Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	D. Abriola(a), A. A. Sonzogni	NDS 109,2501 (2008)	1-Apr-2008

Q(β^-)=5412 *10*; S(n)=5879 *11*; S(p)=14325 *22*; Q(α)=−6585 *10* 2012Wa38
Note: Current evaluation has used the following Q record 5415 125874 1414280 11-6582 10 2006Ha03.
Q(β^-)=5415 *12*, from mass excess (^{96}Sr)=−72926 *10* (2006Ha03) and mass excess (^{96}Y)=−78341 *7* (2006Ha03). Sn=5874 *14*, from mass excess (^{95}Sr)=−75123 *10* (2006Ha03). Q(β^-n)=4156 *12*, using mass excess (^{95}Y)=−81235 *7* (2006Ha03). Q(α)=−6582 *10*, using mass excess (^{92}Kr)=−68769.3 *2.7* (2006De36). S(p)=14280 *11*, using mass excess (^{95}Rb)=−65935 *4* (2007Ra23). The 2003Au03 values are Q(β^-)=5408 *18*, S(n)=5890 *30*, S(p)=14370 *30*, Q(α)=−6580 *30*.
α: Additional information 1.

^{96}Sr Levels

Cross Reference (XREF) Flags

A	^{96}Rb β^- decay	D	^{238}U(α,Fγ)
B	^{97}Rb β^-n decay	E	^{248}Cm SF decay
C	^{235}U(n,F), ^{238}U(n,F)	F	^{98}Rb β^-2n decay (114 ms)

E(level)	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[†]	0$^+$	1.07 s *1*	ABCDEF	%β^-=100 T$_{1/2}$: from 1990Ma03. Others: 1.04 s *1* (1988Ma01), 1.10 s *2* (1979En02), 1.015 s *19* (1978Wo09), 1.06 s *4* (1975Ba36), 1.0 s *1* (1976SiZU). <r^2>$^{1/2}$(charge)=4.361 *11* (2004An14).
814.93[†] *7*	2$^+$	4.8 ps *28*	ABCDE	J$^\pi$: $\gamma\gamma(\theta)$ for cascade 414γ-815γ uniquely determined J=2 and J=0 for levels 814.9 and 1229.28. RUL. T$_{1/2}$: from 1991MaZS. Others: 4.5 ps *24* (1991Ma05), see also 1989Ma38 in β^- Decay. E(level): 815.5 in 1991MaZS in β^- Decay.
1229.28[‡] *10*	0$^+$	115 ps *12*	AB E	J$^\pi$: see comment with 814.9 level. T$_{1/2}$: from 1991Ma05 in β^- Decay.
1464.6 *5*	0$^+$	6.7 ns *10*	AB E	J$^\pi$: J=0-2-0 for 650γ-815γ cascade from $\gamma\gamma(\theta)$. RUL. T$_{1/2}$: from 1980JuZY.
1506.84[‡] *9*	2$^+$	≤6.2 ps	AB DE	J$^\pi$: γ to 2$^+$ is M1+E2, γ to 0$^+$. $\gamma\gamma(\theta)$. T$_{1/2}$: from 1991Ma05.
1628.19 *10*	(2$^+$)		AB DE	J$^\pi$: $\gamma\gamma(\theta)$ suggests J=2, γ to 0$^+$.
1792.77[†] *11*	4$^+$[@]		AB DE	
1852.14 *10*	(3)		A	J$^\pi$: 1,3 from $\gamma\gamma(\theta)$. No γ to 0$^+$.
1975.73[‡] *11*	(4$^+$)[@]		AB DE	
1994.98 *13*	(1$^+$,2$^+$)		AB	J$^\pi$: γ to 0$^+$. If J=1, the large quadrupole mixing determines π=+.
2083.98 *13*	(1,2$^+$)		AB	J$^\pi$: log *ft*=6.3 from 2$^+$ ^{96}Rb. γ to 0$^+$.
2113.41 *13*			AB	
2120.07 *21*	(4$^+$)[@]		AB DE	
2150.84 *12*	(1$^+$,2,3$^+$)	<10.4 ps	AB E	J$^\pi$: 1,2,3 from $\gamma\gamma(\theta)$. If J=1 or 3, the large quadrupole mixing determines π=+. T$_{1/2}$: from 1991Ma05.
2217.26 *16*	2		A	J$^\pi$: γ to 0$^+$, D γ to 2$^+$, $\gamma\gamma(\theta)$.
2269.54? *21*			A	
2307.54 *11*	(1,2$^+$)		AB	J$^\pi$: γ's to (3) and 0$^+$.
2407.41 *18*			AB	
2412.00 *18*	(1,2$^+$)		A	J$^\pi$: log *ft*=6.5 from 2$^+$ ^{96}Rb; γ to 0$^+$.
2443.65 *13*			A	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{96}Sr Levels (continued)

