	6⁺				
		683.153 *7*	34.5 *8*	2147.499	5⁺	M1+E2		0.0079 *21*	α=0.0079 *21*; α(K)=0.0067 *18*; α(L)=0.00094 *20*; α(M)=0.00020 *4*; α(N+..)=5.3×10^{-5} *11* α(N)=4.6×10^{-5} *10*; α(O)=6.8×10^{-6} *15*; α(P)=4.1×10^{-7} *12* δ: +0.85 *+35−50* or −0.06 *+38−18* from ^{148}Eu ε decay.
		701.9 *5*	0.52 *27*	2128.64	7⁻				
		719.64 *7*	7.4 *4*	2111.053	4⁺				
		735.00 *5*	0.8 *4*	2095.595	6⁺	M1+E2	−1.1[b] *6*	0.0064 *12*	α=0.0064 *12*; α(K)=0.0055 *11*; α(L)=0.00077 *12*; α(M)=0.000165 *24*; α(N+..)=4.3×10^{-5} *7* α(N)=3.7×10^{-5} *6*; α(O)=5.6×10^{-6} *9*; α(P)=3.3×10^{-7} *7*
		799.23 *3*	11.3 *3*	2031.403	4⁻				
		924.75 *3*	8.5 *2*	1905.908	6⁺	M1		0.00474 *7*	α=0.00474 *7*; α(K)=0.00406 *6*; α(L)=0.000541 *8*; α(M)=0.0001155 *17*; α(N+..)=3.04×10^{-5} *5* α(N)=2.62×10^{-5} *4*; α(O)=3.95×10^{-6} *6*; α(P)=2.51×10^{-7} *4*
		935.20 *20*	1.43 *14*	1894.824	4⁺				
		1097.18 *3*	3.35 *12*	1733.465	4⁺	M1		0.00316 *5*	α=0.00316 *5*; α(K)=0.00271 *4*; α(L)=0.000359 *5*; α(M)=7.66×10^{-5} *11*; α(N+..)=2.02×10^{-5} *3* α(N)=1.737×10^{-5} *25*; α(O)=2.62×10^{-6} *4*; α(P)=1.672×10^{-7} *24*
		1236.374 *16*	11.0 *2*	1594.247	5⁻	E1		0.000743 *11*	α=0.000743 *11*; α(K)=0.000603 *9*; α(L)=7.69×10^{-5} *11*; α(M)=1.632×10^{-5} *23*; α(N+..)=4.69×10^{-5} *7*

$^{148}_{62}Sm_{86}$-22

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(N)=3.69×10^{-6} *6*; α(O)=5.54×10^{-7} *8*; α(P)=3.50×10^{-8} *5*; α(IPF)=4.26×10^{-5} *6*
2830.660	5$^+$	1650.436 *24*	100 *3*	1180.261	4$^+$	M1+E2	0.00121 *17*	α=0.00121 *17*; α(K)=0.00092 *14*; α(L)=0.000121 *18*; α(M)=2.6×10^{-5} *4*; α(N+..)=0.000145 *8* α(N)=5.9×10^{-6} *9*; α(O)=8.8×10^{-7} *13*; α(P)=5.6×10^{-8} *9*; α(IPF)=0.000138 *7* δ: +0.53 *+6−5* or +2.92 *42*; +0.50 *15* or +1.75 *50* from ^{148}Eu ε decay.
2846.9	(3$^-$,4$^-$)	1685.2 *3*	100 *18*	1161.529	3$^-$			
		2297.0 *5*	50 *14*	550.255	2$^+$			
2861.07	4$^-$,5$^-$	485.90 *14*	11 *2*	2374.447	5$^+$,6$^+$			
		646.9 *5*	7 *3*	2214.215	5$^+$			
		1127.69 *4*	58 *2*	1733.465	4$^+$			
		1266.76 *5*	100 *2*	1594.247	5$^-$	M1	0.00228 *4*	α=0.00228 *4*; α(K)=0.00194 *3*; α(L)=0.000255 *4*; α(M)=5.45×10^{-5} *8*; α(N+..)=3.02×10^{-5} *5* α(N)=1.236×10^{-5} *18*; α(O)=1.86×10^{-6} *3*; α(P)=1.193×10^{-7} *17*; α(IPF)=1.581×10^{-5} *23*
		1680.90 *15*	20.3 *25*	1180.261	4$^+$			
		1699.54 *6*	10.5 *4*	1161.529	3$^-$			
2862.06	3$^+$,4$^+$	1128.04 *15*	85 *6*	1733.465	4$^+$			
		1682.91 *25*	55 *10*	1180.261	4$^+$			
		2312.13 *21*	100 *7*	550.255	2$^+$			
2891.8		2341.5 *5*	100	550.255	2$^+$			
2908.13	3$^-$,4$^-$	1746.59 *22*	100	1161.529	3$^-$			
2928.84	(4,5,6)$^+$	817.5 *5*	29 *15*	2111.053	4$^+$			
		832.9 *5*	29 *15*	2095.595	6$^+$			
		1748.58 *5*	100 *3*	1180.261	4$^+$			
2931.98		1477.3 *4*	26 *5*	1454.115	2$^+$			
		2381.89 *22*	100 *8*	550.255	2$^+$			
2941.1	2$^+$,3$^-$	2390.8 *7*	100	550.255	2$^+$			
2942.82	8$^-$	814.1 *2*	100	2128.64	7$^-$			
2952.7		2402.4 *9*	100	550.255	2$^+$			
2967.6	3$^+$,4$^+$	936.38[f] *10*	100 *10*	2031.403	4$^-$			
		2417.3 *7*	49 *10*	550.255	2$^+$			
2976.32	8$^-$	847.4 *2*	100	2128.64	7$^-$	E2(+M1)	0.0047 *12*	α=0.0047 *12*; α(K)=0.0040 *10*; α(L)=0.00055 *12*; α(M)=0.000119 *25*; α(N+..)=3.1×10^{-5} *7* α(N)=2.7×10^{-5} *6*; α(O)=4.0×10^{-6} *9*; α(P)=2.4×10^{-7} *7* δ: large δ (from γ(θ) in (HI,xnγ)).
2980.50	3$^+$,4$^+$	1800.26 *19*	100	1180.261	4$^+$			
2991.78	3$^+$,4$^+$	1258.41[f] *10*	45 *3*	1733.465	4$^+$			
		1810.94 *25*	28 *3*	1180.261	4$^+$			
		2441.88 *20*	100 *6*	550.255	2$^+$			

$^{148}_{62}Sm_{86}$-23

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ [‡]	I_γ [#]	E_f	J_f^π	Mult. [@]	δ	α [†]	Comments
3014.1	3⁻,4⁻	2463.8 *6*	100	550.255	2⁺				
3038.8	1	2489	<10	550.255	2⁺				
		3038.5 *7*	100 *4*	0.0	0⁺				
3050.5		1888.7 *4*	100 *15*	1161.529	3⁻				
		2500.6 *5*	76 *17*	550.255	2⁺				
3063.25	3⁻	1399.02 *22*	100	1664.278	2⁺				
3082.1	1	2531.9 *9*	8.8 *15*	550.255	2⁺				
		3082.0 *4*	100 *3*	0.0	0⁺				
3089.84	2⁺,3⁻	1909.4 *4*	78 *15*	1180.261	4⁺				
		1928.4 *3*	100 *16*	1161.529	3⁻				
		2539.6 *6*	82 *18*	550.255	2⁺				
3095.25	9⁽⁺⁾	702.6 *2*	100	2392.32	7⁺				
3107.8	3⁺,4⁺	2557.5 *4*	100	550.255	2⁺				
3138.46	3⁽⁻⁾,4⁽⁻⁾	1976.91 *10*	100	1161.529	3⁻				
3153.5	+	1973.3 *3*	100	1180.261	4⁺				
3164.8	3⁺,4⁺	2003.3 *4*	100	1161.529	3⁻				
3178.0	+	2627.7 *15*	100	550.255	2⁺				
3188.31	9⁻	212.1 *2*		2976.32	8⁻				
		245.2 *2*		2942.82	8⁻				
		381.4 *2*		2807.35	9⁻				
		473.3 *2*		2714.98	8⁺				
		643.6 *2*		2544.67	8⁺				
		1059.5 *2*		2128.64	7⁻				
3189.8	2⁺,3⁻	2639.5 *8*	100	550.255	2⁺				
3197.4	3⁻,4⁻	1743.3	100	1454.115	2⁺				E_γ: multiplet.
3216.15	9⁻	671.4 *2*		2544.67	8⁺				
		1087.5 *2*		2128.64	7⁻				
3221.2		2041.0 *4*	100	1180.261	4⁺				
3224.83		2044.58 *19*	100	1180.261	4⁺				
3235.23	10⁺	690.6 *1*	100	2544.67	8⁺	E2		0.00569 *8*	α=0.00569 *8*; α(K)=0.00476 *7*; α(L)=0.000730 *11*; α(M)=0.0001581 *23*; α(N+..)=4.11×10⁻⁵ *6* α(N)=3.56×10⁻⁵ *5*; α(O)=5.19×10⁻⁶ *8*; α(P)=2.80×10⁻⁷ *4*
3253.45	10⁻	158.2 *1*		3095.25	9⁽⁺⁾				
		446.1 *1*		2807.35	9⁻	M1+E2	−0.10 [d] *5*	0.0287 *5*	α(K)=0.0244 *4*; α(L)=0.00334 *5*; α(M)=0.000716 *11*; α(N+..)=0.000188 *3* α(N)=0.0001624 *24*; α(O)=2.44×10⁻⁵ *4*; α(P)=1.531×10⁻⁶ *24*
3255.3	(1,2⁺)	3255.3 *5*	100	0.0	0⁺				
3276.2		2725.9 *5*	100	550.255	2⁺				
3291.5	(1,2⁺)	3291.5 *5*	100	0.0	0⁺				
3322.6	(10⁺)	583.8 *2*	100	2738.79	(8⁺)				
3398.13	10⁺	590.8 *1*		2807.35	9⁻	E1		0.00298 *5*	α=0.00298 *5*; α(K)=0.00255 *4*; α(L)=0.000336 *5*;

