

^{121}Xe ϵ decay [1972Mu03](#),[1971Ho02](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. Ohya	NDS 111, 1619 (2010)	20-Jan-2009

Parent: ^{121}Xe : $E=0.0$; $J^\pi=5/2^{(+)}$; $T_{1/2}=40.1$ min 20; $Q(\epsilon)=3776$ I2; $\% \epsilon + \% \beta^+$ decay=100.0

[1972Mu03](#): Ce(p,5pxn) $E=600$ MeV, on-line mass separation, semi γ , $\gamma\gamma$, semi and magnetic spectrometer ce ([1972Mu03](#)).

[1971Ho02](#): $\gamma\gamma(t)$, $\gamma\text{ce}(t)$.

The decay scheme is that proposed by [1972Mu03](#).

Others: [1969Bu07](#), [1971ShZY](#) $^{120}\text{Te}(\alpha,3n)$ $E=40$ MeV, semi γ .

The γ placements in the present decay scheme are inconsistent with the $J^\pi=(9/2)^+$ assignment of 433.6, 529.2, and 649.7 levels deduced from $^{121}\text{Sb}(^3\text{He},3n\gamma)$ data. The evaluators noted that inconsistencies of several β feedings with low $\log ft$ values (7.0-7.5) can be reduced by placing several gammas from higher lying levels with consistent energies.

^{121}I Levels

E(level) [†]	J^π [‡]	$T_{1/2}$ [#]	Comments
0.0	$5/2^+$	2.12 h 1	$T_{1/2}$: from Adopted Levels.
95.71 10	$1/2^+$	8.3 ns 4	$T_{1/2}$: from $(80\gamma + \gamma^\pm + 843\gamma)(96\gamma)(t)$ (1970Sc21).
132.87 10	$7/2^+$	0.35 ns 2	$T_{1/2}$: from $(600 < E(\gamma) < 800)(\text{ce } 132.8\gamma)(t)$ (1971Ho02).
175.84 11	$3/2^+$	0.32 ns 2	$T_{1/2}$: from $(600 < E(\gamma) < 800)(\text{ce } 81\gamma + 176\gamma)(t)$ (1971Ho02).
			$T_{1/2}$: from $\gamma\text{-ce}(t)$ (1971Ho02).
252.73 9	$3/2^+$	55 ps +10-15	$T_{1/2}$: from $(600 < E(\gamma) < 800)(\text{ce } 253\gamma)(t)$ (1971Ho02).
310.58 10	$5/2^+$	0.13 ns 3	$T_{1/2}$: from $(\gamma^\pm + \gamma)(\text{ce } 310\gamma)(t)$ (1971Ho02).
			$T_{1/2}$: from $\gamma\text{-ce}(t)$ (1971Ho02).
433.58 13	$(9/2)^+$		
445.33 11	$(7/2)^+$		
529.24 15	$(9/2)^+$		
649.73 15	$(9/2)^+$		
906.02 19			
930.76 21	$3/2^+, 5/2^+$		
938.21 16	$3/2^+, 5/2^+$		
961.99 17	$1/2^+, 3/2^+, 5/2^+$		
1006.52 17	$3/2^+, 5/2^+$		
1035.33 15	$3/2^+, 5/2^+$		
1046.31 21			
1077.46 16	$3/2^+, 5/2^+$		
1094.17 21			
1129.46 18			
1186.31 21			
1254.59 22			
1276.54 13	$3/2^+, 5/2^+$		
1302.6 3			
1339.31 18			
1558.5 3			
1679.95 25			
1793.46 21	$3/2^+, 5/2^+$		
1907.65 22			
1964.56 20	$3/2^+, 5/2^+$		
2022.9? 3	$3/2^+, 5/2^+$		
2076.86 16			
2188.33 23			
2220.50 18			
2223.65 22			
2465.5 4	$3/2^+, 5/2^+$		
2588.91 18			
2689.92 25			
2739.21 23			

Continued on next page (footnotes at end of table)

^{121}Xe ε decay **1972Mu03,1971Ho02** (continued)

^{121}I Levels (continued)

E(level) [†]	J π [‡]	E(level) [†]	E(level) [†]	E(level) [†]
2780.75 20		2847.5 3	3097.3 4	3194.32 19
2797.58 21		2892.8 3	3112.7 3	3229.8 3
2809.9 4	3/2 ⁺ , 5/2 ⁺	2904.5 3	3158.1 4	3398.49 23
2822.3 4		2994.1 3	3160.0 3	
2830.6 3		3067.94 22	3166.73 20	

[†] E(levels) are based on a least-squares fit to E(γ 's) from 1972Mu03.

[‡] From Adopted Levels.

[#] T_{1/2} are from $\gamma\gamma$ (t) (1970Sc21) and γ -ce(t) (1971Ho02), unless noted otherwise.

ε, β^+ radiations

E(decay)	E(level)	I β^+ [‡]	I ε [‡]	Log ft	I($\varepsilon + \beta^+$) [‡]	Comments
(378 12)	3398.49		0.64 9	5.23 9	0.64 9	$\varepsilon\text{K}=0.8378$ 8; $\varepsilon\text{L}=0.1275$ 6; $\varepsilon\text{M}+=0.03474$ 19
(546 12)	3229.8		0.20 5	6.07 12	0.20 5	$\varepsilon\text{K}=0.8447$ 4; $\varepsilon\text{L}=0.1222$ 3; $\varepsilon\text{M}+=0.03309$ 8
(582 12)	3194.32		1.23 16	5.34 8	1.23 16	$\varepsilon\text{K}=0.8456$ 3; $\varepsilon\text{L}=0.12156$ 23; $\varepsilon\text{M}+=0.03287$ 7
(609 12)	3166.73		1.36 20	5.34 9	1.36 20	$\varepsilon\text{K}=0.8462$ 3; $\varepsilon\text{L}=0.12109$ 20; $\varepsilon\text{M}+=0.03272$ 7
(616 12)	3160.0		1.15 17	5.42 9	1.15 17	$\varepsilon\text{K}=0.8463$ 3; $\varepsilon\text{L}=0.12098$ 20; $\varepsilon\text{M}+=0.03269$ 7
(618 12)	3158.1		0.26 6	6.07 12	0.26 6	$\varepsilon\text{K}=0.8464$ 3; $\varepsilon\text{L}=0.12095$ 20; $\varepsilon\text{M}+=0.03268$ 7
(663 12)	3112.7		0.39 7	5.96 10	0.39 7	$\varepsilon\text{K}=0.8473$ 3; $\varepsilon\text{L}=0.12028$ 17; $\varepsilon\text{M}+=0.03246$ 6
(679 12)	3097.3		0.29 6	6.11 11	0.29 6	$\varepsilon\text{K}=0.8475$ 2; $\varepsilon\text{L}=0.12007$ 16; $\varepsilon\text{M}+=0.03240$ 5
(708 12)	3067.94		0.59 9	5.84 9	0.59 9	$\varepsilon\text{K}=0.8480$ 2; $\varepsilon\text{L}=0.11971$ 15; $\varepsilon\text{M}+=0.03229$ 5
(782 12)	2994.1		0.47 7	6.03 9	0.47 7	$\varepsilon\text{K}=0.8491$ 2; $\varepsilon\text{L}=0.1189$ 2; $\varepsilon\text{M}+=0.03204$ 4
(872 12)	2904.5		0.67 11	5.97 9	0.67 11	$\varepsilon\text{K}=0.8501$ 2; $\varepsilon\text{L}=0.1181$ 1; $\varepsilon\text{M}+=0.03179$ 3
(883 12)	2892.8		0.47 7	6.14 9	0.47 7	$\varepsilon\text{K}=0.8502$ 2; $\varepsilon\text{L}=0.1181$ 1; $\varepsilon\text{M}+=0.03177$ 3
(929 12)	2847.5		0.40 7	6.25 9	0.40 7	$\varepsilon\text{K}=0.8506$ 1; $\varepsilon\text{L}=0.11773$ 9; $\varepsilon\text{M}+=0.03166$ 3
(945 12)	2830.6		0.40 7	6.27 9	0.40 7	$\varepsilon\text{K}=0.8508$ 1; $\varepsilon\text{L}=0.11762$ 8; $\varepsilon\text{M}+=0.03163$ 3
(954 12)	2822.3		0.42 7	6.26 9	0.42 7	$\varepsilon\text{K}=0.8508$ 1; $\varepsilon\text{L}=0.11756$ 8; $\varepsilon\text{M}+=0.03161$ 3
(966 12)	2809.9		0.49 9	6.20 10	0.49 9	$\varepsilon\text{K}=0.8509$ 1; $\varepsilon\text{L}=0.11749$ 8; $\varepsilon\text{M}+=0.03159$ 3
(978 12)	2797.58		3.3 4	5.38 8	3.3 4	$\varepsilon\text{K}=0.8510$ 1; $\varepsilon\text{L}=0.11741$ 8; $\varepsilon\text{M}+=0.03156$ 3
(995 12)	2780.75		0.71 10	6.07 8	0.71 10	$\varepsilon\text{K}=0.8512$ 1; $\varepsilon\text{L}=0.11731$ 7; $\varepsilon\text{M}+=0.03153$ 3
(1037 12)	2739.21		3.9 5	5.36 8	3.9 5	$\varepsilon\text{K}=0.85146$ 9; $\varepsilon\text{L}=0.11708$ 7; $\varepsilon\text{M}+=0.03146$ 2
(1086 12)	2689.92		0.69 11	6.16 9	0.69 11	$\varepsilon\text{K}=0.8518$; $\varepsilon\text{L}=0.11683$ 6; $\varepsilon\text{M}+=0.03138$ 2
(1187 12)	2588.91		1.78 22	5.82 8	1.78 22	$\varepsilon\text{K}=0.8523$; $\varepsilon\text{L}=0.11637$ 6; $\varepsilon\text{M}+=0.03124$ 2
(1311 12)	2465.5		0.37 8	6.59 11	0.37 8	$\varepsilon\text{K}=0.85223$ 9; $\varepsilon\text{L}=0.11582$ 6; $\varepsilon\text{M}+=0.03107$ 2
(1552 12)	2223.65	0.0108 18	1.05 15	6.29 8	1.06 15	av $E\beta=244.8$ 53; $\varepsilon\text{K}=0.8452$ 8; $\varepsilon\text{L}=0.11408$ 13; $\varepsilon\text{M}+=0.03057$ 4
(1556 12)	2220.50	0.0121 21	1.16 17	6.25 8	1.17 17	av $E\beta=246.1$ 53; $\varepsilon\text{K}=0.8450$ 8; $\varepsilon\text{L}=0.11405$ 14; $\varepsilon\text{M}+=0.03057$ 4
(1588 12)	2188.33	0.0054 12	0.41 9	6.71 11	0.42 9	av $E\beta=260.1$ 53; $\varepsilon\text{K}=0.8429$ 9; $\varepsilon\text{L}=0.11368$ 15; $\varepsilon\text{M}+=0.03046$ 4
(1699 12)	2076.86	0.031 5	1.23 20	6.30 9	1.26 20	av $E\beta=308.7$ 53; $\varepsilon\text{K}=0.8329$ 14; $\varepsilon\text{L}=0.11207$ 21; $\varepsilon\text{M}+=0.03002$ 6
(1753 12)	2022.9?	0.014 3	0.43 8	6.79 10	0.44 8	av $E\beta=332.2$ 53; $\varepsilon\text{K}=0.8264$ 16; $\varepsilon\text{L}=0.11108$ 24; $\varepsilon\text{M}+=0.02975$ 7
(1811 12)	1964.56	0.035 6	0.79 13	6.55 9	0.83 14	av $E\beta=357.7$ 53; $\varepsilon\text{K}=0.8180$ 19; $\varepsilon\text{L}=0.1098$ 3; $\varepsilon\text{M}+=0.02941$ 8
(1868 12)	1907.65	0.023 4	0.40 7	6.88 9	0.42 7	av $E\beta=382.5$ 53; $\varepsilon\text{K}=0.8085$ 22; $\varepsilon\text{L}=0.1085$ 4; $\varepsilon\text{M}+=0.02904$ 9
(1983 12)	1793.46	0.064 11	0.72 12	6.67 9	0.78 13	av $E\beta=432.6$ 53; $\varepsilon\text{K}=0.785$ 3; $\varepsilon\text{L}=0.1051$ 4; $\varepsilon\text{M}+=0.02814$ 11
(2096 12)	1679.95	0.046 7	0.35 5	7.03 9	0.40 6	av $E\beta=482.6$ 53; $\varepsilon\text{K}=0.757$ 4; $\varepsilon\text{L}=0.1011$ 5; $\varepsilon\text{M}+=0.02707$

