Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113,2187 (2012)	15-Sep-2012

Q(β^-)=8095 *7*; S(n)=5099 *10*; S(p)=11088 *7*; Q(α)=−6481 *7* 2012Wa38
Note: Current evaluation has used the following Q record 8095 6 *5097* 10 *11088* 7 −6482 7 2003Au03,2011AuZZ.
Q(β^-),S(p),Q(α): from 2011AuZZ; 8096 *6*, 10750 *60*, 6460 *40*, respectively, from 2003Au03.
Q(β^-n)=809 *8* (2011AuZZ).

^{92}Rb Levels

Cross Reference (XREF) Flags

- A ^{92}Kr β^- decay
- B ^{93}Kr β^-n decay
- C ^{252}Cf SF decay
- D ^{248}Cm SF decay

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
0.0	0−	4.48 s *3*	ABCD	%β^-=100; %β^-n=0.0107 *5* %β^-n: value recommended in evaluation by 1993Ru01; weighted average of 0.012 *4* (1969Ta04), 0.0125 *15* (1975As05), 0.0109 *12* (1980Lu04), 0.0091 *15* (1980ReZQ), 0.0098 *10* (1980ReZQ), 0.0109 *7* (1993Ru01). Other: 0.012 *2* (1977Re05). Jπ: J=0 from atomic beam (1979Ek02); log *ft*=7.5 to 2+ ^{92}Sr(815 level) rules out π=+ and log *ft*<6.4 to ^{92}Sr(0+ g.s.) rules out 0+. The likely configuration=((π $1f_{5/2}$)$^{-1}$(ν $d_{5/2}$)$^{-1}$) (1979Ek02). $T_{1/2}$: unweighted average of 4.43 s *5* (1967Am01), 4.50 s *3* (1969Ca03), 4.50 s *4* (1974Gr29), 4.54 s *2* (1975Re10), 4.34 s *6* (1976Ru01), 4.57 s *7* (1979En02), 4.46 s *2* (1993Ru01); weighted average of these data is 4.492 *20*. Other measurements: 1960Fr05, 1966Wa22. $<r^2>^{1/2}$(charge)=4.298 fm *16* (2004An14).
142.308 *6*	1−	0.75 ns *3*	A CD	Jπ: M1 142γ to 0− g.s. $T_{1/2}$: from β− decay (1972Mc04).
284.31 *20*	3−	54 ns *3*	CD	Jπ: stretched E2 142γ to 1− 143. $T_{1/2}$: from ^{248}Cm SF decay. 1974ClZX report a $T_{1/2}$=57 ns 142γ from ^{92}Rb which is strongly coincident with itself and with K x ray(Rb) in ^{252}Cf SF decay; this implies the existence of an isomeric level in ^{92}Rb with E≥284 keV which is not populated in ^{92}Kr β− decay (1974ClZX).
316.73 *7*	(1,2−)‡		A	
333.42 *7*	(1,2−)‡		A	
431.62 *22*	(4−)	<5 ns	CD	Jπ: 147γ to 3− 285; $T_{1/2}$: from ^{248}Cm SF decay.
484.59 *6*	(1,2−)‡		A	
492.61 *10*	(1,2−)‡		A	
548.30 *7*	(1,2−)‡		A	
623.61 *8*	(1,2−)‡		A	
728.24 *13*	(1,2−)‡		A	
868.42 *12*	(1,2−)‡		A	
920.86 *9*	(1,2−)‡		A	
928.04 *9*	(1,2−)‡		A	
1360.89 *5*	1+		A	Jπ: log *ft*=4.28 for decay from 0+ parent.

