Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	S. Lalkovski, F. G. Kondev	NDS 124, 157 (2015)	1-Aug-2014

Q(β^-)=−13739 *87*; S(n)=13705 *87*; S(p)=2362 *10*; Q(α)=3330 *6* 2012Wa38

^{112}Xe Levels

Cross Reference (XREF) Flags

A ^{58}Ni(^{58}Ni,2p2nγ)
B ^{113}Cs p decay (18.3 μs)

E(level)†	J$^\pi$‡	$T_{1/2}$	XREF	Comments
0.0#	0^+	2.7 s *8*	AB	%ε+%β^+=98.8 *8*; %α=1.2 *8* %α: symmetrized from %α=0.8 +1.1-0.5 (1994Pa12) using the procedure adopted in 2012Wa38. Other: ≈0.84 in 1978Ro19, but this value is tentative. $T_{1/2}$: from 3185α(t) in 1979Sc22. Other: 2.8 s *2* from (ε+β^+)-delayed α(t) in 1978Ro19, but this value is more uncertain given the complexity of the spectra, as discussed in 1979Sc22.
466.00# *20*	2^+		A	J$^\pi$: first-excited member of the g.s. band of an even-even nuclide.
1122.1# *3*	4^+		A	J$^\pi$: 656.1γ E2 to 2^+; band member.
1649.5?@ *5*	(3^-)		A	J$^\pi$: 1183.0γ to 2^+; band member; systematics in neighbouring nuclei.
1906.9# *4*	6^+		A	J$^\pi$: 784.8γ E2 to 4^+; band member.
2021.9@ *4*	(5^-)		A	J$^\pi$: 900.0γ D to 4^+, 372.0γ to (3^-); band member.
2594.1@ *4*	(7^-)		A	J$^\pi$: 572.2γ E2 to (5^-), 687.1γ to 6^+; band member.
2777.5# *4*	8^+		A	J$^\pi$: 870.6γ E2 to 6^+; band member.
3189.1@ *7*	(9^-)		A	J$^\pi$: 595.0γ to (7^-); band member.
3549.6# *5*	10^+		A	J$^\pi$: 772.1γ to 8^+; band member.
3852.3@ *8*	(11^-)		A	J$^\pi$: 663.2γ to (9^-); band member.
4447.3?@ *10*	(13^-)		A	J$^\pi$: 595γ to (11^-); band member.
4469.1# *5*	12^+		A	J$^\pi$: 919.5γ to 10^+; band member.

† From a least-squares fit to Eγ.
‡ From the deduced γ-ray multipolarities, the observed apparent band structures and systematics in neighbouring nuclei in ^{58}Ni(^{58}Ni,2p2nγ) (2001Sm13).
# Band(A): K$^\pi$=0^+, ground-state band.
@ Band(B): ΔJ=2 negative-parity band.

γ(^{112}Xe)

E_i(level)	J_i^π	E_γ†	I_γ	E_f	J_f^π	Mult.‡	Comments
466.00	2^+	466.0 *2*	100	0.0	0^+		
1122.1	4^+	656.1 *2*	100	466.00	2^+	E2	Mult.: R_{DCO}=1.33 *15* (2001Sm13).
1649.5?	(3^-)	1183.0 *6*	100	466.00	2^+		
1906.9	6^+	784.8 *2*	100	1122.1	4^+	E2	Mult.: R_{DCO}=1.3 *2* (2001Sm13).
2021.9	(5^-)	372.0 *6*		1649.5?	(3^-)		
		900.0 *2*		1122.1	4^+	D	Mult.: R_{DCO}=0.88 *13* (2001Sm13).

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Adopted Levels, Gammas (continued)

$\gamma(^{112}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	Comments
2594.1	(7^-)	572.2 *2*		2021.9	(5^-)	E2	Mult.: R_{DCO}=1.3 *2* (2001Sm13).
		687.1 *2*		1906.9	6^+		
2777.5	8^+	870.6 *2*	100	1906.9	6^+	E2	Mult.: R_{DCO}=1.24 *15* (2001Sm13).
3189.1	(9^-)	595.0 *6*	100	2594.1	(7^-)		
3549.6	10^+	772.1 *2*	100	2777.5	8^+		
3852.3	(11^-)	663.2 *2*	100	3189.1	(9^-)		
4447.3?	(13^-)	595[#] *1*	100	3852.3	(11^-)		
4469.1	12^+	919.5 *2*	100	3549.6	10^+		

[†] From ^{58}Ni(^{58}Ni,2p2nγ) (2001Sm13).

[‡] From the measured asymmetry ratio R_{DCO}=Iγ(30°or150°)/Iγ(90°) in ^{58}Ni(^{58}Ni,2p2nγ) (2001Sm13). A value of $R_{DCO}\approx$1.0 would be expected for a stretched-dipole transition and ≈1.4 for a stretched-quadruple transition. Those were confirmed for known ΔJ=1 333γ (R_{DCO}=0.97 *7*) and ΔJ=2 642γ (R_{DCO}=1.33 *10*) in ^{112}I, observed in ^{58}Ni(^{58}Ni,2p2nγ) (2001Sm13).

[#] Placement of transition in the level scheme is uncertain.

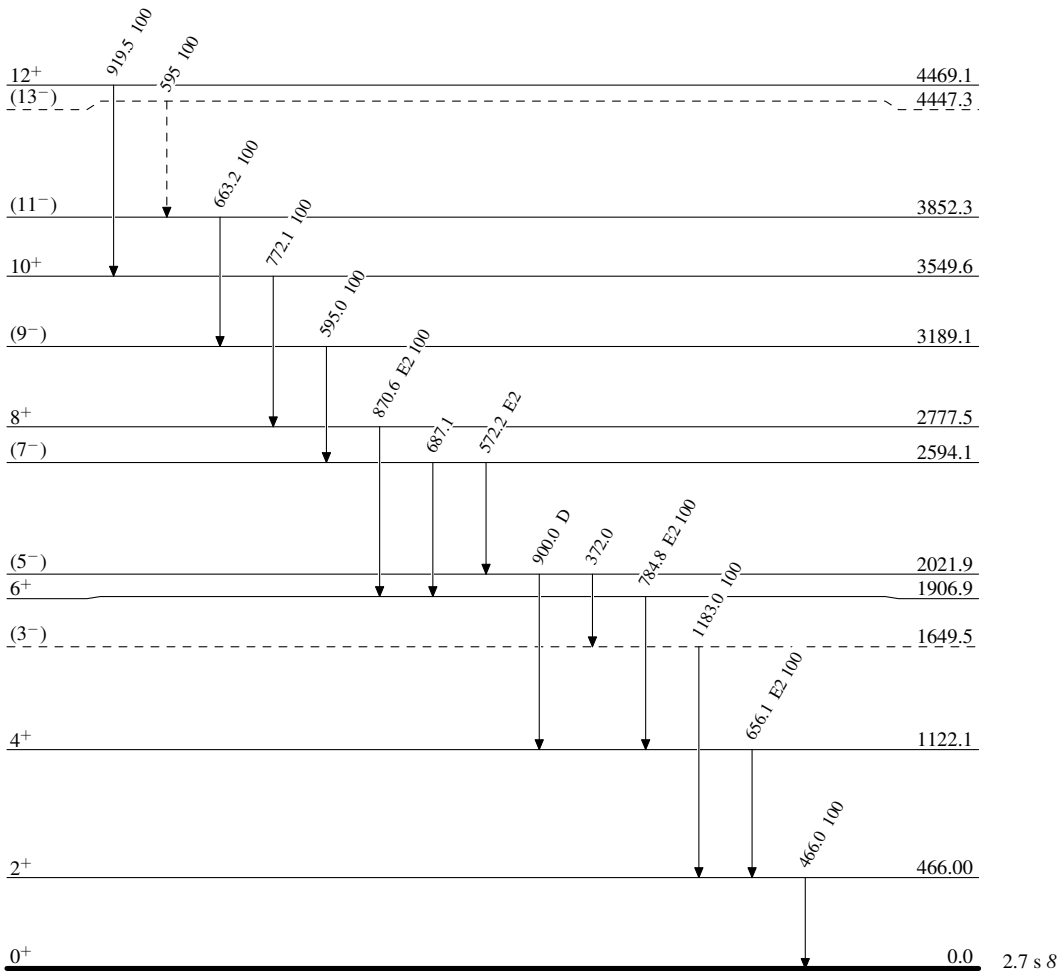
Adopted Levels, Gammas

Legend

Level Scheme

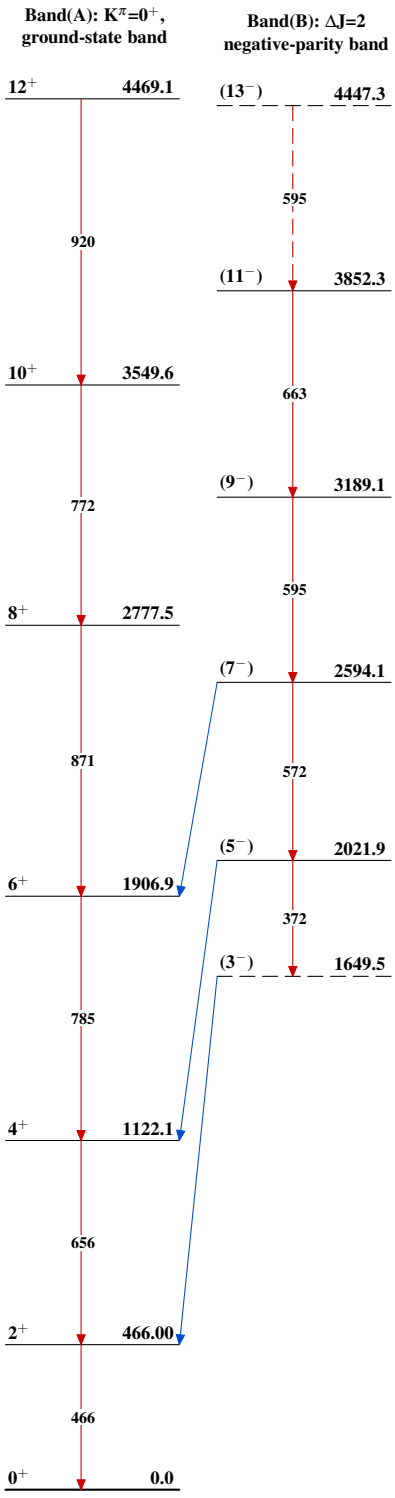
Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{112}_{54}Xe_{58}$

Adopted Levels, Gammas



$^{112}_{54}Xe_{58}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 113,515 (2012)	1-Jan-2012

Q(β^-)=−1.240×10^4 *8*; S(n)=12954 *14*; S(p)=3255 *14*; Q(α)=2719 *13* 2012Wa38
Note: Current evaluation has used the following Q record −1.240E+4 SY12954 133255 142719 13 2011AuZZ.
ΔQ(β^-)=700 (2011AuZZ).
The observed structure suggests a broken reflection symmetry.
^{115}Ba decays by delayed-proton emission to ^{114}Xe. The level population in ^{114}Xe is not known.

^{114}Xe Levels

Cross Reference (XREF) Flags

A (HI,xnγ)
B ^{114}Cs β^+ decay
C ^{58}Ni(^{58}Ni,2pγ)

E(level)	J$^\pi$[†]	T$_{1/2}$	XREF	Comments
0[‡]	0$^+$	10.0 s *4*	ABC	%ε+%β^+=100 T$_{1/2}$: from 1977Ki11, measured γ spectrometry at ISOLDE.
450.08[‡] *19*	2$^+$	15.6 ps *8*	ABC	J$^\pi$: stretched E2. T$_{1/2}$: Weighted av: 16.5 ps *11* (1998De29), 14.9 ps *10* (2002De26).
1069.1[‡] *3*	4$^+$	3.6 ps *4*	ABC	T$_{1/2}$: Weighted av: 3.40 ps *21* (1998De29), 4.3 ps *4* (2002De26). J$^\pi$: stretched E2.
1148.7[#] *4*	(2)$^+$		AB	J$^\pi$: quasi γ-band member. M1,E2 to 2$^+$.
1623.8[@] *3*	3$^-$	8.3 ps *21*	A C	J$^\pi$: E1 γ to 2$^+$. T$_{1/2}$: from 2002De26.
1776.7[#] *4*	(4)$^+$		A	
1789.7[‡] *3*	6$^+$	2.1 ps *3*	A C	T$_{1/2}$: from 1998De29. J$^\pi$: E2 γ to 4$^+$ and g.s. band.
2000.7[@] *3*	5$^-$	21.2 ps *18*	A C	T$_{1/2}$: Weighted av: 22.9 ps *21* (1998De29), 19.4 ps *21* (2002De26).
2356.5[#] *4*	(6)$^+$		A	
2554.4[‡] *4*	8$^+$		A C	J$^\pi$: stretched E2.
2559.4[@] *4*	7$^-$	3.8 ps *8*	A C	T$_{1/2}$: from 1998De29.
2765.7[a] *5*	6$^-$		A	
2920.2[&] *5*	7$^-$		A	
2984.5[#] *4*	(8)$^+$		A	
3095.4[a] *5*	8$^-$		A	
3170.9[@] *4*	9$^-$		A C	
3289.7[&] *4*	9$^-$		A	
3305.6[‡] *4*	10$^+$		A	
3613.3[#] *4*	(10)$^+$		A	
3638.1[a] *7*	(10$^-$)		A	
3863.9[&] *4*	11$^-$		A	
3924.4[@] *4*	11$^-$		A C	
4046.5[‡] *4*	12$^+$		A C	
4140.4[#] *4*	(12$^+$)		A	
4407.7[a] *9*	(12$^-$)		A	
4697.5[&] *5*	13$^-$		A	

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Adopted Levels, Gammas (continued)

^{114}Xe Levels (continued)

E(level)	J^{π}[†]	$T_{1/2}$	XREF	Comments
4736.3[@] *4*	13^-		A C	
4815.6[‡] *5*	14^+		A C	
4849.3[#] *4*	(14^+)		A	
5285.6[a] *10*	(14^-)		A	
5452.1[@] *4*	15^-		A C	
5617.6[&] *7*	15^-		A	
5635.4[‡] *7*	16^+	0.49 ps *+21−13*	A	$T_{1/2}$: From 2007Pa07.
5712.0[#] *4*	(16^+)		A	
5720.1 *7*			A	
6157.6[a] *11*	(16^-)		A	
6308.5[@] *4*	17^-		A C	
6329.9 *8*			A	
6514.2[‡] *9*	18^+	0.34 ps *+15−7*	A	$T_{1/2}$: From 2007Pa07.
6537.4[&] *8*	17^-		A	
6681.0[#] *7*	(18^+)		A	
6851.4[@] *5*	19^-		A C	
7021.6[a] *12*	(18^-)		A	
7357.4[&] *13*	(19^-)		A	
7451.6[‡] *10*	20^+	0.24 ps *+10−6*	A	$T_{1/2}$: From 2007Pa07.
7545.4[@] *5*	21^-		A C	
7684.0[#] *12*	20^+		A	
7898.4[a] *12*	(20^-)		A	
8255.4[&] *17*	(21^-)		A	
8379.9[@] *7*	23^-		A C	
8449.1[‡] *11*	22^+	0.18 ps *+8−5*	A	$T_{1/2}$: From 2007Pa07.
9371.5[@] *9*	(25^-)		A	
9510.8[‡] *12*	24^+	0.132 ps *+55−35*	A	$T_{1/2}$: From 2007Pa07.
10543[c] *1*	26^+		A	
10583.5[@] *14*	(27^-)		A	
10626[‡] *1*	26^+		A	
10660[b] *1*	26^+		A	
11619[c] *1*	28^+		A	
11774[‡] *1*	(28^+)		A	
11864[b] *1*	28^+		A	
12806[c] *1*	(30^+)		A	
12888?[‡] *2*	(30^+)		A	
13142[b] *2*	30^+		A	
14115[c] *2*	(32^+)		A	
14502[b] *2*	(32^+)		A	
15640[c] *2*	(34^+)		A	
15952[b] *2*	(34^+)		A	
17452?[c] *2*	(36^+)		A	
17485[b] *2*	(36^+)		A	
19115[b] *2*	(38^+)		A	
20856[b] *2*	(40^+)		A	

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Adopted Levels, Gammas (continued)

^{114}Xe Levels (continued)

E(level)	J^{π}[†]	XREF
22726[b] 2	(42$^+$)	A
24739[b] 3	(44$^+$)	A
26914[b] 3	(46$^+$)	A
29250[b] 3	(48$^+$)	A
31781[b] 3	(50$^+$)	A
34591?[b] 3	(52$^+$)	A

[†] J^{π} without comments are based on band structure and γ multipolarities.
[‡] Band(A): g.s. band. Q(0)=3.5.
[#] Band(B): 2$^+$ band.
[@] Band(C): Octupole band based on 3$^-$. Q(0)=2.3.
[&] Band(D): band based on 7$^-$. (π,α)=(−11).
[a] Band(E): band based on 6$^-$. (π,α)=(−10).
[b] Band(F): Band, configuration=$\pi g_{9/2}^{-2}\pi h_{11/2}^{2}\nu h_{11/2}^{4}$ (2002Pa22). This band terminates at 56$^+$ oblate state.
[c] Band(G): Band, configuration=$\pi h_{11/2}^{2}\nu h_{11/2}^{2}$ (2002Pa22). This band terminates into an oblate shape at 38$^+$.

γ(^{114}Xe)

E_i(level)	J_i^{π}	E_{γ}	I_{γ}	E_f	J_f^{π}	Mult.[†]	Comments
450.08	2$^+$	450.1 2	100	0	0$^+$	E2	
1069.1	4$^+$	619.0 2	100	450.08	2$^+$	E2	
1148.7	(2)$^+$	698.7 5	100	450.08	2$^+$	M1,E2	
		1148.5 5	58	0	0$^+$		
1623.8	3$^-$	554.1 2	60 5	1069.1	4$^+$	E1	E_{γ}: from 2002De26.
		1173.7 2	100 6	450.08	2$^+$	E1	
		1623.7 2	1.8 6	0	0$^+$	E3	E_{γ}: from 2002De26.
1776.7	(4)$^+$	628.0 5	100	1148.7	(2)$^+$		
		708 1	100	1069.1	4$^+$		
1789.7	6$^+$	720.7 2	100	1069.1	4$^+$	E2	
2000.7	5$^-$	211.3 5	13	1789.7	6$^+$	E1	
		223.7 5	8.	1776.7	(4)$^+$	E1	
		376.9 2	100	1623.8	3$^-$	E2	
		931 1	<3.	1069.1	4$^+$		
		1549.1 5	2.0 5	450.08	2$^+$	E3	E_{γ}: from 2002De26.
2356.5	(6)$^+$	567.0 5	70	1789.7	6$^+$	M1+E2	
		580.1 5	100	1776.7	(4)$^+$	E2	
2554.4	8$^+$	764.7 2	100	1789.7	6$^+$	E2	
2559.4	7$^-$	558.7 2	100	2000.7	5$^-$	E2	
		769.6 5	16	1789.7	6$^+$		
2765.7	6$^-$	764.8 5	100	2000.7	5$^-$		
		977 1	<40	1789.7	6$^+$		
2920.2	7$^-$	1130.2 5	100	1789.7	6$^+$	E1	
2984.5	(8)$^+$	628.1 2	100	2356.5	(6)$^+$	E2	
		1194.7 5	21	1789.7	6$^+$	E2	
3095.4	8$^-$	175.0 5	38	2920.2	7$^-$	M1+E2	
		329.7 5	60	2765.7	6$^-$	E2	
		536.1 5	100	2559.4	7$^-$	M1+E2	
3170.9	9$^-$	611.4 2	100	2559.4	7$^-$	E2	
3289.7	9$^-$	369.3 5	13	2920.2	7$^-$		
		730.1 5	88	2559.4	7$^-$	E2	
		735.7 5	100	2554.4	8$^+$	E1	

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Adopted Levels, Gammas (continued)

γ(^{114}Xe) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[†]
3305.6	10^+	751.1 *2*	100	2554.4	8^+	E2
3613.3	$(10)^+$	307.6 *5*	25	3305.6	10^+	M1+E2
		442.5 *5*	12	3170.9	9^-	E1
		628.9 *2*	100	2984.5	$(8)^+$	E2
		1059.0 *5*	7.	2554.4	8^+	
3638.1	(10^-)	542.7 *5*	100	3095.4	8^-	
3863.9	11^-	574.3 *5*	11	3289.7	9^-	
		692.9 *2*	100	3170.9	9^-	E2
3924.4	11^-	634.9 *5*	63	3289.7	9^-	E2
		753.6 *2*	100	3170.9	9^-	E2
4046.5	12^+	740.7 *2*	100	3305.6	10^+	E2
4140.4	(12^+)	527.1 *2*	100	3613.3	$(10)^+$	E2
		835.1 *5*	<5.	3305.6	10^+	
4407.7	(12^-)	769.6 *5*	100	3638.1	(10^-)	
4697.5	13^-	832.9 *5*	100	3863.9	11^-	E2
4736.3	13^-	812.0 *2*	100	3924.4	11^-	E2
		872.5 *5*	20	3863.9	11^-	
4815.6	14^+	769.1 *2*	100	4046.5	12^+	E2
4849.3	(14^+)	709.1 *2*	100	4140.4	(12^+)	E2
		802.0 *5*	24	4046.5	12^+	
5285.6	(14^-)	877.9 *5*	100	4407.7	(12^-)	
5452.1	15^-	715.9 *2*	100	4736.3	13^-	E2
		753.9 *5*	10	4697.5	13^-	E2
5617.6	15^-	920.2 *5*	100	4697.5	13^-	E2
5635.4	16^+	819.8 *5*	100	4815.6	14^+	E2
5712.0	(16^+)	862.7 *2*	100	4849.3	(14^+)	E2
5720.1		870.8 *5*	100	4849.3	(14^+)	
6157.6	(16^-)	872.0 *5*	100	5285.6	(14^-)	
6308.5	17^-	596.5 *2*	9.	5712.0	(16^+)	
		691 *1*	12	5617.6	15^-	E2
		856.4 *2*	100	5452.1	15^-	E2
6329.9		609.8 *5*	100	5720.1		
6514.2	18^+	878.8 *5*	100	5635.4	16^+	E2
6537.4	17^-	919.7 *5*	100	5617.6	15^-	E2
6681.0	(18^+)	969.0 *5*	100	5712.0	(16^+)	
6851.4	19^-	542.9 *2*	100	6308.5	17^-	E2
7021.6	(18^-)	864.0 *5*	100	6157.6	(16^-)	
7357.4	(19^-)	820 *1*	100	6537.4	17^-	
7451.6	20^+	937.4 *5*	100	6514.2	18^+	E2
7545.4	21^-	694.0 *2*	100	6851.4	19^-	E2
7684.0	20^+	1003 *1*	100	6681.0	(18^+)	
7898.4	(20^-)	877[‡] *1*	100	7021.6	(18^-)	
8255.4	(21^-)	898 *1*	100	7357.4	(19^-)	
8379.9	23^-	834.5 *5*	100	7545.4	21^-	E2
8449.1	22^+	997.5 *5*	100	7451.6	20^+	
9371.5	(25^-)	991.6 *5*	100	8379.9	23^-	
9510.8	24^+	1061.7 *5*	100	8449.1	22^+	
10543	26^+	1032 *1*	100	9510.8	24^+	
10583.5	(27^-)	1212 *1*	100	9371.5	(25^-)	
10626	26^+	1115 *1*	100	9510.8	24^+	
10660	26^+	1149 *1*	100	9510.8	24^+	
11619	28^+	1076 *1*	100	10543	26^+	
11774	(28^+)	1148 *1*	100	10626	26^+	
11864	28^+	1204 *1*	100	10660	26^+	
12806	(30^+)	1187 *1*	100	11619	28^+	

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Adopted Levels, Gammas (continued)

$\gamma(^{114}Xe)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π
12888?	(30^+)	1114‡ *1*	100	11774	(28^+)	19115	(38^+)	1630 *1*	100	17485	(36^+)
13142	30^+	1278 *1*	100	11864	28^+	20856	(40^+)	1741 *1*	100	19115	(38^+)
14115	(32^+)	1309 *1*	100	12806	(30^+)	22726	(42^+)	1870 *1*	100	20856	(40^+)
14502	(32^+)	1360 *1*	100	13142	30^+	24739	(44^+)	2013 *1*	100	22726	(42^+)
15640	(34^+)	1525 *1*	100	14115	(32^+)	26914	(46^+)	2175 *1*	100	24739	(44^+)
15952	(34^+)	1450 *1*	100	14502	(32^+)	29250	(48^+)	2336 *1*	100	26914	(46^+)
17452?	(36^+)	1812‡ *1*	100	15640	(34^+)	31781	(50^+)	2531 *1*	100	29250	(48^+)
17485	(36^+)	1533 *1*	100	15952	(34^+)	34591?	(52^+)	2810‡ *1*	100	31781	(50^+)

† From (HI,xnγ) with $\gamma(\theta)$(DCO).
‡ Placement of transition in the level scheme is uncertain.

