^{129}Xe(n,γ) E=9.47 eV 1974Ge05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 93, 33 (2001)	11-May-2001

1974Ge05: E=9.47 eV. Measured Eγ, Iγ, $\gamma\gamma$.
Others:
1996Sk01: E=epithermal (3.2 eV). Measured tof spectra.
1988Ma16: ^{129}Xe(pol n,γ) E≈resonance. Measured asymmetry parameter.
1987Ma36: ^{129}Xe(pol n,γ) E=9.4 eV. Measured γ asymmetry parameter.

^{130}Xe Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0	0^+	2296.1 *7*	1,2	3189.5 *6*	
536.21 *24*	2^+	2308.7 *5*	1,2	3242.8? *6*	
1122.4 *3*	2^+	2385.6 *4*		3299.3 *4*	
1204.4 *4*	4^+	2502.0 *5*	1,2	3325.7 *5*	
1632.0 *5*	3^+	2544.5 *8*		3405.9 *5*	
1792.1 *5*	0^+	2627.5 *7*		3534.8 *6*	
1808.1 *4*	(4^+)	2632.7? *5*		3622.5 *7*	
2017.5 *4*	0^+	2636.6 *9*		3687.2 *6*	
2058.7? *9*	$(5)^-$	2762.8 *4*	1,2	3779.8? *5*	
2081.4? *8*	(4^+)	2885.5 *4*	1,2	3892.8? *6*	
2149.8 *6*	(2^+)	2954.3 *6*		3959.4? *8*	
2171.3 *5*	$(4^+,5^+)$	2978.0 *4*	1,2	3976.8 *7*	1,2
2223.2 *7*		3071.3 *5*		3987.5 *6*	
2241.1 *5*		3150.8 *5*		(S(n)+0.00947# *4*)	1^+@

† From least-squares fit to Eγ's.
‡ From Adopted Levels.
# S(n)=9255.8 *9* (1995Au04).
@ s-wave capture in ^{129}Xe (g.s. $J^\pi=1/2^+$) and γ to 0^+.

$\gamma(^{130}Xe)$

Eγ†	Iγ‡	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$
136.5e *11*	1.4 *5*	3325.7		3189.5	
161.5e *11*	0.28 *6*	2385.6		2223.2	
x178.7 *10*	0.19 *6*				
191.8 *7*	2.0 *3*	2954.3		2762.8	1,2
209.6 *8*	0.20 *5*	3534.8		3325.7	
246.0 *6*	0.8 *2*	2632.7?		2385.6	
252.1 *8*	0.29 *7*	2885.5	1,2	2632.7?	
x261.9 *6*	0.08 *2*				
x397.4 *5*	0.30 *7*				
500.1 *5*	0.14 *5*	2885.5	1,2	2385.6	
x522.8 *2*	1.0b *2*				
536.1 *3*	100	536.21	2^+	0.0	0^+
(539.3)	0.68& *13*	2171.3	$(4^+,5^+)$	1632.0	3^+
x573.8 *5*	0.41 *6*				
586.2 *2*	24 *3*	1122.4	2^+	536.21	2^+
603.7 *3*	0.57 *8*	1808.1	(4^+)	1204.4	4^+
x622.8 *5*	0.46 *10*				

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^{129}Xe(n,γ) E=9.47 eV 1974Ge05 (continued)