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^{121}Xe ϵ decay **1972Mu03,1971Ho02** (continued) ϵ, β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ ‡	$I\epsilon$ ‡	Log ft	$I(\epsilon + \beta^+)$ ‡	Comments
(2218 12)	1558.5	0.055 10	0.29 5	7.16 9	0.35 6	13 av $E\beta=536.3$ 54; $\epsilon K=0.721$ 4; $\epsilon L=0.0962$ 6; $\epsilon M+=0.02574$ 14
(2499 12)	1276.54	0.48 7	1.27 17	6.63 8	1.75 24	av $E\beta=662.0$ 54; $\epsilon K=0.622$ 5; $\epsilon L=0.0828$ 6; $\epsilon M+=0.02216$ 17
(2521 12)	1254.59	0.23 4	0.59 10	6.97 9	0.82 14	av $E\beta=671.8$ 54; $\epsilon K=0.614$ 5; $\epsilon L=0.0817$ 6; $\epsilon M+=0.02186$ 17
(2590 12)	1186.31	0.11 4	0.24 10	7.38 18	0.35 14	av $E\beta=702.4$ 54; $\epsilon K=0.589$ 5; $\epsilon L=0.0783$ 6; $\epsilon M+=0.02094$ 17
(2682 12)	1094.17	0.20 3	0.38 6	7.22 9	0.58 9	av $E\beta=743.9$ 54; $\epsilon K=0.554$ 5; $\epsilon L=0.0736$ 6; $\epsilon M+=0.01969$ 17
(2730 12)	1046.31	0.27 4	0.46 6	7.15 8	0.73 10	av $E\beta=765.5$ 55; $\epsilon K=0.536$ 5; $\epsilon L=0.0712$ 6; $\epsilon M+=0.01905$ 16
(2741 12)	1035.33	0.66 10	1.08 16	6.78 8	1.74 25	av $E\beta=770.4$ 55; $\epsilon K=0.532$ 5; $\epsilon L=0.0707$ 6; $\epsilon M+=0.01890$ 16
(2838 12)	938.21	0.30 7	0.42 9	7.22 11	0.72 16	av $E\beta=814.3$ 55; $\epsilon K=0.496$ 5; $\epsilon L=0.0659$ 6; $\epsilon M+=0.01762$ 16
(2845 12)	930.76	0.53 10	0.72 14	6.99 10	1.25 24	av $E\beta=817.7$ 55; $\epsilon K=0.494$ 5; $\epsilon L=0.0655$ 6; $\epsilon M+=0.01752$ 16
(3126 12)	649.73	0.47 11	0.41 10	7.32† 12	0.88† 21	av $E\beta=945.5$ 55; $\epsilon K=0.399$ 4; $\epsilon L=0.0528$ 5; $\epsilon M+=0.01411$ 14
(3247 12)	529.24	0.87 17	0.63 13	7.16† 10	1.5† 3	av $E\beta=1000.6$ 55; $\epsilon K=0.362$ 4; $\epsilon L=0.0480$ 5; $\epsilon M+=0.01282$ 13
(3331 12)	445.33	2.6 5	1.7 4	6.75 11	4.3 9	av $E\beta=1039.1$ 56; $\epsilon K=0.339$ 4; $\epsilon L=0.0448$ 5; $\epsilon M+=0.01198$ 12
(3342 12)	433.58	1.8 2	1.1 2	6.93† 8	2.9† 4	av $E\beta=1044.5$ 56; $\epsilon K=0.335$ 4; $\epsilon L=0.0444$ 5; $\epsilon M+=0.01186$ 12
(3465 12)	310.58	5.0 6	2.7 4	6.58 8	7.7 10	av $E\beta=1101.1$ 56; $\epsilon K=0.304$ 3; $\epsilon L=0.0402$ 4; $\epsilon M+=0.01074$ 11
(3523 12)	252.73	3.5 5	1.8 2	6.78 8	5.3 7	av $E\beta=1127.8$ 56; $\epsilon K=0.290$ 3; $\epsilon L=0.0383$ 4; $\epsilon M+=0.01024$ 10
(3600 12)	175.84	4.4 8	2.1 4	6.74 10	6.5 12	av $E\beta=1163.3$ 56; $\epsilon K=0.272$ 3; $\epsilon L=0.0360$ 4; $\epsilon M+=0.00962$ 10
(3643 12)	132.87	4.5 10	2.0 4	6.76 11	6.5 14	av $E\beta=1183.1$ 56; $\epsilon K=0.263$ 3; $\epsilon L=0.0348$ 4; $\epsilon M+=0.00930$ 9
(3680 12)	95.71	≤ 0.91	≤ 0.39	≥ 7.5	≤ 1.3	av $E\beta=1200.3$ 56; $\epsilon K=0.2555$ 25; $\epsilon L=0.0338$ 4; $\epsilon M+=0.00902$ 9
(3776 12)	0.0	20 6	7.7 22	6.21 14	28 8	av $E\beta=1244.7$ 56; $\epsilon K=0.2367$ 23; $\epsilon L=0.0313$ 3; $\epsilon M+=0.00835$ 8

† The evaluator noted that inconsistency of β feedings with low log ft value can be reduced by of several gammas from higher lying levels with consistent energies.

‡ For absolute intensity per 100 decays, multiply by 1.00 10.

¹²¹Xe ε decay **1972Mu03,1971Ho02** (continued)

γ(¹²¹I)

Iγ normalization: from sum I(γ+ce) to g.s.=72% 9.