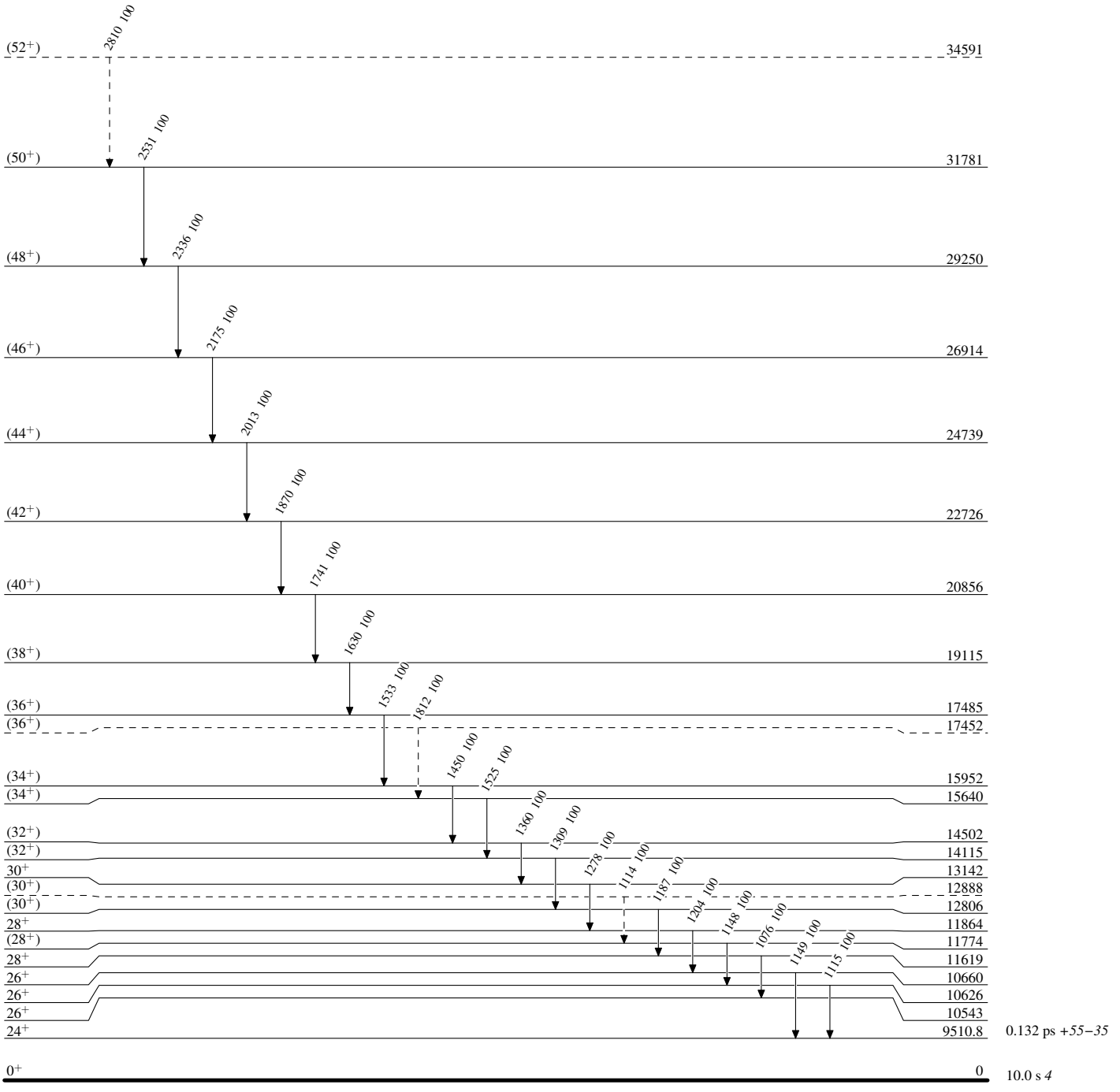
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{114}_{54}Xe_{60}$

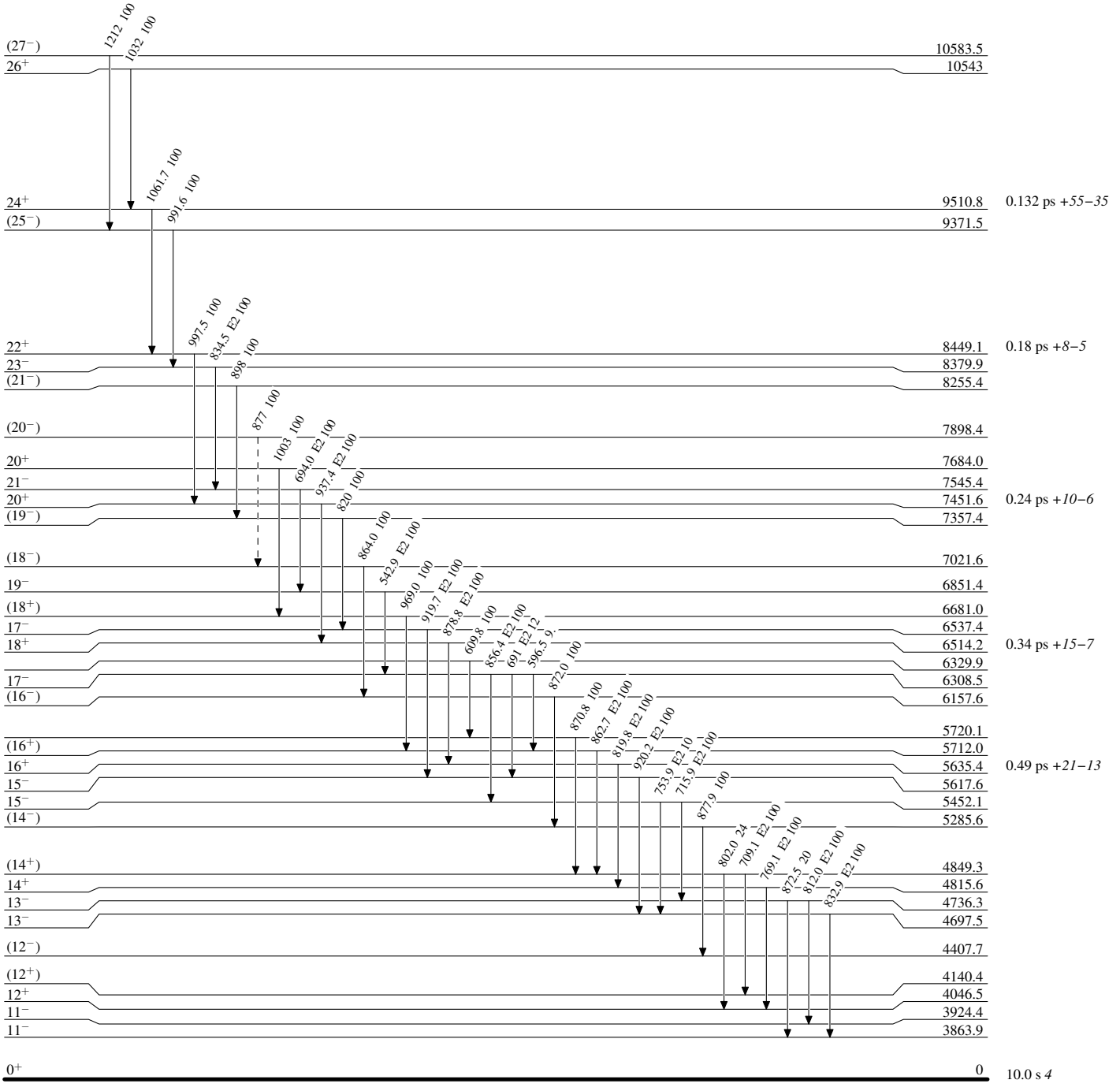
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

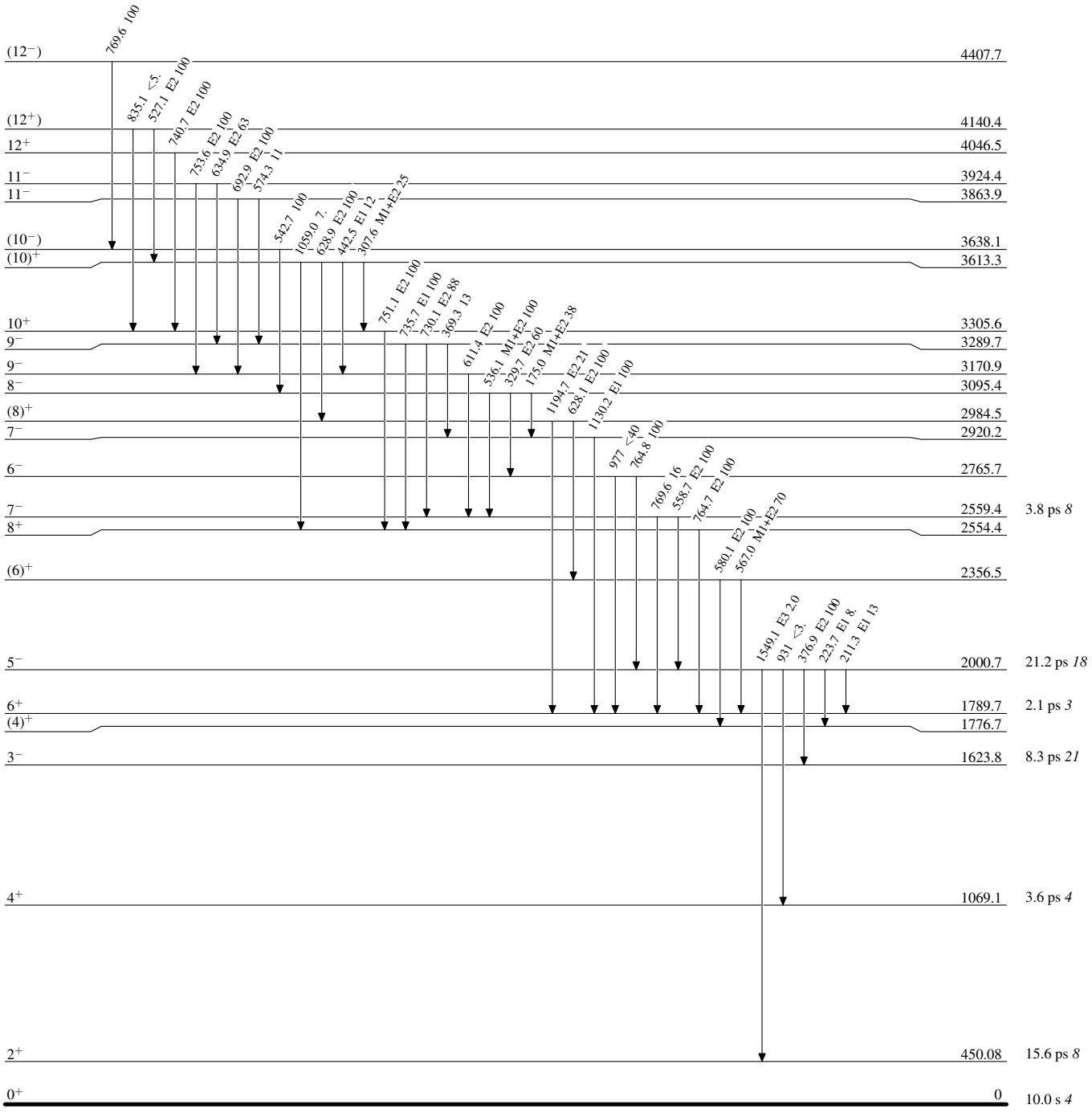


$^{114}_{54}Xe_{60}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

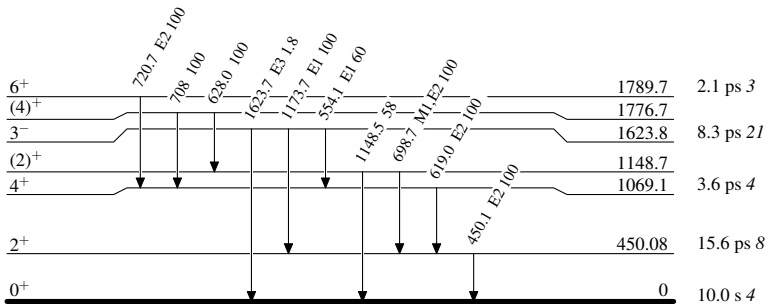


$^{114}_{54}Xe_{60}$

Adopted Levels, Gammas

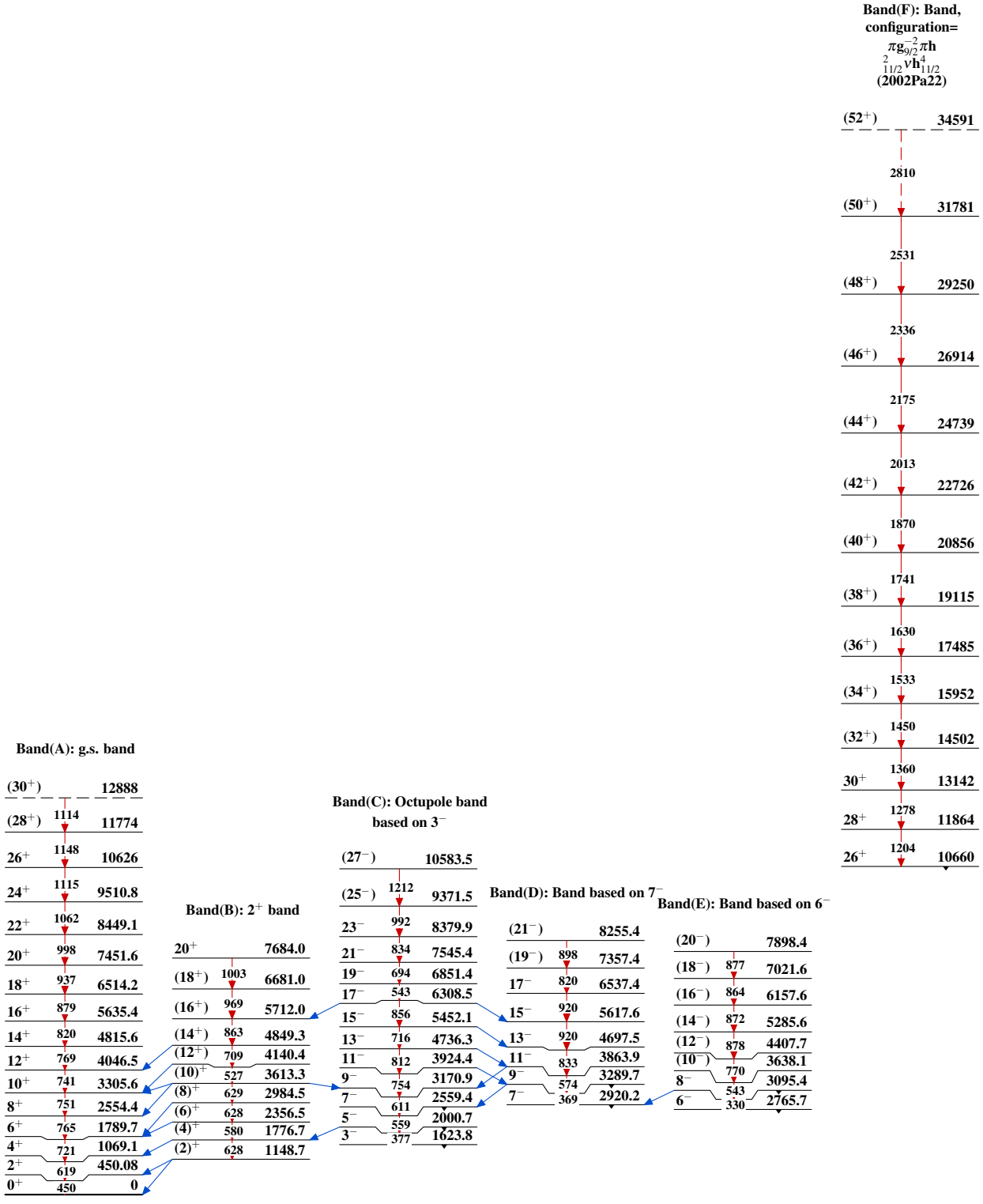
Level Scheme (continued)

Intensities: Relative photon branching from each level



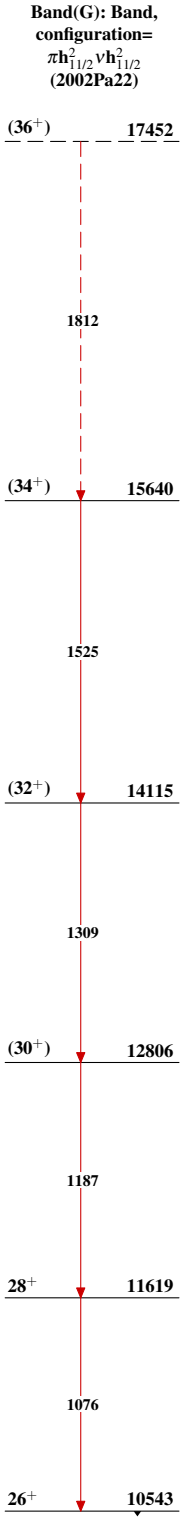
$^{114}_{54}Xe_{60}$

Adopted Levels, Gammas



$^{114}_{54}Xe_{60}$

Adopted Levels, Gammas (continued)



$^{114}_{54}Xe_{60}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	J. Katakura, Z. D. Wu	NDS 109,1655 (2008)	1-Apr-2008

Q(β^-)=−5930 *9*; S(n)=10484 *10*; S(p)=7006 *4*; Q(α)=−718 *4* 2012Wa38

Note: Current evaluation has used the following Q record −5929 9 *10483* 107006 4 −680 10 2003Au03.

Q(β^-): Other: 5902(2001Ko07), small HPGe detector,experimental response function compared with the response function calculated by egs4.

Isotope shift was measured in 1981Bo07.

^{124}Xe Levels

Cross Reference (XREF) Flags

A	^{124}Cs ε decay	D	(HI,xnγ)
B	^{122}Te(^{3}He,n)	E	^{124}Xe(γ,γ')
C	Coulomb excitation	F	^{82}Se(^{48}Ca,6nγ)

$T_{1/2}(2\beta^+(0\nu))(0^+$ to $0^+)$:
> 3.5×10^{17} y (68 % confidence level) (1990Ba22)
> 4.2×10^{17} y (68 % confidence level) (1989Ba22)

$T_{1/2}(2\beta^+(2\nu))(0^+$ to $0^+)$:
≥ 1.6×10^{14} y (68 % confidence level) (1990Ba22)
> 2.0×10^{14} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(0\nu))(0^+$ to $0^+)$:
> 9.2×10^{17} y (68 % confidence level) (1990Ba22)
> 1.2×10^{18} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(0\nu))(0^+$ to $2^+)$:
> 5.1×10^{17} y (68 % confidence level) (1990Ba22)
> 4.2×10^{17} y (68 % confidence level) (1989Ba22)

$T_{1/2}(K\beta^+(2\nu))(0^+$ to $0^+)$:
> 3.4×10^{16} y (68 % confidence level) (1990Ba22)
> 4.8×10^{16} y (68 % confidence level) (1989Ba22)

$T_{1/2}(2K(2\nu))(0^+$ to $0^+)$:
> 1.1×10^{17} y (90 % confidence level) (1998Ga27)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
0.0&	0^+	≥1.6×10^{14} y	ABCDEF	%2β+=? <r^2>$^{1/2}$=4.762 fm *5* (2004An14, evaluation). $T_{1/2}$: from 1990Ba22 for $2\beta^+(2\nu)$ decay which is the fastest decay mode. The measurement was performed with ionization chamber filled with a mixture Xe+0.8%H2 gas. 1989Ba22 also reported $T_{1/2}>2.0\times10^{14}$ y for the decay mode. For more details, see the table above. Δ<r^2>=−0.242 *5* fm^2 (relative to ^{136}Xe; 1989Bo03).
354.03& *4*	2^+	46.8 ps *12*	A CD F	μ=+0.46 *4* Jπ: E2 γ to 0^+. $T_{1/2}$: others: 44 ps *+7−6* in Coul. ex.; 57 ps *3*(1998Go03); 33 ps *12*(1982GaZH). 2001Ra27 evaluation gives 52 ps *3*. μ: Ion implantation PAC (1975Go18,1989Ra17). Value relative to μ=+0.78 *10* for 668 level in ^{132}Xe. See also 2005St24 compilation. B(E2)↑: 0.17(1998Go03).
846.50i *4*	2^+	12.3 ps *21*	A D F	Jπ: from γγ(θ), E2 γ to 0^+. $T_{1/2}$: other: 6.9 ps *14*(1982GaZH).
878.92& *5*	4^+	5.68 ps *16*	A CD F	Jπ: from γ(θ), E2 γ to 2^+; g.s. band member. $T_{1/2}$: Others:2.1 ps *2*(1998Go03); 3.5 ps *4*(1982GaZH).

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
				B(E2)↑: 0.67(1998Go03).
1247.63[h] *7*	3^+	6.2 ps *7*	A D F	Jπ: M1+E2 γ to 2^+; ΔJ=1 γ to 4^+. $T_{1/2}$: other: 6.2 ps *14*(1982GaZH).
1268.91[n] *6*	0^+		A D	Jπ: from γγ(θ), E2 γ to 2^+.
1437.96[i] *9*	4^+	2.1 ps *7*	D F	Jπ: from γ(θ), M1+E2 γ to 4^+, E2 γ to 2^+. $T_{1/2}$: from 1982GaZH.
1548.46[&] *9*	6^+	1.29 ps *11*	D F	Jπ: from γ(θ), E2 γ to 4^+; g.s. band member. $T_{1/2}$: Others:0.7 ps *1*(1998Go03); 1.0 ps *4*(1982GaZH). B(E2)↑: 0.60(1998Go03).
1628.57[n] *5*	2^+		A D	Jπ: logft=5.73 from 1^+, γ's to 0^+ and 4^+.
1689.91 *7*	0^+		AB	XREF: B(1650). Jπ: from γγ(θ); L=0 in (^{3}He,n).
1836.92[h] *9*	5^+	3.99 ps *17*	D F	Jπ: from γ(θ), M1+E2 γ's to 4^+, E2 γ to 3^+. $T_{1/2}$: other: 3.1 ps *4*(1982GaZH).
1873.40[m] *13*	(4^+)		D	Jπ: γ's to 2^+,3^+,4^+; band assignment.
1898.01 *23*	$3^{(-)}$		CD	Negative parity from Coulomb Excitation.
1978.51 *6*	2^+		A	Jπ: γ's to 0^+ and 4^+.
1994.28 *22*			D	
2014.73[n] *17*	$4^{(+)}$		D	Jπ: γ's to 2^+ and 4^+; band assignment.
2143.74[i] *13*	6^+	4.2 ps	D F	Jπ: E2 γ to 4^+; M1+E2 γ to 6^+. $T_{1/2}$: from 1982GaZH. $\Delta T_{1/2}$ not given.
2164.9 *3*			D	
2182.0 *7*	1[@]		E	
2205.35 *7*	(2^+)		A D	Jπ: log *ft*=6.01 from 1^+, γ's to 2^+ and 4^+.
2222.78 *16*	(4,5)		D	Jπ: γ's to 4^+ and 3^+.
2226.33[b] *15*	$5^{(-)}$		D F	Jπ: D(+Q) γ to 4^+; band assignment.
2279.3 *3*			D	
2281.5 *3*			D	
2290.7 *3*			D	
2331.04[&] *12*	8^+	0.79 ps *24*	D F	Jπ: from γ(θ), E2 γ to 6^+; g.s. band member. $T_{1/2}$: Others:0.5 ps *2*(1998Go03); 1.0 ps *4*(1982GaZH). B(E2)↑: 0.39(1998Go03).
2360.61[m] *15*	$5^{(+)}$		D	Jπ: γ's to 3^+, 4^+ and 5^+; ΔJ=2 γ to 3^+; band assignment.
2367.2 *3*			D	
2373.61 *7*	$(0)^+$		Ab	XREF: b(2310). Jπ: from log *ft*=5.72 from 1^+, probable (E0) to 0^+.
2380.9 *4*	5		D	
2382.09 *10*	$1^{(+)}$,$2^{(+)}$		Ab	XREF: b(2310). Jπ: from log *ft*=6.43 from 1^+, γ to 0^+.
2508.9 *3*	(5,6)		D	Jπ: γ to 4^+.
2519.47 *6*	2^+		A	Jπ: from log *ft*=5.40 from 1^+, γ's to 0^+ and 4^+.
2531.83[m] *19*	$6^{(+)}$		D	Jπ: γ's to (4^+), 5^+ and 6^+; band assignment.
2535.87 *8*	0^+,1^+,2^+		A	Jπ: from log *ft*=5.69 from 1^+.
2536.4 *3*			D	
2545.0 *7*	1[@]		E	
2574.61[h] *15*	7^+	3.5 ps	D F	Jπ: from γ(θ), E2 γ to 5^+; γ to 6^+. $T_{1/2}$: from 1982GaZH. $\Delta T_{1/2}$ not given.
2578.70[g] *13*	$6^{(-)}$		D F	Jπ: ΔJ=1 γ to 5^+; ΔJ=0 γ to 6^+; band assignment.
2600.6 *3*			D	
2625.4 *4*			D	
2625.59[b] *13*	7^-	68 ps *7*	D F	Jπ: from γ(θ), E1 γ to 6^+. $T_{1/2}$: other: 103 ps *10*(1982GaZH).

