

¹²⁵Ce ε decay 1994AsZY,1978Bo32,1988GeZR

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	J. Katakura	NDS 112, 495 (2011)	1-Jan-2010

Parent: ¹²⁵Ce: E=0.0; J^π=(7/2⁻); T_{1/2}=9.7 s 3; Q(ε)=7102 SY; %ε+%β⁺ decay=100.0
 1999Ca21: ⁹⁴Mo(³⁶Ar,2p3n), E=175 MeV, enriched target 97.6 %, ms; ce-T, γ-T,ce-γ-t coin, X-rays.
 1998Be64: ⁹⁴Mo+³⁶Ar, E=175 MeV, enriched target 97.6%, ms; HPGe, γγτ, γX(t), X(t), γ(t).
 1994AsZY: ⁹²Mo(³⁶Ar,2pn), E=195 MeV, enriched target, on-line ms; γγ coin, βγ coin.
 1988GeZR: ⁹⁶Mo+³⁵Cl, on-line mass.
 1978Bo32: ⁹⁶Ru+³²S, ⁹⁸Ru+³²S, E=190 MeV, on-line mass separator, semi γ.
 Decay scheme is from 1994AsZY.

¹²⁵La Levels

E(level) [‡]	J ^π [†]	T _{1/2}	Comments
0.0	(3/2 ⁺)	64.8 s 12	
0.0+x			Additional information 1.
9.0 14	(11/2 ⁻)		
57.5+x 10			
107.00 10		0.39 s 4	T _{1/2} : From ce(t) (1999Ca21). Other: 0.4 s 2 from K x ray decay (1998Be64). E(level): Level energy is uncertain. Tentatively placed 107 keV above the ground state.(1998Be64).
182.7+x 15			
194.4 8			
200.8+x 15			
207.8+x 15			
324.9 8			
362.1+x 15			
379.0 9			
546.0 10			
625.7 10			
783.4 14			
1005.1 11			

[†] From Adopted Levels.

[‡] From a least-squares fit to E_γ's by evaluator. Uncertainties of 1 keV are assumed for the energies of γ's.

γ(¹²⁵La)

E _γ [†]	E _i (level)	E _f	J _f ^π	Mult.	Comments
57.5	57.5+x	0.0+x			
107.0 1	107.00	0.0	(3/2 ⁺)	E3	E _γ : From 1999Ca21. Mult.: From measured α. α(K)exp=2.5 15, α(L)exp=8 3, α(M)exp=2.4 10, L/K=3.2 7, M/K=1.0 7 (1999Ca21).
125.2	182.7+x	57.5+x			
130.6	324.9	194.4			
^x 132.3					
143.3	200.8+x	57.5+x			
150.3	207.8+x	57.5+x			
194.4	194.4	0.0	(3/2 ⁺)		
221.1	546.0	324.9			
^x 240.7					
246.7	625.7	379.0			
^x 293.6					

Continued on next page (footnotes at end of table)

^{125}Ce ε decay [1994AsZY](#),[1978Bo32](#),[1988GeZR](#) (continued) $\gamma(^{125}\text{La})$ (continued)

E_γ^\dagger	$E_i(\text{level})$	E_f	J_f^π	Comments
^x 296.7				
^x 299.6				
300.8	625.7	324.9		
304.6	362.1+x	57.5+x		
324.9	324.9	0.0	(3/2 ⁺)	
^x 337.4				
351.7	546.0	194.4		
370.0	379.0	9.0	(11/2 ⁻)	
379.0	379.0	0.0	(3/2 ⁺)	
^x 401.4				
404.4	783.4	379.0		
459.2	1005.1	546.0		
^x 491				From 1988GeZR .
810.7	1005.1	194.4		

[†] From [1994AsZy](#), unless otherwise noted.

^x γ ray not placed in level scheme.

^{125}Ce ϵ decay 1994AsZY,1978Bo32,1988GeZR

Decay Scheme

