

$^{97}\text{Rb} \beta^{-}\text{n} \text{ decay}$ **1982Kr11**

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

Parent: ^{97}Rb : $E=0.0$; $J^{\pi}=3/2^{+}$; $T_{1/2}=169.9$ ms 7; $Q(\beta^{-}\text{n})=6336$ 12; $\% \beta^{-}\text{n} \text{ decay}=25.1$ 8
 Measured: γ , $\gamma\gamma$, $\gamma\text{-n}$ in ^{96}Sr (1982Kr11,1981Kr11); ce (1981Kr11).
 1985Gr15: measured neutron spectra.
 α : [Additional information 1](#).

 ^{96}Sr Levels

E(level) [†]	J^{π} [†]	E(level) [†]	J^{π} [†]	E(level) [†]	J^{π} [†]	E(level) [†]	J^{π} [†]
0.0	0 ⁺	1628.2 8	(2 ⁺)	2084.0 8	(1,2 ⁺)	2307.6 11	(1,2 ⁺)
815.0 6	2 ⁺	1792.8 12	(2,3)	2113.5 10		2407.6 15	
1229.5 8	0 ⁺	1852.2 11	(3)	2120.1 12			
1465.0 10	0 ⁺	1975.6 12		2150.9 10	(1 ⁺ ,2,3 ⁺)		
1506.9 7	2 ⁺	1995.2 10	(1 ⁺ ,2 ⁺)	2217.4 12	(2)		

[†] Adopted values.

 $\gamma(^{96}\text{Sr})$

E_{γ}	I_{γ}	$E_i(\text{level})$	J_i^{π}	E_f	J_f^{π}	Mult. [†]	δ	α	Comments
414.3	15.0	1229.5	0 ⁺	815.0	2 ⁺	E2		6.59×10^{-3} 10	$\alpha(\text{K})=0.00580$ 9; $\alpha(\text{L})=0.000669$ 10; $\alpha(\text{M})=0.0001123$ 16; $\alpha(\text{N})=1.386 \times 10^{-5}$ 20 $\alpha(\text{O})=8.37 \times 10^{-7}$ 12; $\alpha(\text{N}+..)=1.470 \times 10^{-5}$
455.5	0.2	2307.6	(1,2 ⁺)	1852.2	(3)				
469.0 [‡]		1975.6		1506.9	2 ⁺				
555.4	0.8	2407.6		1852.2	(3)				
606.6	0.1	2113.5		1506.9	2 ⁺				
644.0	1.2	2150.9	(1 ⁺ ,2,3 ⁺)	1506.9	2 ⁺				
650.5	<1.9	1465.0	0 ⁺	815.0	2 ⁺	E2		1.71×10^{-3} 2	$\alpha(\text{K})=0.001517$ 22; $\alpha(\text{L})=0.0001691$ 24; $\alpha(\text{M})=2.84 \times 10^{-5}$ 4; $\alpha(\text{N})=3.54 \times 10^{-6}$ 5; $\alpha(\text{O})=2.23 \times 10^{-7}$ 4 $\alpha(\text{N}+..)=3.76 \times 10^{-6}$
692.0	16.5	1506.9	2 ⁺	815.0	2 ⁺	M1+E2	+2.0 11	1.41×10^{-3} 8	$\alpha(\text{K})=0.00125$ 7; $\alpha(\text{L})=0.000138$ 9; $\alpha(\text{M})=2.32 \times 10^{-5}$ 14; $\alpha(\text{N})=2.89 \times 10^{-6}$ 17; $\alpha(\text{O})=1.84 \times 10^{-7}$ 9 $\alpha(\text{N}+..)=3.08 \times 10^{-6}$ 18
765.9	0.1	1995.2	(1 ⁺ ,2 ⁺)	1229.5	0 ⁺				
813.2	11.2	1628.2	(2 ⁺)	815.0	2 ⁺	(M1+E2)	+0.58 +17-12	8.94×10^{-4} 16	$\alpha(\text{K})=0.000792$ 14; $\alpha(\text{L})=8.60 \times 10^{-5}$ 16; $\alpha(\text{M})=1.44 \times 10^{-5}$ 3; $\alpha(\text{N})=1.81 \times 10^{-6}$ 4; $\alpha(\text{O})=1.183 \times 10^{-7}$ 19 $\alpha(\text{N}+..)=1.93 \times 10^{-6}$ 4

