Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	B. Singh, A. Negret, and K. Zuber	NDS 110,2815 (2009)	30-Sep-2009

Q(β^-)=−6756 *5*; S(n)=11923 *7*; S(p)=8868 *3*; Q(α)=−5181.2 *15* 2012Wa38
Note: Current evaluation has used the following Q record −6757 5 *11923* 7 *8867.5* *27*−5181.6 *16* 2009AuZZ.
Additional information 1.
Values in 2003Au03 are: Q=−6490 *90*, S(n)=11920 *11*, S(p)=8858 *7*, Q(α)=−5176 *4*.
^{84}Sr evaluated by B. Singh, A. Negret, and K. Zuber.

Theory/calculations:
Additional information 2.
1997Su08: energies of ground state and γ band members, IBA.
1989Sa38: collective bands.
1989Co02: octupole excitation.
1986Ga04, 1979Bu20: nuclear deformation and potential energy surfaces.
1985Na02: microscopic study of high-spin states.
1982De05, 1983Bu09, 1984He07: interacting-boson model.
1971Ki16,1973Og01: shell-model calculations.
Other experiments:
Atomic mass measurements using Penning-trap system: 2007Ke09.
Measurements of isotope shift and mean square charge radius: 1992Ba55, 1990Bu12, 1988Si06, 1987An02, 1986An39, 1986Ea01, 1986Ma43, 1985Bu20, 1983El04, 1983Bo35, 1983Lo13.

^{84}Sr Levels

Cross Reference (XREF) Flags

A	^{84}Rb β^- decay (32.82 d)	F	^{59}Co(^{28}Si,3pγ)	K	^{84}Sr(d,d′)
B	^{84}Y ε decay (39.5 min)	G	^{76}Ge(^{12}C,4nγ),^{81}Br(^{6}Li,3nγ)	L	^{84}Sr(α,α'),(α,$\alpha'\gamma$)
C	^{84}Y ε decay (4.6 s)	H	^{82}Kr(^{3}He,n)	M	Coulomb excitation
D	^{51}V(^{36}S,p2nγ)	I	^{82}Kr(α,2nγ)	N	^{85}Rb(p,2nγ)
E	^{52}Cr(^{36}S,2p2nγ)	J	^{84}Sr(p,p′),(p,p′γ)	O	^{86}Sr(p,t)

E(level)[†]	J$^\pi$	T$_{1/2}$[‡]	XREF	Comments
0.0[&]	0$^+$	stable	ABCDEFGHIJKLMNO	<r^2>$^{1/2}$=4.2364 fm *17* (2004An14 evaluation). T$_{1/2}$: >7.3×10^{13} y (1952Fr23, double β decay). Other:>10^{17} y probably for neutrino-less double β/ε decay, preliminary result from H.J. Kim, presented at 16th Int. Conf. on Supersymmetry and the Unification of Fundamental Interactions, Seoul, June 2008 Communication with the author on April 16, 2009 revealed that the analysis of this experiment is still in progress. J$^\pi$: L(p,t)=0.
793.22[&] *6*	2$^+$	3.23 ps *35*	BCDEFG IJKLMNO	μ=+0.84 *9* (1988Ku01,1989Ra17) μ: from g−factor=+0.419 *47* measured in Coulomb ex. (1988Ku01). See also 2005St24 compilation. T$_{1/2}$: weighted average of 3.19 ps 35 (1982De05) and 4.2 ps +28−14 (1980Ek03). Other: 6.2 ps 21 (1982De05 value reanalyzed by 1994Ch28) 2001Ra27 evaluation gives adopted T$_{1/2}$=3.2 ps 5 and B(E2)(↑)=0.289 *44*. J$^\pi$: E2 γ to 0$^+$; L(p,t)=2.
1453.93[d] *10*	2$^+$		BC G IJ L NO	J$^\pi$: M1+E2 γ to 2$^+$; $\gamma(\theta)$ not consistent with ΔJ=1 and δ. Also L(p,t)=(2).

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Adopted Levels, Gammas (continued)

^{84}Sr Levels (continued)