γ(^{130}Xe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
668.3 *4*	8.9 *15*	1204.4	4^+	536.21	2^+
685.8[d] *4*	0.66[d&] *8*	1808.1	(4^+)	1122.4	2^+
685.8[de] *4*	[d&a]	3071.3		2385.6	
698.1[c] *8*	0.20[c] *8*	3242.8?		2544.5	
698.1[c] *8*	0.20[c] *8*	3325.7		2627.5	
736.8[c] *11*	0.08[c] *6*	2978.0	1,2	2241.1	
736.8[c] *11*	0.08[c] *6*	3622.5		2885.5	1,2
[x]749.8[@] *6*	1.1 *1*				
762.7 *7*	0.43 *9*	3071.3		2308.7	1,2
765.7 *7*	0.10 *6*	3150.8		2385.6	
[x]792.4 *8*	0.17 *7*				
806.8 *8*	0.13 *6*	2978.0	1,2	2171.3	$(4^+,5^+)$
825.7[c] *8*	0.11[c] *6*	2632.7?		1808.1	(4^+)
825.7[c] *8*	0.11[c] *6*	3779.8?		2954.3	
825.7[c] *8*	0.11[c] *6*	3976.8	1,2	3150.8	
[x]833.3 *8*	0.07 *5*				
836.8 *8*	0.16 *5*	3987.5		3150.8	
854.3[c] *8*	1.1[c] *2*	2058.7?	$(5)^-$	1204.4	4^+
854.3[c] *8*	1.1[c] *2*	3150.8		2296.1	1,2
[x]862.3 *8*	0.27 *6*				
877.0 *7*	0.96 *10*	2081.4?	(4^+)	1204.4	4^+
893.7[c] *11*	0.89[c] *13*	2017.5	0^+	1122.4	2^+
893.7[c] *11*	0.89[c] *13*	3779.8?		2885.5	1,2
909.9 *9*	0.60 *12*	3150.8		2241.1	
914.9[c] *13*	0.11[c] *6*	3892.8?		2978.0	1,2
914.9[c] *13*	0.11[c] *6*	3987.5		3071.3	
936.2 *11*	0.15 *3*	2954.3		2017.5	0^+
[x]942.8 *13*	0.15 *7*				
959.3 *10*	0.26 *10*	2978.0	1,2	2017.5	0^+
966.6 *12*	0.43 *8*	2171.3	$(4^+,5^+)$	1204.4	4^+
981.1 *9*	0.12 *7*	3959.4?		2978.0	1,2
986.7 *10*	0.10 *4*	3622.5		2636.6	
1020.8 *9*	0.38 *9*	3405.9		2385.6	
1028.1 *12*	0.25 *10*	2149.8	(2^+)	1122.4	2^+
[x]1048.7 *15*	0.37 *10*				
1053.6[c] *13*	0.16[c] *3*	3071.3		2017.5	0^+
1053.6[c] *13*	0.16[c] *3*	3687.2		2632.7?	
1060.1 *7*	0.59 *14*	3687.2		2627.5	
[x]1072.4 *6*	1.8 *2*				
[x]1080.1 *13*	0.15 *6*				
1095.7 *6*	4.7[b] *2*	1632.0	3^+	536.21	2^+
[x]1106.5 *12*	0.21 *9*				
1121.5 *8*	4.2 *3*	1122.4	2^+	0.0	0^+
1126.1 *12*	0.14 *10*	3299.3		2171.3	$(4^+,5^+)$
1154.8 *6*	0.47 *10*	3325.7		2171.3	$(4^+,5^+)$
1175.8 *6*	0.16 *6*	3325.7		2149.8	(2^+)
1181.3 *9*	0.06 *5*	2385.6		1204.4	4^+
[x]1219.9 *6*	0.22 *7*				
[x]1249.4 *8*	0.10 *6*				
1256.0 *5*	1.8 *2*	1792.1	0^+	536.21	2^+
1262.7[d] *8*	0.8[d&] *2*	2385.6		1122.4	2^+
1262.7[d] *8*	≈0.2[d]	3071.3		1808.1	(4^+)
1271.7 *5*	0.52 *11*	1808.1	(4^+)	536.21	2^+

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^{129}Xe(n,γ) E=9.47 eV 1974Ge05 (continued)