$^{148}_{62}Sm_{86}$-24

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ [‡]	I_γ [#]	E_f	J_f^π	Mult. [@]	α [†]	Comments
								α(M)=7.15×10^{-5} *10*; α(N+..)=1.87×10^{-5} *3* α(N)=1.615×10^{-5} *23*; α(O)=2.40×10^{-6} *4*; α(P)=1.460×10^{-7} *21*
3398.13	10$^+$	683.1 *1*		2714.98	8$^+$	E2	0.00584 *9*	α=0.00584 *9*; α(K)=0.00488 *7*; α(L)=0.000751 *11*; α(M)=0.0001627 *23*; α(N+..)=4.23×10^{-5} *6* α(N)=3.66×10^{-5} *6*; α(O)=5.34×10^{-6} *8*; α(P)=2.87×10^{-7} *4*
		853.4[f] *3*		2544.67	8$^+$			
3421.90	11$^-$	168.5 *1*		3253.45	10$^-$			
		186.7 *1*		3235.23	10$^+$	E1	0.0508	α(K)=0.0432 *6*; α(L)=0.00601 *9*; α(M)=0.001284 *18*; α(N+..)=0.000332 *5* α(N)=0.000288 *4*; α(O)=4.17×10^{-5} *6*; α(P)=2.27×10^{-6} *4*
		205.8 *2*		3216.15	9$^-$			
		614.5 *1*		2807.35	9$^-$	E2	0.00755 *11*	α=0.00755 *11*; α(K)=0.00628 *9*; α(L)=0.000998 *14*; α(M)=0.000217 *3*; α(N+..)=5.62×10^{-5} *8* α(N)=4.87×10^{-5} *7*; α(O)=7.07×10^{-6} *10*; α(P)=3.67×10^{-7} *6*
3451.9	(1,2$^+$)	3451.9 *5*	100	0.0	0$^+$			
3483.6	(1,2$^+$)	3483.6 *5*	100	0.0	0$^+$			
3526.57	10$^-$	310.6 *3*		3216.15	9$^-$			
		338.4 *2*		3188.31	9$^-$			
		719.1 *1*		2807.35	9$^-$			
3534.9	(1,2$^+$)	3534.9 *5*	100	0.0	0$^+$			
3545.63	10$^-$	329.4 *2*		3216.15	9$^-$			
		357.4 *1*		3188.31	9$^-$			
		568.8 *3*		2976.32	8$^-$			
		602.9 *1*		2942.82	8$^-$			
		738.5 *2*		2807.35	9$^-$			
3586.0	(1,2$^+$)	3586.0 *5*	100	0.0	0$^+$			
3614.76	11$^-$	216.6 *1*		3398.13	10$^+$	E1	0.0342	α(K)=0.0291 *4*; α(L)=0.00402 *6*; α(M)=0.000858 *12*; α(N+..)=0.000222 *4* α(N)=0.000193 *3*; α(O)=2.81×10^{-5} *4*; α(P)=1.553×10^{-6} *22*
		807.4 *1*		2807.35	9$^-$	E2	0.00396 *6*	α=0.00396 *6*; α(K)=0.00334 *5*; α(L)=0.000492 *7*; α(M)=0.0001060 *15*; α(N+..)=2.76×10^{-5} *4* α(N)=2.39×10^{-5} *4*; α(O)=3.52×10^{-6} *5*; α(P)=1.97×10^{-7} *3*
3640.4	(11)	317.8 *2*	100	3322.6	(10$^+$)			
3806.98	11$^-$	261.2 *2*		3545.63	10$^-$			
		385.4 *2*		3421.90	11$^-$			
		618.6 *1*		3188.31	9$^-$			
3812.0	(1,2$^+$)	3811.9 *5*	100	0.0	0$^+$			
3843.6	(1,2$^+$)	3843.5 *5*	100	0.0	0$^+$			
3884.3	(1,2$^+$)	3884.2 *5*	100	0.0	0$^+$			
3895.4	(1,2$^+$)	3895.3 *5*	100	0.0	0$^+$			
3992.62	12$^+$	570.6 *2*		3421.90	11$^-$	E1	0.00322 *5*	α=0.00322 *5*; α(K)=0.00275 *4*; α(L)=0.000363 *5*; α(M)=7.72×10^{-5} *11*; α(N+..)=2.02×10^{-5} *3* α(N)=1.744×10^{-5} *25*; α(O)=2.59×10^{-6} *4*; α(P)=1.572×10^{-7} *22*
		594.7 *2*		3398.13	10$^+$			
		757.3 *1*		3235.23	10$^+$	E2	0.00459 *7*	α=0.00459 *7*; α(K)=0.00385 *6*; α(L)=0.000576 *8*; α(M)=0.0001245 *18*;

$^{148}_{62}Sm_{86}$-25

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(N+..)=3.24×10^{-5} *5* α(N)=2.81×10^{-5} *4*; α(O)=4.11×10^{-6} *6*; α(P)=2.27×10^{-7} *4*
4104.39	12$^+$	489.6 *1*		3614.76	11$^-$	E1	0.00452 *7*	α=0.00452 *7*; α(K)=0.00387 *6*; α(L)=0.000514 *8*; α(M)=0.0001094 *16*; α(N+..)=2.86×10^{-5} *4* α(N)=2.47×10^{-5} *4*; α(O)=3.66×10^{-6} *6*; α(P)=2.20×10^{-7} *3*
		682.2 *2*		3421.90	11$^-$	E1	0.00220 *3*	α=0.00220 *3*; α(K)=0.00188 *3*; α(L)=0.000246 *4*; α(M)=5.24×10^{-5} *8*; α(N+..)=1.370×10^{-5} *20* α(N)=1.183×10^{-5} *17*; α(O)=1.763×10^{-6} *25*; α(P)=1.082×10^{-7} *16*
		706.2 *1*		3398.13	10$^+$	E2	0.00540 *8*	α=0.00540 *8*; α(K)=0.00452 *7*; α(L)=0.000689 *10*; α(M)=0.0001491 *21*; α(N+..)=3.87×10^{-5} *6* α(N)=3.36×10^{-5} *5*; α(O)=4.90×10^{-6} *7*; α(P)=2.66×10^{-7} *4*
		869.6 *2*		3235.23	10$^+$			
4108.70	12$^-$	855.2 *1*	100	3253.45	10$^-$			
4110.68	13$^-$	688.8 *1*	100	3421.90	11$^-$			
4189.28	12$^+$	196.5 *2*		3992.62	12$^+$			
		767.5 *2*		3421.90	11$^-$			
4196.25	12$^-$	389.2 *2*		3806.98	11$^-$			
		650.8 *1*		3545.63	10$^-$			
		669.4 *2*		3526.57	10$^-$			
4241.52	13$^-$	248.9 *2*		3992.62	12$^+$			
		819.9 *3*		3421.90	11$^-$			
4397.78	13$^-$	293.3 *2*		4104.39	12$^+$	E1	0.01558	α(K)=0.01329 *19*; α(L)=0.00181 *3*; α(M)=0.000385 *6*; α(N+..)=0.0001002 *15* α(N)=8.67×10^{-5} *13*; α(O)=1.273×10^{-5} *18*; α(P)=7.29×10^{-7} *11*
		783.0 *1*		3614.76	11$^-$	E2	0.00425 *6*	α=0.00425 *6*; α(K)=0.00357 *5*; α(L)=0.000530 *8*; α(M)=0.0001145 *16*; α(N+..)=2.98×10^{-5} *5* α(N)=2.58×10^{-5} *4*; α(O)=3.79×10^{-6} *6*; α(P)=2.11×10^{-7} *3*
4512.91	13$^-$	316.7 *2*		4196.25	12$^-$			
		402.2 *2*		4110.68	13$^-$			
		705.9 *2*		3806.98	11$^-$			
4516.75	13$^+$	408.0 *1*	100	4108.70	12$^-$			
4805.18	14$^+$	407.4 *2*		4397.78	13$^-$	E1	0.00694 *10*	α=0.00694 *10*; α(K)=0.00593 *9*; α(L)=0.000794 *12*; α(M)=0.0001692 *24*; α(N+..)=4.41×10^{-5} *7* α(N)=3.82×10^{-5} *6*; α(O)=5.64×10^{-6} *8*; α(P)=3.33×10^{-7} *5*
		616.0 *2*		4189.28	12$^+$			
		694.7 *2*		4110.68	13$^-$	E1	0.00211 *3*	α=0.00211 *3*; α(K)=0.00181 *3*; α(L)=0.000237 *4*; α(M)=5.04×10^{-5} *7*; α(N+..)=1.319×10^{-5} *19* α(N)=1.138×10^{-5} *16*; α(O)=1.697×10^{-6} *24*; α(P)=1.042×10^{-7} *15*
		700.8 *2*		4104.39	12$^+$	E2	0.00549 *8*	α=0.00549 *8*; α(K)=0.00460 *7*; α(L)=0.000703 *10*; α(M)=0.0001521 *22*; α(N+..)=3.95×10^{-5} *6* α(N)=3.43×10^{-5} *5*; α(O)=5.00×10^{-6} *7*; α(P)=2.71×10^{-7} *4*
		812.6 *2*		3992.62	12$^+$			
4842.69	15$^-$	732.0 *1*	100	4110.68	13$^-$			

$^{148}_{62}Sm_{86}$-26

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	α[†]	Comments
4864.69	14^+	466.9 *2*		4397.78	13^-			
		623.3 *2*		4241.52	13^-			
		675.3 *2*		4189.28	12^+			
		754.0 *2*		4110.68	13^-			
		760.3 *2*		4104.39	12^+			
		872.0 *1*		3992.62	12^+			
4889.71	14^-	373.0 *2*		4516.75	13^+	E1	0.00858 *12*	α=0.00858 *12*; α(K)=0.00733 *11*; α(L)=0.000984 *14*; α(M)=0.000210 *3*; α(N+..)=5.47×10^{-5} *8* α(N)=4.73×10^{-5} *7*; α(O)=6.98×10^{-6} *10*; α(P)=4.09×10^{-7} *6*
		781.0 *1*		4108.70	12^-	E2	0.00427 *6*	α=0.00427 *6*; α(K)=0.00359 *5*; α(L)=0.000534 *8*; α(M)=0.0001152 *17*; α(N+..)=3.00×10^{-5} *5* α(N)=2.60×10^{-5} *4*; α(O)=3.81×10^{-6} *6*; α(P)=2.12×10^{-7} *3*
4909.65	14^+	799.0 *2*		4110.68	13^-			
		805.2 *2*		4104.39	12^+			
		917.1 *2*		3992.62	12^+			
4917.55	14^-	400.5 *2*		4516.75	13^+			
		404.6 *2*		4512.91	13^-			
		721.4 *1*		4196.25	12^-			
		808.9 *2*		4108.70	12^-			
4951.75	$14^{(-)}$	843.0 *2*	100	4108.70	12^-			
5087.55	15^-	170.0 *2*		4917.55	14^-			
		198.0 *2*		4889.71	14^-			
		244.9 *2*		4842.69	15^-			
		976.8 *2*		4110.68	13^-			
5136.13	15^-	331.0 *2*		4805.18	14^+	E1	0.01150	α(K)=0.00982 *14*; α(L)=0.001326 *19*; α(M)=0.000283 *4*; α(N+..)=7.37×10^{-5} *11* α(N)=6.37×10^{-5} *9*; α(O)=9.38×10^{-6} *14*; α(P)=5.44×10^{-7} *8*
		738.3 *2*		4397.78	13^-	E2	0.00486 *7*	α=0.00486 *7*; α(K)=0.00408 *6*; α(L)=0.000615 *9*; α(M)=0.0001328 *19*; α(N+..)=3.46×10^{-5} *5* α(N)=2.99×10^{-5} *5*; α(O)=4.38×10^{-6} *7*; α(P)=2.41×10^{-7} *4*
5217.20	$15^{(-)}$	265.4 *2*		4951.75	$14^{(-)}$			
		327.6 *2*		4889.71	14^-			
		819.3 *2*		4397.78	13^-			
5274.93	15^+	385.1 *2*		4889.71	14^-	E1	0.00794 *12*	α=0.00794 *12*; α(K)=0.00678 *10*; α(L)=0.000910 *13*; α(M)=0.000194 *3*; α(N+..)=5.06×10^{-5} *8* α(N)=4.38×10^{-5} *7*; α(O)=6.46×10^{-6} *9*; α(P)=3.80×10^{-7} *6*
		758.2 *1*		4516.75	13^+	E2	0.00457 *7*	α=0.00457 *7*; α(K)=0.00384 *6*; α(L)=0.000575 *8*; α(M)=0.0001241 *18*; α(N+..)=3.23×10^{-5} *5* α(N)=2.80×10^{-5} *4*; α(O)=4.10×10^{-6} *6*; α(P)=2.27×10^{-7} *4*
5287.77	15^-	445.0[e] *3*		4842.69	15^-			
		774.9 *2*		4512.91	13^-			
5320.28	16^-	103.1 *3*		5217.20	$15^{(-)}$			
		184.1 *2*		5136.13	15^-			

