

<sup>122</sup>Ba ε decay **1987WeZW**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	T. Tamura	NDS 108, 455 (2007)	30-Sep-2006

Parent: <sup>122</sup>Ba: E=0.0; J<sup>π</sup>=0<sup>+</sup>; T<sub>1/2</sub>=1.95 min 15; Q(ε)=3530 40; %ε+%β<sup>+</sup> decay=100.0

The decay scheme is that proposed by **1987WeZW** on the basis of γγ-coin and Eγ sums.

**1987WeZW**: Ce,La(<sup>3</sup>He,spallation) E(<sup>3</sup>He)=280 MeV on-line MS; semi, ce, γγ-coin, no detailed information is given on Iγ, Ice, and mult.

**1978Bo32**: <sup>96</sup>Ru(<sup>32</sup>S,xpyn) E(<sup>32</sup>S)=60 MeV, on-line MS; semi β<sup>+</sup>, γ, K x ray, T<sub>1/2</sub> and Iγ(25-65 keV)/I(Cs K x ray) ≤ 10% was measured.

<sup>122</sup>Cs Levels

E(level) <sup>†</sup>	J <sup>π</sup>	E(level) <sup>†</sup>	E(level) <sup>†</sup>	E(level) <sup>†</sup>
0.0	1 <sup>+</sup>	142.32 15	265.76 24	339.00 25
15.53 17		161.37 15	273.63 20	350.1 4
45.83 20	(3 <sup>+</sup> )	177.71 21	280.0? 4	364.58 18
69.55 15		205.60 22	301.87 22	411.20 21
116.84 21	0,1,2	223.7 4	307.37 22	484.48 17
122.33 24		237.98 17	319.86 19	537.9? 5
124.93 15		261.1 4	332.79 22	550.47 17

<sup>†</sup> From a least-squares fit to Eγ's.

γ(<sup>122</sup>Cs)

Eγ <sup>†</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Eγ <sup>†</sup>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>
15.36 <sup>‡</sup>	15.53		0.0	1 <sup>+</sup>	109.3 3	124.93		15.53	
≈39 <sup>#</sup>	161.37		122.33		113.1 3	237.98		124.93	
≈44 <sup>#</sup>	161.37		116.84	0,1,2	≈115	161.37		45.83 (3 <sup>+</sup> )	
45.79 <sup>‡</sup>	45.83	(3 <sup>+</sup> )	0.0	1 <sup>+</sup>	116.8 3	116.84	0,1,2	0.0	1 <sup>+</sup>
54.0 3	69.55		15.53		120.0 3	484.48		364.58	
55.5 3	124.93		69.55		122.4 3	122.33		0.0	1 <sup>+</sup>
55.5 3	261.1		205.60		124.9 3	124.93		0.0	1 <sup>+</sup>
57.4 3	364.58		307.37		126.7 3	142.32		15.53	
≈60 <sup>#</sup>	237.98		177.71		132.0 3	177.71		45.83 (3 <sup>+</sup> )	
62.9 3	364.58		301.87		136.0 3	205.60		69.55	
65.8 3	550.47		484.48		140.5 3	301.87		161.37	
69.6 3	69.55		0.0	1 <sup>+</sup>	142.1 3	142.32		0.0	1 <sup>+</sup>
72.7 3	142.32		69.55		144.2 <sup>#</sup> 3	261.1		116.84	0,1,2
74.9 <sup>#</sup> 3	484.48		411.20		146.0 3	307.37		161.37	
76.8 3	237.98		161.37		151.5 3	484.48		332.79	
79.1 3	124.93		45.83 (3 <sup>+</sup> )		155.4 3	332.79		177.71	
81.5 <sup>#</sup> 3	319.86		237.98		157 <sup>#</sup> 1	273.63		116.84	0,1,2
84.5 <sup>#</sup> 3	364.58		280.0?		161.4 3	161.37		0.0	1 <sup>+</sup>
88.0 3	265.76		177.71		168.3 3	237.98		69.55	
88.7 3	205.60		116.84	0,1,2	170.9 3	332.79		161.37	
91.6 3	161.37		69.55		177.7 3	319.86		142.32	
91.6 <sup>#</sup> 3	411.20		319.86		177.7 3	339.00		161.37	
96.5 3	142.32		45.83 (3 <sup>+</sup> )		186.7 3	364.58		177.71	
101.3 3	116.84	0,1,2	15.53		190.2 3	205.60		15.53	
102.3 3	280.0?		177.71		190.2 <sup>#</sup> 3	307.37		116.84	0,1,2
106.9 3	223.7		116.84	0,1,2	195.1 3	319.86		124.93	

Continued on next page (footnotes at end of table)

$^{122}\text{Ba}$   $\varepsilon$  decay **1987WeZW** (continued) $\gamma(^{122}\text{Cs})$  (continued)

