Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. K. Basu, E. A. Mccutchan	NDS 165, 1 (2020)	1-Mar-2020

Q(β^-)=545.9 *14*; S(n)=7810.4 *21*; S(p)=11525 *6*; Q(α)=−5107.4 *21* 2017Wa10
S(2n)=14169.1 *21*; S(2p)=20835 *6* (2017Wa10).
α: Additional information 1.

^{90}Sr Levels

For charge radii of strontium nuclei by LASER spectroscopy, see 1987An02 and 1992Ne09.

Cross Reference (XREF) Flags

- A ^{90}Rb β^- decay (158 s)
- B ^{90}Rb β^- decay (258 s)
- C ^{88}Sr(t,p)
- D ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2$\alpha\gamma$)

E(level)[†]	J$^\pi$	$T_{1/2}$	XREF	Comments
0.0[#]	0$^+$	28.91 y *3*	ABCD	%β^-=100 $T_{1/2}$: from 10558 y *11* obtained from weighted average of 10527 d *51* (1965An07, decay measured over 11.2 y), 10557 d *11* (2004Sc04, decay measured over 17 y), and 10561 d *14* (1994Ma50, decay measured over 33 y). Conversion from days to years calculated using tropic year (1 year =365.24 d). Others: 10702 d *584* (1958An40, specific activity), 10227 d *146* (1965Fl01, decay), 10410 d *329* (1965Fl01, specific activity), 10513 d *14* (1992ScZZ, decay measured over 4 y), 10495 d *4* (1996Wo06, decay measured over 6 y), 7270 d *110* (1950Po67, decay), 10117 d *146*, (1955Wi15, specific activity), 10282 d *13* (1978La21, decay), 10589 d *92* (1983Ra09, decay), 10665 d *37* (1989Ko57, decay). $\Delta<r^2>(^{89}Sr,^{90}Sr)$=0.153 fm^2 *4*, LASER spectroscopy (1992Ne09).
831.68[#] *4*	2$^+$	7[‡] ps *2*	ABCD	μ=−0.24 *22* (2014Ku10) μ: from transient-field (TF) technique in inverse kinematics (2014Ku10). J$^\pi$: E2 832γ to 0$^+$.
1655.92[#] *7*	4$^+$	12[‡] ps *2*	ABCD	μ=−0.08 *68* (2014Ku10) μ: from transient-field (TF) technique in inverse kinematics (2014Ku10). J$^\pi$: E2 824γ to 2$^+$.
1892.36 *4*	2$^+$	2[‡] ps *1*	ABC	J$^\pi$: M1+E2 1060.7γ to 2$^+$, 1892.3γ to 0$^+$.
2207.02 *4*	(3$^-$)	≤1[‡] ps	ABCD	J$^\pi$: L(t,p)=3,(4); D(+Q) 1375.4γ to 2$^+$. $\gamma\gamma(\theta)$ in ^{90}Kr β^- decay yields J=2 or 3, with J=2 providing the better fit. Combined with data from (t,p) experiment, J=3 is tentatively adopted here.
2497.32 *6*	(2$^+$)	≤3[‡] ps	ABC	J$^\pi$: $\gamma\gamma(\theta)$ in ^{90}Kr β^- decay yields J=2 or 3; 2497.3γ to 0$^+$ makes J=3 less likely.
2527.92 *7*	3$^-$,4$^+$	≤6[‡] ps	BC	J$^\pi$: L(t,p)=3,4.
2570.60 *8*		10[‡] ps *7*	AB	
2586 *10*	2$^+$		C	J$^\pi$: L(t,p)=2.
2674.0 *5*	(0$^+$)		A C	J$^\pi$: L(t,p)=(0).
2927.70 *7*	4		AB D	J$^\pi$: D 720.7γ to (3$^-$), 1271.8γ to 4$^+$.
2971.12 *12*	0$^+$		ABC	J$^\pi$: L(t,p)=0.
3032.87 *7*		≤1[‡] ps	AB	
3039.26 *7*	1		ABC	J$^\pi$: from $\gamma\gamma(\theta)$ in ^{90}Kr β^- decay.
3144.45 *10*	(5$^-$)		ABCD	J$^\pi$: L(t,p)=(5).
3268.69 *24*	3$^-$,4$^+$		CD	J$^\pi$: L(t,p)=3,4.
3383.39 *7*			AB	

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Adopted Levels, Gammas (continued)

^{90}Sr Levels (continued)

E(level)[†]	Jπ	$T_{1/2}$	XREF	Comments
3394 *10*			C	E(level): probable doublet.
3449.83 *5*	3	≤4[‡] ps	B	Jπ: from γγ(θ) in ^{90}Kr β^- decay.
3468.43 *22*	(5$^-$)		D	Jπ: D 1812.5γ to 4$^+$, 55.6γ from (7$^-$).
3479 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
3494.84 *11*	6$^{(+)}$		D	Jπ: Q 1838.9γ to 4$^+$.
3508 *10*	(5$^-$)		C	Jπ: L(t,p)=(5).
3555.79 *13*			AB	
3584.43 *8*			B	
3594 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4. E(level): possibly the same as the 3584.4 level observed in ^{90}Kr β^- decay.
3627.01 *23*			AB	
3698.55 *12*	(7$^-$)		D	Jπ: Q 554.1γ to (5$^-$).
3720 *10*	≥6		C	Jπ: L(t,p)>5.
3742.16 *13*	6		D	Jπ: Q 814.5γ to 4.
3764.36 *18*	(6$^+$)		D	Jπ: Q 1291.2γ from (8$^+$), D 619.9γ to (5$^-$).
3784 *10*	(5$^-$)		C	Jπ: L(t,p)=(5).
3804 *10*	2$^+$		C	Jπ: L(t,p)=2.
3845 *10*			C	
3915 *10*			C	
3954.32 *18*			AB	
4019.4 *4*			A	
4036.88 *13*			B	
4037.12 *9*			A	
4043 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
4066.32[@] *16*	(7$^-$)		D	Jπ: D 342.2γ to (6), Q 955.3γ from (9$^-$).
4073 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
4135.63 *10*	(1,2$^+$)		ABC	Jπ: 4135.5γ to 0$^+$.
4137.6 *9*			A	
4148.85 *7*			AB	
4240 *10*	2$^+$		C	Jπ: L(t,p)=2.
4288 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
4335.37 *7*			BC	
4366.06 *11*			AB	
4404.62 *18*			B	
4430.91 *24*			B	
4493 *10*			C	
4522 *10*			C	
4580.8 *3*			A C	
4646.35 *14*			A C	
4660 *10*			C	
4685.6 *3*			B	
4742 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
4748.93 *19*	8		D	Jπ: Q 1006.7γ to 6, D 1050.3γ to (7$^-$).
4774 *10*	3$^-$,4$^+$		C	Jπ: L(t,p)=3,4.
4790.3? *5*	(1,2$^+$)		A	Jπ: 4790.2γ to 0$^+$.
4804.0 *5*			B	
4805.12 *22*			B	
4808.52 *23*			B	
4824 *10*	2$^+$		C	Jπ: L(t,p)=2.
4854.2? *5*			B	
4881.7 *3*	8		D	Jπ: D 1183.1γ to (7$^-$).
4919.07? *20*			A	
4947.5 *4*	(2$^+$)		BC	Jπ: L(t,p)=(2).
4973.99 *17*			A C	
5021.62[@] *16*	(9$^-$)		D	Jπ: Q 1323.1γ to (7$^-$), D 140.0γ to 8.

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Adopted Levels, Gammas (continued)

^{90}Sr Levels (continued)

E(level)†	Jπ	XREF	Comments
5024.54 *23*		B	
5026.8? *4*		BC	
5041.01 *13*		AB	
5041.44 *12*		B	
5055.56 *14*	(8^+)	CD	Jπ: Q 1560.7γ to $6^{(+)}$, D 1357.0γ to (7^-).
5089.46 *16*		B	
5095 *10*	3^-,4^+	C	Jπ: L(t,p)=3,4.
5142 *10*		C	
5187.51 *6*	(1^-,2^+)	A C	Jπ: 5187.4γ to 0^+, 2980.7γ to (3^-).
5239.2 *5*		B	
5254.32 *12*		A	
5285.89 *19*		BC	
5298.48 *21*	(9^-)	D	Jπ: (E2) 1599.9γ to (7^-), D 549.6γ to 8.
5333.15? *23*		A	
5343 *10*		C	
5426.65 *13*		ABC	
5431.2 *3*		B	
5557.9 *3*		B	
5591.8 *3*	10	D	Jπ: D 570.2γ to (9^-).
5600.3? *4*		A C	
5623.3 *3*		A	
5785.1? *7*		B	
5822.0 *5*		B	
5827.9 *3*		B	
5923.56 *16*	(10^+)	D	Jπ: Q 868.0γ to (8^+).
5961.1@ *3*	(11^-)	D	Jπ: Q 939.5γ to (9^-).
6712.3 *3*	12	D	Jπ: Q 1120.5γ to 10, D 751.2γ to (11^-).
6794.56 *19*	(12^+)	D	Jπ: Q 871.0γ to (10^+).
7371.2 *5*	13	D	Jπ: D 658.9γ to 12.
7705.77 *21*		D	
7959.7 *3*		D	
8772.4 *3*		D	
9060.7 *5*		D	
9199.7 *4*		D	
9957.5 *5*		D	

† From least-squares fit to Eγ, by evaluators for levels connected by γ-ray transitions. Levels with uncertainty of 10 keV are from (t,p).
‡ From βγ(t) with scintillators in ^{90}Kr β^- decay.
# Band(A): γ sequence based on g.s.
@ Seq.(B): γ sequence based on (7^-).