$^{148}_{62}Sm_{86}$-27

Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ [‡]	I_γ [#]	E_f	J_f^π	Mult. [@]	α [†]	Comments
5320.28	16⁻	233.0 *2*		5087.55	15⁻			
		402.8 *2*		4917.55	14⁻			
		430.6 *2*		4889.71	14⁻			
5496.39	16⁺	360.3 *2*		5136.13	15⁻	E1	0.00933 *14*	α=0.00933 *14*; α(K)=0.00797 *12*; α(L)=0.001073 *15*; α(M)=0.000229 *4*; α(N+..)=5.96×10^{-5} *9* α(N)=5.15×10^{-5} *8*; α(O)=7.60×10^{-6} *11*; α(P)=4.44×10^{-7} *7*
		586.6 *2*		4909.65	14⁺			
		631.8 *2*		4864.69	14⁺			
		653.7 *2*		4842.69	15⁻	E1	0.00240 *4*	α=0.00240 *4*; α(K)=0.00206 *3*; α(L)=0.000270 *4*; α(M)=5.74×10^{-5} *8*; α(N+..)=1.501×10^{-5} *21* α(N)=1.296×10^{-5} *19*; α(O)=1.93×10^{-6} *3*; α(P)=1.181×10^{-7} *17*
		691.2 *2*		4805.18	14⁺	E2	0.00568 *8*	α=0.00568 *8*; α(K)=0.00475 *7*; α(L)=0.000728 *11*; α(M)=0.0001577 *23*; α(N+..)=4.10×10^{-5} *6* α(N)=3.55×10^{-5} *5*; α(O)=5.18×10^{-6} *8*; α(P)=2.79×10^{-7} *4*
5524.48	16⁺	615.0 *2*		4909.65	14⁺			
		659.6 *2*		4864.69	14⁺			
		681.7 *2*		4842.69	15⁻			
		719.4 *2*		4805.18	14⁺			
5556.54	16⁻	281.7[f] *5*		5274.93	15⁺			
		666.8 *1*		4889.71	14⁻			
5561.19	17⁻	718.5 *1*	100	4842.69	15⁻			
5578.31	16$^{(+)}$	442.2 *2*		5136.13	15⁻			
		713.4 *2*		4864.69	14⁺			
		773.3 *2*		4805.18	14⁺			
5649.57	17⁻	92.7 *3*		5556.54	16⁻			
		329.8 *2*		5320.28	16⁻			
		432.0 *5*		5217.20	15$^{(-)}$			
		561.9 *2*		5087.55	15⁻			
		806.7[f] *5*		4842.69	15⁻			
5777.74	17⁺	281.4 *3*		5496.39	16⁺			
		502.8 *1*		5274.93	15⁺			
5837.32	17⁻	517.0 *2*	100	5320.28	16⁻			
5946.08	18⁺	108.7 *2*		5837.32	17⁻	E1	0.220	α(K)=0.185 *3*; α(L)=0.0270 *4*; α(M)=0.00577 *9*; α(N+..)=0.001479 *22* α(N)=0.001288 *20*; α(O)=0.000183 *3*; α(P)=9.09×10^{-6} *14*
		296.5 *2*		5649.57	17⁻			
		384.9 *2*		5561.19	17⁻	E1	0.00795 *12*	α=0.00795 *12*; α(K)=0.00679 *10*; α(L)=0.000911 *13*; α(M)=0.000194 *3*; α(N+..)=5.07×10^{-5} *8* α(N)=4.38×10^{-5} *7*; α(O)=6.47×10^{-6} *9*; α(P)=3.80×10^{-7} *6*
		421.6 *2*		5524.48	16⁺			
		449.7 *2*		5496.39	16⁺	E2	0.01710	α(K)=0.01392 *20*; α(L)=0.00249 *4*; α(M)=0.000546 *8*; α(N+..)=0.0001406 *20* α(N)=0.0001224 *18*; α(O)=1.739×10^{-5} *25*; α(P)=7.93×10^{-7} *12*
6011.15	18	233.4 *2*		5777.74	17⁺			

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Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[#]	E_f	J_f^π	Mult.[@]	α[†]	Comments
6011.15	18	361.5 *2*		5649.57	17^-			
6029.22	18^-	379.9 *2*		5649.57	17^-			
		708.8 *2*		5320.28	16^-			
6195.29	19^-	166.1 *1*		6029.22	18^-			
		184.0 *2*		6011.15	18			
		249[f]		5946.08	18^+	E1	0.0237	α(K)=0.0202 *3*; α(L)=0.00277 *4*; α(M)=0.000591 *9*; α(N+..)=0.0001535 *22* α(N)=0.0001329 *19*; α(O)=1.94×10^{-5} *3*; α(P)=1.094×10^{-6} *16*
		358.0 *2*		5837.32	17^-	E2	0.0329	α(K)=0.0262 *4*; α(L)=0.00524 *8*; α(M)=0.001159 *17*; α(N+..)=0.000296 *5* α(N)=0.000259 *4*; α(O)=3.61×10^{-5} *6*; α(P)=1.448×10^{-6} *21*
6392.23	19^-	381.0 *3*		6011.15	18			
		742.6 *2*		5649.57	17^-			
6477.07	19^-	466.0 *2*		6011.15	18			
		531.0 *1*		5946.08	18^+			
		827.6 *2*		5649.57	17^-			
		915.9[f] *5*		5561.19	17^-			
6557.5?	(19)	779.8 *3*	100	5777.74	17^+			
6592.79	$20^{(+)}$	397.5 *2*		6195.29	19^-	E1	0.00736 *11*	α=0.00736 *11*; α(K)=0.00629 *9*; α(L)=0.000842 *12*; α(M)=0.000180 *3*; α(N+..)=4.68×10^{-5} *7* α(N)=4.05×10^{-5} *6*; α(O)=5.98×10^{-6} *9*; α(P)=3.53×10^{-7} *5*
		646.6 *2*		5946.08	18^+	E2	0.00666 *10*	α=0.00666 *10*; α(K)=0.00556 *8*; α(L)=0.000869 *13*; α(M)=0.000188 *3*; α(N+..)=4.89×10^{-5} *7* α(N)=4.24×10^{-5} *6*; α(O)=6.17×10^{-6} *9*; α(P)=3.26×10^{-7} *5*
6694.32	$21^{(-)}$	101.5 *1*		6592.79	$20^{(+)}$			
		217.3 *1*		6477.07	19^-			
		302.0 *2*		6392.23	19^-			
6913.3	$21^{(-)}$	718.0 *2*	100	6195.29	19^-			
7329.3	$22^{(+)}$	416.0 *3*		6913.3	$21^{(-)}$	E1	0.00660 *10*	α=0.00660 *10*; α(K)=0.00565 *8*; α(L)=0.000755 *11*; α(M)=0.0001609 *23*; α(N+..)=4.20×10^{-5} *6* α(N)=3.63×10^{-5} *6*; α(O)=5.36×10^{-6} *8*; α(P)=3.17×10^{-7} *5*
		736.5 *2*		6592.79	$20^{(+)}$	E2	0.00489 *7*	α=0.00489 *7*; α(K)=0.00410 *6*; α(L)=0.000618 *9*; α(M)=0.0001337 *19*; α(N+..)=3.48×10^{-5} *5* α(N)=3.01×10^{-5} *5*; α(O)=4.41×10^{-6} *7*; α(P)=2.42×10^{-7} *4*
7332.92	$23^{(-)}$	638.6 *1*	100	6694.32	$21^{(-)}$			
7620.4	$23^{(-)}$	291.2 *2*		7329.3	$22^{(+)}$	E1	0.01587	α(K)=0.01353 *19*; α(L)=0.00184 *3*; α(M)=0.000393 *6*; α(N+..)=0.0001021 *15* α(N)=8.84×10^{-5} *13*; α(O)=1.297×10^{-5} *19*; α(P)=7.42×10^{-7} *11*
		707.1 *2*		6913.3	$21^{(-)}$	E2	0.00538 *8*	α=0.00538 *8*; α(K)=0.00451 *7*; α(L)=0.000687 *10*; α(M)=0.0001486 *21*; α(N+..)=3.86×10^{-5} *6* α(N)=3.35×10^{-5} *5*; α(O)=4.89×10^{-6} *7*; α(P)=2.65×10^{-7} *4*
7942.5	(22)	1248.2 *2*	100	6694.32	$21^{(-)}$			
7977.6	$24^{(+)}$	357.2 *3*		7620.4	$23^{(-)}$	E1	0.00953 *14*	α=0.00953 *14*; α(K)=0.00814 *12*; α(L)=0.001096 *16*; α(M)=0.000234 *4*;

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Adopted Levels, Gammas (continued)

γ(^{148}Sm) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ #	E_f	J_f^π	Mult. @	α †	Comments
								α(N+..)=6.09×10^{-5} *9* α(N)=5.27×10^{-5} *8*; α(O)=7.76×10^{-6} *11*; α(P)=4.53×10^{-7} *7*
7977.6	24$^{(+)}$	648.2 *2*		7329.3	22$^{(+)}$	E2	0.00662 *10*	α=0.00662 *10*; α(K)=0.00553 *8*; α(L)=0.000863 *13*; α(M)=0.000187 *3*; α(N+..)=4.86×10^{-5} *7* α(N)=4.21×10^{-5} *6*; α(O)=6.13×10^{-6} *9*; α(P)=3.24×10^{-7} *5*
8010.61	25$^{(-)}$	677.7 *1*	100	7332.92	23$^{(-)}$			
8214.5	25$^{(-)}$	236.9 *2*		7977.6	24$^{(+)}$	E1	0.0270	α(K)=0.0230 *4*; α(L)=0.00316 *5*; α(M)=0.000675 *10*; α(N+..)=0.0001751 *25* α(N)=0.0001517 *22*; α(O)=2.21×10^{-5} *4*; α(P)=1.239×10^{-6} *18*
		594.2 *2*		7620.4	23$^{(-)}$	E2	0.00821 *12*	α=0.00821 *12*; α(K)=0.00682 *10*; α(L)=0.001095 *16*; α(M)=0.000238 *4*; α(N+..)=6.17×10^{-5} *9* α(N)=5.35×10^{-5} *8*; α(O)=7.75×10^{-6} *11*; α(P)=3.97×10^{-7} *6*
8358.8	(24)	348.0[f] *5*		8010.61	25$^{(-)}$			
		1025.8 *2*		7332.92	23$^{(-)}$			
8602.2	27$^{(-)}$	591.6 *1*	100	8010.61	25$^{(-)}$			
8659.5	26$^{(+)}$	445.0[e] *3*		8214.5	25$^{(-)}$			
		681.4[f] *5*		7977.6	24$^{(+)}$			
8931.5?	(27)	272.0 *5*	100	8659.5	26$^{(+)}$			
9045.9	(26)	687.0 *3*		8358.8	(24)			
		1035.3 *2*		8010.61	25$^{(-)}$			
9601.2	29	999.0 *2*	100	8602.2	27$^{(-)}$			
9898.2	(28)	1296.0		8602.2	27$^{(-)}$			E_γ: doublet.
10439.0	31	837.8 *2*	100	9601.2	29			
10609.1	(30)	1007.9 *2*	100	9601.2	29			
11524.7	(32)	915.0[f] *5*		10609.1	(30)			
		1085.7 *2*		10439.0	31			