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Adopted Levels, Gammas (continued)

^{92}Rb Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
1388.69 *24*			CD	
1426.6 *3*			D	
1431.3 *3*			D	
1564.6 *4*			D	
1647.51 *24*			CD	
1663.54 *17*	(1,2$^-$)‡		A	
1682.31 *24*			CD	
1755.6 *4*			D	
1836.7 *3*	(6$^-$)		D	
1958.3 *3*		7 ns *2*	CD	
1992.2 *3*			D	
2038.99 *7*	(1$^+$)		A	Jπ: log *ft*=5.68 from 0$^+$ parent.
2079.43 *24*	(1,2$^-$)‡		A	
2259.7 *5*			D	
2321.01 *20*			A	
2587.37 *21*	(1$^+$)		A	Jπ: log *ft*=5.75 from 0$^+$ parent.
2611.06 *12*	(1$^+$)		A	Jπ: log *ft*=5.66 from 0$^+$ parent.
2692.8 *4*	(8$^+$)		CD	
2718.76 *18*	(1,2$^-$)‡		A	
2851.0 *4*	(8,9)		D	
2901.49 *14*	(1$^+$)		A	Jπ: log *ft*=5.68 from 0$^+$ parent.
2979.4 *4*			CD	
3057.29 *22*	(1,2$^-$)‡		A	
3149.47 *19*	(1$^+$)		A	Jπ: log *ft*=5.68 from 0$^+$ parent.
3338.5? *4*			A	
3341.84 *18*	1$^+$		A	Jπ: log *ft*=5.39 from 0$^+$ parent.
3659.8? *5*			A	
3698.7 *5*			CD	
4193.0 *3*	1$^+$		A	Jπ: log *ft*=5.0 from 0$^+$ parent.
4788.1 *6*			CD	

† From least-squares fit to Eγ, excluding transitions with multiple or uncertain placement, unless all transitions deexciting a given level were of that character.
‡ γ to J^π=0$^-$ g.s.

γ(^{92}Rb)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.	α@	Comments
142.308	1$^-$	142.307 *6*	100	0.0	0$^-$	M1	0.0555	B(M1)(W.u.)=0.0097 *4* Mult.: M1(+E2) from α(K)exp in ^{92}Kr β$^-$ decay and RUL; feeds J=0 level.
284.31	3$^-$	142.0# *2*	100#	142.308	1$^-$	E2		B(E2)(W.u.)=7.4 *5* Mult.: Q from γγ(θ) in ^{248}Cm SF decay; not M2 from RUL.
316.73	(1,2$^-$)	316.8 *1*	100	0.0	0$^-$			
333.42	(1,2$^-$)	191.1 *1*	100 *8*	142.308	1$^-$			
		333.4 *5*	5.4 *23*	0.0	0$^-$			
431.62	(4$^-$)	146.3# *1*	100#	284.31	3$^-$	[M1]	0.0515	B(M1)(W.u.)>0.0013
484.59	(1,2$^-$)	167.9 *2*	4.0 *6*	316.73	(1,2$^-$)			
		342.3 *1*	66 *4*	142.308	1$^-$			
		484.6 *1*	100 *5*	0.0	0$^-$			
492.61	(1,2$^-$)	159.2 *3*	18 *5*	333.42	(1,2$^-$)			

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Adopted Levels, Gammas (continued)