E(level)[†]	J^π	$T_{1/2}$[‡]	XREF	Comments
1504.2 *10*	0^+		BC J L O	J^π: L(p,t)=0.
1767.69[&] *9*	4^+	1.4 ps *4*	B DEFG IJ L NO	J^π: ΔJ=2, E2 to 2^+. L(p,t)=(4) is consistent. $T_{1/2}$: unweighted average of 1.73 ps 21 (1982De05) and 0.97 ps 28 (1980Ek03). Other: 4.16 ps 14 (1982De05 value reanalyzed by 1994Ch28).
2056.07[d] *11*	$(3)^+$		B G I N	J^π: ΔJ=1, M1+E2 γ to 2^+; γ to 4^+; band member.
2071.6 *8*	0^+		C J L O	J^π: L(p,t)=0.
2297.93 *14*			G	
2390 *5*	2		O	J^π: L(p,t)=2.
2448.11[c] *11*	3^-		B G IJKL O	J^π: L(p,t)=L(d,d′)=3. Configuration=$(g_{9/2},f^{-1}_{5/2})$ or $(g_{9/2},p^{-1}_{3/2})$ (1982De05). B(E3)(↑)=0.043 *18* (2002Ki06 evaluation, data from 1973Re01). Deduced B(E3)(W.u.)=15 *6*.
2525 *5*	(0^+)		O	J^π: L(p,t)=(0).
2598.23[d] *22*	(4^+)		B G IJ L O	XREF: B(?). J^π: 2^+ or 4^+ from 1145γ(θ) indicating ΔJ=0 or 2; J=4 favored by excitation function and band assignment.
2735.25[d] *20*	(5^+)		B G J O	J^π: ΔJ=1 γ to 4^+; excitation function; band member.
2769.03 *10*	(5^-)	9.5[@] ps *6*	B DEFG IJ L NO	μ=+8.0 *10* (1989Ku11,2005St24) μ: transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ) (1989Ku11). J^π: ΔJ=1, DIPOLE G TO 4^+; L(p,t)=(5).
2807.87[&] *11*	6^+	1.01 ps *21*	B DEFG IJ L N	J^π: ΔJ=2, E2 γ to 4^+. $T_{1/2}$: weighted average of 1.04 ps 21 (1982De05), 0.97 ps 28 (1994Ch28). Other: 2.6 ps 4 from (1982BrZO).
2886.99 *14*	2^+		B J L O	J^π: L(p,t)=2.
3041.25[c] *13*	(5^-)		FG J L O	XREF: J(?)L(?). J^π: ΔJ=(0), dipole γ to (5^-); γ to 3^-; L(p,t)=(4,5).
3098.67 *13*	$6^{(+)}$		B G	J^π: ΔJ=2 γ to 4^+; γ to 6^+.
3157.05[d] *22*	(7^+)		G	J^π: ΔJ=2 γ to (5^+); excitation function.
3175 *5*	(2^+)		J L O	J^π: L(p,t)=(2).
3255 *30*	3^-		J L O	J^π: L(p,t)=3.
3270.58 *17*	$(4,5,6)^+$		B G	J^π: γ to 4^+; M1,E2 γ to 6^+. The β feeding from (6^+) disfavors 4.
3279.15[c] *14*	(6^-)		FG I	J^π: ΔJ=1 γ to (5^-); band member.
3330 *30*	0^+		H J L	J^π: L(^{3}He,n)=0.
3331.91[b] *13*	8^+	157 ps *5*	DEFG I	μ=−1.2 *6* (1981Br20,1989Ra17) J^π: ΔJ=2, E2 γ to 6^+. μ: from g factor=−0.15 *7* from spin precession in polarized hyperfine fields of a tilted multi-foil target (1981Br20). Other: −0.8 *16* from g=−0.1 *2* (1989Ku11, transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ)) See also 2005St24 compilation. J^π: Configuration=$(\nu g_{9/2})^{-2}{}_{8+}$⊗(g.s. of ^{86}Sr core) (1982De05). $T_{1/2}$: from 1982De05. Others: 163 ps 3 (1982De05 value reanalyzed by 1994Ch28), 170 ps 7 (1982BrZO).
3455 *30*			J L O	
3487.92[c] *12*	(7^-)	4.4[@] ps *5*	DEFG IJ	μ=+4.2 *14* (1989Ku11,2005St24) μ: transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ) (1989Ku11). J^π: ΔJ=2, E2 γ to (5^-); ΔJ=1 γ to 6^+.
3511.77 *16*	$(4^+,5^-)$		B J L	XREF: L(3520). J^π: γ′s to 3^- and 6^+; β feeding from (6^+) favors 5^-.

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Adopted Levels, Gammas (continued)

^{84}Sr Levels (continued)

E(level)[†]	J$^{\pi}$	T$_{1/2}$[‡]	XREF	Comments
3578.23? *25*			B	
3650.15[c] *13*	(7$^-$)		G L	J$^{\pi}$: ΔJ(2) γ to (5$^-$); ΔJ=1 γ to 6$^{(+)}$; band member.
3679.94[a] *13*	8$^+$	3.33[@] ps *14*	DEFG I	μ=+7.2 *8* (1989Ku11,2005St24) J$^{\pi}$: configuration=$\pi g_{9/2}$=2 $_{8+}$ $\otimes$ ^{82}Kr core (1982De05). μ: transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ) (1989Ku11).
3749.07 *24*	(7)		G	J$^{\pi}$: ΔJ=1 γ to 6$^+$.
3750 *30*	(3$^-$,4$^+$)		O	J$^{\pi}$: L(p,t)=(3,4).
3819.58? *15*			B	
3918.08? *16*			B	
3960 *30*			L	
4028.78[&] *23*	(8$^+$)		G	J$^{\pi}$: ΔJ=2 γ to 6$^+$.
4062.78 *17*	4$^+$		B L O	XREF: L(?)O(4080). J$^{\pi}$: L(p,t)=4. Note that 4$^+$ is inconsistent with β feeding from (6$^+$).
4260 *30*			L O	
4268.05[c] *16*	(8$^-$)		FG	XREF: F(?). J$^{\pi}$: ΔJ=2 γ to (6$^-$); γ to (7$^-$); band member.
4365.95 *18*	(4$^+$)		B L	XREF: L(4360). J$^{\pi}$: γ's to 2$^+$ and 6$^+$. Note that (4$^+$) is inconsistent with β feeding from (6$^+$).
4370.4[d] *3*	(9$^+$)		G	J$^{\pi}$: ΔJ=(2) γ to (7$^+$); excitation function; band member.
4447.61[b] *14*	10$^+$	2.22[@] ps *35*	DEFG I	μ=+2.0 *10* (1989Ku11,2005St24) J$^{\pi}$: ΔJ=2, E2 γ to 8$^+$. configuration=$(\nu g_{9/2})^{-2}_{8+}$$\otimes$(2$^+$ of ^{86}Sr core) (1982De05). μ: transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ) (1989Ku11).
4534.06[a] *15*	10$^+$	1.66[@] ps *14*	DEFG I	μ=+8.0 *20* (1989Ku11,2005St24) μ: transient-field in ^{74}Ge(^{12}C,2nγ) (1989Ku11). J$^{\pi}$: ΔJ=2, E2 γ to 8$^+$.
4540 *30*			L O	
4636.13[c] *14*	(9$^-$)	2.5[@] ps *4*	DEFG I	μ=0.00 *36* (1989Ku11,2005St24) J$^{\pi}$: ΔJ=2, E2 γ to (7$^-$). Configuration=$\nu g_{9/2}^{-2}$ $\otimes$ (3$^-$) (1982De05). μ: transient-field integral perturbed-angular correlation in ^{74}Ge(^{12}C,2nγ) (1989Ku11).
4660 *30*			L	
4740 *30*			L	
4745.72 *24*	(8,9,10$^+$)		G	E(level): γ to 8$^+$. It is unlikely that this level is same as 4740 in (α,α').
5150.7? *3*			B	
5444.48[c] *15*	(11$^-$)	7.5[@] ps *10*	DEFG	J$^{\pi}$: ΔJ=2, E2 γ to (9$^-$); γ to 10$^+$.
5653.25[a] *16*	12$^+$	0.61 ps *21*	DEFG	J$^{\pi}$: ΔJ=2, E2 γ to 10$^+$. T$_{1/2}$: weighted average of 0.83 ps 28 (1982De05), 0.49 ps 21 (1994Ch28).
5891.6[b] *10*	(12$^+$)	0.24[#] ps *10*	D F	J$^{\pi}$: γ to 10$^+$; band member.
6069.43[c] *17*	(12$^-$)	0.42[#] ps *14*	EFG	J$^{\pi}$: ΔJ=1, dipole γ to (11$^-$); band member.
6484.34[c] *21*	(13$^-$)	0.62[#] ps *28*	F	J$^{\pi}$: γ to (12$^-$); possible γ's to 12$^+$ and (11$^-$); band member.
6739.65[a] *19*	14$^+$	0.42[#] ps *14*	DEFG	J$^{\pi}$: ΔJ=2, E2 γ to 12$^+$; band member.
6916.8[c] *4*	(14$^-$)		F	J$^{\pi}$: γ to (13$^-$); band member.
7822.8 *7*	(15$^+$)		D	J$^{\pi}$: γ to 14$^+$ and a low-energy γ from 16$^+$.
8006.4[a] *5*	16$^+$	0.21[#] ps *7*	DEF	J$^{\pi}$: γ to 14$^+$; band member.

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Adopted Levels, Gammas (continued)

^{84}Sr Levels (continued)

E(level)[†]	J^π	$T_{1/2}$[‡]	XREF	Comments
9098.4 *8*	(17$^+$)		D	J^π: γ's to 16$^+$ and (15$^+$).
9424.9[a] *10*	18$^+$	0.14[#] ps *6*	DEF	J^π: γ to 16$^+$; band member.
11059.9[a] *22*	20$^+$	<0.18 ps	DEF	J^π: γ to 18$^+$; band member. $T_{1/2}$: 0.14 ps 4, effective half-life from 1994Ch28, not corrected for side feeding.
12920[a] *3*	22$^+$		DE	J^π: γ to 20$^+$; band member.
15080?[a] *4*	(24$^+$)		E	J^π: possible γ to 22$^+$; band member.

† Level energies with ΔE<5 keV are deduced from least-square fit to the adopted gammas. The others are from (p,t), (α,α'), or weighted averages from (p,t), (α,α'), and (p,p′).

‡ From Doppler-shift attenuation method (DSAM) and/or recoil-distance Doppler shift (RDDS) methods. Measurements are from 1994Ch28 using line-shape analysis in DSA in ^{59}Co(^{28}Si,3pγ) reaction for levels above 5600 keV. For levels up to 5700 keV, measurements are from 1982De05 using recoil-distance Doppler-shift method in ^{76}Ge(^{12}C,4nγ) reaction. For the 5653.5 level, values are measured in both studies. Values from recoil-distance method are also available from 1980Ek03 for 793 and 1768 levels using (α,2nγ) reaction and from 1982BrZO for 2808 and 3331 levels using ^{76}Ge(^{12}C,4nγ) reaction.

From 1994Ch28.

@ From 1982De05.

& Band(A): g.s. band.

a Band(B): $\pi(g^2_{9/2})_{8+} \otimes$ (^{82}Kr core).

b Band(C): $\nu(g^{-2}_{9/2})_{8+} \otimes$ (^{86}Sr core).

c Band(D): Octupole band.

d Band(E): quasi γ band.