† Additional information 2.
‡ From β^- decay, ε decay, (n,γ), (γ,γ′), (n,n′γ), Coulomb ex., and (HI,xnγ) data.
# Relative photon branching from each level.
@ From α(K)exp, γγ(θ) in ^{148}Pm β^- decay (5.370 d, and 41.29 d); Ice, γ(θ) of polarized nuclei, and γγ(θ) in ^{148}Eu ε decay; γ(θ) and linear polarization of gammas in (n,n′γ); γ(θ), DCO, α(K)exp, linear polarization of gammas and $T_{1/2}$ in (HI,xnγ). See individual data sets for details.
& From ^{148}Pm β^- decay (5.370 d).
a From ^{148}Pm β^- decay (41.29 d).
b From ^{148}Eu ε decay.
c From (n,n′γ).
d From (HI,xnγ).
e Multiply placed.
f Placement of transition in the level scheme is uncertain.

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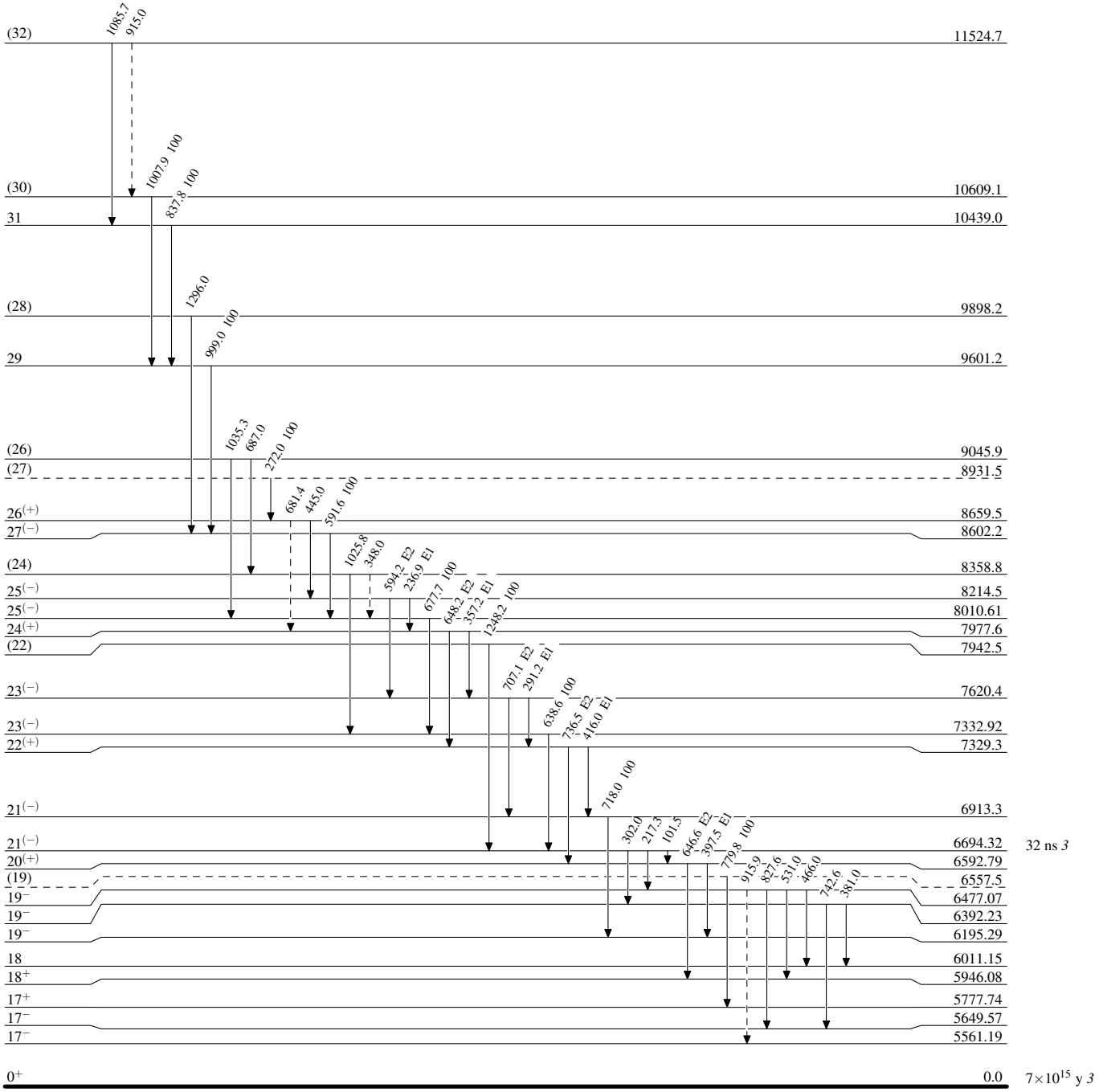
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



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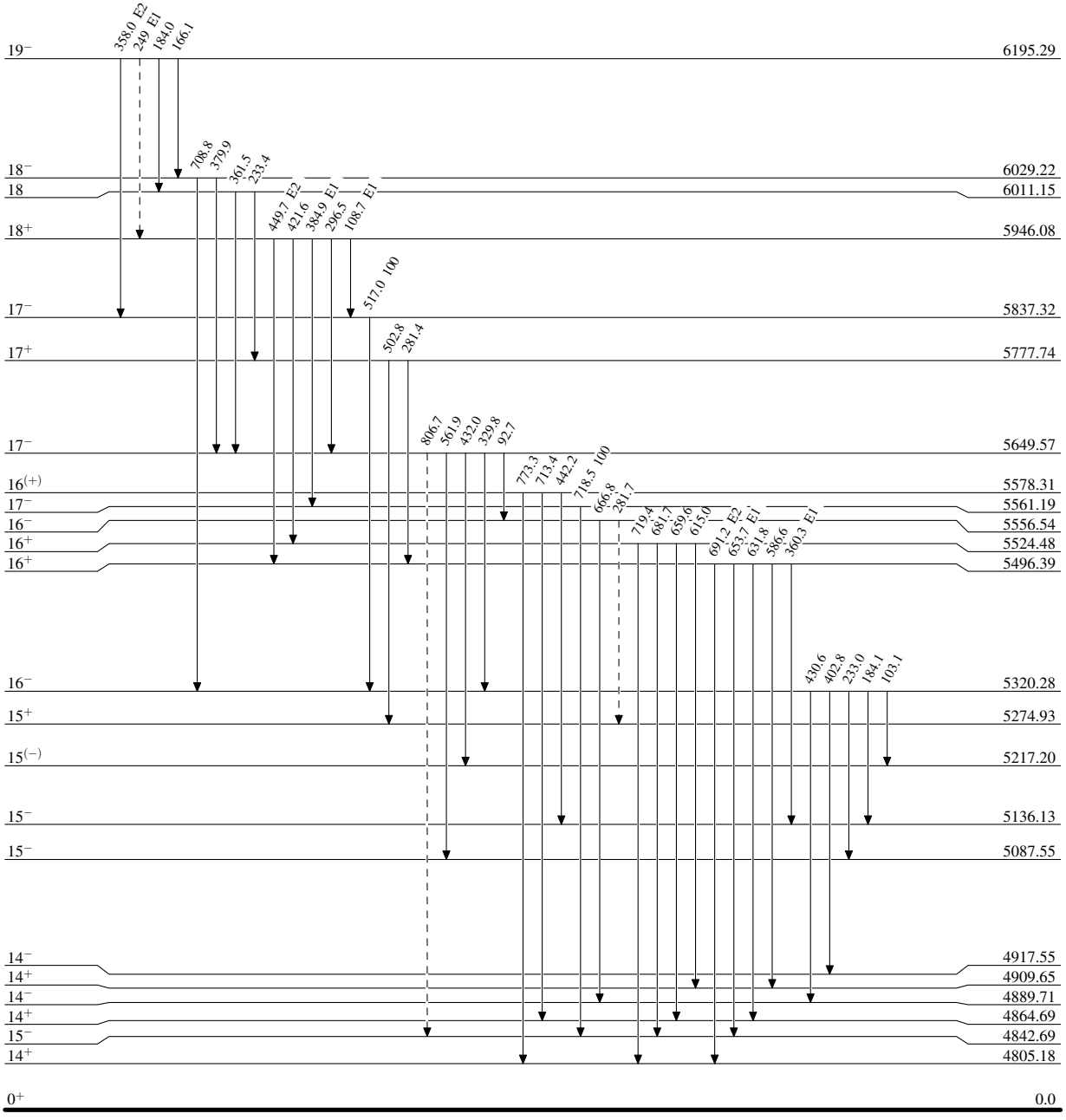
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