Adopted Levels, Gammas (continued)

$\gamma(^{90}Sr)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ	α	Comments
831.68	2^+	831.69 *5*	100	0.0	0^+	E2		9.02×10^{-4}	α(K)=0.000798 *12*; α(L)=8.77×10^{-5} *13*; α(M)=1.471×10^{-5} *21*; α(N)=1.84×10^{-6} *3* α(O)=1.178×10^{-7} *17* B(E2)(W.u.)=8.5 *+33−19* Mult.: Q from $\gamma(\theta)$ in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2$\alpha\gamma$); M2 excluded by comparison to RUL.
1655.92	4^+	824.23 *10*	100	831.68	2^+	E2		9.22×10^{-4}	α(K)=0.000816 *12*; α(L)=8.97×10^{-5} *13*; α(M)=1.506×10^{-5} *21*; α(N)=1.88×10^{-6} *3* α(O)=1.204×10^{-7} *17* B(E2)(W.u.)=5.2 *+11−7* Mult.: Q from $\gamma(\theta)$ in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2$\alpha\gamma$) and $\gamma\gamma(\theta)$ in ^{90}Kr β^- decay; M2 excluded by comparison to RUL.
1892.36	2^+	1060.70 *4*	100 *3*	831.68	2^+	M1+E2	+0.50 *3*	4.97×10^{-4}	α(K)=0.000440 *7*; α(L)=4.75×10^{-5} *7*; α(M)=7.97×10^{-6} *12*; α(N)=1.002×10^{-6} *14*; α(O)=6.59×10^{-8} *10* B(E2)(W.u.)=1.7 *+15−6*; B(M1)(W.u.)=0.0070 *+57−24* Mult.,δ: D+Q from $\gamma\gamma(\theta)$ in ^{90}Rb β^- decay, E1+M2 excluded by comparison to RUL.
		1892.28 *8*	6.0 *3*	0.0	0^+	[E2]		4.11×10^{-4}	α(K)=0.0001370 *20*; α(L)=1.464×10^{-5} *21*; α(M)=2.45×10^{-6} *4*; α(N)=3.09×10^{-7} *5*; α(O)=2.03×10^{-8} *3* B(E2)(W.u.)=0.028 *+24−10*
2207.02	(3^-)	314.5 *3*	4.97 *23*	1892.36	2^+	[E1]		0.00374	α(K)=0.00331 *5*; α(L)=0.000359 *6*; α(M)=6.02×10^{-5} *9*; α(N)=7.51×10^{-6} *11*; α(O)=4.78×10^{-7} *7* B(E1)(W.u.)>4.5×10^{-4}
		551.20 *25*	5.1 *4*	1655.92	4^+	[E1]		8.91×10^{-4}	α(K)=0.000790 *11*; α(L)=8.52×10^{-5} *12*; α(M)=1.427×10^{-5} *20*; α(N)=1.79×10^{-6} *3* α(O)=1.157×10^{-7} *17* B(E1)(W.u.)>8.3×10^{-5}
		1375.36 *3*	100 *4*	831.68	2^+	(E1(+M2))	−0.02 *6*	2.98×10^{-4}	α(K)=0.000124 *3*; α(L)=1.32×10^{-5} *4*; α(M)=2.22×10^{-6} *6*; α(N)=2.79×10^{-7} *7*; α(O)=1.83×10^{-8} *5* B(E1)(W.u.)>0.00012 Mult.,δ: D(+Q) from $\gamma\gamma(\theta)$ in ^{90}Rb β^- decay; $\Delta\pi$=yes from adopted level scheme.
2497.32	(2^+)	1665.61 *7*	100 *3*	831.68	2^+				
		2497.27 *15*	15.9 *16*	0.0	0^+				
2527.92	$3^-,4^+$	872.00 *15*	32.0 *23*	1655.92	4^+				
		1696.16 *7*	100 *4*	831.68	2^+				
2570.60		1738.93 *8*	100	831.68	2^+				
2674.0	(0^+)	1842.3[@] *5*	100	831.68	2^+				
2927.70	4	720.70 *9*	35 *3*	2207.02	(3^-)	D[#]			

$^{90}_{38}Sr_{52}$-4

Adopted Levels, Gammas (continued)

γ(^{90}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	α	Comments
2927.70	4	1271.77 *7*	100 *7*	1655.92	4^+	D#		
2971.12	0^+	2139.33 *18*	100	831.68	2^+	E2	4.99×10^{-4}	α(K)=0.0001094 *16*; α(L)=1.167×10^{-5} *17*; α(M)=1.96×10^{-6} *3*; α(N)=2.46×10^{-7} *4* α(O)=1.625×10^{-8} *23* Mult.: Q from γγ(θ) in ^{90}Kr β^- decay; Δπ=no from level scheme.
3032.87		1140.50 *6*	100	1892.36	2^+			
3039.26	1	1146.96 *25*	5.7 *7*	1892.36	2^+			
		2207.47 *11*	61 *3*	831.68	2^+	D		Mult.: from γγ(θ) in ^{90}Kr β^- decay.
		3039.17 *12*	100 *4*	0.0	0^+			
3144.45	(5^-)	216.8‡ *5*	0.70‡ *18*	2927.70	4			
		937.3‡ *5*	≈1.8‡	2207.02	(3^-)	(E2)	6.74×10^{-4}	Mult.: Q from γ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ), Δπ=no from level scheme.
		1488.5‡ *1*	100.0‡ *14*	1655.92	4^+	(E1)	3.59×10^{-4}	Mult.: D from γ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ), Δπ=yes from level scheme.
3268.69	$3^-,4^+$	1612.8‡ *3*	100‡	1655.92	4^+			
3383.39		886.3 *3*	0.95 *18*	2497.32	(2^+)			
		1176.9 *9*	0.60 *24*	2207.02	(3^-)			
		3383.24 *12*	100 *3*	0.0	0^+			
3449.83	3	522.10 *13*	13.0 *10*	2927.70	4			
		921.20 *24*	9.9 *22*	2527.92	$3^-,4^+$			
		952.44 *7*	55.6 *19*	2497.32	(2^+)			
		1242.84 *4*	100 *6*	2207.02	(3^-)	D		Mult.: from γγ(θ) in ^{90}Kr β^- decay.
		1793.89 *11*	27.6 *16*	1655.92	4^+	D		Mult.: from γγ(θ) in ^{90}Kr β^- decay.
		2617.8 *3*	20 *3*	831.68	2^+			
3468.43	(5^-)	324.0‡ *5*	‡	3144.45	(5^-)			
		1812.5‡ *3*	100‡	1655.92	4^+	D#		
3494.84	$6^{(+)}$	1838.9‡ *1*	100‡	1655.92	4^+	(E2)	3.94×10^{-4}	α(K)=0.0001445 *21*; α(L)=1.545×10^{-5} *22*; α(M)=2.59×10^{-6} *4*; α(N)=3.26×10^{-7} *5*; α(O)=2.15×10^{-8} *3* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ), assumed E2.
3555.79		985.4 *5*	18 *6*	2570.60				
		2724.26 *21*	100 *13*	831.68	2^+			
3584.43		1013.95 *19*	2.21 *25*	2570.60				
		1086.7 *8*	0.61 *12*	2497.32	(2^+)			
		1377.2 *5*	20 *7*	2207.02	(3^-)			
		1692.07 *25*	2.4 *4*	1892.36	2^+			
		2752.68 *8*	100 *4*	831.68	2^+			
3627.01		3627.4 *7*	100	0.0	0^+			
3698.55	(7^-)	203.7‡ *5*	≈3.0‡	3494.84	$6^{(+)}$			
		554.1‡ *1*	100.0‡ *18*	3144.45	(5^-)	(E2)	0.00271	α(K)=0.00239 *4*; α(L)=0.000269 *4*; α(M)=4.51×10^{-5} *7*; α(N)=5.61×10^{-6} *8*; α(O)=3.49×10^{-7} *5* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.

