

$^{120}\text{Cs}$   $\varepsilon$  decay (64 s+57 s) **1990MaYX**

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	K. Kitao, Y. Tendow and A. Hashizume		NDS 96, 241 (2002)	1-Dec-2001

Parent:  $^{120}\text{Cs}$ : E=0.0;  $J^\pi=2^{(+)}$ ;  $T_{1/2}=64$  s 3;  $Q(\varepsilon)=7942$  45;  $\% \varepsilon + \% \beta^+$  decay=100.0

Parent:  $^{120}\text{Cs}$ : E=0.0+x;  $J^\pi=7$ ;  $T_{1/2}=57$  s 6;  $Q(\varepsilon)=7942$  45;  $\% \varepsilon + \% \beta^+$  decay=100.0

**1990MaYX**:  $^{92}\text{Mo}(^{32}\text{S},4\text{p})$  E=175 MeV, on-line mass separation; semi  $\gamma$ , ce;  $\gamma\gamma$ , (ce)( $\gamma$ ) coin.

**1977Ge03**:  $^{139}\text{La}(p,3\text{pxn})$  E=600 MeV, on-line mass separation; semi  $\gamma$  ce;  $\gamma\gamma$ , (ce)( $\gamma$ ) coin.

**1992Bh02**:  $^{93}\text{Nb}(^{32}\text{S},2\text{p}3\text{n})$  E=165 MeV; Si(Li) with mini-orange magnetic filter, plastic scin ce,  $\beta$ , (ce)( $\beta$ ) coin.

Others: **1976BaXV**, **1975We23**, **1972Dr06**.

 $^{120}\text{Xe}$  Levels

Decay scheme is that proposed by **1990MaYX**. The authors suggest that the measured activity is a mixture of two different isomers which decay with similar half-lives (57 s and 64 s). The 2727 level is separated into two levels based on the results from (HI,xn $\gamma$ ), one decays with 1329 $\gamma$  and 1931 $\gamma$ , and the other with 655 $\gamma$  and 741 $\gamma$ .

E(level) <sup>†</sup>	$J^\pi$	$T_{1/2}$	Comments
0.0 <sup>‡</sup>	0 <sup>+</sup>	40 min 1	
322.60 <sup>‡</sup> 4	2 <sup>+</sup>		
796.18 <sup>‡</sup> 5	4 <sup>+</sup>		
876.09 <sup>@</sup> 4	2 <sup>+</sup>		
908.70 <sup>#</sup> 6	0 <sup>+</sup>	<6.2 ps	
1271.72 <sup>@</sup> 5	3 <sup>+</sup>		
1274.43 <sup>#</sup> 4	(2) <sup>+</sup>		
1397.40 <sup>‡</sup> 7	6 <sup>+</sup>		
1401.30 <sup>@</sup> 5	4 <sup>+</sup>		
1623.25 6	0 <sup>+</sup>	83 ps 28	$T_{1/2}$ : from <b>1996Ma16</b> . Other: 0.60 ns 21 from ( $\beta$ )(ce)(t) ( <b>1992Bh02</b> ).
1711.74 <sup>#</sup> 5	(4) <sup>+</sup>		
1725.40 5	2 <sup>+</sup>	0.6 ns 5	
1745.31 7	+		
1767.54 6	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		
1816.98 6	(5) <sup>+</sup>		
1924.11 8	2 <sup>+</sup>		
1941.32 6	2 <sup>+</sup>		
1982.49 11	(1,2 <sup>+</sup> )		
1985.62 6	6 <sup>+</sup>		
1995.07 6	2		
2050.57 7	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		
2071.97 6	4 <sup>+</sup>		
2099.24 <sup>‡</sup> 9	8 <sup>+</sup>		
2165.17 6	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		
2186.79 6	(2,3,4)		
2236.65 15	0 <sup>+</sup>		
2242.12 7			
2272.68 7	(4 <sup>-</sup> ,5 <sup>-</sup> )		
2295.10 9			
2402.13 6	(1,2) <sup>+</sup>		
2411.0 10	0 <sup>+</sup>		
2448.42 9	(3,4) <sup>+</sup>		
2460.88 7	7 <sup>+</sup>		
2495.71 10	(7 <sup>-</sup> )		

Continued on next page (footnotes at end of table)

$^{120}\text{Cs}$   $\varepsilon$  decay (64 s+57 s) 1990MaYX (continued) $^{120}\text{Xe}$  Levels (continued)

E(level) <sup>†</sup>	J <sup>π</sup>	Comments
2536.07 9		
2544.70 11	(6 <sup>-</sup> )	E(level): from (HI,xn $\gamma$ ).
2637.59 11	(1,2 <sup>+</sup> )	
2653.82 12	(8 <sup>+</sup> )	
2682.12 8		
2721.88 9	(3,4,5) <sup>+</sup>	
2727.40 8	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	
2727.4 1		
2812.67 8	(4)	
2830.38 <sup>&amp;</sup> 12		
2831.40 12	7 <sup>-</sup>	
2853.98 6		E(level): possible doublet of 2853.9 3 and 2852.8 3 keV (1990MaYX).
2930.69 15	(7 <sup>-</sup> )	E(level): from (HI,xn $\gamma$ ).
2966.88 11	(8 <sup>-</sup> )	
3149.58 15		
3357.21 7	2 <sup>+</sup>	
3470.91 10	(2 <sup>+</sup> )	
3802.63 7	(2 <sup>+</sup> )	
4313.11 9	2 <sup>+</sup>	

<sup>†</sup> From a least-squares fit to E( $\gamma$ 's) by the evaluators.

<sup>‡</sup> g.s. rotational band.

# Quasi- $\beta$  band.

@ Quasi- $\gamma$  band.

& Tentative level depopulating with the 846 $\gamma$  by the evaluators. See comment for the 846 G.

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe)

I<sub>γ</sub> normalization: cannot be given.

γ's are from the admixture of two <sup>120</sup>Cs isomer decays with similar half-lives (57 s and 64 s).

E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>@</sup>	α <sup>#</sup>	Comments
99.3 <sup>ef</sup> 1	0.042 6	2930.69	(7 <sup>-</sup> )	2831.40	7 <sup>-</sup>			
109.10 9	0.058 7	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1941.32	2 <sup>+</sup>			
<sup>x</sup> 125.0 2	0.032 8							
<sup>x</sup> 128.9 2	0.014 4							
<sup>x</sup> 131.7 2	0.018 4							
136.8 1	0.032 5	2966.88	(8 <sup>-</sup> )	2830.38				
182.7 1	0.09 1	3149.58		2966.88	(8 <sup>-</sup> )			
<sup>x</sup> 183.5								E <sub>γ</sub> : transition energy, given authors' α(K)exp table but no γ's table. α(K)exp=0.079 11.
239.2 1	0.10 1	2966.88	(8 <sup>-</sup> )	2727.40	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	M1,E2	0.081 7	α(K)=0.068 4; α(L)=0.011 3; α(M)=0.0022 6; α(N+..)=0.00055 13 α(K)exp=0.067 9 (1990MaYX).
245.7 6	0.008 5	2186.79	(2,3,4)	1941.32	2 <sup>+</sup>			
273.67 <sup>‡</sup> 7	0.31 3	1985.62	6 <sup>+</sup>	1711.74	(4) <sup>+</sup>	(E2)	0.0566	α(K)=0.0462 14; α(L)=0.00822 25; α(M)=0.00169 5; α(N+..)=0.00042 1 E <sub>γ</sub> ,I <sub>γ</sub> : unplaced in 1977Ge03; I <sub>γ</sub> =0.36 1 (1977Ge03). α(K)exp=0.054 6 (1990MaYX).
<sup>x</sup> 286.1 2	0.020 5							
<sup>x</sup> 289.2 3	0.014 5							
293.5 3	0.017 6	2536.07		2242.12				
<sup>x</sup> 300.2 1	0.08 1							
312.7 2	0.03 1	2236.65	0 <sup>+</sup>	1924.11	2 <sup>+</sup>			
314.2 3	0.03 1	1711.74	(4) <sup>+</sup>	1397.40	6 <sup>+</sup>			
322.54 <sup>‡</sup> 6	100	322.60	2 <sup>+</sup>	0.0	0 <sup>+</sup>	[E2]	0.0333	α(K)=0.0276 9; α(L)=0.00458 14; α(M)=0.00094 3; α(N+..)=0.00023 1 K/L=6.1 7, M/L=0.25 5 (1990MaYX).
<sup>x</sup> 329.0 1	0.035 6							
<sup>x</sup> 341.37 8	0.20 2							
346.6 1	0.13 1	2071.97	4 <sup>+</sup>	1725.40	2 <sup>+</sup>			
348.78 <sup>‡</sup> 7	0.55 5	1623.25	0 <sup>+</sup>	1274.43	(2) <sup>+</sup>			E <sub>γ</sub> : unplaced in 1977Ge03. α(K)exp=0.095 33 (1977Ge03), α(K)exp suggests M2.
365.69 <sup>‡</sup> 7	1.2 1	1274.43	(2) <sup>+</sup>	908.70	0 <sup>+</sup>	(E2)	0.0225	α(K)=0.0187 6; α(L)=0.00299 9; α(M)=0.00061 2; α(N+..)=0.00015 1 α(K)exp=0.019 3 (1990MaYX); 0.010 5 (1977Ge03).
<sup>x</sup> 367.2 2	0.047 8							
371.9 1	0.035 5	1995.07	2	1623.25	0 <sup>+</sup>			
<sup>x</sup> 376.4 2	0.033 6							
395.56 <sup>‡</sup> 6	2.5 2	1271.72	3 <sup>+</sup>	876.09	2 <sup>+</sup>	E2(+M1)	0.0189 13	α(K)=0.0161 13; α(L)=0.00226 5; α(M)=0.00046 1;