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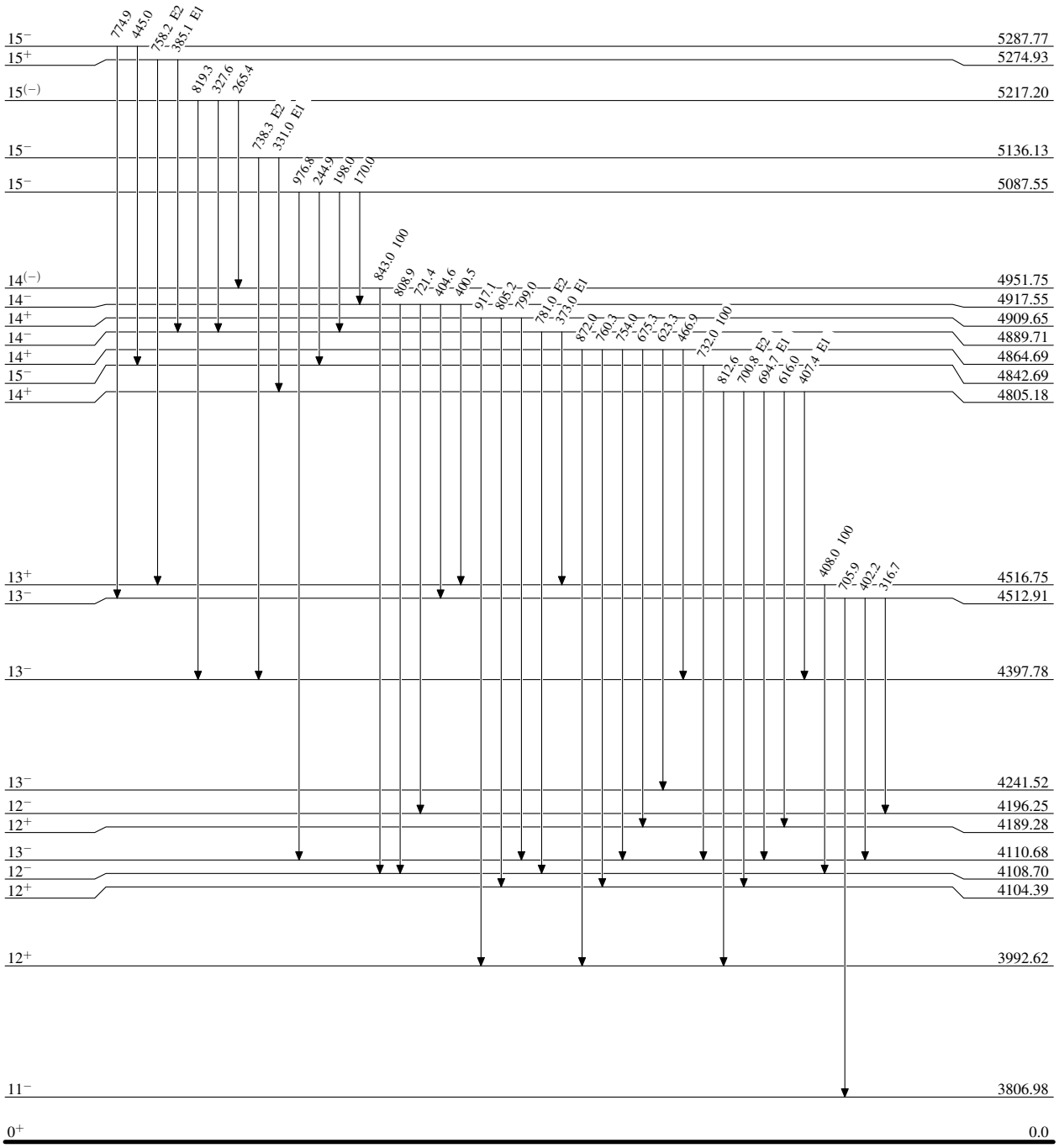
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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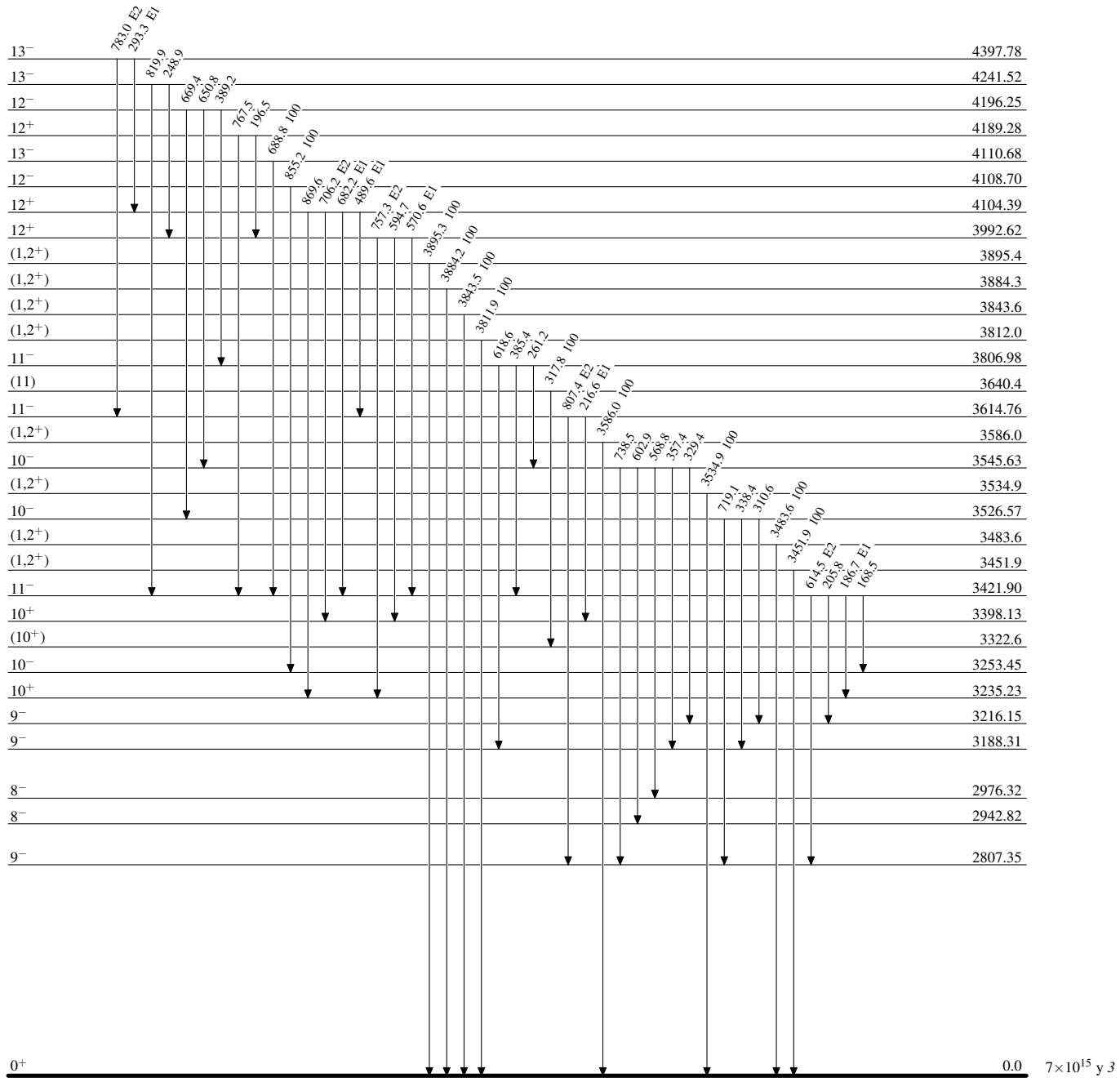
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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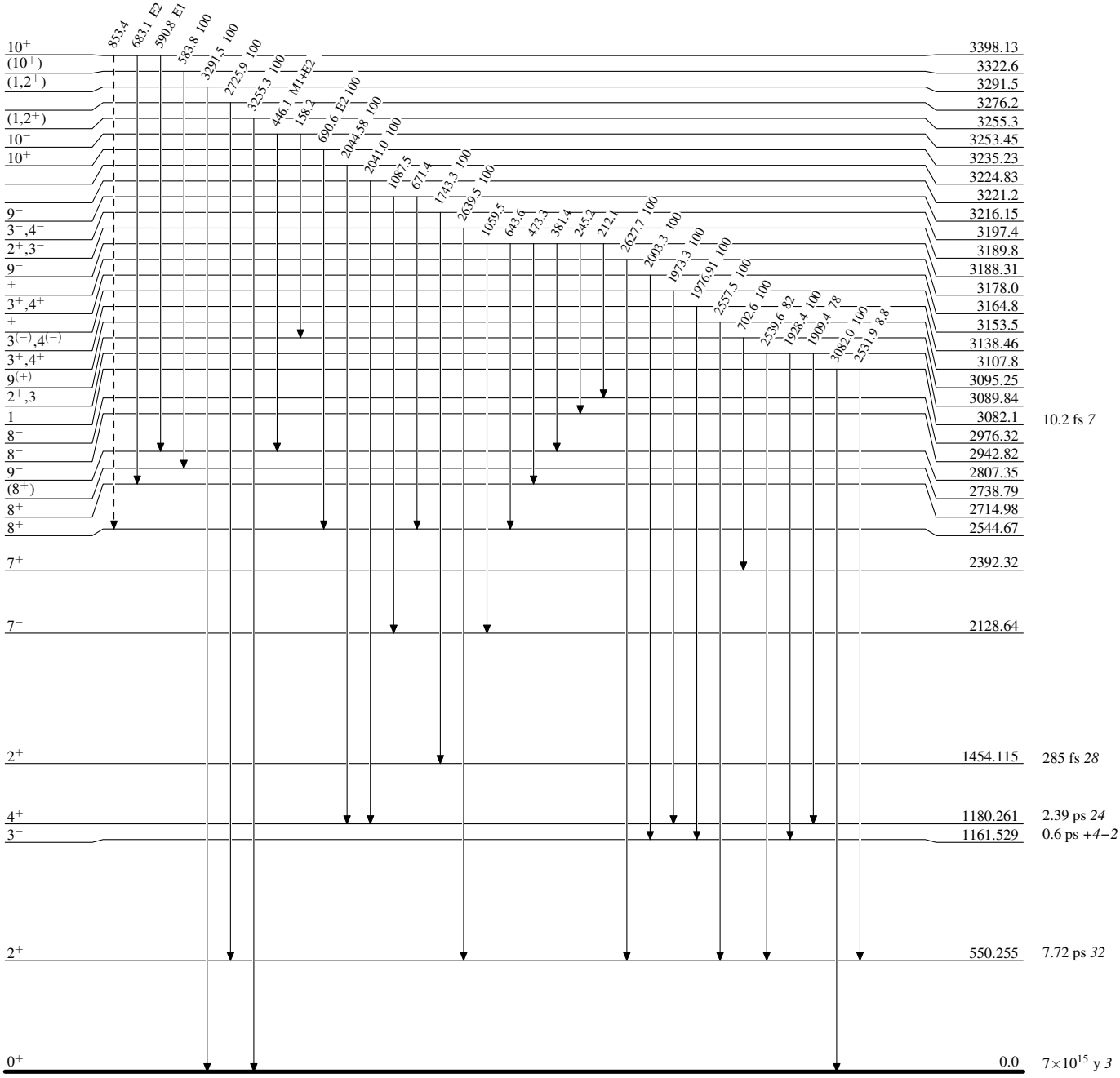
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)