$^{90}_{38}Sr_{52}$-5

Adopted Levels, Gammas (continued)

$\gamma(^{90}Sr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α	Comments
3698.55	(7$^-$)	2042.6[‡] *3*	19.3[‡] *3*	1655.92	4$^+$	(E3)	4.07×10^{-4}	α(K)=0.000197 *3*; α(L)=2.13×10^{-5} *3*; α(M)=3.57×10^{-6} *5*; α(N)=4.49×10^{-7} *7*; α(O)=2.94×10^{-8} *5* Mult.: O from $\gamma\gamma(\theta)$ in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2$\alpha\gamma$); assumed E3.
3742.16	6	597.7[‡] *1*	100.0[‡] *24*	3144.45	(5$^-$)	D[#]		
		814.5[‡] *3*	16.6[‡] *12*	2927.70	4	Q[#]		
3764.36	(6$^+$)	495.7[‡] *3*	36[‡] *6*	3268.69	3$^-$,4$^+$	Q[#]		α(K)=0.00332 *5*; α(L)=0.000377 *6*; α(M)=6.34×10^{-5} *9*; α(N)=7.85×10^{-6} *11*; α(O)=4.83×10^{-7} *7*
		619.9[‡] *3*	82[‡] *12*	3144.45	(5$^-$)	D[#]		
		2108.4[‡] *3*	100[‡] *3*	1655.92	4$^+$			
3954.32		1027.1 *4*	36 *5*	2927.70	4			
		1456.7 *3*	68 *7*	2497.32	(2$^+$)			
		1747.3 *3*	68 *8*	2207.02	(3$^-$)			
		2298.1 *9*	1.0×10^2 *5*	1655.92	4$^+$			
4019.4		1522.1 *4*	100 *23*	2497.32	(2$^+$)			
		4019.3 *13*	9.×10^1 *5*	0.0	0$^+$			
4036.88		1109.2 *8*	12 *7*	2927.70	4			
		1829.82 *20*	31 *5*	2207.02	(3$^-$)			
		2381.5 *5*	15 *6*	1655.92	4$^+$			
		3205.09 *16*	100 *8*	831.68	2$^+$			
4037.12		892.5 *7*	6 *3*	3144.45	(5$^-$)			
		997.85 *6*	100 *4*	3039.26	1			
4066.32	(7$^-$)	324.2[‡] *3*	100.0[‡] *10*	3742.16	6	D[#]		
		367.8[‡] *3*	83.8[‡] *20*	3698.55	(7$^-$)	D[#]		
		571.5[‡] *3*	14[‡] *4*	3494.84	6$^{(+)}$			
		597.9[‡] *3*	55.6[‡] *20*	3468.43	(5$^-$)			
4135.63	(1,2$^+$)	752.1 *3*	1.05 *13*	3383.39				
		3303.91 *13*	13.2 *6*	831.68	2$^+$			
		4135.51 *17*	100 *4*	0.0	0$^+$			
4137.6		2245.2 *9*	100	1892.36	2$^+$			
4148.85		765.1 *7*	0.60 *20*	3383.39				
		1003.9 *9*	0.39 *20*	3144.45	(5$^-$)			
		1941.81 *17*	4.4 *4*	2207.02	(3$^-$)			
		2256.55 *17*	4.6 *3*	1892.36	2$^+$			
		3317.00 *12*	100 *3*	831.68	2$^+$			
4335.37		779.9 *4*	5.3 *11*	3555.79				
		1764.5 *9*	1.8 *9*	2570.60				
		1838.15 *14*	15.8 *11*	2497.32	(2$^+$)			
		2128.30 *7*	100 *3*	2207.02	(3$^-$)			
		2442.9 *5*	5.1 *13*	1892.36	2$^+$			
		3503.52 *15*	45.5 *20*	831.68	2$^+$			
4366.06		739.2 *4*	0.63 *11*	3627.01				

$^{90}_{38}Sr_{52}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{90}Sr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α
4366.06		1326.46 *21*	1.65 *20*	3039.26	1		
		1438.3 *8*	0.40 *15*	2927.70	4		
		2473.94 *20*	7.7 *8*	1892.36	2^+		
		4365.90 *18*	100 *4*	0.0	0^+		
4404.62		1021.9 *7*	4.9 *19*	3383.39			
		3572.82 *18*	100 *7*	831.68	2^+		
4430.91		1391.6 *3*	100 *18*	3039.26	1		
		1460.1 *6*	43 *11*	2971.12	0^+		
		1903.1 *6*	30 *13*	2527.92	3^-,4^+		
		2537.8 *9*	39 *16*	1892.36	2^+		
4580.8		543.6 *10*	52 *23*	4037.12			
		1547.8 *5*	52 *13*	3032.87			
		2688.9 *5*	100 *20*	1892.36	2^+		
		2924.3 *7*	58 *20*	1655.92	4^+		
4646.35		3814.36 *20*	26.1 *18*	831.68	2^+		
		4646.45 *20*	100 *4*	0.0	0^+		
4685.6		1302.2 *3*	100 *25*	3383.39			
		4685.0 *14*	20 *15*	0.0	0^+		
4748.93	8	1006.7[‡] *3*	100.0[‡] *17*	3742.16	6	Q[#]	
		1050.3[‡] *3*	86[‡] *5*	3698.55	(7^-)	D[#]	5.05×10^{-4}
4790.3?	$(1,2^+)$	3958.4[@] *8*	1.0×10^2 *3*	831.68	2^+		
		4790.2[@] *7*	80 *20*	0.0	0^+		
4804.0		2911.7 *11*	34 *19*	1892.36	2^+		
		3972.2 *5*	100 *19*	831.68	2^+		
4805.12		1877.40 *21*	100	2927.70	4		
4808.52		442.3 *4*	39 *10*	4366.06			
		1425.2 *3*	94 *10*	3383.39			
		2311.2 *6*	1.0×10^2 *4*	2497.32	(2^+)		
4854.2?		1298.5[@] *5*	100 *19*	3555.79			
		3197.9[@] *10*	$7.\times10^1$ *3*	1655.92	4^+		
4881.7	8	1183.1[‡] *3*	100[‡]	3698.55	(7^-)	D[#]	
4919.07?		4087.26[@] *23*	100 *7*	831.68	2^+		
		4919.0[@] *4*	30 *4*	0.0	0^+		
4947.5	(2^+)	2741.0[@] *12*	41 *22*	2207.02	(3^-)		
		4115.6[@] *4*	100 *17*	831.68	2^+		
4973.99		1590.3 *3*	67 *8*	3383.39			
		2476.7 *11*	$5.\times10^1$ *4*	2497.32	(2^+)		
		3081.3 *4*	75 *14*	1892.36	2^+		
		4974.14 *25*	100 *8*	0.0	0^+		
5021.62	(9^-)	140.0[‡] *5*	4.8[‡] *7*	4881.7	8	D[#]	

$^{90}_{38}Sr_{52}$-7

Adopted Levels, Gammas (continued)

