

^{119}Cs ε decay (43.0 s) [2001Ge01](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. M. Symochko, E. Browne, J. K. Tuli		NDS 110,2945 (2009)	1-Dec-2008

Parent: ^{119}Cs : $E=0.0$; $J^\pi=9/2^+$; $T_{1/2}=43.0$ s 2; $Q(\varepsilon)=6.489\times 10^3$ 17; $\% \varepsilon + \% \beta^+$ decay=100.0

[Additional information 1.](#)

The article contains data from two different experiments: at ISOLDE and UNISOR. ISOLDE: La(p, X) $E=600$ MeV. Measurements

– γ 's – intrinsic Ge-detector (resolution 800 eV at 122 keV) and several Ge(Li)-detectors (resolution 2.5 keV at 1 MeV);
 conversion electron – movable 3-mm-thick Si(Li)-detector (resolution 16 keV at 624 keV); β^+ – $4\pi\beta$ plastic scintillator Measured –
 $\gamma\gamma(t)$, $\gamma e^-(t)$, $\gamma\beta^+$. UNISOR: $^{92}\text{Mo}(^{32}\text{S}, X)$, $E=175$ MeV. 2 detection stations – G1 and G3. G1 – two γ -ray detectors (Ge –
 energy range up to 1.8 MeV, 4.4 cm distance from the source and Ge(Li) – energy range up to 4.0 MeV, 4.7 cm from the source)
 and electron detector (Si(Li) – peak in efficiency curve at 750 keV, 12 cm from the source). Measured – γ , $\gamma\gamma$, γe^- . G3 – γ -ray
 detector (energy range up to 6.0 MeV, 4.6 cm from the source) and electron detector (Si(Li) – peak in efficiency curve at 250 keV,
 7.0 cm from the source). Measured – γ , γe^- .

or: [Additional information 2.](#)

 ^{119}Xe Levels

Decay scheme is from evaluators based on that in [2001Ge01](#).

E(level) [†]	J^π [‡]	Comments
0.0	(5/2 ⁺)	Negligible ε feeding is expected to this level. Experimental value from γ -ray transition intensity balance is 3% 1.
169.70 11	(5/2 ⁺)	
176.45 13	(7/2 ⁻)	
197.34 16	(5/2 ⁻)	
225.58 10	(7/2 ⁺)	
243.91 21	(11/2 ⁻)	
245.99 [#] 11	(1/2 ⁺)	
246.60 18	(9/2 ⁻)	
258.02 15	(7/2 ⁺)	
314.30 [#]	(3/2 ⁺)	
390.50 [#]	(3/2 ⁺)	
459.87 12	(9/2 ⁺)	
476.1 [#] 3	(3/2 ⁺ , 5/2 ⁺)	
484.29 13	(9/2 ⁺)	
524.72 14	(5/2 ⁺)	
592.55 20	(7/2 ⁺)	
619.27 20	(7/2 ⁺)	
645.5 3	(13/2 ⁻)	
661.6 3	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	
667.90 14	(7/2 ⁺ , 9/2 ⁺)	
672.3 11	(11/2 ⁺)	
722.90 22	(7/2 ⁺ , 9/2 ⁺)	
731.45 22	(7/2 ⁺ , 9/2 ⁺)	
758.48 19	(11/2 ⁺)	
776.9 4	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	
816.2 3	(7/2 ⁻)	
843.8 4	(7/2, 9/2 ⁻)	
854.0 4		
855.4 3	(7/2, 9/2 ⁺)	
860.57 16	(7/2 ⁺)	
892.25 22	(7/2, 9/2 ⁺)	
916.0 5		

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) ^{119}Xe Levels (continued)

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
929.97 24	(13/2 ⁺)	1218.1 3	(7/2,9/2 ⁺)	1594.3 5	
935.97 25	(7/2 ⁺ ,9/2 ⁺)	1286.8 4	(7/2,9/2 ⁺)	1633.3 6	(7/2 ⁻ ,9/2,11/2)
941.30 25	(7/2 ⁺ ,9/2 ⁺)	1296.29 24	(7/2,9/2,11/2 ⁺)	1822.9 7	
968.80 24	(7/2,9/2,11/2 ⁻)	1370.0 3	(7/2 ⁻ ,9/2 ⁺)	2019.5 7	(7/2,9/2 ⁺)
1003.8 4	(13/2 ⁻)	1380.0 4	(7/2 ⁻ ,9/2 ⁺)	2026.6 6	(7/2,9/2 ⁺)
1017.3 4	(7/2,9/2,11/2 ⁻)	1462.0 5	(7/2,9/2,11/2 ⁺)	2067.0 6	
1020.85 14	(7/2 ⁺ ,9/2 ⁺)	1473.18 16	(7/2,9/2 ⁻)	2349.3 8	(7/2,9/2,11/2 ⁻)
1068.6 4	(13/2 ⁺)	1522.5 6	(7/2 ⁺)	2400.0 10	(7/2,9/2,11/2 ⁻)
1079.93 25	(7/2 ⁺ ,9/2 ⁺)	1560.8 5	(7/2,9/2,11/2 ⁺)	2686.4 7	(7/2,9/2 ⁺)
1108.0 11	(7/2,9/2,11/2 ⁺)	1584.7 5			

[†] Deduced by evaluators from least-squares fit to γ -ray energies.[‡] From Adopted Levels, Gammas.# See ^{119}Cs ε decay (30.4 s) for de-excitation of this level. ε, β^+ radiations

E(decay)	E(level)	$I\beta^+$ [‡]	$I\varepsilon$ [‡]	Log ft	$I(\varepsilon + \beta^+)$ ^{†‡}	Comments
(3803 17)	2686.4	0.3 1	0.1	6.33 11	0.4 1	av $E\beta=1257$ 8; $\varepsilon K=0.247$ 4; $\varepsilon L=0.0328$ 5; $\varepsilon M+=0.00892$ 12 $\varepsilon + \beta^+=0.4\%$, log $ft=6.3$ (2001Ge01).
(4089 17)	2400.0	0.6 1	0.2	6.18 6	0.8 1	av $E\beta=1390$ 8; $\varepsilon K=0.198$ 3; $\varepsilon L=0.0264$ 4; $\varepsilon M+=0.00716$ 10 $\varepsilon + \beta^+=0.3\%$, log $ft=6.5$ (2001Ge01).
(4140 17)	2349.3	0.2 1	0.07 2	6.64 15	0.3 1	av $E\beta=1414$ 8; $\varepsilon K=0.1911$ 25; $\varepsilon L=0.0254$ 4; $\varepsilon M+=0.00689$ 9 $\varepsilon + \beta^+=0.1\%$, log $ft=7.0$ (2001Ge01).
(4422 17)	2067.0	0.3 1	0.07 2	6.66 11	0.4 1	av $E\beta=1546$ 8; $\varepsilon K=0.1554$ 19; $\varepsilon L=0.0206$ 3; $\varepsilon M+=0.00560$ 7 $\varepsilon + \beta^+=0.3\%$, log $ft=6.7$ (2001Ge01).
(4462 17)	2026.6	0.6 1	0.1	6.44 7	0.7 1	av $E\beta=1565$ 8; $\varepsilon K=0.1510$ 19; $\varepsilon L=0.02004$ 25; $\varepsilon M+=0.00544$ 7 $\varepsilon + \beta^+=0.5\%$, log $ft=6.5$ (2001Ge01).
(4470 17)	2019.5	0.2 1	0.04 2	6.98 22	0.2 1	av $E\beta=1568$ 8; $\varepsilon K=0.1502$ 19; $\varepsilon L=0.01994$ 25; $\varepsilon M+=0.00541$ 7 $\varepsilon + \beta^+=0.2\%$, log $ft=6.9$ (2001Ge01).
(4666 17)	1822.9	0.3 1	0.05 2	6.91 15	0.3 1	av $E\beta=1661$ 8; $\varepsilon K=0.1309$ 16; $\varepsilon L=0.01737$ 21; $\varepsilon M+=0.00471$ 6 $\varepsilon + \beta^+=0.2\%$, log $ft=7.0$ (2001Ge01).
(4856 17)	1633.3	0.3 1	0.05 1	6.87 11	0.4 1	av $E\beta=1750$ 8; $\varepsilon K=0.1151$ 14; $\varepsilon L=0.01526$ 18; $\varepsilon M+=0.00414$ 5 $\varepsilon + \beta^+=0.4\%$, log $ft=6.8$ (2001Ge01).
(4895 17)	1594.3	0.21 3	0.031 4	7.11 6	0.24 3	av $E\beta=1768$ 8; $\varepsilon K=0.1122$ 13; $\varepsilon L=0.01487$ 17; $\varepsilon M+=0.00404$ 5 $\varepsilon + \beta^+=0.1\%$, log $ft=7.4$ (2001Ge01).
(4904 17)	1584.7	0.14 2	0.021 3	7.29 6	0.16 2	av $E\beta=1773$ 8; $\varepsilon K=0.1115$ 13; $\varepsilon L=0.01478$ 17; $\varepsilon M+=0.00401$ 5 $\varepsilon + \beta^+=0.1\%$, log $ft=7.4$ (2001Ge01).
(4928 17)	1560.8	0.4 1	0.06 1	6.81 9	0.5 1	av $E\beta=1784$ 8; $\varepsilon K=0.1097$ 13; $\varepsilon L=0.01454$ 17; $\varepsilon M+=0.00395$ 5 $\varepsilon + \beta^+=0.5\%$, log $ft=6.8$ (2001Ge01).
(4967 17)	1522.5	0.2 1	0.03 1	7.22 22	0.2 1	av $E\beta=1802$ 8; $\varepsilon K=0.1070$ 12; $\varepsilon L=0.01418$ 16; $\varepsilon M+=0.00385$ 5 $\varepsilon + \beta^+=0.2\%$, log $ft=7.2$ (2001Ge01).