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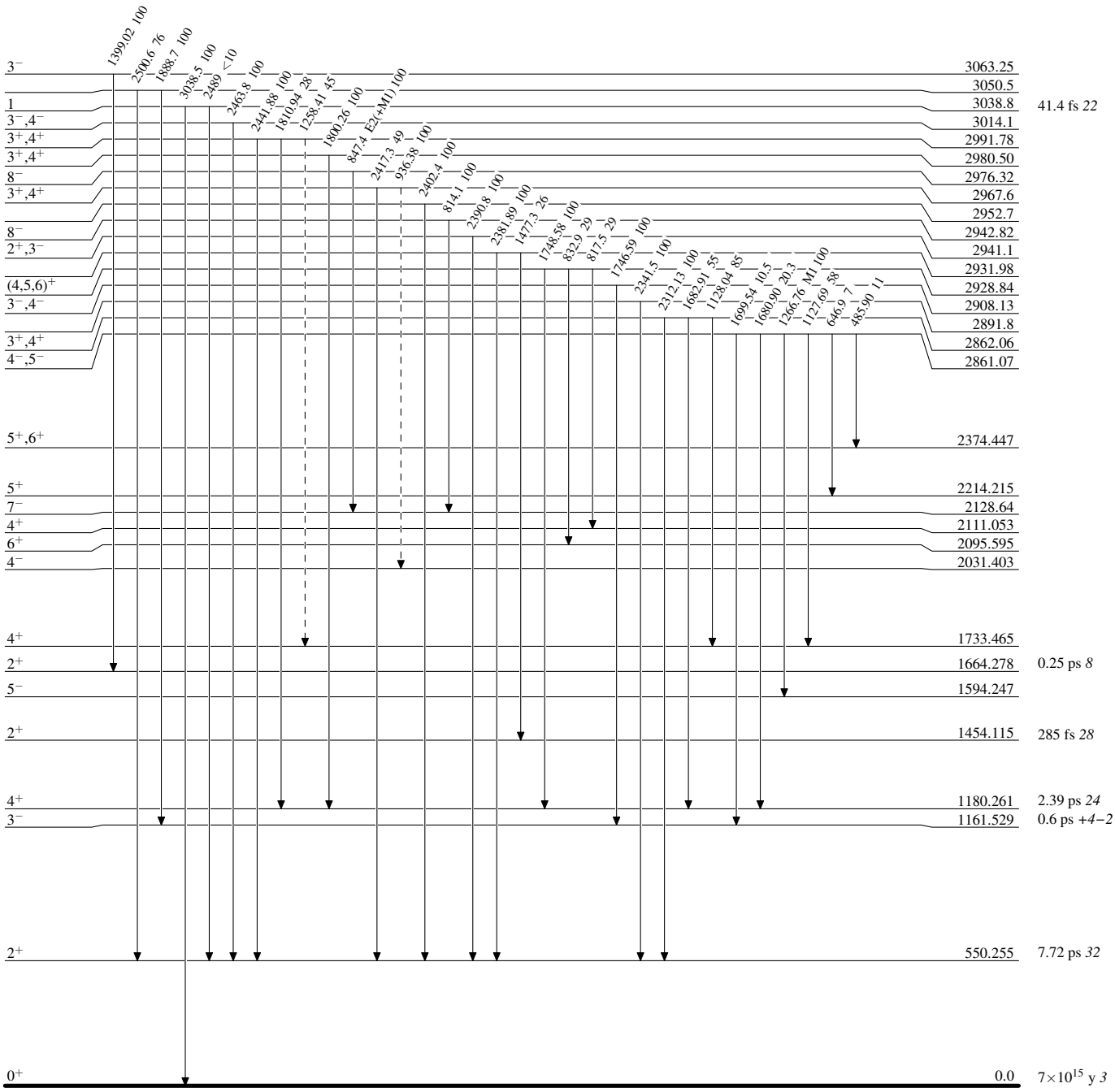
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



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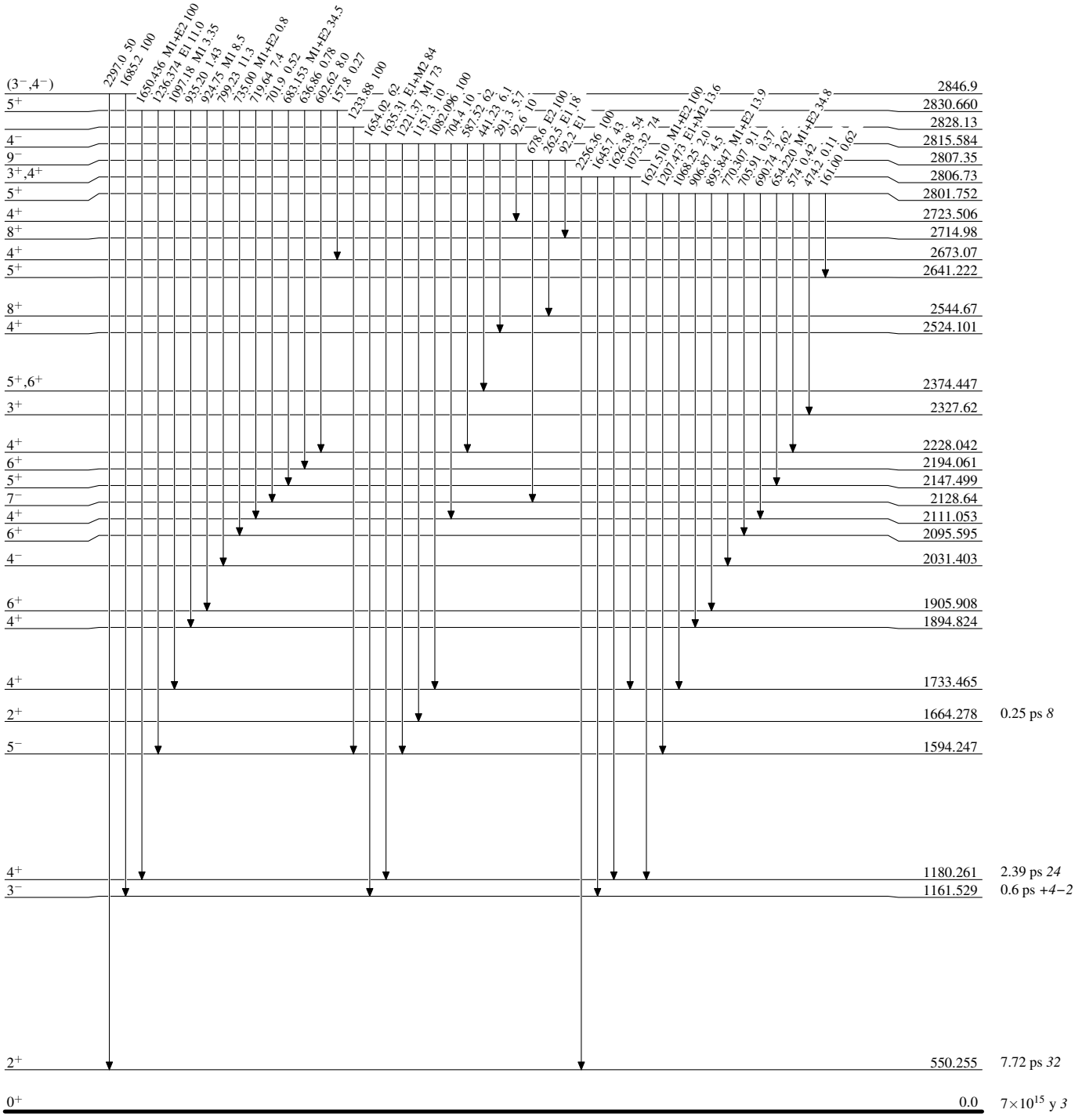
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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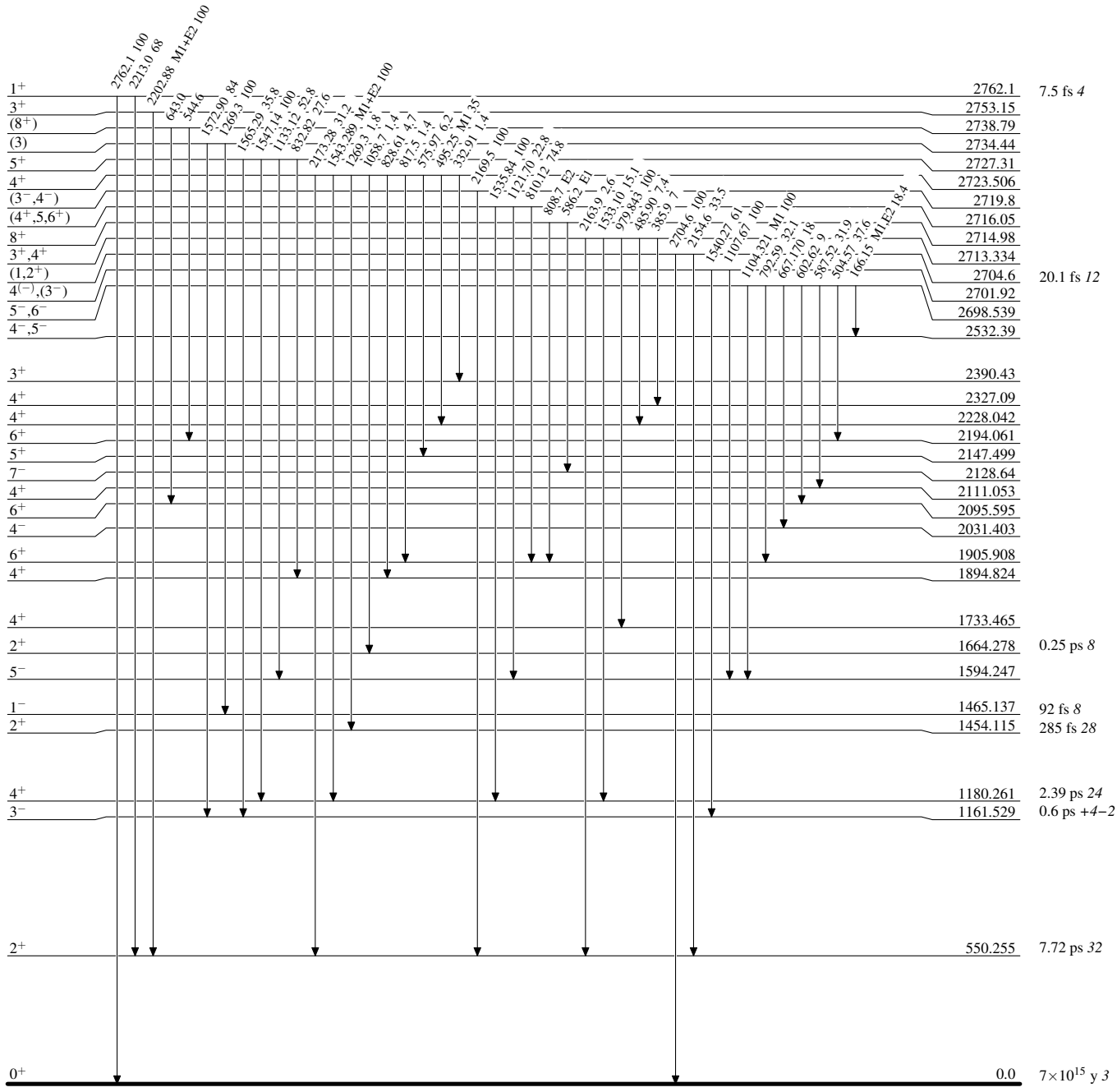
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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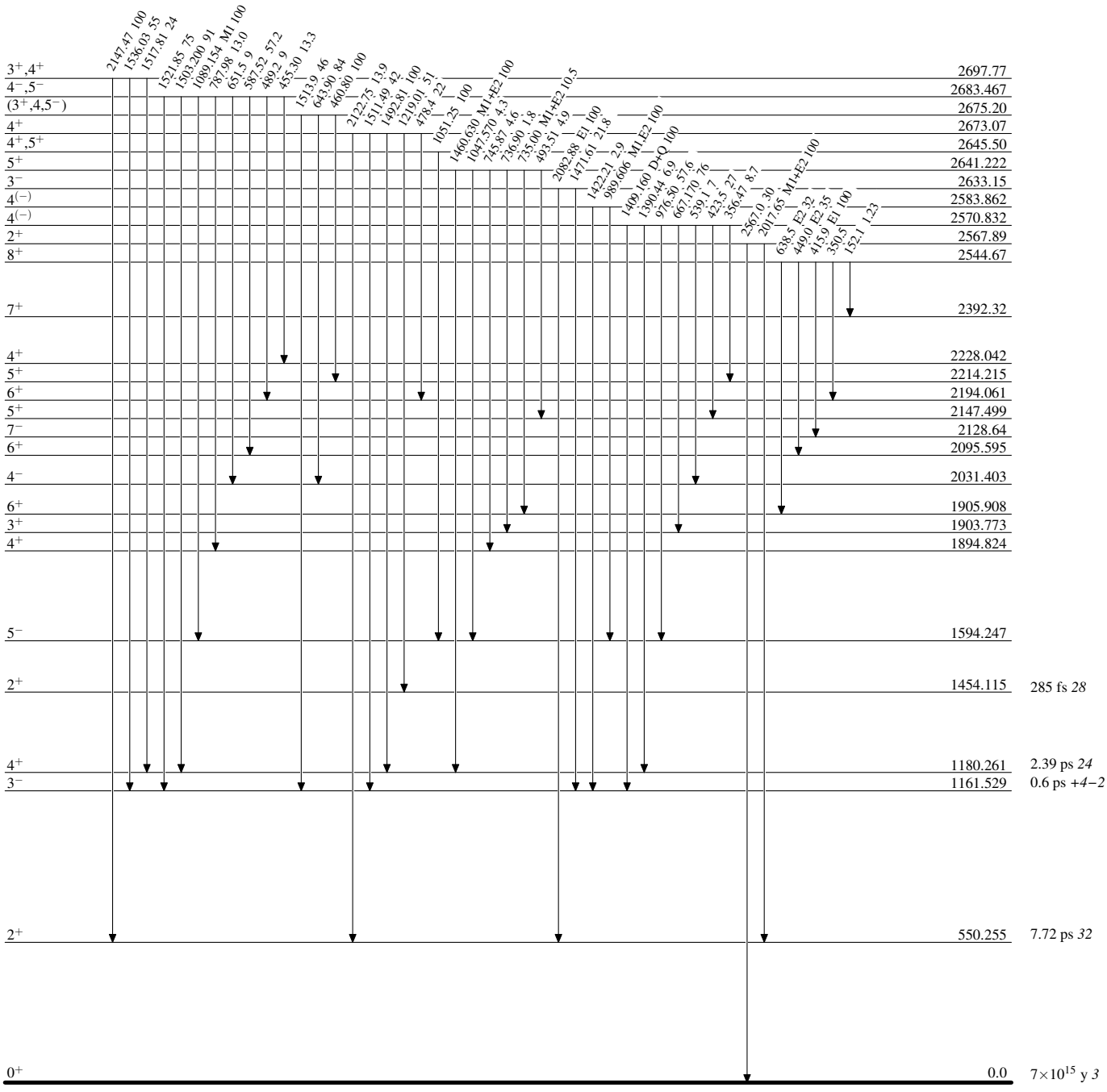
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

