(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

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

^{146}Nd(α,2nγ) E(α)=23.4 MeV (1979Ha19), E(α)=26 MeV (1985Si16).
^{148}Nd(^{3}He,3nγ) E(^{3}He)=26.8 MeV (1979Ha19).
^{148}Nd(α,4nγ) E(α)=40-50 MeV (1977BrYX); E(α)=68 MeV (1988UrZY).
^{138}Ba(^{13}C,3nγ) E(^{13}C)=55 MeV (1987UrZZ,1987UrZV,1988UrZX,1991Ur01,1998UrZZ).
^{150}Nd(α,6nγ), E(α)=68 MeV (1987UrZW).
^{130}Te(^{22}Ne,4nγ), E(^{22}Ne)=85 MeV (1990UrZY,1990UrZS,1991Ur01).
Measured: Eγ, Iγ, γγ, γ(θ) (1977BrYX,1979Ha19,1985Si16,1987UrZZ,1988UrZY), γ-ray excitation functions (1979Ha19), ce (1979Ha19,1985Si16), γ(t) (1977BrYX,1979Ha19,1988UrZY), linear polarization of gammas (1988UrZX,1990UrZY,1990UrZS,1991Ur01), DCO (1991Ur01), $T_{1/2}$ (1998UrZZ).
The energy levels and placement of gammas follows 1990UrZS, 1998UrZZ.

^{148}Sm Levels

The band designations and suggested configurations are from 1990UrZS, 1991Ur01.
B(E1)/B(E2) branching ratios are from 1991Ur01.

E(level)†	Jπ‡	Comments
0.0#	0^+	
550.41# *10*	2^+	Jπ: 2^+ (1979Ha19,1985Si16,1990UrZS).
1161.74@ *13*	3^-	Jπ: 3^- (1979Ha19,1985Si16,1990UrZS).
1180.39# *13*	4^+	Jπ: 4^+ (1979Ha19,1985Si16,1990UrZS).
1594.54@ *14*	5^-	Jπ: 5^- (1979Ha19,1985Si16,1990UrZS). B(E1)/B(E2)=0.68×10^{-4} *4* (1991Ur01); 0.62×10^{-4} (1979Ha19).
1733.52 *19*	4^+	Jπ: 4^+ (1985Si16).
1906.17# *15*	6^+	Jπ: 6^+ (1979Ha19,1985Si16,1990UrZS). B(E1)/B(E2)=0.81×10^{-4} *5* (1991Ur01); 0.90×10^{-4} (1979Ha19).
2031.44 *24*	4^-	Jπ: 4^- (1985Si16).
2095.85a *15*	6^+	Jπ: 6^+ (1979Ha19,1985Si16,1990UrZS). B(E1)/B(E2)=1.22×10^{-4} *7*.
2128.79@ *15*	7^-	Jπ: 7^- (1979Ha19,1985Si16,1990UrZS). B(E1)/B(E2)=0.62×10^{-4} *4* (1991Ur01); 0.69×10^{-4} (1979Ha19).
2194.13 *15*	6^+	Jπ: (6^+) (1979Ha19), 6^+ (1985Si16,1990UrZS). B(E1,600γ)/B(E2,1014γ)=1.9×10^{-4} *5*.
2392.67 *18*	7^+	Jπ: (6^+,7^+) (1979Ha19), 7^+ (1985Si16,1990UrZS).
2544.67a *15*	8^+	Jπ: 8^+ (1979Ha19,1985Si16,1990UrZS). B(E1)/B(E2)=1.80×10^{-4} *8*. Configuration=$((\nu[(f^3_{7/2}), h_{9/2}])_{8+}\pi(d^{-2}_{5/2})_{0+})_{8+}$.
2714.98# *16*	8^+	Jπ: 8^+ (1990UrZS). B(E1)/B(E2)=0.8×10^{-4} *1*.
2738.79 *20*	(8^+)	Jπ: (8^+) (1990UrZS).
2807.35@ *16*	9^-	Jπ: 9^- (1979Ha19,1985Si16,1990UrZS). B(E1,92γ)/B(E2,678γ)=4.9×10^{-4} *9* (1991Ur01); B(E1,262γ)/B(E2,678γ)=0.3×10^{-4} (1979Ha19).
2942.82 *18*	8^-	Jπ: 8^- (1990UrZS).
2976.32 *20*	8^-	Jπ: (8^-) (1979Ha19), 8^- (1990UrZS).
3095.25 *19*	$9^{(+)}$	Jπ: $9^{(+)}$ (1990UrZS).
3188.31d *17*	9^-	Jπ: 9^- (1990UrZS).
3216.15 *18*	9^-	Jπ: 9^- (1990UrZS).

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

^{148}Sm Levels (continued)

E(level)†	Jπ‡	Comments
3235.23[a] *17*	10^+	Jπ: 10^+ (1979Ha19,1985Si16,1990UrZS).
3253.45 *17*	10^-	Jπ: 10^- (1979Ha19,1985Si16,1990UrZS). Configuration=(ν ($i_{13/2}$,$f^3_{7/2}$)$_{10-}$($\pi(d^{-2}_{5/2})_{0+}$)) $_{10-}$ and (ν [($i_{13/2}$,$h_{9/2}$)$_{10-}$($f^2_{7/2}$)$_{0+}$]$_{10-}$ ($\pi(d^{-2}_{5/2})_{0+}$)$_{10-}$).
3322.6 *3*	(10^+)	Jπ: (10^+) (1990UrZS).
3398.13[#] *16*	10^+	Jπ: 10^+ (1990UrZS). B(E1)/B(E2)=1.5×10^{-4} *3*.
3421.90[b] *16*	11^-	Jπ: (11^-) (1979Ha19,1985Si16), 11^- (1990UrZS). B(E1)/B(E2)=1.04×10^{-3} *5*. Configuration=(ν $i_{13/2}$,$h_{9/2}$)$_{11-}$($f^2_{7/2}$)$_{0+}$] ($\pi(d^{-2}_{5/2})_0$)$_{11-}$.
3526.57 *18*	10^-	Jπ: 10^-.
3545.63 *17*	10^-	Jπ: 10^-.
3614.76[@] *17*	11^-	Jπ: 11^-. B(E1)/B(E2)=2.9×10^{-4} *3*.
3640.4 *4*	(11)	Jπ: (11).
3806.98[d] *18*	11^-	Jπ: 11^-.
3992.62[a] *17*	12^+	Jπ: 12^+. B(E1)/B(E2)=0.49×10^{-4} *5*.
4104.39[#] *17*	12^+	Jπ: 12^+. B(E1,489γ)/B(E2,706γ)=5.1×10^{-4} *12*; B(E1,682γ)/B(E2,706γ)=0.19×10^{-4} *5*.
4108.70 *18*	12^-	Jπ: 12^-.
4110.68[b] *17*	13^-	Jπ: 13^-.
4189.28 *19*	12^+	Jπ: 12^+.
4196.25 *18*	12^-	Jπ: 12^-.
4241.52 *21*	13^-	Jπ: 13^-.
4397.78[@] *18*	13^-	Jπ: 13^-. B(E1)/B(E2)=1.9×10^{-4} *4*.
4512.91[d] *19*	13^-	Jπ: 13^-.
4516.75 *19*	13^+	Jπ: 13^+.
4805.18[#] *18*	14^+	Jπ: 14^+. B(E1,407γ)/B(E2,701γ)=0.9×10^{-4} *2*; B(E1,694γ)/B(E2,701γ)=0.06×10^{-4} *1*.
4842.69[b] *18*	15^-	Jπ: 15^-.
4864.69[a] *17*	14^+	Jπ: 14^+.
4889.71 *19*	14^-	Jπ: 14^-. B(E1)/B(E2)=1.1×10^{-4} *1*.
4909.65 *19*	14^+	Jπ: 14^+.
4917.55 *18*	14^-	Jπ: 14^-.
4951.75 *23*	$14^{(-)}$	Jπ: $14^{(-)}$.
5087.55 *19*	15^-	Jπ: 15^-.
5136.13[@] *19*	15^-	Jπ: 15^-. B(E1)/B(E2)=0.4×10^{-4} *1*.
5217.20 *20*	$15^{(-)}$	Jπ: $15^{(-)}$.
5274.93 *20*	15^+	Jπ: 15^+. B(E1)/B(E2)=0.7×10^{-4} *1*.
5287.77[d] *25*	15^-	Jπ: 15^-.
5320.28 *19*	16^-	Jπ: 16^-.
5496.39[#] *19*	16^+	Jπ: 16^+. B(E1,361γ)/B(E2,692γ)=1.2×10^{-4} *2*; B(E1,654γ)/B(E2,692γ)=0.8×10^{-4} *1*.
5524.48[a] *19*	16^+	Jπ: 16^+.
5556.54 *21*	16^-	Jπ: 16^-.