E(level)	J^π	$T_{1/2}$	XREF	Comments
2466.6‡ *6*	(6^+)@		DE	
2481.0 *7*			DE	
2493.05 *21*			A	
2525.53 *19*			A	
2529.3 *7*			A	
2576.25 *21*			A	
2703.73 *15*			A	
2719.70 *16*			A	
2785.8† *6*	(6^+)@		DE	
2880.5 *3*			A	
2899.4 *7*			E	
3009.8 *10*			E	
3064.80 *16*			A	
3126.0‡ *10*	(8^+)@		DE	
3195.76 *21*			A	
3238.9 *9*			E	
3244.9? *3*			A	
3328.9 *6*	(7^+)@		DE	
3446.3? *4*			A	
3524.5 *10*	(9^+)@	40 ns *8*	E	$T_{1/2}$: from γ(t) in ^{248}Cm SF decay.
3604.7# *8*	(6^+)@		E	
3755.4 *3*	$(1,2^+)$		A	J^π: log *ft*=6.2 from 2^+ ^{96}Rb; γ to 0^+.
3851.3# *13*			E	
3887.0‡ *14*	(10^+)@		DE	
4048.7? *4*			A	
4131.1# *16*			E	
4133.2 *12*			E	
4322.6? *5*			A	
4330.4 *14*			E	
4443.1# *19*			E	
4725.5‡ *17*	(12^+)@		DE	
4785.1?# *21*			E	
4799.4? *4*			A	
5049.4? *10*			A	
5090.9? *5*			A	
5132.8 *5*			A	
5158.7 *4*			A	
5168.5 *4*	$(1,2^+)$		A	J^π: log *ft*=5.9 from 2^+ ^{98}Rb; γ to 0^+.
5349.3? *10*			A	
5597.5‡ *20*	(14^+)@		D	
6519.5‡ *22*	(16^+)@		D	
7526.5‡ *24*	(18^+)@		D	

† Band(A): g.s. band.
‡ Band(B): Q_0=2.20 *15*, β_2=0.25 *2* (^{248}Cm SF decay).
# Band(C): Possible rotational band based on (6^+).
@ From $\gamma\gamma(\theta)$, band pattern in high-spin data from ^{238}U(α,Fγ) and ^{248}Cm SF decay.

Adopted Levels, Gammas (continued)

γ(^{96}Sr)