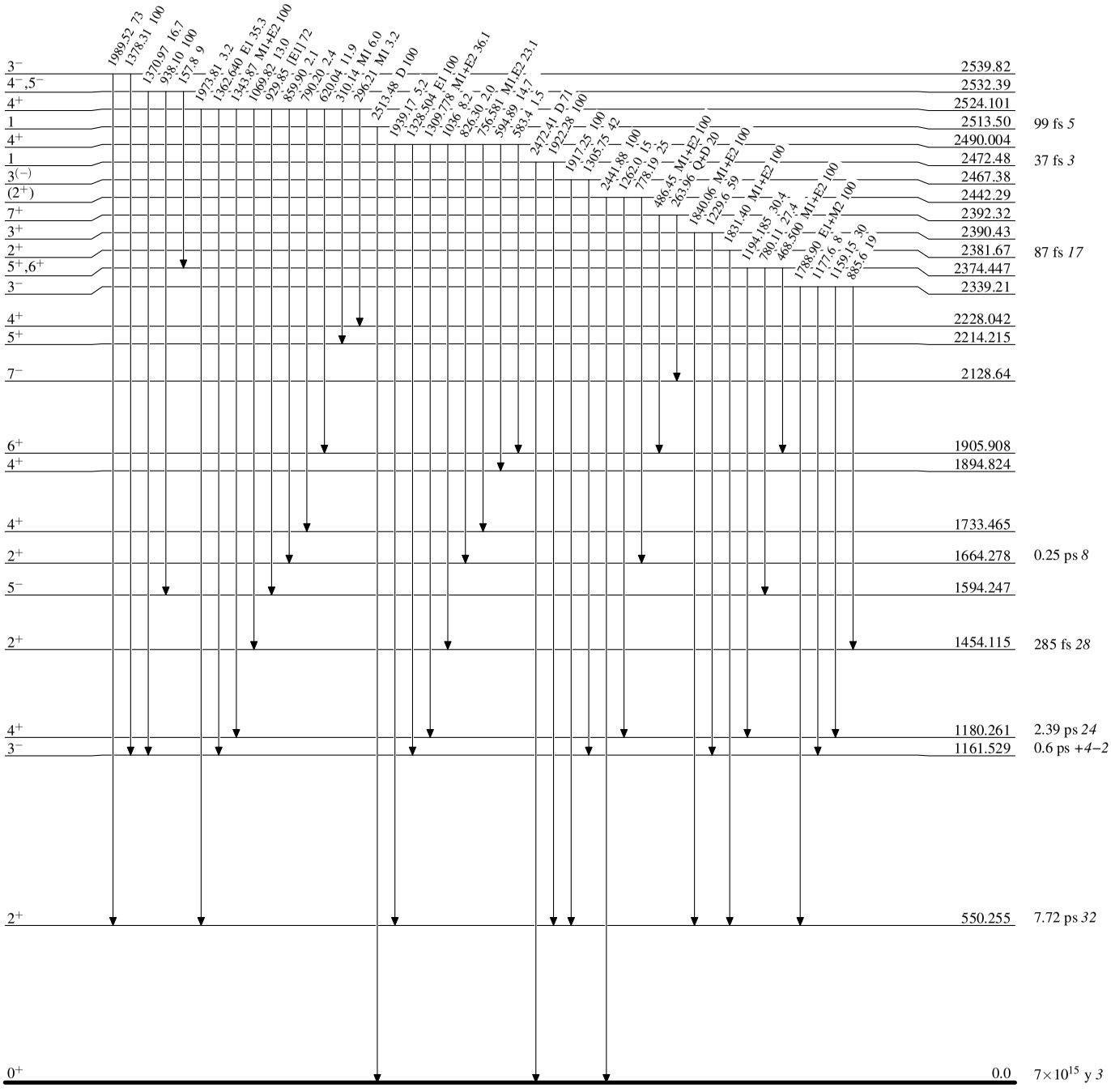


$^{148}_{62}Sm_{86}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{148}_{62}Sm_{86}$

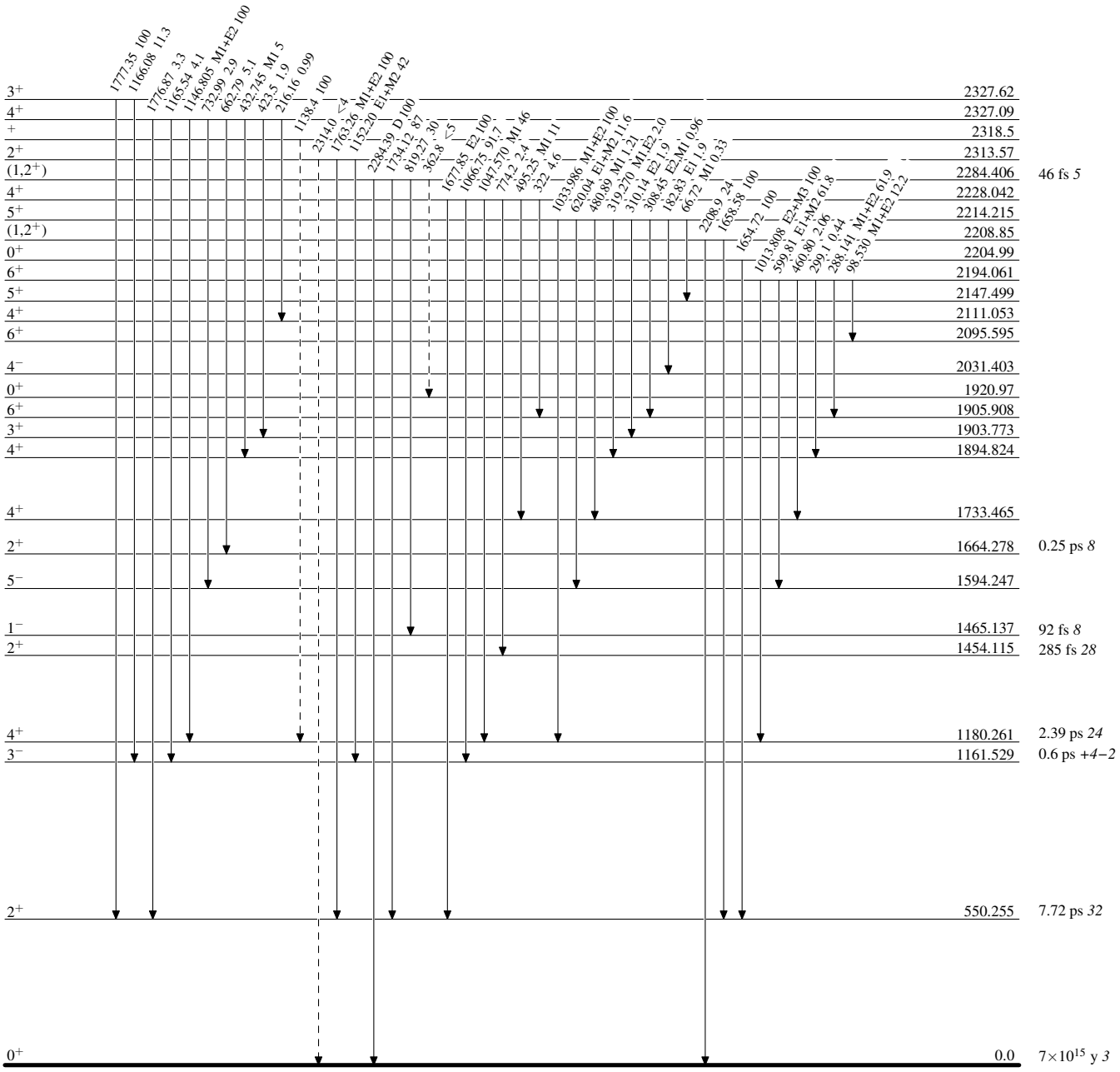
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