$E_\gamma^\dagger$	$E_i(\text{level})$	$E_f$	$J_f^\pi$	$E_\gamma^\dagger$	$E_i(\text{level})$	$E_f$	$J_f^\pi$	$E_\gamma^\dagger$	$E_i(\text{level})$	$E_f$	$J_f^\pi$
197.6 3	319.86	122.33		246.6 3	484.48	237.98		304.1# 3	319.86	15.53	
207.8 3	350.1	142.32		250.3 3	411.20	161.37		318.6 3	364.58	45.83	(3 <sup>+</sup> )
214.0 3	339.00	124.93		258.2 3	273.63	15.53		≈332#	537.9?	205.60	
219.8# 3	265.76	45.83	(3 <sup>+</sup> )	261	261.1	0.0	1 <sup>+</sup>	341.8 3	484.48	142.32	
222.3 3	364.58	142.32		263.7# 3	280.0?	15.53		349.9# 3	350.1	0.0	1 <sup>+</sup>
223.3# 3	223.7	0.0	1 <sup>+</sup>	265.8 3	265.76	0.0	1 <sup>+</sup>	359.7 3	484.48	124.93	
223.3# 3	484.48	261.1		268.7 3	411.20	142.32		388.7 3	550.47	161.37	
231.0 3	550.47	319.86		273.5 3	273.63	0.0	1 <sup>+</sup>	≈439#	484.48	45.83	(3 <sup>+</sup> )
232.5 3	301.87	69.55		276.8 3	537.9?	261.1		550.7 3	550.47	0.0	1 <sup>+</sup>
238.0 3	237.98	0.0	1 <sup>+</sup>	276.8 3	550.47	273.63					
238.0 3	307.37	69.55		286.0 3	411.20	124.93					

† From **1987WeZW**;  $\Delta E_\gamma$  is assumed 0.3 keV (evaluator);

‡ Not observed.  $E_\gamma$  is calculated from  $E(\text{level})$  difference.

# Placement of transition in the level scheme is uncertain.

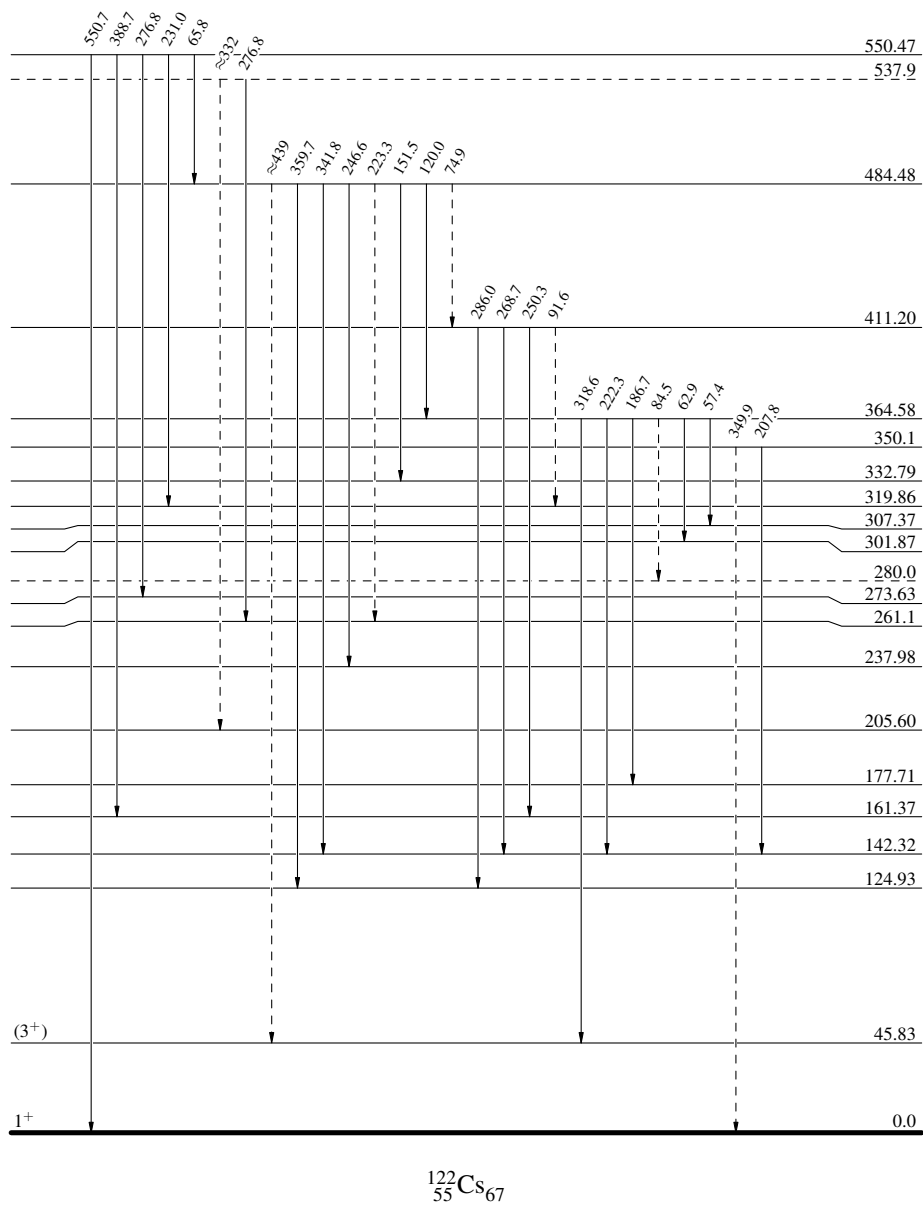
$^{122}\text{Ba}$   $\epsilon$  decay 1987WeZW