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^{97}Rb β^- n decay 1982Kr11 (continued) $\gamma(^{96}\text{Sr})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [†]	δ	α	Comments
815.0	100	815.0	2 ⁺	0.0	0 ⁺	E2		9.49×10^{-4} 14	$\alpha(\text{K})=0.000839$ 12; $\alpha(\text{L})=9.23 \times 10^{-5}$ 13; $\alpha(\text{M})=1.550 \times 10^{-5}$ 22; $\alpha(\text{N})=1.94 \times 10^{-6}$ 3; $\alpha(\text{O})=1.239 \times 10^{-7}$ 18; $\alpha(\text{N+..})=2.06 \times 10^{-6}$
854.5	0.5	2084.0	(1,2 ⁺)	1229.5	0 ⁺				
977.8	0.8	1792.8	(2,3)	815.0	2 ⁺	E2		6.10×10^{-3} 9	$\alpha(\text{K})=0.000540$ 8; $\alpha(\text{L})=5.89 \times 10^{-5}$ 9; $\alpha(\text{M})=9.88 \times 10^{-6}$ 14; $\alpha(\text{N})=1.238 \times 10^{-6}$ 18; $\alpha(\text{O})=7.99 \times 10^{-8}$ 12; $\alpha(\text{N+..})=1.318 \times 10^{-6}$ 19
1037.3	3.2	1852.2	(3)	815.0	2 ⁺				
1160.6	0.6	1975.6		815.0	2 ⁺	E2		4.17×10^{-4} 6	$\alpha(\text{K})=0.000366$ 6; $\alpha(\text{L})=3.97 \times 10^{-5}$ 6; $\alpha(\text{M})=6.66 \times 10^{-6}$ 10; $\alpha(\text{N})=8.36 \times 10^{-7}$ 12; $\alpha(\text{O})=5.43 \times 10^{-8}$ 8; $\alpha(\text{N+..})=4.53 \times 10^{-6}$ 7
1180.0	1.4	1995.2	(1 ⁺ ,2 ⁺)	815.0	2 ⁺	M1+E2		4.03×10^{-4} 6	$\alpha(\text{K})=0.000353$ 5; $\alpha(\text{L})=3.80 \times 10^{-5}$ 6; $\alpha(\text{M})=6.38 \times 10^{-6}$ 10; $\alpha(\text{N})=8.02 \times 10^{-7}$ 12; $\alpha(\text{O})=5.25 \times 10^{-8}$ 8; $\alpha(\text{N+..})=5.7 \times 10^{-6}$ 7
1269.0	0.3	2084.0	(1,2 ⁺)	815.0	2 ⁺				
1298.5	0.1	2113.5		815.0	2 ⁺				
1305.1	1.2	2120.1		815.0	2 ⁺				
1335.9	3.9	2150.9	(1 ⁺ ,2,3 ⁺)	815.0	2 ⁺				
1402.4	2.0	2217.4	(2)	815.0	2 ⁺	D(+Q)	+0.7 8		
1492.6	0.5	2307.6	(1,2 ⁺)	815.0	2 ⁺				
1506.9	6.9	1506.9	2 ⁺	0.0	0 ⁺				
1592.4 [‡]		2407.6		815.0	2 ⁺				
1628.2	<0.7	1628.2	(2 ⁺)	0.0	0 ⁺				$I_\gamma: I(1628\gamma)/I(813\gamma) < 0.063$ is inconsistent with 0.12 +3-2 in β^- decay.
2083.9	1.1	2084.0	(1,2 ⁺)	0.0	0 ⁺				
2307.1 [‡]		2307.6	(1,2 ⁺)	0.0	0 ⁺				

[†] From Adopted Gammas.

[‡] Placement of transition in the level scheme is uncertain.

Delayed Neutrons (^{96}Sr)

Measured I_γ , I_{ce} , $\gamma\gamma$, $\beta\text{-}\gamma$, $n\gamma$. Deduced $I(n)$. The "INTERMEDIATE level" in each case is a group of levels in ^{97}Sr above the neutron binding energy.

$E(^{96}\text{Sr})$	$I(n)^{\dagger\ddagger}$	$E(^{96}\text{Sr})$	$I(n)^{\dagger\ddagger}$	$E(^{96}\text{Sr})$	$I(n)^{\dagger\ddagger}$
				0.0	59 6
				815.0	15 3
				1229.5	5.3 7
				1465.0	0.3 2
				1506.9	7.8 8
				1628.2	4.3 5
				1792.8	0.3 1
				1852.2	0.7 2

	1975.6	0.6 3
	1995.2	0.6 2
	2084.0	0.7 3
	2113.5	0.1 1
	2120.1	0.4 1
	2150.9	1.9 3
	2217.4	0.7 2
	2307.6	0.6 3
	2407.6	0.5 2

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${}^{97}\text{Rb}$ β^- n decay **1982Kr11** (continued)

Delayed Neutrons (${}^{96}\text{Sr}$) (continued)

† From **1981Kr11**, intensity per 100 β^- n decays.