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

^{148}Sm Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	Comments
5561.19[b] *20*	17^-		Jπ: 17^-.
5578.31 *21*	$16^{(+)}$		Jπ: $16^{(+)}$.
5649.57 *20*	17^-		Jπ: 17^-.
5777.74 *21*	17^+		Jπ: 17^+.
5837.32[&] *22*	17^-		Jπ: 17^-.
5946.08[#] *19*	18^+		Jπ: 18^+. B(E1,73γ)/B(E2,449γ)=1.2×10^{-4} *2*; B(E1,385γ)/B(E2,449γ)=0.05×10^{-4} *1*. configuration=$(\nu[(i^2_{13/2})_{12+},(f^2_{7/2})_{6+}]_{18}\pi(d_{5/2^{-2}})_{0+})_{18+}$.
6011.15 *21*	18		Jπ: 18.
6029.22 *21*	18^-		Jπ: 18^-.
6195.29[&] *21*	19^-		Jπ: 19^-. B(E1)/B(E2)<0.025×10^{-4}.
6392.23 *23*	19^-		Jπ: 19^-.
6477.07 *20*	19^-		Jπ: 19^-.
6557.5? *4*	(19)		Jπ: (19).
6592.79[#] *21*	$20^{(+)}$		Jπ: 20^+. B(E1)/B(E2)=0.11×10^{-4} *3*. configuration=$(\nu[(i^2_{13/2})_{12+}(h_{9/2},f_{7/2})_{8+}]_{20+}\pi(d_{5/2^{-2}_{0+}})_{20+}$.
6694.32[c] *21*	$21^{(-)}$	32 ns *3*	Jπ: 21^-. configuration=$(\nu(i_{13/2},h_{9/2})_{11-}(f^2_{7/2})_{0+}\ (\pi(h^2_{11/2}\ (10^+)_{21-}$. $T_{1/2}$: by DSAM using ^{130}Te(^{22}Ne,4nγ).
6913.3[&] *3*	$21^{(-)}$		Jπ: $21^{(-)}$.
7329.3[#] *3*	$22^{(+)}$		Jπ: 22^+. B(E1)/B(E2)<2.3×10^{-4}.
7332.92[c] *23*	$23^{(-)}$		Jπ: 23^-.
7620.4[&] *3*	$23^{(-)}$		Jπ: $23^{(-)}$. B(E1)/B(E2)=1.7×10^{-4} *5*.
7942.5 *3*	(22)		Jπ: (22).
7977.6[#] *3*	$24^{(+)}$		Jπ: 24^+. B(E1)/B(E2)=0.8×10^{-4} *3*.
8010.61[c] *25*	$25^{(-)}$		Jπ: 25^-.
8214.5[&] *3*	$25^{(-)}$		Jπ: $25^{(-)}$. B(E1)/B(E2)=4.5×10^{-4} *15*.
8358.8 *3*	(24)		Jπ: (24).
8602.2[c] *3*	$27^{(-)}$		Jπ: 27^-.
8659.5[#] *5*	$26^{(+)}$		Jπ: $26^{(+)}$.
8931.5? *7*	(27)		Jπ: (27).
9045.9 *3*	(26)		Jπ: (26).
9601.2[c] *4*	29		Jπ: 29.
9898.2 *11*	(28)		Jπ: (28).
10439.0[c] *4*	31		Jπ: 31.
10609.1 *4*	(30)		Jπ: (30).
11524.7 *5*	(32)		Jπ: (32).

[†] From a least squares fit to the Eγ data.

[‡] From Adopted Levels. J^π assignments from this reaction based on: γ-ray excitation functions, γ(θ), Ice spectra, $T_{1/2}$, prompt and delayed γ and Ice spectra, γγ(t) spectra (1979Ha19); γ(θ), Ice, γγ coin. (1985Si16); γ(θ), DCO, γ-ray linear polarization data, $T_{1/2}$ (1990UrZS,1991Ur01,1998UrZZ) are given in comments. For levels at 3527 and above, all assignments are from 1990UrZS, 1991Ur01, 1998UrZZ. π of levels up to J=19 have been deduced from linear-polarization data (1991Ur01). J

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

^{148}Sm Levels (continued)

assignments for higher spin values may be tentative. 1991Ur01 also claim to have observed simplex structure from enhanced E1 transitions.

[#] Band(A): band 1; g.s. band.
[@] Band(B): band 2; octupole band.
[&] Band(C): band 3.
[a] Band(D): band 4.
[b] Band(E): band 5.
[c] Band(F): band 6.
[d] Band(G): band 7.

γ(^{148}Sm)

Directional correlation from oriented nuclei (DCO), and linear-polarization data are from 1998UrZZ,1988UrZX.

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
92.2 *2*		2807.35	9^-	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*
92.7 *3*		5649.57	17^-	5556.54	16^-			
98.3 *2*	0.5 *1*	2194.13	6^+	2095.85	6^+	D+(Q)		Mult.: A_2=−0.23 *4*, A_4=−0.20 *5* (1979Ha19).
101.5 *1*		6694.32	$21^{(-)}$	6592.79	$20^{(+)}$			DCO=1.74 *6*.
103.1 *3*		5320.28	16^-	5217.20	$15^{(-)}$			
108.7 *2*		5946.08	18^+	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*
152.1 *2*	0.1	2544.67	8^+	2392.67	7^+			DCO=1.9 *2*.
158.2 *1*		3253.45	10^-	3095.25	$9^{(+)}$			
166.1 *1*		6195.29	19^-	6029.22	18^-			DCO=2.4 *5*; lin pol=−0.46 *8*.
168.5 *1*		3421.90	11^-	3253.45	10^-			DCO=1.95 *8*; lin pol=−0.11 *8*.
170.0 *2*		5087.55	15^-	4917.55	14^-			
184.0 *2*		6195.29	19^-	6011.15	18			DCO=1.6 *2*.
184.1 *2*		5320.28	16^-	5136.13	15^-			
186.7 *1*	1.8 *2*	3421.90	11^-	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* Mult.: A_2=−0.38 *4*, A_4=+0.05 *5*; α(K)exp=0.059 *9* (1985Si16). DCO=1.81 *2*; lin pol=0.43 *10*.
190.0 *2*	0.7	2095.85	6^+	1906.17	6^+	D+Q		Mult.: A_2=+0.13 *7*, A_4=−0.05 *10* (1979Ha19). Lin pol=−0.06 *24*.
196.5 *2*		4189.28	12^+	3992.62	12^+			
198.0 *2*		5087.55	15^-	4889.71	14^-			
205.8 *2*		3421.90	11^-	3216.15	9^-			
212.1 *2*		3188.31	9^-	2976.32	8^-			
216.6 *1*		3614.76	11^-	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*
217.3 *1*		6694.32	$21^{(-)}$	6477.07	19^-			DCO=1.08 *7*.
222.7 *1*	8.0 *4*	2128.79	7^-	1906.17	6^+	E1	0.0318	α(K)=0.0271 *4*; α(L)=0.00373 *6*; α(M)=0.000796