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) ε, β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ ‡	$I\varepsilon$ ‡	Log ft	$I(\varepsilon + \beta^+)^{†‡}$	Comments
(5016 17)	1473.18	3.5 1	0.48 1	5.946 14	4.0 1	av $E\beta=1826$ 8; $\varepsilon K=0.1036$ 12; $\varepsilon L=0.01373$ 16; $\varepsilon M+=0.00373$ 5 $\varepsilon + \beta^+=3.5\%$, log $ft=5.9$ (2001Ge01).
(5027 17)	1462.0	0.4 1	0.05 1	6.95 11	0.4 1	av $E\beta=1831$ 8; $\varepsilon K=0.1028$ 12; $\varepsilon L=0.01363$ 16; $\varepsilon M+=0.00370$ 5 $\varepsilon + \beta^+=0.3\%$, log $ft=7.0$ (2001Ge01).
(5109 17)	1380.0	0.6 1	0.08 1	6.74 7	0.7 1	av $E\beta=1870$ 8; $\varepsilon K=0.0976$ 11; $\varepsilon L=0.01293$ 15; $\varepsilon M+=0.00351$ 4 $\varepsilon + \beta^+=0.3\%$, log $ft=7.1$ (2001Ge01).
(5119 17)	1370.0	0.98 9	0.12 1	6.55 4	1.1 1	av $E\beta=1874$ 8; $\varepsilon K=0.0969$ 11; $\varepsilon L=0.01285$ 14; $\varepsilon M+=0.00349$ 4 $\varepsilon + \beta^+=0.8\%$, log $ft=6.6$ (2001Ge01).
(5193 17)	1296.29	0.89 9	0.11 1	6.63 5	1.0 1	av $E\beta=1909$ 8; $\varepsilon K=0.0925$ 10; $\varepsilon L=0.01226$ 14; $\varepsilon M+=0.00333$ 4 $\varepsilon + \beta^+=0.8\%$, log $ft=6.7$ (2001Ge01).
(5202 17)	1286.8	0.5 1	0.06 1	6.85 8	0.6 1	av $E\beta=1914$ 8; $\varepsilon K=0.0920$ 10; $\varepsilon L=0.01218$ 14; $\varepsilon M+=0.00331$ 4 $\varepsilon + \beta^+=0.6\%$, log $ft=6.8$ (2001Ge01).
(5271 17)	1218.1	0.7 1	0.08 1	6.76 6	0.8 1	av $E\beta=1946$ 8; $\varepsilon K=0.0881$ 10; $\varepsilon L=0.01167$ 13; $\varepsilon M+=0.00317$ 4 $\varepsilon + \beta^+=0.4\%$, log $ft=7.0$ (2001Ge01).
(5381 17)	1108.0	0.4 1	0.04 1	7.11 11	0.4 1	av $E\beta=1999$ 8; $\varepsilon K=0.0823$ 9; $\varepsilon L=0.01090$ 12; $\varepsilon M+=0.00296$ 4 $\varepsilon + \beta^+=0.4\%$, log $ft=7.1$ (2001Ge01).
(5409 17)	1079.93	1.00 9	0.10 1	6.68 4	1.1 1	av $E\beta=2012$ 8; $\varepsilon K=0.0809$ 9; $\varepsilon L=0.01072$ 12; $\varepsilon M+=0.00291$ 3 $\varepsilon + \beta^+=1.1\%$, log $ft=6.6$ (2001Ge01).
(5420 17)	1068.6	<0.6	<0.07	>6.88	<0.7	av $E\beta=2017$ 8; $\varepsilon K=0.0804$ 9; $\varepsilon L=0.01064$ 11; $\varepsilon M+=0.00289$ 3 $\varepsilon + \beta^+=0.4\%$, log $ft=7.1$ (2001Ge01). $\varepsilon + \beta^+ < 0.7\%$ is based on possible additional γ -ray feeding to this level.
(5468 17)	1020.85	4.2 1	0.42 1	6.083 12	4.6 1	av $E\beta=2040$ 8; $\varepsilon K=0.0781$ 8; $\varepsilon L=0.01034$ 11; $\varepsilon M+=0.00281$ 3 $\varepsilon + \beta^+=3.6\%$, log $ft=6.1$ (2001Ge01).
(5472 17)	1017.3	0.8 1	0.08 1	6.79 5	0.9 1	av $E\beta=2042$ 8; $\varepsilon K=0.0779$ 8; $\varepsilon L=0.01032$ 11; $\varepsilon M+=0.00280$ 3 $\varepsilon + \beta^+=0.9\%$, log $ft=6.7$ (2001Ge01).
(5485 17)	1003.8	<0.7	<0.07	>6.85	<0.8	av $E\beta=2048$ 8; $\varepsilon K=0.0773$ 8; $\varepsilon L=0.01024$ 11; $\varepsilon M+=0.00278$ 3 $\varepsilon + \beta^+ < 0.8\%$ is based on possible additional γ -ray feeding to this level.
(5520 17)	968.80	0.91 9	0.088 9	6.77 5	1.0 1	$\varepsilon + \beta^+=0.7\%$, log $ft=6.9$ (2001Ge01). av $E\beta=2065$ 8; $\varepsilon K=0.0757$ 8; $\varepsilon L=0.01002$ 11; $\varepsilon M+=0.00272$ 3 $\varepsilon + \beta^+=0.9\%$, log $ft=6.8$ (2001Ge01).
(5548 17)	941.30	1.8 1	0.17 1	6.478 23	2.0 1	av $E\beta=2078$ 8; $\varepsilon K=0.0745$ 8; $\varepsilon L=0.00986$ 10; $\varepsilon M+=0.00268$ 3 $\varepsilon + \beta^+=1.9\%$, log $ft=6.5$ (2001Ge01).
(5553 17)	935.97	0.7 1	0.07 1	6.88 6	0.8 1	av $E\beta=2080$ 8; $\varepsilon K=0.0742$ 8; $\varepsilon L=0.00983$ 10; $\varepsilon M+=0.00267$ 3 $\varepsilon + \beta^+=0.8\%$, log $ft=6.8$ (2001Ge01).
(5559 17)	929.97	<0.37	<0.035	>7.18	<0.40	av $E\beta=2083$ 8; $\varepsilon K=0.0740$ 8; $\varepsilon L=0.00979$ 10; $\varepsilon M+=0.00266$ 3 $\varepsilon + \beta^+=0.6\%$, log $ft=7.0$ (2001Ge01). $\varepsilon + \beta^+ < 0.4\%$ is based on possible additional γ -ray