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)†	Jπ#	$T_{1/2}$‡	XREF	Comments
2644.90 *17*			D	
2647.65 *16*	6		D	
2675.83[f] *14*	7(−)	1.0 ps *6*	D F	Jπ: from γ(θ), (E1) γ to 6+; γ to 5−; band assignment. $T_{1/2}$: from 1982GaZH.
2682.62 *23*			D	
2700.58 *23*			D	
2729.0 *3*			D	
2758.95 *10*	(1+,2+)		A	Jπ: γ's to 0+ and 3+.
2768.68 *18*	7+		D	Jπ: γ(θ), M1+E2 γ to 6+.
2779.0 *4*			D	
2791.48 *12*	(1+,2)		A	Jπ: log *ft*=6.42 from 1+, γ to 3+.
2799.8 *4*	(1,2+)		A	Jπ: γ's to 0+ and 2+.
2809.66[c] *15*	8−	0.75 ns *4*	D F	Jπ: from γ(θ), M1+E2 γ to 7−. $T_{1/2}$: from 1982GaZH.
2825.56 *9*	(1,2+)		A	Jπ: γ's to 0+ and 2+.
2867.0 *10*	1@		E	
2867.4 *4*			D	
2869.2 *4*			D	
2874.0 *7*	1@		E	
2900.0 *4*	6		D	
2912.13[i] *21*	8+		D F	Jπ: from γ(θ, E2 γ to 6+.
2959.1 *4*			D	
2984.2 *4*			D	
2990.9 *6*	1@		E	
3013.2 *4*	(8)		D	
3026.21[m] *16*	(7+)		D	Jπ: γ's to 5+, 6+ and 7+; band assignment.
3032.2 *4*			D	
3036.1 *7*	1@		E	
3.04×10^3 *10*	+		B	Jπ: L=(0)+2 in (^{3}He,n).
3071.1 *4*			D	
3095.58[g] *15*	8(−)		D F	Jπ: ΔJ=1 γ to 7(−); ΔJ=2 γ to 6(−); band assignment.
3110.1 *4*			D	
3111.85[b] *16*	9−	21 ps *4*	D F	Jπ: from γ(θ), M1+E2 γ to 8−, E2 γ to 7−. $T_{1/2}$: from 1982GaZH.
3124.8 *7*	1@		E	
3131.88 *25*			D	
3147.1 *7*	1@		E	
3147.81[f] *15*	9(−)	3.6 ps *5*	D F	Jπ: ΔJ=1 (E1) γ to 8+; ΔJ=2 γ to 7(−); band assignment. $T_{1/2}$: other: 3.5 ps *7*(1982GaZH).
3171.44& *14*	10+	1.74 ps *22*	D F	Jπ: from γ(θ), E2 γ to 8+. $T_{1/2}$: Others: <0.4 ps deduced from lifetime <0.6 ps(1998Go03); 1.5 ps *3*(1982GaZH). B(E2)↑: 0.32(1998Go03).
3241.40 *24*			D	
3265.1 *7*	1@		E	
3273.7[e] *3*	9(−)		D F	Jπ: from ΔJ=1 to 8+; band assignment.
3343.91[h] *22*	(9+)		D F	Jπ: ΔJ=(2) γ to 7+; band assignment.
3350.0 *10*	1@		E	
3439.1 *7*	1@		E	
3462.33[c] *18*	10(−)		D F	Jπ: ΔJ=2 γ to 8−; D γ to 9−; band assignment.
3464.1 *7*	1@		E	

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	$T_{1/2}$[‡]	XREF	Comments
3476.6 *4*			D	
3502.48 *16*	(10$^+$)		D F	Jπ: ΔJ=(2) γ to 8$^+$; ΔJ=(0) γ to 10$^+$.
3511.9 *6*	1[@]		E	
3542.1 *10*	1[@]		E	
3557.1 *3*			D F	
3582.19 *12*	(1,2$^+$)		A	Jπ: γ's to 0$^+$ and 2$^+$.
3603.1 *10*	1[@]		E	
3667.1 *10*	1[@]		E	
3669.8[i] *3*	(10$^+$)		D F	Jπ: ΔJ=(2) γ to 8$^+$; band assignment.
3676.73 *21*			D	
3716.1 *10*	1[@]		E	
3717.36[g] *17*	10$^{(-)}$		D F	Jπ: ΔJ=2 γ to 8$^{(-)}$; ΔJ=1 γ to 9$^{(-)}$; band assignment.
3787.16[b] *19*	11$^{(-)}$		D F	Jπ: ΔJ=2 γ to 9$^-$; band assignment.
3822.61[f] *17*	11$^{(-)}$	2.20 ps *6*	D F	Jπ: (E2) γ to 9$^{(-)}$; ΔJ=1 γ to 10$^+$; band assignment. $T_{1/2}$: other: 0.8 ps *6*(1982GaZH).
3872.1 *10*	1[@]		E	
3883.09[a] *17*	12$^{(+)}$	1.50 ps *25*	D F	Jπ: (E2) γ to 10$^+$; band assignment. $T_{1/2}$: other: 2.8 ps(1982GaZH).
3896.8 *5*	(0$^+$,1,2)		A	Jπ: log *ft*=6.9 from 1$^+$, γ to 2$^+$.
3905.1 *10*	1[@]		E	
3955.9 *4*	(11$^-$)		D F	Jπ: γ's to 9$^{(-)}$ and 10$^+$; band assignment.
4002.9[h] *3*	(11$^+$)		D F	Jπ: ΔJ=(2) γ to (9$^+$); band assignment.
4019.0 *7*	(10$^+$)		F	Jπ: γ's from 12$^{(+)}$ and to 8$^+$.
4216.10[c] *20*	12$^{(-)}$		D F	Jπ: ΔJ=2 γ to 10$^{(-)}$; ΔJ=1 γ to 11$^{(-)}$; band assignment.
4299.14[d] *18*	(12$^+$)		D F	Jπ: ΔJ=(2) γ to 10$^+$; ΔJ=0 γ to 12$^{(+)}$; band assignment.
4421.39[g] *21*	12$^{(-)}$		D F	Jπ: ΔJ=2 γ to 10$^{(-)}$; ΔJ=1 γ to 11$^{(-)}$; band assignment.
4573.97[b] *22*	13$^{(-)}$		D F	Jπ: ΔJ=2 γ to 11$^{(-)}$; ΔJ=1 γ to 12$^{(-)}$; band assignment.
4598.39[f] *23*	13$^{(-)}$	1.12 ps *6*	D F	Jπ: ΔJ=2 γ to 11$^{(-)}$; ΔJ=1 γ to 12$^{(-)}$; band assignment. Jπ: from γ(θ), (E2) γ to 11$^{(-)}$. $T_{1/2}$: other: 1.7 ps *10*(1982GaZH).
4612.81[a] *24*	14$^{(+)}$		D F	Jπ: ΔJ=2 γ to 12$^{(+)}$; band assignment.
4743.1[h] *4*	(13$^+$)		D F	Jπ: ΔJ=(2) γ to (11$^+$); band assignment.
4759.6[e] *5*	(13$^-$)		D F	Jπ: γ to (11$^-$); band assignment.
4809.8 *12*			F	
4837.9 *8*			F	
4875.9 *3*			D F	
5026.5 *7*			F	
5049.79[j] *22*	(12$^+$)		D F	Jπ: ΔJ=(1) γ to 11$^{(-)}$; ΔJ=0 γ to (12$^+$).
5067.85[c] *24*	14$^{(-)}$		D F	Jπ: ΔJ=2 γ to 12$^{(-)}$; ΔJ=1 γ to 13$^{(-)}$; band assignment.
5114.4[d] *3*	(14$^+$)		D F	Jπ: ΔJ=(2) γ to (12$^+$); ΔJ=(0) γ to (14$^+$); band assignment.
5182.2[g] *3*	14$^{(-)}$		D F	Jπ: ΔJ=2 γ to 12$^{(-)}$; ΔJ=1 γ to 13$^{(-)}$; band assignment.
5290.40[k] *24*	13$^{(+)}$		D F	Jπ: M1+E2 γ to 12$^{(+)}$; ΔJ=1 γ to 12$^{(-)}$; band assignment.
5432.2[l] *6*	(14$^+$)		F	Jπ: γ to 12$^{(+)}$; band assignment.
5433.5[f] *3*	15$^{(-)}$	1.40 ps *8*	D F	Jπ: (E2) γ to 13$^{(-)}$; ΔJ=1 γ to 14$^{(-)}$; band assignment. $T_{1/2}$: other: 2.9 ps *8*(1982GaZH).
5462.5[b] *4*	(15$^-$)		D F	Jπ: ΔJ=(2) γ to 13$^{(-)}$; band assignment.
5465.8[a] *3*	16$^{(+)}$		D F	Jπ: ΔJ=2 γ to 14$^{(+)}$; band assignment.
5518.83 *23*	14		D F	Jπ: ΔJ=1 γ to 13$^{(-)}$; γ to (12$^+$).
5551.83[j] *24*	14$^{(+)}$		D F	Jπ: M1+E2 γ to 13$^{(+)}$; ΔJ=2 γ to 12$^{(+)}$; band assignment.

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)†	Jπ#	XREF	Comments
5592.6[h] 5	(15+)	D F	Jπ: ΔJ=(2) γ to (13+); band assignment.
5659.2[e] 7	(15−)	F	Jπ: γ's to (13−) and 14(+); band assignment.
5827.41[k] 24	15(+)	D F	Jπ: M1+E2 γ to 14(+); ΔJ=2 γ to 13(+); band assignment.
5938.2[d] 3	(16+)	D F	Jπ: ΔJ=(2) γ to 14(+); band assignment.
5974.3[g] 3	16(−)	D F	Jπ: ΔJ=2 γ to 14(−); ΔJ=1 γ to 15(−); band assignment.
6011.6[c] 4	(16−)	D F	Jπ: ΔJ=(2) γ to 14(−); band assignment.
6134.6[f] 4	17(−)	D F	Jπ: ΔJ=2 γ to 15(−); ΔJ=1 γ to 16(−); band assignment.
6153.9[j] 3	16(+)	D F	Jπ: M1+E2 γ to (15); ΔJ=2 γ to (14).
6255.6[l] 4	(16+)	D F	Jπ: ΔJ=2 γ to (14+); band assignment.
6305.0 9	(16+)	F	Jπ: γ's from (18+) and to 14(+).
6438.4[b] 5	(17−)	D F	Jπ: ΔJ=(2) γ to (15−); band assignment.
6438.8[a] 4	18(+)	D F	Jπ: ΔJ=2 γ to 16(+); band assignment.
6535.2[e] 8	(17−)	F	Jπ: γ to (15−); band assignment.
6543.9[h] 6	(17+)	D F	Jπ: ΔJ=(2) γ to (15+); band assignment.
6553.7[k] 3	17(+)	D F	Jπ: M1+E2 γ to 16(+); ΔJ=2 γ to 15(+); band assignment.
6741.1[g] 4	18(−)	D F	Jπ: ΔJ=2 γ to 16(−); ΔJ=1 γ to 17(−); band assignment.
6829.2[d] 4	(18+)	D F	Jπ: ΔJ=2 γ to (16+); band assignment.
6984.6[j] 4	18(+)	D F	Jπ: M1+E2 γ to 17(+); ΔJ=2 γ to 16(+); band assignment.
7019.8[c] 5	(18−)	D F	Jπ: ΔJ=(2) γ to (16−); band assignment.
7031.3[f] 4	19(−)	D F	Jπ: ΔJ=2 γ to 17(−); ΔJ=1 γ to 18(−); band assignment.
7050.7 9	(18−)	F	Jπ: γ's from (20−) and to (16−).
7053.3 5		D	
7118.2[l] 6	(18+)	F	Jπ: ΔJ=2 γ to (16+); band assignment.
7219.1 10	(18+)	F	Jπ: γ's from (20+) and to (16+).
7395.6[e] 12	(19−)	F	Jπ: γ to (17−); band assignment.
7433.0[k] 4	19(+)	D F	Jπ: M1+E2 γ to 18(+); ΔJ=2 γ to 17(+); band assignment.
7452.8? 11		D	
7481.3[b] 6	(19−)	D F	Jπ: ΔJ=(2) γ to (17−); band assignment.
7524.2[a] 4	20(+)	D F	Jπ: ΔJ=2 γ to 18(+); band assignment.
7556.0[h] 7	(19+)	D F	Jπ: ΔJ=(2) γ to (17+); band assignment.
7626.7[g] 4	20(−)	D F	Jπ: ΔJ=2 γ to 18(−); ΔJ=1 γ to 19(−); band assignment.
7637.6 5		D	
7811.4[d] 5	(20+)	D F	Jπ: ΔJ=(2) γ to (18+); band assignment.
7914.8 6		D	
7929.1[j] 4	20(+)	D F	Jπ: M1+E2 γ to 19(+); ΔJ=2 γ to 18(+); band assignment.
7939.6[f] 5	21(−)	D F	Jπ: ΔJ=2 γ to 19(−); ΔJ=1 γ to 20(−); band assignment.
8071.0[l] 7	(20+)	F	Jπ: ΔJ=2 γ to (18+); ; band assignment.
8083.3[l] 6	(20+)	F	Jπ: ΔJ=2 γ to (18+); ; band assignment.
8093.8[c] 10	(20−)	F	Jπ: γ to (18−); ; band assignment.
8100.4 8		F	
8192.7 5		D	
8356.0[e] 13	(21−)	F	Jπ: γ to (19−); ; band assignment.
8365.5[k] 4	21(+)	D F	Jπ: M1+E2 γ to 20(+); ΔJ=2 γ to 19(+); band assignment.
8484.1 5		D F	
8523.1[g] 5	22(−)	D F	Jπ: ΔJ=2 γ to 20(−); ΔJ=1 γ to 21(−); band assignment.
8567.1[h] 12	(21+)	F	Jπ: γ to (19+); ; band assignment.
8570.5[b] 12	(21−)	D F	Jπ: γ to (19−); band assignment.
8722.1[a] 5	22(+)	D F	Jπ: ΔJ=2 γ to 20(+); band assignment.
8860.1[l] 5	(22+)	F	Jπ: ΔJ=2 γ's to (20+); band assignment.

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Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
8901.2[d] 6	(22$^+$)	D F	Jπ: ΔJ=(2) γ to (20$^+$); band assignment.
8911.3[j] 4	22$^{(+)}$	D F	Jπ: ΔJ=2 γ to 20$^{(+)}$; ΔJ=1 γ to 21$^{(+)}$; band assignment.
8990.5 6		D	
9048.4 5		D F	
9083.9[c] 14	(22$^-$)	F	Jπ: γ to (20$^-$); band assignment.
9106.1[f] 5	23$^{(-)}$	D F	Jπ: ΔJ=2 γ to 21$^{(-)}$; ΔJ=1 γ to 22$^{(-)}$; band assignment.
9375.4[e] 13	(23$^-$)	F	Jπ: γ to (21$^-$); band assignment.
9483.4[k] 5	23$^{(+)}$	D F	Jπ: ΔJ=2 γ to 21$^{(+)}$; ΔJ=1 γ to 22$^{(+)}$; band assignment.
9650.9 16		F	E(level): extension of quasi-gamma band.
9657.4 8	(24$^+$)	F	Jπ: ΔJ=2 γ to (22$^+$).
9671.1 16		F	E(level): extension of quasi-gamma band.
9676.2[g] 5	24$^{(-)}$	D F	Jπ: ΔJ=2 γ to 22$^{(-)}$; ΔJ=1 γ to 23$^{(-)}$; band assignment.
9761.5[b] 16	(23$^-$)	F	Jπ: γ to (21$^-$); band assignment.
9927.0[j] 5	24$^{(+)}$	D F	Jπ: ΔJ=2 γ to 22$^{(+)}$; ΔJ=1 γ to 23$^{(+)}$; band assignment.
9994.6 9		F	
9997.3[a] 6	24$^{(+)}$	D F	Jπ: ΔJ=2 γ to 22$^{(+)}$; band assignment.
10088.1 12		F	E(level): fork structure of band based on 12$^{(+)}$.
10090.5[d] 12	(24$^+$)	F	Jπ: γ to (22$^+$); band assignment.
10123.3[c] 17	(24$^-$)	F	Jπ: γ to (22$^-$); band assignment.
10143.3 7		D	
10342.7[f] 5	25$^{(-)}$	D F	Jπ: ΔJ=2 γ to 23$^{(-)}$; ΔJ=1 γ to 24$^{(-)}$; band assignment.
10428.3 7	(25)	F	Jπ: ΔJ=1 γ to (24$^+$).
10538.5[e] 12	(25$^-$)	F	Jπ: γ to (23$^-$); band assignment.
10803.7 19		F	E(level): extension of quasi-gamma band.
10810.1 8	(26$^+$)	F	Jπ: ΔJ=1 γ to (25); ΔJ=2 γ to (24$^+$).
10839.6 19		F	E(level): extension of quasi-gamma band.
10897.2[g] 6	26$^{(-)}$	D F	Jπ: ΔJ=2 γ to 24$^{(-)}$; ΔJ=1 γ to 25$^{(-)}$; band assignment.
10929.4 8	(26$^+$)	F	Jπ: ΔJ=2 γ to (24$^+$).
11055.1 8	(26)	F	Jπ: ΔJ=1 γ from (27).
11240.0[a] 12	(26$^+$)	D F	Jπ: γ to (24$^+$); band assignment.
11258.7 12		F	E(level): fork structure of band based on 12$^{(+)}$.
11265.8[c] 20	(26$^-$)	F	Jπ: γ to (24$^-$); band assignment.
11387.1[d] 16	(26$^+$)	F	Jπ: γ to (24$^+$); band assignment.
11473.3 8	(27)	F	Jπ: ΔJ=1 γ to (26$^+$).
11555.2[f] 6	27$^{(-)}$	D F	Jπ: ΔJ=2 γ to 25$^{(-)}$; ΔJ=1 γ to 26$^{(-)}$; band assignment.
11624.7 8	(27)	F	Jπ: ΔJ=1 γ from (28).
11739.1 9	(27$^-$)	F	Jπ: ΔJ=2 γ to 25$^{(-)}$.
11781.6 16		F	
11821.8 10	(28$^+$)	F	Jπ: ΔJ=2 γ's to (26$^+$).
11869.9 8	(28)	F	Jπ: ΔJ=1 γ to (27$^-$).
12169.3 10	(28)	F	Jπ: ΔJ=1 γ from (29).
12198.3[g] 9	(28$^-$)	F	Jπ: γ's to 26$^{(-)}$ and 27$^{(-)}$; band assignment.
12334.1 10		F	
12360.6[f] 8	(29$^-$)	F	Jπ: γ to 27$^{(-)}$; band assignment.
12464.0[a] 16	(28$^+$)	F	Jπ: γ to (26$^+$); band assignment.
12491.9 11	(29)	F	Jπ: ΔJ=2 γ to (27).
12517.8[c] 22	(28$^-$)	F	Jπ: γ to (26$^-$); band assignment.
12594.9 10	(29)	F	Jπ: ΔJ=1 γ to (28).
12721.6 12	(29)	F	Jπ: ΔJ=1 γ to (28$^+$).
12772.9 13		D F	
12993.8 10	(30)	F	Jπ: ΔJ=1 γ to (29$^-$).
13304.8 12	(30)	F	Jπ: ΔJ=1 γ to (29).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{124}Xe Levels (continued)

E(level)[†]	Jπ[#]	XREF	Comments
13318.0 *10*	(30)	F	Jπ: ΔJ=1 γ to (29).
13578.3[f] *13*	(31⁻)	F	Jπ: γ to (29⁻); band assignment.
13639.2 *11*	(31)	F	Jπ: ΔJ=1 γ to (30).
13856.8 *12*	(31)	F	Jπ: ΔJ=2 γ to (29).
14049.8 *13*	(32)	F	Jπ: ΔJ=1 γ to (31).
14777.9 *14*	(33)	F	Jπ: ΔJ=2 γ to (31).
14814.0 *12*	(32)	F	Jπ: ΔJ=1 γ from (33).
15037.1 *13*	(33)	F	Jπ: ΔJ=2 γ to (31).
15178.1 *15*	(34)	F	Jπ: ΔJ=2 γ to (32).
16385.5 *17*		F	
16512.4 *18*		F	
16529.7 *17*		F	

† From a least-squares fit to adopted Eγ′s for γ-connecting levels, others from (^{3}He,n).
‡ From lifetime by recoil distance measurement (2004Sa47), unless otherwise noted.
# From Multipolarity of depopulation gammas and band assignment, unless otherwise indicated.
@ From γγ(θ) in (γ,γ′).
& Band(A): The g.s. band.
[a] Band(B): Band based on 12⁺. Continuation of g.s. band.
[b] Band(C): Band based on 5⁻, α=1.
[c] Band(c): Band based on 8⁻, α=0.
[d] Band(D): Band based on 12⁺.
[e] Band(E): Band based on 9⁻.
[f] Band(F): Band based on 7⁻, α=1.
[g] Band(f): Band based on 6⁻, α=0.
[h] Band(G): Quasi γ-band, α=1.
[i] Band(g): Quasi γ-band, α=0.
[j] Band(H): Band based on 12⁺, α=0.
[k] Band(h): Band based on 13⁺, α=1.
[l] Band(I): Band based on 14⁺.
[m] Band(i): Kπ=4⁺.
[n] Band(J): Kπ=0⁺ band.