‡ For absolute intensity per 100 decays, multiply by 0.251 8.

^{97}Rb β^- n decay 1982Kr11

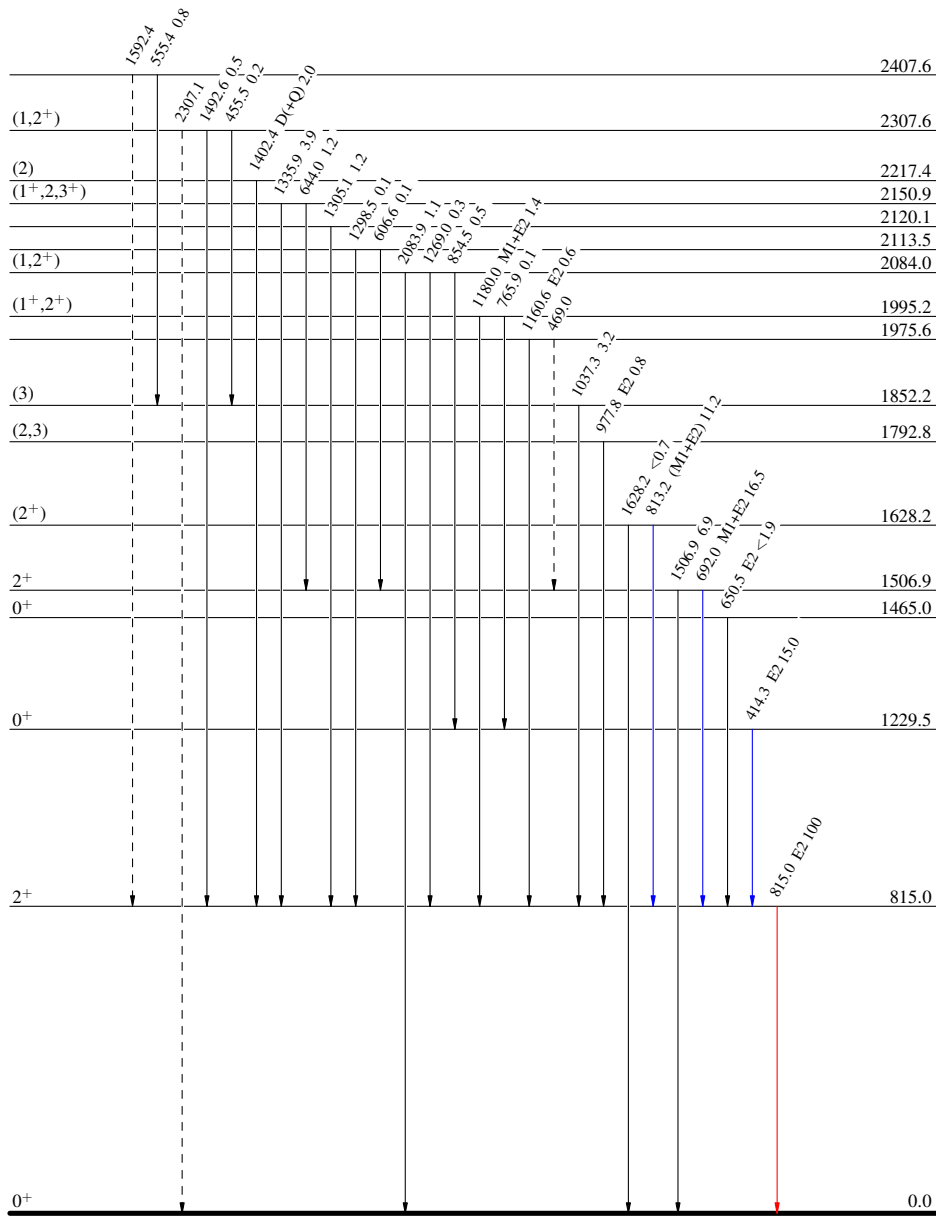
Decay Scheme

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)

Intensities: Type not specified

$^{97}\text{Rb}_{37}$ $3/2^+$ 0.0 169.9 ms 7
 $Q=6336$ 12
 $\% \beta^- n=25.1$



$^{96}\text{Sr}_{58}$