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
								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* Mult.: A_2=−0.21 *1*, A_4=−0.02 *2*, α(K)exp=0.029 *4* (1985Si16); α(K)exp=0.022 *10* (1979Ha19). δ(M2/E1)=0.04 *8* from γ(θ); 0.09 *+8−15* from α(exp) (1979Ha19). DCO=1.78 *5*; lin pol=0.44 *8*.
233.0 *2*		5320.28	16$^-$	5087.55	15$^-$			
233.4 *2*		6011.15	18	5777.74	17$^+$			
236.9 *2*		8214.5	25$^{(-)}$	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*
[x]241.3 *5*	0.23 *5*							
244.9 *2*		5087.55	15$^-$	4842.69	15$^-$			DCO=1.1 *1*; lin pol=0.15 *33*.
245.2 *2*		3188.31	9$^-$	2942.82	8$^-$			DCO=0.9 *1*.
248.9 *2*		4241.52	13$^-$	3992.62	12$^+$			Lin pol=0.8 *8*.
249[a]		6195.29	19$^-$	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*
261.2 *2*		3806.98	11$^-$	3545.63	10$^-$			
262.5	2.9	2807.35	9$^-$	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* Mult.: A_2=+0.33 *5*, A_4=−0.18 *6* (1979Ha19).
264.0 *2*	1.9	2392.67	7$^+$	2128.79	7$^-$	Q+D		Mult.: A_2=+0.28 *1*, A_4=+0.03 *2*; ΔJ=0 (1979Ha19).
265.4 *2*		5217.20	15$^{(-)}$	4951.75	14$^{(-)}$			
272.0 *5*		8931.5?	(27)	8659.5	26$^{(+)}$			
281.4 *3*		5777.74	17$^+$	5496.39	16$^+$			
281.7[a] *5*		5556.54	16$^-$	5274.93	15$^+$			
287.9 *2*	1.2 *2*	2194.13	6$^+$	1906.17	6$^+$	M1+E2	0.077 *14*	α(K)=0.063 *14*; α(L)=0.0110 *4*; α(M)=0.00240 *13*; α(N+..)=0.000620 *22* α(N)=0.000539 *23*; α(O)=7.72×10^{-5} *12*; α(P)=3.7×10^{-6} *11* Mult.: A_2=+0.6 *2*, A_4=−0.1 *2* (1985Si16).
291.2 *2*		7620.4	23$^{(-)}$	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*
293.3 *2*		4397.78	13$^-$	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*
296.5 *2*		5946.08	18$^+$	5649.57	17$^-$			
302.0 *2*		6694.32	21$^{(-)}$	6392.23	19$^-$			DCO=1.00 *8*.
310.6 *3*		3526.57	10$^-$	3216.15	9$^-$			
311.6 *1*	3.3 *3*	1906.17	6$^+$	1594.54	5$^-$	E1	0.01337	α(K)=0.01141 *16*; α(L)=0.001546 *22*; α(M)=0.000330 *5*; α(N+..)=8.58×10^{-5} *12*

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
							α(N)=7.43×10^{-5} *11*; α(O)=1.092×10^{-5} *16*; α(P)=6.29×10^{-7} *9* Mult.: A_2=−0.23 *2*, A_4=+0.07 *3* (1985Si16). Lin pol=0.18 *15*.
316.7 *2*	4512.91	13$^-$	4196.25	12$^-$			
317.8 *2*	3640.4	(11)	3322.6	(10$^+$)			
327.6 *2*	5217.20	15$^{(-)}$	4889.71	14$^-$			
329.4 *2*	3545.63	10$^-$	3216.15	9$^-$			
329.8 *2*	5649.57	17$^-$	5320.28	16$^-$			
331.0 *2*	5136.13	15$^-$	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*
338.4 *2*	3526.57	10$^-$	3188.31	9$^-$			
348.0[a] *5*	8358.8	(24)	8010.61	25$^{(-)}$			
350.5 *2*	2544.67	8$^+$	2194.13	6$^+$			
357.2 *3*	7977.6	24$^{(+)}$	7620.4	23$^{(-)}$	E1	0.00953 *14*	α(K)=0.00814 *12*; α(L)=0.001096 *16*; α(M)=0.000234 *4*; 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*
357.4 *1*	3545.63	10$^-$	3188.31	9$^-$			Lin pol=0.01 *26*.
358.0 *2*	6195.29	19$^-$	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*
360.3 *2*	5496.39	16$^+$	5136.13	15$^-$	E1	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*
361.5 *2*	6011.15	18	5649.57	17$^-$			DCO=1.8 *2*.
373.0 *2*	4889.71	14$^-$	4516.75	13$^+$	E1	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*
379.9 *2*	6029.22	18$^-$	5649.57	17$^-$			
381.0 *3*	6392.23	19$^-$	6011.15	18			
381.4 *2*	3188.31	9$^-$	2807.35	9$^-$			Lin pol=0.7 *5*.
384.9 *2*	5946.08	18$^+$	5561.19	17$^-$	E1	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*
385.1 *2*	5274.93	15$^+$	4889.71	14$^-$	E1	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* DCO=1.4 *1*.
385.4 *2*	3806.98	11$^-$	3421.90	11$^-$			DCO=1.5 *1*; lin pol=0.45 *19*.
389.2 *2*	4196.25	12$^-$	3806.98	11$^-$			
397.5 *2*	6592.79	20$^{(+)}$	6195.29	19$^-$	E1	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*

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
400.5 *2*		4917.55	14^-	4516.75	13^+			
402.2 *2*		4512.91	13^-	4110.68	13^-			Lin pol=0.4 *3*.
402.8 *2*		5320.28	16^-	4917.55	14^-			
404.6 *2*		4917.55	14^-	4512.91	13^-			
407.4 *2*		4805.18	14^+	4397.78	13^-	E1	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* Lin pol=0.44 *22*.
408.0 *1*		4516.75	13^+	4108.70	12^-			
414.2 *1*	44 *3*	1594.54	5^-	1180.39	4^+	E1	0.00667 *10*	α(K)=0.00570 *8*; α(L)=0.000763 *11*; α(M)=0.0001626 *23*; α(N+..)=4.24×10^{-5} *6* α(N)=3.67×10^{-5} *6*; α(O)=5.42×10^{-6} *8*; α(P)=3.21×10^{-7} *5* Mult.: A_2=−0.24 *2*, A_4=−0.03 *3* (1985Si16); α(K)exp=0.0050 *13* (1979Ha19). δ(M2/E1)=0.03 *5* from γ(θ); 0.10 *+7−12* from α(exp) (1979Ha19). DCO=1.67 *2*; lin pol=0.40 *4*.
415.9 *1*	8.1 *4*	2544.67	8^+	2128.79	7^-	E1	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* Mult.: A_2=−0.15 *2*, A_4=−0.03 *3*, α(K)exp=31×10^{-4} *12* (1979Ha19). δ(M2/E1)=0.04 *4* from γ(θ); 0.16 *+12−20* from α(exp) (1979Ha19). DCO=1.67 *2*; lin pol=0.22 *4*.
416.0 *3*		7329.3	$22^{(+)}$	6913.3	$21^{(-)}$	E1	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*
421.6 *2*		5946.08	18^+	5524.48	16^+			
430.6 *2*		5320.28	16^-	4889.71	14^-			
432.0 *5*		5649.57	17^-	5217.20	$15^{(-)}$			
432.8 *1*	9.6 *5*	1594.54	5^-	1161.74	3^-	E2	0.0190	α(K)=0.01544 *22*; α(L)=0.00281 *4*; α(M)=0.000617 *9*; α(N+..)=0.0001586 *23* α(N)=0.0001382 *20*; α(O)=1.96×10^{-5} *3*; α(P)=8.75×10^{-7} *13* Mult.: A_2=+0.30 *2*, A_4=−0.15 *3*, α(K)exp=1.8×10^{-2} *3* (1985Si16); α(K)exp=1.7×10^{-2} *2* (1979Ha19). DCO=1.00 *2*; lin pol=0.49 *8*.
442.2 *2*		5578.31	$16^{(+)}$	5136.13	15^-			
445.0[&] *3*		5287.77	15^-	4842.69	15^-			