E_i(level)	J_i^π	E_γ	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	α	$I_{(\gamma+ce)}$	Comments
814.93	2^+	815.0 *1*	100	0.0	0^+	E2		0.000949 *14*		α(K)=0.000839 *12*; α(L)=9.23×10^{-5} *13*; α(M)=1.550×10^{-5} *22* α(O)=1.239×10^{-7} *18*; α(N+..)=2.06×10^{-6} B(E2)(W.u.)=13 *8*
1229.28	0^+	414.3 *1*	100	814.93	2^+	E2		0.00659 *10*		α(K)=0.00580 *9*; α(L)=0.000669 *10*; α(M)=0.0001123 *16*; α(N)=1.386×10^{-5} *20* α(O)=8.37×10^{-7} *12*; α(N+..)=1.470×10^{-5} B(E2)(W.u.)=15.3 *16*
1464.6	0^+	235.1 *5*		1229.28	0^+	E0			0.60 *5*	Mult.: transition highly converted since no corresponding γ was seen. $T_{1/2}$=6.7 ns excludes high mult. ρ=0.43 *5* (1980JuZY).
		650.5 *10*	100 *25*	814.93	2^+	E2		0.00172 *3*		α(K)=0.001517 *23*; α(L)=0.0001691 *25*; α(M)=2.84×10^{-5} *5*; α(N)=3.54×10^{-6} *6*; α(O)=2.23×10^{-7} *4* α(N+..)=3.76×10^{-6} *6* B(E2)(W.u.)=0.028 *11*
1506.84	2^+	692.0 *1*	100 *6*	814.93	2^+	M1+E2	+2.0 *11*	0.00141 *8*		α(K)=0.00125 *7*; α(L)=0.000138 *9*; α(M)=2.32×10^{-5} *14*; α(N)=2.89×10^{-6} *17*; α(O)=1.84×10^{-7} *9* α(N+..)=3.08×10^{-6} *18* B(E2)(W.u.)>8.9; B(M1)(W.u.)>0.00017
		1506.9 *2*	54 *4*	0.0	0^+					I_γ: weighted average of 56 *5* (^{96}Rb β^- decay) and 50 *8* (^{248}Cm SF decay).
1628.19	(2^+)	398.9 *1*	5.3 *4*	1229.28	0^+					
		813.2 *2*	100 *11*	814.93	2^+	(M1+E2)	+0.58 *+17−12*	0.000894 *16*		α(K)=0.000792 *14*; α(L)=8.60×10^{-5} *16*; α(M)=1.44×10^{-5} *3*; α(N)=1.81×10^{-6} *4* α(O)=1.183×10^{-7} *19*; α(N+..)=1.93×10^{-6} *4*
		1628.2 *2*	12.2 *11*	0.0	0^+					
1792.77	4^+	977.8 *1*	100	814.93	2^+	E2[@]		0.000610 *9*		α(K)=0.000540 *8*; α(L)=5.89×10^{-5} *9*; α(M)=9.88×10^{-6} *14*; α(N)=1.238×10^{-6} *18* α(O)=7.99×10^{-8} *12*; α(N+..)=1.318×10^{-6} *19*
1852.14	(3)	345.4 *2*	2.5 *5*	1506.84	2^+					
		1037.3 *1*	100 *8*	814.93	2^+					
1975.73	(4^+)	347.3 *2*	25 *4*	1628.19	(2^+)					I_γ: weighted average of 24 *3* (^{96}Rb β^- decay), 22 *4* (^{238}U(α,Fγ)) and 42 *8* (^{248}Cm SF decay).
		469.0 *1*	100 *10*	1506.84	2^+					
		1160.6 *2*	55 *6*	814.93	2^+	E2[@]		0.000417 *6*		α(K)=0.000366 *6*; α(L)=3.97×10^{-5} *6*;

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$^{96}_{38}Sr_{58}$-3

Adopted Levels, Gammas (continued)

γ(^{96}Sr) (continued)

E_i(level)	J_i^π	E_γ	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	α	Comments
									α(M)=6.66×10^{-6} *10*; α(N)=8.36×10^{-7} *12* α(O)=5.43×10^{-8} *8*; α(N+..)=4.53×10^{-6} *7* I_γ: weighted average of 70 *6* (^{96}Rb β^- decay), 50 *3* (^{238}U(α,Fγ)) and 67 *8* (^{248}Cm SF decay).
1994.98	(1$^+$,2$^+$)	366.8 *2*	2.6 *5*	1628.19	(2$^+$)				
		765.9 *3*	5.0 *7*	1229.28	0$^+$				
		1180.0 *2*	100 *7*	814.93	2$^+$	M1+E2		0.000403 *6*	α(K)=0.000353 *5*; α(L)=3.80×10^{-5} *6*; α(M)=6.38×10^{-6} *10*; α(N)=8.02×10^{-7} *12* α(O)=5.25×10^{-8} *8*; α(N+..)=5.7×10^{-6} *7* δ: if J(1994.98 level)=1 δ=−0.53 *+15−20* from β^- Decay.
		1994.8 *3*	10.5 *12*	0.0	0$^+$				
2083.98	(1,2$^+$)	577.3 *2*	15.6 *21*	1506.84	2$^+$				
		854.5 *3*	51 *4*	1229.28	0$^+$				
		1269.0 *2*	27 *3*	814.93	2$^+$				
		2083.9 *3*	100 *11*	0.0	0$^+$				
2113.41		320.6 *2*	15.3 *18*	1792.77	4$^+$				
		485.2 *2*	55 *6*	1628.19	(2$^+$)				
		606.6 *2*	90 *9*	1506.84	2$^+$				
		1298.5 *2*	100 *10*	814.93	2$^+$				
2120.07	(4$^+$)	328.1	10 *4*	1792.77	4$^+$				E_γ: reported only by ^{248}Cm SF decay.
		1305.1 *2*	100	814.93	2$^+$				
2150.84	(1$^+$,2,3$^+$)	644.0 *1*	40 *3*	1506.84	2$^+$				I_γ: other 100 *20* (^{248}Cm SF decay).
		1335.9 *2*	100 *9*	814.93	2$^+$				I_γ: other 80 *20* (^{248}Cm SF decay).
2217.26	2	987.9 *2*	8.3 *11*	1229.28	0$^+$				
		1402.4 *2*	100 *9*	814.93	2$^+$	D+(Q)	+0.7 *8*		
2269.54?		1454.6[b] *2*	100	814.93	2$^+$				
2307.54	(1,2$^+$)	455.5 *1*	32 *3*	1852.14	(3)				
		1492.6 *2*	52 *5*	814.93	2$^+$				
		2307.1 *2*	100 *10*	0.0	0$^+$				
2407.41		555.4 *3*	100 *8*	1852.14	(3)				
		1592.4 *2*	70 *7*	814.93	2$^+$				
2412.00	(1,2$^+$)	1596.9 *4*	11.0 *20*	814.93	2$^+$				
		2412.0 *2*	100 *10*	0.0	0$^+$				
2443.65		936.8 *1*	100	1506.84	2$^+$				
2466.6	(6$^+$)	491.0[a]	71 *6*	1975.73	(4$^+$)				
		673.8[a]	100 *6*	1792.77	4$^+$	E2[@]		0.001561 *22*	α(K)=0.001378 *20*; α(L)=0.0001533 *22*; α(M)=2.57×10^{-5} *4* α(O)=2.03×10^{-7} *3*; α(N+..)=3.41×10^{-6}
2481.0		361.0[a]	100 *25*	2120.07	(4$^+$)				
		688.2[a]	75 *25*	1792.77	4$^+$				
2493.05		1678.1 *2*	100	814.93	2$^+$				