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) ε, β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ ‡	$I\varepsilon^{\ddagger}$	Log ft	$I(\varepsilon + \beta^+)^{\ddagger\ddagger}$	Comments
(5573 17)	916.0	0.27 3	0.026 3	7.31 5	0.30 3	feeding to this level. av $E\beta=2090$ 8; $\varepsilon K=0.0734$ 8; $\varepsilon L=0.00971$ 10; $\varepsilon M+=0.00264$ 3 $\varepsilon + \beta^+=0.3\%$, log $ft=7.3$ (2001Ge01).
(5597 17)	892.25	1.6 1	0.14 1	6.57 3	1.7 1	av $E\beta=2101$ 8; $\varepsilon K=0.0724$ 8; $\varepsilon L=0.00958$ 10; $\varepsilon M+=0.00260$ 3 $\varepsilon + \beta^+=1.6\%$, log $ft=6.5$ (2001Ge01).
(5628 17)	860.57	2.3 1	0.21 1	6.413 19	2.5 1	av $E\beta=2115$ 8; $\varepsilon K=0.0711$ 8; $\varepsilon L=0.00942$ 10; $\varepsilon M+=0.00256$ 3 $\varepsilon + \beta^+=2.4\%$, log $ft=6.4$ (2001Ge01).
(5634 17)	855.4	1.2 1	0.11 1	6.70 4	1.3 1	av $E\beta=2119$ 8; $\varepsilon K=0.0708$ 7; $\varepsilon L=0.00937$ 10; $\varepsilon M+=0.00254$ 3 $\varepsilon + \beta^+=1.3\%$, log $ft=6.7$ (2001Ge01).
(5635 17)	854.0	0.37 2	0.033 2	7.213 23	0.40 2	av $E\beta=2119$ 9; $\varepsilon K=0.0708$ 7; $\varepsilon L=0.00937$ 10; $\varepsilon M+=0.00254$ 3 $\varepsilon + \beta^+=0.3\%$, log $ft=7.3$ (2001Ge01).
(5645 17)	843.8	1.3 1	0.12 1	6.67 4	1.4 1	av $E\beta=2124$ 9; $\varepsilon K=0.0703$ 7; $\varepsilon L=0.00931$ 10; $\varepsilon M+=0.00253$ 3 $\varepsilon + \beta^+=1.6\%$, log $ft=6.6$ (2001Ge01).
(5673 17)	816.2	1.6 1	0.14 1	6.60 3	1.7 1	av $E\beta=2137$ 9; $\varepsilon K=0.0692$ 7; $\varepsilon L=0.00916$ 10; $\varepsilon M+=0.002485$ 25 $\varepsilon + \beta^+=1.6\%$, log $ft=6.6$ (2001Ge01).
(5712 17)	776.9	0.58 3	0.050 2	7.047 22	0.63 3	av $E\beta=2156$ 9; $\varepsilon K=0.0677$ 7; $\varepsilon L=0.00896$ 9; $\varepsilon M+=0.002429$ 24 $\varepsilon + \beta^+=0.5\%$, log $ft=7.1$ (2001Ge01).
(5731 17)	758.48	2.0 1	0.17 1	6.511 21	2.2 1	av $E\beta=2165$ 9; $\varepsilon K=0.0670$ 7; $\varepsilon L=0.00886$ 9; $\varepsilon M+=0.002404$ 24 $\varepsilon + \beta^+=2.3\%$, log $ft=6.4$ (2001Ge01).
(5758 17)	731.45	1.2 1	0.10 1	6.75 4	1.3 1	av $E\beta=2178$ 9; $\varepsilon K=0.0659$ 7; $\varepsilon L=0.00872$ 9; $\varepsilon M+=0.002367$ 24 $\varepsilon + \beta^+=0.7\%$, log $ft=7.0$ (2001Ge01).
(5766 17)	722.90	2.2 1	0.18 1	6.488 20	2.4 1	av $E\beta=2182$ 9; $\varepsilon K=0.0656$ 7; $\varepsilon L=0.00868$ 9; $\varepsilon M+=0.002355$ 23 $\varepsilon + \beta^+=0.7\%$, log $ft=7.0$ (2001Ge01).
(5817 17)	672.3	2.2 1	0.18 1	6.508 20	2.4 1	av $E\beta=2206$ 9; $\varepsilon K=0.0637$ 7; $\varepsilon L=0.00843$ 9; $\varepsilon M+=0.002288$ 23 $\varepsilon + \beta^+=1.5\%$, log $ft=6.7$ (2001Ge01).
(5821 17)	667.90	4.3 1	0.34 1	6.227 12	4.6 1	av $E\beta=2208$ 9; $\varepsilon K=0.0636$ 7; $\varepsilon L=0.00841$ 9; $\varepsilon M+=0.002283$ 23 $\varepsilon + \beta^+=9.9\%$, log $ft=5.8$ (2001Ge01).
(5827 17)	661.6	0.63 6	0.050 4	7.06 4	0.68 6	av $E\beta=2211$ 9; $\varepsilon K=0.0634$ 7; $\varepsilon L=0.00838$ 9; $\varepsilon M+=0.002274$ 22 $\varepsilon + \beta^+=1.7\%$, log $ft=6.6$ (2001Ge01).
(5844 17)	645.5	<1.0	<0.081	>6.86	<1.1	av $E\beta=2219$ 9; $\varepsilon K=0.0628$ 6; $\varepsilon L=0.00831$ 8; $\varepsilon M+=0.002254$ 22 $\varepsilon + \beta^+=1.1\%$, log $ft=6.8$ (2001Ge01). $\varepsilon + \beta^+ < 1.1\%$ is based on possible additional γ -ray feeding to this level.
(5870 17)	619.27	3.2 1	0.25 1	6.365 15	3.5 1	av $E\beta=2231$ 9; $\varepsilon K=0.0619$ 6; $\varepsilon L=0.00819$ 8; $\varepsilon M+=0.002221$ 22 $\varepsilon + \beta^+=3.4\%$, log $ft=6.3$ (2001Ge01).
(5896 17)	592.55	1.7 1	0.13 1	6.66 3	1.8 1	av $E\beta=2244$ 9; $\varepsilon K=0.0610$ 6; $\varepsilon L=0.00806$ 8; $\varepsilon M+=0.002188$ 21 $\varepsilon + \beta^+=1.0\%$, log $ft=6.9$ (2001Ge01).
(6005 17)	484.29	0.3 1	0.02 1	7.48 15	0.3 1	av $E\beta=2296$ 9; $\varepsilon K=0.0574$ 6; $\varepsilon L=0.00759$ 8; $\varepsilon M+=0.002060$ 20

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) ε, β^+ radiations (continued)

E(decay)	E(level)	$I\beta^+$ ‡	$I\varepsilon$ ‡	Log ft	$I(\varepsilon + \beta^+)$ †‡	Comments
(6029 17)	459.87	4.4 2	0.31 1	6.299 20	4.7 2	$\varepsilon + \beta^+ = 4.4\%$, log $ft = 6.3$ (2001Ge01). av $E\beta = 2308$ 9; $\varepsilon K = 0.0566$ 6; $\varepsilon L = 0.00749$ 7; $\varepsilon M = 0.002033$ 19
(6231 17)	258.02	10.5 5	0.67 3	5.997 21	11.2 5	$\varepsilon + \beta^+ = 4.6\%$, log $ft = 6.3$ (2001Ge01). av $E\beta = 2404$ 9; $\varepsilon K = 0.0508$ 5; $\varepsilon L = 0.00672$ 6; $\varepsilon M = 0.001823$ 17
(6242 17)	246.60	6.1 2	0.38 1	6.238 15	6.5 2	$\varepsilon + \beta^+ = 11.1\%$, log $ft = 6.0$ (2001Ge01). av $E\beta = 2410$ 9; $\varepsilon K = 0.0505$ 5; $\varepsilon L = 0.00668$ 6; $\varepsilon M = 0.001812$ 17
(6245 17)	243.91	≈ 0.4	≈ 0.02	≈ 7.4	≈ 0.4	$\varepsilon + \beta^+ = 4.8\%$, log $ft = 6.3$ (2001Ge01). av $E\beta = 2411$ 9; $\varepsilon K = 0.0505$ 5; $\varepsilon L = 0.00667$ 6; $\varepsilon M = 0.001810$ 17
(6263 17)	225.58	5.9 4	0.37 2	6.26 3	6.3 4	$\varepsilon + \beta^+ = 0.8\%$, log $ft = 7.1$ (2001Ge01). av $E\beta = 2420$ 9; $\varepsilon K = 0.0500$ 5; $\varepsilon L = 0.00661$ 6; $\varepsilon M = 0.001792$ 17
(6313 17)	176.45	12 1	0.74 6	5.96 4	13 1	$\varepsilon + \beta^+ = 6.1\%$, log $ft = 6.2$ (2001Ge01). av $E\beta = 2443$ 9; $\varepsilon K = 0.0487$ 5; $\varepsilon L = 0.00644$ 6; $\varepsilon M = 0.001747$ 16 $\varepsilon + \beta^+ = 15.0\%$, log $ft = 5.9$ (2001Ge01).

† Deduced by evaluators from γ -ray transition intensity balance at each level. Values reported by 2001Ge01 are also presented here.

‡ Absolute intensity per 100 decays.

 $\gamma(^{119}\text{Xe})$ I γ normalization: Deduced by evaluators assuming no ε feeding to g.s., and $\Sigma I(\gamma + \text{ce})(\text{g.s.}) = 100\%$.

E_γ ‡	I_γ #a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	α	Comments
67.5 2	1.0 @ 4	243.91	(11/2 ⁻)	176.45	(7/2 ⁻)	(E2)	7.41 14	$\alpha(\text{L})_{\text{exp}} = 5$ 2 $\alpha(\text{K}) = 3.81$ 7; $\alpha(\text{L}) = 2.85$ 6; $\alpha(\text{M}) = 0.615$ 13; $\alpha(\text{N}+..) = 0.133$ 3
70.3 3	9.5 & 2	246.60	(9/2 ⁻)	176.45	(7/2 ⁻)	(M1)	2.26 5	$\alpha(\text{L})_{\text{exp}} = 0.4$ 1 $\alpha(\text{K}) = 1.94$ 4; $\alpha(\text{L}) = 0.257$ 5; $\alpha(\text{M}) = 0.0522$ 10; $\alpha(\text{N}+..) = 0.01214$ 23
88.3 3	1.7 & 1	258.02	(7/2 ⁺)	169.70	(5/2 ⁺)	(E2, M1)	2.0 9	$\alpha(\text{K})_{\text{exp}} = 1.2$ 2; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}} = 2.3$ 3 $\alpha(\text{K}) = 1.4$ 4; $\alpha(\text{L}) = 0.5$ 4; $\alpha(\text{M}) = 0.10$ 8; $\alpha(\text{N}+..) = 0.023$ 17
94.6 3	1.4 1	619.27	(7/2 ⁺)	524.72	(5/2 ⁺)	[M1+E2]	1.2	$\alpha(\text{K})_{\text{exp}} = 0.38$ 8; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}} \geq 7$ $\alpha(\text{K}) = 0.308$ 5; $\alpha(\text{L}) = 0.0404$ 6; $\alpha(\text{M}) = 0.00821$ 12; $\alpha(\text{N}+..) = 0.00191$ 3 I γ : Measured value of 12.20 8 includes intensity from ^{119}Cs ε decay (30.4 s). I $\gamma = 11.0$ contribution from ^{119}Cs ε decay (30.4 s) has been removed.
134.2 2	1.20 1	524.72	(5/2 ⁺)	390.50	(3/2 ⁺)	(M1)	0.358	
169.8 2	26.0 @ 4	169.70	(5/2 ⁺)	0.0	(5/2 ⁺)	M1+(E2)	0.23 5	$\alpha(\text{K})_{\text{exp}} = 0.15$ 1; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}} = 6.9$ 7 $\alpha(\text{K}) = 0.19$ 3; $\alpha(\text{L}) = 0.036$ 16; $\alpha(\text{M}) = 0.008$ 4; $\alpha(\text{N}+..) = 0.0017$ 7 I γ : Measured value of 52.0 8 includes intensity