$\gamma(^{92}Rb)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[@]	Comments
492.61	(1,2$^-$)	350.3 *1*	48 *5*	142.308	1$^-$			
		492.6[&] *1*	100[&] *8*	0.0	0$^-$			
548.30	(1,2$^-$)	214.9 *1*	2.57 *23*	333.42	(1,2$^-$)			
		548.3 *1*	100 *6*	0.0	0$^-$			
623.61	(1,2$^-$)	480.9 *2*	13.3 *19*	142.308	1$^-$			
		623.7 *1*	100 *5*	0.0	0$^-$			
728.24	(1,2$^-$)	394.7 *3*	51 *11*	333.42	(1,2$^-$)			
		585.9 *2*	100 *17*	142.308	1$^-$			
		728.4 *4*	51 *14*	0.0	0$^-$			
868.42	(1,2$^-$)	535.0 *1*	100 *9*	333.42	(1,2$^-$)			
		867.9 *8*	20 *13*	0.0	0$^-$			
920.86	(1,2$^-$)	372.3 *3*	42 *12*	548.30	(1,2$^-$)			
		436.2 *3*	77 *14*	484.59	(1,2$^-$)			
		921.0 *2*	100 *14*	0.0	0$^-$			
928.04	(1,2$^-$)	785.7 *1*	100 *9*	142.308	1$^-$			
		928.0 *4*	30 *9*	0.0	0$^-$			
1360.89	1$^+$	440.0 *1*	1.01 *9*	920.86	(1,2$^-$)			
		492.6[&] *1*	0.94[&] *8*	868.42	(1,2$^-$)			
		632.6 *3*	0.31 *8*	728.24	(1,2$^-$)			
		737.4 *2*	0.86 *9*	623.61	(1,2$^-$)			
		812.6 *1*	24.3 *13*	548.30	(1,2$^-$)			
		876.3 *1*	7.1 *4*	484.59	(1,2$^-$)			
		1044.2 *1*	7.9 *4*	316.73	(1,2$^-$)			
		1218.6 *1*	100 *5*	142.308	1$^-$			
		1360.8 *1*	5.8 *3*	0.0	0$^-$			
1388.69		957.0[#] *2*	100[#] *8*	431.62	(4$^-$)			
		1103.4[#] *2*	44[#] *6*	284.31	3$^-$			
1426.6		996.0[#] *2*	100[#]	431.62	(4$^-$)			
1431.3		1000.7[#] *2*	100[#]	431.62	(4$^-$)			
1564.6		1134.0[#] *3*	100[#]	431.62	(4$^-$)			
1647.51		1216.9[#] *2*	20.2[#] *24*	431.62	(4$^-$)			
		1363.2[#] *2*	100[#] *5*	284.31	3$^-$			
1663.54	(1,2$^-$)	1115.8 *3*	100 *19*	548.30	(1,2$^-$)			
		1178.9 *3*	100 *25*	484.59	(1,2$^-$)			
		1345.5 *7*	0.07 *3*	316.73	(1,2$^-$)			
		1663.4 *4*	88 *19*	0.0	0$^-$			
1682.31		34.9[#] *2*	100[#] *25*	1647.51		[M1]	2.92 *7*	E_γ: existence of transition was also indirectly confirmed in $\gamma\gamma$ coin in ^{252}Cf SF decay.
		294.6[#] *1*	73[#] *8*	1388.69				
		1251.7[#] *2*	65[#] *8*	431.62	(4$^-$)			
1755.6		1325.0[#] *3*	100[#]	431.62	(4$^-$)			
1836.7	(6$^-$)	189.1[#] *2*	100[#] *13*	1647.51				
		449.0[#] *2*	69[#] *13*	1388.69				
1958.3		121.6[#] *2*	12.3[#] *27*	1836.7	(6$^-$)			
		276.0[#] *1*	100[#] *7*	1682.31				
1992.2		309.9[#] *2*	100[#]	1682.31				
2038.99	(1$^+$)	678.1 *1*	45 *4*	1360.89	1$^+$			
		1310.7 *3*	13.8 *23*	728.24	(1,2$^-$)			
		1415.1 *2*	20.0 *23*	623.61	(1,2$^-$)			
		1554.4 *1*	46 *4*	484.59	(1,2$^-$)			

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Adopted Levels, Gammas (continued)