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$^{96}_{38}Sr_{58}$-4

Adopted Levels, Gammas (continued)

γ(^{96}Sr) (continued)

E_i(level)	J_i^π	E_γ	I_γ[#]	E_f	J_f^π	Mult.[†]	α	Comments
2525.53		673.3 *3*	48 *12*	1852.14	(3)			
		732.8 *2*	100 *10*	1792.77	4^+			
2529.3		677.2	25 *5*	1852.14	(3)			
		1714.3	100 *10*	814.93	2^+			
2576.25		1761.3 *2*	100	814.93	2^+			
2703.73		1075.9 *3*	29 *3*	1628.19	(2^+)			
		1196.6 *2*	39 *4*	1506.84	2^+			
		1888.9 *2*	100 *10*	814.93	2^+			
2719.70		867.8 *2*	43 *5*	1852.14	(3)			
		1904.5 *2*	100 *10*	814.93	2^+			
2785.8	(6^+)	810.0[a]	50 *13*	1975.73	(4^+)			
		992.9[a]	100 *13*	1792.77	4^+			
2880.5		2065.5 *3*	100	814.93	2^+			
2899.4		779.5	$5.\times10^1$ *5*	2120.07	(4^+)			
		1106.6	1.0×10^2 *3*	1792.77	4^+			
3009.8		1217.0	100	1792.77	4^+			
3064.80		1212.5 *2*	37 *4*	1852.14	(3)			
		2250.0 *2*	100 *10*	814.93	2^+			
3126.0	(8^+)	659.3[a]	100	2466.6	(6^+)	E2[@]	0.001656 *24*	α(K)=0.001462 *21*; α(L)=0.0001628 *23*; α(M)=2.73×10^{-5} *4* α(O)=2.15×10^{-7} *3*; α(N+..)=3.62×10^{-6}
3195.76		2380.8 *2*	100	814.93	2^+			
3238.9		339.5	1.0×10^2 *3*	2899.4				
		757.8	94 *19*	2481.0				
3244.9?		2429.9[b] *3*	100	814.93	2^+			
3328.9	(7^+)	542.8[a]	100 *11*	2785.8	(6^+)			
		862.3[a] *1*	19 *6*	2466.6	(6^+)			
3446.3?		2631.3[b] *4*	100	814.93	2^+			
3524.5	(9^+)	195.7	19 *6*	3328.9	(7^+)			
		398.4	100 *11*	3126.0	(8^+)			
3604.7	(6^+)	1138.0	1.0×10^2 *3*	2466.6	(6^+)			
		1812.0	38 *13*	1792.77	4^+			
3755.4	$(1,2^+)$	2940.1 *3*	67 *7*	814.93	2^+			
		3756.1 *5*	100 *16*	0.0	0^+			
3851.3		246.6	100	3604.7	(6^+)			
3887.0	(10^+)	761.0[a]	100	3126.0	(8^+)			
4048.7?		2196.5[b] *4*	100	1852.14	(3)			
4131.1		279.8	100	3851.3				
4133.2		804.3	100	3328.9	(7^+)			
4322.6?		3507.6[b] *5*	100	814.93	2^+			