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ ‡	I_γ #a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	α	Comments
176.5 2	98 3	176.45	(7/2 ⁻)	0.0	(5/2 ⁺)	E1	0.0434	from ^{119}Cs ε decay (30.4 s). Value used here assumes no ε feeding to 169-keV (5/2 ⁺) from ^{119}Cs (9/2 ⁺) parent nucleus. $\alpha(\text{K})\text{exp}=0.039$ 1; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=7.1$ 4 $\alpha(\text{K})=0.0374$ 6; $\alpha(\text{L})=0.00480$ 7; $\alpha(\text{M})=0.000968$ 14; $\alpha(\text{N}+..)=0.000222$ 4 I_γ : Measured value of 100 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=2.12$ contribution from ^{119}Cs ε decay (30.4 s) has been removed. ΔI_γ estimated by evaluators.
^x 193.4 3 197.4 2	2.2 3 19.9 1	197.34	(5/2 ⁻)	0.0	(5/2 ⁺)	E1	0.0319 5	$\alpha(\text{K})\text{exp}=0.030$ 3; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}\geq 7$ $\alpha(\text{K})=0.0275$ 4; $\alpha(\text{L})=0.00351$ 5; $\alpha(\text{M})=0.000709$ 11; $\alpha(\text{N}+..)=0.0001627$ 3
201.9 3	1.6 3	459.87	(9/2 ⁺)	258.02	(7/2 ⁺)	(M1+E2)	0.136 20	$\alpha(\text{K})\text{exp}=0.13$ 4; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}\geq 7$ $\alpha(\text{K})=0.112$ 12; $\alpha(\text{L})=0.019$ 7; $\alpha(\text{M})=0.0040$ 14; $\alpha(\text{N}+..)=0.0009$ 3
^x 205.8 3 208.2 2	1.1 @ 2 2.3 2	667.90	(7/2 ⁺ , 9/2 ⁺)	459.87	(9/2 ⁺)	(M1)	0.1073	$\alpha(\text{K})\text{exp}=0.12$ 2; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=9$ 3 $\alpha(\text{K})=0.0923$ 14; $\alpha(\text{L})=0.01199$ 17; $\alpha(\text{M})=0.00243$ 4; $\alpha(\text{N}+..)=0.000567$ 8
225.5 2	84.3 7	225.58	(7/2 ⁺)	0.0	(5/2 ⁺)	M1+(E2)	0.097 11	$\alpha(\text{K})\text{exp}=0.070$ 2; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=5.3$ 3 $\alpha(\text{K})=0.080$ 6; $\alpha(\text{L})=0.013$ 4; $\alpha(\text{M})=0.0027$ 8; $\alpha(\text{N}+..)=0.00062$ 17 I_γ : Measured value of 93.2 7 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=8.9$ 3 contribution from ^{119}Cs ε decay (30.4 s) has been removed.
234.5 2	4.5 4	459.87	(9/2 ⁺)	225.58	(7/2 ⁺)	M1+(E2)	0.086 8	$\alpha(\text{K})\text{exp}=0.062$ 2; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}\geq 7$ $\alpha(\text{K})=0.071$ 5; $\alpha(\text{L})=0.012$ 3; $\alpha(\text{M})=0.0024$ 7; $\alpha(\text{N}+..)=0.00054$ 14
258.2 3	49.3 4	258.02	(7/2 ⁺)	0.0	(5/2 ⁺)	M1+E2	0.064 4	$\alpha(\text{K})\text{exp}=0.059$ 4; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=7$ 1 $\alpha(\text{K})=0.0537$ 19; $\alpha(\text{L})=0.0084$ 18; $\alpha(\text{M})=0.0017$ 4; $\alpha(\text{N}+..)=0.00040$ 8
259.5 3	12.9 3	484.29	(9/2 ⁺)	225.58	(7/2 ⁺)	M1+E2	0.063 4	$\alpha(\text{K})\text{exp}=0.080$ 7; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=10$ 4 $\alpha(\text{K})=0.0529$ 18; $\alpha(\text{L})=0.0083$ 17; $\alpha(\text{M})=0.0017$ 4; $\alpha(\text{N}+..)=0.00039$ 8
274.0 3	2.1 2	758.48	(11/2 ⁺)	484.29	(9/2 ⁺)	M1+E2	0.0539 24	$\alpha(\text{K})\text{exp}=0.045$ 15 $\alpha(\text{K})=0.0452$ 10; $\alpha(\text{L})=0.0069$ 13; $\alpha(\text{M})=0.0014$ 3; $\alpha(\text{N}+..)=0.00033$ 6
278.3 3	0.14 2	524.72	(5/2 ⁺)	245.99	(1/2 ⁺)	E2	0.0533	$\alpha(\text{K})\text{exp}=0.045$ 5; $\alpha(\text{K})\text{exp}/\alpha(\text{L})\text{exp}=3$ 2 $\alpha(\text{K})=0.0436$ 7; $\alpha(\text{L})=0.00771$ 12; $\alpha(\text{M})=0.001598$ 24; $\alpha(\text{N}+..)=0.000361$ 6 I_γ : Measured value of 1.4 2 includes intensity from ^{119}Cs ε decay (30.4

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.	α	Comments
290.3 3	2.2 2	459.87	(9/2 ⁺)	169.70 (5/2 ⁺)	(E2)		0.047 7	s). $I_\gamma=1.26$ contribution from ^{119}Cs ε decay (30.4 s) has been removed. $\alpha(\text{K})_{\text{exp}}=0.080$ 7; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}}=10$ 4 $\alpha(\text{K})=0.0382$ 6; $\alpha(\text{L})=0.0058$ 9; $\alpha(\text{M})=0.00118$ 19; $\alpha(\text{N}+..)=0.00027$ 4
299.3 2	0.40 2	524.72	(5/2 ⁺)	225.58 (7/2 ⁺)	M1,E2		0.0416 9	$\alpha(\text{K})_{\text{exp}}=0.025$ 2; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}}=6$ 3 $\alpha(\text{K})=0.0350$ 6; $\alpha(\text{L})=0.0052$ 7; $\alpha(\text{M})=0.00107$ 16; $\alpha(\text{N}+..)=0.00025$ 4 I_γ : Measured value of 4.0 2 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=3.6$ contribution from ^{119}Cs ε decay (30.4 s) has been removed.
304.8 3	5.1 2	619.27	(7/2 ⁺)	314.30 (3/2 ⁺)	E2		0.0394 7	$\alpha(\text{K})_{\text{exp}}=0.027$ 2; $\alpha(\text{K})_{\text{exp}}/\alpha(\text{L})_{\text{exp}}=5.6$ 13 $\alpha(\text{K})=0.0332$ 7; $\alpha(\text{L})=0.0049$ 7; $\alpha(\text{M})=0.00101$ 14; $\alpha(\text{N}+..)=0.00023$ 3
310.5	0.36 & 3	1068.6	(13/2 ⁺)	758.48 (11/2 ⁺)				
332.9	0.5 4	722.90	(7/2 ⁺ , 9/2 ⁺)	390.50 (3/2 ⁺)				
341.4	0.79 3	731.45	(7/2 ⁺ , 9/2 ⁺)	390.50 (3/2 ⁺)				
343.4 3	1.19 & 3	935.97	(7/2 ⁺ , 9/2 ⁺)	592.55 (7/2 ⁺)				
348.3 3	0.21 1	524.72	(5/2 ⁺)	176.45 (7/2 ⁻)	E1		0.00709 10	$\alpha(\text{K})_{\text{exp}}=0.0086$ 13 $\alpha(\text{K})=0.00613$ 9; $\alpha(\text{L})=0.000768$ 11; $\alpha(\text{M})=0.0001547$ 22; $\alpha(\text{N}+..)=3.58 \times 10^{-5}$ 5 I_γ : Measured value of 2.12 8 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=1.9$ contribution from ^{119}Cs ε decay (30.4 s) has been removed.
354.7 3	0.15 1	524.72	(5/2 ⁺)	169.70 (5/2 ⁺)				I_γ : Measured value of 1.46 7 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=1.31$ contribution from ^{119}Cs ε decay (30.4 s) has been removed.
367.1 3	1.79 7	592.55	(7/2 ⁺)	225.58 (7/2 ⁺)	M1+E2		0.0232 11	$\alpha(\text{K})_{\text{exp}}=0.015$ 2 $\alpha(\text{K})=0.0197$ 13; $\alpha(\text{L})=0.00280$ 15; $\alpha(\text{M})=0.00057$ 4; $\alpha(\text{N}+..)=0.000132$ 7
376.2 3	1.03 6	860.57	(7/2 ⁺)	484.29 (9/2 ⁺)				
384.7 3	4.7 1	860.57	(7/2 ⁺)	476.1 (3/2 ⁺ , 5/2 ⁺)	M1+E2		0.0204 12	$\alpha(\text{K})_{\text{exp}}=0.020$ 3 $\alpha(\text{K})=0.0173$ 13; $\alpha(\text{L})=0.00244$ 9; $\alpha(\text{M})=0.000498$ 21; $\alpha(\text{N}+..)=0.000115$ 4
393.7 3	3.92 9	619.27	(7/2 ⁺)	225.58 (7/2 ⁺)	M1,E2		0.0191 12	$\alpha(\text{K})_{\text{exp}}=0.012$ 1 $\alpha(\text{K})=0.0163$ 13; $\alpha(\text{L})=0.00228$ 7; $\alpha(\text{M})=0.000465$ 16; $\alpha(\text{N}+..)=0.000107$ 3
398.9 3	1.48 8	645.5	(13/2 ⁻)	246.60 (9/2 ⁻)				