γ(^{92}Rb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	Comments
2038.99	(1$^+$)	1896.8 *2*	100 *15*	142.308	1$^-$		
		2039.0[&] *2*	48[&] *5*	0.0	0$^-$		
2079.43	(1,2$^-$)	1594.4 *6*	57 *21*	484.59	(1,2$^-$)		
		1762.8 *4*	79 *21*	316.73	(1,2$^-$)		
		2079.2 *4*	100 *21*	0.0	0$^-$		
2259.7		828.4[#] *3*	100[#]	1431.3			
2321.01		282.0 *2*	100 *10*	2038.99	(1$^+$)		
		2004.5 *6*	19 *7*	316.73	(1,2$^-$)		
2587.37	(1$^+$)	1658.7 *7*	11 *5*	928.04	(1,2$^-$)		
		2039.0[&] *2*	100[&] *10*	548.30	(1,2$^-$)		
		2095.3[&] *3*	32[&] *6*	492.61	(1,2$^-$)		
		2271.0 *5*	13 *5*	316.73	(1,2$^-$)		
		2444.9 *3*	43 *6*	142.308	1$^-$		
		2587.5 *4*	60 *14*	0.0	0$^-$		
2611.06	(1$^+$)	1249.9 *3*	33 *7*	1360.89	1$^+$		
		1987.4 *2*	83 *9*	623.61	(1,2$^-$)		
		2277.3 *3*	39 *7*	333.42	(1,2$^-$)		
		2468.5 *3*	59 *11*	142.308	1$^-$		
		2611.4 *2*	100 *11*	0.0	0$^-$		
2692.8	(8$^+$)	734.5[#] *2*	100[#]	1958.3		D	Mult.: ΔJ=1 from γγ(θ) in ^{248}Cm SF decay.
2718.76	(1,2$^-$)	2095.3[&] *3*	48[&] *10*	623.61	(1,2$^-$)		
		2401.8 *6*	17 *7*	316.73	(1,2$^-$)		
		2718.7 *2*	100 *10*	0.0	0$^-$		
2851.0	(8,9)	892.7[#] *3*	100[#]	1958.3			
2901.49	(1$^+$)	1540.4 *7*	21 *12*	1360.89	1$^+$		
		1973.4 *3*	67 *12*	928.04	(1,2$^-$)		
		1981.0 *4*	39 *9*	920.86	(1,2$^-$)		
		2417.2 *5*	42 *12*	484.59	(1,2$^-$)		
		2585.1 *7*	58 *27*	316.73	(1,2$^-$)		
		2759.0 *2*	100 *12*	142.308	1$^-$		
2979.4		286.6[#] *2*	100[#]	2692.8	(8$^+$)		
3057.29	(1,2$^-$)	1394.2 *5*	40 *15*	1663.54	(1,2$^-$)		
		2128.7 *5*	65 *20*	928.04	(1,2$^-$)		
		2435.1 *6*	0.16 *3*	623.61	(1,2$^-$)		
		3056.9 *3*	100 *20*	0.0	0$^-$		
3149.47	(1$^+$)	2832.8 *2*	100 *11*	316.73	(1,2$^-$)		
		3149.0 *4*	40 *9*	0.0	0$^-$		
3338.5?		1258.8[a] *4*	100 *25*	2079.43	(1,2$^-$)		
		1675.1[a] *5*	75 *25*	1663.54	(1,2$^-$)		
		2854.5[a] *7*	92 *33*	484.59	(1,2$^-$)		
3341.84	1$^+$	2414.1 *9*	10 *6*	928.04	(1,2$^-$)		
		2793.3 *4*	22 *4*	548.30	(1,2$^-$)		
		3199.5 *2*	100 *7*	142.308	1$^-$		
		3342.7[&] *7*	9[&] *3*	0.0	0$^-$		
3659.8?		1621.1[a] *8*	46 *23*	2038.99	(1$^+$)		
		3342.7[&a] *7*	46[&] *15*	316.73	(1,2$^-$)		
		3659.6[a] *5*	100 *23*	0.0	0$^-$		
3698.7		719.3[#] *2*	100[#]	2979.4			
4193.0	1$^+$	1291.6 *7*	93 *47*	2901.49	(1$^+$)		
		1474.1 *3*	100 *20*	2718.76	(1,2$^-$)		
		3272.3 *5*	67 *20*	920.86	(1,2$^-$)		

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Adopted Levels, Gammas (continued)

$\gamma(^{92}Rb)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Comments
4193.0	1^+	3324.4 *7*	47 *13*	868.42	$(1,2^-)$	
4788.1		1089.4[‡] *3*	100[‡]	3698.7		Other Eγ: 1089.9 *4* from ^{248}Cm SF decay.