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
354.03	2^+	353.98 *5*	100	0.0	0^+	E2		0.0248	B(E2)(W.u.)=57.8 *15* α(K)=0.0207 *3*; α(L)=0.00332 *5*; α(M)=0.000684 *10*; α(N+..)=0.0001555 *22* α(N)=0.0001392 *20*; α(O)=1.624×10^{-5} *23* B(E2)(W.u.): other: 49 *4* by Coul. ex. (1975Go18).
846.50	2^+	492.54 *4*	100 *4*	354.03	2^+	M1+E2	+8 *+7−3*	0.00940	α(K)=0.00795 *13*; α(L)=0.001155 *17*; α(M)=0.000236 *4*; α(N+..)=5.42×10^{-5} *8* α(N)=4.84×10^{-5} *7*; α(O)=5.80×10^{-6} *9* B(M1)(W.u.)=0.000172 *+298−18*; B(E2)(W.u.)=32 *6* δ: from $\gamma\gamma(\theta)$ in ^{124}Cs ε decay (1979Si11). Others: δ=+100 *+∞−90* or −0.42 *8* (1982Ha44); 6.3 *+5.3−2.0* (1975Ku05); +8 *+8−2*(2001We13). α(K)exp=0.0068 *4*.
		846.58 *6*	33.2 *7*	0.0	0^+	E2		0.00236	α(K)=0.00202 *3*; α(L)=0.000265 *4*; α(M)=5.38×10^{-5} *8*; α(N+..)=1.245×10^{-5} *18* α(N)=1.108×10^{-5} *16*; α(O)=1.367×10^{-6} *20* B(E2)(W.u.)=0.71 *13*
878.92	4^+	524.82 *6*	100	354.03	2^+	E2		0.00785	α(K)=0.00666 *10*; α(L)=0.000955 *14*; α(M)=0.000195 *3*; α(N+..)=4.48×10^{-5} *7* α(N)=4.00×10^{-5} *6*; α(O)=4.81×10^{-6} *7* B(E2)(W.u.)=67.6 *19* α(K)exp=0.0071 *2*.
1247.63	3^+	368.09 *16*	13 *2*	878.92	4^+	D(+Q)			I_γ: From (HI,xnγ). See ^{124}Cs ε decay. δ: +0.21 *3* or +3.85 *+57−45*(2001We13).
		401.32 *23*	76 *12*	846.50	2^+	M1+E2	+0.32 *5*	0.0191	α(K)=0.01642 *24*; α(L)=0.00213 *3*; α(M)=0.000431 *6*; α(N+..)=0.0001003 *15* α(N)=8.91×10^{-5} *13*; α(O)=1.112×10^{-5} *16* B(M1)(W.u.)=0.020 *5*; B(E2)(W.u.)=9 *4* δ: other:+16 *+16−8* or +7.8 *+79−26* (2001We13). α(K)exp=0.016 *2*.
		893.69 *8*	100 *7*	354.03	2^+	M1+E2	+0.73 *6*	0.00253 *5*	α(K)=0.00219 *4*; α(L)=0.000275 *5*; α(M)=5.56×10^{-5} *10*; α(N+..)=1.294×10^{-5} *22* α(N)=1.150×10^{-5} *20*; α(O)=1.441×10^{-6} *25* B(M1)(W.u.)=0.0017 *3*; B(E2)(W.u.)=0.79 *15* δ: Other: 3.4 *+5−4*(2001We13). α(K)exp=0.0018 *3*.
1268.91	0^+	422.44 *7*	10.8 *5*	846.50	2^+	E2		0.01456	α(K)=0.01223 *18*; α(L)=0.00186 *3*; α(M)=0.000381 *6*; α(N+..)=8.70×10^{-5} *13* α(N)=7.78×10^{-5} *11*; α(O)=9.21×10^{-6} *13*
		914.86 *8*	100 *3*	354.03	2^+	E2		0.00197	α(K)=0.001699 *24*; α(L)=0.000220 *3*; α(M)=4.46×10^{-5} *7*; α(N+..)=1.034×10^{-5} *15* α(N)=9.20×10^{-6} *13*; α(O)=1.138×10^{-6} *16*

$^{124}_{54}Xe_{70}$-8

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	$I_{(\gamma+ce)}$	Comments
1268.91	0^+	1269		0.0	0^+	E0			<0.00033	q^2_K(E0/E2)≤0.18, X(E0/E2)≤0.023 (2005Ki02, evaluation).
1437.96	4^+	559.10 *17*	44 *4*	878.92	4^+	M1+E2	+2.3 *+8−4*	0.00691 *16*		α(K)=0.00589 *14*; α(L)=0.000814 *14*; α(M)=0.000166 *3*; α(N+..)=3.82×10^{-5} *7* α(N)=3.41×10^{-5} *6*; α(O)=4.15×10^{-6} *8* B(M1)(W.u.)=0.0029 *20*; B(E2)(W.u.)=34 *13* δ: from 2001We13. Others: δ=+5 *+5−1* or −0.7 *2*, from $\gamma(\theta)$ and α(K)exp. α(K)exp=0.0077 *5*;
		591.43 *15*	100 *10*	846.50	2^+	E2		0.00570		α(K)=0.00485 *7*; α(L)=0.000677 *10*; α(M)=0.0001380 *20*; α(N+..)=3.18×10^{-5} *5* α(N)=2.83×10^{-5} *4*; α(O)=3.43×10^{-6} *5* B(E2)(W.u.)=69 *25* α(K)exp=0.0055 *4*.
		1083.90 *21*	2 *1*	354.03	2^+					
1548.46	6^+	669.56 *9*	100	878.92	4^+	E2		0.00414		α(K)=0.00354 *5*; α(L)=0.000482 *7*; α(M)=9.81×10^{-5} *14*; α(N+..)=2.26×10^{-5} *4* α(N)=2.02×10^{-5} *3*; α(O)=2.46×10^{-6} *4* B(E2)(W.u.)=88 *8* α(K)exp=0.0037 *3*.
1628.57	2^+	359.99 *20*	13.5 *14*	1268.91	0^+					
		749.54 *9*	21.6 *14*	878.92	4^+					
		781.98 *8*	22.1 *14*	846.50	2^+					
		1274.38 *9*	51 *3*	354.03	2^+					
		1628.50 *9*	100 *7*	0.0	0^+					
1689.91	0^+	843.51 *10*	15.8 *16*	846.50	2^+					
		1335.75 *9*	100 *6*	354.03	2^+	Q				Mult.: from $\gamma\gamma(\theta)$ (1979Si11).
		1689.7		0.0	0^+	(E0)			0.0006 *6*	q^2_K(E0/E2)≤0.6, X(E0/E2)≤0.16 (2005Ki02, evaluation).
1836.92	5^+	288.5 *3*	2 *1*	1548.46	6^+					
		399.00 *15*	14 *2*	1437.96	4^+	M1+E2	+5.2 *+26−13*	0.0173 *3*		α(K)=0.01454 *22*; α(L)=0.00223 *4*; α(M)=0.000458 *7*; α(N+..)=0.0001045 *15* α(N)=9.34×10^{-5} *14*; α(O)=1.104×10^{-5} *16* B(M1)(W.u.)=0.0003 *3*; B(E2)(W.u.)=35 *6* δ: from 2001We13. Other: δ=+0.35 *5*(From $\gamma(\theta)$ and α(K)exp). α(K)exp=0.017 *4*.
		589.23 *15*	100 *10*	1247.63	3^+	E2		0.00575		α(K)=0.00490 *7*; α(L)=0.000684 *10*; α(M)=0.0001395 *20*; α(N+..)=3.21×10^{-5} *5*

$^{124}_{54}Xe_{70}$-9

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
									α(N)=2.86×10^{-5} *4*; α(O)=3.47×10^{-6} *5* B(E2)(W.u.)=37 *5* α(K)exp=0.0060 *4*.
1836.92	5$^+$	958.25 *23*	30 *3*	878.92	4$^+$	M1+E2	+1.0 *+5−3*	0.00207 *12*	α(K)=0.00179 *11*; α(L)=0.000225 *11*; α(M)=4.55×10^{-5} *23*; α(N+..)=1.06×10^{-5} *6* α(N)=9.4×10^{-6} *5*; α(O)=1.18×10^{-6} *7* B(M1)(W.u.)=0.0006 *4*; B(E2)(W.u.)=0.5 *3* δ: Other: +1.67 *+27−22* or +0.62 *+14−9*(2001We13). α(K)exp=0.0017 *3*.
1873.40	(4$^+$)	435.5 *3*	32 *9*	1437.96	4$^+$				
		625.8 *3*	86 *11*	1247.63	3$^+$	D+Q			
		994.4 *3*	52 *9*	878.92	4$^+$	D+Q	−0.18 *+19−21*		
		1026.9 *3*	100 *12*	846.50	2$^+$				
1898.01	3$^{(-)}$	1019	16 *8*	878.92	4$^+$				
		1544.0 *3*	100 *13*	354.03	2$^+$	D+Q	+0.05 *+3−3*		
1978.51	2$^+$	1099.94 *10*	50 *5*	878.92	4$^+$				
		1132.01 *10*	100 *19*	846.50	2$^+$				
		1624.00 *10*	48 *5*	354.03	2$^+$				
		1978.58 *10*	67 *7*	0.0	0$^+$				
1994.28		1147.7 *3*		846.50	2$^+$				
		1640.3 *3*		354.03	2$^+$				
2014.73	4$^{(+)}$	386.2 *3*	8 *3*	1628.57	2$^+$				
		1135.8 *3*	27 *6*	878.92	4$^+$				
		1660.6 *3*	100 *13*	354.03	2$^+$	Q			
2143.74	6$^+$	595.5 *3*	23 *3*	1548.46	6$^+$	M1+E2	−0.54 *+12−18*	0.00688 *22*	α(K)=0.00593 *20*; α(L)=0.000760 *18*; α(M)=0.000154 *4*; α(N+..)=3.58×10^{-5} *9* α(N)=3.18×10^{-5} *8*; α(O)=3.97×10^{-6} *11* α(K)exp=0.0037 *7*.
		705.73 *15*	100 *10*	1437.96	4$^+$	E2		0.00363	α(K)=0.00311 *5*; α(L)=0.000419 *6*; α(M)=8.53×10^{-5} *12*; α(N+..)=1.97×10^{-5} *3* α(N)=1.755×10^{-5} *25*; α(O)=2.15×10^{-6} *3*
		1264.8 *3*	10 *2*	878.92	4$^+$				
2164.9		1810.9 *3*	100	354.03	2$^+$				
2182.0	1	1828	24 *4*	354.03	2$^+$				
		2182	100	0.0	0$^+$	D			
2205.35	(2$^+$)	1326.44 *10*	14.3 *14*	878.92	4$^+$				Not observed in (HI,xnγ).
		1358.63 *9*	46 *4*	846.50	2$^+$				
		1851.53 *10*	100 *9*	354.03	2$^+$				Not observed in (HI,xnγ).
2222.78	(4,5)	324.8 *3*	<13	1898.01	3$^{(-)}$				
		975.1 *3*	22 *6*	1247.63	3$^+$				
		1343.9 *3*	100 *14*	878.92	4$^+$				

$^{124}_{54}Xe_{70}$-10

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	$I_{(\gamma+ce)}$	Comments
2226.33	$5^{(-)}$	1347.35 *21*	100	878.92	4^+	D(+Q)	+0.02 *+10−6*			
2279.3		1400.4 *3*	100	878.92	4^+					
2281.5		1033.9 *3*	100	1247.63	3^+					
2290.7		1444.2 *3*	100	846.50	2^+					
2331.04	8^+	782.58 *9*	100	1548.46	6^+	E2		0.00283		B(E2)(W.u.)=66 *21* α(K)=0.00243 *4*; α(L)=0.000322 *5*; α(M)=6.54×10^{-5} *10*; α(N+..)=1.512×10^{-5} *22* α(N)=1.346×10^{-5} *19*; α(O)=1.654×10^{-6} *24* α(K)exp=0.0027 *5*.
2360.61	$5^{(+)}$	487.3 *3*	27 *8*	1873.40	(4^+)					
		523.8 *3*		1836.92	5^+					
		922.5 *3*	26 *7*	1437.96	4^+					
		1112.8 *3*	100 *17*	1247.63	3^+	Q				
2367.2		1488.3 *3*	100	878.92	4^+					
2373.61	$(0)^+$	744.60 *10*	6.4 *6*	1628.57	2^+					
		1527.45 *10*	6.4 *6*	846.50	2^+					
		2019.64 *10*	100 *8*	354.03	2^+					
		2374		0.0	0^+	(E0)			<0.0015	q^2_K(E0/E2)≤3.9, X(E0/E2)≤2.3 (2005Ki02, evaluation).
2380.9	5	942.9 *3*	100	1437.96	4^+	D+Q				α(K)exp=0.0014 *3* for γ942.8+γ942.9.
2382.09	$1^{(+)},2^{(+)}$	2382.07 *10*	100	0.0	0^+					
2508.9	(5,6)	1630.0 *3*	100	878.92	4^+					
2519.47	2^+	1272.01 *10*	13.4 *14*	1247.63	3^+					
		1640.29 *10*	9.3 *9*	878.92	4^+					
		1673.32 *10*	3.7 *5*	846.50	2^+					
		2165.40 *10*	100 *9*	354.03	2^+					
		2519.19 *10*	13.4 *14*	0.0	0^+					
2531.83	$6^{(+)}$	388.2[d] *3*		2143.74	6^+					
		658.4 *3*		1873.40	(4^+)					
		695.0 *3*		1836.92	5^+					
		983.3 *3*		1548.46	6^+	M1+E2	−0.76 *+18−22*			Mult.: from γ(θ) and large mixing ratio.
2535.87	$0^+,1^+,2^+$	1689.43 *10*	100 *7*	846.50	2^+					
		2181.75 *10*	7.1 *7*	354.03	2^+					
2536.4		1288.8 *3*	100	1247.63	3^+					
2545.0	1	2191	137 *19*	354.03	2^+					
		2545	100	0.0	0^+	D				
2574.61	7^+	431.0 *3*	<5	2143.74	6^+					
		737.70 *15*	100 *11*	1836.92	5^+	E2		0.00326		α(K)=0.00279 *4*; α(L)=0.000374 *6*; α(M)=7.60×10^{-5} *11*; α(N+..)=1.756×10^{-5} *25* α(N)=1.564×10^{-5} *22*; α(O)=1.92×10^{-6} *3* α(K)exp=0.0033 *5*.

$^{124}_{54}Xe_{70}$-11

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
2574.61	7^+	1026.2[‡]		1548.46	6^+				
2578.70	$6^{(-)}$	741.77 *17*	100 *11*	1836.92	5^+	D(+Q)			
		1030.30 *17*	626 *5*	1548.46	6^+	D+Q			
2600.6		1721.7 *3*	100	878.92	4^+				
2625.4		788.5 *3*	100	1836.92	5^+				
2625.59	7^-	399.25 *21*	<4	2226.33	$5^{(-)}$				
		1077.15 *12*	100 *10*	1548.46	6^+	E1		5.95×10^{-4}	α(K)=0.000517 *8*; α(L)=6.24×10^{-5} *9*; α(M)=1.255×10^{-5} *18*; α(N+..)=2.92×10^{-6} *4* α(N)=2.60×10^{-6} *4*; α(O)=3.26×10^{-7} *5* B(E1)(W.u.)=3.1×10^{-6} *6* α(K)exp=0.0005 *2* (1982Ha44); 0.00068 *14* (1984Ga21).
2644.90		422.2 *3*		2222.78	(4,5)				
		1207.0 *3*		1437.96	4^+				
		1397.3 *3*		1247.63	3^+				
		1765.8 *3*		878.92	4^+				
2647.65	6	421.4 *3*	16 *6*	2226.33	$5^{(-)}$				
		424.8 *3*	36 *8*	2222.78	(4,5)				
		810.6 *3*	73 *13*	1836.92	5^+	D+Q			
		1099.1 *3*	100 *15*	1548.46	6^+	D+Q	−0.21 *+19−21*		
2675.83	$7^{(-)}$	344.6[‡]		2331.04	8^+				
		449.3 *3*	7 *3*	2226.33	$5^{(-)}$				
		1127.38 *15*	100 *11*	1548.46	6^+	(E1)		5.54×10^{-4}	α(K)=0.000476 *7*; α(L)=5.73×10^{-5} *8*; α(M)=1.152×10^{-5} *17*; α(N+..)=9.56×10^{-6} *14* α(N)=2.38×10^{-6} *4*; α(O)=2.99×10^{-7} *5*; α(IPF)=6.88×10^{-6} *10* B(E1)(W.u.)=0.00018 *11* α(K)exp=0.0005 *2*.
2682.62		809.2 *3*		1873.40	(4^+)				
		1803.7 *3*		878.92	4^+				
2700.58		685.8 *3*		2014.73	$4^{(+)}$				
		1821.7 *3*		878.92	4^+				
2729.0		1850.1 *3*	100	878.92	4^+				
2758.95	$(1^+,2^+)$	1489.0 *5*	30 *20*	1268.91	0^+				
		1509.8 *3*	100 *10*	1247.63	3^+				E_γ: The uncertainty maybe was too small, the evaluator assumed an uncertainty of 3 times of that.
		2759.13 *10*	100 *10*	0.0	0^+				
2768.68	7^+	624.90 *17*		2143.74	6^+	M1(+E2)	+0.05 *5*	0.00646 *10*	α(K)=0.00558 *8*; α(L)=0.000700 *10*; α(M)=0.0001415 *20*; α(N+..)=3.30×10^{-5} *5*

$^{124}_{54}Xe_{70}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]	δ [b]	α [c]	Comments
									α(N)=2.93×10^{-5} *5*; α(O)=3.69×10^{-6} *6* δ: other: ∞ or −0.05 *6* (2001We13). α(K)exp=0.0033 *10*.
2768.68	7$^+$	931.9 *3*		1836.92	5$^+$				
2779.0		1230.5 *3*	100	1548.46	6$^+$				
2791.48	(1$^+$,2)	1543.84 *10*	100	1247.63	3$^+$				
2799.8	(1,2$^+$)	2445.7 *5*	1.0×10^2 *5*	354.03	2$^+$				
		2799.8 *5*	7×10^1 *3*	0.0	0$^+$				
2809.66	8$^-$	184.15 *15*	100 *10*	2625.59	7$^-$	M1+E2	−2.52 *12*	0.205	α(K)=0.1616 *24*; α(L)=0.0343 *6*; α(M)=0.00718 *12*; α(N+..)=0.00160 *3* α(N)=0.001444 *23*; α(O)=0.0001588 *25* B(M1)(W.u.)=0.00052 *9*; B(E2)(W.u.)=68 *11* δ: from 2001We13; other: −0.14 *8* (from $\gamma(\theta)$ and α(K)exp), −1.8(1997ScZU). α(K)exp=0.105 *20*.
		478.55 *21*	2 *1*	2331.04	8$^+$				
2825.56	(1,2$^+$)	1135.62 *10*	63 *6*	1689.91	0$^+$				
		1979.5 *5*	<31	846.50	2$^+$				
		2471.52 *10*	100 *13*	354.03	2$^+$				
		2825.8 *10*	6 *3*	0.0	0$^+$				
2867.0	1	2867		0.0	0$^+$	D			
2867.4		1318.9 *3*	100	1548.46	6$^+$				
2869.2		1032.3 *3*	100	1836.92	5$^+$				
2874.0	1	2520	163 *24*	354.03	2$^+$				
		2874	100	0.0	0$^+$	D			
2900.0	6	1063.1 *3*	100	1836.92	5$^+$	D(+Q)	−0.02 *+6−10*		
2912.13	8$^+$	768.40 *17*	100	2143.74	6$^+$	E2		0.00296	α(K)=0.00254 *4*; α(L)=0.000337 *5*; α(M)=6.85×10^{-5} *10*; α(N+..)=1.583×10^{-5} *23* α(N)=1.410×10^{-5} *20*; α(O)=1.731×10^{-6} *25* α(K)exp=0.0036 *6*.
2959.1		1410.6 *3*	100	1548.46	6$^+$				
2984.2		1435.7 *3*	100	1548.46	6$^+$				
2990.9	1	2144	14.0 *18*	846.50	2$^+$				
		2637	23.3 *21*	354.03	2$^+$				
		2991	100	0.0	0$^+$	D			
3013.2	(8)	682.2 *3*	100	2331.04	8$^+$				
3026.21	(7$^+$)	451.7 *3*		2574.61	7$^+$				
		665.5 *3*		2360.61	5$^{(+)}$				
		882.5 *3*		2143.74	6$^+$				
		1189.4 *3*		1836.92	5$^+$				
		1477.6 *3*		1548.46	6$^+$				

$^{124}_{54}Xe_{70}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
3032.2		1483.7 *3*	100	1548.46	6^+				
3036.1	1	2682	17 *3*	354.03	2^+				
		3036	100	0.0	0^+	D			
3071.1		1522.6 *3*	100	1548.46	6^+				
3095.58	$8^{(-)}$	419.70 *17*	100 *13*	2675.83	$7^{(-)}$	M1+E2	−1.0 *+5−8*		Mult.: from $\gamma(\theta)$ and large mixing ratio.
		516.93 *18*	73 *10*	2578.70	$6^{(-)}$	Q			
		764.6[#] *3*	66 *15*	2331.04	8^+				
3110.1		462.5 *3*	100	2647.65	6				
3111.85	9^-	302.18 *15*	100 *10*	2809.66	8^-	M1+E2	−0.81 *11*	0.0403	α(K)=0.0341 *5*; α(L)=0.00495 *12*; α(M)=0.001012 *25*; α(N+..)=0.000233 *6* α(N)=0.000208 *5*; α(O)=2.50×10^{-5} *5* B(M1)(W.u.)=0.013 *4*; B(E2)(W.u.)=66 *19* δ: from 2001We13. Others: −2.1(1997ScZU), −1.1 *+7−11* (from $\gamma(\theta)$ and α(K)exp). α(K)exp=0.030 *5*.
		486.20 *17*	70 *7*	2625.59	7^-	E2		0.00971	α(K)=0.00821 *12*; α(L)=0.001199 *17*; α(M)=0.000245 *4*; α(N+..)=5.62×10^{-5} *8* α(N)=5.02×10^{-5} *7*; α(O)=6.01×10^{-6} *9* B(E2)(W.u.)=10.8 *25* Mult.: $\gamma(\theta)$ and RUL.
		780.1[‡]		2331.04	8^+				
3124.8	1	2278	21 *5*	846.50	2^+				
		3125	100	0.0	0^+	D			
3131.88		484.1 *3*		2647.65	6				
		557.4 *3*		2574.61	7^+				
3147.1	1	2793	308 *91*	354.03	2^+				
		3147	100	0.0	0^+	(D)			
3147.81	$9^{(-)}$	471.97 *17*	30 *3*	2675.83	$7^{(-)}$	E2		0.01056	α(K)=0.00892 *13*; α(L)=0.001313 *19*; α(M)=0.000269 *4*; α(N+..)=6.16×10^{-5} *9* α(N)=5.50×10^{-5} *8*; α(O)=6.57×10^{-6} *10* B(E2)(W.u.)=42 *8* Mult.: $\gamma(\theta)$ and RUL.
		816.73 *15*	100 *10*	2331.04	8^+	(E1)		1.02×10^{-3}	α(K)=0.000882 *13*; α(L)=0.0001073 *15*; α(M)=2.16×10^{-5} *3*; α(N+..)=5.02×10^{-6} *7* α(N)=4.46×10^{-6} *7*; α(O)=5.58×10^{-7} *8* B(E1)(W.u.)=0.000106 *21* Mult.: from α(K)exp in 1984Ga21, but α(K)exp in 1982Ha44 indicated M1+E2. α(K)exp=0.00074 *30* (1984Ga21). Other: 0.0019 *4*. (1982Ha44).
3171.44	10^+	840.35 *11*	100	2331.04	8^+	E2		0.00240	B(E2)(W.u.)=21 *3*

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	Comments
							α(K)=0.00206 *3*; α(L)=0.000270 *4*; α(M)=5.48×10^{-5} *8*; α(N+..)=1.268×10^{-5} *18* α(N)=1.129×10^{-5} *16*; α(O)=1.391×10^{-6} *20* α(K)exp=0.0022 *4*.
3241.40		593.7 *3*		2647.65	6		
		666.8[d] *3*		2574.61	7^+		
		910.4 *3*		2331.04	8^+		
3265.1	1	2911	411 *85*	354.03	2^+		
		3265	100	0.0	0^+	D	
3273.7	$9^{(-)}$	942.8 *3*	100	2331.04	8^+	D	Mult.: From DCO in ^{82}Se(^{48}Ca,6nγ). α(K)exp=0.0014 *3* for γ942.8+γ942.9.
3343.91	(9^+)	769.27 *17*	100	2574.61	7^+	(Q)	
3350.0	1	3350		0.0	0^+	D	
3439.1	1	3085	104 *17*	354.03	2^+		
		3439	100	0.0	0^+	D	
3462.33	$10^{(-)}$	350.47 *17*	30 *3*	3111.85	9^-	D	Mult.: from $\gamma(\theta)$.
		652.63 *17*	100 *10*	2809.66	8^-	Q	
3464.1	1	3110	97 *18*	354.03	2^+		
		3464	100	0.0	0^+	D	
3476.6		1145.6 *3*	100	2331.04	8^+		
3502.48	(10^+)	331.20 *17*	29 *4*	3171.44	10^+	(D+Q)	
		1171.53 *17*	100 *11*	2331.04	8^+	(Q)	
3511.9	1	2665	24 *6*	846.50	2^+		
		3158	23 *5*	354.03	2^+		
		3512	100	0.0	0^+	D	
3542.1	1	3542		0.0	0^+	D	
3557.1		982.45 *21*	100	2574.61	7^+		
3582.19	$(1,2^+)$	1953.4 *5*	7 *3*	1628.57	2^+		
		2313.26 *10*	100 *10*	1268.91	0^+		
3603.1	1	3603		0.0	0^+	D	
3667.1	1	3667		0.0	0^+	D	
3669.8	(10^+)	757.67 *17*	100	2912.13	8^+	(Q)	
3676.73		564.70 *21*		3111.85	9^-		
		867.25 *21*		2809.66	8^-		
3716.1	1	3716		0.0	0^+	D	
3717.36	$10^{(-)}$	569.53 *17*	100 *10*	3147.81	$9^{(-)}$	D(+Q)	
		621.80 *17*	53 *6*	3095.58	$8^{(-)}$	Q	
3787.16	$11^{(-)}$	324.8[‡]		3462.33	$10^{(-)}$		
		615[‡]		3171.44	10^+		
		675.33 *17*	100	3111.85	9^-	Q	
3822.61	$11^{(-)}$	651.20 *17*	9 *1*	3171.44	10^+	D	