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ ‡	I_γ #a	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. †	α	Comments
401.6 3	2.32 8	645.5	(13/2 ⁻)	243.91	(11/2 ⁻)			
401.6 3	0.5 2	1020.85	(7/2 ⁺ , 9/2 ⁺)	619.27	(7/2 ⁺)			
410.1 3	0.98 8	667.90	(7/2 ⁺ , 9/2 ⁺)	258.02	(7/2 ⁺)			
414.3	8.39 9	672.3	(11/2 ⁺)	258.02	(7/2 ⁺)			
414.7 4	0.4 1	661.6	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	246.60	(9/2 ⁻)			
417.5	0.84 9	661.6	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	243.91	(11/2 ⁻)			
^x 440.5 3	1.9 @ 3							
442.3 3	9.63 @ 9	667.90	(7/2 ⁺ , 9/2 ⁺)	225.58	(7/2 ⁺)	M1+E2	0.0139 12	$\alpha(\text{K})_{\text{exp}}=0.012$ 1 $\alpha(\text{K})=0.0119$ 12; $\alpha(\text{L})=0.00163$ 4; $\alpha(\text{M})=0.000332$ 6; $\alpha(\text{N}+..)=7.67 \times 10^{-5}$ 18
449.1	0.21 & 4	619.27	(7/2 ⁺)	169.70	(5/2 ⁺)			
^x 451.5	0.7 1							
459.8 2	13.2 2	459.87	(9/2 ⁺)	0.0	(5/2 ⁺)	(E2)	0.0125 12	$\alpha(\text{K})_{\text{exp}}=0.0058$ 3 $\alpha(\text{K})=0.0107$ 12; $\alpha(\text{L})=0.00146$ 5; $\alpha(\text{M})=0.000298$ 8; $\alpha(\text{N}+..)=6.87 \times 10^{-5}$ 23
464.5 3	1.1 @ 2	661.6	(7/2 ⁻ , 9/2 ⁻ , 11/2 ⁻)	197.34	(5/2 ⁻)			
^x 465.2 3	1.7 & 1							
470.1 2	1.9 2	929.97	(13/2 ⁺)	459.87	(9/2 ⁺)	E2	0.0107 1	$\alpha(\text{K})_{\text{exp}}=0.0087$ 17 $\alpha(\text{K})=0.0902$ 13; $\alpha(\text{L})=0.001329$ 19; $\alpha(\text{M})=0.000272$ 4; $\alpha(\text{N}+..)=6.23 \times 10^{-5}$ 25
484.6 2	10.1 2	484.29	(9/2 ⁺)	0.0	(5/2 ⁺)	E2	0.00980 14	$\alpha(\text{K})_{\text{exp}}=0.0064$ 5 $\alpha(\text{K})=0.00829$ 12; $\alpha(\text{L})=0.001212$ 17; $\alpha(\text{M})=0.000248$ 4; $\alpha(\text{N}+..)=5.68 \times 10^{-5}$ 8
498.1 3	0.6 2	667.90	(7/2 ⁺ , 9/2 ⁺)	169.70	(5/2 ⁺)	E2+(M1)	0.0102 11	$\alpha(\text{K})_{\text{exp}}=0.0078$ 1 $\alpha(\text{K})=0.0087$ 11; $\alpha(\text{L})=0.00117$ 6; $\alpha(\text{M})=0.000238$ 11; $\alpha(\text{N}+..)=5.5 \times 10^{-5}$ 3
^x 518.6 3	1.7 @ 7							
524.5 3	0.16 1	524.72	(5/2 ⁺)	0.0	(5/2 ⁺)			I_γ : Measured value of 1.64 8 includes intensity from ^{119}Cs ε decay (30.4 s). $I_\gamma=1.48$ contribution from ^{119}Cs ε decay (30.4 s) has been removed.
530.3	0.91 7	776.9	(7/2 ⁻ , 9/2, 11/2 ⁻)	246.60	(9/2 ⁻)			
533.0 2	5.70 7	758.48	(11/2 ⁺)	225.58	(7/2 ⁺)			
536.3 3	2.67 7	1020.85	(7/2 ⁺ , 9/2 ⁺)	484.29	(9/2 ⁺)			
546.6 3	1.24 7	860.57	(7/2 ⁺)	314.30	(3/2 ⁺)			
553.3 3	2.55 7	722.90	(7/2 ⁺ , 9/2 ⁺)	169.70	(5/2 ⁺)	E2+(M1)	0.0077 10	$\alpha(\text{K})_{\text{exp}}=0.0056$ 8 $\alpha(\text{K})=0.0066$ 9; $\alpha(\text{L})=0.00088$ 7; $\alpha(\text{M})=0.000179$ 13; $\alpha(\text{N}+..)=4.1 \times 10^{-5}$ 4
561.7 3	1.16 6	731.45	(7/2 ⁺ , 9/2 ⁺)	169.70	(5/2 ⁺)			
^x 580.7 3	1.32 6							
584.3 3	1.90 6	1068.6	(13/2 ⁺)	484.29	(9/2 ⁺)			
592.4 3	5.55 7	592.55	(7/2 ⁺)	0.0	(5/2 ⁺)	M1+E2	0.0065 9	$\alpha(\text{K})_{\text{exp}}=0.0044$ 3

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ ‡	I_γ #a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α	Comments
								$\alpha(K)=0.0056$ 8; $\alpha(L)=0.00074$ 7; $\alpha(M)=0.000149$ 13; $\alpha(N+..)=3.5\times 10^{-5}$ 3
$^{x595.8}$ 3	1.29 6							
600.4 3	1.26 7	776.9	(7/2 ⁻ ,9/2,11/2 ⁻)	176.45	(7/2 ⁻)			
$^{x609.8}$ 3	1.68 9							
$^{x613.9}$	0.61 8							
618.9 3	3.88 9	816.2	(7/2 ⁻)	197.34	(5/2 ⁻)	M1+E2	0.0058 8	$\alpha(K)_{\text{exp}}=0.0043$ 9 $\alpha(K)=0.0050$ 7; $\alpha(L)=0.00066$ 6; $\alpha(M)=0.000133$ 12; $\alpha(N+..)=3.1\times 10^{-5}$ 3
629.8 3	2.54 8	855.4	(7/2,9/2 ⁺)	225.58	(7/2 ⁺)			
635.3 3	1.46 9	860.57	(7/2 ⁺)	225.58	(7/2 ⁺)			
639.7 4	1.80 9	816.2	(7/2 ⁻)	176.45	(7/2 ⁻)			
646.5 3	2.6 1	843.8	(7/2,9/2 ⁻)	197.34	(5/2 ⁻)			
666.9	2.34 & 7	843.8	(7/2,9/2 ⁻)	176.45	(7/2 ⁻)			
667.4 3	1.78 & 1	667.90	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)	M1+(E2)	0.0048 7	$\alpha(K)_{\text{exp}}=0.0041$ 3 $\alpha(K)=0.0042$ 6; $\alpha(L)=0.00054$ 6; $\alpha(M)=0.000110$ 11; $\alpha(N+..)=2.5\times 10^{-5}$ 3
677.5 3	1.32 9	854.0		176.45	(7/2 ⁻)			
$^{x680.2}$ 3	1.67 9							
686.2	1.89 & 4	855.4	(7/2,9/2 ⁺)	169.70	(5/2 ⁺)			
$^{x696.5}$ 3	1.2 1							
710.4 3	2.6 1	935.97	(7/2 ⁺ ,9/2 ⁺)	225.58	(7/2 ⁺)	M1+E2	0.0042 6	$\alpha(K)_{\text{exp}}=0.0034$ 4 $\alpha(K)=0.0036$ 6; $\alpha(L)=0.00046$ 5; $\alpha(M)=9.4\times 10^{-5}$ 10; $\alpha(N+..)=2.18\times 10^{-5}$ 25
715.7 4	3.9 1	941.30	(7/2 ⁺ ,9/2 ⁺)	225.58	(7/2 ⁺)	M1+E2	0.0041 6	$\alpha(K)_{\text{exp}}=0.0034$ 3 $\alpha(K)=0.0035$ 6; $\alpha(L)=0.00045$ 5; $\alpha(M)=9.2\times 10^{-5}$ 10; $\alpha(N+..)=2.14\times 10^{-5}$ 24
718.7 4	1.0 @ 1	916.0		197.34	(5/2 ⁻)			
722.8 3	5.4 1	722.90	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)			
722.8 3	4.0 @ 4	892.25	(7/2,9/2 ⁺)	169.70	(5/2 ⁺)			
731.5 3	2.5 1	731.45	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)	(E2,M1)	0.0039 6	$\alpha(K)_{\text{exp}}=0.0022$ 4 $\alpha(K)=0.0033$ 5; $\alpha(L)=0.00043$ 5; $\alpha(M)=8.7\times 10^{-5}$ 10; $\alpha(N+..)=2.02\times 10^{-5}$ 24
757.6	1.57 6	1003.8	(13/2 ⁻)	246.60	(9/2 ⁻)			
759.9 3	1.16 6	1003.8	(13/2 ⁻)	243.91	(11/2 ⁻)			
762.8 3	4.74 6	1020.85	(7/2 ⁺ ,9/2 ⁺)	258.02	(7/2 ⁺)	(M1,E2)	0.0035 5	$\alpha(K)_{\text{exp}}=0.042$ 4 $\alpha(K)=0.0030$ 5; $\alpha(L)=0.00039$ 5; $\alpha(M)=7.9\times 10^{-5}$ 9; $\alpha(N+..)=1.83\times 10^{-5}$ 22
$^{x767.3}$ 3	2.0 @ 2							
771.4 3	1.86 6	968.80	(7/2,9/2,11/2 ⁻)	197.34	(5/2 ⁻)			
792.4 3	1.62 5	968.80	(7/2,9/2,11/2 ⁻)	176.45	(7/2 ⁻)			
795.1 3	2.05 5	1020.85	(7/2 ⁺ ,9/2 ⁺)	225.58	(7/2 ⁺)			
$^{x801.6}$	0.59 4							
811.7 3	1.67 5	1296.29	(7/2,9/2,11/2 ⁺)	484.29	(9/2 ⁺)			
820.0 3	2.03 6	1017.3	(7/2,9/2,11/2 ⁻)	197.34	(5/2 ⁻)			
$^{x832.5}$ 3	1.33 9							
$^{x838.7}$ 3	3.75 9							