γ(^{84}Sr)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[a]	δ[b]	α[d]	Comments
793.22	2+	793.22 *6*	100	0.0	0+	E2		0.00106	B(E2)(W.u.)=26 *3*
1453.93	2+	660.85 *9*	100 *3*	793.22	2+	M1+E2	+0.59 *5*	0.00145	
		1453.9 *3*	13.3 *9*	0.0	0+				
1504.2	0+	711[#]		793.22	2+				
1767.69	4+	974.48 *7*	100	793.22	2+	E2[c]			B(E2)(W.u.)=21 *6*
2056.07	(3)+	288.3[#] *5*	8.3[#] *21*	1767.69	4+				
		602.3 *1*	100[#] *5*	1453.93	2+	M1+E2[c]	+0.24 *8*		
		1262.6 *2*	28[#] *3*	793.22	2+	D+Q[c]			I_γ: others: 11.3 *14* in (^{6}Li,3nγ); 57 in (p,2nγ).
2071.6	0+	617[@]		1453.93	2+				
		1279[@]		793.22	2+				
2297.93		844.0 *1*	100	1453.93	2+				
2448.11	3−	994.4 *4*	100[#] *10*	1453.93	2+	D[c]			
		1654.6[#] *2*	63[#] *5*	793.22	2+				A 679γ with an intensity 3 times that of 994γ is reported only in (α,2nγ).
2598.23	(4+)	1144.3 *2*	100 *9*	1453.93	2+				
		1805.0[#e] *10*	5 *5*	793.22	2+				
2735.25	(5+)	680.6[#] *4*	100[#] *8*	2056.07	(3)+				E_γ: poor fit, level-energy difference=679.2. Additional information 3.
		967.2[#] *2*	31[#] *3*	1767.69	4+	D+Q[c]			Additional information 4.
2769.03	(5−)	321.0 *1*	2.8[&] *5*	2448.11	3−	[E2]		0.0153	B(E2)(W.u.)=22 *5*
		1001.28 *7*	100[&] *9*	1767.69	4+	(E1)			B(E1)(W.u.)=3.6×10^{-5} *5* Mult.: ΔJ=1, dipole from $\gamma(\theta)$; ΔJ^π requires E1.
2807.87	6+	1040.11 *9*	100	1767.69	4+	E2			B(E2)(W.u.)=21 *5*
2886.99	2+	1119.6[#] *2*	100[#] *10*	1767.69	4+				
		2093.3[#] *2*	45[#] *15*	793.22	2+				
3041.25	(5−)	272.2 *1*	100[&] *3*	2769.03	(5−)	(D)[c]			
		593.3 *2*	27[&] *3*	2448.11	3−				
3098.67	6(+)	290.8 *1*	37[&] *3*	2807.87	6+				
		1331.0 *2*	100[&] *6*	1767.69	4+	Q			
3157.05	(7+)	421.8 *1*	100	2735.25	(5+)	Q			
3270.58	(4,5,6)+	462.8[#] *2*	100[#] *5*	2807.87	6+	M1,E2			
		1502.8[#] *2*	62[#] *6*	1767.69	4+				I_γ: other: 30 *10* in ^{76}Ge(^{12}C,4nγ),^{81}Br(^{6}Li,3nγ).
3279.15	(6−)	237.9 *1*	17[&] *2*	3041.25	(5−)	D			
		510.1[‡] *5*	≈100[‡&]	2769.03	(5−)				
3331.91	8+	524.0 *1*	100	2807.87	6+	E2[c]			B(E2)(W.u.)=4.18 *14*

$^{84}_{38}$Sr$_{46}$-5

γ(^{84}Sr) (continued)

E$_i$(level)	J$^\pi_i$	E$_\gamma$[†]	I$_\gamma$[†]	E$_f$	J$^\pi_f$	Mult.[a]	Comments
3487.92	(7$^-$)	680.0 2	21.1 21	2807.87	6$^+$	(E1)[c]	B(E1)(W.u.)=4.4×10^{-5} 7 Mult.: ΔJ=1, dipole for a doublet (680.0+679.1); E1 from ΔJ^π.
		718.9 1	100 5	2769.03	(5$^-$)	E2[c]	B(E2)(W.u.)=25 4
3511.77	(4$^+$,5$^-$)	241.2[#] 5	5.1[#] 34	3270.58	(4,5,6)$^+$		
		703.6[#] 2	100[#] 10	2807.87	6$^+$		
		1063.5[#] 3	13[#] 4	2448.11	3$^-$		
		1744.4[#] 2	38[#] 4	1767.69	4$^+$		
3578.23?		980.2[#e] 10	82[#] 45	2598.23	(4$^+$)		
		1129.6[#e] 4	36[#] 18	2448.11	3$^-$		
		1810.8[#e] 3	100[#] 45	1767.69	4$^+$		
3650.15	(7$^-$)	162.2[&] 2	91[&] 4	3487.92	(7$^-$)		
		371.0[&] 1	22[&] 4	3279.15	(6$^-$)	D[c]	
		551.5[&] 2	39[&] 4	3098.67	6$^{(+)}$	D[c]	
		608.9[&] 1	100[&] 4	3041.25	(5$^-$)		
		881.1[&] 2	52[&] 4	2769.03	(5$^-$)	(Q)[c]	
3679.94	8$^+$	348.0 1	29.2 9	3331.91	8$^+$	(M1+E2)[c]	
		581.3 2	4.4 9	3098.67	6$^{(+)}$		
		872.1 1	100 3	2807.87	6$^+$	E2[c]	B(E2)(W.u.)=11.5 7
3749.07	(7)	650.4 2	100	3098.67	6$^{(+)}$	D+Q[c]	
3819.58?		932.2[#e] 2	60[#] 5	2886.99	2$^+$		
		1370.8[#e] 3	21[#] 11	2448.11	3$^-$		
		1763.6[#e] 2	100[#] 11	2056.07	(3)$^+$		
		2052.9[#e] 3	26[#] 13	1767.69	4$^+$		E$_\gamma$: poor fit, level-energy difference=2051.9.
3918.08?		1110.3[#e] 2	100[#] 10	2807.87	6$^+$		
		1469.9[#e] 2	29[#] 10	2448.11	3$^-$		
		2150.9[#e] 5	17[#] 8	1767.69	4$^+$		
4028.78	(8$^+$)	1220.9 2	100	2807.87	6$^+$	Q	
4062.78	4$^+$	1255.0[#] 2	100[#] 10	2807.87	6$^+$		
		1463.3[#e] 2	6[#] 3	2598.23	(4$^+$)		
		1614.5[#] 2	27[#] 3	2448.11	3$^-$		
		2006.7[#e] 5	4.5[#] 30	2056.07	(3)$^+$		
		2295.3[#] 4	33[#] 5	1767.69	4$^+$		
4268.05	(8$^-$)	780.1[&] 2	48[&] 4	3487.92	(7$^-$)		
		988.9[&] 1	100[&] 4	3279.15	(6$^-$)	Q[c]	