γ(^{130}Xe) (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
[x]1293.0 *3*					
1311.4 *7*	0.32 *10*	3534.8		2223.2	
1355.3 *10*	0.22 *10*	3987.5		2632.7?	
1379.5 *4*	0.37 *9*	2502.0	1,2	1122.4	2^+
1388.8 *10*	0.16 *7*	3405.9		2017.5	0^+
[x]1421.5 *11*	0.22 *10*				
1450.8[c] *11*	0.32[c] *11*	3242.8?		1792.1	0^+
1450.8[c] *11*	0.32[c] *11*	3622.5		2171.3	$(4^+,5^+)$
[x]1459.7 *3*	1.1 *2*				
[x]1481.2[d] *5*	3.4[d] *9*				
1481.2[d] *5*	<0.05[d&]	2017.5	0^+	536.21	2^+
[x]1602.1 *7*	0.79 *18*				
1609.6[#] *11*	≤2.7[#]	3242.8?		1632.0	3^+
1613.3[#] *7*	≤2.7[#]	2149.8	(2^+)	536.21	2^+
[x]1631.6 *8*	0.69 *33*				
[x]1683.4 *11*	0.28 *13*				
1686.9 *11*	0.39 *13*	2223.2		536.21	2^+
1705.0 *6*	1.0 *2*	2241.1		536.21	2^+
1726.6 *11*	≤0.2	3534.8		1808.1	(4^+)
1746.9 *10*	0.4 *2*	3987.5		2241.1	
1759.4[#] *10*	<2.0[#]	2296.1	1,2	536.21	2^+
1764.3[#] *10*	≤2.0[#]	2885.5	1,2	1122.4	2^+
1764.3[de] *10*	≤0.2[d]	3987.5		2223.2	
1813.9 *10*	0.19 *10*	3622.5		1808.1	(4^+)
1848.9 *12*	0.67 *25*	2385.6		536.21	2^+
[x]1899.2 *5*	2.8 *4*				
1948.2 *13*	0.6 *2*	3071.3		1122.4	2^+
1966.3 *9*	0.73 *15*	2502.0	1,2	536.21	2^+
[x]1979.6 *9*	0.14 *10*				
1987.6 *7*	0.26 *15*	3779.8?		1792.1	0^+
2008.0 *9*	1.5 *5*	2544.5		536.21	2^+
2028.8 *9*	1.3 *4*	3150.8		1122.4	2^+
2066.5 *7*	0.15 *8*	3189.5		1122.4	2^+
2092.2[@] *12*	1.1 *2*	2627.5		536.21	2^+
2101.3[c] *11*	1.5[c] *3*	2636.6		536.21	2^+
2101.3[c] *11*	1.5[c] *3*	3892.8?		1792.1	0^+
2176.8 *11*	1.1 *3*	3299.3		1122.4	2^+
2283.0 *9*	0.14 *7*	3405.9		1122.4	2^+
2308.7 *5*	0.29 *8*	2308.7	1,2	0.0	0^+
2345.1 *7*	1.6 *4*	3976.8	1,2	1632.0	3^+
[x]2378.6 *11*	0.23 *13*				
[x]2496.4 *11*	0.6 *2*				
2612.7 *11*	0.7 *3*	3150.8		536.21	2^+
2653.8 *9*	0.7 *3*	3189.5		536.21	2^+
2763.0[c] *4*	0.82[c] *24*	2762.8	1,2	0.0	0^+
2763.0[c] *4*	0.82[c] *24*	3299.3		536.21	2^+
2870.1 *20*	0.27 *12*	3405.9		536.21	2^+
2885.2 *8*	0.7 *2*	2885.5	1,2	0.0	0^+
2978.7 *6*	0.82 *15*	2978.0	1,2	0.0	0^+
[x]3028.9 *8*	0.16 *8*				
[x]3330.0 *15*	1.7 *5*				
[x]3943.2 *14*	0.5 *1*				
3975.2 *24*	0.3 *1*	3976.8	1,2	0.0	0^+

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^{129}Xe(n,γ) E=9.47 eV 1974Ge05 (continued)

γ(^{130}Xe) (continued)