E_γ †	I_γ ‡α	E_i (level)	J_i^π	E_f	J_f^π	Mult.#	$\delta^\#$	α^b	Comments
57.8 2	4.2 3	310.58	5/2 ⁺	252.73	3/2 ⁺	M1(+E2)	0.10 10	3.7 3	$\alpha(K)=3.14$ 10; $\alpha(L)=0.46$ 15; $\alpha(M)=0.09$ 3; $\alpha(N+..)=0.021$ 7 $\alpha(N)=0.019$ 6; $\alpha(O)=0.0021$ 5 Mult.: from $\alpha(L)\text{exp}=0.50$ 8. δ : <0.20 from $\alpha(L)\text{exp}$.
^x 72.6 3 77.0 3	1.2 2 0.6 1	252.73	3/2 ⁺	175.84	3/2 ⁺	[M1]		1.58 3	$\alpha(K)=1.357$ 25; $\alpha(L)=0.178$ 4; $\alpha(M)=0.0359$ 7; $\alpha(N+..)=0.00812$ 15 $\alpha(N)=0.00727$ 14; $\alpha(O)=0.000850$ 16
80.1 2	19.0 15	175.84	3/2 ⁺	95.71	1/2 ⁺	M1		1.410	ce(K)/(γ+ce)=0.503 5; ce(L)/(γ+ce)=0.0660 12; ce(M)/(γ+ce)=0.01331 24; ce(N+)/(γ+ce)=0.00301 6 ce(N)/(γ+ce)=0.00269 5; ce(O)/(γ+ce)=0.000315 6
84.0 3	0.5 1	529.24	(9/2) ⁺	445.33	(7/2) ⁺	E2		3.26 7	$\alpha(K)=2.05$ 4; $\alpha(L)=0.966$ 21; $\alpha(M)=0.205$ 5; $\alpha(N+..)=0.0430$ 10 $\alpha(N)=0.0394$ 9; $\alpha(O)=0.00361$ 8 Mult.: from $\alpha(K)\text{exp}=2.32$ 50.
95.7 2	36 3	95.71	1/2 ⁺	0.0	5/2 ⁺	E2		2.05 4	$\alpha(K)=1.372$ 22; $\alpha(L)=0.540$ 9; $\alpha(M)=0.1143$ 20; $\alpha(N+..)=0.0241$ 4 $\alpha(N)=0.0220$ 4; $\alpha(O)=0.00205$ 4 Mult.: from $\alpha(K)\text{exp}=1.40$ 15, $\alpha(L)\text{exp}=0.56$ 7, $\alpha(M)\text{exp}=0.17$ 5.
132.8 2	87 7	132.87	7/2 ⁺	0.0	5/2 ⁺	M1(+E2)	-0.03 +9-5	0.337 6	$\alpha(K)=0.289$ 5; $\alpha(L)=0.0378$ 8; $\alpha(M)=0.00761$ 16; $\alpha(N+..)=0.00172$ 4 $\alpha(N)=0.00154$ 3; $\alpha(O)=0.000180$ 4 Mult.: from $\alpha(K)\text{exp}=0.28$ 3, $\alpha(L)\text{exp}=0.038$ 5, $\alpha(M)\text{exp}=0.011$ 4; δ : from adopted gammas.
134.6 3	5.2 7	310.58	5/2 ⁺	175.84	3/2 ⁺	M1(+E2)	0.10 10	0.327 10	$\alpha(K)=0.280$ 7; $\alpha(L)=0.037$ 3; $\alpha(M)=0.0075$ 6; $\alpha(N+..)=0.00169$ 12 $\alpha(N)=0.00152$ 11; $\alpha(O)=0.000176$ 10 Mult.: from $\alpha(K)\text{exp}=0.27$ 5. δ : <0.20 from $\alpha(K)\text{exp}$.
157.0 2	2.5 3	252.73	3/2 ⁺	95.71	1/2 ⁺	M1(+E2)	0.42 42	0.23 4	$\alpha(K)=0.196$ 25; $\alpha(L)=0.030$ 12; $\alpha(M)=0.0061$ 24; $\alpha(N+..)=0.0014$ 5 $\alpha(N)=0.0012$ 5; $\alpha(O)=0.00014$ 4 Mult.: from $\alpha(K)\text{exp}=0.19$ 4. δ : <0.84 from $\alpha(K)\text{exp}$.
175.8 3	34 5	175.84	3/2 ⁺	0.0	5/2 ⁺	M1(+E2)	0.42 42	0.168 23	$\alpha(K)=0.142$ 15; $\alpha(L)=0.021$ 7; $\alpha(M)=0.0043$ 14; $\alpha(N+..)=0.0009$ 3 $\alpha(N)=0.0009$ 3; $\alpha(O)=9.6 \times 10^{-5}$ 24 Mult.: from $\alpha(K)\text{exp}=0.13$ 3, $\alpha(L)\text{exp}=0.022$ 6. δ : from $\alpha(K)\text{exp}$.
177.7 3	8.5 10	310.58	5/2 ⁺	132.87	7/2 ⁺	M1(+E2)	0.6 6	0.17 3	$\alpha(K)=0.144$ 18; $\alpha(L)=0.023$ 8; $\alpha(M)=0.0047$ 16; $\alpha(N+..)=0.0010$ 4 $\alpha(N)=0.0009$ 3; $\alpha(O)=0.00010$ 3 Mult.: from $\alpha(K)\text{exp}=0.12$ 3, $\alpha(L)\text{exp}=0.018$ 7. δ : <1.2 from $\alpha(K)\text{exp}$.
192.6 3	0.4 1	445.33	(7/2) ⁺	252.73	3/2 ⁺	[E2]		0.177	$\alpha(K)=0.1404$ 21; $\alpha(L)=0.0291$ 5; $\alpha(M)=0.00602$ 10;

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¹²¹Xe ε decay [1972Mu03,1971Ho02](#) (continued)

γ(¹²¹I) (continued)

E_γ^{\dagger}	$I_\gamma^{\ddagger a}$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.#	$\delta^\#$	α^b	Comments
204.5 3	0.8 2	649.73	(9/2) ⁺	445.33	(7/2) ⁺	M1+E2	+0.03 15	0.1029 20	$\alpha(\text{N}+..)=0.001300$ 20 $\alpha(\text{N})=0.001180$ 18; $\alpha(\text{O})=0.0001202$ 19 $\alpha(\text{K})=0.0887$ 16; $\alpha(\text{L})=0.0114$ 4; $\alpha(\text{M})=0.00230$ 9; $\alpha(\text{N}+..)=0.000521$ 18 $\alpha(\text{N})=0.000466$ 16; $\alpha(\text{O})=5.47 \times 10^{-5}$ 15 Mult., δ : from adopted gammas.
214.6 3	4.6 6	310.58	5/2 ⁺	95.71	1/2 ⁺	[E2]		0.1221	$\alpha(\text{K})=0.0983$ 15; $\alpha(\text{L})=0.0191$ 3; $\alpha(\text{M})=0.00394$ 6; $\alpha(\text{N}+..)=0.000855$ 13 $\alpha(\text{N})=0.000775$ 12; $\alpha(\text{O})=8.00 \times 10^{-5}$ 12
252.7 2	100	252.73	3/2 ⁺	0.0	5/2 ⁺	M1(+E2)	0.33 33	0.060 3	$\alpha(\text{K})=0.0512$ 17; $\alpha(\text{L})=0.0068$ 8; $\alpha(\text{M})=0.00138$ 17; $\alpha(\text{N}+..)=0.00031$ 4 $\alpha(\text{N})=0.00028$ 4; $\alpha(\text{O})=3.2 \times 10^{-5}$ 3 Mult.: from $\alpha(\text{K})\text{exp}=0.054$ 7, $\alpha(\text{L})\text{exp}=0.0074$ 10. δ : <0.66 from $\alpha(\text{K})\text{exp}$.
300.7 2	20.5 15	433.58	(9/2) ⁺	132.87	7/2 ⁺	M1+E2	+0.13 +7-5	0.0371	$\alpha(\text{K})=0.0320$ 5; $\alpha(\text{L})=0.00410$ 7; $\alpha(\text{M})=0.000824$ 14; $\alpha(\text{N}+..)=0.000187$ 3 $\alpha(\text{N})=0.000167$ 3; $\alpha(\text{O})=1.96 \times 10^{-5}$ 3 Mult.: from $\alpha(\text{K})\text{exp}=0.036$ 10; δ : from adopted gammas.
310.5 2	43 4	310.58	5/2 ⁺	0.0	5/2 ⁺	M1(+E2)	1.0	0.0351	$\alpha(\text{K})=0.0297$ 5; $\alpha(\text{L})=0.00432$ 7; $\alpha(\text{M})=0.000878$ 13; $\alpha(\text{N}+..)=0.000195$ 3 $\alpha(\text{N})=0.0001758$ 25; $\alpha(\text{O})=1.97 \times 10^{-5}$ 3 Mult.: from $\alpha(\text{K})\text{exp}=0.031$ 6. δ : 1.0 assumed.
314.5 3 396.3 2	1.5 3 7.2 6	1276.54 529.24	3/2 ⁺ ,5/2 ⁺ (9/2) ⁺	961.99 132.87	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺ 7/2 ⁺	M1+E2	-0.20 5	0.0182	$\alpha(\text{K})=0.01574$ 23; $\alpha(\text{L})=0.00200$ 3; $\alpha(\text{M})=0.000402$ 6; $\alpha(\text{N}+..)=9.09 \times 10^{-5}$ 13 $\alpha(\text{N})=8.14 \times 10^{-5}$ 12; $\alpha(\text{O})=9.55 \times 10^{-6}$ 14 Mult., δ : assigned from d(+Q) and J^π of initial and final states in ¹²¹ Sb(³ He,3n γ).
433.4 2	8.4 7	433.58	(9/2) ⁺	0.0	5/2 ⁺	E2		0.01291	$\alpha(\text{K})=0.01090$ 16; $\alpha(\text{L})=0.001609$ 23; $\alpha(\text{M})=0.000327$ 5; $\alpha(\text{N}+..)=7.25 \times 10^{-5}$ 11 $\alpha(\text{N})=6.53 \times 10^{-5}$ 10; $\alpha(\text{O})=7.25 \times 10^{-6}$ 11
445.2 2	62 6	445.33	(7/2) ⁺	0.0	5/2 ⁺	M1+E2	-0.18 10	0.01360 21	$\alpha(\text{K})=0.01175$ 18; $\alpha(\text{L})=0.001483$ 21; $\alpha(\text{M})=0.000298$ 5; $\alpha(\text{N}+..)=6.75 \times 10^{-5}$ 10 $\alpha(\text{N})=6.04 \times 10^{-5}$ 9; $\alpha(\text{O})=7.10 \times 10^{-6}$ 11 Mult.: from $\alpha(\text{K})\text{exp}=0.011$ 3. δ : from adopted gammas.
485.3 3 516.7 ^c 3	2.1 3 0.9 ^{c@} 4	930.76 649.73	3/2 ⁺ ,5/2 ⁺ (9/2) ⁺	445.33 132.87	(7/2) ⁺ 7/2 ⁺	M1+E2	+0.12 5	0.00942 14	$\alpha(\text{K})=0.0096$; $\alpha(\text{L})=0.00121$; $\alpha(\text{M})=0.00024$ $\alpha=0.00942$ 14; $\alpha(\text{K})=0.00815$ 12;

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¹²¹Xe ε decay **1972Mu03,1971Ho02 (continued)**