γ(^{90}Sr) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α	Comments
5021.62	(9⁻)	272.5[‡] *3*	23.8[‡] *7*	4748.93	8	D[#]		
		955.3[‡] *1*	100.0[‡] *14*	4066.32	(7⁻)	(E2)		Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
		1323.1[‡] *3*	31.3[‡] *7*	3698.55	(7⁻)	(E2)		Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
5024.54		4192.75 *23*	100	831.68	2⁺			
5026.8?		1576.9[@] *7*	29 *10*	3449.83	3			
		3370.8[@] *4*	100 *15*	1655.92	4⁺			
5041.01		1485.6 *7*	16 *5*	3555.79				
		3148.58 *12*	100 *4*	1892.36	2⁺			
5041.44		2543.9 *3*	17.9 *21*	2497.32	(2⁺)			
		2834.43 *13*	100 *7*	2207.02	(3⁻)			
		4209.5 *3*	49 *5*	831.68	2⁺			
5055.56	(8⁺)	1291.2[‡] *3*	32.6[‡] *7*	3764.36	(6⁺)	(E2)	3.54×10^{-4}	α(K)=0.000291 *4*; α(L)=3.15×10^{-5} *5*; α(M)=5.28×10^{-6} *8*; α(N)=6.63×10^{-7} *10*; α(O)=4.32×10^{-8} *6* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
		1357.0[‡] *1*	100.0[‡] *21*	3698.55	(7⁻)	(E1)	2.89×10^{-4}	α(K)=0.0001270 *18*; α(L)=1.351×10^{-5} *19*; α(M)=2.26×10^{-6} *4*; α(N)=2.85×10^{-7} *4*; α(O)=1.87×10^{-8} *3* Mult.: D from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); Δπ= yes from level scheme.
		1560.7[‡] *3*	69.5[‡] *14*	3494.84	6⁽⁺⁾	(E2)	3.32×10^{-4}	α(K)=0.000198 *3*; α(L)=2.13×10^{-5} *3*; α(M)=3.57×10^{-6} *5*; α(N)=4.49×10^{-7} *7*; α(O)=2.94×10^{-8} *5* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
5089.46		2592.32 *20*	87 *9*	2497.32	(2⁺)			
		4257.34 *24*	100 *8*	831.68	2⁺			
5187.51	(1⁻,2⁺)	1038.63 *7*	26.7 *11*	4148.85				
		1631.78 *20*	7.2 *14*	3555.79				
		1804.10 *7*	52.1 *18*	3383.39				
		2148.2 *3*	18.8 *24*	3039.26	1			
		2216.29 *14*	42.8 *24*	2971.12	0⁺			
		2980.7 *6*	8.2 *18*	2207.02	(3⁻)			
		3295.09 *14*	74 *4*	1892.36	2⁺			
		4355.78 *22*	38.0 *21*	831.68	2⁺			
		5187.44 *23*	100 *5*	0.0	0⁺			
5239.2		3032.1 *5*	100	2207.02	(3⁻)			
5254.32		1870.7 *4*	7.8 *17*	3383.39				
		3361.88 *13*	100 *5*	1892.36	2⁺			
		5254.27 *25*	23.8 *17*	0.0	0⁺			
5285.89		1658.9 *3*	37 *5*	3627.01				
		4454.07 *21*	100 *7*	831.68	2⁺			
5298.48	(9⁻)	416.8[‡] *5*	18[‡] *3*	4881.7	8	D[#]	0.00403	α(K)=0.00357 *5*; α(L)=0.000392 *6*; α(M)=6.58×10^{-5} *10*; α(N)=8.27×10^{-6} *12*; α(O)=5.39×10^{-7} *8*
		549.6[‡] *3*	71[‡] *6*	4748.93	8	D[#]	0.00211	α(K)=0.00186 *3*; α(L)=0.000203 *3*; α(M)=3.41×10^{-5} *5*; α(N)=4.29×10^{-6} *6*; α(O)=2.81×10^{-7} *4*

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Adopted Levels, Gammas (continued)

γ(^{90}Sr) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	α	Comments
5298.48	(9⁻)	1599.9‡ *3*	100‡ *3*	3698.55	(7⁻)	(E2)	3.37×10⁻⁴	α(K)=0.000189 *3*; α(L)=2.02×10⁻⁵ *3*; α(M)=3.40×10⁻⁶ *5*; α(N)=4.27×10⁻⁷ *6*; α(O)=2.80×10⁻⁸ *4* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
5333.15?		4500.8@ *10*	8 *4*	831.68	2⁺			
		5333.01@ *24*	100 *5*	0.0	0⁺			
5426.65		3534.24 *13*	100	1892.36	2⁺			
5431.2		3538.6@ *6*	100 *22*	1892.36	2⁺			
		4599.4@ *3*	96 *8*	831.68	2⁺			
5557.9		1603.52 *20*	100 *11*	3954.32				
		4726.1 *7*	24 *7*	831.68	2⁺			
5591.8	10	570.2‡ *3*	100‡	5021.62	(9⁻)	D#		
5600.3?		1973.3@ *10*	1.0×10² *4*	3627.01				
		5600.1@ *5*	83 *14*	0.0	0⁺			
5623.3		196.8 *4*	59 *10*	5426.65				
		1668.9 *6*	9.×10¹ *3*	3954.32				
		1996.0 *10*	24 *10*	3627.01				
		2239.7 *8*	1.0×10² *6*	3383.39				
5785.1?		2335.2@ *10*	1.0×10² *4*	3449.83	3			
		3214.5@ *11*	6.×10¹ *3*	2570.60				
5822.0		395.8 *8*	27 *14*	5426.65				
		1686.2 *6*	43 *14*	4135.63	(1,2⁺)			
		2789.1 *22*	1.0×10² *7*	3032.87				
		3929.4 *14*	5.×10¹ *3*	1892.36	2⁺			
5827.9		2200.9 *3*	84 *10*	3627.01				
		2900.3 *13*	20 *12*	2927.70	4			
		3620.8 *11*	1.0×10² *4*	2207.02	(3⁻)			
		4996.2 *11*	11 *5*	831.68	2⁺			
5923.56	(10⁺)	625.1‡ *3*	21.4‡ *16*	5298.48	(9⁻)	D#		
		868.0‡ *1*	100.0‡ *19*	5055.56	(8⁺)	(E2)		Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
		901.9‡ *3*	8.2‡ *8*	5021.62	(9⁻)			
5961.1	(11⁻)	939.5‡ *3*	100‡	5021.62	(9⁻)	(E2)	6.70×10⁻⁴	α(K)=0.000593 *9*; α(L)=6.48×10⁻⁵ *9*; α(M)=1.088×10⁻⁵ *16*; α(N)=1.362×10⁻⁶ *19*; α(O)=8.77×10⁻⁸ *13* Mult.: Q from γγ(θ) in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2αγ); assumed E2.
6712.3	12	751.2‡ *3*	100‡ *3*	5961.1	(11⁻)	D#		
		1120.5‡ *3*	48‡ *3*	5591.8	10	Q#		
6794.56	(12⁺)	871.0‡ *1*	100‡	5923.56	(10⁺)	(E2)	8.05×10⁻⁴	α(K)=0.000712 *10*; α(L)=7.80×10⁻⁵ *11*; α(M)=1.310×10⁻⁵ *19*;

$^{90}_{38}Sr_{52}$-9

Adopted Levels, Gammas (continued)

$\gamma(^{90}Sr)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	Comments
							α(N)=1.639×10^{-6} *23* α(O)=1.052×10^{-7} *15* Mult.: Q from $\gamma\gamma(\theta)$ in ^{82}Se(^{11}B,p2nγ),^{12}C(^{86}Kr,2$\alpha\gamma$); assumed E2.
7371.2	13	658.9[‡] *3*	100[‡]	6712.3	12	D[#]	
7705.77		911.2[‡] *1*	100[‡]	6794.56	(12$^+$)		
7959.7		253.9[‡] *3*	100[‡]	7705.77		Q[#]	
8772.4		812.7[‡] *5*	20[‡] *7*	7959.7			
		1066.6[‡] *3*	100[‡] *13*	7705.77		Q[#]	
9060.7		288.3[‡] *3*	100[‡]	8772.4		D[#]	
9199.7		1493.9[‡] *3*	100[‡]	7705.77			
9957.5		757.8[‡] *3*	100[‡]	9199.7		D[#]	

[†] From ^{90}Rb β^- decay, except where noted.
[‡] From ^{82}Se(^{11}B,p2nγ), ^{12}C(^{86}Kr,2$\alpha\gamma$).
[#] From $\gamma\gamma(\theta)$ (DCO) in ^{82}Se(^{11}B,p2nγ), ^{12}C(^{86}Kr,2$\alpha\gamma$).
[@] Placement of transition in the level scheme is uncertain.

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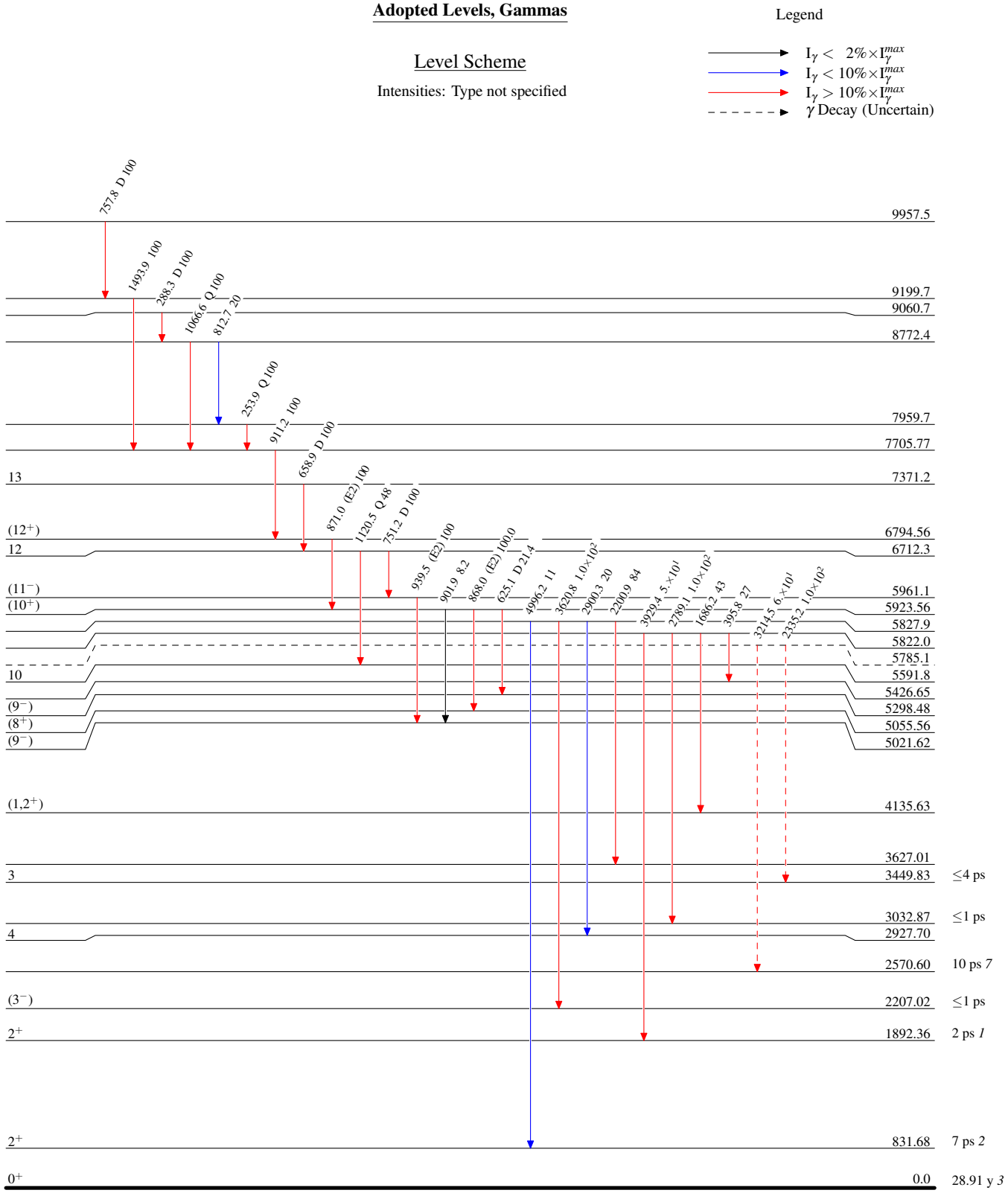
Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