$^{124}_{54}Xe_{70}$-15

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	α[c]	Comments
3822.61	11$^{(-)}$	674.77 *17*	100 *10*	3147.81	9$^{(-)}$	(E2)	0.00406	α(K)=0.00347 *5*; α(L)=0.000472 *7*; α(M)=9.61×10^{-5} *14*; α(N+..)=2.22×10^{-5} *4* α(N)=1.98×10^{-5} *3*; α(O)=2.41×10^{-6} *4* B(E2)(W.u.)=46 *7* Mult.: from γ(θ) and RUL.
3872.1	1	3872		0.0	0$^+$	D		
3883.09	12$^{(+)}$	380.8 *3*	2 *1*	3502.48	(10$^+$)	(E2)	0.0198	α(K)=0.01659 *24*; α(L)=0.00260 *4*; α(M)=0.000535 *8*; α(N+..)=0.0001218 *18* α(N)=0.0001090 *16*; α(O)=1.280×10^{-5} *19* B(E2)(W.u.)=25 *14* Mult.: γ(θ) and RUL.
		711.53 *12*	100 *10*	3171.44	10$^+$	(E2)	0.00356	α(K)=0.00305 *5*; α(L)=0.000411 *6*; α(M)=8.35×10^{-5} *12*; α(N+..)=1.93×10^{-5} *3* α(N)=1.718×10^{-5} *24*; α(O)=2.10×10^{-6} *3* B(E2)(W.u.)=55 *12* Mult.: from γ(θ) and RUL.
3896.8	(0$^+$,1,2)	3050.3 *5*	100	846.50	2$^+$			
3905.1	1	3905		0.0	0$^+$	D		
3955.9	(11$^-$)	682.20 *21*	100	3273.7	9$^{(-)}$			
		784.1[‡]		3171.44	10$^+$			
4002.9	(11$^+$)	659.00 *17*	100	3343.91	(9$^+$)	(Q)		
4019.0	(10$^+$)	1107		2912.13	8$^+$			
4216.10	12$^{(-)}$	428.6 *3*	22 *3*	3787.16	11$^{(-)}$	D(+Q)		
		753.73 *17*	100 *11*	3462.33	10$^{(-)}$	Q		
4299.14	(12$^+$)	416.00 *21*	23	3883.09	12$^{(+)}$	(D+Q)		
		797.4[#] *3*	57	3502.48	(10$^+$)	(Q)		
		1127.70 *21*	100	3171.44	10$^+$	(Q)		
4421.39	12$^{(-)}$	598.80 *21*	63	3822.61	11$^{(-)}$	D(+Q)		
		704.05 *25*	100	3717.36	10$^{(-)}$	Q		
4573.97	13$^{(-)}$	357.6 *3*	10	4216.10	12$^{(-)}$	D(+Q)		
		786.95 *21*	100	3787.16	11$^{(-)}$	Q		
4598.39	13$^{(-)}$	177.2 *3*	1	4421.39	12$^{(-)}$	D(+Q)		
		775.75 *21*	100	3822.61	11$^{(-)}$	(E2)	0.00289	B(E2)(W.u.)=48 *3* α(K)=0.00248 *4*; α(L)=0.000329 *5*; α(M)=6.68×10^{-5} *10*; α(N+..)=1.545×10^{-5} *22* α(N)=1.376×10^{-5} *20*; α(O)=1.691×10^{-6} *24* Mult.: from γ(θ) and RUL.
4612.81	14$^{(+)}$	729.55 *21*	100	3883.09	12$^{(+)}$	Q		
4743.1	(13$^+$)	740.2 *3*	100	4002.9	(11$^+$)	(Q)		
4759.6	(13$^-$)	803.8 *3*	100	3955.9	(11$^-$)			
		875.9[‡]		3883.09	12$^{(+)}$			
4837.9		1168.4		3669.8	(10$^+$)			

$^{124}_{54}Xe_{70}$-16

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
4875.9		1088.9 *3*	100	3787.16	$11^{(-)}$				
		1703.7[‡d]		3171.44	10^+				
5026.5		216.7		4809.8					
		727.4		4299.14	(12^+)				
		1007.8		4019.0	(10^+)				
5049.79	(12^+)	240[‡d]		4809.8					
		751.0 *3*	100	4299.14	(12^+)	(D+Q)			
		1030.7[‡]		4019.0	(10^+)				
		1046.1[‡]		4002.9	(11^+)				
		1262.5 *3*	20	3787.16	$11^{(-)}$	(D(+Q))			
		1546.2[‡]		3502.48	(10^+)				
5067.85	$14^{(-)}$	494.0 *3*	7	4573.97	$13^{(-)}$	D(+Q)			
		851.65 *21*	100	4216.10	$12^{(-)}$	Q			
5114.4	(14^+)	501.4 *3*	28	4612.81	$14^{(+)}$	(D+Q)			
		815.5 *3*	100	4299.14	(12^+)	(Q)			
		1230.4[‡]		3883.09	$12^{(+)}$				
5182.2	$14^{(-)}$	584.0 *4*	16	4598.39	$13^{(-)}$	D(+Q)			
		760.70 *21*	100	4421.39	$12^{(-)}$	Q			
5290.40	$13^{(+)}$	240.7 *3*	100	5049.79	(12^+)	M1+E2	−0.14 *3*	0.0730	α(K)=0.0627 *9*; α(L)=0.00820 *13*; α(M)=0.00166 *3*; α(N+..)=0.000387 *6* α(N)=0.000344 *6*; α(O)=4.30×10^{-5} *7*
		264.3[‡]		5026.5					
		452.8[‡]		4837.9					
		1074.3 *3*	91	4216.10	$12^{(-)}$	(D(+Q))			
5432.2	(14^+)	1133.3		4299.14	(12^+)				
		1548.9		3883.09	$12^{(+)}$				
5433.5	$15^{(-)}$	251.4 *3*	3	5182.2	$14^{(-)}$	D(+Q)			
		835.15 *21*	100	4598.39	$13^{(-)}$	(E2)		0.00243	α(K)=0.00209 *3*; α(L)=0.000274 *4*; α(M)=5.56×10^{-5} *8*; α(N+..)=1.287×10^{-5} *18* α(N)=1.146×10^{-5} *16*; α(O)=1.412×10^{-6} *20* B(E2)(W.u.)=26.2 *15* Mult.: from $\gamma(\theta)$ and RUL.
5462.5	(15^-)	888.5 *3*	100	4573.97	$13^{(-)}$	(Q)			B(E2)(W.u.)=13 *4* E_γ: from 1997ScZU and assumed an uncertainty of 0.3 keV.
5465.8	$16^{(+)}$	852.95 *21*	100	4612.81	$14^{(+)}$	Q			
5518.83	14	228.3[‡]		5290.40	$13^{(+)}$				
		643.1 *3*	33	4875.9					
		944.6 *3*	100	4573.97	$13^{(-)}$	D(+Q)			
		1219.7 *3*	1.5	4299.14	(12^+)				

$^{124}_{54}Xe_{70}$-17

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. [a]	δ [b]	α [c]	Comments
5551.83	$14^{(+)}$	261.6 *3*	100	5290.40	$13^{(+)}$	M1+E2	−0.14 *3*	0.0585	α(K)=0.0503 *8*; α(L)=0.00654 *10*; α(M)=0.001328 *20*; α(N+..)=0.000309 *5* α(N)=0.000275 *5*; α(O)=3.43×10^{-5} *5*
		502.0 *3*	39	5049.79	(12^+)	Q			
		978.0 *3*	39	4573.97	$13^{(-)}$	(D(+Q))			
5592.6	(15^+)	849.50 *21*	100	4743.1	(13^+)	(Q)			
5659.2	(15^-)	900.0		4759.6	(13^-)				
		1046.2		4612.81	$14^{(+)}$				
5827.41	$15^{(+)}$	275.9 *3*	100	5551.83	$14^{(+)}$	M1+E2	−0.14 *3*	0.0508	α(K)=0.0437 *7*; α(L)=0.00567 *9*; α(M)=0.001151 *17*; α(N+..)=0.000268 *4* α(N)=0.000238 *4*; α(O)=2.98×10^{-5} *5*
		308.5 *3*	37	5518.83	14	M1+E2	−0.17 *3*	0.0379	α(K)=0.0326 *5*; α(L)=0.00422 *7*; α(M)=0.000856 *13*; α(N+..)=0.000199 *3* α(N)=0.000177 *3*; α(O)=2.21×10^{-5} *4*
		537.0 *3*	8	5290.40	$13^{(+)}$	Q			
		759.5# *3*	22	5067.85	$14^{(-)}$	(D(+Q))			
5938.2	(16^+)	472.2# *3*	41	5465.8	$16^{(+)}$	(D+Q)			
		823.8 *3*	100	5114.4	(14^+)	(Q)			
5974.3	$16^{(-)}$	540.75 *21*	38	5433.5	$15^{(-)}$	D(+Q)			
		792.10 *21*	100	5182.2	$14^{(-)}$	Q			
6011.6	(16^-)	943.8 *3*	100	5067.85	$14^{(-)}$	(Q)			
6134.6	$17^{(-)}$	160.3 *3*	5	5974.3	$16^{(-)}$	D(+Q)			
		700.6 *21*	100	5433.5	$15^{(-)}$	Q			
6153.9	$16^{(+)}$	326.5 *3*	100	5827.41	$15^{(+)}$	M1+E2	−0.14 *3*	0.0327	α(K)=0.0282 *4*; α(L)=0.00363 *6*; α(M)=0.000735 *11*; α(N+..)=0.0001713 *25* α(N)=0.0001522 *22*; α(O)=1.90×10^{-5} *3*
		602.0 *3*	5	5551.83	$14^{(+)}$	Q			
		691.0‡		5462.5	(15^-)				
6255.6	(16^+)	736.8‡		5518.83	14	Q			
		789.7 *3*	100	5465.8	$16^{(+)}$	Q			
		793.2‡		5462.5	(15^-)				
		823.5‡		5432.2	(14^+)	Q			
6305.0	(16^+)	1692		4612.81	$14^{(+)}$				
6438.4	(17^-)	975.9 *3*	100	5462.5	(15^-)	(Q)			
6438.8	$18^{(+)}$	973.00 *21*	100	5465.8	$16^{(+)}$	Q			
6535.2	(17^-)	876.1		5659.2	(15^-)				
		1069.2		5465.8	$16^{(+)}$				
6543.9	(17^+)	951.3 *3*	100	5592.6	(15^+)	(Q)			
6553.7	$17^{(+)}$	399.8 *3*	100	6153.9	$16^{(+)}$	M1+E2	−0.14 *3*	0.0194	α(K)=0.01676 *24*; α(L)=0.00214 *3*; α(M)=0.000434 *7*; α(N+..)=0.0001011 *15* α(N)=8.98×10^{-5} *13*; α(O)=1.125×10^{-5} *16*
		726.4 *3*	13	5827.41	$15^{(+)}$	Q			

$^{124}_{54}Xe_{70}$-18

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
6741.1	$18^{(-)}$	606.40 *21*	100	6134.6	$17^{(-)}$	D(+Q)	−0.14		
		766.9 *3*	20	5974.3	$16^{(-)}$	Q			
6829.2	(18^+)	390.6# *3*	7	6438.8	$18^{(+)}$	(D+Q)			
		890.9 *3*	100	5938.2	(16^+)	(Q)			
6984.6	$18^{(+)}$	430.8 *3*	100	6553.7	$17^{(+)}$	M1+E2	−0.17 *4*	0.01607	α(K)=0.01386 *20*; α(L)=0.001768 *25*; α(M)=0.000358 *5*; α(N+..)=8.34×10^{-5} *12* α(N)=7.41×10^{-5} *11*; α(O)=9.29×10^{-6} *14*
		830.7 *3*	31	6153.9	$16^{(+)}$	Q			
7019.8	(18^-)	1008.2 *3*	100	6011.6	(16^-)	(Q)			
7031.3	$19^{(-)}$	290.1 *3*	22	6741.1	$18^{(-)}$	D(+Q)	−0.14		
		896.70 *21*	100	6134.6	$17^{(-)}$	Q			
7050.7	(18^-)	1039.0		6011.6	(16^-)				
7053.3		797.7 *3*	100	6255.6	(16^+)				
7118.2	(18^+)	679.1		6438.8	$18^{(+)}$				
		862.5		6255.6	(16^+)	Q			
7219.1	(18^+)	914		6305.0	(16^+)				
7395.6	(19^-)	860.4		6535.2	(17^-)				
7433.0	$19^{(+)}$	448.5 *3*	100	6984.6	$18^{(+)}$	M1+E2	−0.21 *3*	0.01449	α(K)=0.01250 *18*; α(L)=0.001594 *23*; α(M)=0.000323 *5*; α(N+..)=7.52×10^{-5} *11* α(N)=6.69×10^{-5} *10*; α(O)=8.37×10^{-6} *12*
		879.5 *3*	43	6553.7	$17^{(+)}$	Q			
7452.8?		1014 *1*	100	6438.8	$18^{(+)}$				
7481.3	(19^-)	1042.9 *3*	100	6438.4	(17^-)	(Q)			
7524.2	$20^{(+)}$	1085.3 *3*	100	6438.8	$18^{(+)}$	Q			
7556.0	(19^+)	1012.1 *3*	100	6543.9	(17^+)	(Q)			
7626.7	$20^{(-)}$	595.4 *3*	100	7031.3	$19^{(-)}$	D(+Q)	−0.17		
		885.5 *3*	86	6741.1	$18^{(-)}$	Q			
7637.6		606.3 *3*	100	7031.3	$19^{(-)}$				1984Ga21 assigned 606.2γ to the transition from 6739 level to 6133 level, but evaluators assume the two γ′s are the same.
7811.4	(20^+)	982.2 *3*	100	6829.2	(18^+)	(Q)			
7914.8		861.5 *3*	100	7053.3					
7929.1	$20^{(+)}$	496.3 *3*	100	7433.0	$19^{(+)}$	M1+E2	−0.17 *3*	0.01128	α(K)=0.00974 *14*; α(L)=0.001234 *18*; α(M)=0.000250 *4*; α(N+..)=5.82×10^{-5} *9* α(N)=5.18×10^{-5} *8*; α(O)=6.49×10^{-6} *10*
		944.4 *3*	71	6984.6	$18^{(+)}$	Q			
7939.6	$21^{(-)}$	313.1 *3*	18	7626.7	$20^{(-)}$	D(+Q)			
		908.3 *3*	100	7031.3	$19^{(-)}$	Q			E_γ: other:910 (1987Ha03).
8071.0	(20^+)	638.2		7433.0	$19^{(+)}$				
		952.5		7118.2	(18^+)	Q			

$^{124}_{54}Xe_{70}$-19

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult.[a]	δ[b]	α[c]	Comments
8083.3	(20$^+$)	558.8		7524.2	20$^{(+)}$				
		650.6		7433.0	19$^{(+)}$				
		864		7219.1	(18$^+$)				
		964.9		7118.2	(18$^+$)	Q			
8093.8	(20$^-$)	1043.0		7050.7	(18$^-$)				
		1074.0		7019.8	(18$^-$)				
8100.4		667.4		7433.0	19$^{(+)}$				
8192.7		759.7 *3*	100	7433.0	19$^{(+)}$				
8356.0	(21$^-$)	960.3		7395.6	(19$^-$)				
8365.5	21$^{(+)}$	436.1 *3*	89	7929.1	20$^{(+)}$	M1+E2	−0.28 *7*	0.01548 *24*	α(K)=0.01334 *21*; α(L)=0.001712 *25*; α(M)=0.000347 *5*; α(N+..)=8.08×10^{-5} *12* α(N)=7.18×10^{-5} *11*; α(O)=8.98×10^{-6} *13* δ: other: 0.31(1997ScZU). 1997ScZU and 1999Sc20 were from the same experiment, but the values are different.
		932.5 *3*	100	7433.0	19$^{(+)}$	Q			
8484.1		554.9 *3*	100	7929.1	20$^{(+)}$				
8523.1	22$^{(-)}$	583.7 *3*	96	7939.6	21$^{(-)}$	D(+Q)			
		896.3 *3*	100	7626.7	20$^{(-)}$	Q			
8567.1	(21$^+$)	1011		7556.0	(19$^+$)				
8570.5	(21$^-$)	1089.2‡	100	7481.3	(19$^-$)				
8722.1	22$^{(+)}$	1197.9 *3*	100	7524.2	20$^{(+)}$	Q			
8860.1	(22$^+$)	495.2		8365.5	21$^{(+)}$				
		759.8		8100.4		Q			
		776.6		8083.3	(20$^+$)	Q			
		789.0	3.66	8071.0	(20$^+$)	Q			
		931.0		7929.1	20$^{(+)}$				
		1049.0		7811.4	(20$^+$)				
		1335.4		7524.2	20$^{(+)}$				
8901.2	(22$^+$)	1089.8 *3*	100	7811.4	(20$^+$)	(Q)			
8911.3	22$^{(+)}$	546.0 *3*	100	8365.5	21$^{(+)}$	D(+Q)			
		982.4 *3*	20	7929.1	20$^{(+)}$	Q			
8990.5		797.8 *3*	100	8192.7					
9048.4		564.2 *3*	62	8484.1					
		1119.4 *3*	100	7929.1	20$^{(+)}$				
9083.9	(22$^-$)	990.1		8093.8	(20$^-$)				
9106.1	23$^{(-)}$	582.9 *3*	100	8523.1	22$^{(-)}$	D(+Q)			
		1166.6 *3*	76	7939.6	21$^{(-)}$	Q			
9375.4	(23$^-$)	1019.4		8356.0	(21$^-$)				
9483.4	23$^{(+)}$	572.4 *3*	100	8911.3	22$^{(+)}$	D(+Q)			
		1117.5 *3*	83	8365.5	21$^{(+)}$	Q			

$^{124}_{54}Xe_{70}$-20

Adopted Levels, Gammas (continued)

γ(^{124}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ &	E_f	J_f^π	Mult. a
9650.9		1083.8		8567.1	(21^+)	
9657.4	(24^+)	797.1	100	8860.1	(22^+)	Q
9671.1		1104.0		8567.1	(21^+)	
9676.2	$24^{(-)}$	570.2 *3*	52	9106.1	$23^{(-)}$	D(+Q)
		1153.0 *3*	100	8523.1	$22^{(-)}$	Q
9761.5	(23^-)	1191		8570.5	(21^-)	
9927.0	$24^{(+)}$	443.3 *3*	56	9483.4	$23^{(+)}$	D(+Q)
		1016.0 *3*	100	8911.3	$22^{(+)}$	Q
9994.6		888		9106.1	$23^{(-)}$	
9997.3	$24^{(+)}$	1275.2 *3*	100	8722.1	$22^{(+)}$	Q
10088.1		1366.0		8722.1	$22^{(+)}$	
10090.5	(24^+)	1189.3		8901.2	(22^+)	
10123.3	(24^-)	1039.4		9083.9	(22^-)	
10143.3		1152.8 *3*	100	8990.5		
10342.7	$25^{(-)}$	666.6 *3*	100	9676.2	$24^{(-)}$	D(+Q)
		1236.5 *3*	97	9106.1	$23^{(-)}$	Q
10428.3	(25)	501.5		9927.0	$24^{(+)}$	
		770.9	100	9657.4	(24^+)	D
		944.7		9483.4	$23^{(+)}$	
10538.5	(25^-)	1163.0		9375.4	(23^-)	
10803.7		1152.8		9650.9		
10810.1	(26^+)	381.8		10428.3	(25)	D
		883		9927.0	$24^{(+)}$	
		1152.7	100	9657.4	(24^+)	Q
10839.6		1168.5		9671.1		
10897.2	$26^{(-)}$	554.5 *3*	21	10342.7	$25^{(-)}$	D(+Q)
		1221.1 *3*	100	9676.2	$24^{(-)}$	Q
10929.4	(26^+)	1002.6		9927.0	$24^{(+)}$	
		1272.0	100	9657.4	(24^+)	Q
11055.1	(26)	1060		9994.6		
		1379		9676.2	$24^{(-)}$	
11240.0	(26^+)	1242.7‡	100	9997.3	$24^{(+)}$	
11258.7		1261.4		9997.3	$24^{(+)}$	
11265.8	(26^-)	1142.5		10123.3	(24^-)	
11387.1	(26^+)	1296.6		10090.5	(24^+)	
11473.3	(27)	543.9		10929.4	(26^+)	
		663.2	100	10810.1	(26^+)	D
		1045.0		10428.3	(25)	
11555.2	$27^{(-)}$	499.6‡		11055.1	(26)	
		658.0 *3*	95	10897.2	$26^{(-)}$	D(+Q)
11555.2	$27^{(-)}$	1212.5 *3*	100	10342.7	$25^{(-)}$	Q
11624.7	(27)	727.8		10897.2	$26^{(-)}$	D
		1281.5	1.10	10342.7	$25^{(-)}$	
11739.1	(27^-)	1200.6		10538.5	(25^-)	
		1396	100	10342.7	$25^{(-)}$	Q
11781.6		1243.1		10538.5	(25^-)	
11821.8	(28^+)	892.4		10929.4	(26^+)	Q
		1011.7	8.11	10810.1	(26^+)	Q
11869.9	(28)	130.4	100	11739.1	(27^-)	D
		244.8	80	11624.7	(27)	D
		315.0		11555.2	$27^{(-)}$	D
		973		10897.2	$26^{(-)}$	
12169.3	(28)	696.0		11473.3	(27)	
		1359.2		10810.1	(26^+)	
12198.3	(28^-)	643.2		11555.2	$27^{(-)}$	
		1301		10897.2	$26^{(-)}$	
12334.1		779		11555.2	$27^{(-)}$	
		1279		11055.1	(26)	
12360.6	(29^-)	490.2		11869.9	(28)	
		736		11624.7	(27)	
		805.6		11555.2	$27^{(-)}$	
12464.0	(28^+)	1224		11240.0	(26^+)	
12491.9	(29)	322.6	20	12169.3	(28)	D
		1018.6	100	11473.3	(27)	Q
12517.8	(28^-)	1252.0		11265.8	(26^-)	
12594.9	(29)	725	100	11869.9	(28)	D
12721.6	(29)	899.8	100	11821.8	(28^+)	D
12772.9		281‡		12491.9	(29)	
		1217.6#@d *3*	100	11555.2	$27^{(-)}$	(Q)
12993.8	(30)	399		12594.9	(29)	
		633.2	100	12360.6	(29^-)	D
13304.8	(30)	583.2		12721.6	(29)	D
		1483.0		11821.8	(28^+)	
13318.0	(30)	723	100	12594.9	(29)	D
		1448		11869.9	(28)	
13578.3	(31^-)	1217.7		12360.6	(29^-)	
13639.2	(31)	321.1	95	13318.0	(30)	D
		645.5	29	12993.8	(30)	
		1044.2	100	12594.9	(29)	
13856.8	(31)	1084		12772.9		

$^{124}_{54}Xe_{70}$-21

Adopted Levels, Gammas (continued)

$\gamma(^{124}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[&]	E_f	J_f^π	Mult.[a]
13856.8	(31)	1364.9	100	12491.9	(29)	Q
14049.8	(32)	193.0	100	13856.8	(31)	D
		745.0		13304.8	(30)	
14777.9	(33)	921.1	100	13856.8	(31)	Q
14814.0	(32)	1174.8		13639.2	(31)	
		1496		13318.0	(30)	
15037.1	(33)	223.1	9.5	14814.0	(32)	D
15037.1	(33)	1398	100	13639.2	(31)	Q
15178.1	(34)	400.2		14777.9	(33)	
		1128.3		14049.8	(32)	Q
16385.5		1348.4		15037.1	(33)	
16512.4		1334.2	100	15178.1	(34)	
16529.7		1492.6		15037.1	(33)	

[†] Average of ^{124}Cs ε decay and (HI,xnγ) or from ^{82}Se(^{48}Ca,6nγ).
[‡] From ^{82}Se(^{48}Ca,6nγ); Not reported in (HI,xnγ).
[#] Not reported in ^{82}Se(^{48}Ca,6nγ).
[@] Placement is uncertain. ^{82}Se(^{48}Ca,6nγ) put the 1217.7-keV γ to another level.
[&] From ^{124}Cs ε decay when available. Others from (HI,xnγ).
[a] From $\gamma\gamma(\theta)$, α(K)exp in ^{124}Cs ε decay and $\gamma(\theta)$, α(K)exp, ΔJ and σ, and RUL in (HI,xnγ).
[b] From $\gamma\gamma(\theta)$ in ^{124}Cs ε decay and $\gamma(\theta)$ in (HI,xnγ).
[c] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[d] Placement of transition in the level scheme is uncertain.