γ(¹²¹I) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡α}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>	<u>Mult.#</u>	<u>α^b</u>	<u>Comments</u>
								α(L)=0.001021 15; α(M)=0.000205 3; α(N+..)=4.64×10 ⁻⁵ 7 α(N)=4.15×10 ⁻⁵ 6; α(O)=4.89×10 ⁻⁶ 7 I _γ : The relative intensity of multiply placed gammas was estimated from γγ-coincidence spectra (1972Mu03). However, the value is too small compared with the in-beam studies. Mult.: from adopted gammas. δ: from adopted gammas.
516.7 ^{cd} 3	1.4 ^{c@} 4	961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	445.33	(7/2) ⁺		0.0096	α=0.0096; α(K)=0.00825; α(L)=0.00103
529.1 4	11.0 15	529.24	(9/2) ⁺	0.0	5/2 ⁺	(E2)	0.00732 11	α=0.00732 11; α(K)=0.00623 9; α(L)=0.000875 13; α(M)=0.000177 3; α(N+..)=3.95×10 ⁻⁵ 6 α(N)=3.55×10 ⁻⁵ 5; α(O)=4.00×10 ⁻⁶ 6
539.1 3	0.4 1	1793.46	3/2 ⁺ ,5/2 ⁺	1254.59				
547.9 4	0.9 1	1077.46	3/2 ⁺ ,5/2 ⁺	529.24	(9/2) ⁺			
560.1 3	1.0 1	2780.75		2220.50				
585.6 3	0.9 1	1679.95		1094.17				
600.7 3	0.7 1	1046.31		445.33	(7/2) ⁺			
626.6 3	0.4 1	1276.54	3/2 ⁺ ,5/2 ⁺	649.73	(9/2) ⁺			
631.3 4	1.0 1	1907.65		1276.54	3/2 ⁺ ,5/2 ⁺			
649.7 3	12.2 12	649.73	(9/2) ⁺	0.0	5/2 ⁺	E2	0.00425 6	α=0.00425 6; α(K)=0.00363 6; α(L)=0.000490 7; α(M)=9.90×10 ⁻⁵ 14; α(N+..)=2.22×10 ⁻⁵ 4 α(N)=1.99×10 ⁻⁵ 3; α(O)=2.27×10 ⁻⁶ 4 Mult.: from adopted gammas.
660.2 3	3.0 3	1094.17		433.58	(9/2) ⁺			
685.3 3	0.5 1	938.21	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺			
696.0 3	1.5 2	1006.52	3/2 ⁺ ,5/2 ⁺	310.58	5/2 ⁺			
724.5 3	0.9 1	1035.33	3/2 ⁺ ,5/2 ⁺	310.58	5/2 ⁺			
^x 743.2 3	0.7 1							
753.9 3	4.7 5	1006.52	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺			
762.4 3	2.2 3	938.21	3/2 ⁺ ,5/2 ⁺	175.84	3/2 ⁺			
772.8 3	2.0 3	906.02		132.87	7/2 ⁺			
782.5 3	4.5 6	1035.33	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺			
805.4 4	0.60 15	938.21	3/2 ⁺ ,5/2 ⁺	132.87	7/2 ⁺			
809.0 4	4.1 6	1254.59		445.33	(7/2) ⁺			
818.4 4	0.7 1	1129.46		310.58	5/2 ⁺			
824.6 4	1.2 2	1077.46	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺			
830.9 3	3.3 4	1276.54	3/2 ⁺ ,5/2 ⁺	445.33	(7/2) ⁺			
842.5 ^c 3	5.8 ^{c@} 7	938.21	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺			
842.5 ^{cd} 3	0.7 ^{c@} 7	1094.17		252.73	3/2 ⁺			
857.6 5	1.1 2	1302.6		445.33	(7/2) ⁺			
^x 860.7 5	1.2 2							
866.0 3	3.8 5	961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺			

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¹²¹Xe ε decay 1972Mu03,1971Ho02 (continued)

γ(¹²¹I) (continued)

<u>E_γ[†]</u>	<u>I_γ^{‡a}</u>	<u>E_i(level)</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
875.7 4	0.7 1	1186.31		310.58	5/2 ⁺
893.7 4	1.0 1	1339.31		445.33	(7/2) ⁺
^x 899.3 5	0.4 1				
902.1 5	0.9 2	1035.33	3/2 ⁺ ,5/2 ⁺	132.87	7/2 ⁺
906.4 4	1.2 2	906.02		0.0	5/2 ⁺
911.1 5	1.5 3	1006.52	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
913.4 5	0.8 2	1046.31		132.87	7/2 ⁺
918.7 4	0.80 15	1094.17		175.84	3/2 ⁺
931.0 3	10.6 15	930.76	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
938.4 5	1.9 4	938.21	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
939.8 5	3.1 6	1035.33	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
944.7 5	2.4 4	1077.46	3/2 ⁺ ,5/2 ⁺	132.87	7/2 ⁺
947.3 5	0.9 2	2076.86		1129.46	
958.0 3	7.6 8	1964.56	3/2 ⁺ ,5/2 ⁺	1006.52	3/2 ⁺ ,5/2 ⁺
962.2 4	1.2 2	961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
966.4 4	1.5 3	1276.54	3/2 ⁺ ,5/2 ⁺	310.58	5/2 ⁺
^x 978.7 5	0.9 2				
981.6 5	1.5 3	1077.46	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
992.0 4	1.5 2	1302.6		310.58	5/2 ⁺
996.8 3	3.1 4	1129.46		132.87	7/2 ⁺
1006.1 5	1.3 3	1006.52	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
1010.3 5	1.9 4	1186.31		175.84	3/2 ⁺
1023.9 3	8.8 10	1276.54	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺
1035.6 3	8.4 10	1035.33	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
1046.6 3	4.3 5	1046.31		0.0	5/2 ⁺
1077.9 5	1.3 3	1077.46	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
1082.8 5	4.0 6	3160.0		2076.86	
1094.2 5	1.7 4	1094.17		0.0	5/2 ⁺
^x 1096.3 5	1.0 3				
1113.3 5	1.1 3	1558.5		445.33	(7/2) ⁺
1115.0 5	0.4 1	2076.86		961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺
1122.2 4	1.3 3	1254.59		132.87	7/2 ⁺
^x 1128.1 4	1.3 2				
1143.1 5	1.4 2	2220.50		1077.46	3/2 ⁺ ,5/2 ⁺
1146.4 5	2.8 5	2076.86		930.76	3/2 ⁺ ,5/2 ⁺
1170.7 4	1.3 3	2076.86		906.02	
1181.1 5	2.6 4	1276.54	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
1186.4 5	5.3 8	1186.31		0.0	5/2 ⁺
1202.2 4	0.5 1	3166.73		1964.56	3/2 ⁺ ,5/2 ⁺
1210.2 4	0.8 2	3398.49		2188.33	
1217.4 4	0.9 2	2223.65		1006.52	3/2 ⁺ ,5/2 ⁺
1229.8 4	2.1 3	3194.32		1964.56	3/2 ⁺ ,5/2 ⁺
1255.0 6	1.5 5	1254.59		0.0	5/2 ⁺

¹²¹Xe ε decay **1972Mu03,1971Ho02 (continued)**

$\gamma(^{121}\text{I})$ (continued)