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>@</sup></u>	<u>δ</u>	<u>α<sup>#</sup></u>	<u>Comments</u>
									α(N+..)=0.00011 α(K)exp=0.015 1, K/L=7.5 12 (1990MaYX); α(K)exp=0.012 4 (1977Ge03). I <sub>γ</sub> : other: 0.31 3 if I(949γ)=0.86 (1977Ge03).
398.23 <sup>‡</sup> 7	0.64 6	1274.43	(2) <sup>+</sup>	876.09	2 <sup>+</sup>	M1,E2		0.0186 13	α(K)=0.0158 13; α(L)=0.00222 4; α(M)=0.00045 1; α(N+..)=0.00011 α(K)exp=0.015 2, K/L=6.0 19 (1990MaYX). I <sub>γ</sub> : other: 0.45 9 if I(1274γγ)=0.51 (1977Ge03).
415.60 <sup>‡</sup> 9	0.25 3	1816.98	(5) <sup>+</sup>	1401.30	4 <sup>+</sup>	M1,E2		0.0165 13	α(K)=0.0141 13; α(L)=0.00196 1; α(M)=0.00040 1; α(N+..)=9.9×10 <sup>-5</sup> E <sub>γ</sub> : unplaced in 1977Ge03. I <sub>γ</sub> : other: 0.18 5 if I(561γ)=1.3 (1977Ge03). α(K)exp=0.0099 22 (1990MaYX).
419.52 9	0.13 1	1816.98	(5) <sup>+</sup>	1397.40	6 <sup>+</sup>				E <sub>γ</sub> : depopulating the 2495 level in 1990MaYX.
<sup>x</sup> 423.8 1	0.043 6								
437.13 <sup>‡</sup> 7	0.77 7	1711.74	(4) <sup>+</sup>	1274.43	(2) <sup>+</sup>	(E2)		0.0132	α(K)=0.0111 4; α(L)=0.00167 5; α(M)=0.00034 1 α(K)exp=0.015 6 (1977Ge03), 0.0090 11 (1990MaYX).
439.6 2	0.11 3	1711.74	(4) <sup>+</sup>	1271.72	3 <sup>+</sup>				
440.4 3	0.07 3	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1725.40	2 <sup>+</sup>				
451.14 <sup>‡</sup> 7	2.0 2	1725.40	2 <sup>+</sup>	1274.43	(2) <sup>+</sup>	M1,E2		0.0133 13	α(K)=0.0113 12; α(L)=0.00155 4; α(M)=0.00031 1 E <sub>γ</sub> : unplaced in 1977Ge03. α(K)exp=0.011 1 (1990MaYX).
451.8 <sup>‡</sup> 1	<2.2	2853.98		2402.13	(1,2) <sup>+</sup>				I <sub>γ</sub> : given as <2.0 2 by authors (1990MaYX). 0.76 9 if I <sub>γ</sub> (1453γ)=1.2 (1977Ge03).
453.55 <sup>‡</sup> 8	1.04 9	1725.40	2 <sup>+</sup>	1271.72	3 <sup>+</sup>	M1+E2	4.2 38	0.0120 20	α(K)=0.0101 20; α(L)=0.00149 6; α(M)=0.00030 1 α(K)exp=0.011 1 (1990MaYX). I <sub>γ</sub> : other: 1.27 13 if I(561γ)=2.0 (1977Ge03). δ: from α(K)exp.
455.9 3	0.05 1	2272.68	(4 <sup>-</sup> ,5 <sup>-</sup> )	1816.98	(5) <sup>+</sup>				
460.4 2	0.06 1	2402.13	(1,2) <sup>+</sup>	1941.32	2 <sup>+</sup>				
473.42 <sup>‡</sup> 6	28 2	796.18	4 <sup>+</sup>	322.60	2 <sup>+</sup>	E2		0.0105	α(K)=0.0088 3; α(L)=0.00130 4; α(M)=0.00027 1 α(K)exp=0.0085 11, K/L=6.3 7 (1990MaYX); α(K)exp=0.0082 18 (1977Ge03).
475.46 <sup>‡</sup> 7	1.5 2	1271.72	3 <sup>+</sup>	796.18	4 <sup>+</sup>				
475.5 1	0.4 1	2460.88	7 <sup>+</sup>	1985.62	6 <sup>+</sup>				
478.30 <sup>‡</sup> 7	1.4 1	1274.43	(2) <sup>+</sup>	796.18	4 <sup>+</sup>	E2		0.0102	α(K)=0.0086 3; α(L)=0.00126 4; α(M)=0.00026 1 E <sub>γ</sub> : unplaced in 1977Ge03. α(K)exp=0.0067 11 (1990MaYX).
<sup>x</sup> 492.6 2	0.020 9								
525.18 <sup>‡</sup> 6	2.8 3	1401.30	4 <sup>+</sup>	876.09	2 <sup>+</sup>	E2		0.00792	α=0.00792; α(K)=0.00665 20; α(L)=0.00095 3 α(K)exp=0.0066 7 (1990MaYX), 0.0073 19 (1977Ge03). I <sub>γ</sub> : other: 3.3 3 if I(561γ)=4.1 (1977Ge03).

4

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>@</sup></u>	<u>α<sup>#</sup></u>	<u>Comments</u>
<sup>x</sup> 538.5 1	0.17 2							
<sup>x</sup> 539.5 <sup>a</sup> 5	0.45 15							
545.22 <sup>‡</sup> 7	1.3 1	1816.98	(5) <sup>+</sup>	1271.72	3 <sup>+</sup>	(E2)	0.00715	α=0.00715; α(K)=0.00601 18; α(L)=0.00085 3 α(K)exp=0.0067 10, value includes contribution from annihilation radiation, but any correction is not made (1990MaYX), K/L=5.5 12 (1990MaYX); α(K)exp=0.010 4 (1977Ge03).
553.43 <sup>‡</sup> 7	21 2	876.09	2 <sup>+</sup>	322.60	2 <sup>+</sup>	E2	0.00687	α=0.00687; α(K)=0.00578 18; α(L)=0.00082 3 α(K)exp=0.0053 5, K/L=6.5 9 (1990MaYX); α(K)exp=0.0053 16 (1977Ge03).
560.87 <sup>‡</sup> 7	0.95 9	2272.68	(4 <sup>-</sup> ,5 <sup>-</sup> )	1711.74	(4) <sup>+</sup>	(E1)	0.00228	α=0.00228; α(K)=0.00196 6; α(L)=0.00024 1 α(K)exp=0.0029 4 (1990MaYX).
<sup>x</sup> 563.2 4	0.021 8							
583.1 1	0.17 3	2295.10		1711.74	(4) <sup>+</sup>			
584.6 <sup>‡</sup> 1	2.1 2	1985.62	6 <sup>+</sup>	1401.30	4 <sup>+</sup>	E2	0.00593	α=0.00593; α(K)=0.00500 15; α(L)=0.00070 2 α(K)exp=0.0058 7 (1990MaYX).
586.1 <sup>‡</sup> 1	5.5 3	908.70	0 <sup>+</sup>	322.60	2 <sup>+</sup>	E2	0.00589	α=0.00589; α(K)=0.00497 15; α(L)=0.00069 2 α(K)exp=0.0050 5, K/L=6.1 10 (1990MaYX).
588.3 <sup>‡</sup> 2	0.9 1	1985.62	6 <sup>+</sup>	1397.40	6 <sup>+</sup>	M1,E2	0.0067 9	α=0.0067 9; α(K)=0.0057 8; α(L)=0.00075 7 α(K)exp=0.0064 11, K/L=3.5 10 (1990MaYX).
601.21 <sup>‡</sup> 8	10.1 9	1397.40	6 <sup>+</sup>	796.18	4 <sup>+</sup>	(E2)	0.00551	α=0.00551; α(K)=0.00465 14; α(L)=0.00065 2 α(K)exp=0.0050 5, K/L=6.4 11 (1990MaYX); α(K)exp=0.0060 19 (1977Ge03).
605.17 <sup>‡</sup> 9	4.1 4	1401.30	4 <sup>+</sup>	796.18	4 <sup>+</sup>	M1,E2	0.0063 9	α=0.0063 9; α(K)=0.0053 8; α(L)=0.00070 7 α(K)exp=0.0058 6, K/L=5.2 7, M/L=0.24 5 (1990MaYX); α(K)exp=0.0040 13 (1977Ge03).
613.2		2236.65	0 <sup>+</sup>	1623.25	0 <sup>+</sup>	E0 <sup>g</sup>		
<sup>x</sup> 615.3 2	0.046 7							
631.47 <sup>‡</sup> 8	0.33 3	2448.42	(3,4) <sup>+</sup>	1816.98	(5) <sup>+</sup>	M1,E2	0.0056 8	α=0.0056 8; α(K)=0.0048 7; α(L)=0.00063 7 α(K)exp=0.0041 22 (1990MaYX).
634.5 2	0.051 9	2402.13	(1,2) <sup>+</sup>	1767.54	(2 <sup>+</sup> ,3,4 <sup>+</sup> )			
<sup>x</sup> 640.6 1	0.074 9							
643.76 <sup>‡</sup> 7	1.04 9	2460.88	7 <sup>+</sup>	1816.98	(5) <sup>+</sup>	(E2)	0.00462	α=0.00462; α(K)=0.00391 12; α(L)=0.00053 2 α(K)exp=0.0043 5 (1990MaYX).
649.84 <sup>‡</sup> 9	0.21 2	1924.11	2 <sup>+</sup>	1274.43	(2) <sup>+</sup>			
655.1 <sup>‡</sup> 3	0.06 2	2727.40	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	2071.97	4 <sup>+</sup>			
656.4 3	0.06 2	2402.13	(1,2) <sup>+</sup>	1745.31	<sup>+</sup>			
<sup>x</sup> 663.3 4	0.016 6							
667.53 <sup>bj</sup> 7	0.12 2	1941.32	2 <sup>+</sup>	1274.43	(2) <sup>+</sup>	M1,E2	0.0049 7	α=0.0049 7; α(K)=0.0042 7; α(L)=0.00054 6 α(K)exp=0.0041 8 (1990MaYX).
668.2 <sup>‡</sup> 1	0.53 6	2653.82	(8 <sup>+</sup> )	1985.62	6 <sup>+</sup>			