$^{84}_{38}$Sr$_{46}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{84}Sr)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[a]	α[d]	Comments
4365.95	(4+)	1479.2[#] *2*	39[#] *13*	2886.99	2+			
		1557.6[#] *3*	26[#] *13*	2807.87	6+			
		1918.0[#] *4*	100[#] *13*	2448.11	3−			
		2309.5[#] *4*	52[#] *9*	2056.07	(3)+			
4370.4	(9+)	1213.3 *2*	100	3157.05	(7+)	(Q)[c]		
4447.61	10+	1115.7 *1*	100	3331.91	8+	E2[c]		B(E2)(W.u.)=6.7 *11*
4534.06	10+	86.3 *2*	14 *5*	4447.61	10+	[M1+E2]	1.0 *8*	E_γ,I_γ: from (^{28}Si,3pγ).
		854.1 *1*	100 *5*	3679.94	8+	E2[c]		B(E2)(W.u.)=27 *5* I_γ: from (^{28}Si,3pγ).
4636.13	(9−)	1148.2 *1*	100	3487.92	(7−)	E2[c]		B(E2)(W.u.)=5.2 *9*
4745.72	(8,9,10+)	1413.8 *2*	100	3331.91	8+			
5150.7?		1232.9[#e] *3*	38[#] *3*	3918.08?				
		1330.7[#e] *4*	100[#] *10*	3819.58?				
		1638.6[#e] *7*	12[#] *9*	3511.77	(4+,5−)			
5444.48	(11−)	808.35 *10*	100 *4*	4636.13	(9−)	E2[c]		B(E2)(W.u.)=7.7 *12*
		996.9 *1*	30 *4*	4447.61	10+			
5653.25	12+	1119.2 *1*	100 *4*	4534.06	10+	E2[c]		B(E2)(W.u.)=18 *7*
		1205.6 *2*	35 *4*	4447.61	10+	E2[c]		B(E2)(W.u.)=4.3 *16*
5891.6	(12+)	1444 *1*	100	4447.61	10+	[E2]		B(E2)(W.u.)=17 *8*
6069.43	(12−)	625.0 *1*	100	5444.48	(11−)	(M1)[c]	0.00157	B(M1)(W.u.)=0.21 *8* Mult.: ΔJ=1, dipole from $\gamma(\theta)$, ΔJ^π requires M1.
6484.34	(13−)	415.1 *2*	100 *13*	6069.43	(12−)	[M1]	0.00407	B(M1)(W.u.)=0.44 *22*
		830.9 *2*	<12	5653.25	12+	[E1]		B(E1)(W.u.)=5.E−5 *+6−5*
		1040 *1*	<12	5444.48	(11−)	[E2]		B(E2)(W.u.)=1.8 *+21−18*
6739.65	14+	1086.4 *1*	100	5653.25	12+	E2[c]		B(E2)(W.u.)=41 *14*
6916.8	(14−)	432.5 *3*	100	6484.34	(13−)			
7822.8	(15+)	1084		6739.65	14+			
8006.4	16+	184		7822.8	(15+)	[M1]	0.0314	E_γ: from (^{36}S,p2nγ) only.
		1266.5 *5*	100 *17*	6739.65	14+	[E2]		B(E2)(W.u.)<54
9098.4	(17+)	1092		8006.4	16+			
		1276		7822.8	(15+)			
9424.9	18+	327		9098.4	(17+)			E_γ: from (^{36}S,p2nγ) only.
		1418 *1*	100 *25*	8006.4	16+	[E2]		B(E2)(W.u.)<50
11059.9	20+	1635 *2*	100	9424.9	18+	[E2]		B(E2)(W.u.)>12
12920	22+	1860 *2*	100	11059.9	20+			
15080?	(24+)	2160[e]	100	12920	22+			E_γ: A 2125γ is tentatively assigned in (^{36}S,p2nγ) from a 24+ to 22+.