E_γ †	I_γ ‡a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ †	I_γ ‡a	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1258.4 6	1.3 4	2220.50		961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	1800.9 4	4.5 7	2739.21		938.21	3/2 ⁺ ,5/2 ⁺
1261.3 6	1.0 3	2223.65		961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺	1807.6 4	0.9 2	2994.1		1186.31	
^x 1273.3 4	1.2 2					1815.4 4	1.5 3	2892.8		1077.46	3/2 ⁺ ,5/2 ⁺
1277.1 4	1.3 2	1276.54	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺	1820.6 5	0.8 2	3097.3		1276.54	3/2 ⁺ ,5/2 ⁺
1286.6 4	0.9 2	3194.32		1907.65		1824.2 5	0.4 1	2076.86		252.73	3/2 ⁺
^x 1306.8 4	1.0 2					1833.3 5	1.4 3	2739.21		906.02	
1314.3 4	0.8 2	2220.50		906.02		1835.5 5	2.5 6	2797.58		961.99	1/2 ⁺ ,3/2 ⁺ ,5/2 ⁺
1339.2 3	3.6 5	1339.31		0.0	5/2 ⁺	1854.9 6	0.8 2	3194.32		1339.31	
1348.3 4	1.7 3	1793.46	3/2 ⁺ ,5/2 ⁺	445.33	(7/2) ⁺	1858.1 ^d 6	1.2 3	3112.7		1254.59	
^x 1358.4 4	1.4 2					1864.5 6	0.6 2	2994.1		1129.46	
1365.0 5	1.7 4	3158.1		1793.46	3/2 ⁺ ,5/2 ⁺	1869.1 4	1.0 3	1964.56	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
1369.7 5	0.9 2	1679.95		310.58	5/2 ⁺	1878.0 4	0.8 2	2188.33		310.58	5/2 ⁺
1382.4 4	1.2 2	1558.5		175.84	3/2 ⁺	1890.0 5	0.8 2	2022.9?	3/2 ⁺ ,5/2 ⁺	132.87	7/2 ⁺
1402.7 5	1.4 2	2588.91		1186.31		1892.0 5	2.3 5	3194.32		1302.6	
1427.3 4	1.4 2	1679.95		252.73	3/2 ⁺	1901.3 4	0.60 15	2076.86		175.84	3/2 ⁺
1441.3 4	1.0 2	2780.75		1339.31		1909.7 4	1.1 2	2220.50		310.58	5/2 ⁺
1459.5 5	0.5 1	2588.91		1129.46		1917.9 4	1.1 2	3194.32		1276.54	3/2 ⁺ ,5/2 ⁺
1463.0 5	0.5 1	1558.5		95.71	1/2 ⁺	1927.6 4	1.5 3	2022.9?	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
1470.5 5	1.2 3	2809.9	3/2 ⁺ ,5/2 ⁺	1339.31		1980.4 4	2.8 5	3166.73		1186.31	
1473.8 5	0.6 1	1907.65		433.58	(9/2) ⁺	1990.5 4	0.70 15	3067.94		1077.46	3/2 ⁺ ,5/2 ⁺
1482.4 4	1.4 2	1793.46	3/2 ⁺ ,5/2 ⁺	310.58	5/2 ⁺	2012.3 4	2.0 4	2188.33		175.84	3/2 ⁺
1508.0 4	1.2 3	2847.5		1339.31		2022.5 4	1.2 3	2022.9?	3/2 ⁺ ,5/2 ⁺	0.0	5/2 ⁺
1540.8 4	4.4 6	1793.46	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺	2047.6 4	2.5 5	2223.65		175.84	3/2 ⁺
1553.5 4	3.3 4	2588.91		1035.33	3/2 ⁺ ,5/2 ⁺	2076.6 4	1.7 4	2076.86		0.0	5/2 ⁺
1560.4 4	1.6 3	2689.92		1129.46		2087.7 5	3.6 7	2220.50		132.87	7/2 ⁺
^x 1566.0 5	1.3 3					2092.5 5	1.3 4	2188.33		95.71	1/2 ⁺
1574.0 4	2.0 4	2223.65		649.73	(9/2) ⁺	2116.8 5	1.0 3	3194.32		1077.46	3/2 ⁺ ,5/2 ⁺
1596.9 5	1.1 2	1907.65		310.58	5/2 ⁺	2122.2 5	1.4 3	3398.49		1276.54	3/2 ⁺ ,5/2 ⁺
1616.2 4	1.3 2	2892.8		1276.54	3/2 ⁺ ,5/2 ⁺	2158.8 4	0.70 15	3194.32		1035.33	3/2 ⁺ ,5/2 ⁺
1631.5 4	4.5 7	2076.86		445.33	(7/2) ⁺	2212.6 4	2.0 5	2465.5	3/2 ⁺ ,5/2 ⁺	252.73	3/2 ⁺
1653.8 5	0.60 15	1964.56	3/2 ⁺ ,5/2 ⁺	310.58	5/2 ⁺	2228.5 4	0.8 2	3166.73		938.21	3/2 ⁺ ,5/2 ⁺
1656.7 ^{&d} 20	1.5 [@] 5	1907.65		252.73	3/2 ⁺	2256.6 4	1.4 3	2689.92		433.58	(9/2) ⁺
1668.1 4	0.5 1	2797.58		1129.46		^x 2265.7 4	0.8 2				
1691.3 5	0.8 2	2220.50		529.24	(9/2) ⁺	2278.3 4	2.0 5	2588.91		310.58	5/2 ⁺
^x 1695.5 5	0.6 2					^x 2302.7 5	0.7 2				
1703.5 4	1.2 2	2780.75		1077.46	3/2 ⁺ ,5/2 ⁺	2320.5 4	1.6 3	3398.49		1077.46	3/2 ⁺ ,5/2 ⁺
^x 1710.2 4	1.7 3					2336.0 5	2.0 5	2588.91		252.73	3/2 ⁺
1728.5 5	0.7 2	3067.94		1339.31		2346.9 5	0.8 2	2780.75		433.58	(9/2) ⁺
1731.8 5	1.5 3	1907.65		175.84	3/2 ⁺	^x 2365.8 6	0.7 2				
^x 1740.4 4	1.8 3					2370.0 6	0.9 2	2465.5	3/2 ⁺ ,5/2 ⁺	95.71	1/2 ⁺
1765.9 4	1.4 3	2076.86		310.58	5/2 ⁺	2379.0 5	0.5 1	2689.92		310.58	5/2 ⁺
1778.3 5	2.0 4	2223.65		445.33	(7/2) ⁺	2412.9 4	1.8 3	2588.91		175.84	3/2 ⁺
1786.9 4	1.3 3	2220.50		433.58	(9/2) ⁺	2418.4 5	1.0 2	3067.94		649.73	(9/2) ⁺

¹²¹Xe ε decay [1972Mu03](#),[1971Ho02](#) (continued)

γ(¹²¹I) (continued)

E_γ †	I_γ ‡ ^a	E_i (level)	J_i^π	E_f	J_f^π	Comments
2428.6 5	5.6 8	2739.21		310.58	5/2 ⁺	
^x 2434.2 6	1.1 3					
2462.8 5	1.00 25	3112.7		649.73	(9/2) ⁺	
2486.5 5	2.0 4	2739.21		252.73	3/2 ⁺	
2493.4 6	0.7 2	2588.91		95.71	1/2 ⁺	
^x 2495.7 6	0.6 2					
2510.4 6	2.6 6	3160.0		649.73	(9/2) ⁺	
2514.0 6	2.0 5	2689.92		175.84	3/2 ⁺	
2528.4 5	1.1 3	2780.75		252.73	3/2 ⁺	
2538.6 5	1.6 4	3067.94		529.24	(9/2) ⁺	
2544.7 5	8.5 10	2797.58		252.73	3/2 ⁺	
2549.2 6	1.6 3	2994.1		445.33	(7/2) ⁺	
2569.3 5	1.7 3	2822.3		252.73	3/2 ⁺	
2578.0 5	0.7 2	2830.6		252.73	3/2 ⁺	
2589.1 6	2.4 6	2588.91		0.0	5/2 ⁺	
2593.7 6	2.9 6	2904.5		310.58	5/2 ⁺	
2605.0 6	0.50 15	2780.75		175.84	3/2 ⁺	
^x 2607.6 6	0.50 15					
2621.7 5	6.2 10	2797.58		175.84	3/2 ⁺	
2634.2 ^{cd} 6	1.5 ^c 7	2809.9	3/2 ⁺ , 5/2 ⁺	175.84	3/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2634.2 ^{cd} 6	1.5 ^c 7	3067.94		433.58	(9/2) ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2637.3 6	4.7 9	3166.73		529.24	(9/2) ⁺	
2643.4 5	17.5 25	2739.21		95.71	1/2 ⁺	
2651.7 6	1.4 3	2904.5		252.73	3/2 ⁺	
2664.6 6	1.4 3	2797.58		132.87	7/2 ⁺	
2667.7 6	1.3 3	3112.7		445.33	(7/2) ⁺	
2672.0 6	1.1 3	2847.5		175.84	3/2 ⁺	
2677.0 6	1.7 4	2809.9	3/2 ⁺ , 5/2 ⁺	132.87	7/2 ⁺	
2689.6 ^{cd} 5	0.3 ^c 3	2689.92		0.0	5/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2689.6 ^c 5	1.6 ^c 3	2822.3		132.87	7/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2697.4 6	1.5 3	2830.6		132.87	7/2 ⁺	
2700.8 6	0.8 2	3229.8		529.24	(9/2) ⁺	
2714.3 6	1.0 3	2809.9	3/2 ⁺ , 5/2 ⁺	95.71	1/2 ⁺	
^x 2718.3 6	1.1 3					
2721.7 6	0.6 2	3166.73		445.33	(7/2) ⁺	
2728.9 6	0.5 2	2904.5		175.84	3/2 ⁺	
2751.8 5	0.9 2	2847.5		95.71	1/2 ⁺	
2757.2 6	0.4 1	3067.94		310.58	5/2 ⁺	
2760.0 6	0.9 2	2892.8		132.87	7/2 ⁺	

121Xe ϵ decay 1972Mu03,1971Ho02 (continued) γ (¹²¹I) (continued)

E_γ †	I_γ ‡ ^a	E_i (level)	E_f	J_f^π	Comments
^x 2763.2 6	0.5 2				
2797.7 4	7.0 10	2797.58	0.0	5/2 ⁺	
2808.6 5	0.50 15	2904.5	95.71	1/2 ⁺	
2815.2 6	0.3 1	3067.94	252.73	3/2 ⁺	
2818.1 6	0.3 1	2994.1	175.84	3/2 ⁺	
2830.6 5	1.00 25	2830.6	0.0	5/2 ⁺	
2847.5 ^{cd} 6	0.20 ^c 15	2847.5	0.0	5/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2847.5 ^{cd} 6	0.20 ^c 15	3158.1	310.58	5/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
2849.9 6	0.3 1	3160.0	310.58	5/2 ⁺	
^x 2926.6 5	0.50 15				
2936.5 5	0.50 15	3112.7	175.84	3/2 ⁺	
2941.4 5	0.9 3	3194.32	252.73	3/2 ⁺	
^x 2950.8 6	0.40 15				
2953.2 6	0.7 2	3398.49	445.33	(7/2) ⁺	
2964.5 5	1.5 3	3097.3	132.87	7/2 ⁺	
2977.0 5	0.6 2	3229.8	252.73	3/2 ⁺	
2980.1 6	0.3 1	3112.7	132.87	7/2 ⁺	
2984.0 6	0.5 2	3160.0	175.84	3/2 ⁺	
2994.1 6	0.3 1	2994.1	0.0	5/2 ⁺	
^x 2996.6 6	0.3 1				
3024.9 5	0.40 15	3158.1	132.87	7/2 ⁺	
3034.0 5	0.9 3	3166.73	132.87	7/2 ⁺	
^x 3052.1 5	0.6 2				
3070.6 5	0.50 15	3166.73	95.71	1/2 ⁺	
3097.2 ^{cd} 5	0.20 ^c 15	3097.3	0.0	5/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
3097.2 ^{cd} 5	0.20 ^c 15	3229.8	132.87	7/2 ⁺	I_γ : The relative intensity of multiply placed gammas was estimated from $\gamma\gamma$ -coincidence spectra (1972Mu03).
^x 3126.4 5	0.50 15				
3146.1 5	0.60 15	3398.49	252.73	3/2 ⁺	
3159.8 5	1.7 4	3160.0	0.0	5/2 ⁺	
3229.5 5	0.40 15	3229.8	0.0	5/2 ⁺	

† From 1972Mu03.

‡ From 1972Mu03. I_γ are relative to I(252.7 γ)=100.# From α (K)exp, α (L)exp, unless noted otherwise; multiplicities of the following γ 's were assumed to deduce α : [M1]: 77.0 γ ; and [E2]: 192.6 γ , 214.6 γ .@ Transition intensities of multiply placed gammas and doublet shown in their decay scheme by 1972Mu03 were estimated from $\gamma\gamma$ -coincidence (1972Mu03).