[†] From ^{92}Kr β^- decay, except as noted.
[‡] From ^{252}Cf SF decay.
[#] From ^{248}Cm SF decay.
[@] 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.
[&] Multiply placed with undivided intensity.
[a] Placement of transition in the level scheme is uncertain.

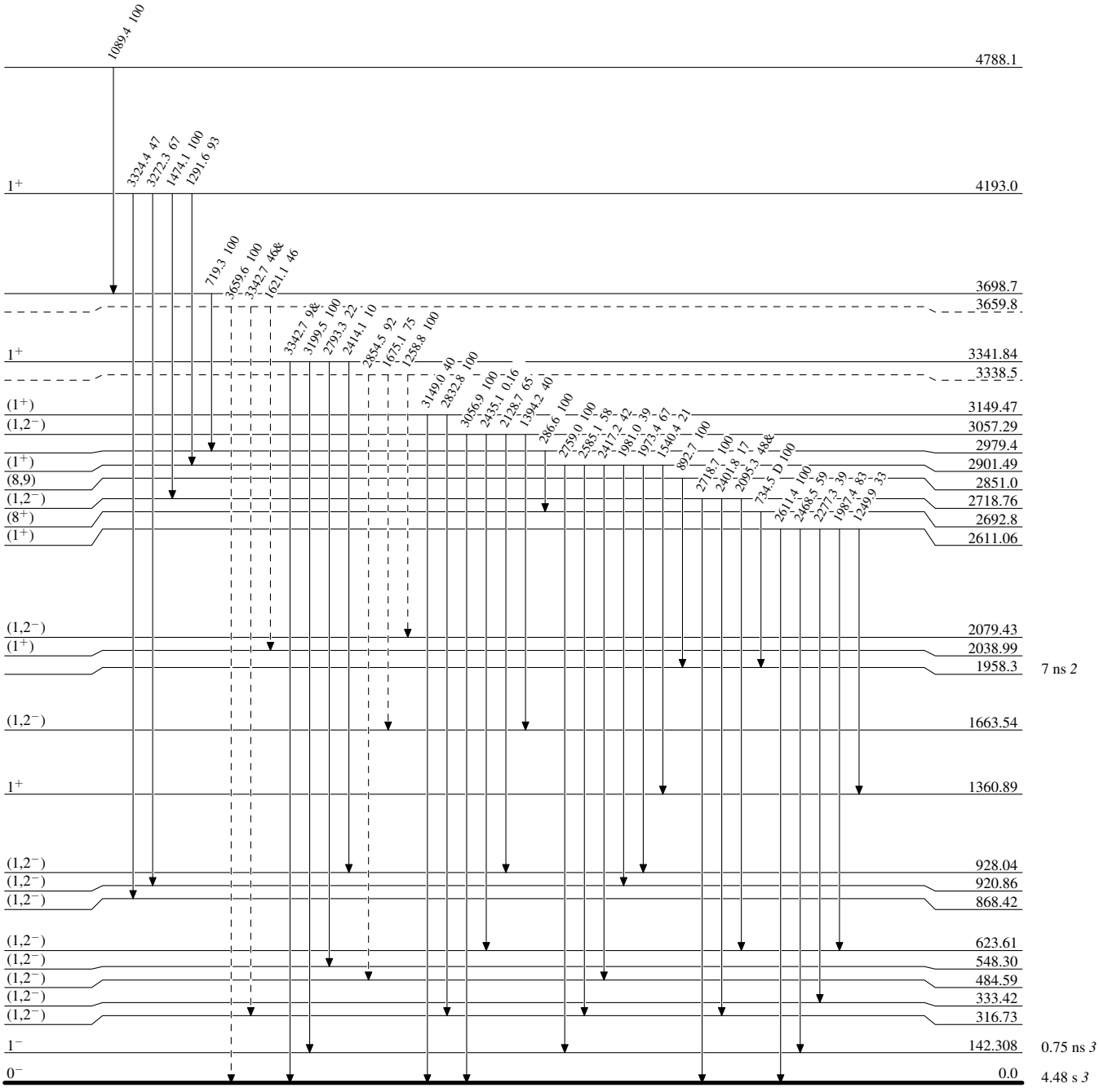
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)