5

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

E <sub>γ</sub> <sup>†</sup>	I <sub>γ</sub>	E <sub>i</sub> (level)	J <sub>i</sub> <sup>π</sup>	E <sub>f</sub>	J <sub>f</sub> <sup>π</sup>	Mult. <sup>@</sup>	α <sup>#</sup>	Comments
669.50 8	0.39 3	1941.32	2 <sup>+</sup>	1271.72	3 <sup>+</sup>	M1,E2	0.0049 7	α=0.0049 7; α(K)=0.0042 7; α(L)=0.00054 6 α(K)exp=0.0029 10 (1990MaYX).
<sup>x</sup> 672.6 2	0.056 9							
674.8 2	0.07 1	2071.97	4 <sup>+</sup>	1397.40	6 <sup>+</sup>			
<sup>x</sup> 682.5 2	0.043 8							
688.72 9	0.16 2	2853.98		2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )			
<sup>x</sup> 693.2 2	0.036 8							
701.88 <sup>‡</sup> 6	2.4 2	2099.24	8 <sup>+</sup>	1397.40	6 <sup>+</sup>	(E2)	0.00371	α=0.00371; α(K)=0.00315 10; α(L)=0.00042 1 α(K)exp=0.0037 4, K/L=6.7 14 (1990MaYX); α(K)exp=0.0039 13 (1977Ge03).
<sup>x</sup> 704.6 2	0.066 9							
714.6		1623.25	0 <sup>+</sup>	908.70	0 <sup>+</sup>	E0 <sup>g</sup>		Ti(E0)=2.23 8 relative to I <sub>γ</sub> (747γ)=100 from a measured x=B(E0; 1623L to g.s.)/B(E2; 747γ)=1.06 11 (1990MaYX). Other: x=1.0 1 (1988Wa33).
<sup>x</sup> 720.7						E0 <sup>g</sup>		
723.1 2	0.040 6	1995.07	2	1271.72	3 <sup>+</sup>			
<sup>x</sup> 727.7 1	0.09 1							
731.6 2	0.031 7	2830.38		2099.24	8 <sup>+</sup>			
736.02 9	0.40 4	2721.88	(3,4,5) <sup>+</sup>	1985.62	6 <sup>+</sup>	M1,E2	0.0039 6	α=0.0039 6; α(K)=0.0033 5; α(L)=0.00043 5 α(K)exp=0.0050 7 (1990MaYX).
741.9 2	0.052 7	2727.40	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	1985.62	6 <sup>+</sup>			
747.24 7	0.62 6	1623.25	0 <sup>+</sup>	876.09	2 <sup>+</sup>	(E2)	0.00319	α=0.00319; α(K)=0.00271 9; α(L)=0.00036 1 E <sub>γ</sub> : unplaced in 1977Ge03. α(K)exp=0.0037 5 (1990MaYX).
759.1 2	0.047 8	2830.38		2071.97	4 <sup>+</sup>			
<sup>x</sup> 762.6 1	0.12 1							
<sup>x</sup> 765.3 1	0.08 1							
776.5 2	0.066 9	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1274.43	(2) <sup>+</sup>			
779.5 <sup>ibj</sup> 1	<0.19 <sup>i</sup>	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1271.72	3 <sup>+</sup>			I <sub>γ</sub> : given as <0.17 2 by authors.
779.5 <sup>ibj</sup> 1	<0.19 <sup>i</sup>	2402.13	(1,2) <sup>+</sup>	1623.25	0 <sup>+</sup>			I <sub>γ</sub> : given as <0.17 2 by authors.
<sup>x</sup> 783.1 2	0.048 8							
785.6 1	0.12 1	2186.79	(2,3,4)	1401.30	4 <sup>+</sup>			
800.40 9	0.48 4	2071.97	4 <sup>+</sup>	1271.72	3 <sup>+</sup>	E2(+M1)	0.0032 5	α=0.0032 5; α(K)=0.0027 5; α(L)=0.00035 5 α(K)exp=0.0025 3 (1990MaYX).
<sup>x</sup> 805.1 1	0.16 2							
<sup>x</sup> 812.0 2	0.050 9							
816.75 8	0.33 3	1725.40	2 <sup>+</sup>	908.70	0 <sup>+</sup>	(E2)	0.00258	α=0.00258; α(K)=0.00220 7; α(L)=0.00029 1 E <sub>γ</sub> : unplaced in 1977Ge03. α(K)exp=0.0022 6 (1990MaYX).
826.7 3	0.08 1	2812.67	(4)	1985.62	6 <sup>+</sup>			
<sup>x</sup> 839.3 3	0.11 1							
846.4 <sup>j</sup> 2	0.041 8	2830.38		1985.62	6 <sup>+</sup>			

9

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

$E_\gamma$ †	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. @	$\alpha^\#$	Comments
849.37 ‡ 7	0.72 6	1725.40	2 <sup>+</sup>	876.09	2 <sup>+</sup>	M1+E2+E0		$\alpha(\text{K})_{\text{exp}}=0.0092$ 9 (1990MaYX). $I_\gamma$ : other: 0.88 9 if $I(561\gamma)=2.0$ (1977Ge03).
<sup>x</sup> 853.6 2	0.52 8							
869.31 8	0.51 5	1745.31	+	876.09	2 <sup>+</sup>	M1,E2	0.0026 4	$\alpha=0.0026$ 4; $\alpha(\text{K})=0.0022$ 4; $\alpha(\text{L})=0.00028$ 4 $\alpha(\text{K})_{\text{exp}}=0.0017$ 4 (1990MaYX).
871.4 2	0.11 2	2272.68	(4 <sup>-</sup> ,5 <sup>-</sup> )	1401.30	4 <sup>+</sup>			
876.08 ‡ 6	7.3 7	876.09	2 <sup>+</sup>	0.0	0 <sup>+</sup>	(E2)	0.00220	$\alpha=0.00220$ ; $\alpha(\text{K})=0.00187$ 6; $\alpha(\text{L})=0.00024$ 1 $\alpha(\text{K})_{\text{exp}}=0.0016$ 2, K/L=6.2 10 (1990MaYX); $\alpha(\text{K})_{\text{exp}}=0.0023$ 8 (1977Ge03).
<sup>x</sup> 885.7 2	0.06 1							
891.1 2	0.053 8	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1274.43	(2) <sup>+</sup>			
893.4 1	0.08 1	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	1271.72	3 <sup>+</sup>			
<sup>x</sup> 896.7 2	0.07 1							
905.2 1	0.12 1	2721.88	(3,4,5) <sup>+</sup>	1816.98	(5) <sup>+</sup>			
908.7		908.70	0 <sup>+</sup>	0.0	0 <sup>+</sup>	E0 <sup>g</sup>		Ti(E0)=191 11 relative to $I_\gamma(586\gamma)=100$ from a measured $x=\text{B}(E0)$ ; 908L to g.s./B(E2; 586γ)=0.018 1 (1990MaYX). Other: $x=0.019$ 2 (1988Wa33).
912.2 1	0.14 1	2186.79	(2,3,4)	1274.43	(2) <sup>+</sup>			
915.2 1	0.19 2	1711.74	(4) <sup>+</sup>	796.18	4 <sup>+</sup>	M1+E2+E0		$\alpha(\text{K})_{\text{exp}}=0.0218$ 26 (1990MaYX).
<sup>x</sup> 930.8 2	0.062 9							
<sup>x</sup> 940.0 2	0.023 7							
<sup>x</sup> 943.9 2	0.020 8							
949.15 ‡ 6	8.6 8	1271.72	3 <sup>+</sup>	322.60	2 <sup>+</sup>	E2(+M1)	0.0021 4	$\alpha=0.0021$ 4; $\alpha(\text{K})=0.0018$ 3; $\alpha(\text{L})=0.00023$ 3 $\alpha(\text{K})_{\text{exp}}=0.0016$ 2, K/L=7.3 16 (1990MaYX); $\alpha(\text{K})_{\text{exp}}=0.0061$ 15 (1977Ge03).
951.93 ‡ 7	2.1 2	1274.43	(2) <sup>+</sup>	322.60	2 <sup>+</sup>	(E2+E0)		$\alpha(\text{K})_{\text{exp}}=0.0120$ 12, K/L=7.3 12 (1990MaYX); $\alpha(\text{K})_{\text{exp}}=0.011$ 8 (1977Ge03). $I_\gamma$ : other: 1.7 9 if $(1274\gamma)=6.9$ (1977Ge03).
956.9 1	0.23 2	2682.12		1725.40	2 <sup>+</sup>			
968.0 2	0.16 1	2242.12		1274.43	(2) <sup>+</sup>			
971.3 1	0.31 2	1767.54	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	796.18	4 <sup>+</sup>			
<sup>x</sup> 979.1 1	0.17 2							
<sup>x</sup> 991.0 2	0.13 1							
1001.0 2	0.09 1	2272.68	(4 <sup>-</sup> ,5 <sup>-</sup> )	1271.72	3 <sup>+</sup>			
1015.3 1	0.12 1	1924.11	2 <sup>+</sup>	908.70	0 <sup>+</sup>			
1020.95 ‡ 7	1.1 1	1816.98	(5) <sup>+</sup>	796.18	4 <sup>+</sup>	(E2)	0.00156	$\alpha=0.00156$ ; $\alpha(\text{K})=0.00134$ 4; $\alpha(\text{L})=0.00017$ 1 $\alpha(\text{K})_{\text{exp}}=0.0014$ 2 (1990MaYX).
1023.6 2	0.07 1	2295.10		1271.72	3 <sup>+</sup>			
<sup>x</sup> 1028.4 2	0.032 8							
1032.6 1	0.11 1	1941.32	2 <sup>+</sup>	908.70	0 <sup>+</sup>			
<sup>x</sup> 1035.2 2	0.055 9							
1037.0 3	0.039 8	2853.98		1816.98	(5) <sup>+</sup>			
<sup>x</sup> 1042.1 2	0.047 8							