& Possible doublet.

^a For absolute intensity per 100 decays, multiply by 0.126 12.^b Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies,

$\gamma(^{121}\text{I})$ (continued)

assigned multiplicities, and mixing ratios, unless otherwise specified.

^c Multiply placed with intensity suitably divided.

^d Placement of transition in the level scheme is uncertain.

^x γ ray not placed in level scheme.

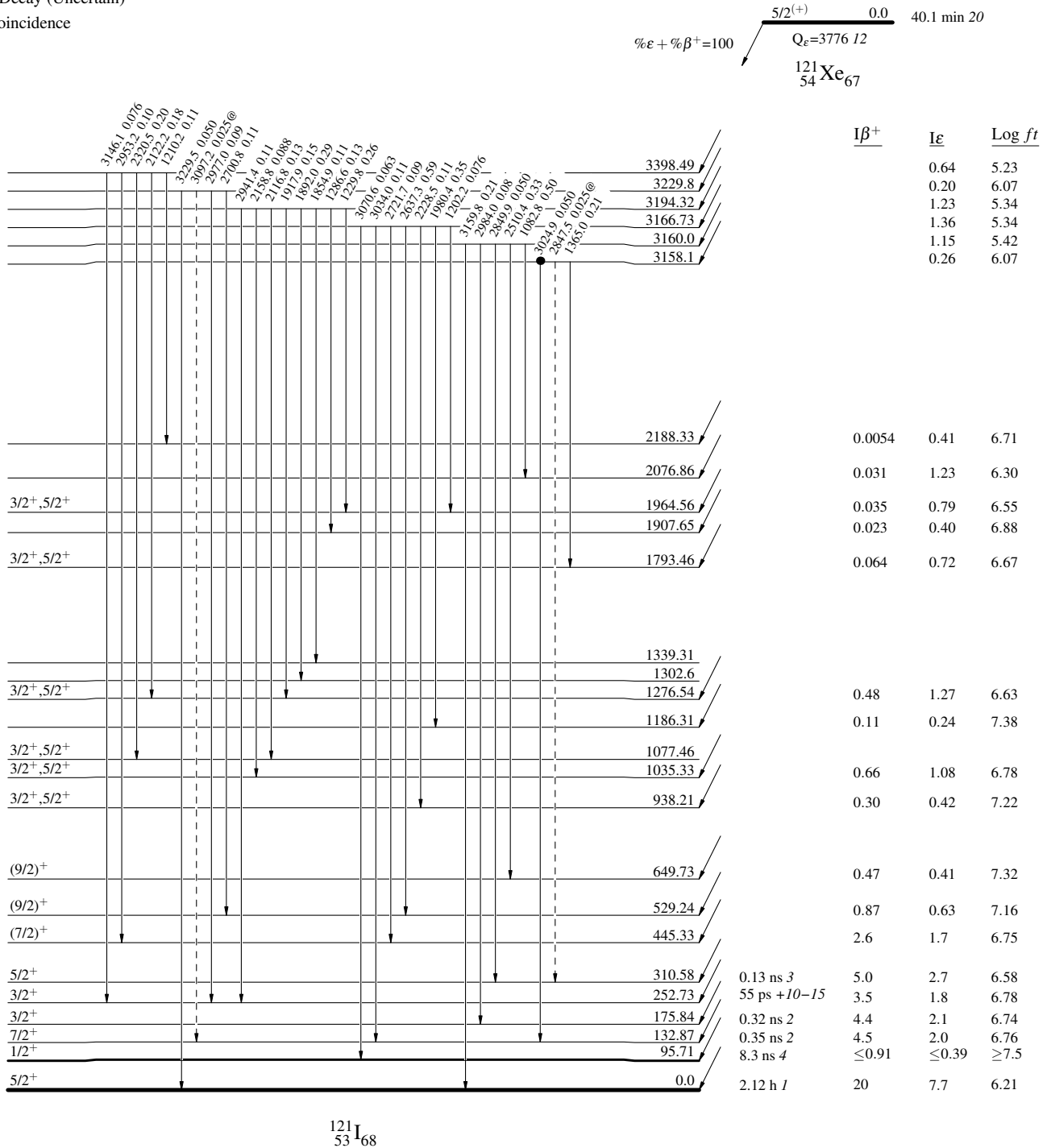
^{121}Xe ϵ decay 1972Mu03,1971Ho02

Decay Scheme

Legend

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

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided



$^{121}_{53}\text{I}_{68}$

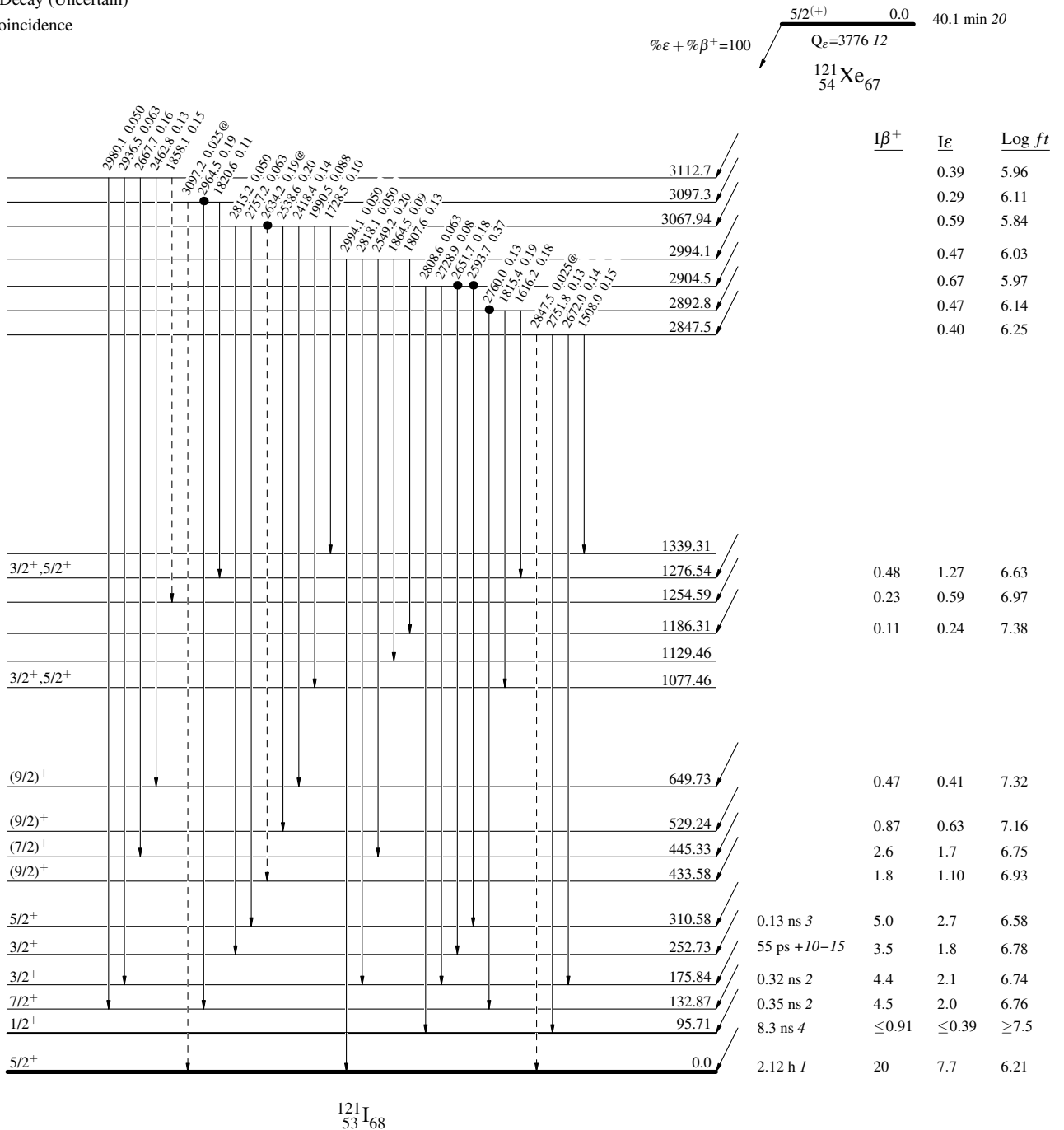
^{121}Xe ϵ decay 1972Mu03,1971Ho02

Decay Scheme (continued)

Legend

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

Intensities: $I(\gamma+\text{ce})$ per 100 parent decays
 @ Multiply placed: intensity suitably divided