From ENSDF

$^{84}_{38}Sr_{46}$-7

$\gamma(^{84}Sr)$ (continued)

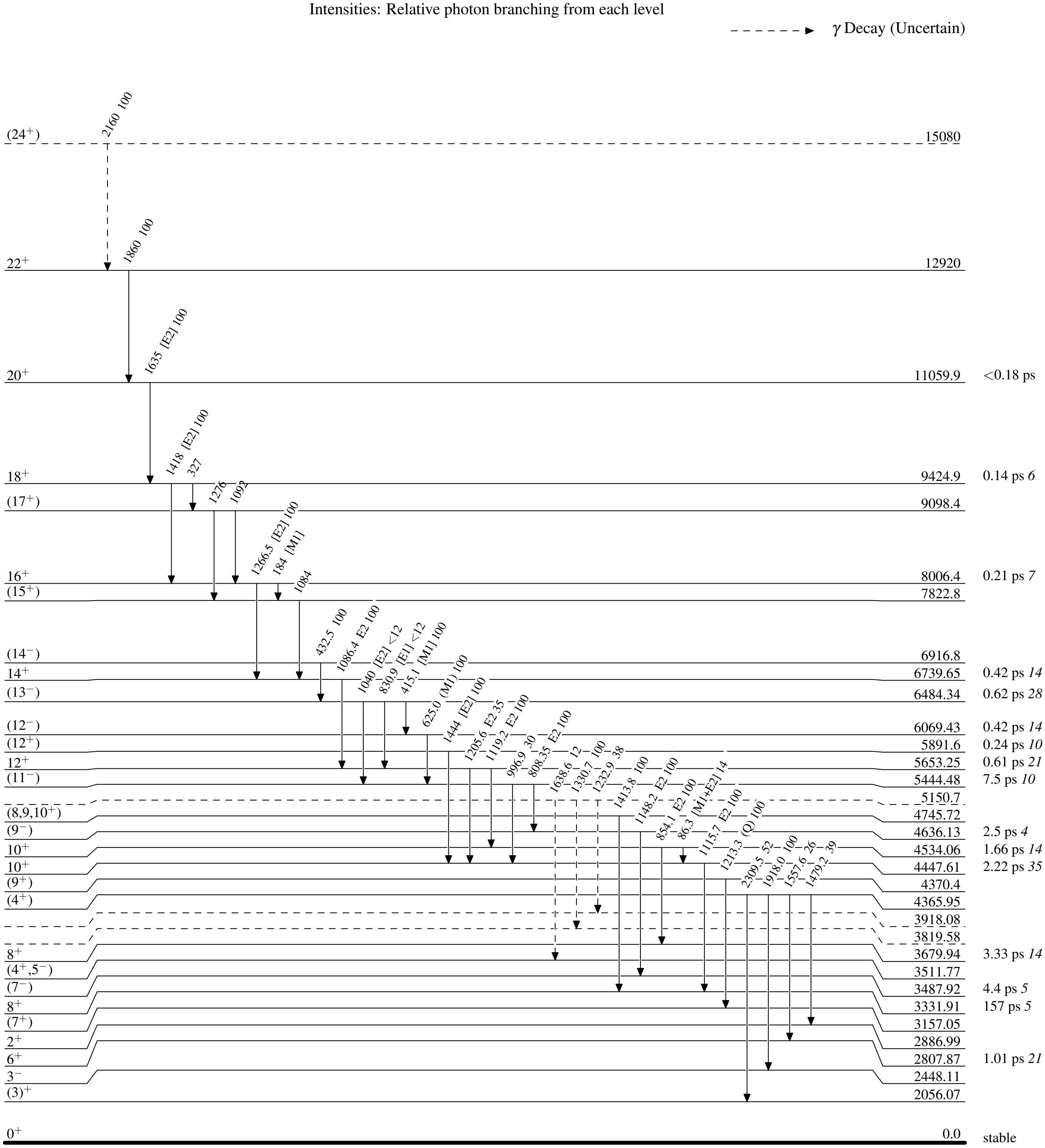
[†] From weighted averages of all available data. Energies from (α,2nγ) have not been used in the averaging procedure due to consistently low values.
[‡] Doublet. Approximate intensity given.
[#] From ^{84}Y ε decay (39.5 min).
[@] From ^{84}Y ε decay (4.6 s).
[&] From 1982De05 in $^{81}Br(^{6}Li,3n\gamma)$ reaction.
[a] From ce data in ^{84}Y ε decay (39.5 min) unless otherwise stated.
[b] From $\gamma\gamma(\theta)$ in ^{84}Y ε decay (39.5 min), unless otherwise stated.
[c] From $\gamma(\theta)$ data in in-beam γ-ray studies. From RUL, ΔJ=2, quadrupole transitions are assigned as E2.
[d] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[e] Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level