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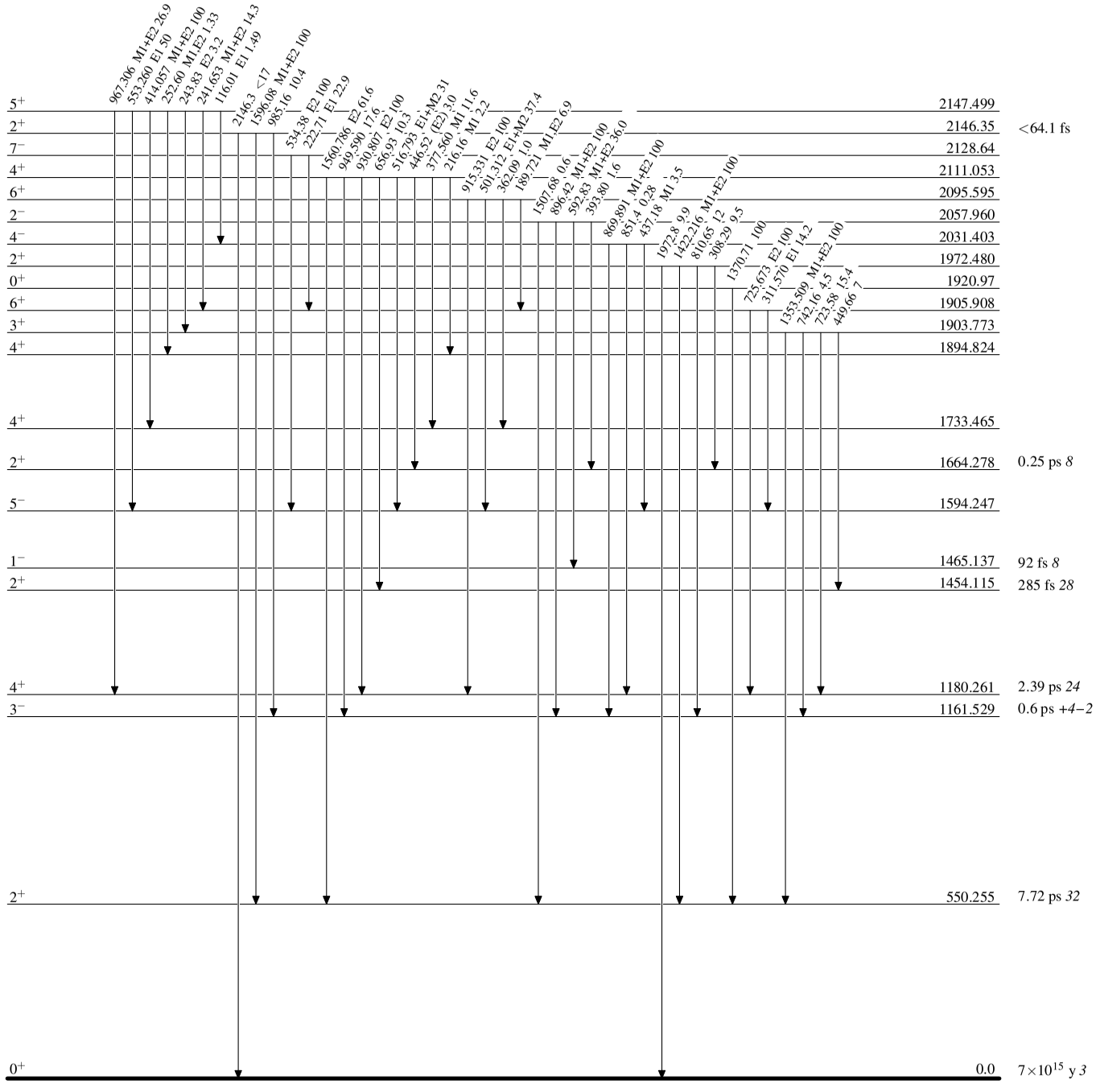
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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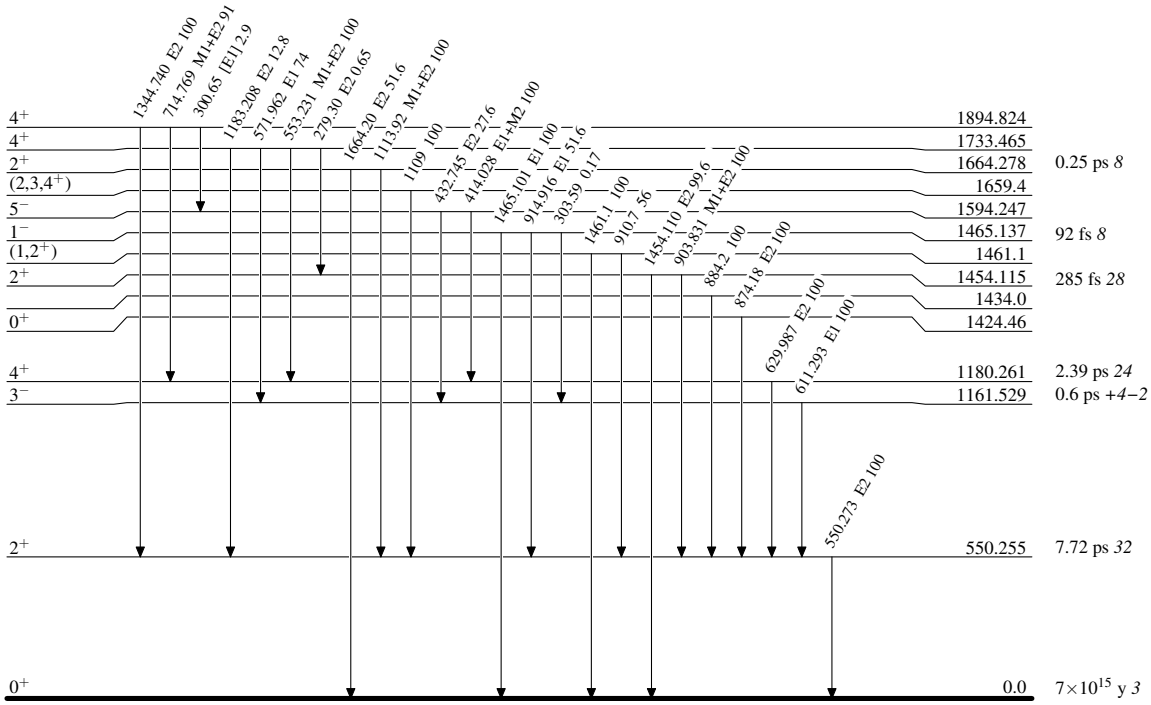
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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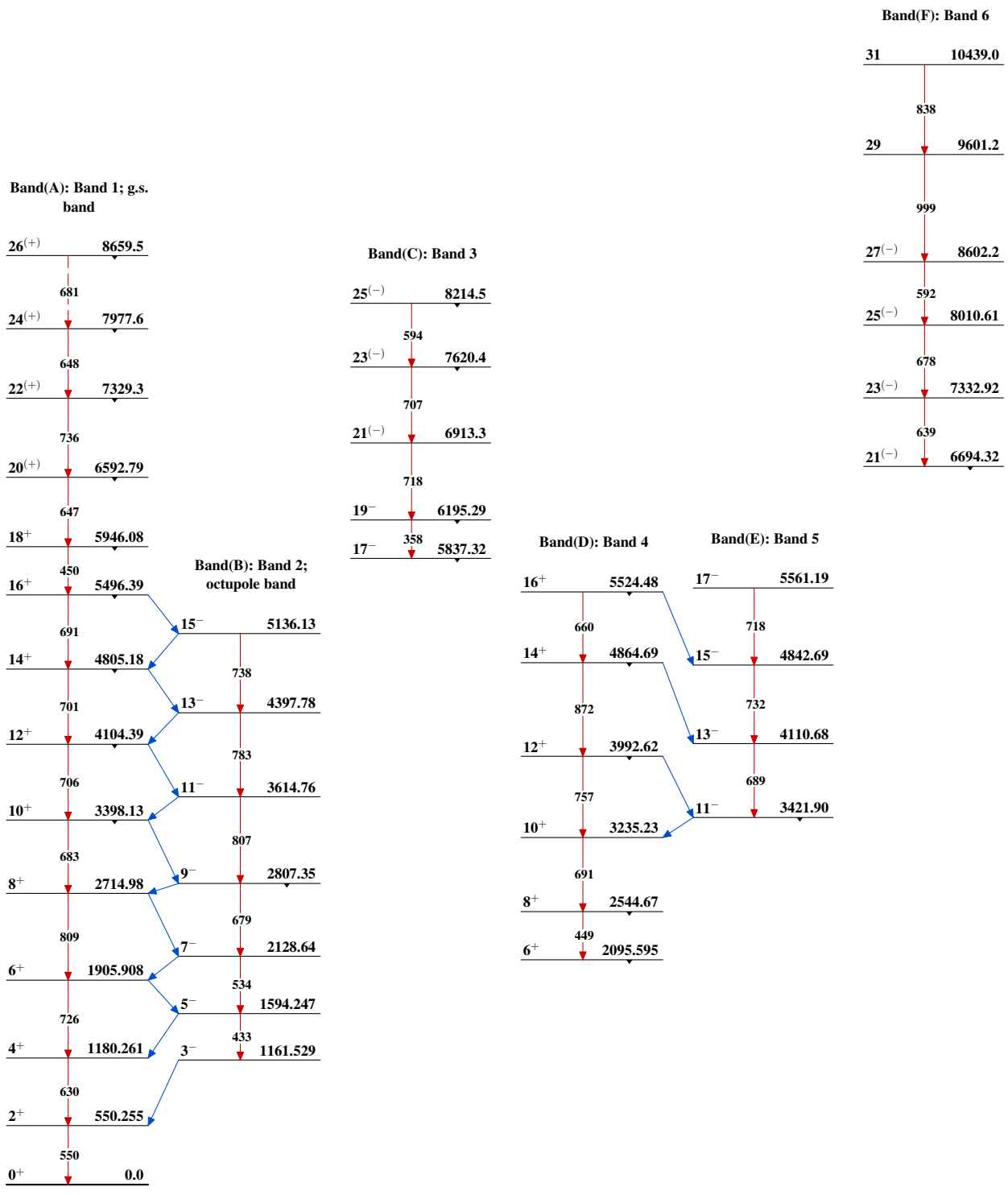
Adopted Levels, Gammas



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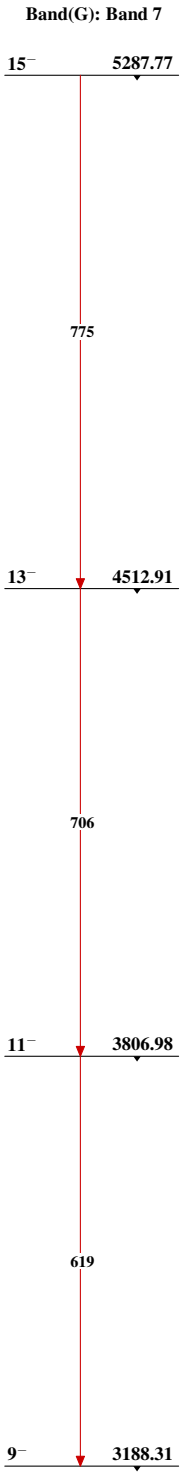
Adopted Levels, Gammas (continued)



$^{148}_{62}Sm_{86}$