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$^{96}_{38}Sr_{58}$-5

Adopted Levels, Gammas (continued)

γ(^{96}Sr) (continued)

E_i(level)	J_i^π	E_γ	I_γ [#]	E_f	J_f^π	E_i(level)	J_i^π	E_γ	I_γ [#]	E_f	J_f^π
4330.4		805.9	100	3524.5	(9^+)	5158.7		4344.2 *5*	100 *20*	814.93	2^+
4443.1		312.0	100	4131.1		5168.5	$(1,2^+)$	3375.2 *5*	66 *10*	1792.77	4^+
4725.5	(12^+)	838.5[&]	100	3887.0	(10^+)			4355.0 *7*	100 *20*	814.93	2^+
4785.1?		342.0	100	4443.1				5167.3 *10*	29 *12*	0.0	0^+
4799.4?		3984.4[b] *4*	100	814.93	2^+	5349.3?		3842.4[b] *10*	100	1506.84	2^+
5049.4?		4234.4[b] *10*	100	814.93	2^+	5597.5	(14^+)	872 *1*	100	4725.5	(12^+)
5090.9?		4275.9[b] *5*	100	814.93	2^+	6519.5	(16^+)	922 *1*	100	5597.5	(14^+)
5132.8		3903.4[b] *5*	100	1229.28	0^+	7526.5	(18^+)	1007 *1*	100	6519.5	(16^+)
5158.7		3365.4 *5*	82 *9*	1792.77	4^+						

† From ^{96}Rb β^- decay, based on $\gamma\gamma(\theta)$ if the 814.9γ is E2.
‡ From ^{96}Rb β^- decay, based on $\gamma\gamma(\theta)$ if the 814.9γ is E2.
[#] Mainly from ^{96}Rb β^- decay when allowed by XREF, unless otherwise indicated in comments.
[@] From ^{248}Cm SF decay.
[&] From ^{238}U(α,Fγ).
[a] From ^{248}Cm SF decay.
[b] Placement of transition in the level scheme is uncertain.

From ENSDF

$^{96}_{38}Sr_{58}$-6

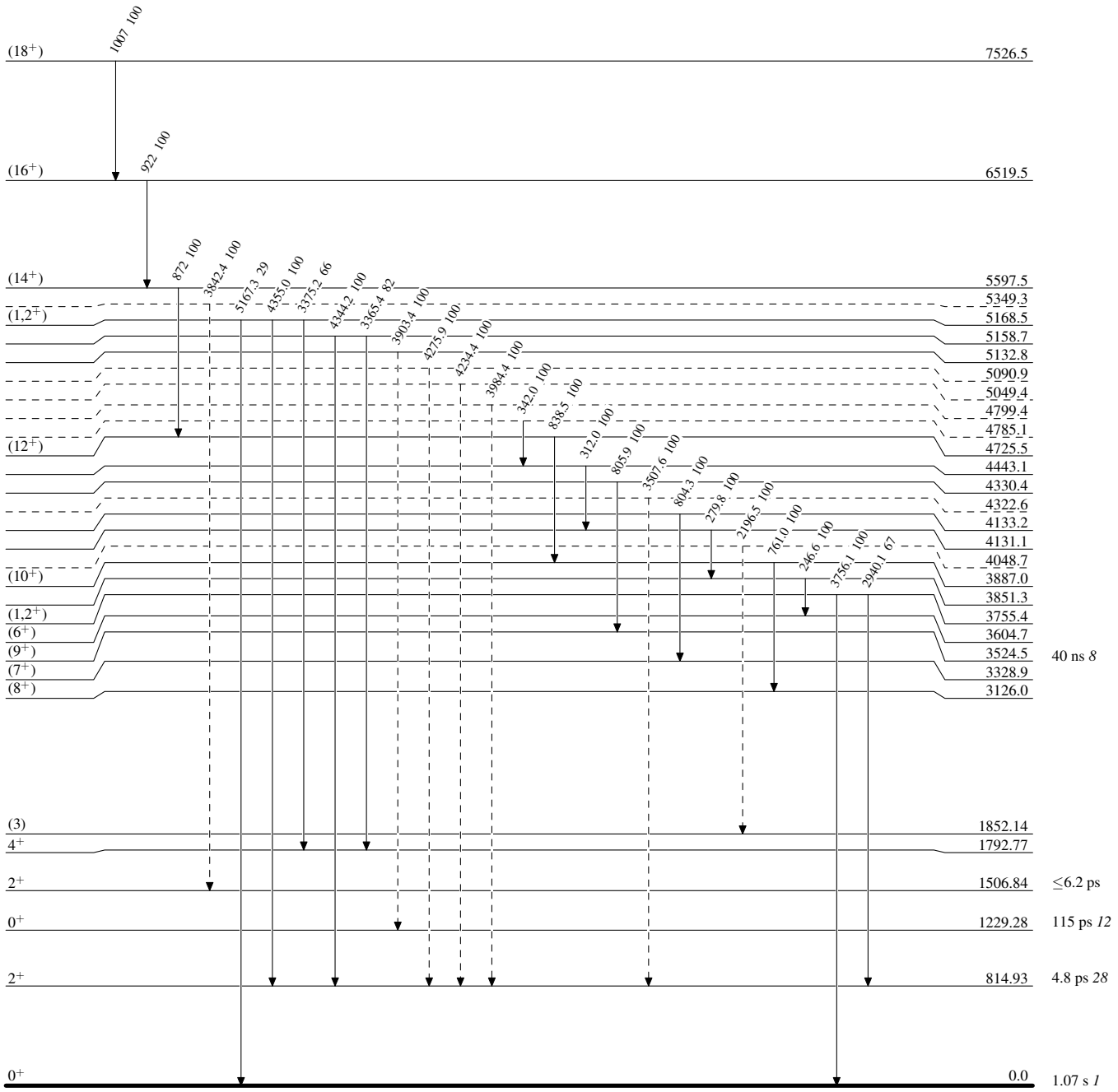
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



