

$^{87}\text{Rb}(p,n\gamma), (p,n)$ 1977Ba61,1969Bu17

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson and W. D. Kulp(a)		NDS 129, 1 (2015)	27-Jul-2015

1977Ba61: E(p)=3.8 MeV, measured γ , $\gamma\gamma$ -coincidences with Ge and NaI detectors.

1969Bu17: determined n-groups by time-of-flight measurements.

 ^{87}Sr Levels

E(level)	$J^{\pi\dagger}$	$T_{1/2}^{\ddagger}$	Comments
0.0	9/2 ⁺		
388.42 5	1/2 ⁻	2.815 h 12	
873.32 6	3/2 ⁻		
1228.50 5	5/2 ⁺	≥ 0.21 ps	
1253.86 7	5/2 ⁻	0.25 ps +23-9	$T_{1/2}$: 2.8 ps +23-9 in Adopted Levels.
1770.49 5	5/2 ⁺	≥ 0.19 ps	
1920.50 7	7/2 ⁺	0.13 ps 3	
2110.83 9	3/2 ⁻	0.087 ps +28-21	
2169.33 9	(1/2 ⁺)	≥ 0.15 ps	
2237 [#] 15	9/2 ⁺		
2414.74 11	3/2 ⁻	0.20 ps +12-6	
2531 [#] 15			
2552 [#] 15			
2629 [#] 15	1/2 ⁻ , 3/2 ⁻		
2682 [#] 15	(3/2 ⁺)		E(level): This may correspond to the 2676 level with 3/2 ⁺ , the 2679 level with 1/2 ⁻ , 3/2 ⁻ , or the 2682 level with (3/2 ⁺) in the Adopted Levels.
2698.5? 5			E(level): this level is not included in ^{87}Sr Adopted Levels.
2706 [#] 15	7/2 ⁺ , 9/2 ⁺		
2810 [#] 15			
2848 [#] 15	1/2 ⁻ , 3/2 ⁻		
2901 [#] 15			
2925 [#] 15			
2945 [#] 15	1/2 ⁺		
2979 [#] 15	-		
3016 [#] 15			
3067 [#] 15	(1/2 ⁻ , 3/2)		
3098 [#] 15			
3126 [#] 15	1/2 ⁺		
3151 [#] 15			
3167 [#] 15	(5/2 ⁺)		
3220 [#] 15	(1/2, 3/2)		
3258 [#] 15	(5/2 ⁺)		
3276 [#] 15	5/2 ⁺		

[†] From ^{87}Sr Adopted Levels.

[‡] Deduced from centroid shifts obtained from singles spectra measured at 0° and 90° to the beam direction (1977Ba61).

[#] Observed only by 1969Bu17.

$^{87}\text{Rb}(\text{p},\text{n}\gamma), (\text{p},\text{n})$ **1977Ba61,1969Bu17** (continued) $\gamma(^{87}\text{Sr})$

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
355.1 1	14.2 10	1228.50	5/2 ⁺	873.32	3/2 ⁻	1237.50 6	14.2 9	2110.83	3/2 ⁻	873.32	3/2 ⁻
380.6 1	7.5 5	1253.86	5/2 ⁻	873.32	3/2 ⁻	1296.00 6	18.5 16	2169.33	(1/2 ⁺)	873.32	3/2 ⁻
388.40 5	78 4	388.42	1/2 ⁻	0.0	9/2 ⁺	1770.47 5	26.3 24	1770.49	5/2 ⁺	0.0	9/2 ⁺
484.90 5	100	873.32	3/2 ⁻	388.42	1/2 ⁻	1920.50 7	15.2 15	1920.50	7/2 ⁺	0.0	9/2 ⁺
542.0 1	13.4 17	1770.49	5/2 ⁺	1228.50	5/2 ⁺	2026.3 1	18.4 20	2414.74	3/2 ⁻	388.42	1/2 ⁻
865.42 5	40 3	1253.86	5/2 ⁻	388.42	1/2 ⁻	2310.0 5	19.3 20	2698.5?		388.42	1/2 ⁻
1228.51 5	69 5	1228.50	5/2 ⁺	0.0	9/2 ⁺						

† From 1977Ba61.

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Legend

Level Scheme

Intensities: Relative I_γ

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- Coincidence

