^{117}Cs β^+ decay (8.4 s) 1986Ma41

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	ENSDF	1-Mar-2009

Parent: ^{117}Cs: E=0; J^π=(9/2$^+$); $T_{1/2}$=8.4 s *6*; Q(β^+)=7.69×10^3 *6*; %β^+ decay=100.0
Produced from 600 MeV p on La, ms, (1986Ma41).
Measured: γ, $\gamma\gamma$, ce, Ge(Li), Si(Li).
The level scheme is mainly as given by 1986Ma41.
α: Additional information 2.
Additional information 1.

^{117}Xe Levels

E(level)	J^π‡	E(level)	J^π‡	E(level)	E(level)
0.0	(5/2)$^+$	313.3 *8*	9/2$^-$	615.0 *2*	882.0 *3*
204.8 *1*	(7/2$^+$)	364.7 *2*	($^+$)	637.4	978.4 *4*
205.6 *1*	(7/2$^-$)	393.1 *1*	($^+$)	713.1 *4*	987.2 *5*
221.6 *1*	(5/2$^+$)	438.7 *2*	($^+$)	736.5 *2*	1052.0 *3*
229.8† *8*	(11/2$^-$)	536.1 *2*	($^+$)	785.5 *2*	1069.1 *4*
242.7 *1*	(5/2$^-$)	540.1 *2*	($^+$)	818.0 *2*	1508.5 *5*
263.1 *1*	(9/2$^+$)	579.6 *2*		825.1 *5*	
271.1 *1*	(7/2$^+$)	593.3 *4*		869.1 *3*	

† From Adopted Levels.
‡ From γ mult and β^-decay syst of other odd Xe nuclides.

γ(^{117}Xe)

Iγ normalization: the absolute intensities are based on the 325γ (75%) of the ^{117}I decay.

E_γ	I_γ†	E_i(level)	J^π_i	E_f	J^π_f	Mult.	α	Comments
^{x}29.7 *1*	660 *70*							
^{x}33.7 *1*	150 *30*							
83.8 *1*	59 *6*	313.3	9/2$^-$	229.8	(11/2$^-$)	M1	1.360	α(K)exp=1.3 *2*; α(L)exp=0.13 *4* α(K)=1.167 *17*; α(L)=0.1545 *23*; α(M)=0.0314 *5*; α(N)=0.00649 *10*; α(O)=0.000809 *12* α(N+..)=0.00730 *11* E_γ: from a 289.4 level in 1986Ma41, not adopted here.
^{x}107.8 *2*	6 *1*					(M1,E2)	1.0 *4*	
121.9 *1*	21 *2*	393.1	($^+$)	271.1	(7/2$^+$)	M1	0.469	α(K)exp=0.33 *10* α(K)=0.402 *6*; α(L)=0.0530 *8*; α(M)=0.01076 *16*; α(N)=0.00223 *4*; α(O)=0.000278 *4* α(N+..)=0.00250 *4*
143.0 *2*	12 *1*	536.1	($^+$)	393.1	($^+$)	M1	0.300	α(K)exp=0.25 *7* α(K)=0.258 *4*; α(L)=0.0338 *5*; α(M)=0.00687 *10*; α(N)=0.001421 *21*; α(O)=0.000178 *3* α(N+..)=0.001599 *24*
150.3 *3*	4 *1*	393.1	($^+$)	242.7	(5/2$^-$)			
159.9 *1*	330 *30*	364.7	($^+$)	204.8	(7/2$^+$)	M1	0.220	α(K)exp=0.17 *4* α(K)=0.189 *3*; α(L)=0.0248 *4*; α(M)=0.00503 *7*; α(N)=0.001041 *15*; α(O)=0.0001301 *19* α(N+..)=0.001171 *17*

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^{117}Cs β^+ decay (8.4 s) 1986Ma41 (continued)

γ(^{117}Xe) (continued)