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
445.0[&] *3*		8659.5	$26^{(+)}$	8214.5	$25^{(-)}$				
446.1 *1*	5.0 *5*	3253.45	10^-	2807.35	9^-	M1+E2	−0.10 *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* Mult.: A_2=−0.57 *6*, A_4=−0.08 *8*; α(K)exp=0.016 *3* (1985Si16). δ: from 1979Ha19. DCO=2.3 *2*; lin pol=−0.12 *6*.
449.0 *11*	2.8 *3*	2544.67	8^+	2095.85	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* Mult.: A_2=+0.37 *12*, A_4=−0.11 *3*, α(K)exp=0.016 *4* (1979Ha19). DCO=1.05 *5*; lin pol=0.42 *6*.
449.7 *2*		5946.08	18^+	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* DCO=1.04 *4*.
466.0 *2*		6477.07	19^-	6011.15	18				Lin pol=−1.1 *5*.
466.9 *2*		4864.69	14^+	4397.78	13^-				DCO=1.54 *6*.
473.3 *2*		3188.31	9^-	2714.98	8^+				
486.5 *2*	6.4 *4*	2392.67	7^+	1906.17	6^+	M1+E2	−0.15 *8*	0.0229 *5*	α(K)=0.0195 *4*; α(L)=0.00266 *5*; α(M)=0.000570 *9*; α(N+..)=0.0001500 *24* α(N)=0.0001294 *21*; α(O)=1.94×10^{-5} *4*; α(P)=1.219×10^{-6} *24* Mult.: A_2=−0.38 *8*, A_4=−0.02 *9*, α(K)exp=0.017 *4* (1985Si16); α(K)exp=0.023 *3* (1979Ha19). δ: from 1979Ha19; 0.50 *+15−13* from α(exp) (1979Ha19). DCO=1.74 *15*; lin pol=−0.8 *3*.
489.6 *1*		4104.39	12^+	3614.76	11^-	E1		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*
501.3 *1*	3.1 *3*	2095.85	6^+	1594.54	5^-	E1		0.00429 *6*	α(K)=0.00367 *6*; α(L)=0.000486 *7*; α(M)=0.0001036 *15*; α(N+..)=2.71×10^{-5} *4* α(N)=2.34×10^{-5} *4*; α(O)=3.47×10^{-6} *5*; α(P)=2.08×10^{-7} *3* Mult.: α(K)exp=0.0045 *10* (1985Si16). Lin pol=−0.1 *3*.

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
502.8 *1*		5777.74	17^+	5274.93	15^+			
517.0 *2*		5837.32	17^-	5320.28	16^-			
531.0 *1*		6477.07	19^-	5946.08	18^+			DCO=1.76 *7*.
534.3 *1*	31 *2*	2128.79	7^-	1594.54	5^-	E2	0.01077	α(K)=0.00888 *13*; α(L)=0.001481 *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* Mult.: A_2=+0.33 *1*, A_4=−0.08 *2*, α(K)exp=0.011 *2* (1985Si16); α(K)exp=0.007 *3* (1979Ha19). DCO=0.99 *2*; lin pol=0.55 *6*.
544.6 *2*		2738.79	(8^+)	2194.13	6^+			
550.4 *1*	100	550.41	2^+	0.0	0^+	E2	0.00997 *14*	α(K)=0.00824 *12*; α(L)=0.001359 *19*; α(M)=0.000296 *5*; α(N+..)=7.66×10^{-5} *11* α(N)=6.65×10^{-5} *10*; α(O)=9.59×10^{-6} *14*; α(P)=4.78×10^{-7} *7* Mult.: A_2=+0.30 *1*, A_4=−0.06 *2*; α(K)exp=0.0080 *10* (1985Si16). DCO=0.99 *1*; lin pol=0.54 *5*.
553.2 *2*	2.1 *2*	1733.52	4^+	1180.39	4^+			
561.9 *2*		5649.57	17^-	5087.55	15^-			Lin pol=0.16 *32*.
568.8 *3*		3545.63	10^-	2976.32	8^-			
570.6 *2*		3992.62	12^+	3421.90	11^-	E1	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* Lin pol=0.44 *24*.
571.7 *2*	1.7 *2*	1733.52	4^+	1161.74	3^-			
583.8 *2*		3322.6	(10^+)	2738.79	(8^+)			
586.2 *1*		2714.98	8^+	2128.79	7^-	E1	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* Lin pol=−0.12 *23*.
586.6 *2*		5496.39	16^+	4909.65	14^+			
590.8 *1*		3398.13	10^+	2807.35	9^-	E1	0.00298 *5*	α(K)=0.00255 *4*; α(L)=0.000336 *5*; 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* Lin pol=−0.9 *5*.
591.6 *1*		8602.2	$27^{(-)}$	8010.61	$25^{(-)}$			DCO=0.95 *5*.
594.2 *2*		8214.5	$25^{(-)}$	7620.4	$23^{(-)}$	E2	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*
594.7 *2*		3992.62	12^+	3398.13	10^+			
599.6 *1*	2.0 *2*	2194.13	6^+	1594.54	5^-	E1	0.00289 *4*	α(K)=0.00247 *4*; α(L)=0.000325 *5*; α(M)=6.92×10^{-5} *10*; α(N+..)=1.81×10^{-5} *3* α(N)=1.563×10^{-5} *22*; α(O)=2.33×10^{-6} *4*; α(P)=1.415×10^{-7} *20*

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
602.9 *1*		3545.63	10^-	2942.82	8^-				
611.3 *1*	19 *1*	1161.74	3^-	550.41	2^+	E1+M2	+0.08 *4*	0.0030 *3*	α(K)=0.00256 *24*; α(L)=0.00034 *4*; α(M)=7.3×10^{-5} *8*; α(N+..)=1.90×10^{-5} *21* α(N)=1.64×10^{-5} *18*; α(O)=2.4×10^{-6} *3*; α(P)=1.49×10^{-7} *17* δ: from 1979Ha19; 0.15 *+16−9* from α(exp) (1979Ha19). Mult.: A_2=−0.21 *1*, A_4=−0.00 *2* (1985Si16); α(K)exp=30×10^{-4} *6* (1979Ha19). DCO=1.63 *5*; lin pol=0.21 *9*.
614.5 *1*	1.5 *2*	3421.90	11^-	2807.35	9^-	E2		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* Mult.: A_2=+0.47 *4*, A_4=−0.15 *5* (1979Ha19). DCO=1.01 *2*; lin pol=0.49 *10*.
615.0 *2*		5524.48	16^+	4909.65	14^+				
616.0 *2*		4805.18	14^+	4189.28	12^+				
618.6 *1*		3806.98	11^-	3188.31	9^-				Lin pol=0.47 *14*.
623.3 *2*		4864.69	14^+	4241.52	13^-				
630.0 *1*	76 *4*	1180.39	4^+	550.41	2^+	E2		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* Mult.: A_2=+0.31 *1*, A_4=−0.06 *2* (1985Si16); α(K)exp=60×10^{-4} *5* (1979Ha19). DCO=0.98 *2*; lin pol=0.18 *5*.
631.8 *2*		5496.39	16^+	4864.69	14^+				
638.5 *1*	2.6	2544.67	8^+	1906.17	6^+	E2		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* Mult.: A_2=+0.13 *10*, A_4=+0.10 *16* (1979Ha19). DCO=0.99 *4*; lin pol=0.5 *5*.
638.6 *1*		7332.92	$23^{(-)}$	6694.32	$21^{(-)}$				DCO=0.99 *3*.
643.0 *2*		2738.79	(8^+)	2095.85	6^+				Lin pol=−0.17 *23*.
643.6 *2*		3188.31	9^-	2544.67	8^+				
646.6 *2*		6592.79	$20^{(+)}$	5946.08	18^+	E2		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*;