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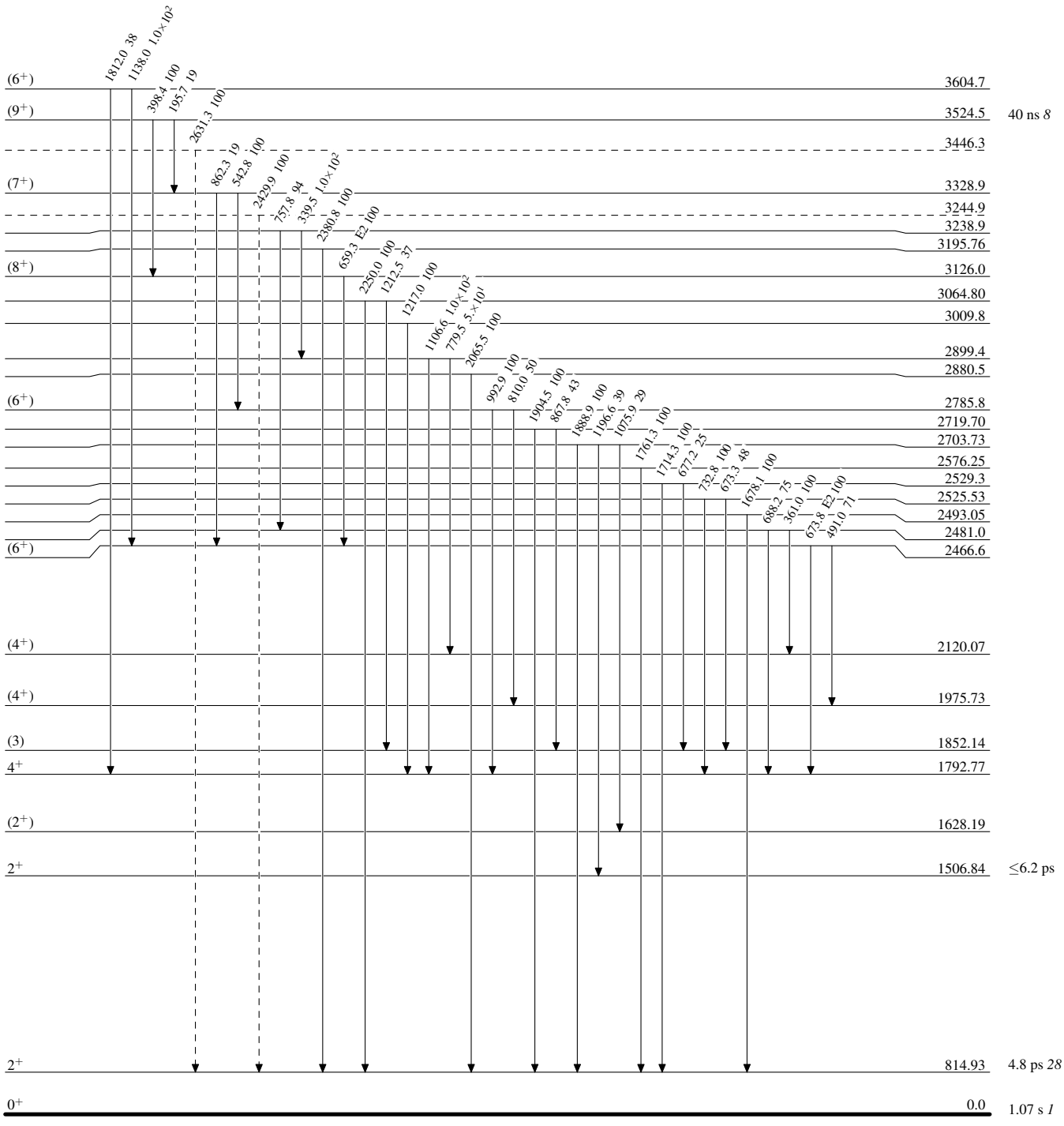
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{96}_{38}Sr_{58}$