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^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ ‡	I_γ #a	E_i (level)	J_i^π	E_f	J_f^π	Mult. †	α	Comments
840.8	1.14 & 3	1017.3	(7/2,9/2,11/2 ⁻)	176.45	(7/2 ⁻)			
844.3 3	1.63 8	1020.85	(7/2 ⁺ ,9/2 ⁺)	176.45	(7/2 ⁻)			
850.0	1.36 & 3	1108.0	(7/2,9/2,11/2 ⁺)	258.02	(7/2 ⁺)			
851.6 3	2.13 7	1020.85	(7/2 ⁺ ,9/2 ⁺)	169.70	(5/2 ⁺)			
854.3 3	3.35 8	1079.93	(7/2 ⁺ ,9/2 ⁺)	225.58	(7/2 ⁺)	(E2,M1)	0.0027 4	$\alpha(\text{K})_{\text{exp}}=0.0013$ 3 $\alpha(\text{K})=0.0023$ 4; $\alpha(\text{L})=0.00030$ 4; $\alpha(\text{M})=6.0\times 10^{-5}$ 8; $\alpha(\text{N}+..)=1.39\times 10^{-5}$ 18
^x 864.2	0.61 7							
^x 867.8 3	0.82 8							
^x 876.5 3	1.44 9							
892.0 3	1.69 6	892.25	(7/2,9/2 ⁺)	0.0	(5/2 ⁺)			
^x 898.4 3	0.57 6							
^x 931.2 3	0.50 6							
^x 935.9	0.83 6							
941.3 3	2.92 6	941.30	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)			
^x 949.2	0.87 6							
^x 959.7	0.30 5							
^x 961.8 3	0.64 5							
988.6 3	2.26 4	1473.18	(7/2,9/2 ⁻)	484.29	(9/2 ⁺)			
992.5 3	2.37 4	1218.1	(7/2,9/2 ⁺)	225.58	(7/2 ⁺)			
^x 996.9 3	0.80 4							
1013.5 4	1.85 5	1473.18	(7/2,9/2 ⁻)	459.87	(9/2 ⁺)			
^x 1016.6 4	0.57 5							
1021.0 4	2.05 5	1020.85	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)			
1028.7 4	1.03 7	1286.8	(7/2,9/2 ⁺)	258.02	(7/2 ⁺)			
^x 1043.6	0.33 6							
^x 1049.9 4	0.73 6							
1071.0 3	1.8 @ 3	1296.29	(7/2,9/2,11/2 ⁺)	225.58	(7/2 ⁺)			
1080.0 4	0.52 6	1079.93	(7/2 ⁺ ,9/2 ⁺)	0.0	(5/2 ⁺)			
^x 1097.0 4	0.73 5							
^x 1111.1	0.58 5							
1117.7	1.09 5	1286.8	(7/2,9/2 ⁺)	169.70	(5/2 ⁺)			
1122.6	1.20 5	1370.0	(7/2 ⁻ ,9/2 ⁺)	246.60	(9/2 ⁻)			
1124.2 4	0.55 & 3	1370.0	(7/2 ⁻ ,9/2 ⁺)	243.91	(11/2 ⁻)			
1132.2	0.57 5	1380.0	(7/2 ⁻ ,9/2 ⁺)	246.60	(9/2 ⁻)			
1136.4 4	0.97 5	1380.0	(7/2 ⁻ ,9/2 ⁺)	243.91	(11/2 ⁻)			
^x 1157.5 5	0.59 6							
^x 1172.9 4	0.67 6							
1193.4 4	1.28 6	1370.0	(7/2 ⁻ ,9/2 ⁺)	176.45	(7/2 ⁻)			
1199.5 5	0.85 5	1370.0	(7/2 ⁻ ,9/2 ⁺)	169.70	(5/2 ⁺)			
1208.2 5	0.6 @ 2	1522.5	(7/2 ⁺)	314.30	(3/2 ⁺)			
1218.2 5	0.3 @ 1	1218.1	(7/2,9/2 ⁺)	0.0	(5/2 ⁺)			
^x 1220.0	0.80 5							
1226.3 4	1.83 6	1473.18	(7/2,9/2 ⁻)	246.60	(9/2 ⁻)			
1236.4 4	1.44 6	1462.0	(7/2,9/2,11/2 ⁺)	225.58	(7/2 ⁺)			
1248.1 4	2.37 6	1473.18	(7/2,9/2 ⁻)	225.58	(7/2 ⁺)			
1275.7 4	0.49 5	1473.18	(7/2,9/2 ⁻)	197.34	(5/2 ⁻)			
1296.8 4	3.64 5	1473.18	(7/2,9/2 ⁻)	176.45	(7/2 ⁻)			
^x 1306.1 5	0.61 5							
^x 1309.7	0.62 5							
1335.2 4	1.67 6	1560.8	(7/2,9/2,11/2 ⁺)	225.58	(7/2 ⁺)			
^x 1353.3 5	0.85 5							
1359.1 4	0.55 5	1584.7		225.58	(7/2 ⁺)			

Continued on next page (footnotes at end of table)

^{119}Cs ε decay (43.0 s) **2001Ge01** (continued) $\gamma(^{119}\text{Xe})$ (continued)

E_γ [†]	I_γ ^{#a}	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1368.7 5	0.84 5	1594.3		225.58	(7/2 ⁺)
1379.6	0.76 6	1380.0	(7/2 ⁻ ,9/2 ⁺)	0.0	(5/2 ⁺)
1389.4 5	1.61 6	1633.3	(7/2 ⁻ ,9/2,11/2)	243.91	(11/2 ⁻)
^x 1396.8	0.31 8				
^x 1443.5	0.49 7				
^x 1452.4 5	1.10 8				
1473.3 4	1.17 6	1473.18	(7/2,9/2 ⁻)	0.0	(5/2 ⁺)
^x 1476.1	0.49 5				
^x 1497.5	0.57 5				
^x 1528.2 4	1.13 5				
^x 1535.7	0.29 6				
^x 1540.5	0.71 6				
^x 1577.6	0.62 6				
^x 1589.8	0.45 6				
^x 1596.7	0.62 6				
^x 1610.1 5	1.10 ^{&} 3				
^x 1616.1	0.51 6				
1625.6 6	1.04 7	1822.9		197.34	(5/2 ⁻)
^x 1701.5	0.33 7				
^x 1712.3	0.45 7				
^x 1752.9	0.48 6				
^x 1767.2 5	0.64 2				
^x 1773	0.28 6				
1793.9	0.49 6	2019.5	(7/2,9/2 ⁺)	225.58	(7/2 ⁺)
1801.2 6	2.02 6	2026.6	(7/2,9/2 ⁺)	225.58	(7/2 ⁺)
1808.7 7	0.57 ^{&} 3	2067.0		258.02	(7/2 ⁺)
^x 1814.0	0.56 6				
^x 1821.1	0.61 6				
^x 1833.3	0.35 ^{&} 3				
^x 1850.9 5	1.41 7				
^x 1916.4 5	0.52 7				
^x 1983.8 5	1.18 8				
^x 2001.9	0.74 8				
2019.4	0.28 8	2019.5	(7/2,9/2 ⁺)	0.0	(5/2 ⁺)
2026.2	0.50 8	2026.6	(7/2,9/2 ⁺)	0.0	(5/2 ⁺)
2067.4	0.86 8	2067.0		0.0	(5/2 ⁺)
2172.8 7	1.0 1	2349.3	(7/2,9/2,11/2 ⁻)	176.45	(7/2 ⁻)
^x 2184.3	0.54 9				
^x 2208.2	0.65 9				
^x 2219.6	0.5 1				
2223.5	2.7 1	2400.0	(7/2,9/2,11/2 ⁻)	176.45	(7/2 ⁻)
^x 2231 1	1.1 1				
^x 2250.4	0.8 1				
^x 2260.0	0.6 1				
^x 2280.9	0.6 1				
^x 2303.8	0.8 1				
^x 2317.9	1.1 1				
2461.1	1.0 1	2686.4	(7/2,9/2 ⁺)	225.58	(7/2 ⁺)
^x 2506.3	1.1 1				
^x 2529.3	0.7 1				
^x 2543.1	1.7 1				
^x 2655.2	0.9 1				
2686.0	0.54 9	2686.4	(7/2,9/2 ⁺)	0.0	(5/2 ⁺)
^x 2718.3 5	0.5 1				
^x 2823.2	0.5 1				
^x 2869.9	0.6 1				

Continued on next page (footnotes at end of table)

 ^{119}Cs ε decay (43.0 s) **2001Ge01** (continued)

 $\gamma(^{119}\text{Xe})$ (continued)

<u>E_γ</u> [‡]	<u>I_γ</u> ^{#a}	<u>$E_i(\text{level})$</u>
^x 2970.4	0.5 <i>I</i>	
^x 3239.5	0.5 <i>I</i>	

[†] From $\alpha(\text{K})\text{exp}$ and K/L ratio.

