Adopted Levels, Gammas

History Type	Author	Citation	Literature Cutoff Date
Full Evaluation	A. Negret, A. A. Sonzogni	ENSDF	31-Mar-2011

Q(β^-)=10283 *3*; S(n)=4014 *8*; S(p)=11716 *4*; Q(α)=−6987 *4* 2012Wa38
Note: Current evaluation has used the following Q record 10281 8 *4013* 9 *11715* 4 −6987 5 2011AuZZ.
S(2n)=9932 *7*, S(2p)=26907 *8*, Q(β^-n)=3453 *8* (2011AuZZ).
The possibility of a long-lived isomer at ≈220 keV (first proposed by 1979Ep01 and further discussed by 1982Pa24, 1983PaZQ, and 1982Br23) is rejected by 1984Ka24. From Iγ and I(K x-ray), 1984Ka24 deduce Iγ(IT)/Iγ(836.9γ)=3×10^{-4} if mult(IT)=M3. Although their half-life measurements result in somewhat different values for two groups of γ-rays belonging to different Qβ-values (2.700 s *7* compared to 2.654 s *9*), 1984Ka24 conclude that this difference is too small to establish two separate half-lives.
2007Ra23: precise mass measurement using Pennning-trap system.
α: Additional information 1.

^{94}Rb Levels

Cross Reference (XREF) Flags

A ^{94}Kr β^- decay
B ^{235}U(n,Fγ)

E(level)†	J$^\pi$@	$T_{1/2}$	XREF	Comments
0.0	3$^{(-)}$	2.702 s *5*	AB	%β^-=100; %β^-n=10.5 *4* Q=+0.163 *50*; μ=+1.4984 *18* %β^-n: from weighted average of 10.9 *7* (1993Ru01), 9.7 *6* (1983Ok07), 11.1 *9* (1981En05), 10.1 *6* (1980Lu04), 9.7 *5* (1979Ri09), 11.6 *7* (1979WaZU), 13.7 *10* (1977Re05), 9.6 *8* (1975As04), 9.3 *18* (1975Iz03), 12.1 *13* (1974Ro15 recalibrated by 1981Bj01). J: from optical pumping detected by β^- asymmetry (1978Bo38). Parity deduced from shell model. $T_{1/2}$: from β^- multiscaling (1984Ka24). Other measurements: 2.76 s 6 (1981En05), 2.73 s 2 (1979Ri09), 2.73 s 1 (1977Re05), 2.69 s 2 (1976Ru01), 2.67 s 6 (1975As04), 2.76 s 8 (1974Ro15), 2.67 s 4 (1974WoZJ), 2.67 s 4 (1971ShZD), 2.74 s 6 (1967Am01) from n multiscaling. 2.80 s 4 (1979En02), 2.83 s 3 (1975Re10), 2.8 s 1 (1972Am01), 2.63 s 4 (1967Am01) from β^- multiscaling, 2.711 s 14 (1993Ru01), from n and β^- multiscaling. μ,Q: from 1989Ra17. $<r^2>^{1/2}$=4.329 fm *21* (2004An14).
4.54 *11*			A	E(level): from Eγ difference, possibly $J^\pi=2^-$.
190.87 *11*		2.5‡ ns *8*	A	
217.3 *8*	(4$^-$)		B	
223.82 *10*			A	
292.72 *11*			A	
328.3 *8*	(5$^-$)		B	
359.01 *10*	(1,2,3)		A	J$^\pi$: level fed from (1$^+$) and gamma to 3$^{(-)}$ g.s.
394.7 *3*	(1,2,3)		A	J$^\pi$: level fed from (1$^+$) and gamma to 3$^{(-)}$ g.s.
528.1 *11*	(5)		B	
667.6 *9*	(6$^-$)		B	
696.5 *9*	(6$^-$)		B	
866.4? *8*			A	
988.34 *13*	(1$^+$)		A	
1288.5 *11*	(7)		B	
1315.5 *10*	(7$^-$)		B	
1316.5 *10*	(7$^-$)		B	
1485.2 *10*	(8$^+$)	18# ns *1*	B	Configuration=$\pi g_{9/2}\otimes\nu g_{7/2}$.