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(O)=6.17×10^{-6} *9*; α(P)=3.26×10^{-7} *5* DCO=0.99 *5*.
648.2 *2*		7977.6	24$^{(+)}$	7329.3	22$^{(+)}$	E2	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*
650.8 *1*		4196.25	12$^-$	3545.63	10$^-$			
653.7 *2*		5496.39	16$^+$	4842.69	15$^-$	E1	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*
659.6 *2*		5524.48	16$^+$	4864.69	14$^+$			
666.8 *1*		5556.54	16$^-$	4889.71	14$^-$			
669.4 *2*		4196.25	12$^-$	3526.57	10$^-$			Lin pol=0.48 *29*.
671.4 *2*		3216.15	9$^-$	2544.67	8$^+$			Lin pol=−0.0 *4*.
675.3 *2*		4864.69	14$^+$	4189.28	12$^+$			
677.7 *1*		8010.61	25$^{(-)}$	7332.92	23$^{(-)}$			DCO=1.00 *3*.
678.6 *1*	16 *1*	2807.35	9$^-$	2128.79	7$^-$	E2	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* Mult.: A_2=+0.31 *2*, A_4=−0.05 *3*, α(K)exp=0.0066 *10* (1985Si16); α(K)exp=0.0065 *20* (1979Ha19). DCO=1.00 *5*; lin pol=0.46 *7*.
681.4[a] *5*		8659.5	26$^{(+)}$	7977.6	24$^{(+)}$			
681.7 *2*		5524.48	16$^+$	4842.69	15$^-$			
682.2 *2*		4104.39	12$^+$	3421.90	11$^-$	E1	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*
683.1 *1*		3398.13	10$^+$	2714.98	8$^+$	E2	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*
687.0 *3*		9045.9	(26)	8358.8	(24)			
688.8 *1*		4110.68	13$^-$	3421.90	11$^-$			DCO=1.02 *2*; lin pol=0.50 *9*.
690.6 *1*	1.5 *2*	3235.23	10$^+$	2544.67	8$^+$	E2	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* Mult.: α(K)exp=50×10^{-4} *10* (1979Ha19). Lin pol=0.33 *12*.
691.2 *2*		5496.39	16$^+$	4805.18	14$^+$	E2	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*
694.7 *2*		4805.18	14$^+$	4110.68	13$^-$	E1	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*

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ ‡	I_γ #	E_i(level)	J_i^π	E_f	J_f^π	Mult. @	α †	Comments
700.8 *2*		4805.18	14^+	4104.39	12^+	E2	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*
702.6 *2*		3095.25	$9^{(+)}$	2392.67	7^+			
705.9 *2*		4512.91	13^-	3806.98	11^-			
706.2 *1*		4104.39	12^+	3398.13	10^+	E2	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*
707.1 *2*		7620.4	$23^{(-)}$	6913.3	$21^{(-)}$	E2	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*
708.8 *2*		6029.22	18^-	5320.28	16^-			
713.4 *2*		5578.31	$16^{(+)}$	4864.69	14^+			
718.0 *2*		6913.3	$21^{(-)}$	6195.29	19^-			
718.5 *1*		5561.19	17^-	4842.69	15^-			DCO=0.98 *4*.
719.1 *1*		3526.57	10^-	2807.35	9^-			
719.4 *2*		5524.48	16^+	4805.18	14^+			
721.4 *1*		4917.55	14^-	4196.25	12^-			
725.8 *1*	23 *2*	1906.17	6^+	1180.39	4^+	E2	0.00506 *7*	α(K)=0.00424 *6*; α(L)=0.000642 *9*; α(M)=0.0001388 *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* Mult.: A_2=+0.33 *2*, A_4=−0.05 *3*, α(K)exp=0.45×10^{-2} *10* (1985Si16); α(K)exp=0.40×10^{-2} *10* (1979Ha19). DCO=0.98 *3*; lin pol=0.49 *13*.
732.0 *1*		4842.69	15^-	4110.68	13^-			DCO=1.00 *3*; lin pol=0.67 *17*.
736.5 *2*		7329.3	$22^{(+)}$	6592.79	$20^{(+)}$	E2	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*
738.3 *2*		5136.13	15^-	4397.78	13^-	E2	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*
738.5 *2*		3545.63	10^-	2807.35	9^-			
742.6 *2*		6392.23	19^-	5649.57	17^-			
754.0 *2*		4864.69	14^+	4110.68	13^-			
757.3 *1*		3992.62	12^+	3235.23	10^+	E2	0.00459 *7*	α(K)=0.00385 *6*; α(L)=0.000576 *8*; α(M)=0.0001245 *18*; 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* DCO=1.10 *6*; lin pol=0.4 *4*.
758.2 *1*		5274.93	15^+	4516.75	13^+	E2	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* DCO=1.0 *1*.

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(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
760.3 *2*		4864.69	14^+	4104.39	12^+			
767.5 *2*		4189.28	12^+	3421.90	11^-			
773.3 *2*		5578.31	$16^{(+)}$	4805.18	14^+			
774.9 *2*		5287.77	15^-	4512.91	13^-			
779.8 *3*		6557.5?	(19)	5777.74	17^+			
781.0 *1*		4889.71	14^-	4108.70	12^-	E2	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* DCO=0.96 *6*; lin pol=1.4 *7*.
783.0 *1*		4397.78	13^-	3614.76	11^-	E2	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* Lin pol=1.1 *4*.
799.0 *2*		4909.65	14^+	4110.68	13^-			
805.2 *2*		4909.65	14^+	4104.39	12^+			
806.7[a] *5*		5649.57	17^-	4842.69	15^-			
807.4 *1*		3614.76	11^-	2807.35	9^-	E2	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*
808.7 *1*		2714.98	8^+	1906.17	6^+	E2	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*
808.9 *2*		4917.55	14^-	4108.70	12^-			
812.6 *2*		4805.18	14^+	3992.62	12^+			
814.1 *2*		2942.82	8^-	2128.79	7^-			
819.3 *2*		5217.20	$15^{(-)}$	4397.78	13^-			
819.9 *3*		4241.52	13^-	3421.90	11^-			
827.6 *2*		6477.07	19^-	5649.57	17^-			
837.8 *2*		10439.0	31	9601.2	29			
843.0 *2*		4951.75	$14^{(-)}$	4108.70	12^-			
847.4 *2*	11.0	2976.32	8^-	2128.79	7^-	M1+E2	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* Mult.: A_2=−0.20 *3*, A_4=+0.19 *3*; large δ (1979Ha19).
853.4[a] *3*		3398.13	10^+	2544.67	8^+			
855.2 *1*		4108.70	12^-	3253.45	10^-			DCO=1.00 *6*; lin pol=0.6 *4*.
869.6 *2*		4104.39	12^+	3235.23	10^+			
869.7 *2*	1.7 *2*	2031.44	4^-	1161.74	3^-	E2+M1	0.0044 *11*	α(K)=0.0038 *10*; α(L)=0.00052 *11*; α(M)=0.000111 *23*; α(N+..)=2.9×10^{-5} *7* α(N)=2.5×10^{-5} *6*; α(O)=3.8×10^{-6} *9*; α(P)=2.3×10^{-7} *7* Mult.: α(K)exp=0.0025 *10* (1985Si16).
872.0 *1*		4864.69	14^+	3992.62	12^+			
915.0[a] *5*		11524.7	(32)	10609.1	(30)			
915.4 *1*	6.3 *4*	2095.85	6^+	1180.39	4^+	E2	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*

Continued on next page (footnotes at end of table)

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

γ(^{148}Sm) (continued)

E_γ[‡]	I_γ[#]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[@]	α[†]	Comments
								α(N)=1.768×10^{-5} *25*; α(O)=2.61×10^{-6} *4*; α(P)=1.507×10^{-7} *22* Mult.: A_2=+0.31 *4*, A_4=−0.09 *5*, α(K)exp=0.0013 *4* (1985Si16). DCO=1.00 *5*; lin pol=0.31 *22*.
915.9[a] *5*		6477.07	19$^-$	5561.19	17$^-$			
917.1 *2*		4909.65	14$^+$	3992.62	12$^+$			
976.8 *2*		5087.55	15$^-$	4110.68	13$^-$			DCO=1.0 *1*.
999.0 *2*		9601.2	29	8602.2	27$^{(-)}$			DCO=0.78 *8*.
1007.9 *2*		10609.1	(30)	9601.2	29			DCO=1.6 *3*.
1013.7 *1*	3.2 *3*	2194.13	6$^+$	1180.39	4$^+$	E2	0.00242 *4*	α(K)=0.00205 *3*; α(L)=0.000288 *4*; α(M)=6.19×10^{-5} *9*; α(N+..)=1.617×10^{-5} *23* α(N)=1.398×10^{-5} *20*; α(O)=2.07×10^{-6} *3*; α(P)=1.218×10^{-7} *17* Mult.: A_2=+0.08 *6*, A_4=−0.05 *8* (1979Ha19). DCO=1.02 *8*.
1025.8 *2*		8358.8	(24)	7332.92	23$^{(-)}$			DCO=1.7 *2*.
1035.3 *2*		9045.9	(26)	8010.61	25$^{(-)}$			DCO=0.6 *1*.
1059.5 *2*		3188.31	9$^-$	2128.79	7$^-$			DCO=0.9 *1*.
1085.7 *2*		11524.7	(32)	10439.0	31			
1087.5 *2*		3216.15	9$^-$	2128.79	7$^-$			
1248.2 *2*		7942.5	(22)	6694.32	21$^{(-)}$			
1296.0		9898.2	(28)	8602.2	27$^{(-)}$			E_γ: doublet. DCO=1.8 *4*.