[‡] γ rays unplaced in the decay scheme are with $^{119}\text{Cs}(30\text{ s})$ and/or $^{119}\text{Cs}(43\text{ s})$.

[#] Relative to $\text{I}(176.5\gamma)=100$ from UNISOR-G3, unless otherwise noted.

[@] Relative to $\text{I}(176.5\gamma)=100$ from ISOLDE.

[&] Relative to $\text{I}(176.5\gamma)=100$ from UNISOR-G1.

^a For absolute intensity per 100 decays, multiply by 0.314 4.

^x γ ray not placed in level scheme.

^{119}Cs ε decay (43.0 s) 2001Ge01

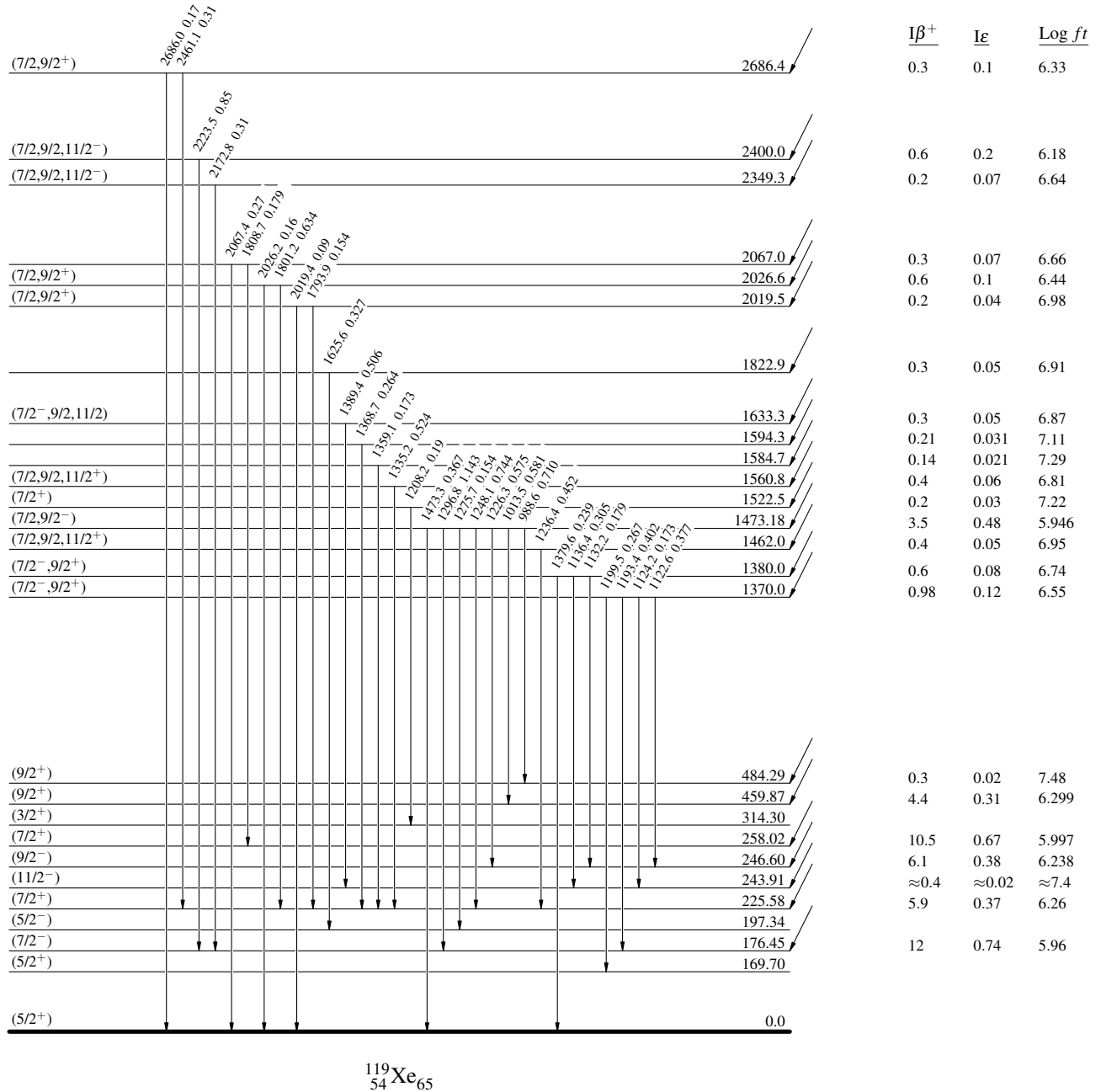
Decay Scheme

Legend

Intensities: I_γ per 100 parent decays

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

$\xrightarrow{9/2^+ \quad 0.0} \quad 43.0 \text{ s } 2$
 $Q_\varepsilon = 6.489 \times 10^3 \text{ keV}$
 $^{119}_{55}\text{Cs}_{64}$



^{119}Cs ε decay (43.0 s) 2001Ge01

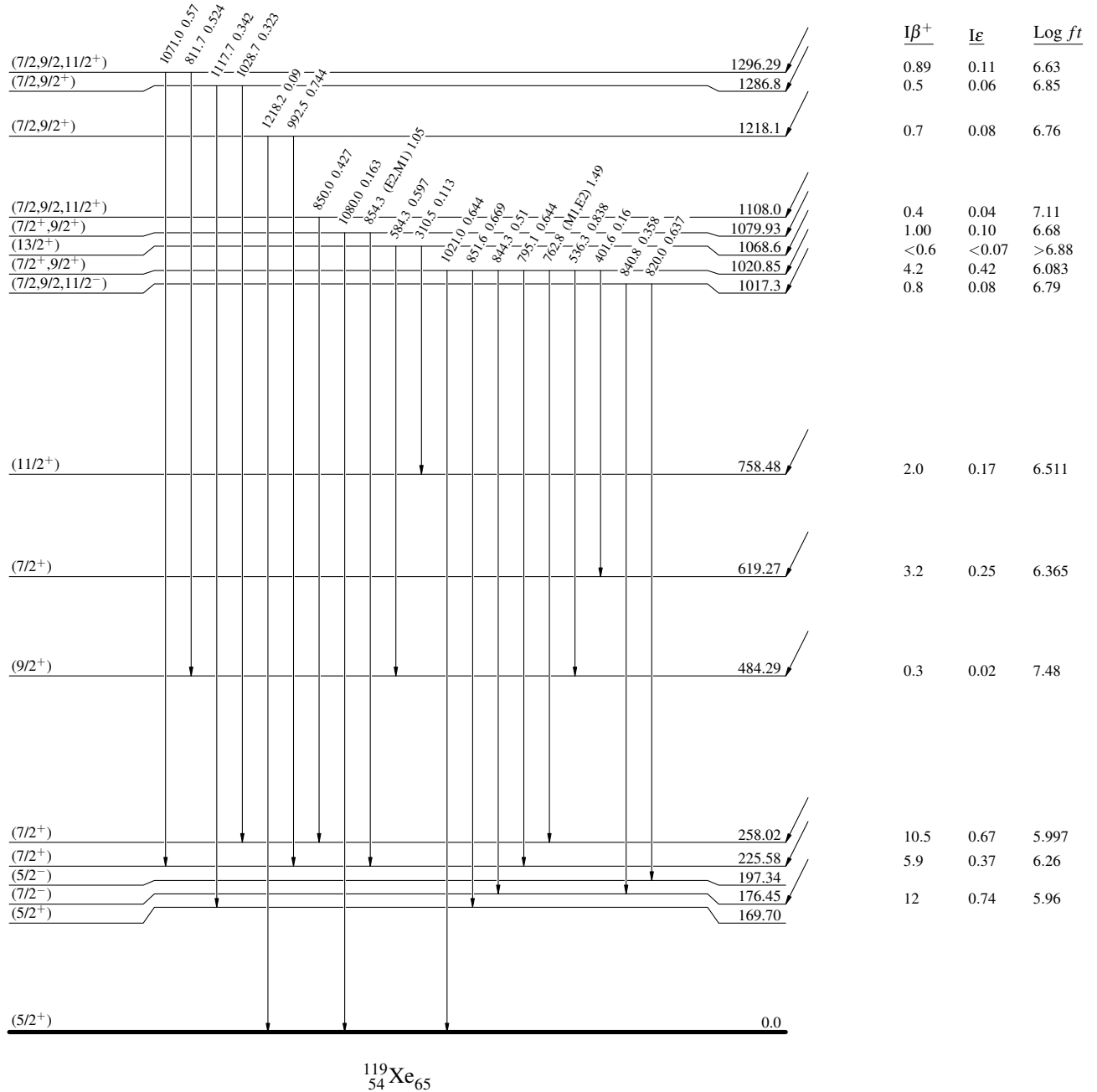
Decay Scheme (continued)