E_γ †	I_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
x4064.9 *24*	0.24 *8*				
x4080.5 *15*	0.15 *6*				
x4226.3 *20*	0.44 *9*				
x4290.6 *20*	0.45 *10*				
x4444.4 *20*	0.16 *6*				
x4497.3 *20*	0.19 *6*				
x4505.2 *20*	0.32 *7*				
x4534.5 *24*	0.22 *10*				
x4546.6 *10*	0.14 *5*				
x4687.9 *24*	0.27 *8*				
x4713.0 *10*	0.27 *7*				
x4746.1 *24*	0.19 *5*				
x4769.1 *10*	0.17 *6*				
x4794.9# *24*	≤0.56#				
x4804.2# *24*	≤0.56#				
x4822.8 *24*	0.19 *5*				
x4858.1 *8*	0.25 *6*				
x4876.0 *6*	0.31 *7*				
x4912.5 *6*	0.31 *6*				
x4927.4# *24*	≤0.77#				
x4934.4# *24*	≤0.77#				
x4987.8 *24*	0.30 *6*				
x5007.4 *24*	0.19 *6*				
x5045.5 *24*	0.13 *6*				
x5074.3 *24*	0.05 *5*				
x5094.1 *24*	0.27 *10*				
x5150.1 *24*	0.22 *7*				
x5209.6 *7*	0.31 *6*				
5269.1 *24*	0.13 *5*	(S(n)+0.00947)	1+	3987.5	
5278.4 *24*	0.08 *5*	(S(n)+0.00947)	1+	3976.8	1,2
5295.4 *10*	0.08 *4*	(S(n)+0.00947)	1+	3959.4?	
5362.7 *6*	0.26 *7*	(S(n)+0.00947)	1+	3892.8?	
5475.5 *5*	0.14 *5*	(S(n)+0.00947)	1+	3779.8?	
5568.2 *7*	0.40 *9*	(S(n)+0.00947)	1+	3687.2	
5632.1 *24*	0.04 *3*	(S(n)+0.00947)	1+	3622.5	
5720.5 *7*	1.0 *1*	(S(n)+0.00947)	1+	3534.8	
5849.6 *8*	0.63 *15*	(S(n)+0.00947)	1+	3405.9	
5930.2 *14*	0.13 *6*	(S(n)+0.00947)	1+	3325.7	
5955.6 *5*	1.9 *5*	(S(n)+0.00947)	1+	3299.3	
6011.6 *9*	0.26 *8*	(S(n)+0.00947)	1+	3242.8?	
6065.3 *9*	0.65 *9*	(S(n)+0.00947)	1+	3189.5	
6105.1 *15*	0.25 *7*	(S(n)+0.00947)	1+	3150.8	
6182.7 *25*	1.0 *3*	(S(n)+0.00947)	1+	3071.3	
6278.1 *7*	1.1 *3*	(S(n)+0.00947)	1+	2978.0	1,2
6300.5 *25*	1.3 *3*	(S(n)+0.00947)	1+	2954.3	
6370.1 *7*	1.3 *2*	(S(n)+0.00947)	1+	2885.5	1,2
6493.3 *13*	0.30 *8*	(S(n)+0.00947)	1+	2762.8	1,2
6622.1 *11*	0.70 *8*	(S(n)+0.00947)	1+	2632.7?	
6870.4 *15*	0.27 *13*	(S(n)+0.00947)	1+	2385.6	
7011.6 *20*	0.15 *4*	(S(n)+0.00947)	1+	2241.1	
7032.4 *11*	0.15 *4*	(S(n)+0.00947)	1+	2223.2	
7237.0 *13*	0.10 *3*	(S(n)+0.00947)	1+	2017.5	0+
7463.5 *21*	0.20 *3*	(S(n)+0.00947)	1+	1792.1	0+
8134.3 *16*	0.57 *10*	(S(n)+0.00947)	1+	1122.4	2+

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^{129}Xe(n,γ) E=9.47 eV 1974Ge05 (continued)

$\gamma(^{130}Xe)$ (continued)

E_γ [†]	I_γ [‡]	E_i(level)	J_i^π	E_f	J_f^π
8718.1 *17*	0.05 *3*	(S(n)+0.00947)	1^+	536.21	2^+
9254.2 *21*	0.08 *4*	(S(n)+0.00947)	1^+	0.0	0^+

† It was assumed by 1974Ge05 that Eγ>5210 are primary transitions.
‡ Relative intensities.
# Multiplet; Iγ(1609.6+1613.3)=2.7 *3*, Iγ(1759.4+1764.3)=2.0 *3*, Iγ(4794.9+4804.2)=0.56 *9*, Iγ(4927.4+4934.4)=0.77 *16*.
@ Doublet.
& From adopted γ's.
a Weak.
b A small fraction of this intensity may be due to an impurity.
c Multiply placed with undivided intensity.
d Multiply placed with intensity suitably divided.
e Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