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Adopted Levels, Gammas (continued)

^{94}Rb Levels (continued)

E(level)[†]	J$^{\pi}$[@]	$T_{1/2}$	XREF	Comments
1660.5 *14*	(8)		B	
2074.9 *14*	(10$^-$)	107[#] ns *16*	B	Configuration=$\pi g_{9/2}\otimes\nu h_{11/2}$.
2192.3 *14*	(9)		B	
2567.0 *14*	(10$^-$)		B	
2634.1 *14*	(10$^-$)		B	
2785.6 *17*	(12$^-$)		B	
2909.2 *17*	(12)		B	
3335.0 *18*	(12)		B	
3679.4 *17*	(14)		B	
3711.5 *18*	(14$^-$)		B	
3944.2 *19*	(15)		B	

[†] From a least-squares fit to Eγ, assuming $\Delta E\gamma$=1 keV when unknown.
[‡] From γ(t) in ^{94}Kr β^- decay.
[#] From $\gamma\gamma$(t) in ^{235}U(n,Fγ).
[@] The values for excited states populated in (n,Fγ) are deduced from gamma decay pattern and assuming spin increases with excitation energy. The values for the excited states populated in β^- decay are obtained assuming that direct beta feeding goes to a (1$^+$) level which cascades down to a 3$^{(-)}$ g.s.

γ(^{94}Rb)

E_i(level)	J_i^{π}	E_γ	I_γ	E_f	J_f^{π}
190.87		186.320 *7*	100 *6*	4.54	
		191.5[†] *10*	13.6 *13*	0.0	3$^{(-)}$
217.3	(4$^-$)	217.2	100	0.0	3$^{(-)}$
223.82		219.466 *52*	100	4.54	
292.72		288.175 *16*	100	4.54	
328.3	(5$^-$)	111.1		217.3	(4$^-$)
		328.4		0.0	3$^{(-)}$
359.01	(1,2,3)	135.190 *6*	35 *3*	223.82	
		167.3 *1*	84 *14*	190.87	
		354.51 *6*	73 *5*	4.54	
		359.0 *1*	100 *16*	0.0	3$^{(-)}$
394.7	(1,2,3)	203.4[†] *10*	16.7 *19*	190.87	
		394.9 *8*	100 *3*	0.0	3$^{(-)}$
528.1	(5)	310.8	100	217.3	(4$^-$)
667.6	(6$^-$)	339.2		328.3	(5$^-$)
		450.2		217.3	(4$^-$)
696.5	(6$^-$)	168.4		528.1	(5)
		368.3		328.3	(5$^-$)
		479.3		217.3	(4$^-$)
866.4?		471.6[†] *8*	100	394.7	(1,2,3)
988.34	(1$^+$)	121[†] *2*	4.9 *5*	866.4?	
		593.7 *3*	16 *4*	394.7	(1,2,3)
		629.3 *1*	100	359.01	(1,2,3)
		695.8 *3*	25.2 *18*	292.72	
		764.5 *2*	71 *8*	223.82	
		985[†] *1*	1.8 *3*	4.54	
1288.5	(7)	960.2	100	328.3	(5$^-$)
1315.5	(7$^-$)	(27)		1288.5	(7)
		619.0		696.5	(6$^-$)

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Adopted Levels, Gammas (continued)

$\gamma(^{94}Rb)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	α	Comments
1315.5	(7^-)	647.8		667.6	(6^-)			
1316.5	(7^-)	648.8		667.6	(6^-)			
		988.2		328.3	(5^-)			
1485.2	(8^+)	168.7		1316.5	(7^-)			
		169.8		1315.5	(7^-)			
		817.7		667.6	(6^-)			
1660.5	(8)	345.0	100	1315.5	(7^-)			
2074.9	(10^-)	589.7	100	1485.2	(8^+)	[M2]	0.00483 *7*	α(K)=0.00426 *6*; α(L)=0.000478 *7*; α(M)=7.91×10^{-5} *11*; α(N)=8.96×10^{-6} *13*; α(O)=3.85×10^{-7} *6* α(N+..)=9.35×10^{-6} *13* B(M2)(W.u.)=0.20 *3*
2192.3	(9)	707.0	100	1485.2	(8^+)			
2567.0	(10^-)	1081.7	100	1485.2	(8^+)			
2634.1	(10^-)	1148.8	100	1485.2	(8^+)			
2785.6	(12^-)	710.9	100	2074.9	(10^-)			
2909.2	(12)	834	100	2074.9	(10^-)			
3335.0	(12)	1260	100	2074.9	(10^-)			
3679.4	(14)	770		2909.2	(12)			
		894		2785.6	(12^-)			
3711.5	(14^-)	925.9	100	2785.6	(12^-)			
3944.2	(15)	232.7		3711.5	(14^-)			
		264.7†		3679.4	(14)			

† Placement of transition in the level scheme is uncertain.