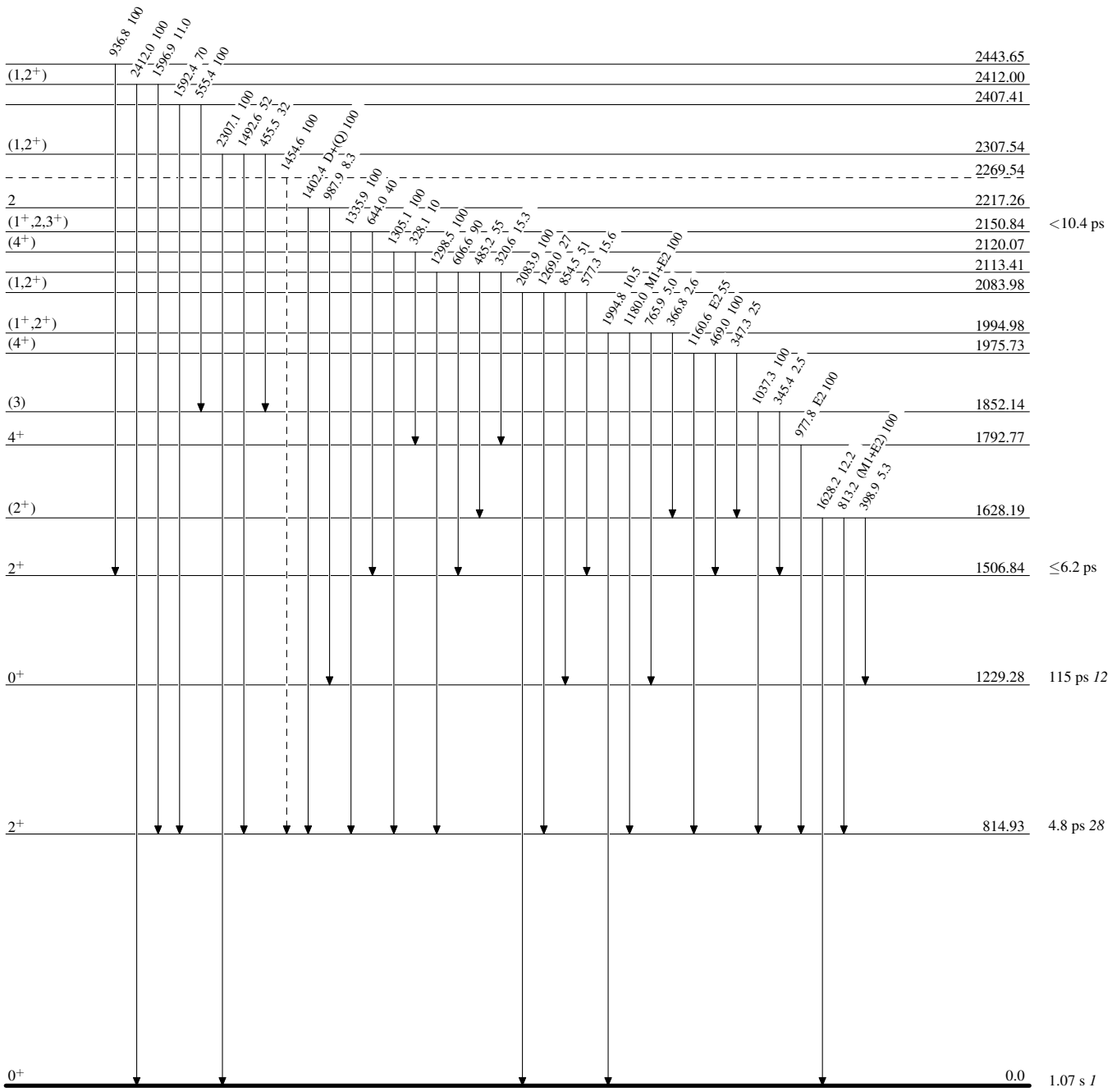
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