^{129}Xe(n,γ) E=9.47 eV 1974Ge05

Level Scheme

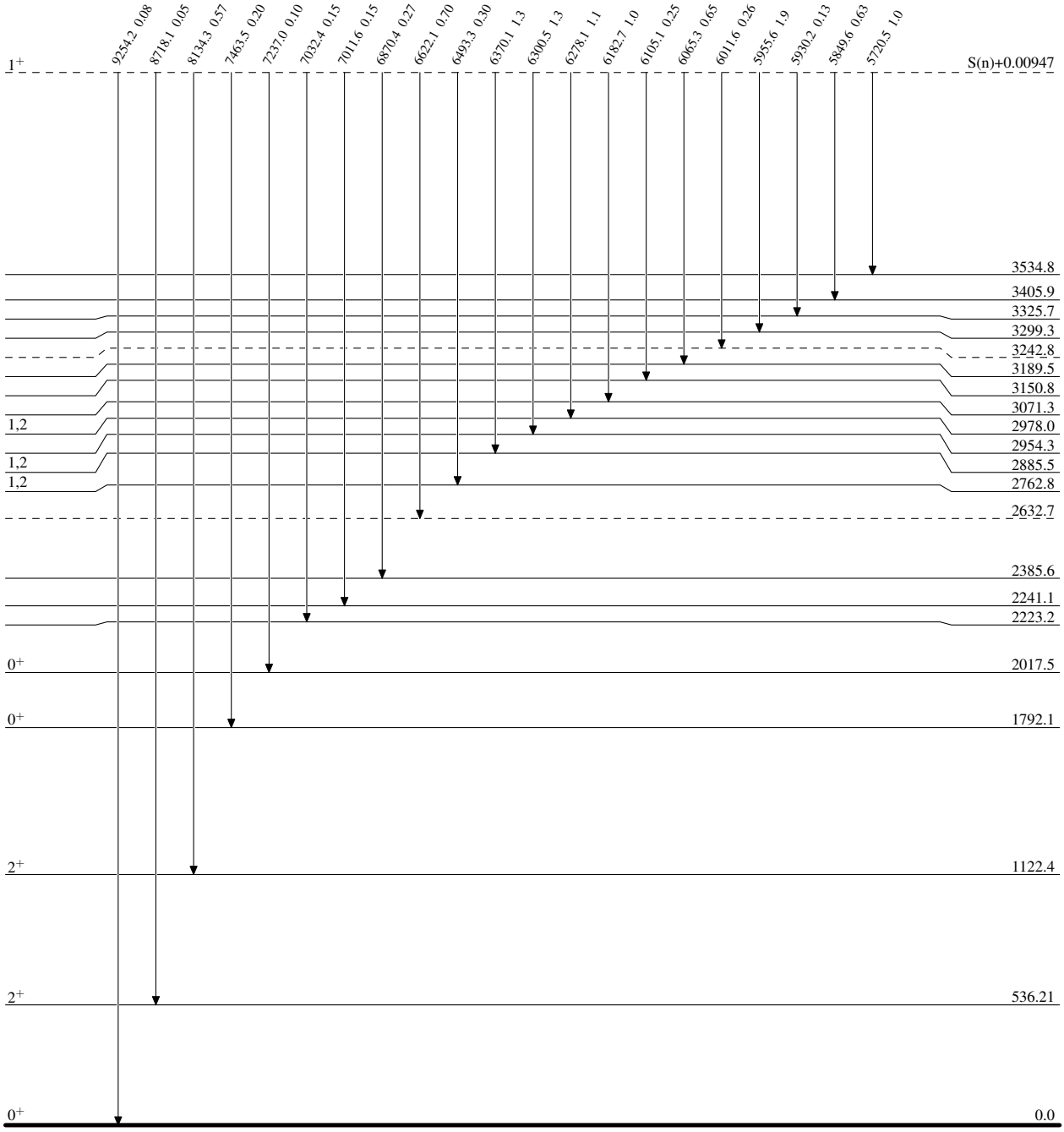
Intensities: Relative I_γ

Legend

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

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