$^{124}_{54}Xe_{70}$-22

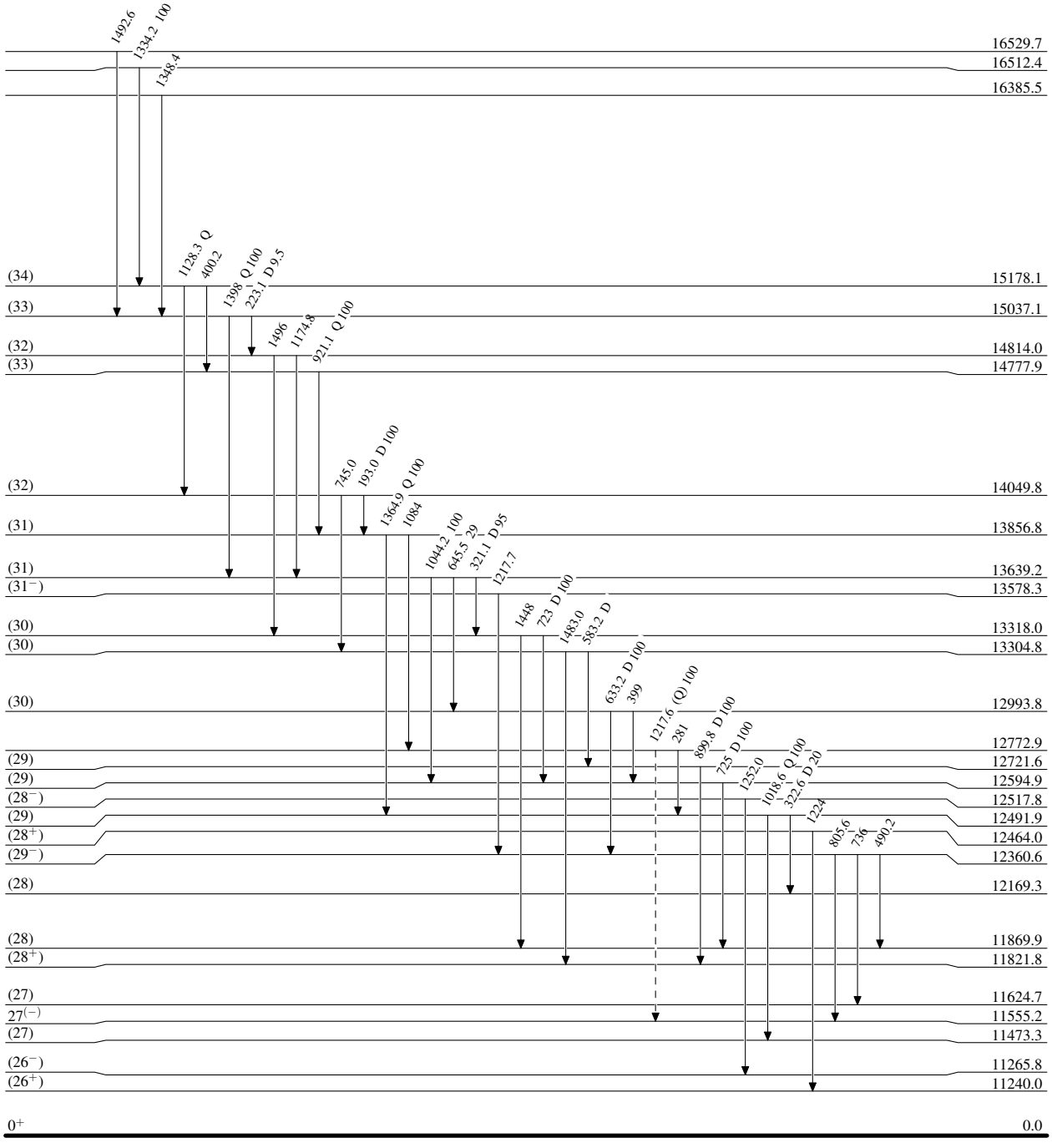
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

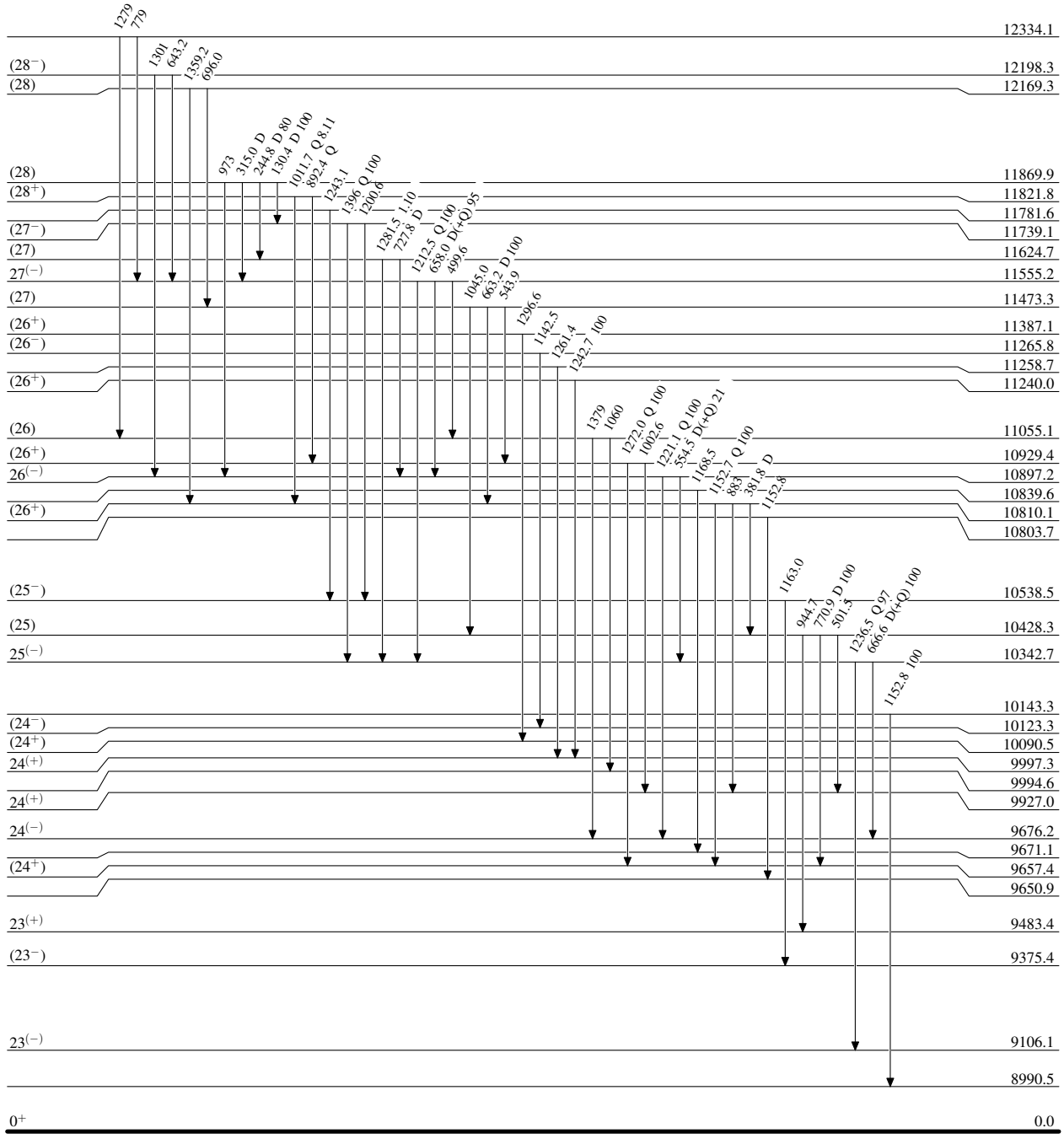


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

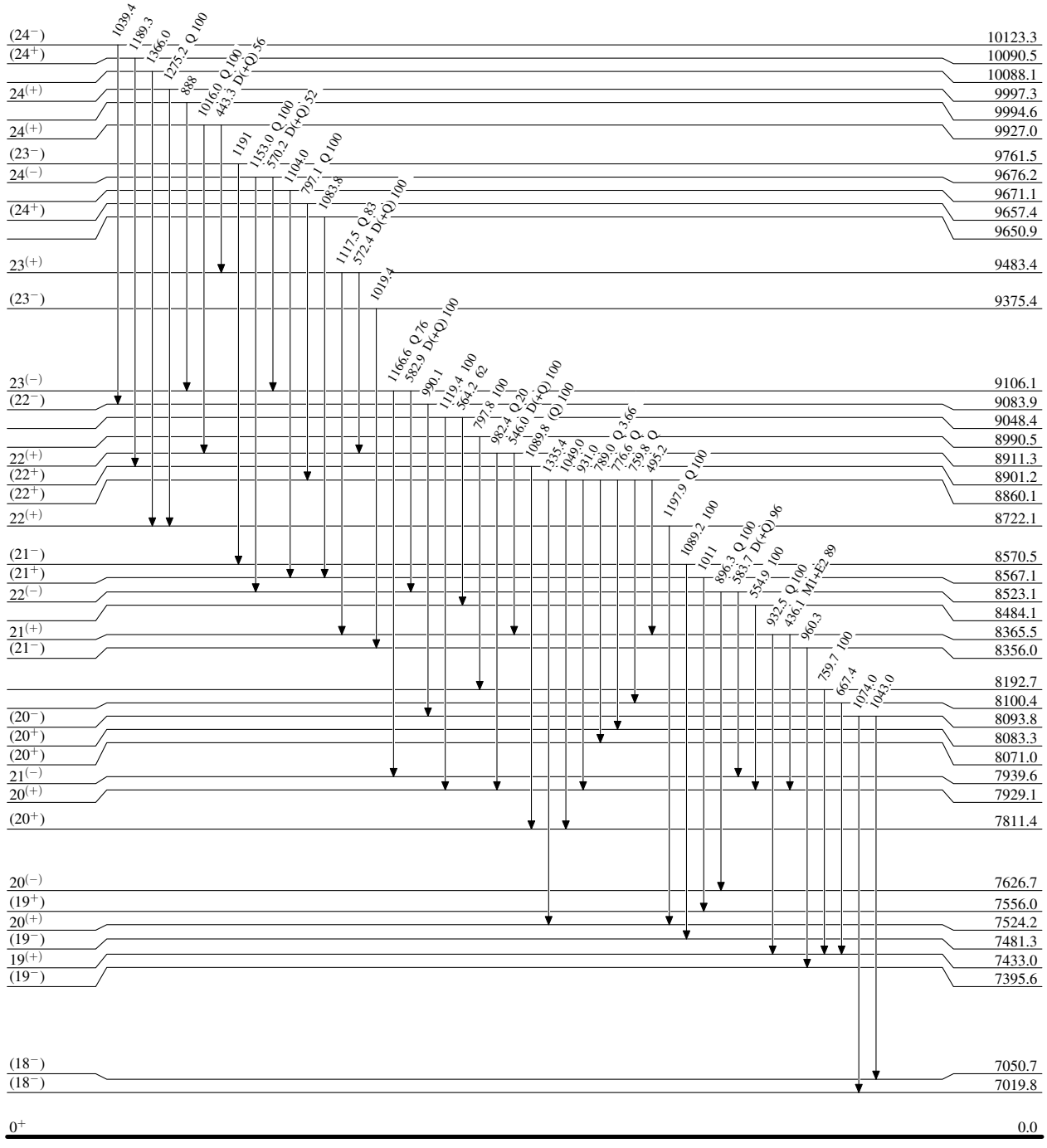


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

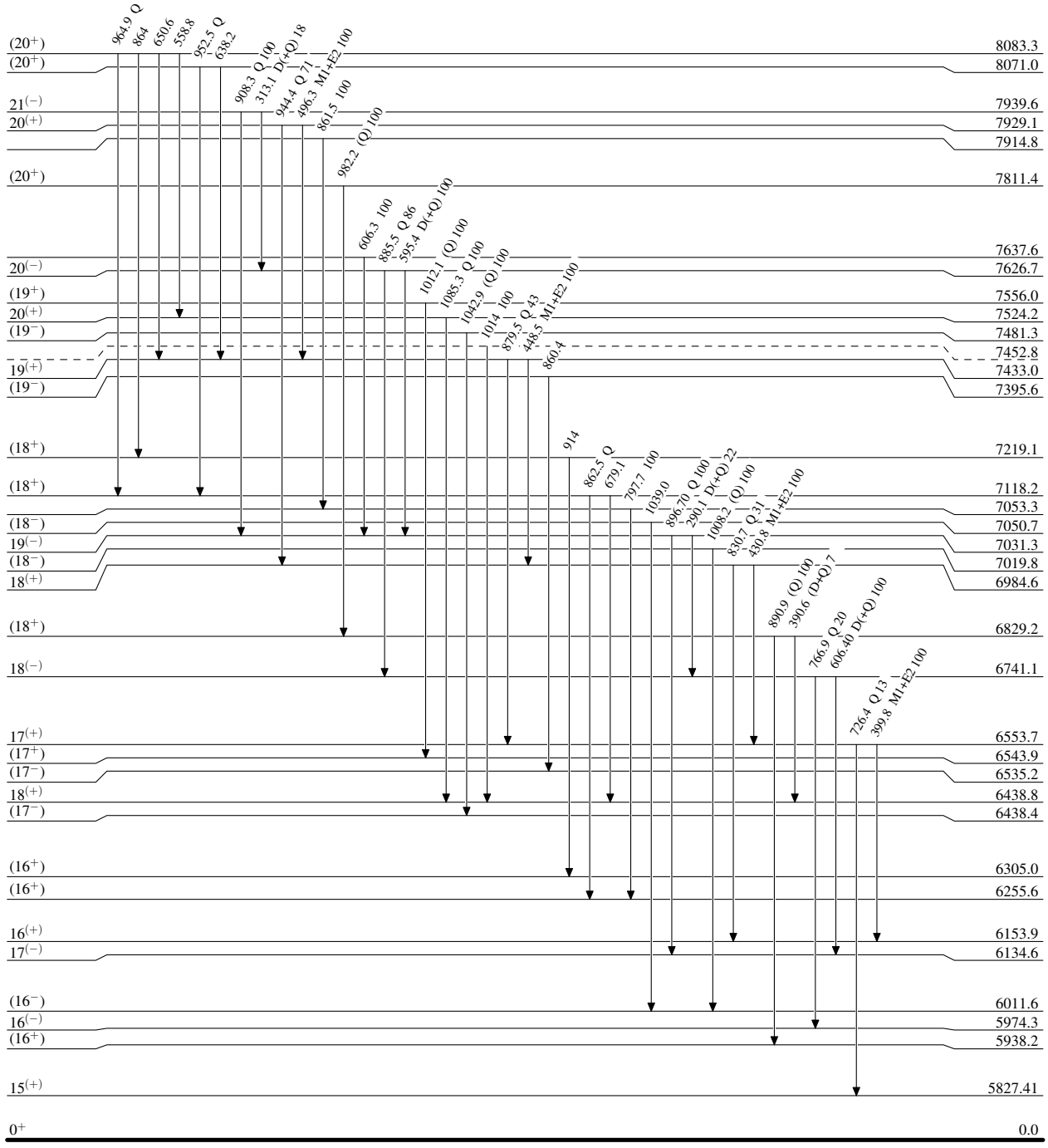


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



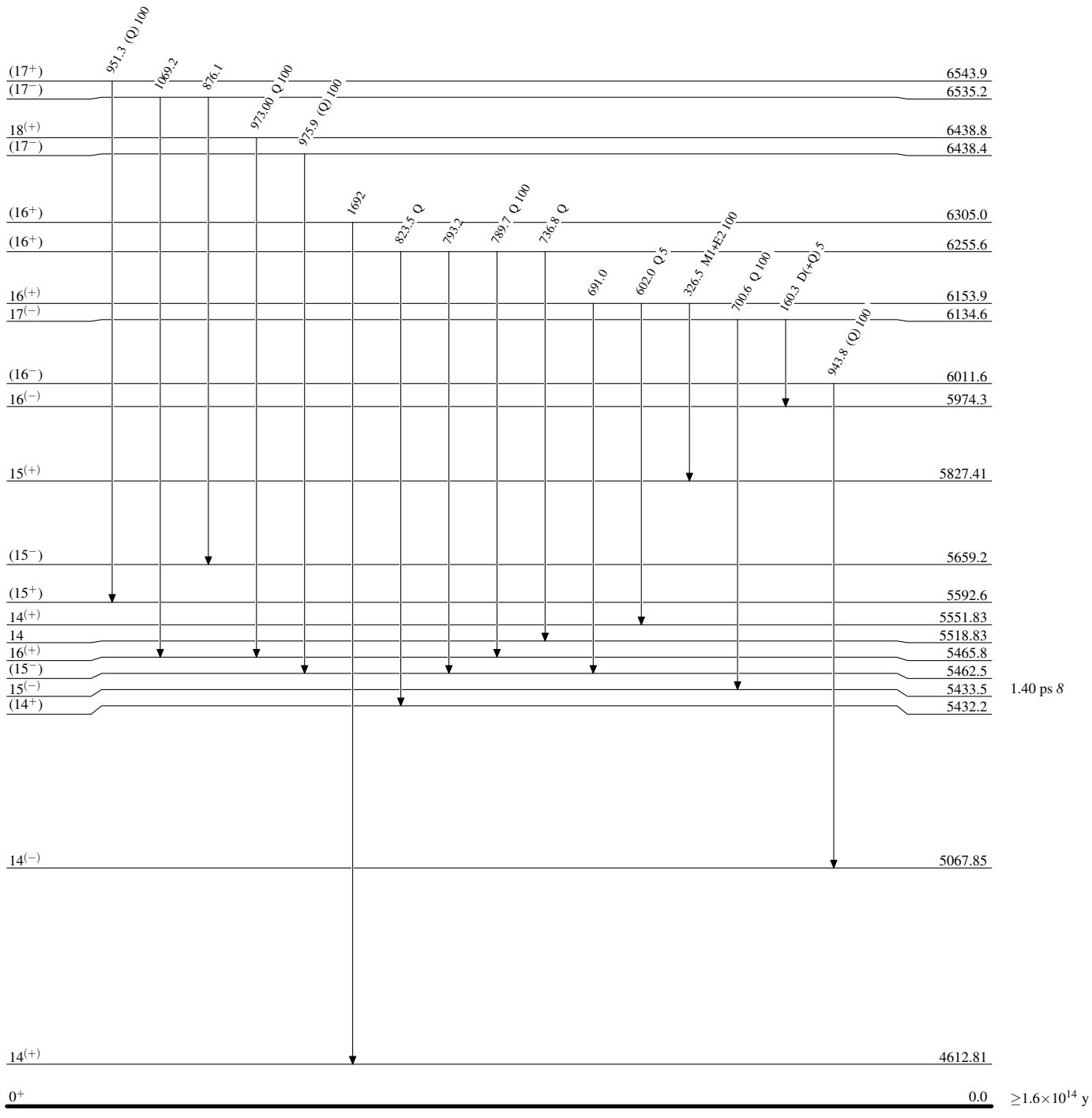
$\geq 1.6\times10^{14}$ y

$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

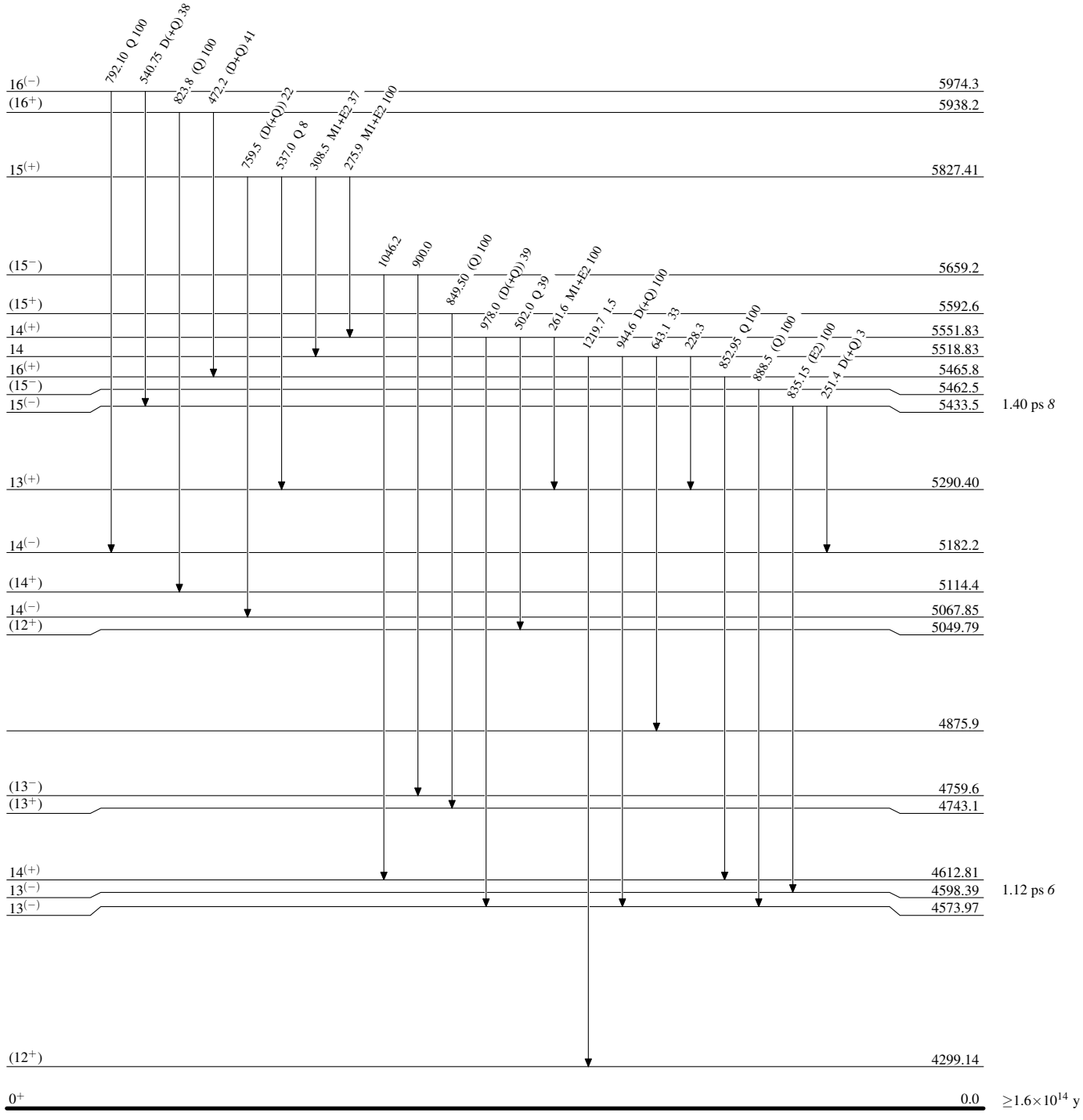


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

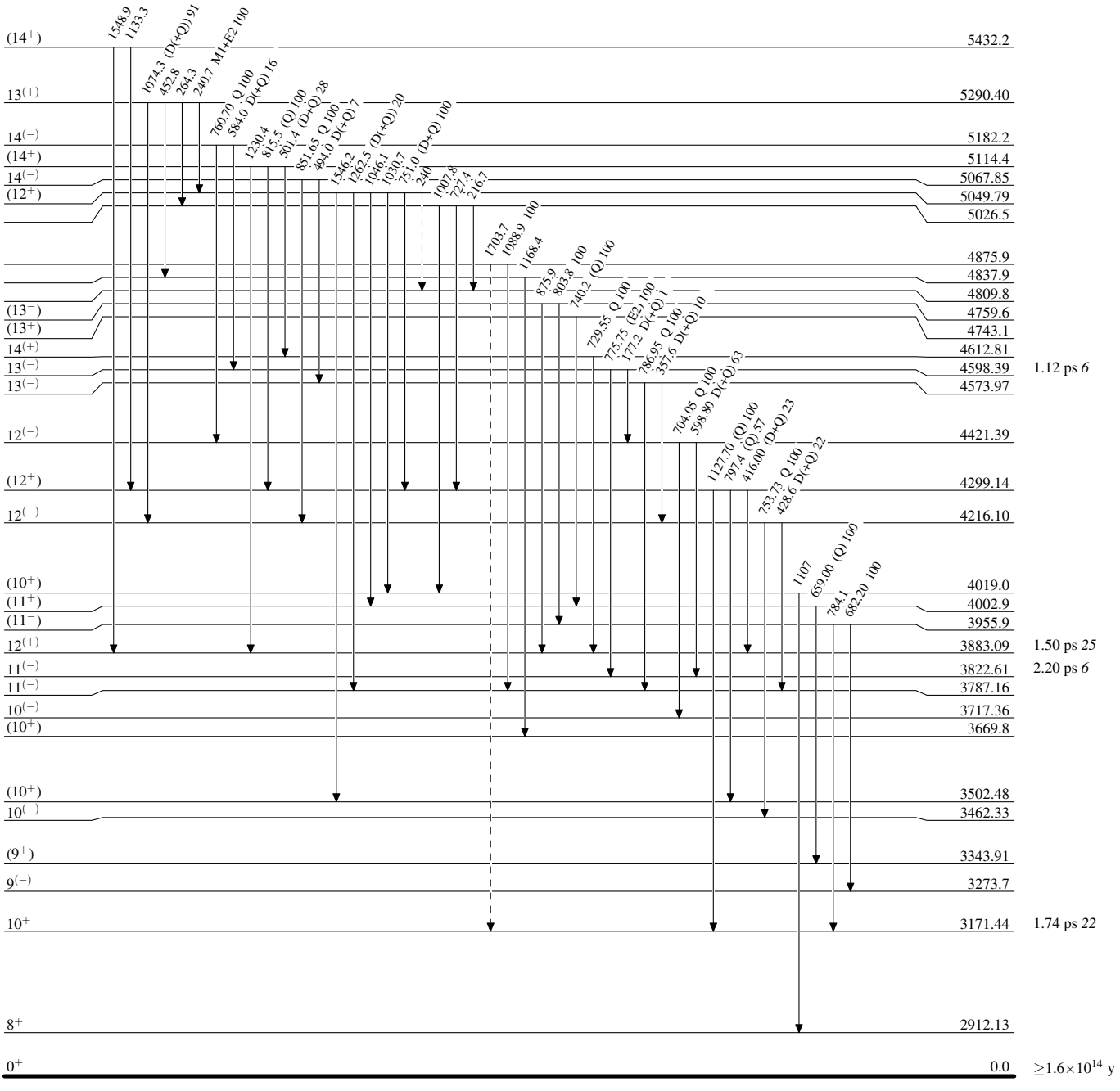
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