E_γ	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.	α	Comments
171.5 *2*	24 *3*	393.1	($^+$)	221.6	(5/2$^+$)	(M1,E2)	0.23 *5*	α(K)exp=0.18 *4* α(K)=0.18 *3*; α(L)=0.035 *15*; α(M)=0.007 *4*; α(N)=0.0015 *6*; α(O)=0.00017 *6*; α(N+..)=0.0016 *7*
188.2 *1*	150 *15*	393.1	($^+$)	204.8	(7/2$^+$)	(M1,E2)	0.17 *3*	α(K)exp=0.13 *3* α(K)=0.138 *18*; α(L)=0.025 *10*; α(M)=0.0052 *20*; α(N)=0.0010 *4*; α(O)=0.00012 *4* α(N+..)=0.0012 *5*
204.8 *2*	1000 *80*	204.8	(7/2$^+$)	0.0	(5/2)$^+$	M1	0.1121	α(K)exp=88.E−3 *14*; α(L)exp=13.E−3 *3* α(K)=0.0965 *14*; α(L)=0.01254 *18*; α(M)=0.00254 *4*; α(N)=0.000527 *8*; α(O)=6.59×10^{-5} *10* α(N+..)=0.000593 *9*
205.6 *2*	450 *70*	205.6	(7/2$^-$)	0.0	(5/2)$^+$	E1	0.0286	α(K)exp=22.E−3 *10* α(K)=0.0246 *4*; α(L)=0.00314 *5*; α(M)=0.000633 *9*; α(N)=0.0001299 *19*; α(O)=1.581×10^{-5} *23* α(N+..)=0.0001457 *21*
217.0 *1*	22 *2*	438.7	($^+$)	221.6	(5/2$^+$)	(M1,E2)	0.109 *13*	α(K)exp=70.E−3 *30* α(K)=0.090 *8*; α(L)=0.015 *5*; α(M)=0.0031 *10*; α(N)=0.00064 *19*; α(O)=7.4×10^{-5} *18* α(N+..)=0.00071 *21*
221.6 *1*	320 *30*	221.6	(5/2$^+$)	0.0	(5/2)$^+$	(M1,E2)	0.102 *12*	α(K)exp=80.E−3 *20*; α(L)exp=14.E−3 *5* α(K)=0.085 *7*; α(L)=0.014 *4*; α(M)=0.0029 *9*; α(N)=0.00059 *17*; α(O)=6.9×10^{-5} *16* α(N+..)=0.00066 *19*
233.9 *3*	24 *3*	438.7	($^+$)	204.8	(7/2$^+$)			
^{x}235.9 *3*	20 *2*							
242.7 *1*	195 *20*	242.7	(5/2$^-$)	0.0	(5/2)$^+$	E1	0.0182	α(K)exp=13.E−3 *5* α(K)=0.01573 *22*; α(L)=0.00199 *3*; α(M)=0.000402 *6*; α(N)=8.25×10^{-5} *12*; α(O)=1.010×10^{-5} *15* α(N+..)=9.26×10^{-5} *13*
249.4 *2*	9 *2*	785.5		536.1	($^+$)			
263.1 *1*	266 *20*	263.1	(9/2$^+$)	0.0	(5/2)$^+$	(E2)	0.0641	α(K)exp=52.E−3 *12*; α(L)exp=5.E−3 *3* α(K)=0.0522 *8*; α(L)=0.00946 *14*; α(M)=0.00196 *3*; α(N)=0.000397 *6*; α(O)=4.50×10^{-5} *7* α(N+..)=0.000442 *7*
268.8 *2*	30 *3*	540.1	($^+$)	271.1	(7/2$^+$)	(M1,E2)	0.057 *3*	α(K)exp=80.E−3 *40* α(K)=0.0478 *12*; α(L)=0.0074 *14*; α(M)=0.0015 *3*; α(N)=0.00031 *6*; α(O)=3.7×10^{-5} *5* α(N+..)=0.00035 *7*
271.1 *1*	285 *20*	271.1	(7/2$^+$)	0.0	(5/2)$^+$	(M1,E2)	0.056 *3*	α(K)exp=48.E−3 *11*; α(L)exp=6 *3* α(K)=0.0466 *11*; α(L)=0.0072 *13*; α(M)=0.0015 *3*; α(N)=0.00030 *6*; α(O)=3.6×10^{-5} *5* α(N+..)=0.00034 *6*
277.1 *3*	20 *4*	540.1	($^+$)	263.1	(9/2$^+$)			
280.0 *3*	16 *3*	593.3		313.3	9/2$^-$			
314.4 *2*	44 *6*	536.1	($^+$)	221.6	(5/2$^+$)			
331.4 *2*	21 *3*	536.1	($^+$)	204.8	(7/2$^+$)			
336.9 *1*	75 *15*	579.6		242.7	(5/2$^-$)			
364.7 *2*	19 *4*	364.7	($^+$)	0.0	(5/2)$^+$			