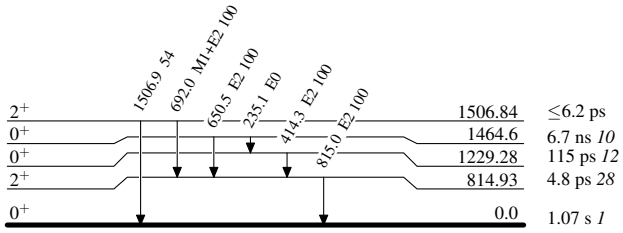


$^{96}_{38}Sr_{58}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



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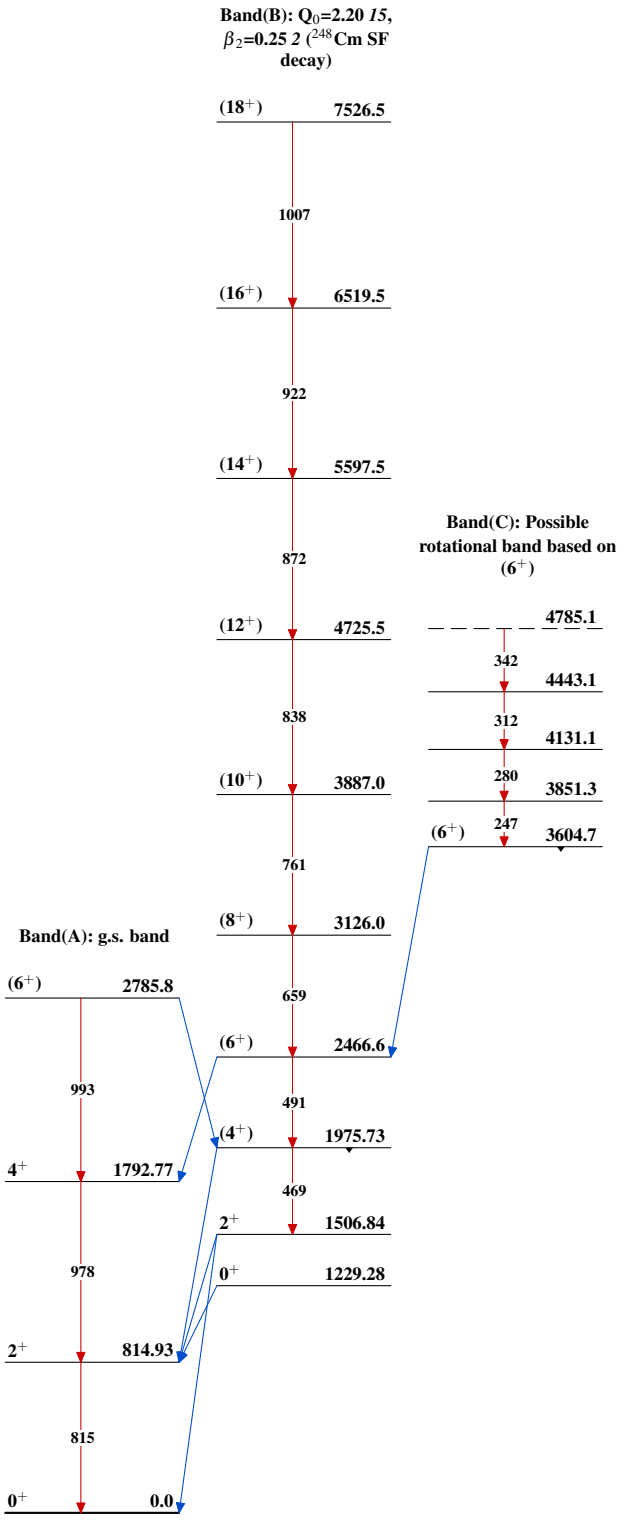
Adopted Levels, Gammas



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