Intensities: I_γ per 100 parent decays

Legend

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

$\xrightarrow[9/2^+]{0.0} 43.0 \text{ s } 2$
 $Q_\varepsilon = 6.489 \times 10^3 \text{ keV}$
 $^{119}_{55}\text{Cs}_{64}$



^{119}Cs ε decay (43.0 s) 2001Ge01

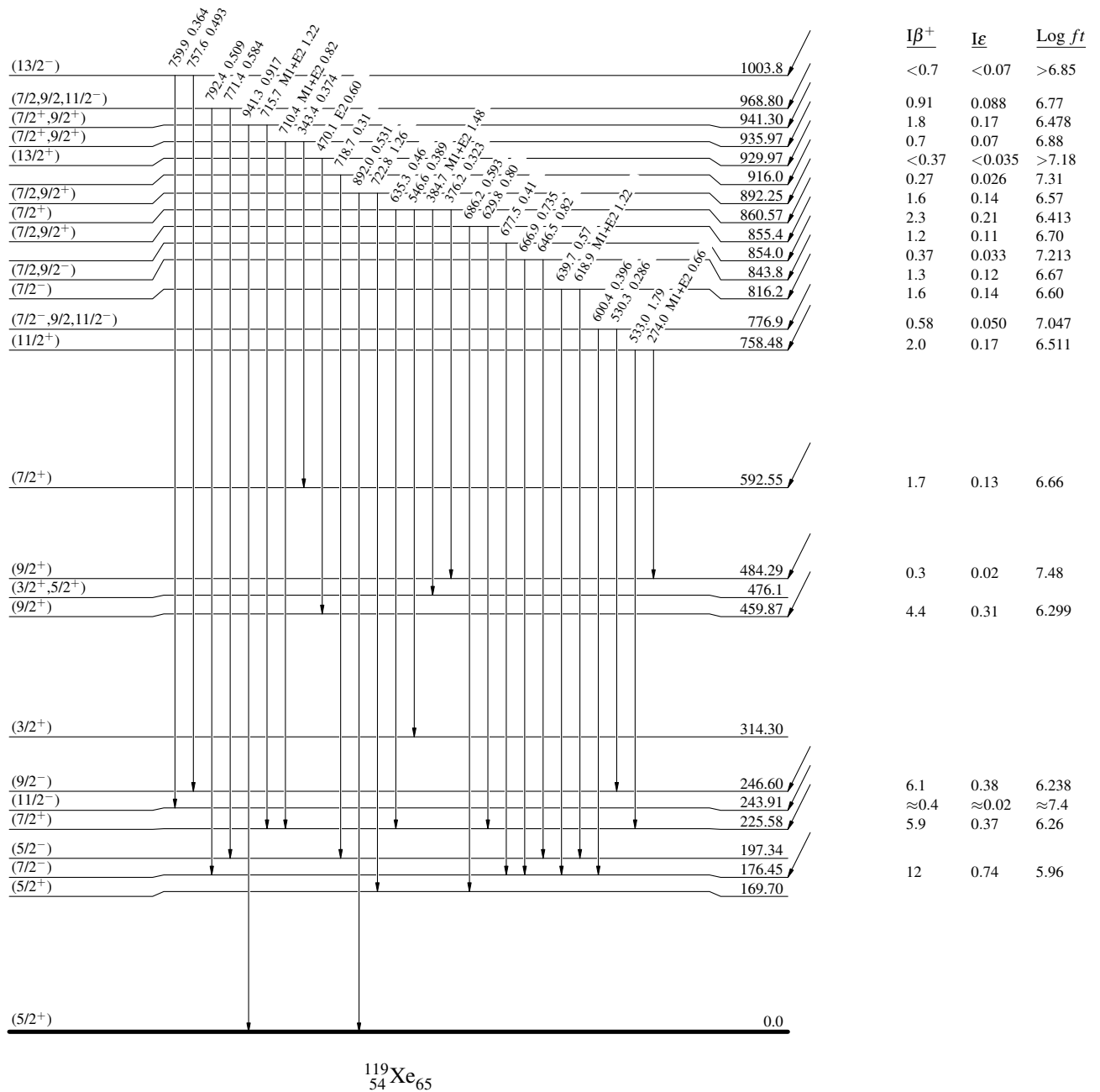
Decay Scheme (continued)

Legend

Intensities: I_γ per 100 parent decays

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

$\xrightarrow{9/2^+ \quad 0.0} \quad 43.0 \text{ s } 2$
 $Q_\varepsilon = 6.489 \times 10^3 \text{ keV}$
 $^{119}_{55}\text{Cs}_{64}$



^{119}Cs ε decay (43.0 s) 2001Ge01

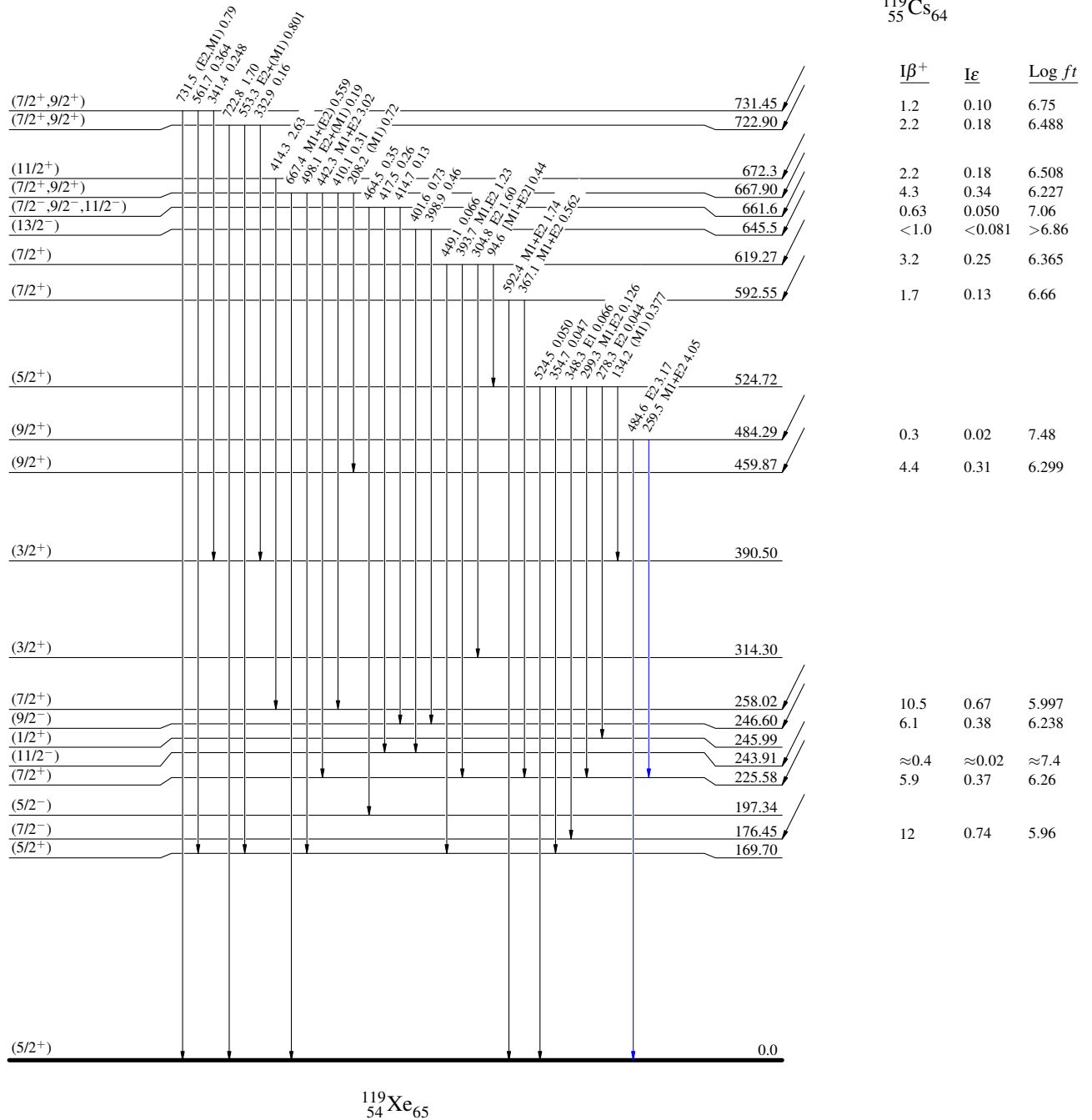
Decay Scheme (continued)

Legend

Intensities: I_γ per 100 parent decays

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

$\xrightarrow{9/2^+ \quad 0.0} \quad 43.0 \text{ s } 2$
 $Q_\varepsilon = 6.489 \times 10^3 \text{ keV}$
 $^{119}_{55}\text{Cs}_{64}$



^{119}Cs ε decay (43.0 s) 2001Ge01

Decay Scheme (continued)

Intensities: I_γ per 100 parent decays

Legend

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