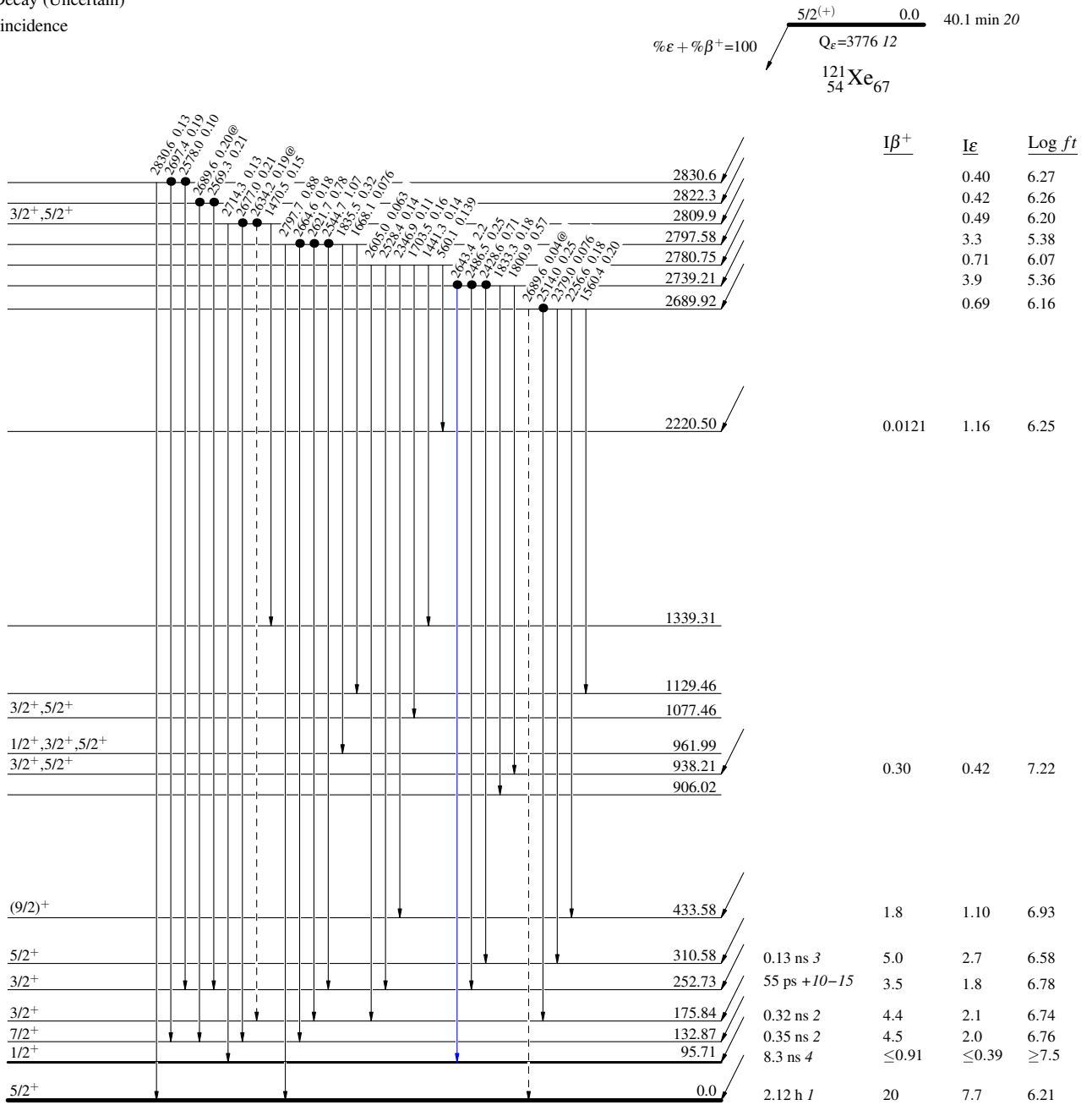
^{121}Xe ϵ decay 1972Mu03,1971Ho02

Decay Scheme (continued)

Legend

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

Intensities: $I(\gamma+ce)$ per 100 parent decays
 @ Multiply placed: intensity suitably divided



$^{121}_{53}\text{I}_{68}$

^{121}Xe ϵ decay **1972Mu03,1971Ho02**

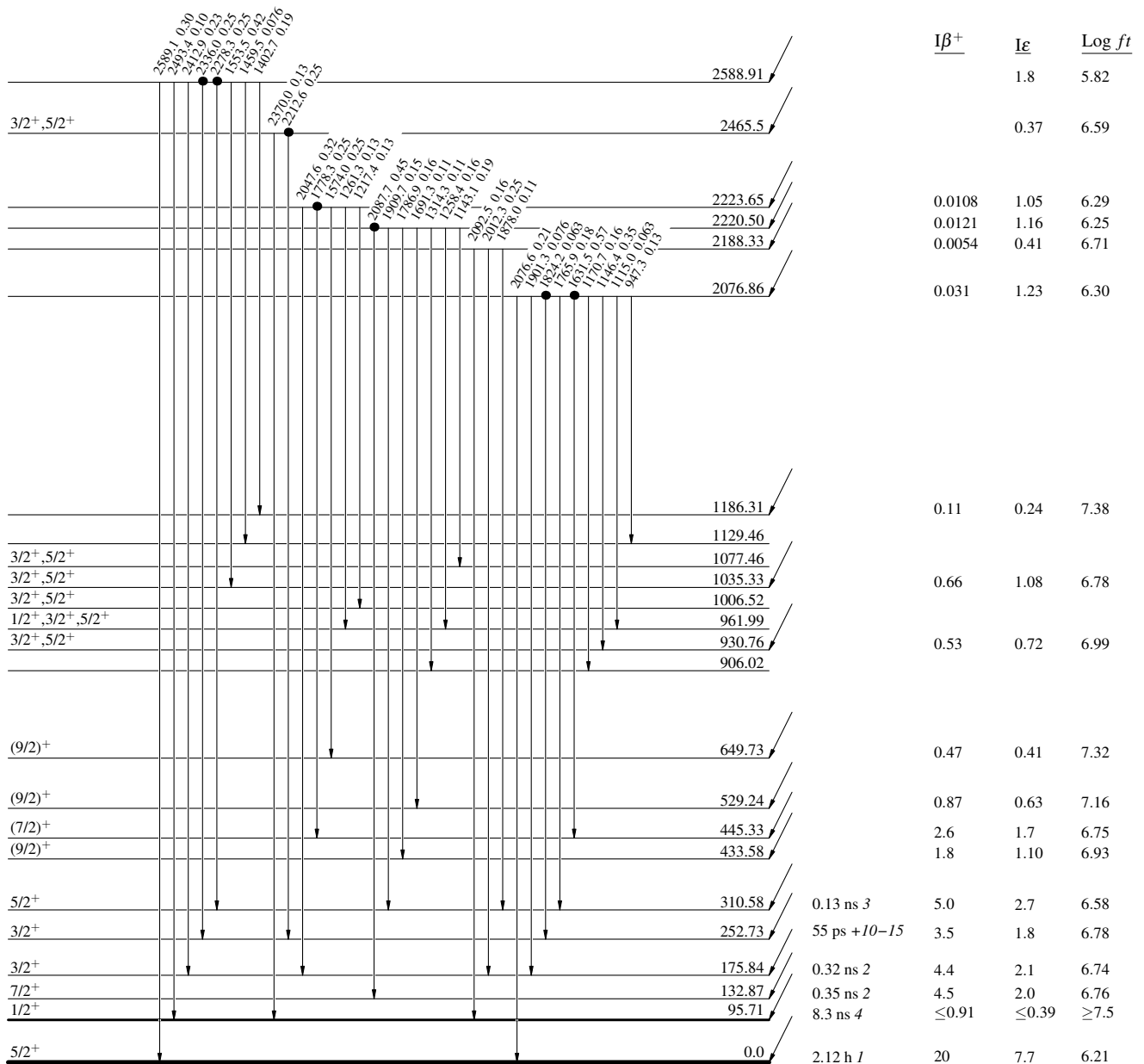
Decay Scheme (continued)

Legend

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

Intensities: $I(\gamma+ce)$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

$^{121}_{54}\text{Xe}_{67}$ $5/2^{+}$ 0.0 40.1 min 20
 $Q_\epsilon = 3776.12$
 $\% \epsilon + \% \beta^+ = 100$



$^{121}_{53}\text{I}_{68}$

^{121}Xe ϵ decay 1972Mu03,1971Ho02

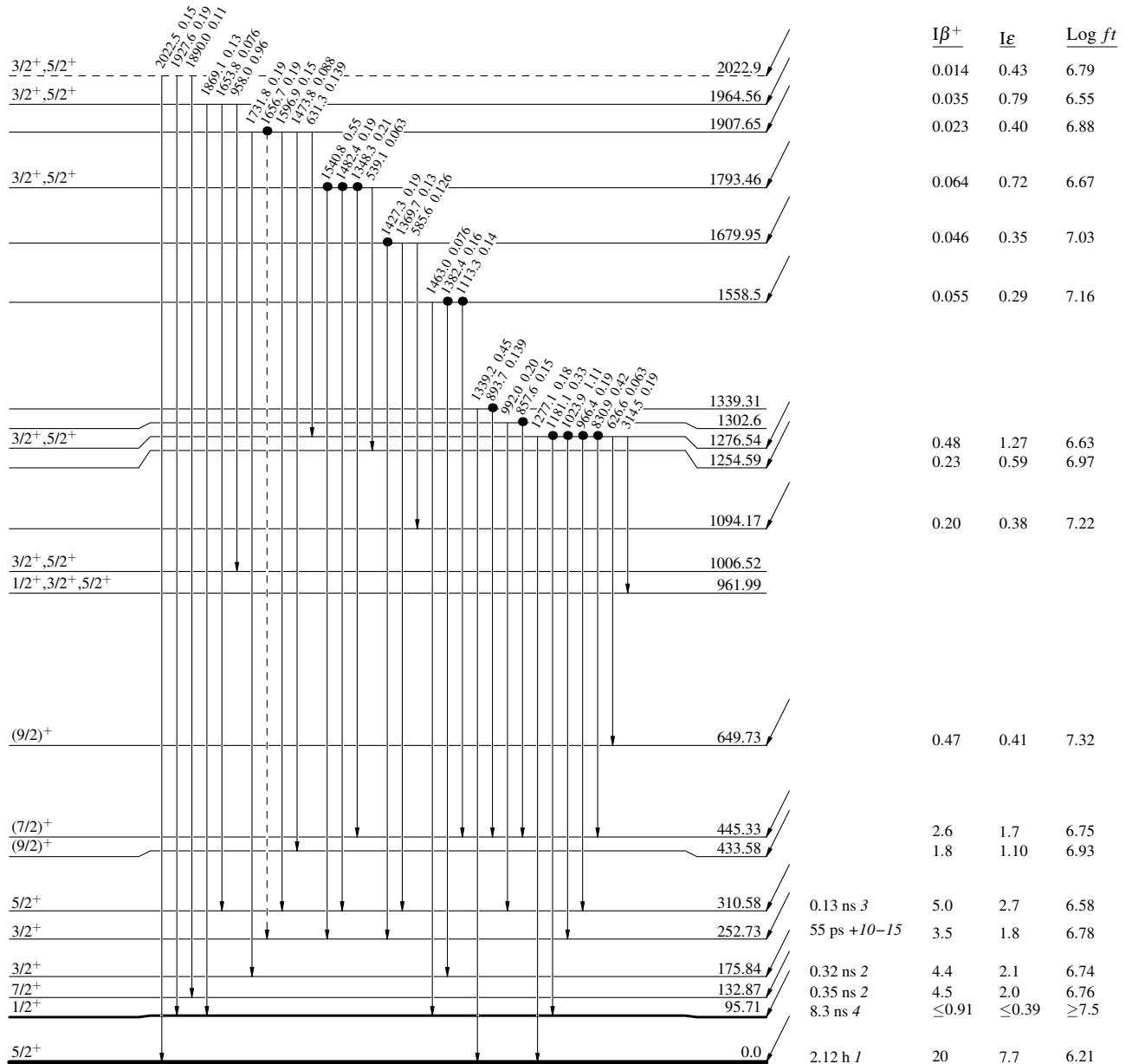
Decay Scheme (continued)