Legend

Decay Scheme

-----  $\gamma$  Decay (Uncertain)

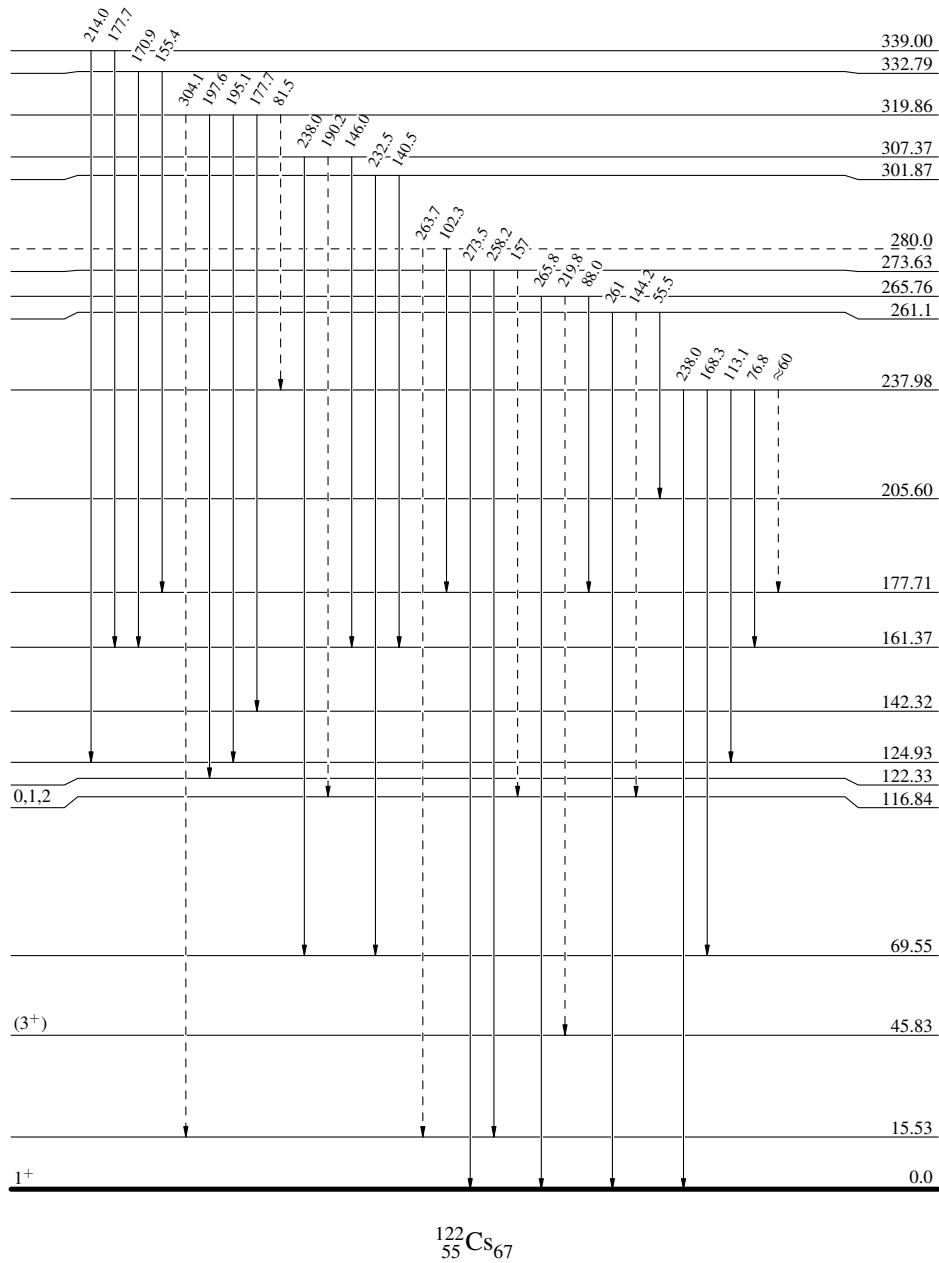
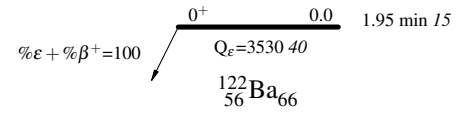
$0^+$   $0.0$  1.95 min 15  
 $Q_\epsilon = 3530.40$   
 $^{122}_{56}\text{Ba}_{66}$   
 $\% \epsilon + \% \beta^+ = 100$



$^{122}\text{Ba}$   $\epsilon$  decay 1987WeZW

Legend

## Decay Scheme (continued)

-----  $\gamma$  Decay (Uncertain)

$^{122}\text{Ba}$   $\epsilon$  decay 1987WeZW

Legend

Decay Scheme (continued)

-----  $\gamma$  Decay (Uncertain)