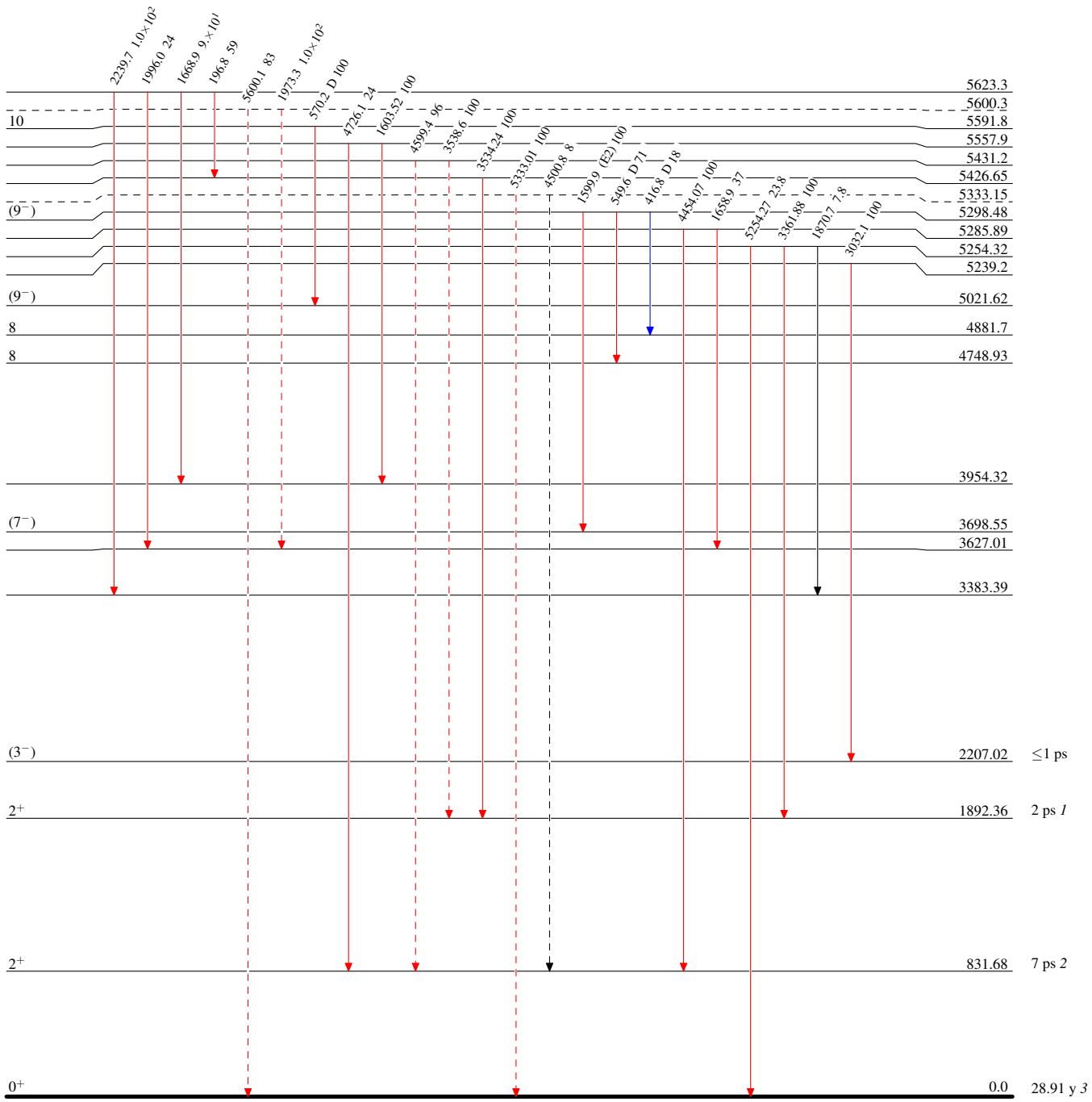


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

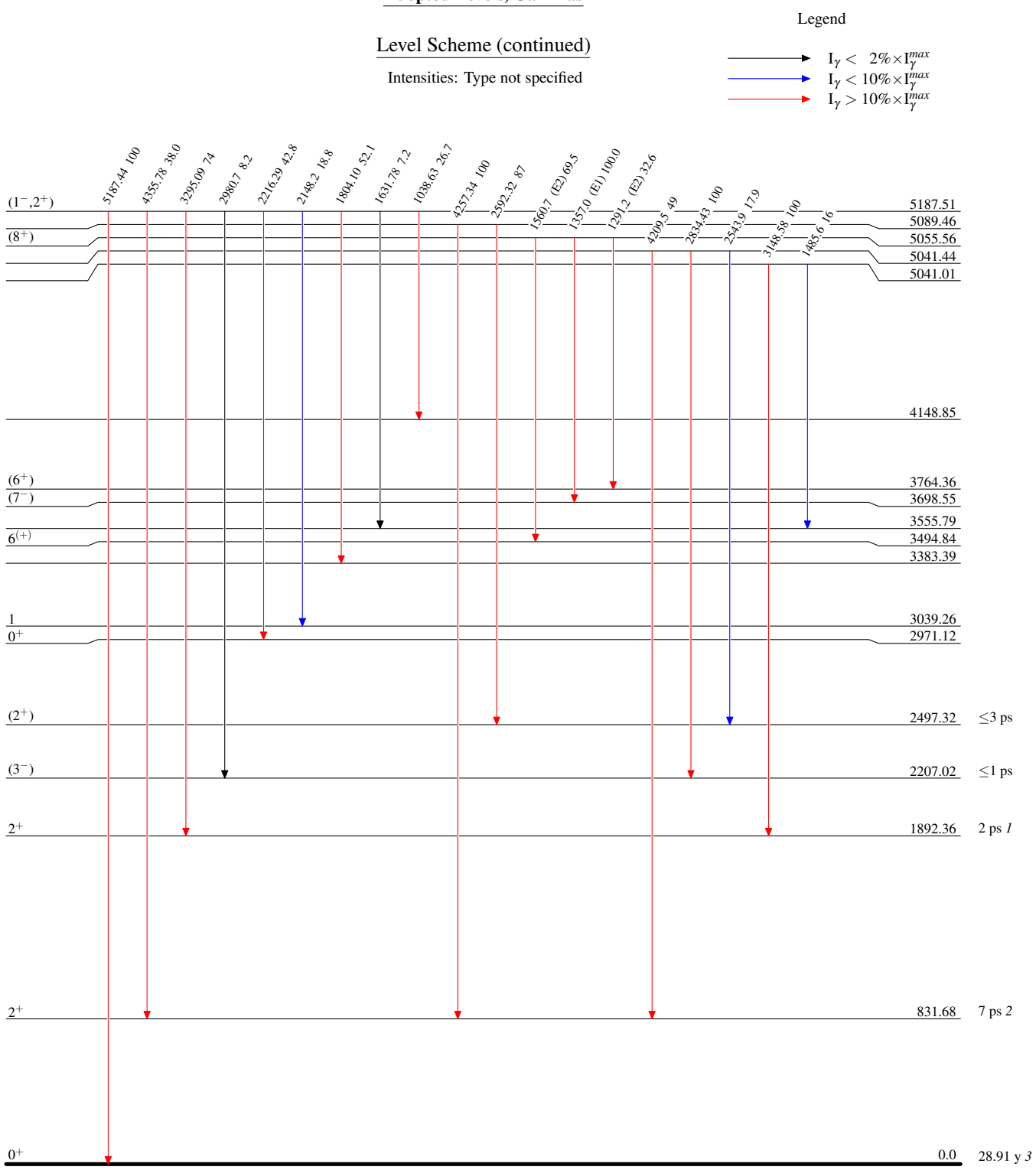


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

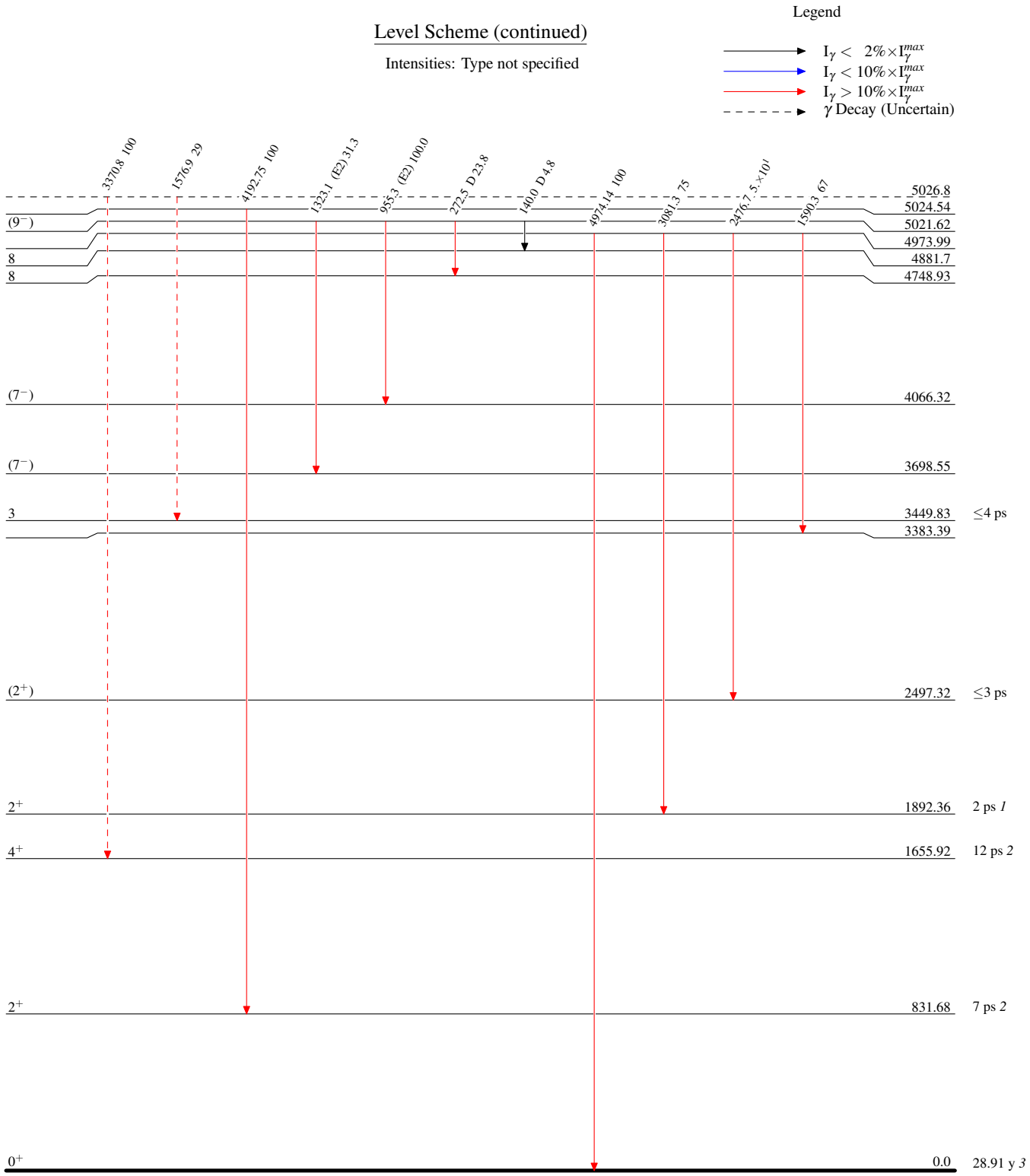


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

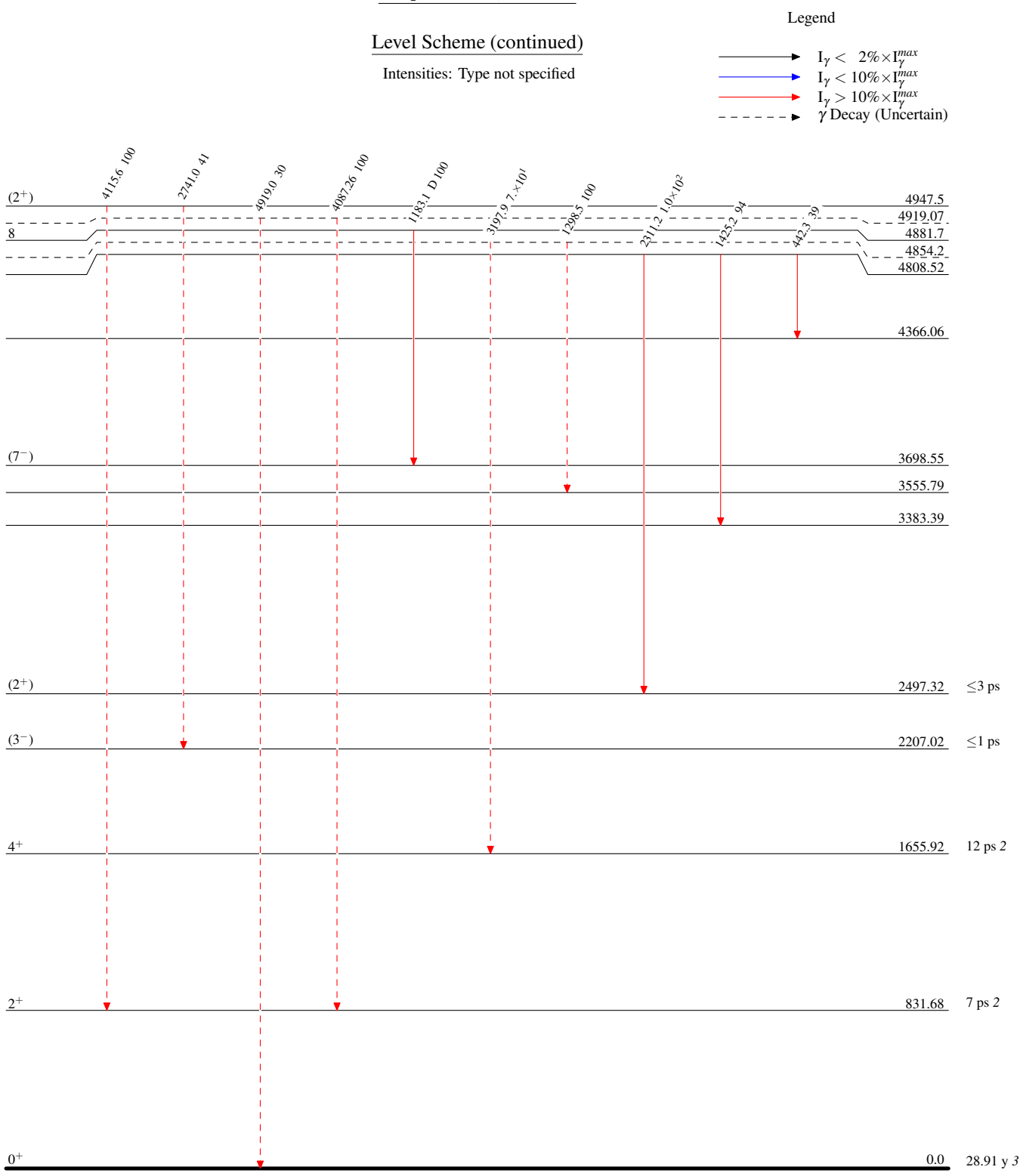