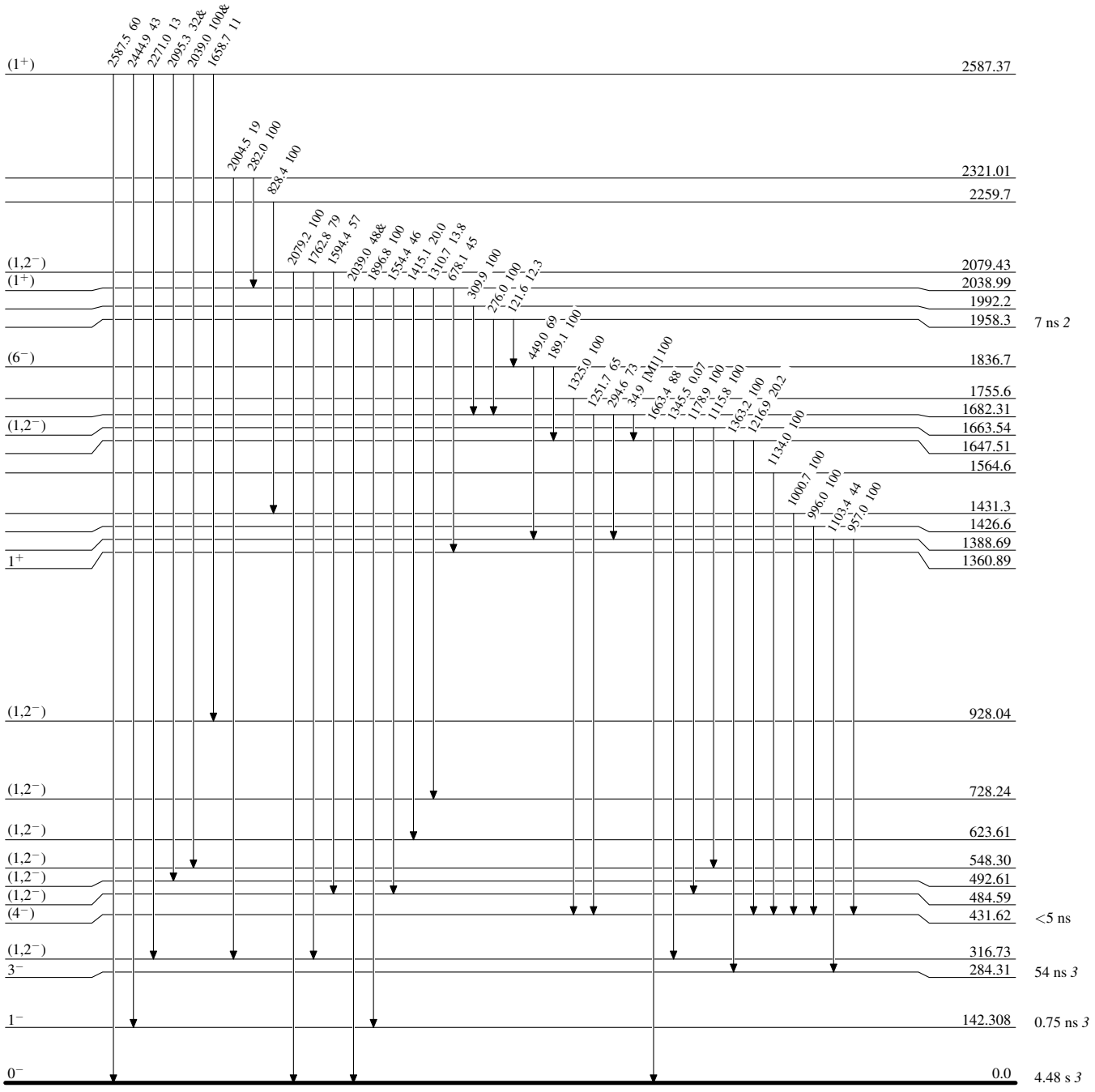


$^{92}_{37}Rb_{55}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