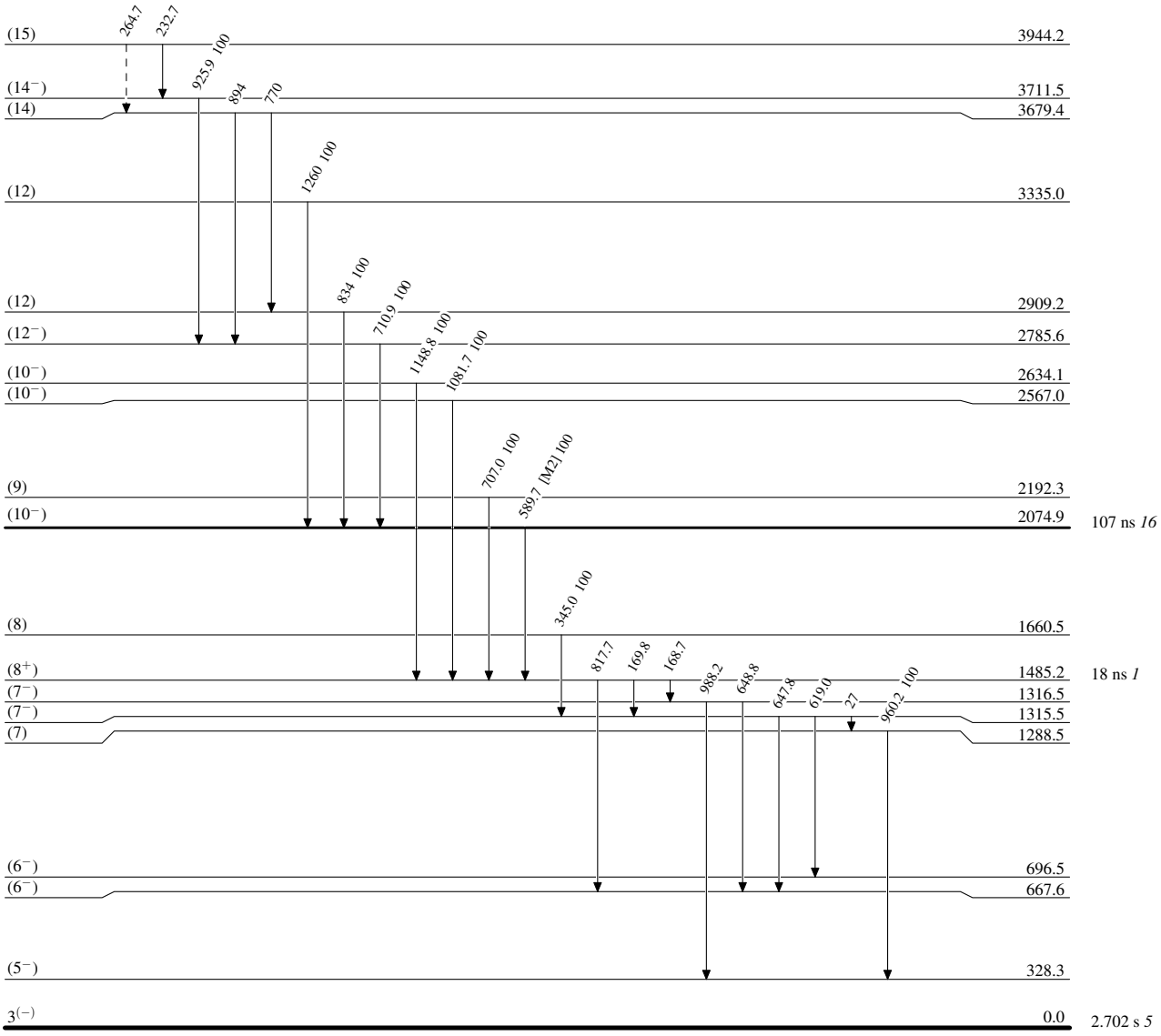
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{94}_{37}Rb_{57}$