7

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

$E_\gamma$ †	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. @	$\alpha^\#$	Comments
1047.4 <sup>bj</sup> 1	0.17 2	1924.11	2 <sup>+</sup>	876.09	2 <sup>+</sup>			
<sup>x</sup> 1052.3 3	0.09 2							
<sup>x</sup> 1054.1 3	0.05 1							
<sup>x</sup> 1057.7 2	0.06 1							
1063.5 1	0.34 3	2460.88	7 <sup>+</sup>	1397.40	6 <sup>+</sup>			
1065.10 8	0.72 7	1941.32	2 <sup>+</sup>	876.09	2 <sup>+</sup>			
1067.9 2	0.12 1	2812.67	(4)	1745.31	+			
<sup>x</sup> 1070.7 2	0.06 1							
1078.71 9	0.24 2	1401.30	4 <sup>+</sup>	322.60	2 <sup>+</sup>			
<sup>x</sup> 1084.2 1	0.16 2							
1086.4 <sup>ij</sup> 1	<0.24 <sup>i</sup>	1995.07	2	908.70	0 <sup>+</sup>			$I_\gamma$ : given as <0.22 2 by authors.
1086.4 <sup>i</sup> 1	<0.24 <sup>i</sup>	2853.98		1767.54	(2 <sup>+</sup> ,3,4 <sup>+</sup> )			$I_\gamma$ : given as <0.22 2 by authors.
1098.30 7	0.91 8	2495.71	(7 <sup>-</sup> )	1397.40	6 <sup>+</sup>	(E1)	0.00058	$\alpha=0.00058$ ; $\alpha(K)=0.00050$ 2 $\alpha(K)\text{exp}=0.00052$ 20 (1990MaYX).
1105.6 5	0.022 8	1982.49	(1,2 <sup>+</sup> )	876.09	2 <sup>+</sup>			
<sup>x</sup> 1111.7 2	0.14 2							
<sup>x</sup> 1113.7 2	0.10 1							
1119.0 1	0.18 2	1995.07	2	876.09	2 <sup>+</sup>			
1127.4 <sup>h</sup> 3	<0.058 <sup>h</sup>	1924.11	2 <sup>+</sup>	796.18	4 <sup>+</sup>			$I_\gamma$ : given as <0.049 9 by authors.
1127.4 <sup>h</sup> 3	<0.058 <sup>h</sup>	2402.13	(1,2) <sup>+</sup>	1274.43	(2) <sup>+</sup>			$I_\gamma$ : given as <0.049 9 by authors.
1130.46 7	0.62 6	2402.13	(1,2) <sup>+</sup>	1271.72	3 <sup>+</sup>	M1,E2	0.00146 20	$\alpha=0.00146$ 20; $\alpha(K)=0.00125$ 18; $\alpha(L)=0.00015$ 2 $\alpha(K)\text{exp}=0.0014$ 4 (1990MaYX).
<sup>x</sup> 1138.8 1	0.08 1							
1142.33 8	0.46 4	2853.98		1711.74	(4) <sup>+</sup>			
1145.0 2	0.063 9	1941.32	2 <sup>+</sup>	796.18	4 <sup>+</sup>			
1147.29 9	0.31 3	2544.70	(6 <sup>-</sup> )	1397.40	6 <sup>+</sup>			$E_\gamma$ : unplaced $\gamma$ in (1990MaYX).
<sup>x</sup> 1150.6 3	0.034 8							
<sup>x</sup> 1156.0 2	0.05 1							
<sup>x</sup> 1164.5 2	0.08 1							
<sup>x</sup> 1171.6 3	0.08 1							
1175.6 3	<0.27	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	876.09	2 <sup>+</sup>			$I_\gamma$ : given as <0.25 2 by authors.
1175.6 1	<0.27	3470.91	(2 <sup>+</sup> )	2295.10				$I_\gamma$ : given as <0.25 2 by authors.
<sup>x</sup> 1179.5 3	0.06 1							
<sup>x</sup> 1183.3 2	0.09 1							
1190.2 4	0.03 1	1985.62	6 <sup>+</sup>	796.18	4 <sup>+</sup>			
1195.80 9	0.47 4	2071.97	4 <sup>+</sup>	876.09	2 <sup>+</sup>			
1199.6 3	0.048 9	1995.07	2	796.18	4 <sup>+</sup>			
<sup>x</sup> 1212.1 <sup>‡</sup> 1	0.24 2							
<sup>x</sup> 1220.5 2	0.09 1							
<sup>x</sup> 1224.60 <sup>‡</sup> 9	0.36 4							
<sup>x</sup> 1240.8 <sup>‡</sup> 1	0.21 2							$E_\gamma$ : other: 1239.7 7 (1977Ge03).
<sup>x</sup> 1249.2 3	0.07 1							

∞



<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>@</sup></u>	<u>α<sup>#</sup></u>	<u>Comments</u>
1254.1 <sup>‡</sup> 1	0.24 3	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	796.18	4 <sup>+</sup>			I <sub>γ</sub> : other: 0.14 6 if I(1728γ)=1.6 (1977Ge03).
1261.5 2	0.10 3	2536.07		1274.43	(2) <sup>+</sup>			
1274.52 <sup>‡</sup> 8	6.9 6	1274.43	(2) <sup>+</sup>	0.0	0 <sup>+</sup>	(E2)	0.00098	α=0.00098; α(K)=0.00084 3; α(L)=0.00010 α(K)exp=0.00084 10 (1990MaYX).
1276.3 <sup>‡</sup> 2	1.0 2	2071.97	4 <sup>+</sup>	796.18	4 <sup>+</sup>			I <sub>γ</sub> : other: 7.3 9 (1977Ge03).
1289.0 2	0.11 1	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	876.09	2 <sup>+</sup>			
<sup>x</sup> 1291.1 <sup>‡</sup> 1	0.28 3							
1300.75 <sup>‡</sup> 9	0.35 3	1623.25	0 <sup>+</sup>	322.60	2 <sup>+</sup>			E <sub>γ</sub> : unplaced in 1977Ge03.
1310.82 <sup>‡</sup> 9	0.32 3	2186.79	(2,3,4)	876.09	2 <sup>+</sup>			
<sup>x</sup> 1324.9 2	0.068 9							
1329.87 <sup>‡</sup> 8	0.38 3	2727.40	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	1397.40	6 <sup>+</sup>			I <sub>γ</sub> : other: 0.25 4 if I <sub>γ</sub> (1931γ)=0.73 (1977Ge03).
<sup>x</sup> 1338.9 2	0.062 8							
<sup>x</sup> 1342.7 5	0.016 6							
<sup>x</sup> 1364.3 5	0.06 2							
1366.0 <sup>‡</sup> 1	0.70 7	2242.12		876.09	2 <sup>+</sup>			I <sub>γ</sub> : other: 0.45 7 if I(561γ)=0.75 (1977Ge03).
1369.07 <sup>‡</sup> 8	0.51 4	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	796.18	4 <sup>+</sup>			
<sup>x</sup> 1373.2 2	0.069 9							
<sup>x</sup> 1380.3 3	0.030 7							
1389.23 <sup>‡</sup> 7	2.1 2	1711.74	(4) <sup>+</sup>	322.60	2 <sup>+</sup>			
1399.5 3	0.13 2	3470.91	(2 <sup>+</sup> )	2071.97	4 <sup>+</sup>			
1402.76 <sup>‡</sup> 8	1.2 1	1725.40	2 <sup>+</sup>	322.60	2 <sup>+</sup>	M1+E2+E0		α(K)exp=0.0025 4 (1990MaYX). I <sub>γ</sub> : other: 1.44 14 if I(561γ)=0.51 (1977Ge03).
1407.5 <sup>‡</sup> 1	0.24 3	2682.12		1274.43	(2) <sup>+</sup>			
1411.1 1	0.26 3	2812.67	(4)	1401.30	4 <sup>+</sup>			
<sup>x</sup> 1420.0 1	0.23 2							
1422.65 <sup>‡</sup> 8	0.80 7	1745.31	+	322.60	2 <sup>+</sup>			
<sup>x</sup> 1429.8 1	0.13 1							
1434.0 <sup>‡</sup> 1	0.31 2	2831.40	7 <sup>-</sup>	1397.40	6 <sup>+</sup>			
1444.97 <sup>‡</sup> 7	2.5 2	1767.54	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	322.60	2 <sup>+</sup>			
1450.1 3	0.11 2	2721.88	(3,4,5) <sup>+</sup>	1271.72	3 <sup>+</sup>			
1452.69 <sup>‡</sup> 8	1.2 1	2853.98		1401.30	4 <sup>+</sup>			
<sup>x</sup> 1470.33 <sup>‡</sup> 8	0.38 4							
<sup>x</sup> 1473.9 3	0.048 9							
1476.6 <sup>‡</sup> 1	0.36 3	2272.68	(4 <sup>-</sup> ,5 <sup>-</sup> )	796.18	4 <sup>+</sup>			E <sub>γ</sub> : other: 1477.5 5 (1977Ge03), but unplaced. I <sub>γ</sub> : other: 0.47 6 if I(561γ)=0.95 (1977Ge03).
<sup>x</sup> 1479.0 1	0.26 3							
<sup>x</sup> 1490.0 <sup>a</sup> 6	0.21 6							
1494.4 3	0.11 3	2402.13	(1,2) <sup>+</sup>	908.70	0 <sup>+</sup>			
<sup>x</sup> 1501.2 2	0.15 3							