† Additional information 1.
‡ From 1998UrZZ.
# Relative intensity. Data with uncertainty are from 1985Si16, others are from 1979Ha19.
@ From γ(θ), DCO, α(K)exp, linear polarization, and $T_{1/2}$. α(K)exp were normalized to α(K)exp(E2,550γ)=0.0083 (1979Ha19).
For details see 1979Ha19, 1985Si16, 1990UrZS, 1991Ur01, and 1998UrZZ.
& Multiply placed.
[a] Placement of transition in the level scheme is uncertain.
[x] γ ray not placed in level scheme.

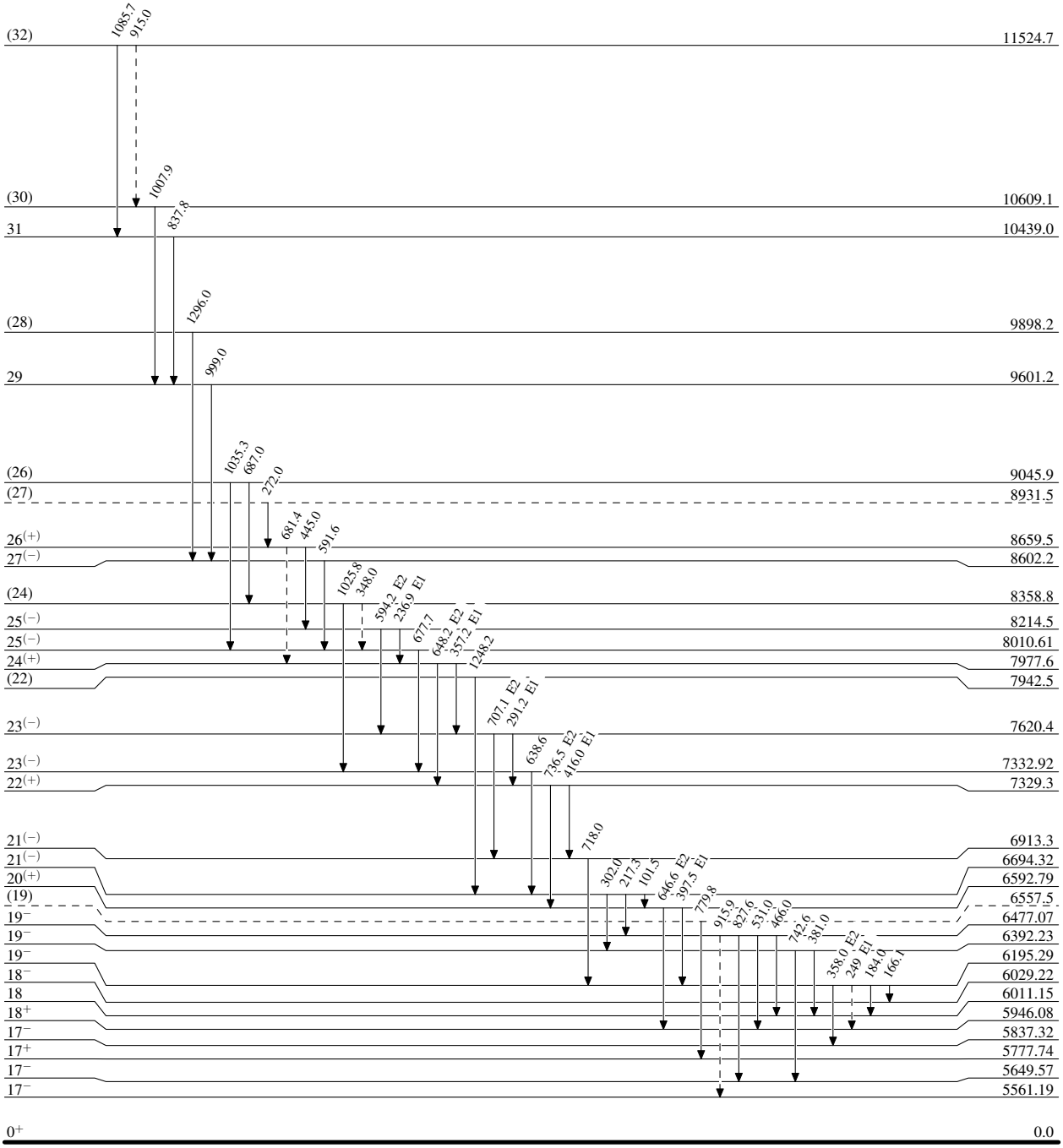
(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

Legend

Level Scheme

Intensities: Relative I_γ

γ Decay (Uncertain)



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

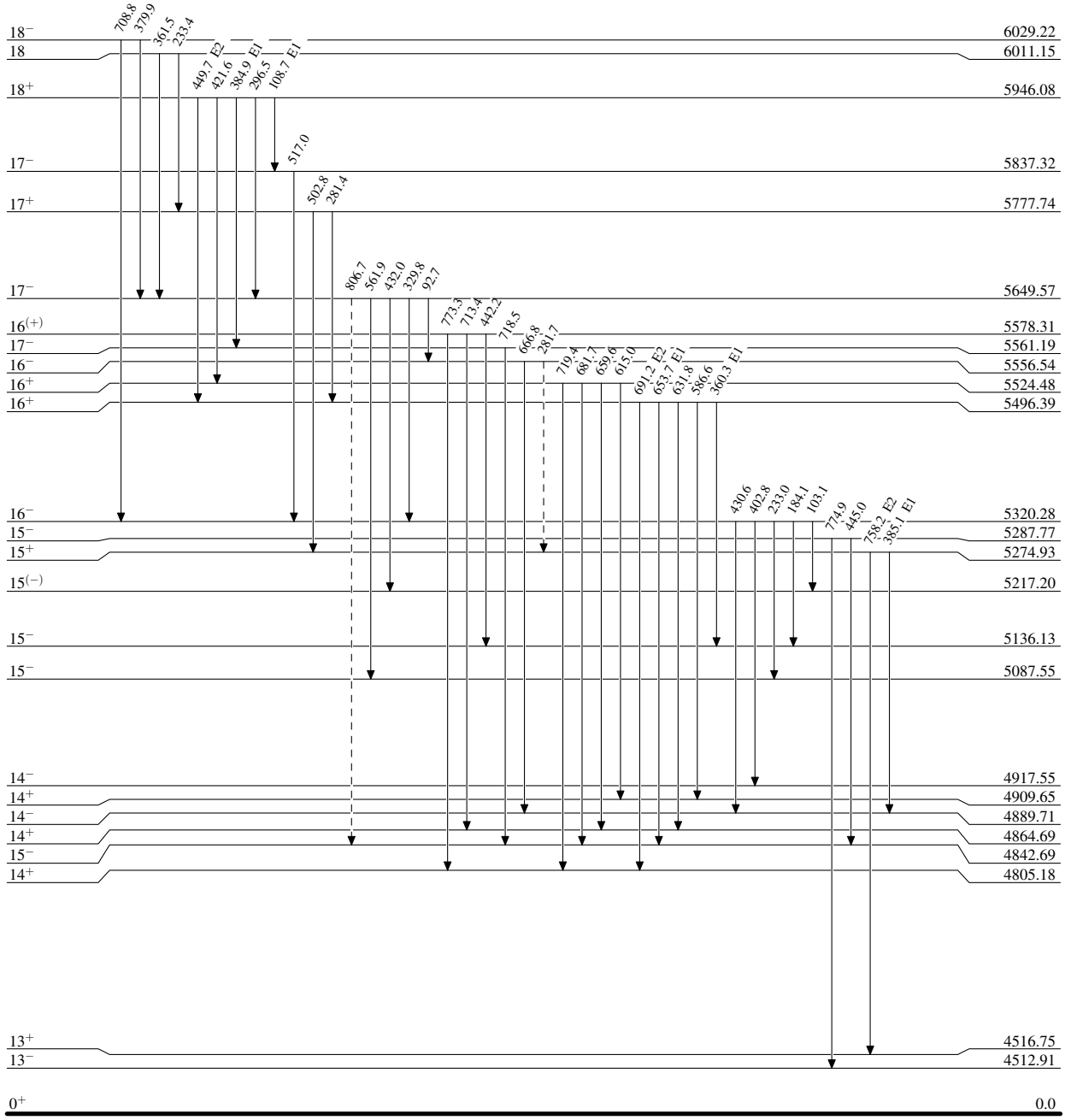
(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