Legend

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

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

$^{121}_{54}\text{Xe}_{67}$ $5/2^{(+)}$ 0.0 40.1 min 20
 $Q_\epsilon = 3776.12$
 $\% \epsilon + \% \beta^+ = 100$



$^{121}_{53}\text{I}_{68}$

^{121}Xe ϵ decay 1972Mu03,1971Ho02

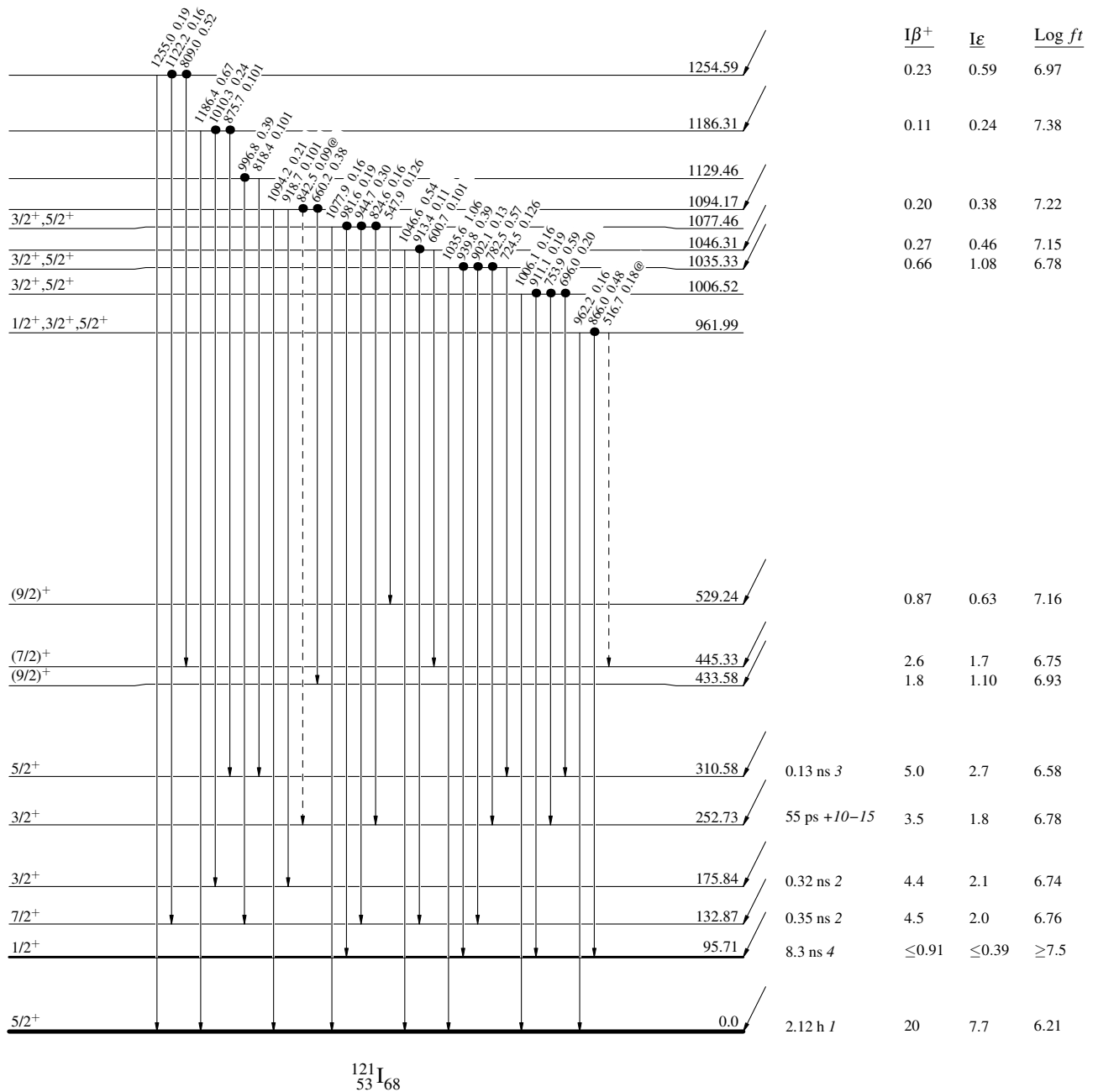
Decay Scheme (continued)

Legend

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

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiply placed: intensity suitably divided

$^{121}_{54}\text{Xe}_{67}$ 40.1 min 20
 $Q_\epsilon = 3776.12$
 $5/2^{(+)} \quad 0.0$
 $\% \epsilon + \% \beta^+ = 100$



$^{121}_{53}\text{I}_{68}$

^{121}Xe ϵ decay 1972Mu03,1971Ho02

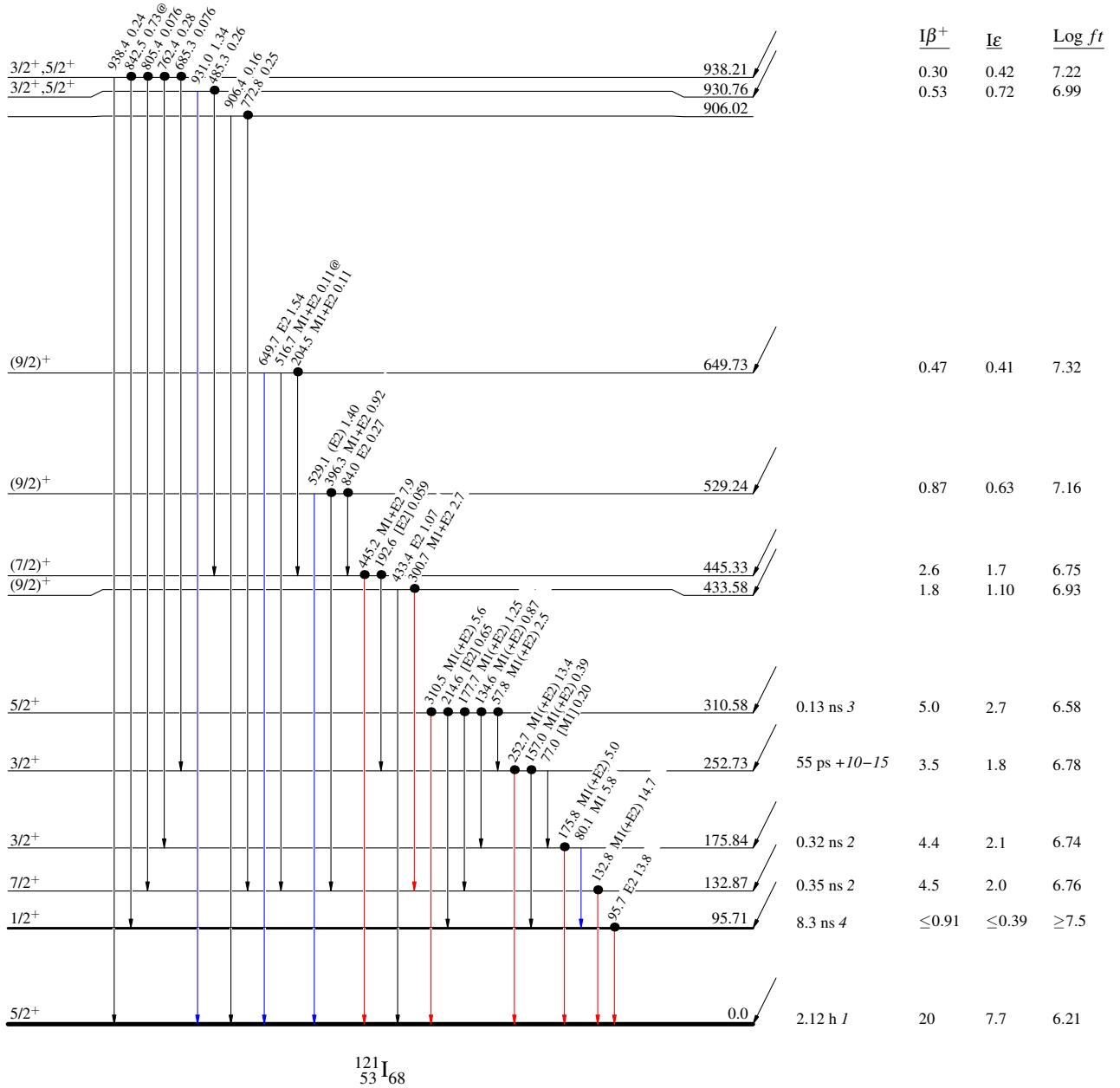
Decay Scheme (continued)

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays
 @ Multiplied: intensity suitably divided

Legend

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

$^{121}_{54}\text{Xe}_{67}$ $5/2^{+}$ 0.0 40.1 min 20
 $Q_{\epsilon} = 3776.12$
 $\% \epsilon + \% \beta^{+} = 100$



$^{121}_{53}\text{I}_{68}$