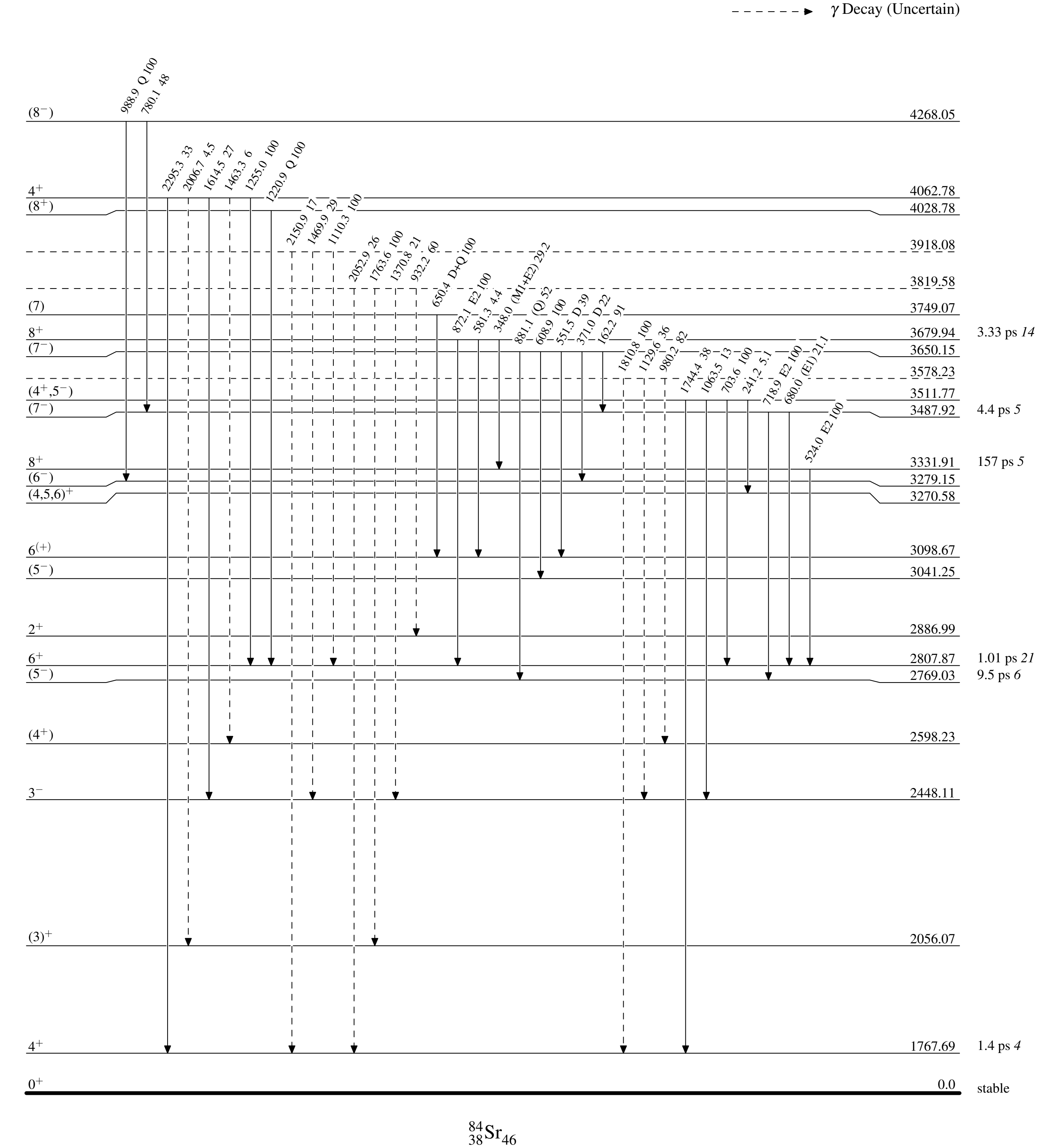
$^{84}_{38}$Sr$_{46}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