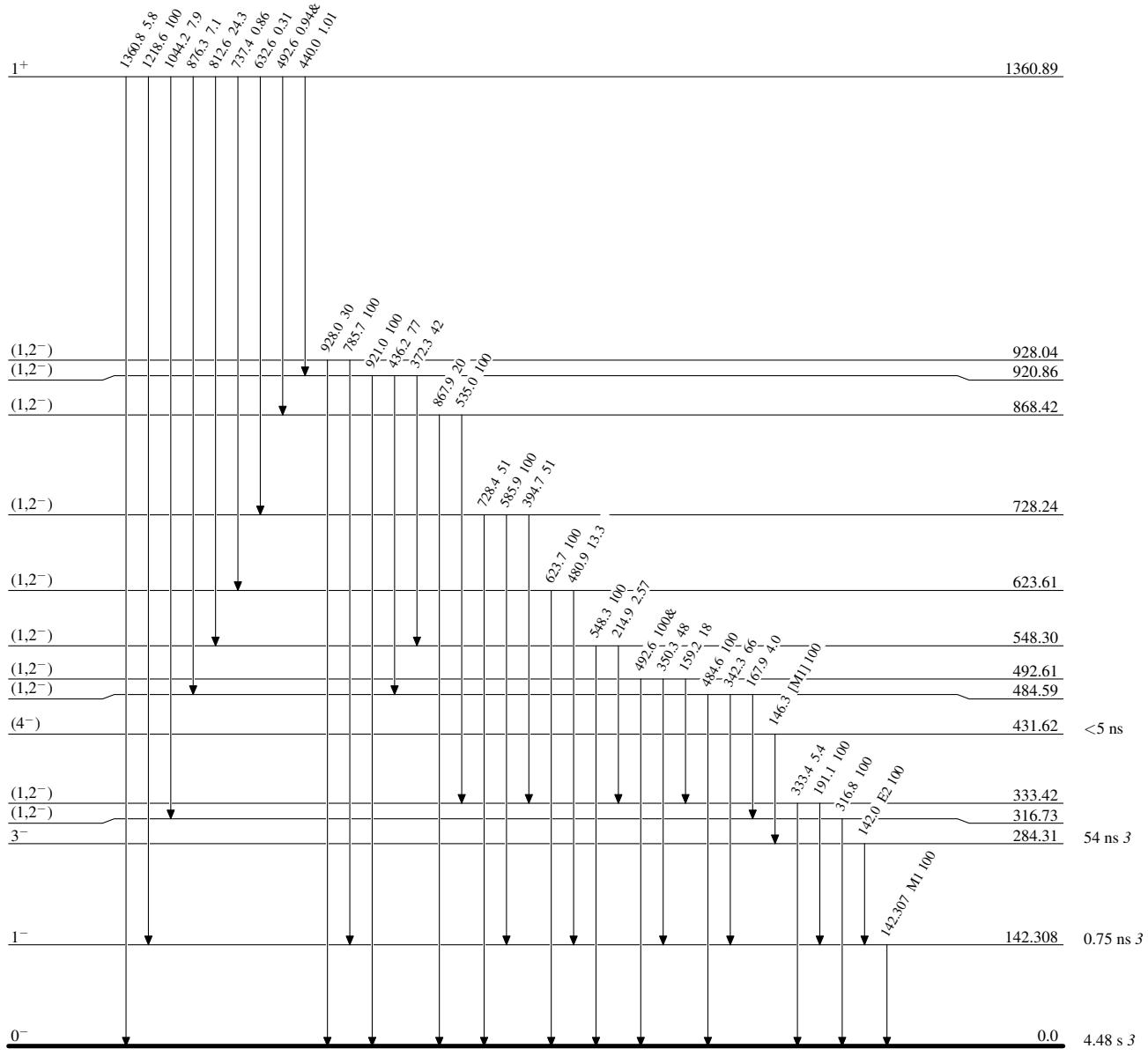


$^{92}_{37}Rb_{55}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{92}_{37}Rb_{55}$