Legend

Level Scheme (continued)

Intensities: Relative I_γ

γ Decay (Uncertain)

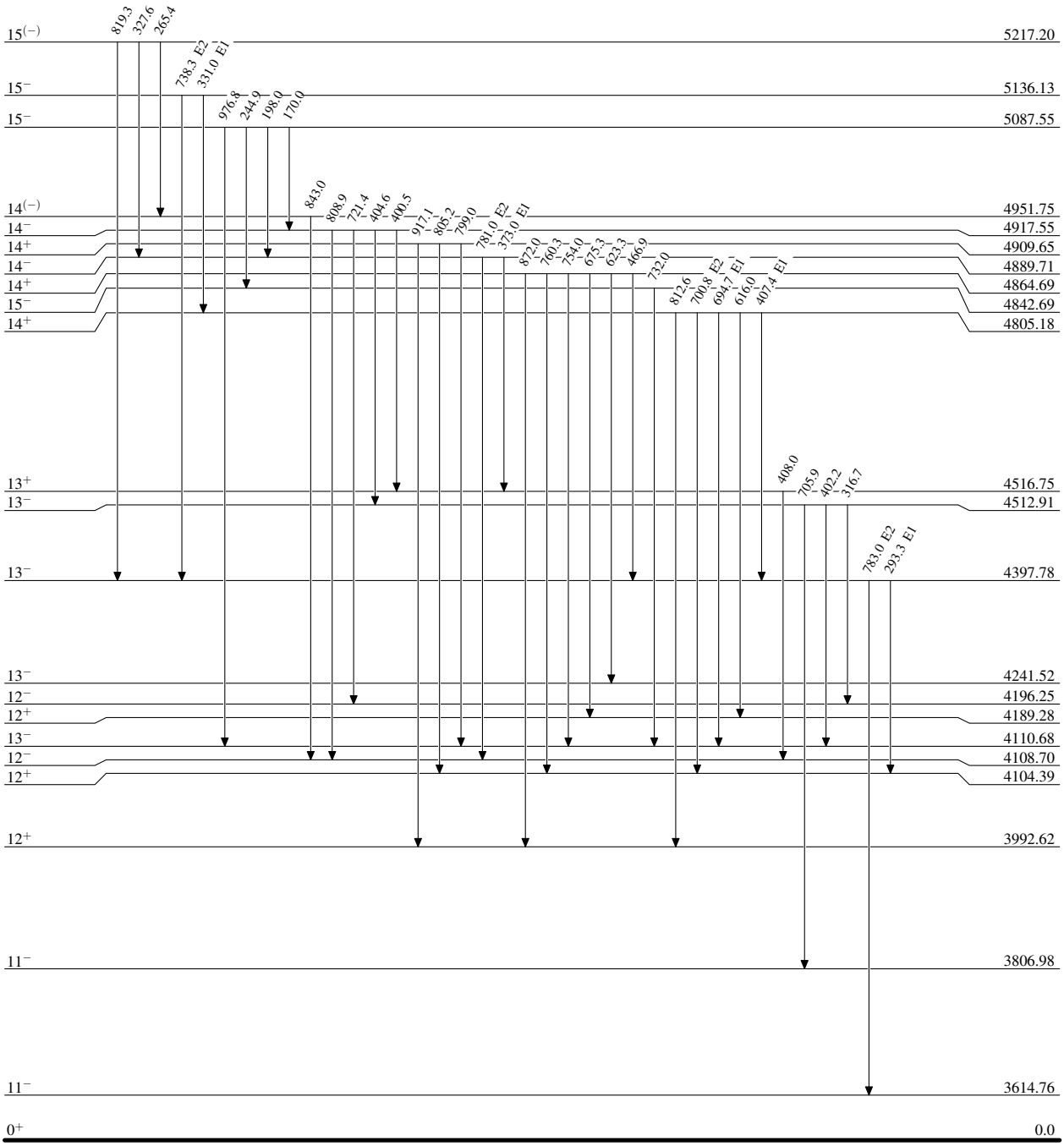


$^{148}_{62}Sm_{86}$

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

Level Scheme (continued)

Intensities: Relative I_γ



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

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

Level Scheme (continued)

Intensities: Relative I_γ

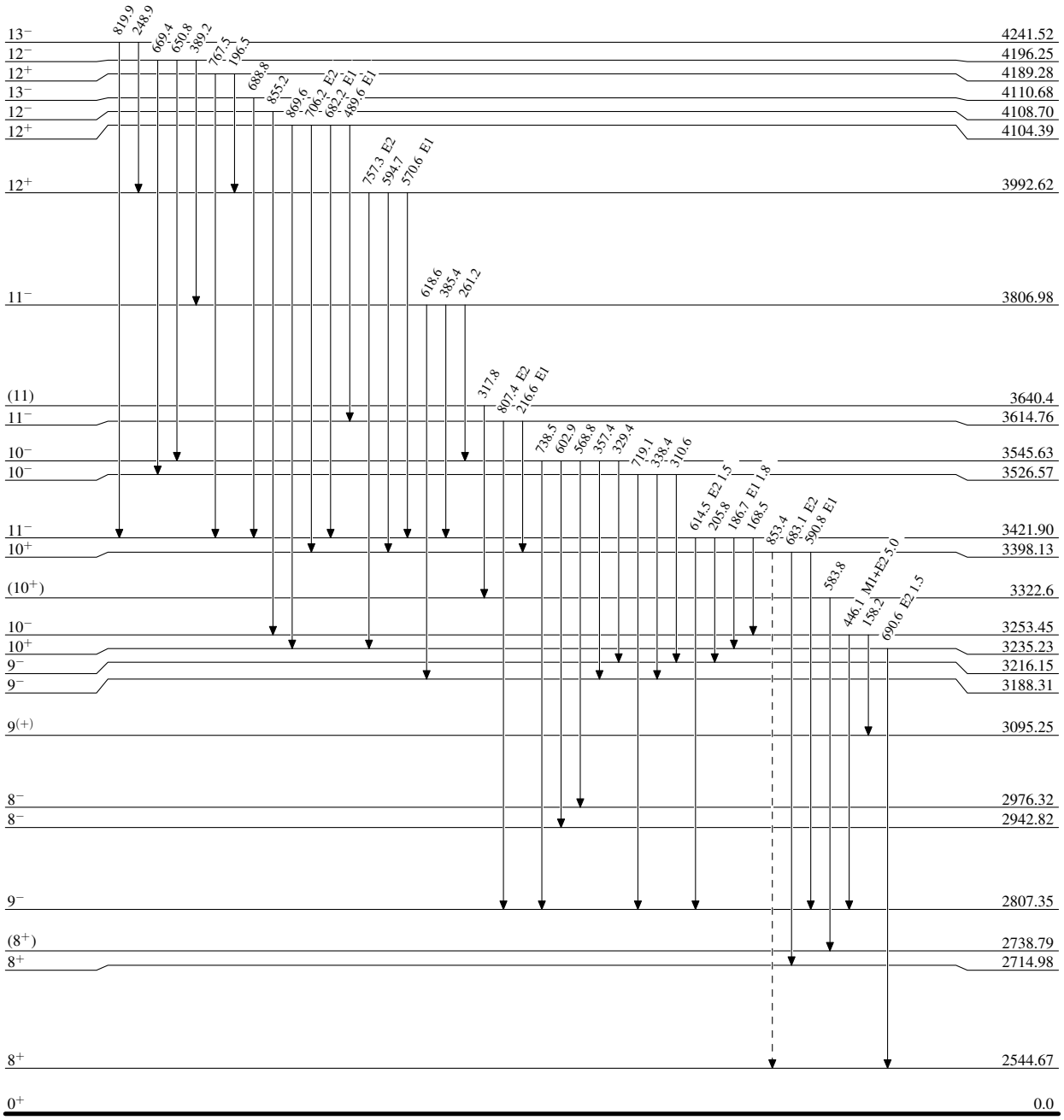
Legend

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

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

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

γ Decay (Uncertain)



