

⁷⁶Se(p,n γ) 1978Lu04

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jun Chen and Ameenah R. Farhan		NDS 194,3 (2024)	8-Jan-2024

E(p)=5.80-6.50 MeV.

1978Lu04: measured E γ , I γ , $\gamma\gamma$ -coin, excitation functions; also 1975Lu02 and 1975LuZV from the same group.

⁷⁶Br Levels

E(level) [†]	J π [‡]	T _{1/2} [‡]	Comments
0.0	1 ⁻		
45.5 2	(2) ⁻		
102.7?# 11	(4) ⁺	1.31 s 2	%IT=99.7 3
150.5 3			
213.2?# 3			
244.4?# 11			
251.9 2			
301.8?# 11			
315.6 2			
317.1 3			
355.1 3			
362.8?# 4			
445.7 3			
451.7 2			
467.8?# 11			
487.6 5			
495.5 3			
505.2 3			
527.8 3			
548.1 3			
616.4 3			

[†] From a least-squares fit to E γ data.

[‡] From Adopted Levels.

Level proposed by the evaluators on the basis of in-beam γ -ray studies.

γ (⁷⁶Br)

E γ	I γ [†]	E _i (level)	J π _i	E _f	J π _f	Comments
^x 35.6 4	<2					
^x 40.0 4	<1					
45.2 4	190	45.5	(2) ⁻	0.0	1 ⁻	
57.2#&		102.7?	(4) ⁺	45.5	(2) ⁻	E γ : γ included by the evaluators, 103 level probably fed by a γ -ray from level above.
63.7& 4	3	315.6		251.9		
^x 80.0 4	1.1					
90.8 4	9.4	445.7		355.1		
96.5& 4	<1	451.7		355.1		
103.2 4	21	355.1		251.9		
104.9 4	1.7	150.5		45.5	(2) ⁻	
134.5 4	2.6	451.7		317.1		
136.0 4	1.1	451.7		315.6		
^x 138.9 4	5.8					

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⁷⁶Se(p,n γ) 1978Lu04 (continued)

γ (⁷⁶Br) (continued)

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
141.7#& 4	15	244.4?		102.7?	(4) ⁺	
150.0@ 4	24‡	150.5		0.0	1 ⁻	I_γ : part of the intensity may be from the 363 level.
150.0@#& 4		362.8?		213.2?		
166.5@#& 4		213.2?		45.5	(2) ⁻	
166.5@ 4	79‡	317.1		150.5		I_γ : part of the intensity may be from the 213 and 467 levels.
166.5@#& 4		467.8?		301.8?		
180.0 4	2.1	495.5		315.6		
193.8 4	13	445.7		251.9		
199.7@#& 4		301.8?		102.7?	(4) ⁺	
199.7@ 4	50‡	451.7		251.9		I_γ : part of the intensity may be from the 301 level.
214.7#& 4	5.2	213.2?		0.0	1 ⁻	E_γ : poor fit, level-energy difference=213.2.
232.5& 4	4.3	548.1		315.6		
251.8 4	100	251.9		0.0	1 ⁻	
^x 262.5 4	21					
270.3 4	87‡	315.6		45.5	(2) ⁻	
271.9 4	19	317.1		45.5	(2) ⁻	
294.8 4	50‡	445.7		150.5		
299.3 4	4.0	616.4		317.1		
300.8 4	2.0	616.4		315.6		
309.8 4	26	355.1		45.5	(2) ⁻	
315.5 4	81	315.6		0.0	1 ⁻	
317.0@ 4	21‡	317.1		0.0	1 ⁻	I_γ : part of the intensity may be from the 363 level.
317.0@#& 4		362.8?		45.5	(2) ⁻	
355.0 4	42	355.1		0.0	1 ⁻	
364.5@#& 4		467.8?		102.7?	(4) ⁺	
364.5@ 4	9.8‡	616.4		251.9		I_γ : part of the intensity may be from 467 level.
^x 401.4 4	2.9					
406.3 4	17	451.7		45.5	(2) ⁻	
442.1& 4	9.3‡	487.6		45.5	(2) ⁻	
445.8 4	9.6	445.7		0.0	1 ⁻	
451.8 4	15	451.7		0.0	1 ⁻	
459.8 4	6.1	505.2		45.5	(2) ⁻	
482.6 4	2.2	527.8		45.5	(2) ⁻	
495.4 4	9.1	495.5		0.0	1 ⁻	
505.0 4	16	505.2		0.0	1 ⁻	
527.5 4	7.1	527.8		0.0	1 ⁻	
548.0 4	7.4	548.1		0.0	1 ⁻	
616.3& 4	<2	616.4		0.0	1 ⁻	

† At 110° (lab) at 6.45 MeV (1978Lu04). ΔI_γ not available.

‡ Disagrees with I_γ deduced from ⁷⁶Kr ϵ decay, thus the intensity given here may be incorrect. Part of the discrepancy may be explained by other possible placements for these transitions based on results from in-beam γ -ray work.

Placement by the evaluators on the basis of in-beam γ -ray work.

@ Multiply placed.

& Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