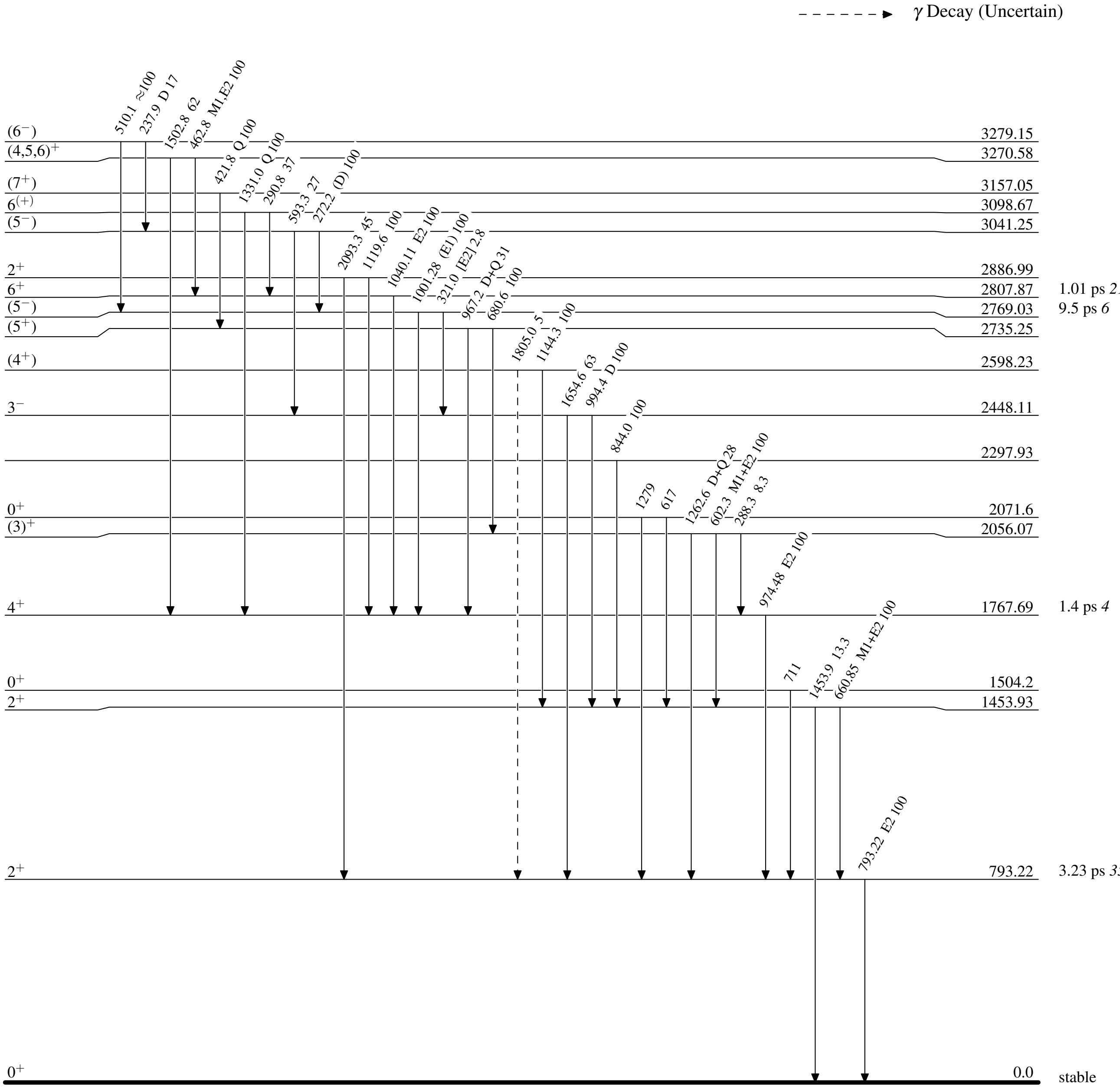


Adopted Levels, Gammas

Level Scheme (continued)

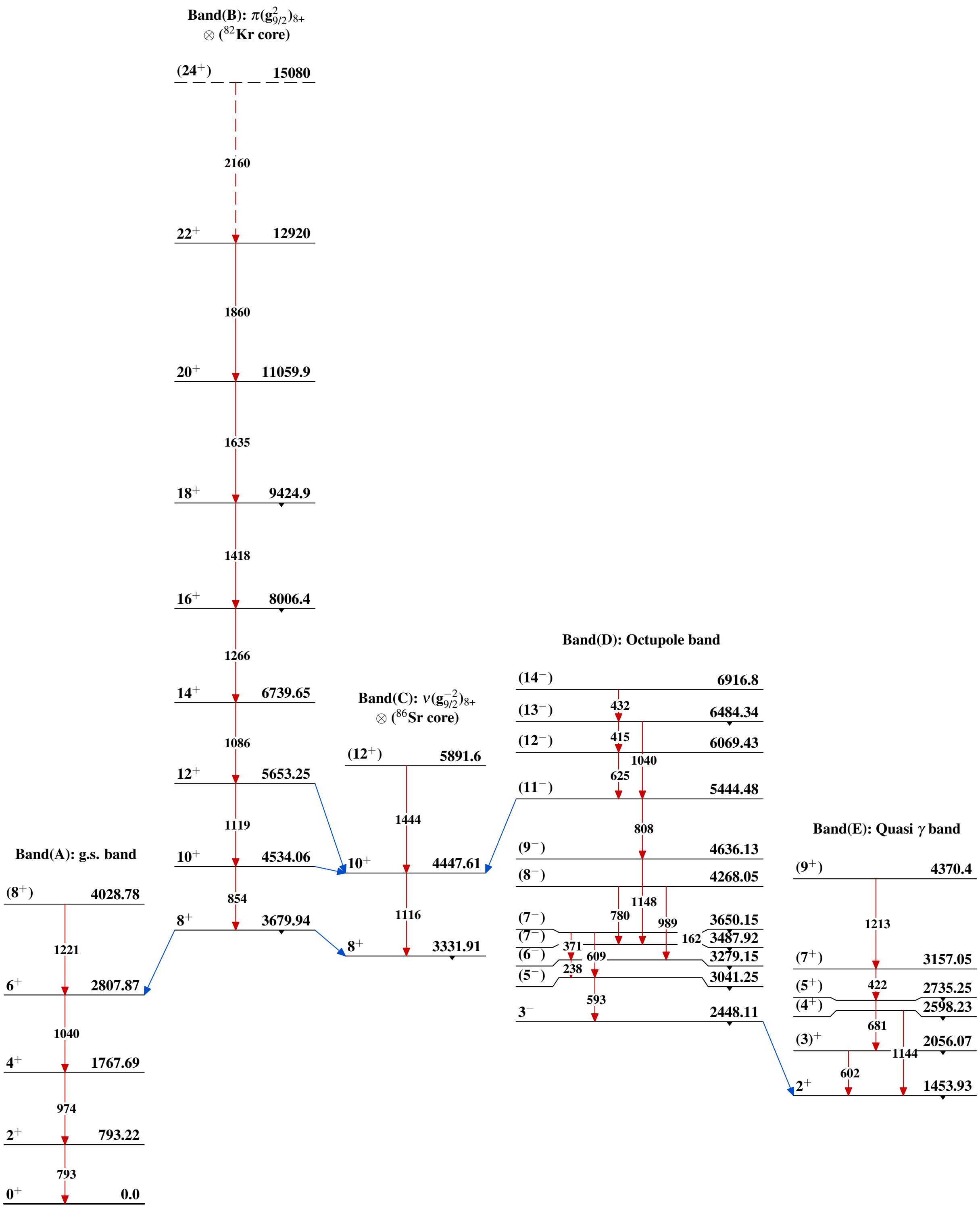
Intensities: Relative photon branching from each level

Legend



$^{84}_{38}Sr_{46}$

Adopted Levels, Gammas



$^{84}_{38}Sr_{46}$