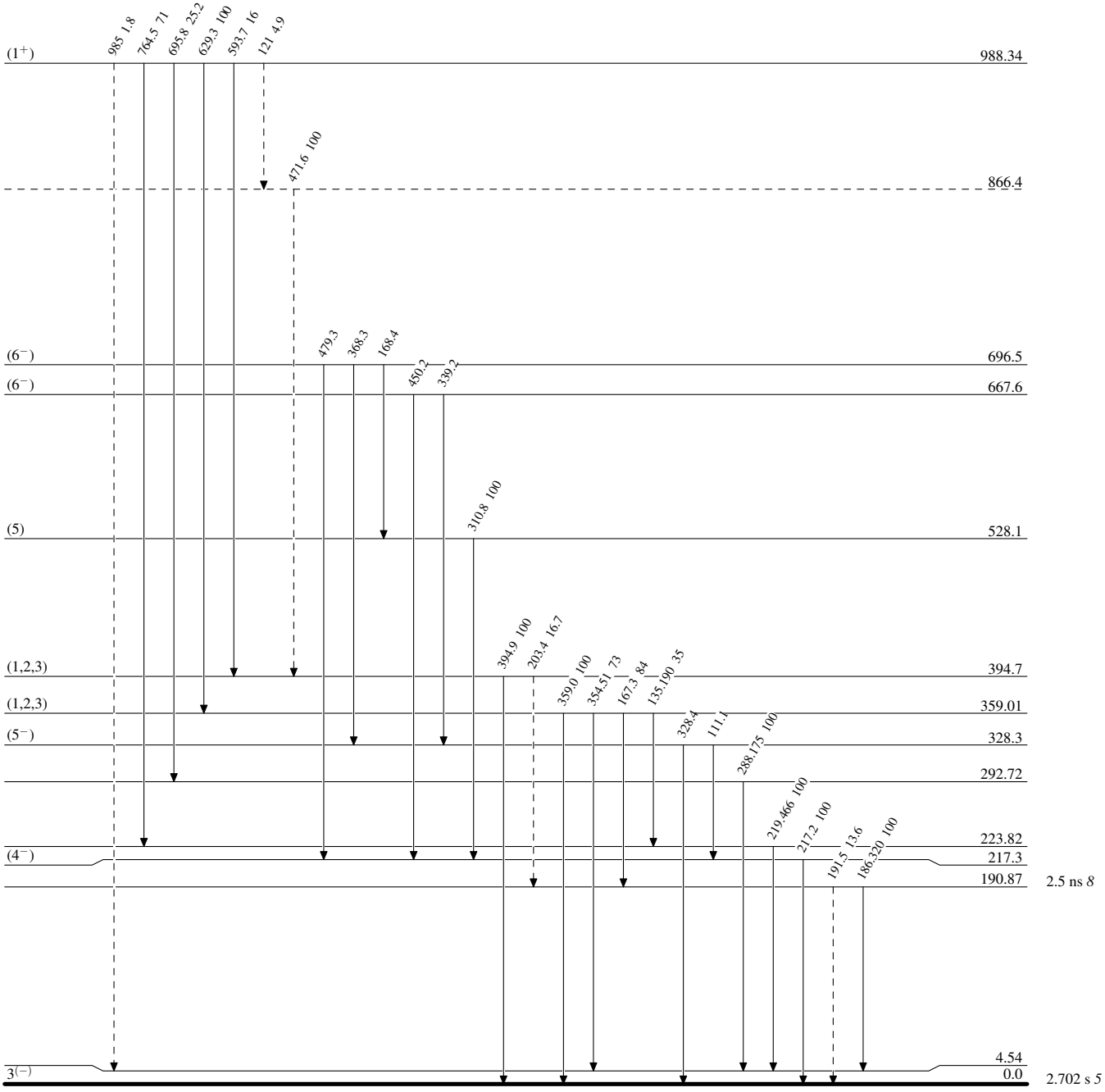
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{94}_{37}Rb_{57}$