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$^{117}Cs\ \beta^+$ decay (8.4 s) 1986Ma41 (continued)

$\gamma(^{117}Xe)$ (continued)

E_γ	I_γ †	E_i(level)	J_i^π	E_f	J_f^π	Comments
374.1 *2*	17 *3*	579.6		205.6	(7/2−)	
x387.2 *3*	17 *5*					
393.2 *2*	140	393.1	(+)	0.0	(5/2)+	
393.2 *2*	30	615.0		221.6	(5/2+)	I_γ: from coincidence.
430.4 *5*	7 *2*	869.1		438.7	(+)	
431.8 *3*	31 *5*	637.4		205.6	(7/2−)	
438.8 *2*	190 *20*	438.7	(+)	0.0	(5/2)+	
450.0 *3*	22 *3*	713.1		263.1	(9/2+)	
465.1 *3*	11 *2*	736.5		271.1	(7/2+)	
473.8 *2*	40 *6*	736.5		263.1	(9/2+)	
522.5 *3*	20 *3*	785.5		263.1	(9/2+)	
529.0 *5*	6 *2*	1069.1		540.1	(+)	
532.3 *5*	9 *2*	736.5		204.8	(7/2+)	
540.1 *2*	32 *6*	540.1	(+)	0.0	(5/2)+	
x543.0 *3*	40 *4*					
546.8 *4*	10 *5*	818.0		271.1	(7/2+)	
555.0 *4*	5 *2*	818.0		263.1	(9/2+)	
610.9 *2*	54 *6*	882.0		271.1	(7/2+)	
615.1 *2*	50 *8*	615.0		0.0	(5/2)+	
620.3 *4*	30 *5*	825.1		204.8	(7/2+)	
x626.5 *4*	13 *3*					
647.5 *3*	38 *5*	869.1		221.6	(5/2+)	
716.0 *6*	45 *15*	987.2		271.1	(7/2+)	
773.6 *3*	43 *5*	978.4		204.8	(7/2+)	
781.3 *3*	34 *5*	1052.0		271.1	(7/2+)	
846.5 *5*	30 *4*	1052.0		205.6	(7/2−)	
869.0 *5*	45 *5*	869.1		0.0	(5/2)+	
928.7 *6*	19 *3*	1508.5		579.6		
987.4 *6*	15 *3*	987.2		0.0	(5/2)+	
1051.5 *6*	10 *2*	1052.0		0.0	(5/2)+	
1069.1 *6*	7 *2*	1069.1		0.0	(5/2)+	
x1084.6 *4*	50 *6*					
x1143.2 *6*	15 *3*					
x1201.8 *6*	12 *2*					
1266.0 *6*	17 *3*	1508.5		242.7	(5/2−)	
x1541.7 *6*	15 *2*					

† For absolute intensity per 100 decays, multiply by 0.015.

x γ ray not placed in level scheme.

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Decay Scheme

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays