^{99}Rb β^- decay 1984Pf01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 145, 25 (2017)	1-Jul-2017

Parent: ^{99}Rb: E=0; J^π=(5/2$^+$); $T_{1/2}$=54 ms *4*; Q(β^-)=11400 *6*; %β^- decay=100.0

Additional information 1.

Measured: γ (1985PfZZ,1984Pf01,1989Lh01); $\gamma\gamma$(t) (1989Lh01).

^{99}Sr Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0.0#	3/2$^+$		
90.8# *2*	(5/2$^+$)	0.58 ns *9*	$T_{1/2}$: From 1984Pf01.
216.0# *2*	(7/2$^+$)		
377.4# *4*	(9/2$^+$)		
422.3@ *4*	(5/2$^-$)		J$^\pi$: J^π=(5/2$^-$) in 2001Lh02 supersedes previous value from same author in 1984Pf01.
534.4@ *4*	(7/2$^-$)		J$^\pi$: J^π=(7/2$^-$) in 2001Lh02 supersedes previous value from same author in 1984Pf01.
684.4@ *7*			J$^\pi$: J^π=(9/2$^+$) in 1984Pf01.
854.6 *4*			
993.9 *5*			
1071.9& *8*	(3/2$^+$)		
1106.1 *5*			
1151.5& *6*	(5/2$^+$)		
1663.9? *8*			
1669.6 *6*			
1971.9 *8*			
2320.8? *11*			

† Most important levels are reported by 1984Pf01; others are from 1985PfZZ.
‡ From adopted values.
# Band(A): (ν 3/2(411)) band.
@ Band(B): (ν 5/2(413)) band. (ν 5/2[322]) in 2001Lh02.
& Band(C): (ν 3/2(422)) band.

γ(^{99}Sr)

Iγ normalization: No information on Iγ normalization or Iβ(g.s.) available. Q(β-) from 2017Wa10.

Only the main results of the experiment are reported in 1984Pf01. Detailed data are from 1985PfZZ.

Decay of the first three excited states was also reported in 1983Wo10. Iγ deduced from the two experiments is different probably due to the difficulty of subtracting contaminating lines.

The 90.6γ was also observed in ^{100}Rb β^-n decay together with a 120.8γ which is probably not due to ^{99}Sr (1982Kr11).

E$_\gamma$†	I$_\gamma$	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
90.8 *2*	100	90.8	(5/2$^+$)	0.0	3/2$^+$	
125.2 *2*	40	216.0	(7/2$^+$)	90.8	(5/2$^+$)	I$_\gamma$: 24 (1983Wo10).
161.0 *5*	6	377.4	(9/2$^+$)	216.0	(7/2$^+$)	I$_\gamma$: 0.9 (1983Wo10).
216.0 *2*	13	216.0	(7/2$^+$)	0.0	3/2$^+$	I$_\gamma$: 11 (1983Wo10).
287.0 *5*	4	377.4	(9/2$^+$)	90.8	(5/2$^+$)	I$_\gamma$: 1.4 (1983Wo10).
307.0 *5*	4	684.4		377.4	(9/2$^+$)	
318.0 *5*	7	534.4	(7/2$^-$)	216.0	(7/2$^+$)	

Continued on next page (footnotes at end of table)

^{99}Rb β^- decay 1984Pf01 (continued)

$\gamma(^{99}Sr)$ (continued)

E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π	E_γ †	I_γ	E_i(level)	J_i^π	E_f	J_f^π
331.0 *5*	13	422.3	$(5/2^-)$	90.8	$(5/2^+)$	1060.8 *10*	9	1151.5	$(5/2^+)$	90.8	$(5/2^+)$
422.8 *5*	20	422.3	$(5/2^-)$	0.0	$3/2^+$	1071.6 *10*	26	1071.9	$(3/2^+)$	0.0	$3/2^+$
444.0 *5*	4	534.4	$(7/2^-)$	90.8	$(5/2^+)$	1105.8‡ *10*	5	1106.1		0.0	$3/2^+$
683.8 *5*	8	1106.1		422.3	$(5/2^-)$	1151.0‡ *10*	3	1151.5	$(5/2^+)$	0.0	$3/2^+$
763.8 *5*	8	854.6		90.8	$(5/2^+)$	1455.0‡ *10*	1	1669.6		216.0	$(7/2^+)$
777.8 *5*	3	993.9		216.0	$(7/2^+)$	1573.0‡ *10*	2	1663.9?		90.8	$(5/2^+)$
854.7 *5*	8	854.6		0.0	$3/2^+$	1578.5 *10*	5	1669.6		90.8	$(5/2^+)$
903.8 *10*	7	993.9		90.8	$(5/2^+)$	1664.0‡ *10*	3	1663.9?		0.0	$3/2^+$
936.0 *10*	13	1151.5	$(5/2^+)$	216.0	$(7/2^+)$	1668.6 *10*	5	1669.6		0.0	$3/2^+$
981.4 *10*	21	1071.9	$(3/2^+)$	90.8	$(5/2^+)$	1881.0 *10*	3	1971.9		90.8	$(5/2^+)$
993.7‡ *10*	3	993.9		0.0	$3/2^+$	1972.0 *10*	6	1971.9		0.0	$3/2^+$
1015.7 *10*	4	1106.1		90.8	$(5/2^+)$	2230.0‡ *10*	5	2320.8?		90.8	$(5/2^+)$

† 1985PfZZ estimate their uncertainties as 0.2 keV for the lowest energies and 1 keV for the highest. Individual uncertainties have been assigned by the evaluators.

‡ Placement of transition in the level scheme is uncertain.

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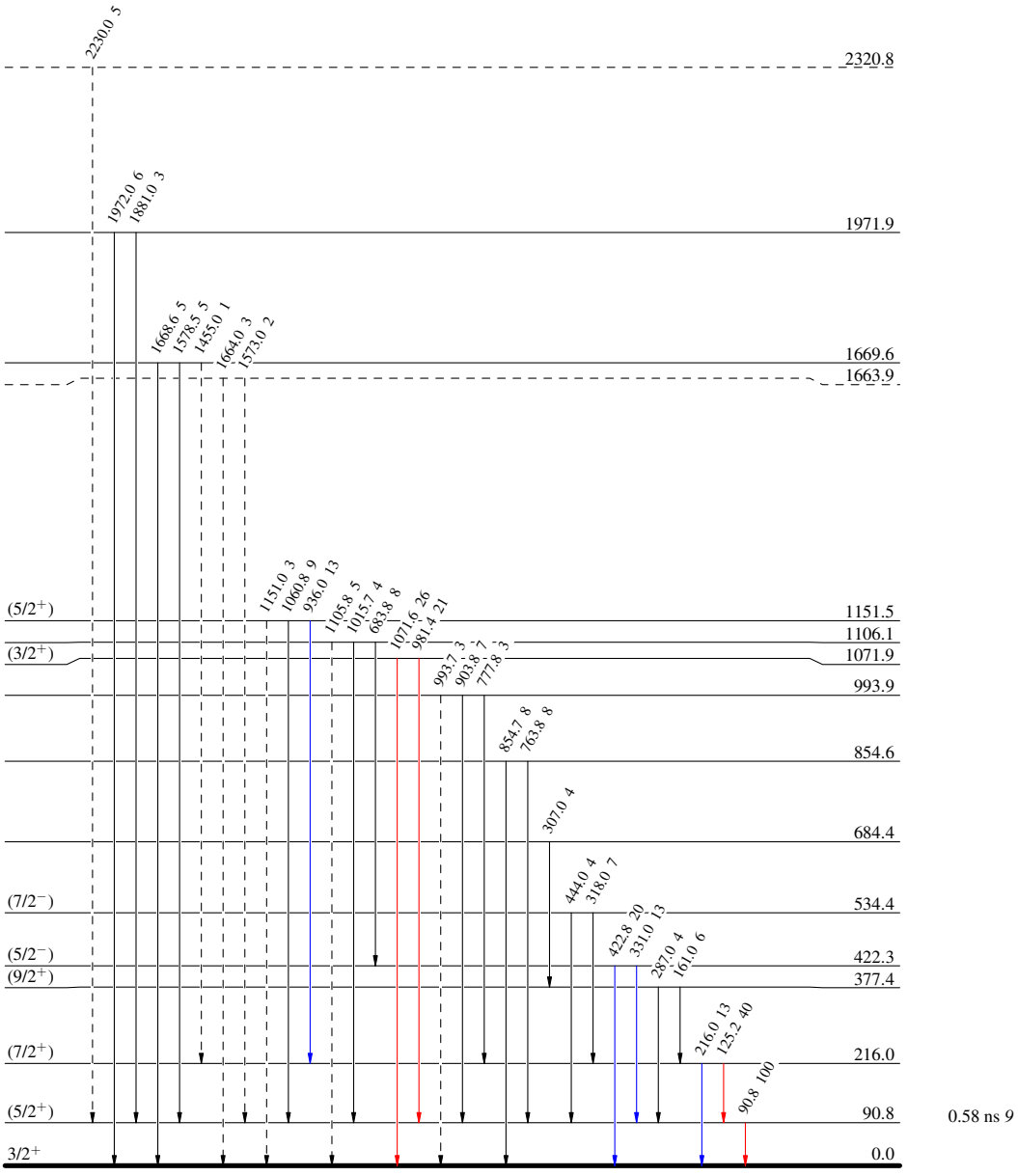
Decay Scheme

Intensities: Relative I_γ

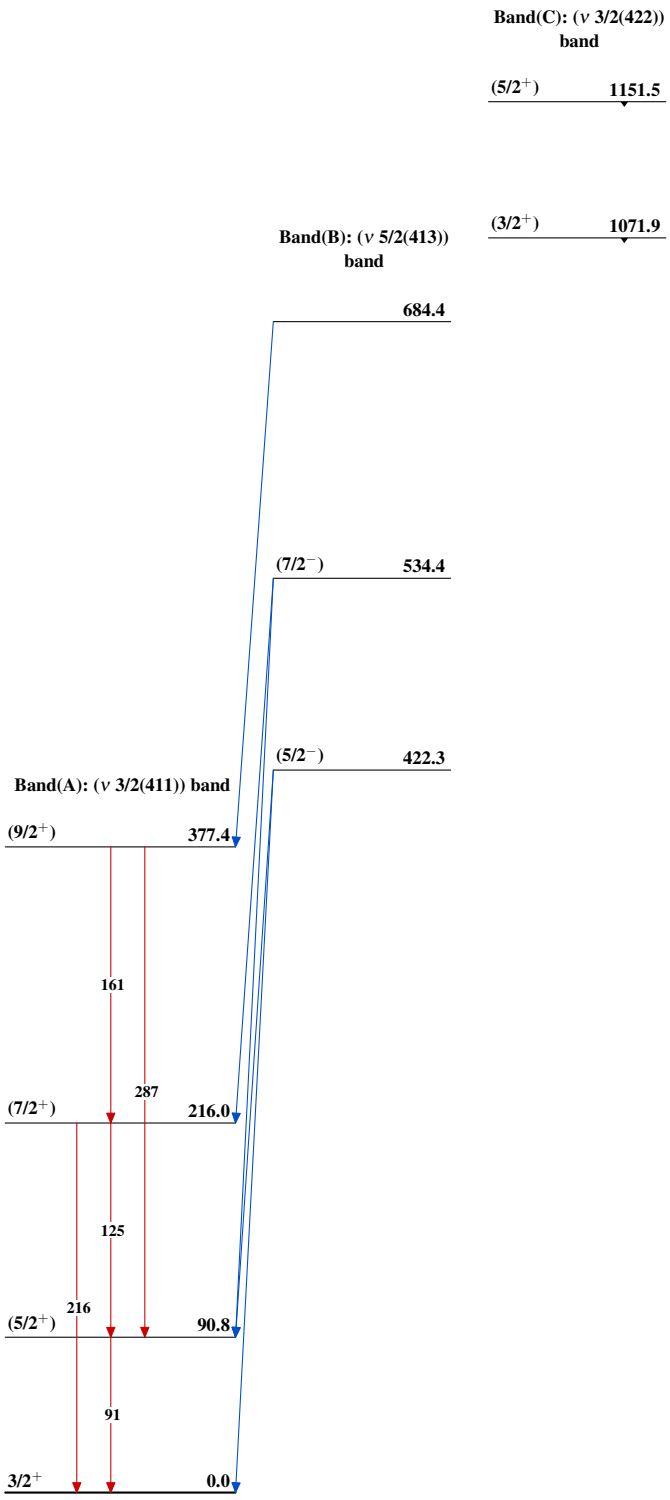
Legend
- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- γ Decay (Uncertain)

$(5/2^+)$ 0 54 ms 4
Q_{β^-}=11400 6 $\%\beta^-$=100.0
$^{99}_{37}Rb_{62}$



$^{99}_{38}Sr_{61}$

^{99}Rb β^- decay 1984Pf01



$^{99}_{38}Sr_{61}$