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>@</sup></u>	<u>Comments</u>
<sup>x</sup> 1502.6 4	0.07 3						
<sup>x</sup> 1514.4 1	0.17 2						
<sup>x</sup> 1521.1 <sup>c</sup> 1	0.23 2						
<sup>x</sup> 1523.1 <sup>c</sup> 2	0.08 1						
1526.1 <sup>‡</sup> 1	0.24 2	2402.13	(1,2) <sup>+</sup>	876.09	2 <sup>+</sup>		E <sub>γ</sub> : unplaced in 1977Ge03.
1533.0 <sup>af</sup> 6	0.27 6	2930.69	(7 <sup>-</sup> )	1397.40	6 <sup>+</sup>		
1538.4 <sup>‡</sup> 1	0.39 4	2812.67	(4)	1274.43	(2) <sup>+</sup>		
1560.5 2	0.13 2	3802.63	(2 <sup>+</sup> )	2242.12			
<sup>x</sup> 1563.1 <sup>‡</sup> 3	0.12 2						
1566.1 2	0.11 2	3802.63	(2 <sup>+</sup> )	2236.65	0 <sup>+</sup>		
1572.0 2	0.040 8	2448.42	(3,4) <sup>+</sup>	876.09	2 <sup>+</sup>		
<sup>x</sup> 1576.9 4	0.021 7						
1581.2 <sup>bdj</sup> 2	0.073 9	2853.98		1271.72	3 <sup>+</sup>		
1590.6 3	0.045 8	3357.21	2 <sup>+</sup>	1767.54	(2 <sup>+</sup> ,3,4 <sup>+</sup> )		
<sup>x</sup> 1592.8 <sup>‡</sup> 1	0.34 2						
1619.1 <sup>‡</sup> 2	0.222 19	1941.32	2 <sup>+</sup>	322.60	2 <sup>+</sup>		
1623.3		1623.25	0 <sup>+</sup>	0.0	0 <sup>+</sup>	E0 <sup>g</sup>	Ti(E0)=0.69 9 relative to I <sub>γ</sub> (1300γ)=56 from a measured x=B(E0; 1623L to g.s.)/B(E2; 1300γ)=0.13 2 (1990MaYX). Other: x=0.21 3 (1988Wa33).
1632.0 <sup>‡</sup> 3	0.22 2	3357.21	2 <sup>+</sup>	1725.40	2 <sup>+</sup>		
<sup>x</sup> 1636.3 <sup>‡</sup> 3	0.24 2						
1653.0 5	0.13 3	2448.42	(3,4) <sup>+</sup>	796.18	4 <sup>+</sup>		
1659.9 <sup>i‡</sup> 1	0.41 <sup>i</sup> 7	1982.49	(1,2 <sup>+</sup> )	322.60	2 <sup>+</sup>		
1659.9 <sup>i</sup> 1	0.61 <sup>i</sup> 4	2536.07		876.09	2 <sup>+</sup>		
1672.3 <sup>‡</sup> 1	1.9 2	1995.07	2	322.60	2 <sup>+</sup>		α(K)exp=0.00091 21 (1990MaYX).
<sup>x</sup> 1678.4 8	0.09 2						
<sup>x</sup> 1694.1 3	0.16 2						
<sup>x</sup> 1700.4 4	0.13 2						
<sup>x</sup> 1715.2 3	0.14 2						
1728.2 <sup>‡</sup> 1	1.6 1	2050.57	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	322.60	2 <sup>+</sup>		
<sup>x</sup> 1743.9 <sup>‡</sup> 2	0.43 4						
1748.9 <sup>‡</sup> 2	0.35 3	2071.97	4 <sup>+</sup>	322.60	2 <sup>+</sup>		
<sup>x</sup> 1755.8 3	0.17 2						
<sup>x</sup> 1763.2 4	0.11 2						
<sup>x</sup> 1778.1 <sup>a</sup> 6	0.21 6						
<sup>x</sup> 1785.4 3	0.20 3						
<sup>x</sup> 1800.1 3	0.19 2						E <sub>γ</sub> : other: 1801.5 8 (1977Ge03).
1806.0 <sup>‡</sup> 2	0.41 3	2682.12		876.09	2 <sup>+</sup>		
<sup>x</sup> 1814.1 3	0.17 2						
<sup>x</sup> 1827.8 <sup>‡</sup> 2	0.27 3						

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

$E_\gamma$ †	$I_\gamma$	$E_i(\text{level})$	$J_i^\pi$	$E_f$	$J_f^\pi$	Mult. @	Comments
1842.2 ‡ 1	0.41 3	2165.17	(2 <sup>+</sup> ,3,4 <sup>+</sup> )	322.60	2 <sup>+</sup>		
1848.2 2	0.18 2	3470.91	(2 <sup>+</sup> )	1623.25	0 <sup>+</sup>		
<sup>x</sup> 1858.1 4	0.11 1						
1864.1 ‡ 1	0.45 3	2186.79	(2,3,4)	322.60	2 <sup>+</sup>		
<sup>x</sup> 1905.2 4	0.07 1						
1919.4 ‡ 1	0.75 5	2242.12		322.60	2 <sup>+</sup>		
1931.1 ‡ 1	0.73 5	2727.40	(4 <sup>+</sup> ,5,6 <sup>+</sup> )	796.18	4 <sup>+</sup>		$E_\gamma$ : other: 1931.7 4 (1977Ge03).
1936.4 4	0.14 2	2812.67	(4)	876.09	2 <sup>+</sup>		
1941.3 8	0.06 1	1941.32	2 <sup>+</sup>	0.0	0 <sup>+</sup>		
<sup>x</sup> 1958.7 3	0.34 3						
<sup>x</sup> 1960.5 <sup>a</sup> 8	0.3 6						
<sup>x</sup> 1964.0 ‡ 6	0.4 2						
1981.6 <sup>b‡j</sup> 1	1.33 9	1982.49	(1,2 <sup>+</sup> )	0.0	0 <sup>+</sup>		
1995.0 ‡ 2	0.36 3	1995.07	2	0.0	0 <sup>+</sup>		$E_\gamma$ : other: 1996.0 5 (1977Ge03).
<sup>x</sup> 2003.6 3	0.13 2						
<sup>x</sup> 2012.5 ‡ 1	0.61 4						
<sup>x</sup> 2039.2 2	0.19 2						
2056.7 <sup>‡bdj</sup> 1	1.1 1	2853.98		796.18	4 <sup>+</sup>		
<sup>x</sup> 2059.0 <sup>a</sup> 8	0.55 15						
<sup>x</sup> 2074.0 4	0.10 1						
2079.3 1	0.41 3	2402.13	(1,2 <sup>+</sup> )	322.60	2 <sup>+</sup>		
<sup>x</sup> 2087.1 3	0.11 1						
<sup>x</sup> 2094.2 2	0.25 2						Other: E=2095.4 6, $I_\gamma$ =0.30 9 (1977Ge03).
<sup>x</sup> 2100.4 2	0.20 2						
<sup>x</sup> 2117.6 3	0.09 1						
2127.4 4	0.08 1	4313.11	2 <sup>+</sup>	2186.79	(2,3,4)		
<sup>x</sup> 2134.8 1	0.57 4						Other: E=2135.6 4, $I_\gamma$ =0.73 9 (1977Ge03).
<sup>x</sup> 2144.9 2	0.14 1						
<sup>x</sup> 2185.4 2	0.20 2						
<sup>x</sup> 2187.3 <sup>a</sup> 4	0.37 6						
<sup>x</sup> 2189.0 2	0.18 2						
<sup>x</sup> 2197.8 2	0.10 1						
2214.0 ‡ 2	0.20 2	2536.07		322.60	2 <sup>+</sup>		
<sup>x</sup> 2218.8 8	0.034 9						
2236		2236.65	0 <sup>+</sup>	0.0	0 <sup>+</sup>	E0 <sup>g</sup>	
<sup>x</sup> 2236.8 7	0.11 2						
<sup>x</sup> 2243.5 3	0.27 4						
<sup>x</sup> 2251.7 2	0.29 4						
<sup>x</sup> 2260.1 2	0.39 6						
<sup>x</sup> 2275.8 5	0.050 9						
<sup>x</sup> 2290.7 2	0.15 1						

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Mult.<sup>@</sup></u>	<u>Comments</u>
x2297.9 3	0.08 1						
2315.0 <sup>‡</sup> 1	0.59 4	2637.59	(1,2 <sup>+</sup> )	322.60	2 <sup>+</sup>		
x2325.3 3	0.09 1						
x2334.1 2	0.17 2						
x2353.5 3	0.060 9						
x2364.2 1	0.21 2						E <sub>γ</sub> : other: 2365.2 6 (1977Ge03).
x2370.5 3	0.08 1						
x2394.5 3	0.13 2						
2402.6 3	0.17 3	2402.13	(1,2) <sup>+</sup>	0.0	0 <sup>+</sup>		
x2410.6 5	0.12 4						
2411		2411.0	0 <sup>+</sup>	0.0	0 <sup>+</sup>	E0 <sup>g</sup>	
x2416.2 7	0.14 4						
x2428.5 <sup>‡</sup> 2	0.23 2						
x2435.3 9	0.04 1						
2448.4 4	0.13 2	3357.21	2 <sup>+</sup>	908.70	0 <sup>+</sup>		
x2466.6 1	0.78 6						
x2476.6 5	0.09 2						
x2494.2 2	0.60 5						
x2516.2 <sup>‡</sup> 4	0.20 3						
2560.2 3	0.28 3	3357.21	2 <sup>+</sup>	796.18	4 <sup>+</sup>		
x2566.6 5	0.16 2						
x2584.67 5	0.08 2						E <sub>γ</sub> : value is too accurate, maybe a typo.
2594.9 5	0.19 3	3470.91	(2 <sup>+</sup> )	876.09	2 <sup>+</sup>		
x2600.2 9	0.11 2						
x2621.6 6	0.07 1						
x2628.6 <sup>‡</sup> 2	0.25 2						
2636.9 4	0.16 1	2637.59	(1,2 <sup>+</sup> )	0.0	0 <sup>+</sup>		
x2663.1 4	0.09 1						
x2679.5 4	0.19 2						
x2681.8 <sup>a</sup> 8	0.36 6						
x2684.8 3	0.29 3						
x2688.3 <sup>a</sup> 8	0.30 6						
x2691.8 4	0.13 1						
x2734.8 3	0.22 2						
x2736.7 <sup>a</sup> 6	0.18 3						
x2742.0 5	0.20 2						
x2748.4 4	0.25 2						
x2758.3 2	0.27 2						
x2770.5 3	0.16 2						
x2786.4 2	0.41 5						Other: E=2787.3 4, I <sub>γ</sub> =0.6 1 (1977Ge03).
x2799.7 3	0.06 1						
x2805.6 3	0.079 9						
x2811.2 3	0.10 1						