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



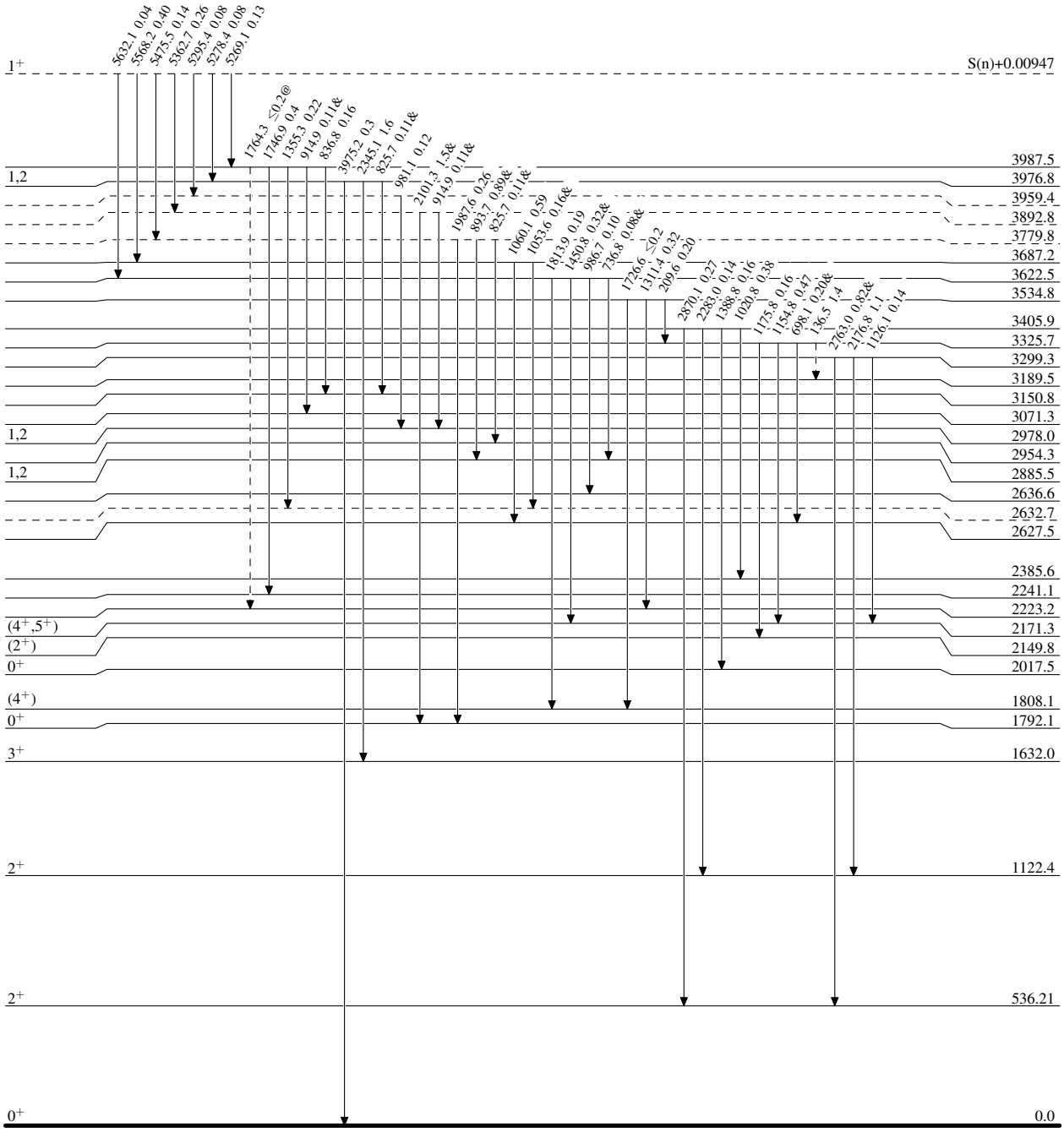
$^{130}_{54}Xe_{76}$

^{129}Xe(n,γ) E=9.47 eV 1974Ge05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