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

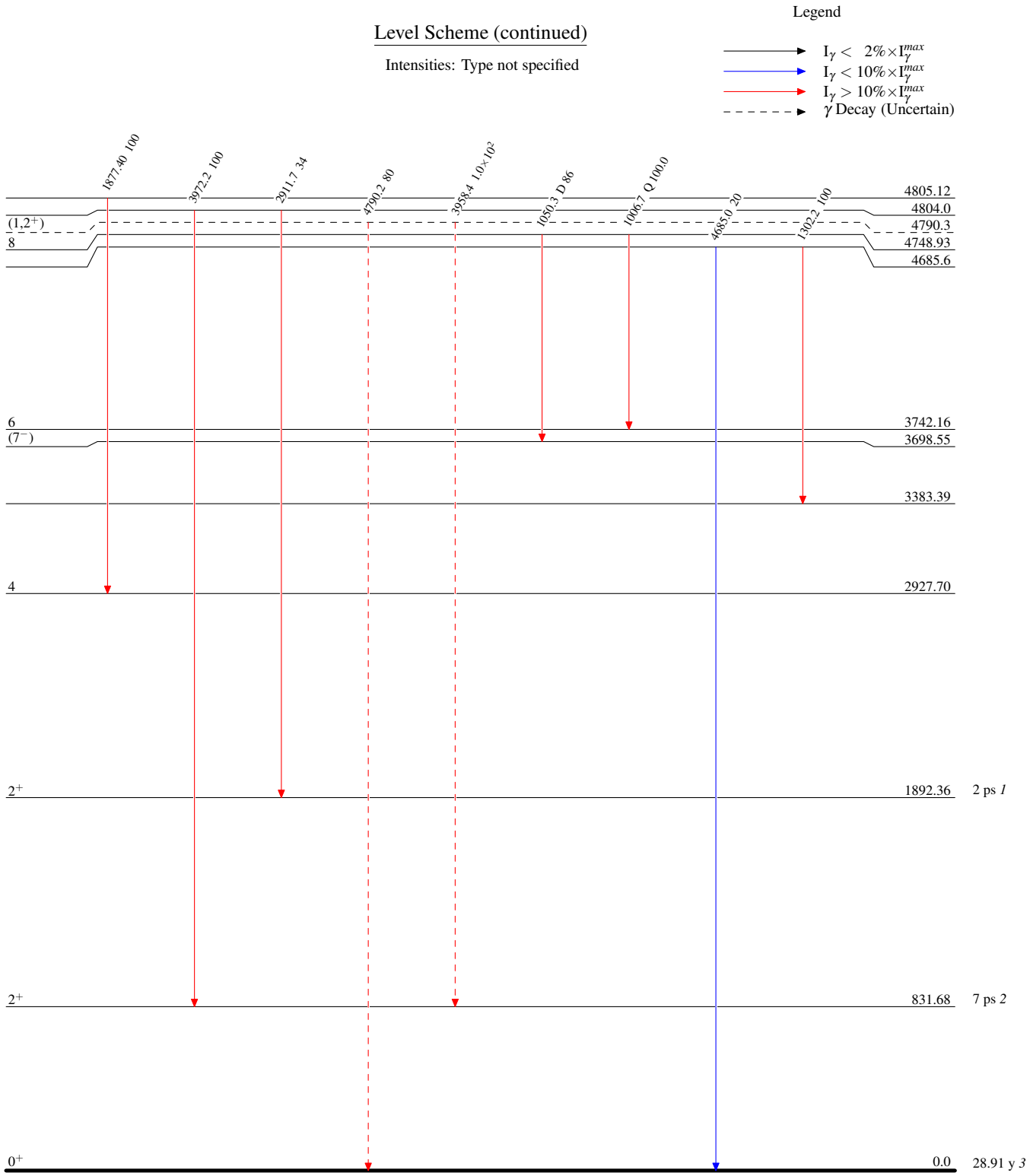


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

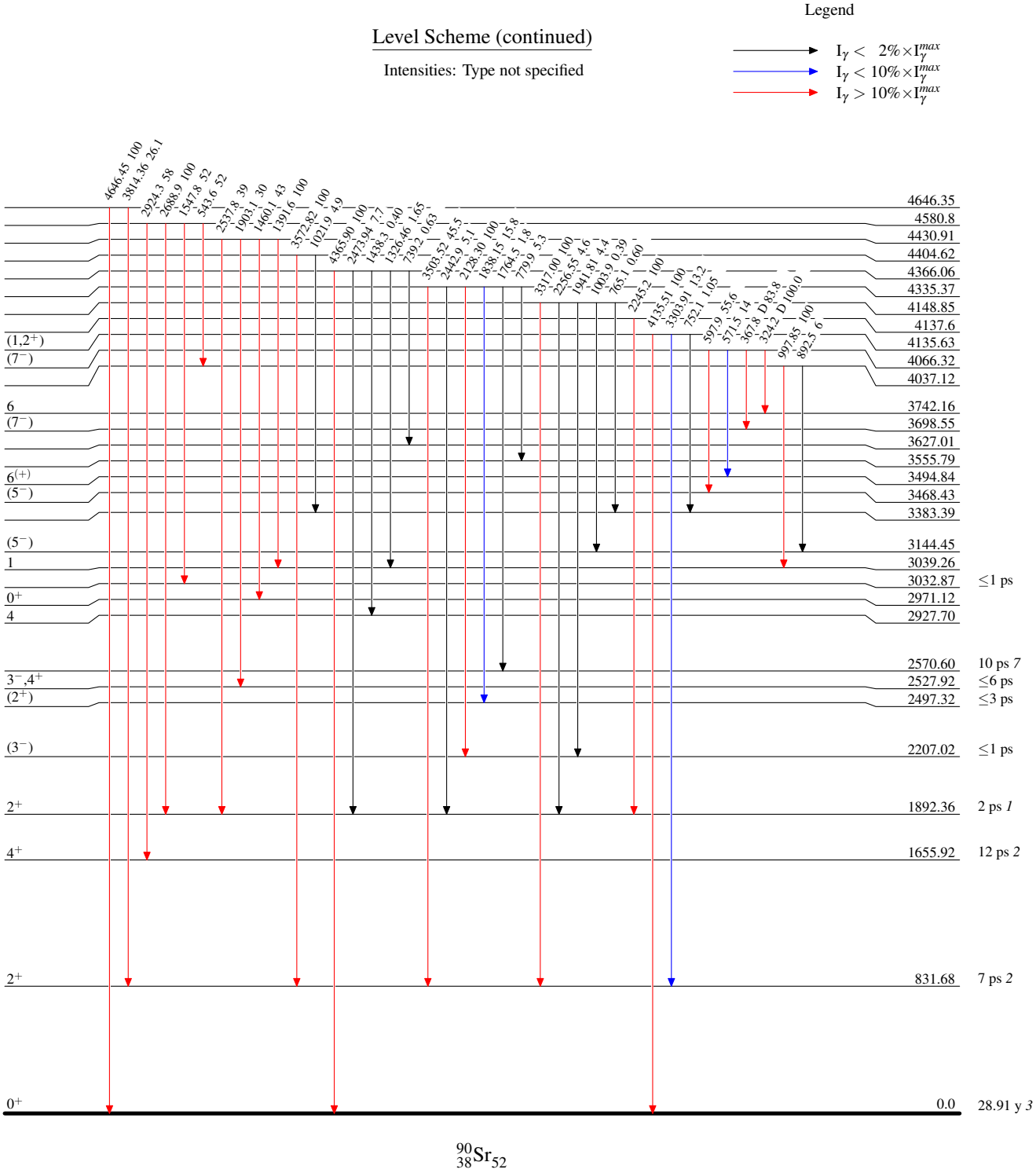


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

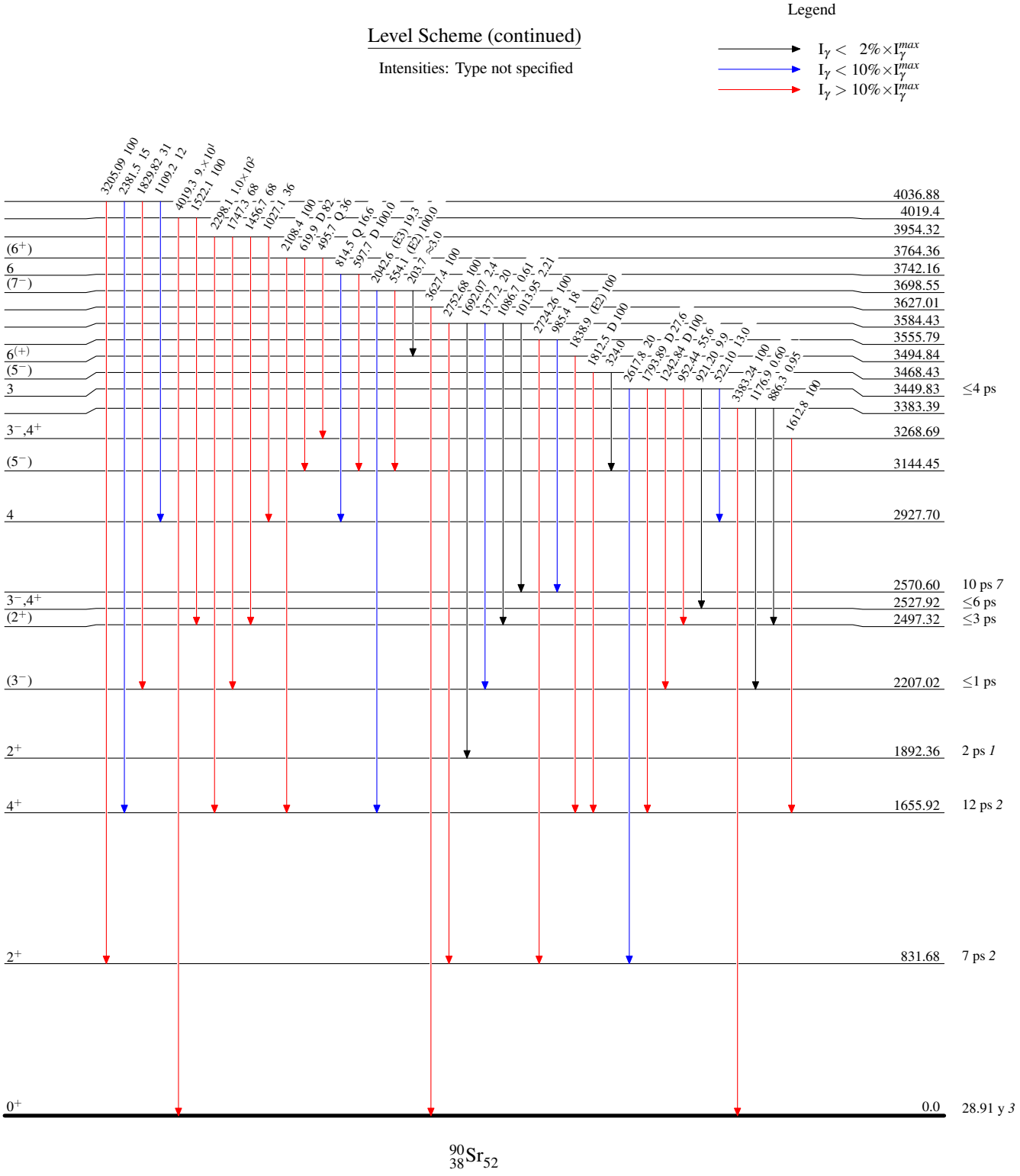