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Comments</u>
x2816.2 2	0.12 1					
x2822.6 1	0.12 1					
x2834.3 3	0.06 1					
x2845.0 <sup>‡</sup> 1	0.23 2					
x2851.3 4	0.065 9					
x2860.6 2	0.14 1					
x2867.0 3	0.072 9					
x2892.9 2	0.14 1					
x2903.3 2	0.16 1					
2911.4 2	0.29 2	4313.11	2 <sup>+</sup>	1401.30	4 <sup>+</sup>	
x2919.5 3	0.12 1					
2926.5 1	0.45 3	3802.63	(2 <sup>+</sup> )	876.09	2 <sup>+</sup>	Other: 2927.2 4 (1977Ge03).
x2941.3 4	0.16 4					
x2954.5 6	0.10 2					
x2961 1	0.06 2					
x2966 2	0.04 2					
3006.2 1	0.59 4	3802.63	(2 <sup>+</sup> )	796.18	4 <sup>+</sup>	E <sub>γ</sub> : other: 3007.0 6 (1977Ge03).
x3028.5 5	0.13 1					
x3031.9 <sup>a</sup> 8	0.36 9					
3034.5 1	0.70 5	3357.21	2 <sup>+</sup>	322.60	2 <sup>+</sup>	
3042.9 <sup>bj</sup> 3	0.14 1	4313.11	2 <sup>+</sup>	1271.72	3 <sup>+</sup>	E <sub>γ</sub> : written in authors' table but not seen in their drawing.
x3057.7 3	0.10 1					
x3072.9 3	0.08 1					
x3087.8 3	0.12 2					
x3096 2	0.03 2					
x3100.1 9	0.06 2					
x3109.1 2	0.29 4					
x3122.0 5	0.041 9					
x3129.8 2	0.10 1					
x3139.5 2	0.18 1					
3148.3 <sup>‡</sup> 2	0.41 3	3470.91	(2 <sup>+</sup> )	322.60	2 <sup>+</sup>	
x3149.8 <sup>a‡</sup> 8	0.67 13					
x3153 1	0.04 2					
x3175.3 2	0.17 1					
x3183.3 4	0.065 9					
x3190.7 3	0.10 1					
x3201.2 2	0.25 3					
x3205.8 5	0.12 1					
x3218.4 3	0.066 9					
x3224.5 6	0.030 6					
x3243.9 2	0.10 1					
x3249.1 4	0.068 8					
x3264.7 5	0.06 1					

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>
x3276.3 <sup>‡</sup> 1	0.40 3				
x3290.8 5	0.08 1				
x3298.4 4	0.11 1				
x3312 1	0.03 1				
x3324 1	0.07 2				
x3328.3 4	0.11 3				
x3337.3 2	0.14 2				
3357.2 <sup>‡</sup> 1	0.29 2	3357.21	2 <sup>+</sup>	0.0	0 <sup>+</sup>
x3371.4 4	0.039 6				
x3391.6 8	0.05 1				
3404.5 4	0.14 1	4313.11	2 <sup>+</sup>	908.70	0 <sup>+</sup>
x3414.2 2	0.19 1				
x3451.9 2	0.15 1				
x3464.4 6	0.027 5				
3470.6 4	0.041 5	3470.91	(2 <sup>+</sup> )	0.0	0 <sup>+</sup>
3480.8 3	0.048 6	3802.63	(2 <sup>+</sup> )	322.60	2 <sup>+</sup>
x3495.8 <sup>&amp;</sup> 8	0.034 9				
x3495.8 <sup>&amp;</sup> 9	0.032 9				
x3506.9 8	0.06 2				
x3510.9 6	0.08 2				
x3524.8 3	0.10 1				
x3532.2 4	0.09 1				
x3548.7 3	0.076 8				
x3555.4 9	0.020 5				
x3569.2 4	0.043 7				
x3584.1 5	0.06 1				
x3592 2	0.06 3				
x3604.2 4	0.07 1				
x3613.9 2	0.16 2				
x3624.6 3	0.07 1				
x3633.1 3	0.10 2				
x3638.3 8	0.033 9				
x3644.5 2	0.13 2				
x3651.3 4	0.06 2				
x3661.0 5	0.031 7				
x3666.4 5	0.031 7				
x3687.4 3	0.045 6				
x3699.5 3	0.043 6				
x3713.6 4	0.049 6				
x3720.0 4	0.051 7				
x3733.5 2	0.068 9				
x3748.0 7	0.021 8				
x3757.0 3	0.061 9				

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>J<sub>i</sub><sup>π</sup></u>	<u>E<sub>f</sub></u>	<u>J<sub>f</sub><sup>π</sup></u>	<u>Comments</u>
x3765.4 4	0.034 7					
x3775.3 2	0.08 1					
x3787.7 5	0.022 6					
x3797.1 3	0.058 6					
3802.9 2	0.092 8	3802.63	(2 <sup>+</sup> )	0.0	0 <sup>+</sup>	
x3839.6 2	0.058 6					
x3852.3 4	0.042 7					
x3857.0 4	0.045 6					
x3873.7 4	0.032 4					
x3908.4 8	0.027 5					
x3915.5 1	0.27 2					
x3916.7 <sup>a</sup> 8	0.36 6					
x3928.3 6	0.024 5					
x3945.6 4	0.043 5					
x3951 1	0.019 5					
x3956.8 4	0.051 6					
x3966.2 3	0.043 5					
3990.9 3	0.046 5	4313.11	2 <sup>+</sup>	322.60	2 <sup>+</sup>	
x4019.2 4	0.072 9					
x4021.0 <sup>a</sup> 8	0.15 6					
x4024.0 5	0.051 8					
x4026.0 <sup>a</sup> 8	0.09 3					
x4035.8 4	0.030 5					
x4067.5 <sup>‡</sup> 2	0.087 7					Others: E=4068.5 8, I <sub>γ</sub> =0.15 6 (1977Ge03).
x4081.2 4	0.024 3					
x4095.3 3	0.039 4					
x4111.9 5	0.020 3					
x4118 1	0.010 3					
x4173.7 6	0.015 3					
x4190.2 4	0.023 3					
x4222.4 6	0.016 3					
x4230.4 4	0.023 3					
4313.0 1	0.107 8	4313.11	2 <sup>+</sup>	0.0	0 <sup>+</sup>	
x4314.5 <sup>a</sup> 8	0.15 6					
x4332.1 3	0.044 4					
x4342.3 4	0.026 3					
x4360.4 3	0.028 3					
x4370.6 6	0.014 3					
x4426.5 5	0.012 3					
x4437.3 4	0.017 3					
x4447.7 7	0.010 3					
x4457.6 3	0.035 5					
x4464 2	0.006 3					

<sup>120</sup>Cs ε decay (64 s+57 s) 1990MaYX (continued)

γ(<sup>120</sup>Xe) (continued)

<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>	<u>E<sub>γ</sub><sup>†</sup></u>	<u>I<sub>γ</sub></u>	<u>E<sub>i</sub>(level)</u>
<sup>x</sup> 4479.3 8	0.010 5		<sup>x</sup> 4634.7 9	0.010 2		<sup>x</sup> 4771.6 4	0.024 4		<sup>x</sup> 4989.7 3	0.023 3	
<sup>x</sup> 4496 2	0.009 3		<sup>x</sup> 4657 1	0.006 2		<sup>x</sup> 4796 1	0.007 2		<sup>x</sup> 5010.0 5	0.010 2	
<sup>x</sup> 4505 1	0.012 3		<sup>x</sup> 4667.6 5	0.014 2		<sup>x</sup> 4822 1	0.007 2		<sup>x</sup> 5208.4 8	0.007 1	
<sup>x</sup> 4533.6 7	0.034 9		<sup>x</sup> 4685.9 5	0.013 2		<sup>x</sup> 4836.9 5	0.014 2		<sup>x</sup> 5239.6 5	0.010 1	
<sup>x</sup> 4594.4 3	0.030 3		<sup>x</sup> 4696.3 9	0.007 2		<sup>x</sup> 4859 1	0.006 2				
<sup>x</sup> 4618 1	0.007 2		<sup>x</sup> 4727 1	0.005 2		<sup>x</sup> 4913.7 6	0.008 1				
<sup>x</sup> 4625.3 8	0.015 3		<sup>x</sup> 4751.1 8	0.011 3		<sup>x</sup> 4959.5 9	0.005 1				

<sup>†</sup> From 1990MaYX, unless otherwise noted.

<sup>‡</sup> Reported also in 1977Ge03, but most of those were treated as unplaced γ by the authors.

<sup>#</sup> Renormalized to α(K)(322γ E2)=0.0276.

<sup>@</sup> From α(K)exp and/or measured K/L ratio from 1990MaYX, unless otherwise noted.

<sup>&</sup> Perhaps one of the two values is a typo.

<sup>a</sup> Only reported by 1977Ge03.

<sup>b</sup> Poor fitting to the levels from a least-squares fit.

<sup>c</sup> 1522.0γ reported by 1977Ge03 is possible as a composite line of these γ's.

<sup>d</sup> If the 2853 level is a doublet, this γ possibly decays from another member of the doublet (evaluators).

<sup>e</sup> Unplaced γ's in (1990MaYX).

<sup>f</sup> Not seen in authors' table but given as a coincident γ with the 601γ.

<sup>g</sup> No γ observed (1990MaYX).

<sup>h</sup> Multiply placed with undivided intensity.

<sup>i</sup> Multiply placed with intensity suitably divided.

<sup>j</sup> Placement of transition in the level scheme is uncertain.

<sup>x</sup> γ ray not placed in level scheme.