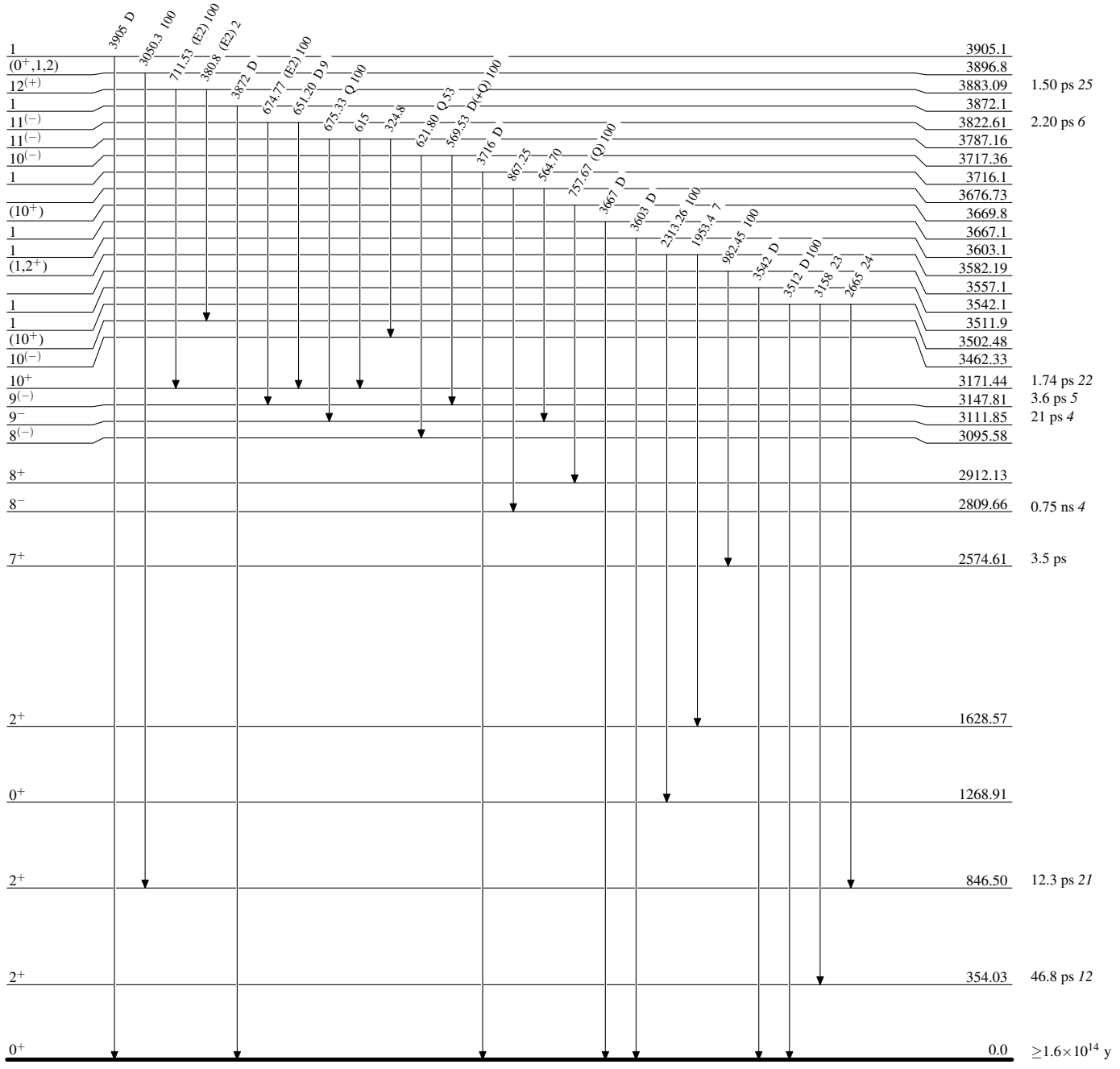


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

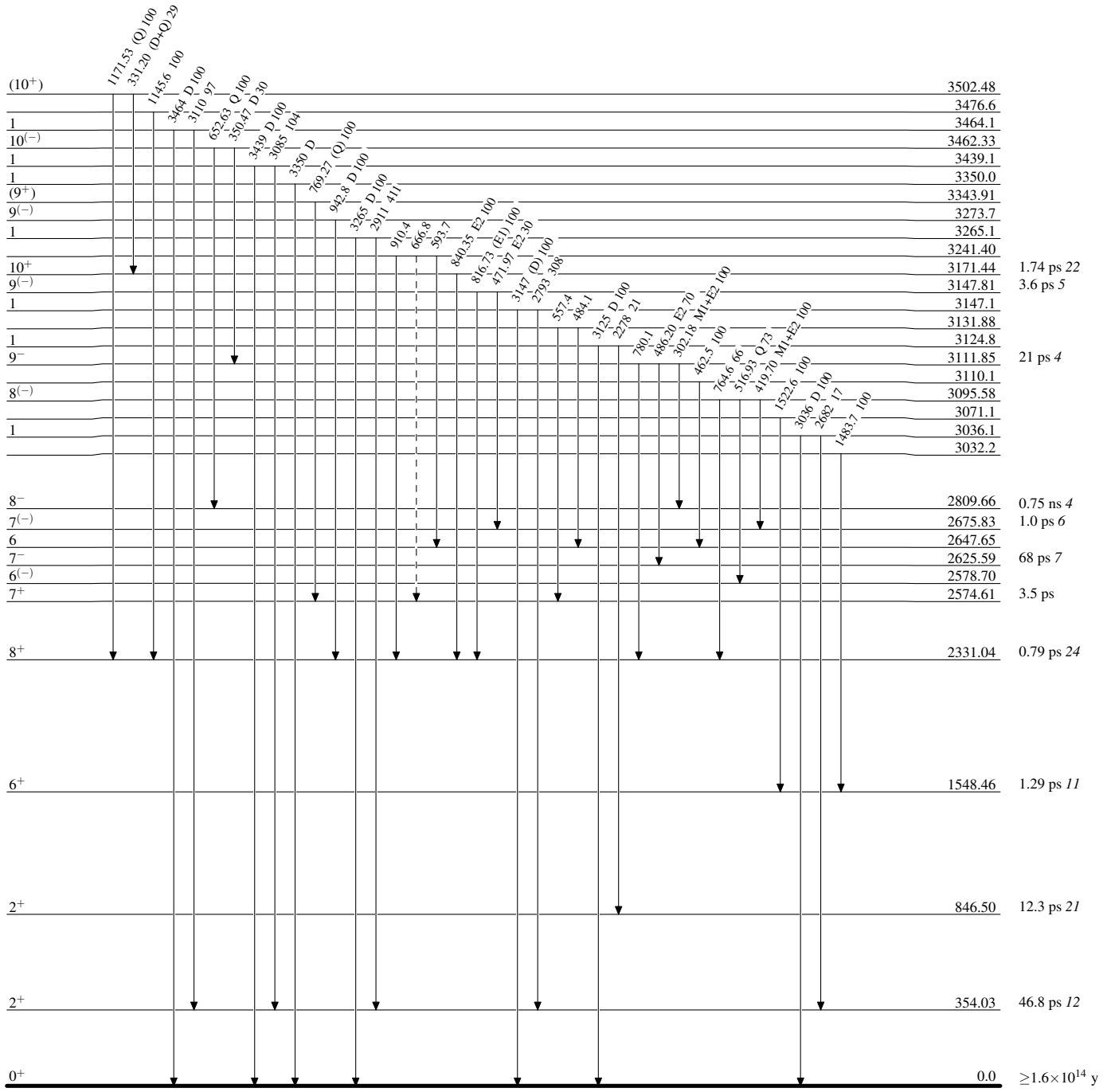
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

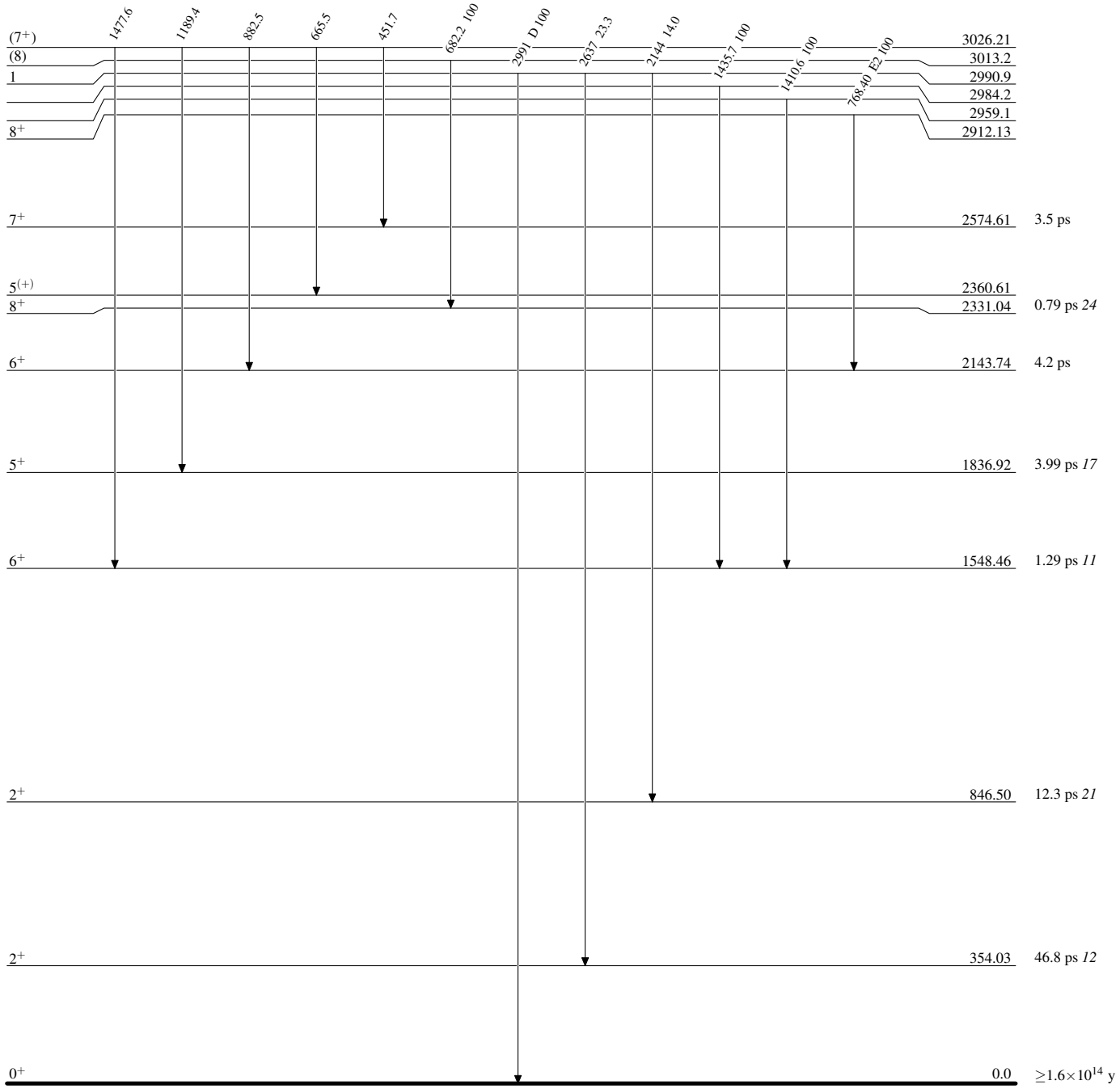


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

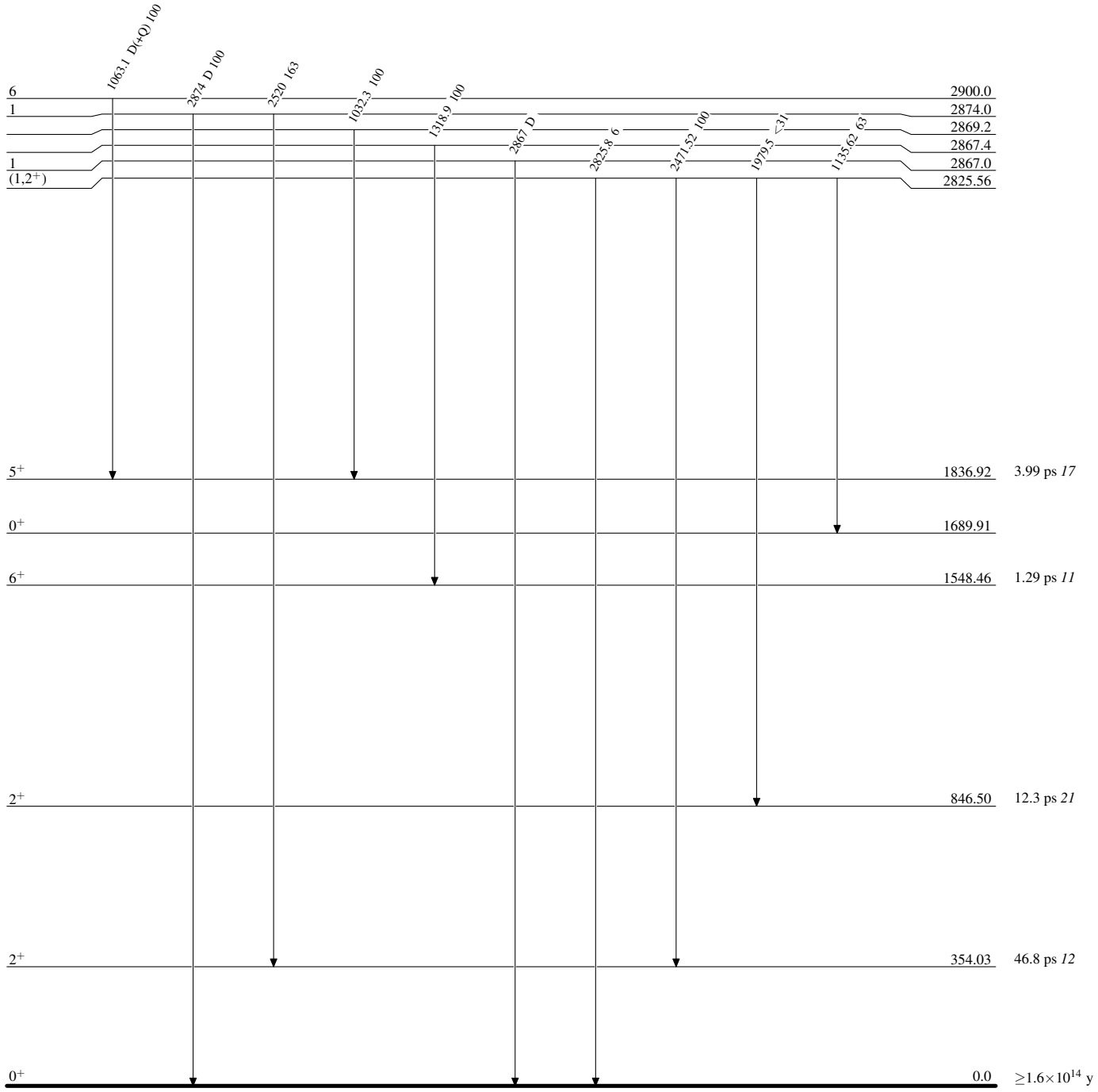


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

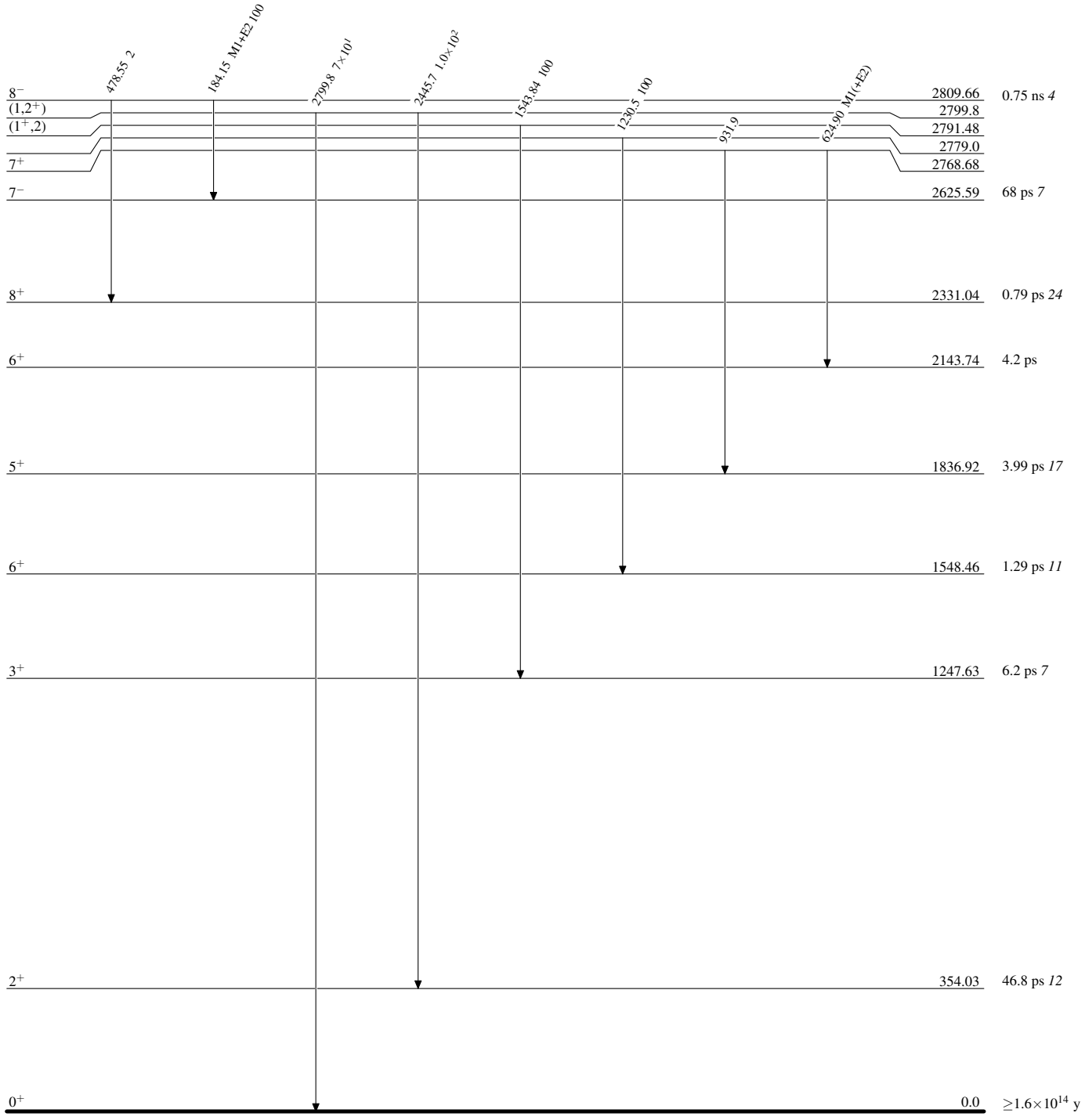


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

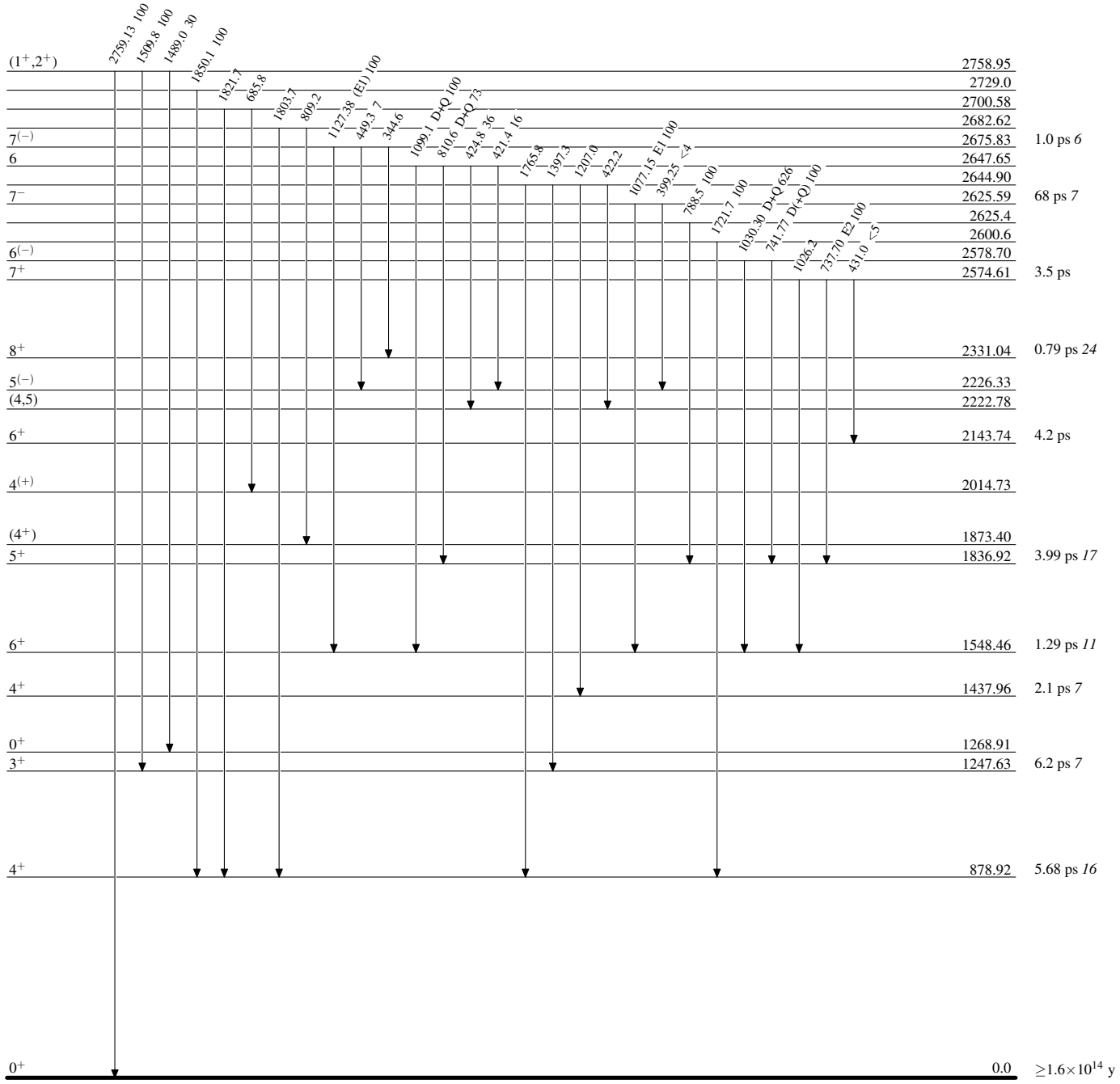


$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

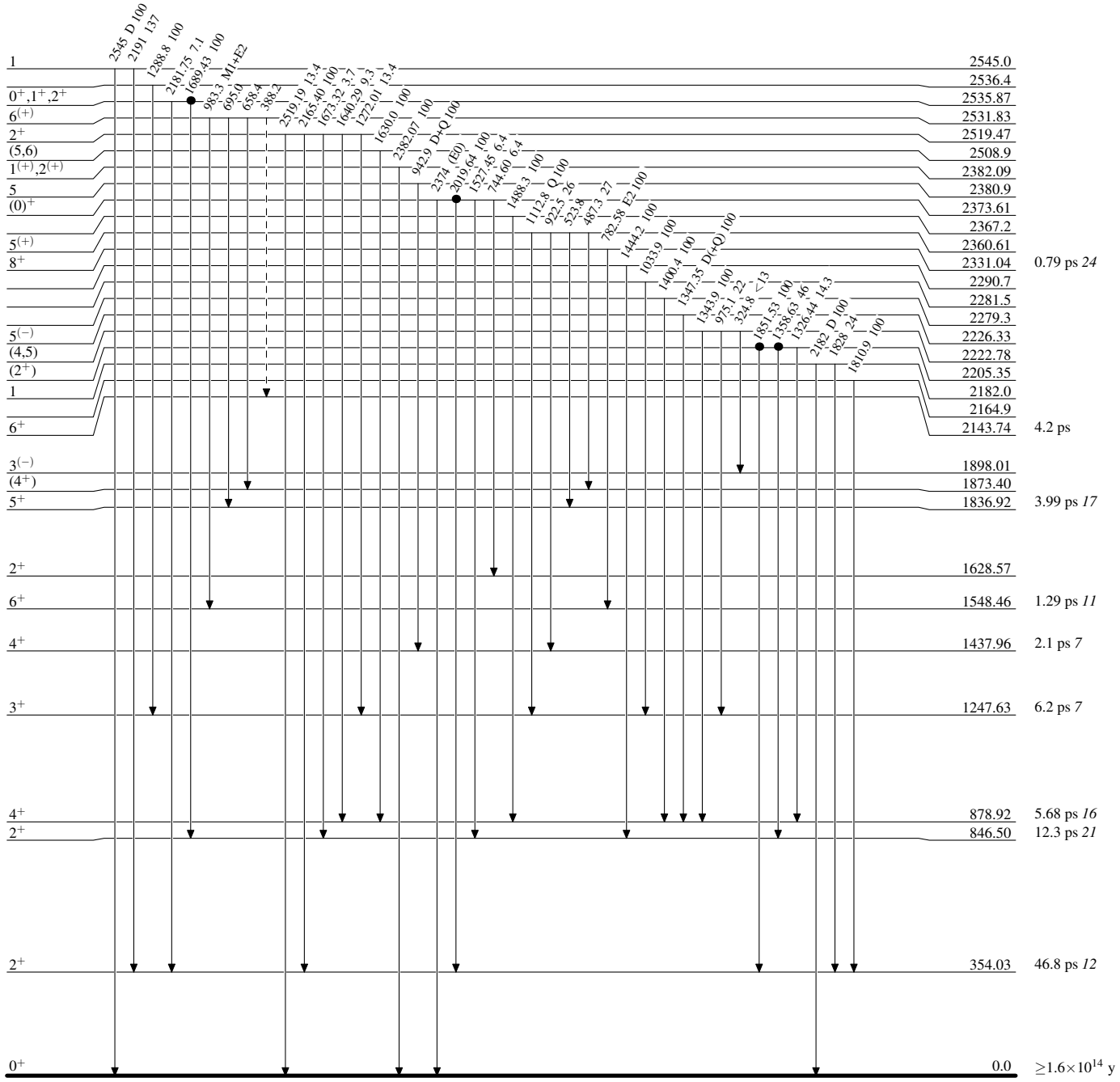
Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend