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

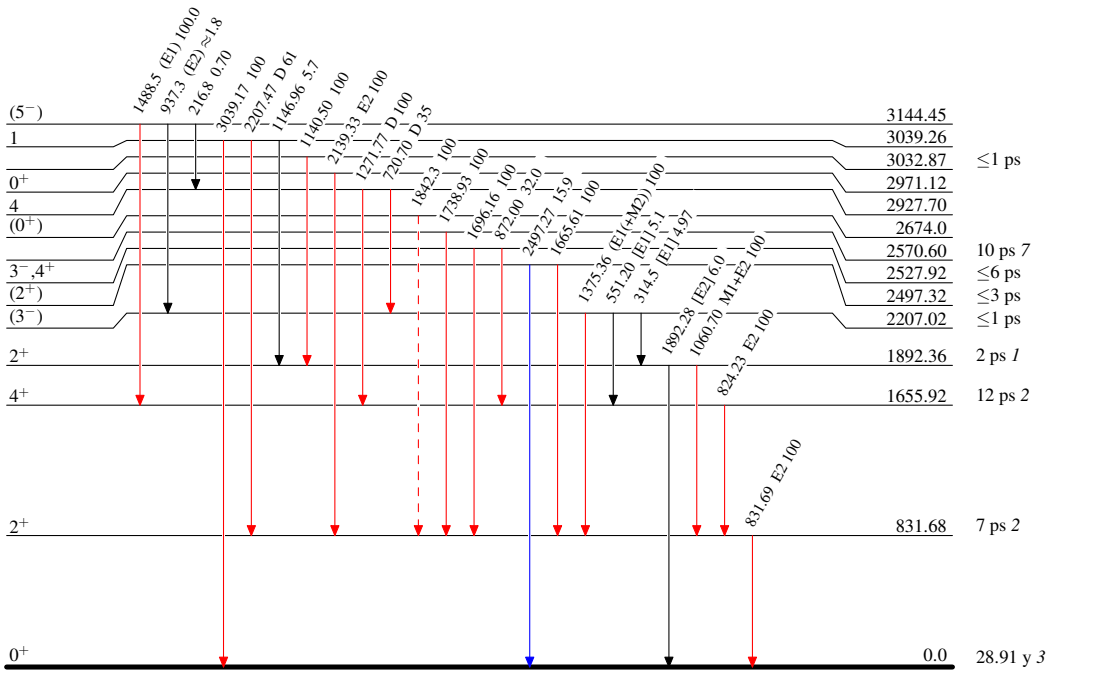


$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas

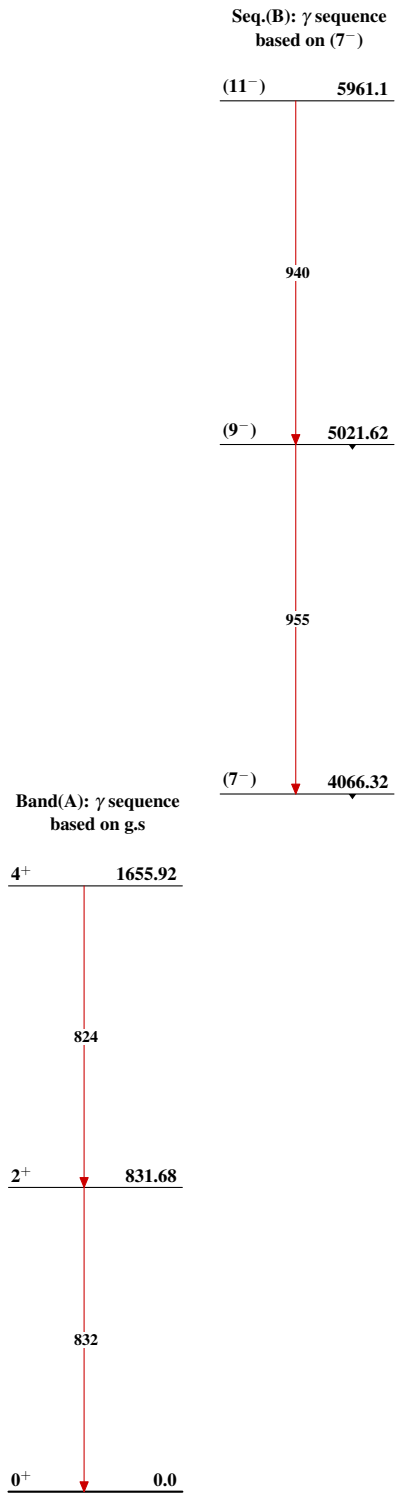
Level Scheme (continued)

Intensities: Type not specified



$^{90}_{38}Sr_{52}$

Adopted Levels, Gammas



$^{90}_{38}Sr_{52}$