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

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01

Level Scheme (continued)

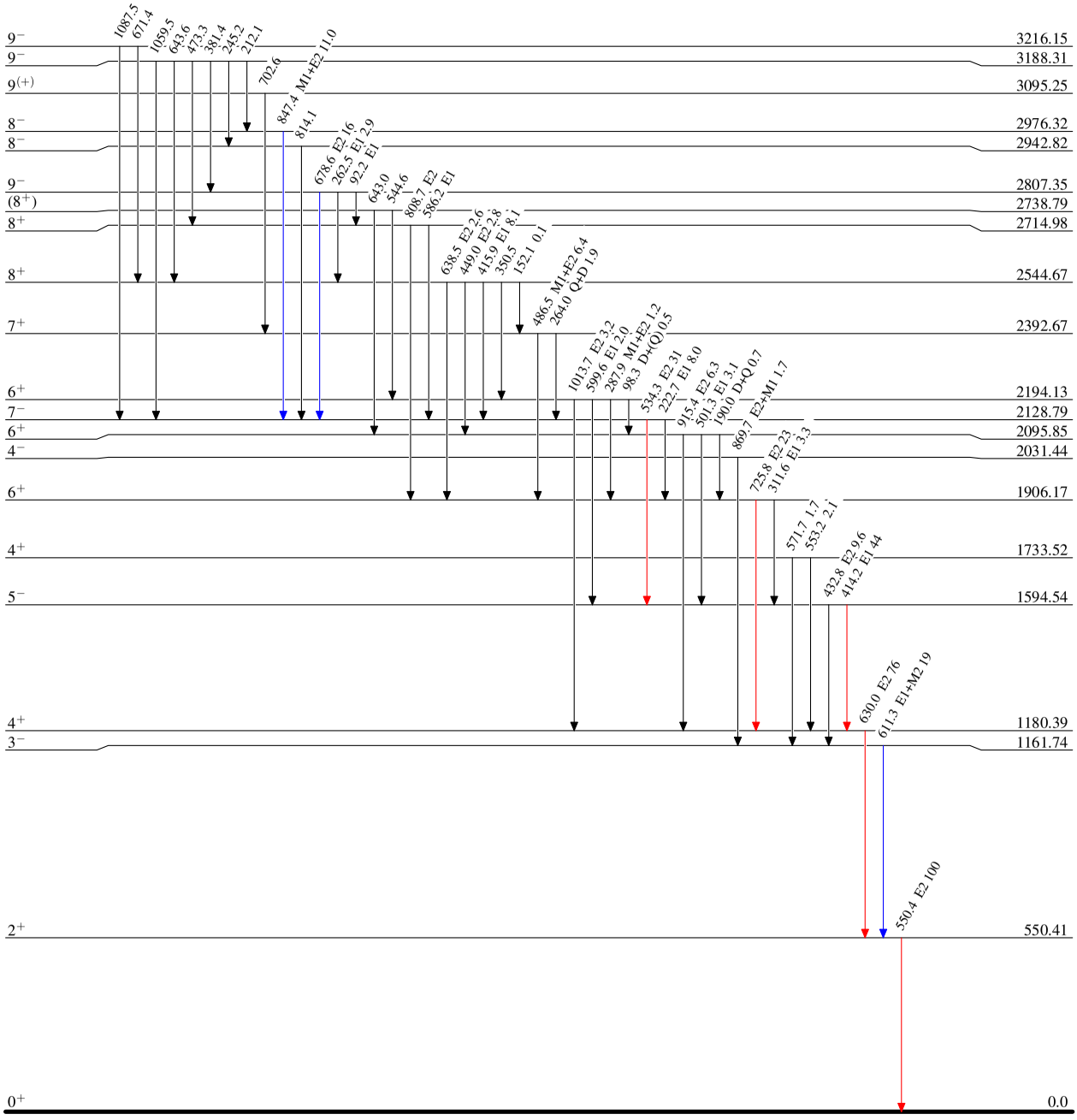
Intensities: Relative I_γ

Legend

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

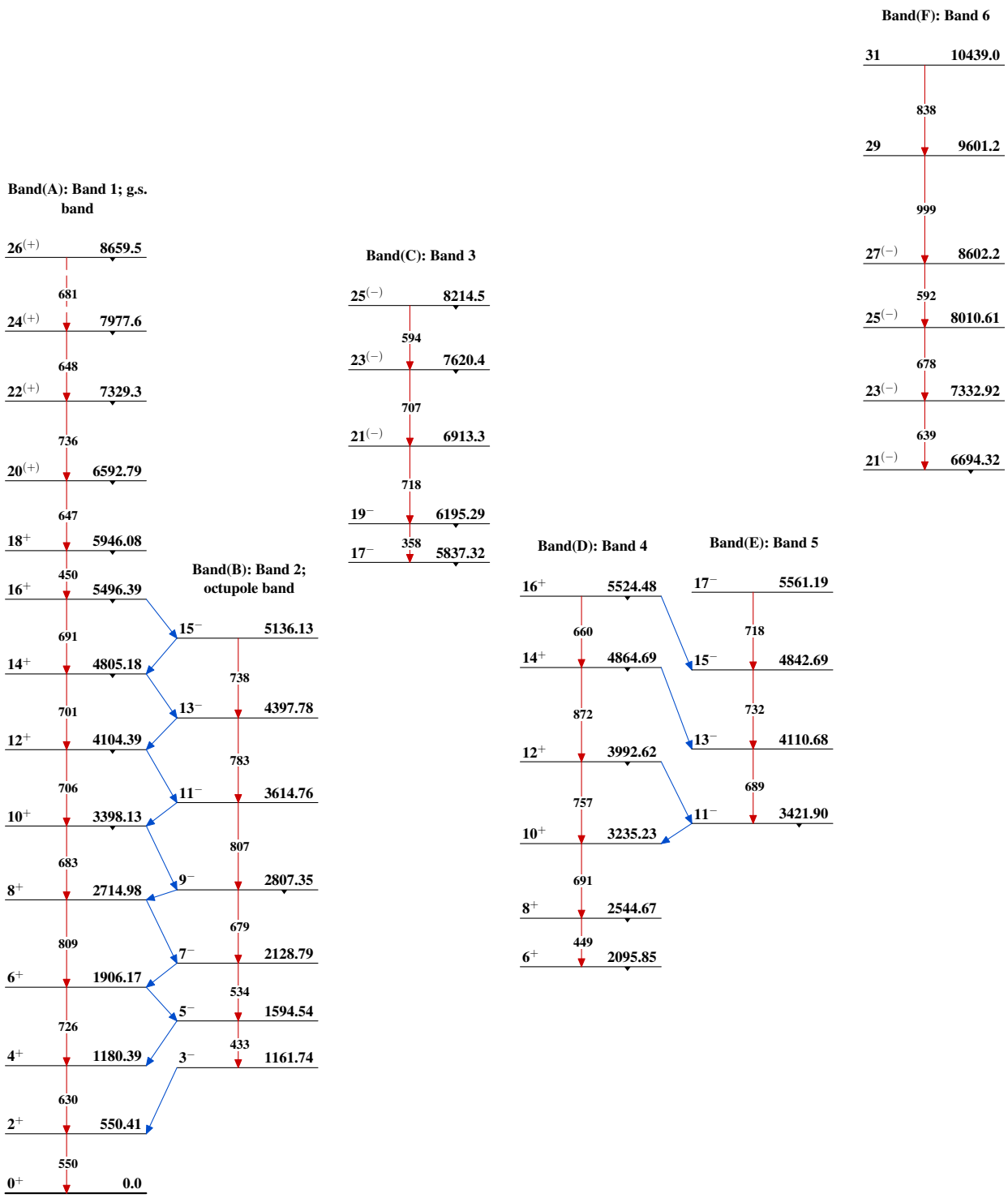
$I_\gamma < 10\% \times I_\gamma^{max}$

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



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

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01



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

(HI,xnγ) 1979Ha19,1985Si16,1991Ur01 (continued)

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