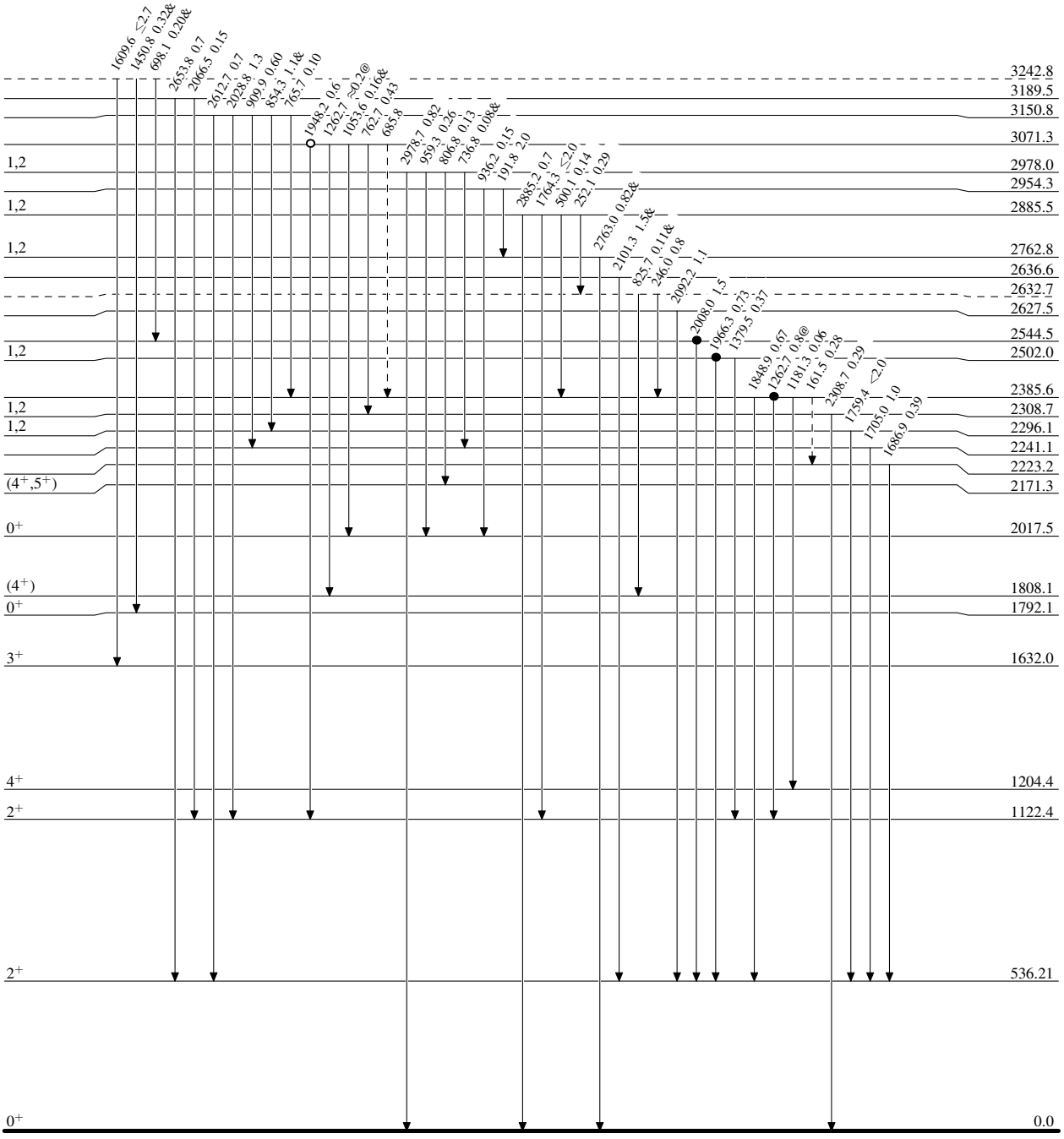
$^{130}_{54}Xe_{76}$

^{129}Xe(n,γ) E=9.47 eV 1974Ge05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



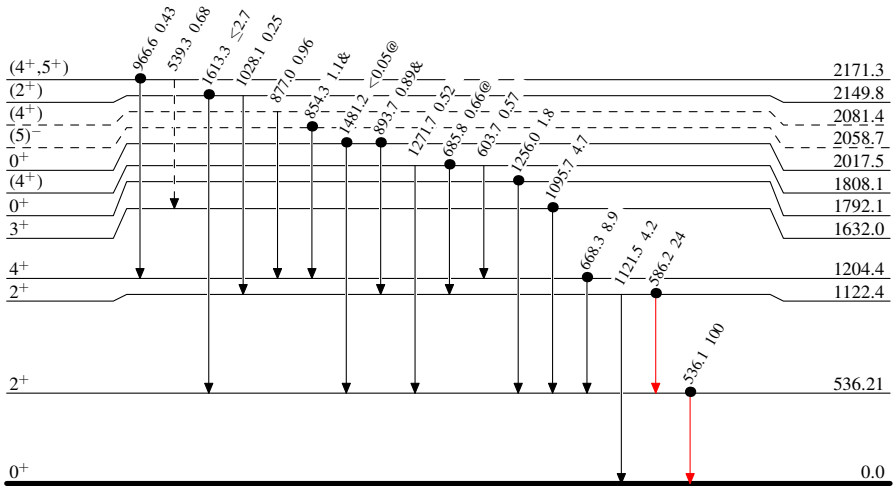
$^{130}_{54}Xe_{76}$

^{129}Xe(n,γ) E=9.47 eV 1974Ge05

Level Scheme (continued)

Intensities: Relative I_γ
& Multiply placed: undivided intensity given
@ Multiply placed: intensity suitably divided

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



$^{130}_{54}Xe_{76}$