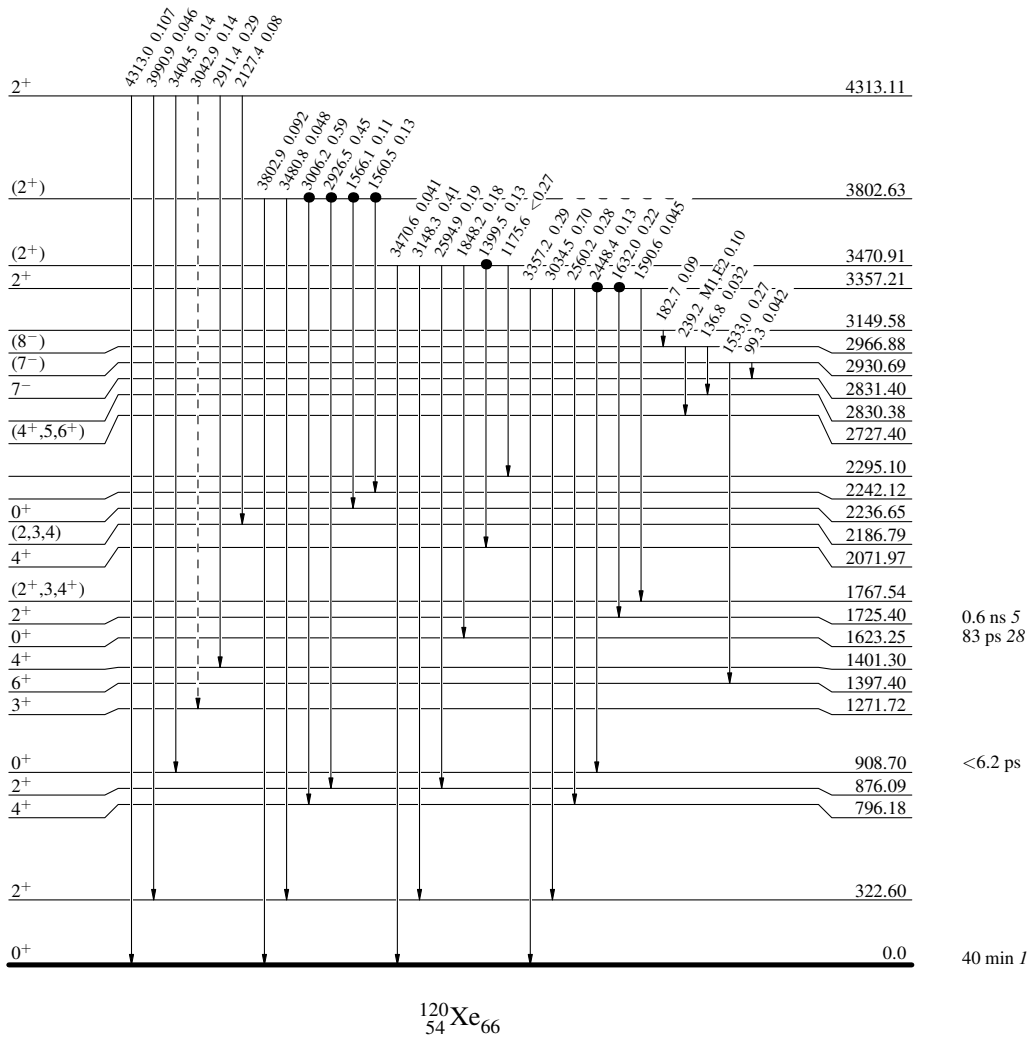
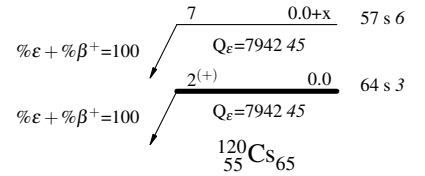
$^{120}\text{Cs}$   $\epsilon$  decay (64 s+57 s) 1990MaYX

Legend

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - - - -→  $\gamma$  Decay (Uncertain)
- Coincidence

Decay Scheme

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source



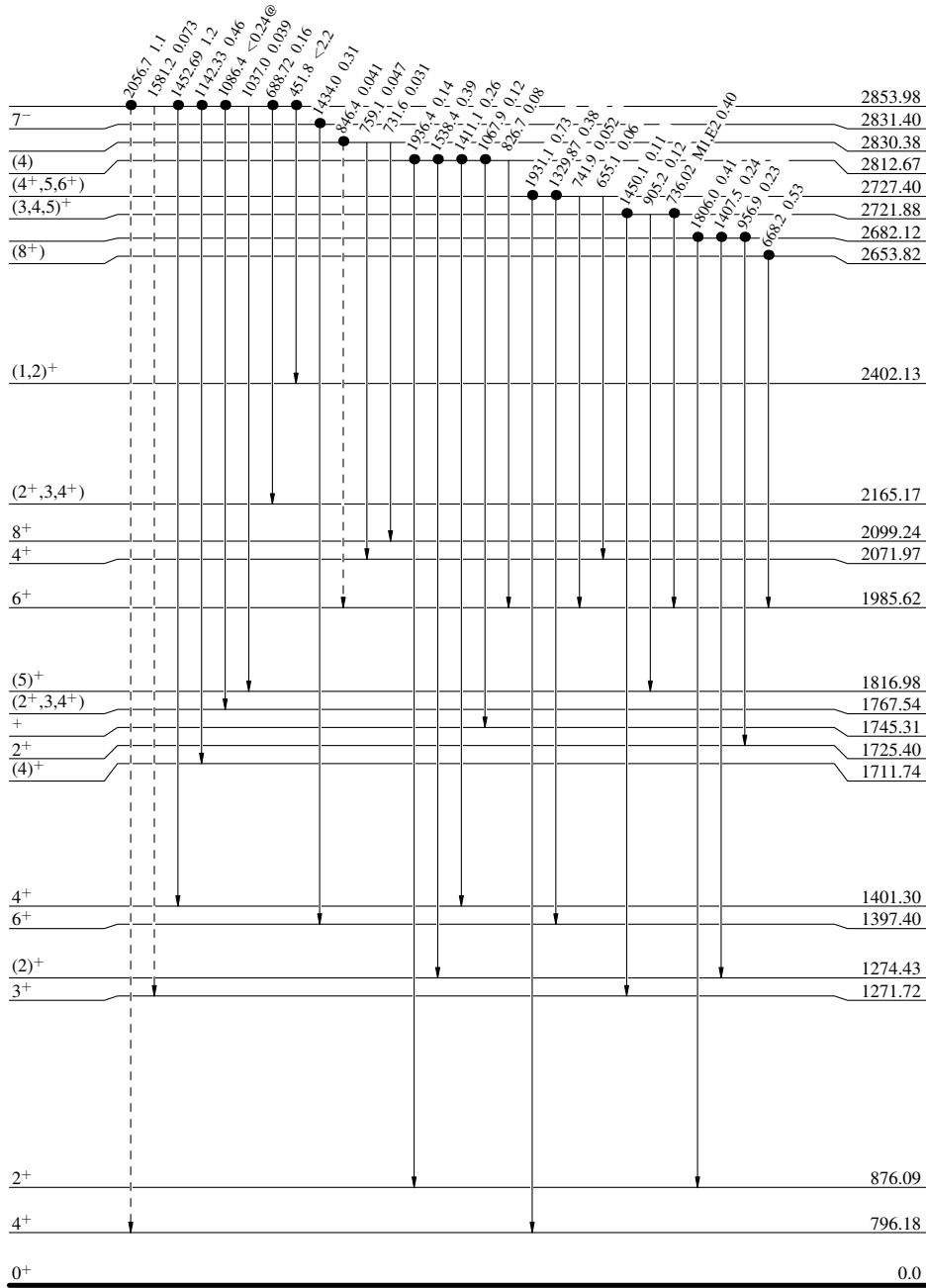
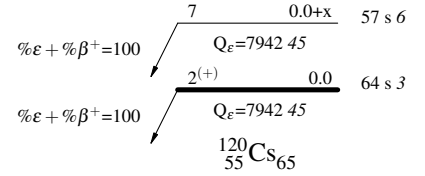
$^{120}\text{Cs}$   $\epsilon$  decay (64 s+57 s) 1990MaYX

Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - -  $\gamma$  Decay (Uncertain)
- Coincidence

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source  
@ Multiply placed: intensity suitably divided



0.6 ns 5

40 min 1

$^{120}_{54}\text{Xe}_{66}$

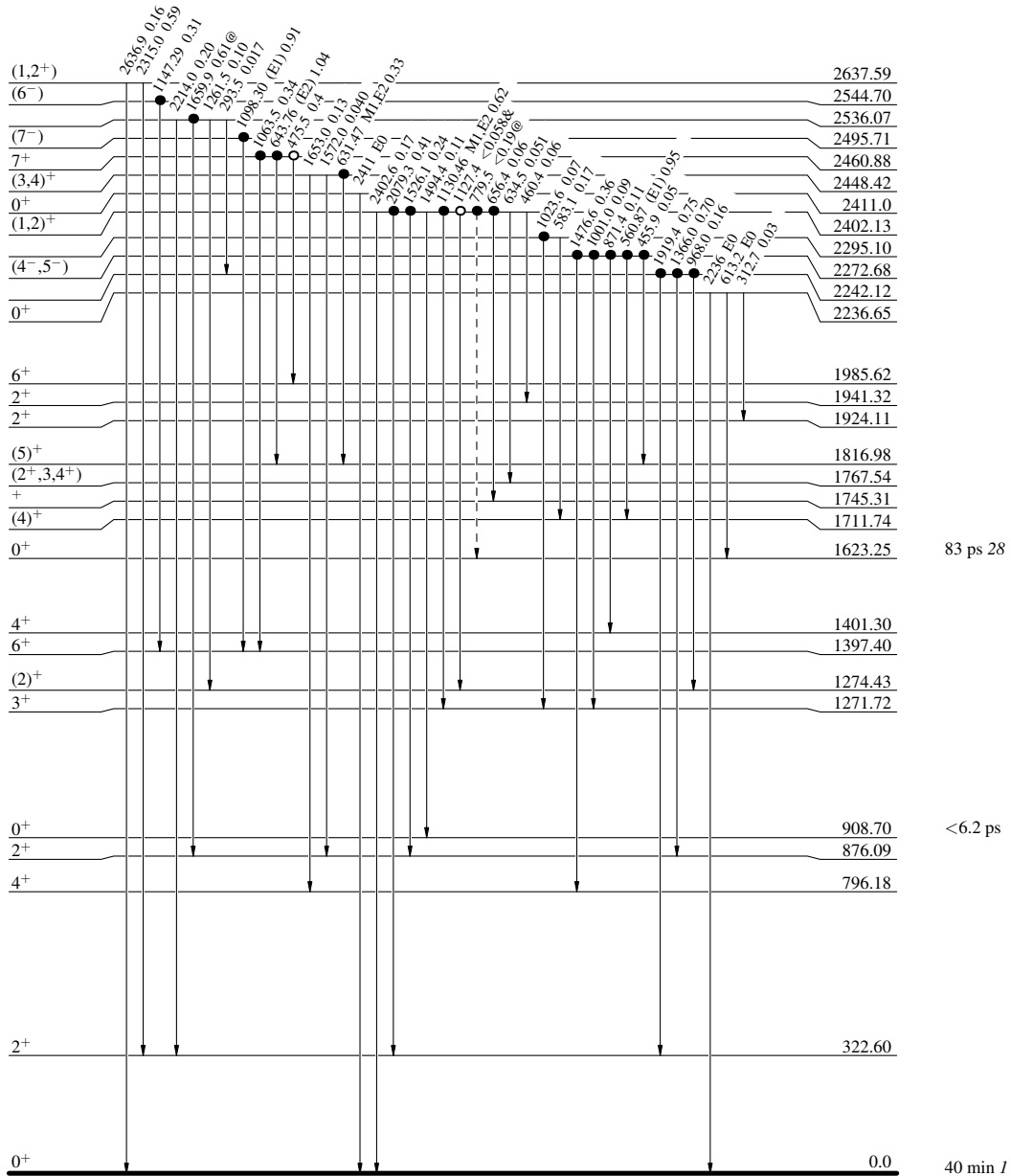
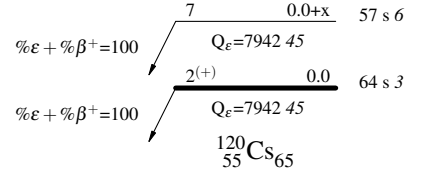
$^{120}\text{Cs}$   $\epsilon$  decay (64 s+57 s) 1990MaYX

Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - -→  $\gamma$  Decay (Uncertain)
- Coincidence
- Coincidence (Uncertain)

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided

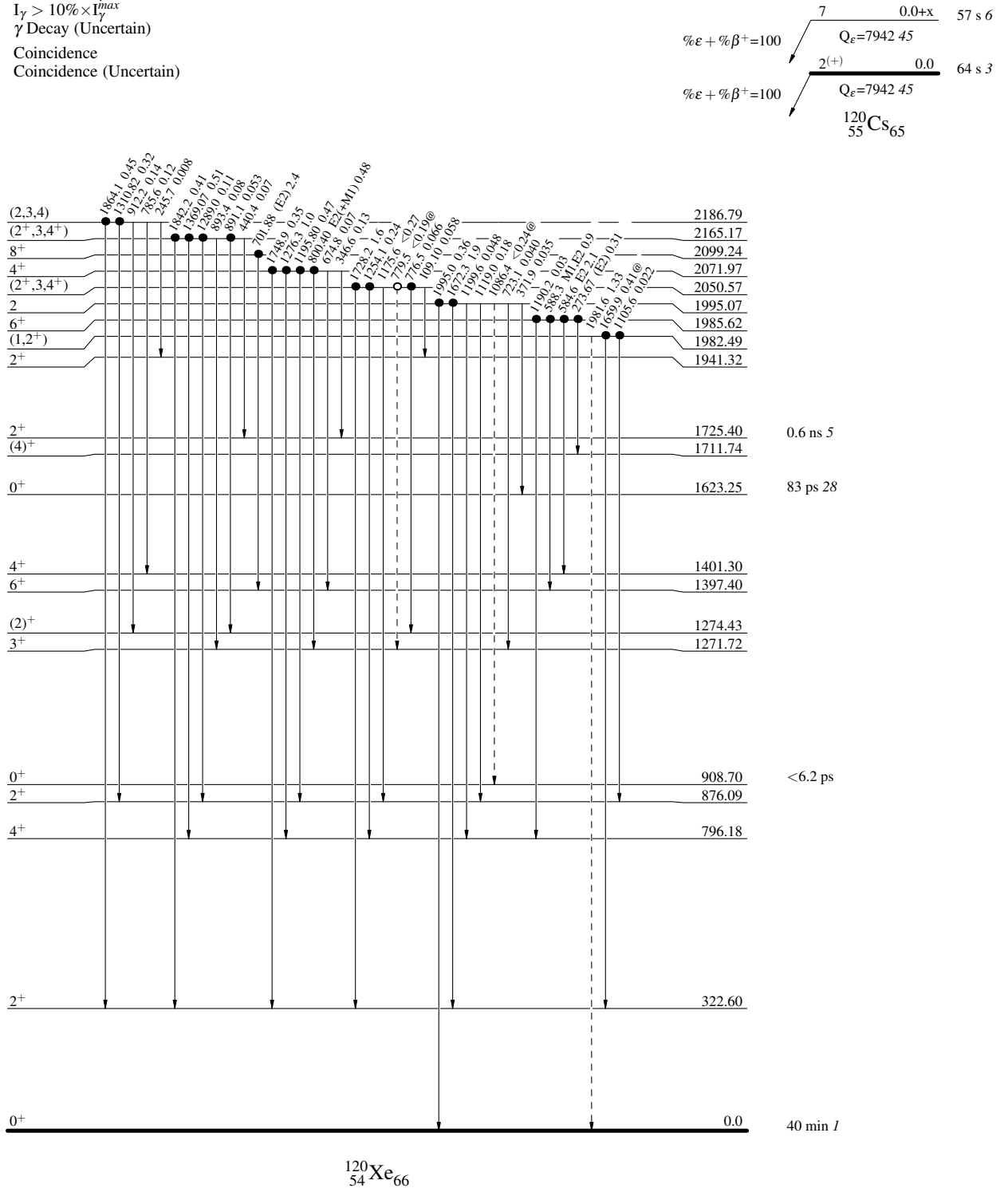


$^{120}\text{Cs}$   $\epsilon$  decay (64 s+57 s) 1990MaYX

## Legend

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

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided



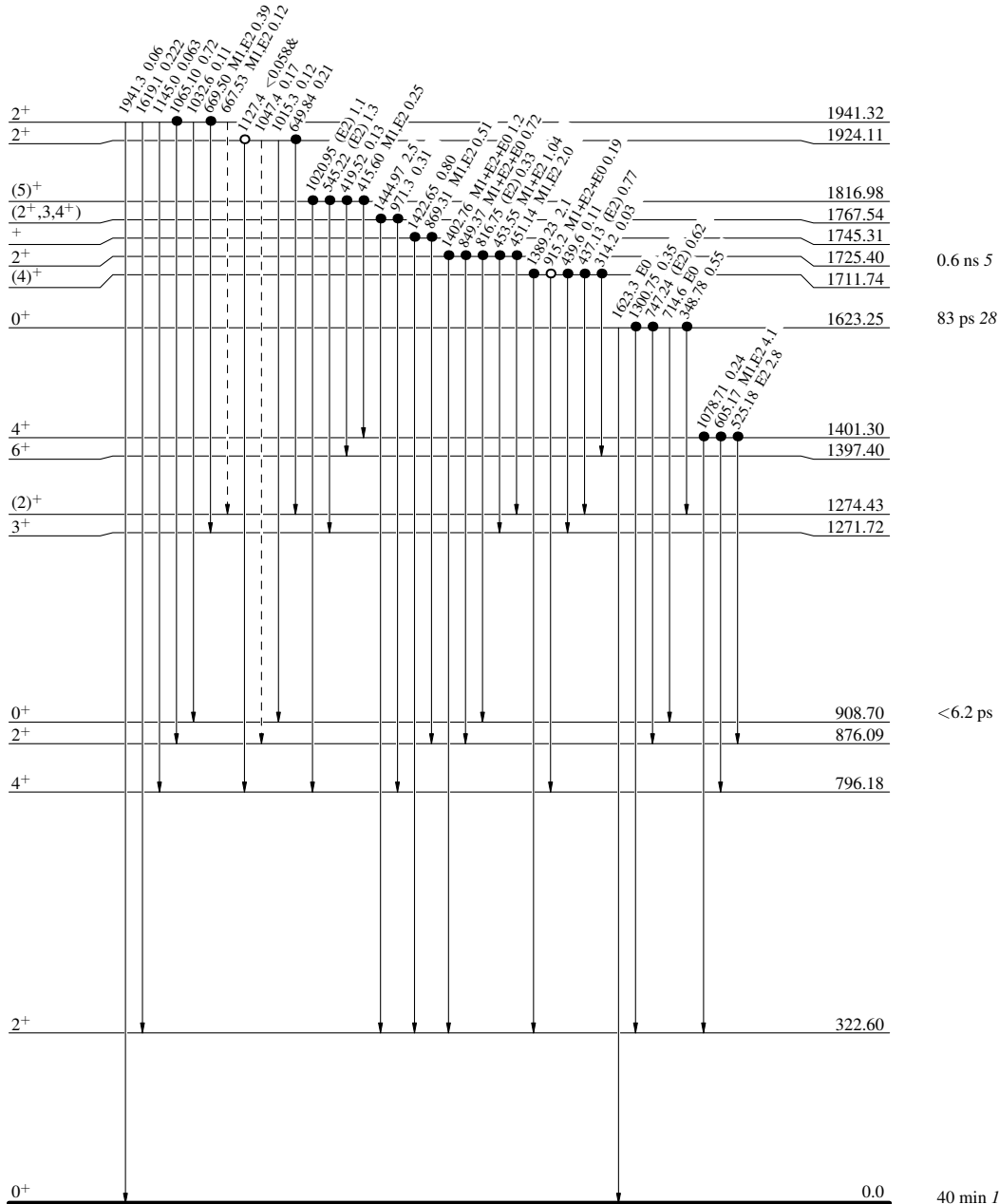
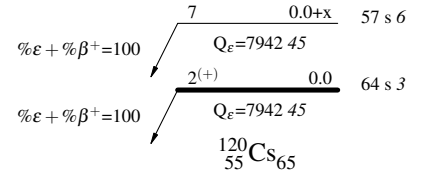
$^{120}\text{Cs}$   $\epsilon$  decay (64 s+57 s) 1990MaYX

Decay Scheme (continued)

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - -  $\gamma$  Decay (Uncertain)
- Coincidence
- Coincidence (Uncertain)

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source  
 & Multiply placed: undivided intensity given  
 @ Multiply placed: intensity suitably divided



$^{120}_{54}\text{Xe}_{66}$

$^{120}\text{Cs}$   $\varepsilon$  decay (64 s+57 s) 1990MaYX

## Decay Scheme (continued)

Intensities: Relative  $I_\gamma$  from a mixed 57-S, 64-S Cs source  
 & Multi placed: undivided intensity given  
 @ Multi placed: intensity suitably divided

## Legend

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