- - - - - - ► γ Decay (Uncertain)

● Coincidence



$^{124}_{54}Xe_{70}$

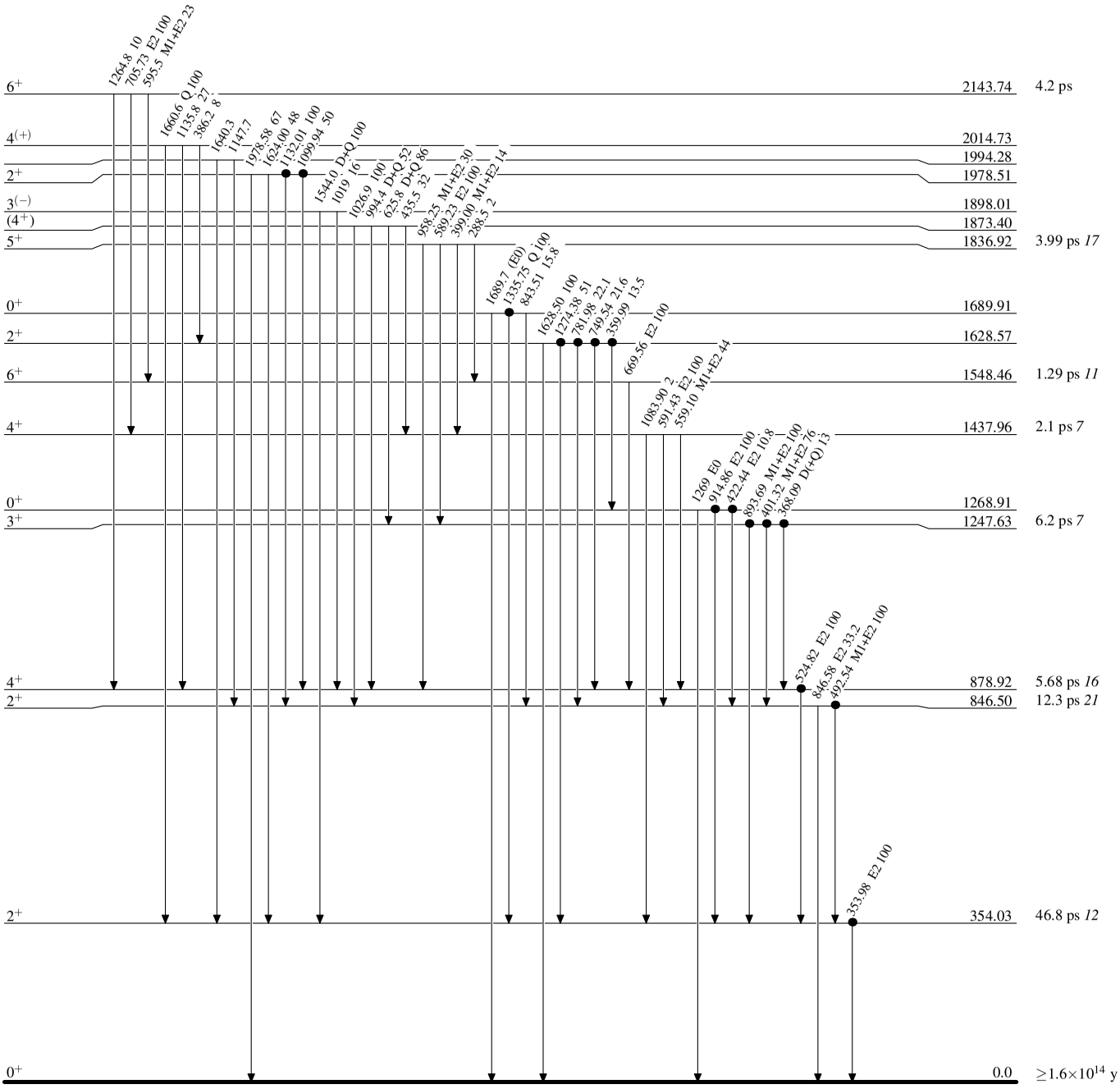
Adopted Levels, Gammas

Legend

Level Scheme (continued)

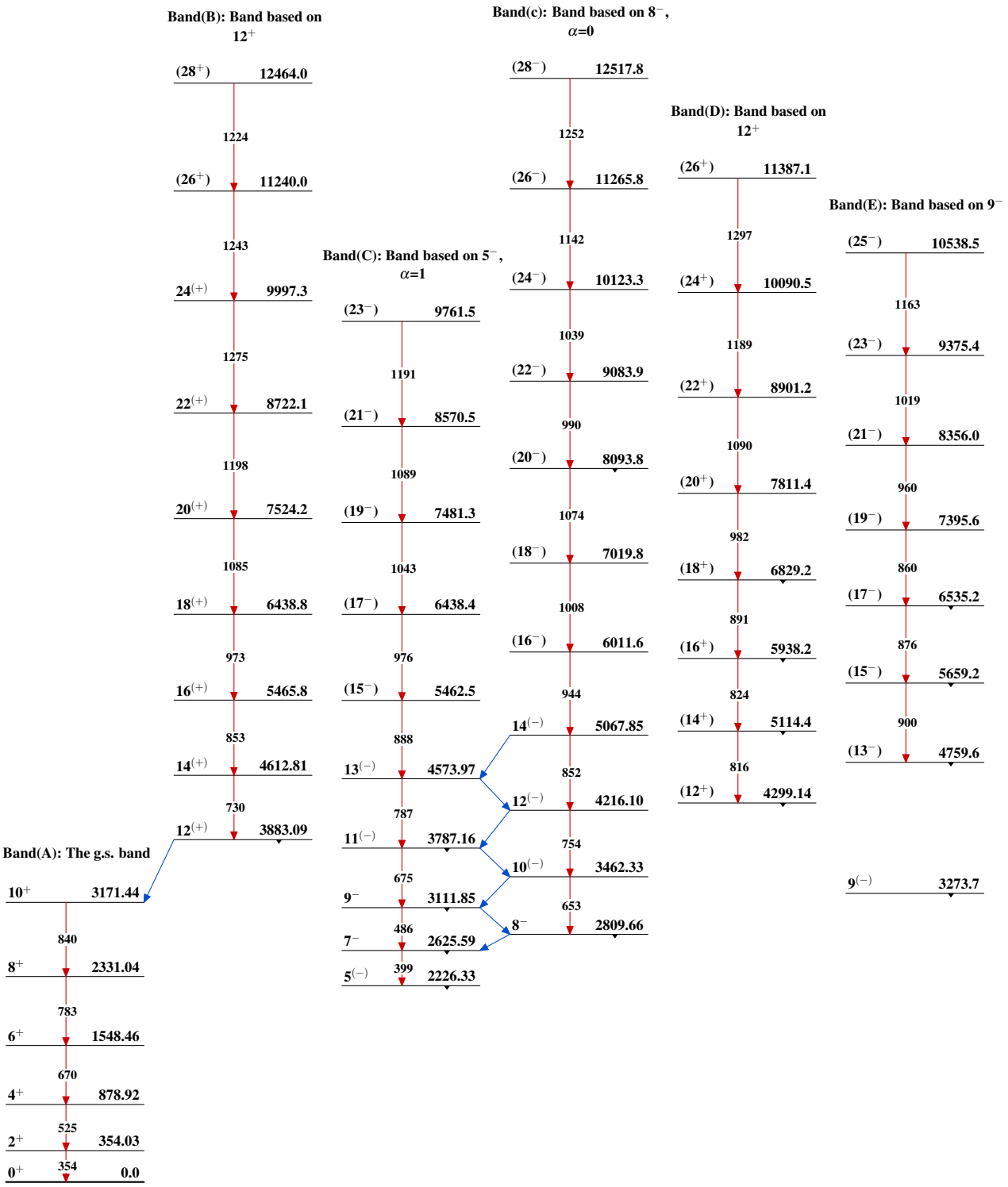
Intensities: Relative photon branching from each level

● Coincidence



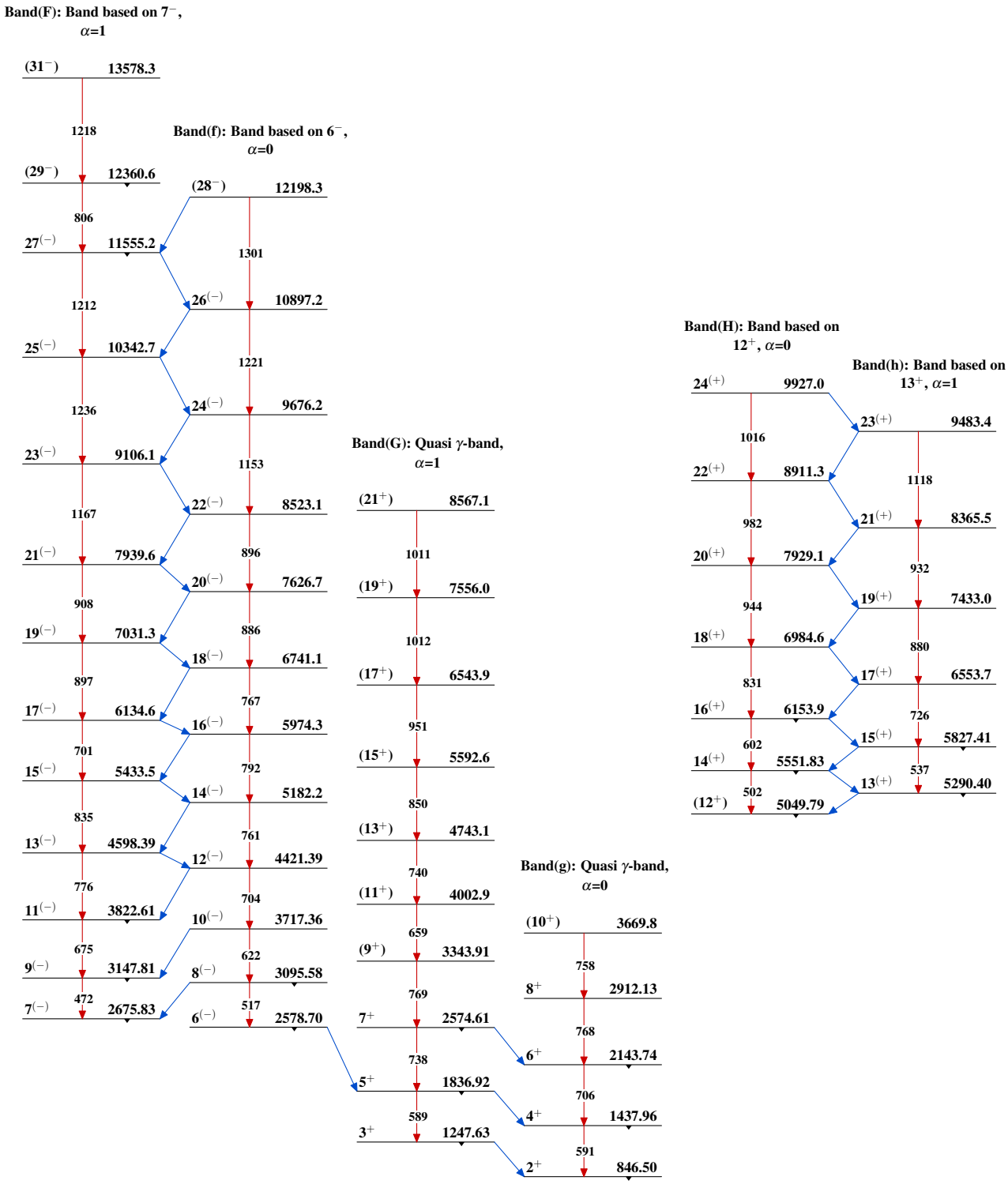
$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas



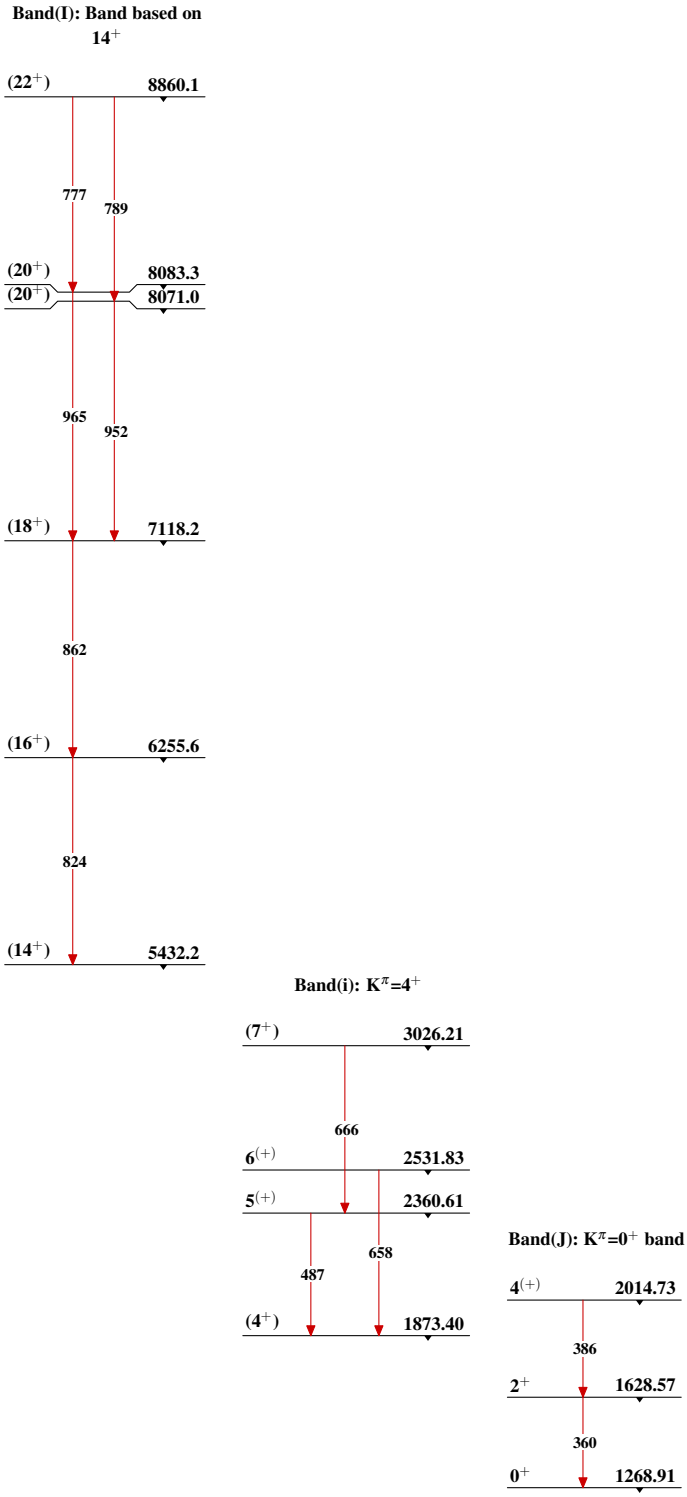
$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas (continued)



$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas (continued)



$^{124}_{54}Xe_{70}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	H. Iimura, J. Katakura, S. Ohya	NDS 180,1 (2022)	1-Oct-2021

Q(β^-)=−4796 *10*; S(n)=10018.3 *14*; S(p)=7599.3 *14*; Q(α)=−1258.0 *14* 2021Wa16

^{126}Xe Levels

Cross Reference (XREF) Flags

A	^{126}Cs ε decay	E	^{126}Te(^{3}He,3nγ), ^{126}Te(α,4nγ)	I	^{124}Te(α,2nγ)
B	^{126}I β^- decay	F	^{127}I(p,2nγ)	J	^{82}Se(^{48}Ca,4nγ)
C	Coulomb excitation	G	^{123}Te(α,nγ)	K	^{126}Xe(γ,γ')
D	^{116}Cd(^{13}C,3nγ)	H	^{124}Te(^{3}He,n)	L	^{122}Sn(^{9}Be,5nγ)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$[&]	XREF	Comments
0.0[c]	0$^+$	stable	ABCDEFGHIJKL	$T_{1/2}$: lower limit is given as 1.9×10^{22} y for the 2ν2K decay mode from the measurement with liquid xenon scintillation detector (2018Ab04).
388.632[c] *9*	2$^+$	38 ps *3*	ABCDEFG IJKL	μ=+0.54 *8* μ: IMPAC value relative to 132Xe 668-keV level (1975Go18,2020StZV). Others: +0.74 *14* IPAC value (1977Ar19), 0.44 *10* (1976Sa28), 0.74 *14* (1974NoZD). $T_{1/2}$: from 2016Pr01. Other: 41.3 ps *14* in (β)(388.633γ)(t) (1963De21). J$^\pi$: E2 γ to 0$^+$.
879.872[f] *10*	2$^+$	8.7 ps *15*	ABCDEFG JKL	J$^\pi$: E2 γ to 0$^+$.
942.00[c] *3*	4$^+$	3.8 ps *6*	A CDEFG IJ L	J$^\pi$: stretched E2 γ to 2$^+$. Member of ground-state band.
1313.88[g] *3*	0$^+$	2.8 ps *5*	A C G	J$^\pi$: from $\gamma\gamma(\theta)$ in ^{126}Cs ε decay (1979Si11).
1317.680[e] *25*	3$^+$	7.6 ps *12*	A CDEFG J L	
1488.38[f] *4*	4$^+$	2.7 ps *3*	CDEFG J L	
1634.99[c] *5*	6$^+$	1.06 ps *19*	CDEFG IJ L	
1678.573[g] *22*	2$^+$	5.9 ps *8*	A C G	
1760.55 *10*	0$^+$	0.23 ps *7*	A C GH	J$^\pi$: L(^{3}He,n)=0.
1867.21 *21*	(6$^+$)		E	J$^\pi$: $\gamma(\theta)$ in ^{126}Te(^{3}He,3nγ). (E2) γ to 4$^+$.
1903.13[h] *7*	4$^+$		G	
1903.50[e] *5*	5$^+$		A DEFG J L	
2004.88[i] *6*	3$^{(-)}$		A C G	
2042.10[g] *11*	4$^{(+)}$		G	
2064.0 *4*	2$^{(+)}$	≤0.29 ps	A G	$T_{1/2}$: from DSAM in (α,nγ) (2000Ga08).
2086.30 *6*	2$^+$	≤1.8 ps	A C G	J$^\pi$: γ's to 0$^+$ and 4$^+$, log *ft*=6.78 *3* from 1$^+$.
2187.94 *18*			E	
2214.32[f] *7*	6$^+$		DEFG J L	
2215.18 *7*	(1,2$^+$)		A	J$^\pi$: γ's to 0$^+$ and 2$^+$.
2228.65 *7*	(1,2$^+$)[@]	≤1.6[a] ps	A K	
2258.79 *21*	(4,5)		G	
2262.48 *11*	(3)	≤0.46 ps	G	$T_{1/2}$: from DSAM in (α,nγ) (2000Ga08).
2301.56[k] *7*	5$^{(-)}$		CD G IJ	
2302.2 *5*			J	
2304.62 *7*	4$^{(-)}$		G	
2305.36 *9*	(2,3)		G	
2314.90 *9*	(3$^-$)		C G	
2321.56[j] *6*	4$^{(-)}$		G	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$&	XREF	Comments
2347.24 *5*	0^+,1,2		A	Jπ: log *ft*=6.159 *25* from 1^+; γ to 2^+.
2350.57 *7*	(2,3)		G	
2358.59 *7*	1^+	0.0292[a] ps *+26−23*	A G K	Jπ: γ ray angular distribution ratio in ^{126}Xe(γ,γ′), and γ ray transition strength to 0^+; (2^+) is reported from γ(θ) in ^{123}Te(α,nγ) (2000Ga08). $T_{1/2}$: other: < 0.070 ps from DSAM in (α,nγ) (2000Ga08).
2363.08[h] *7*	5^+		E G	
2395.30 *8*	(3,4^+)		G	
2414.29[i] *7*	$5^{(-)}$		C G J	
2419.24 *6*	1^+,2^+		A G	Jπ: log *ft*=6.66 *3* from 1^+; γ(θ) in ^{123}Te(α,nγ).
2435.71[c] *10*	8^+	0.8 ps *3*	DEFG IJ L	$T_{1/2}$: calculated from B(E2) value which was quoted in 2000Ga18 as an unpublished result.
2455.324 *23*	2^+	0.13 ps *3*	A C	Jπ: γ′s to 0^+ and 4^+, log *ft*=5.68 *3* from 1^+.
2489.36 *5*	(2^+)	≤0.25 ps	A G	$T_{1/2}$: from DSAM in (α,nγ) (2000Ga08).
2492.61 *8*	(6^+)		G	
2502.56 *5*	0^+,1,2		A	Jπ: log *ft*=5.924 *24* from 1^+; γ′s to 2^+.
2515.21 *11*	(3)		G	
2520.87 *8*	0^+,1,2		A G	Jπ: log *ft*=6.65 *4* from 1^+; γ′s to 2^+.
2525.7 *3*			G	
2537.78 *11*	4		G	
2553.03 *10*	0^+		A	Jπ: E0 to 0^+.
2562.14[l] *8*	6^-		DEFG J	
2565.16 *4*			A G	Jπ: 2000Ga08 reported J=(3^+) from γγ(θ). However, this assignment is inconsistent with log *ft*=6.14 *3* from 1^+.
2566.8 *4*	1[@]	0.09[a] ps *3*	K	
2591.40[n] *8*	7^-	<0.2 ns	DE G IJ	$T_{1/2}$: from centroid shift (1996Ko16); see 2758-keV level.
2594.7 *5*			G	
2598.59 *9*	5		G	
2603.9 *5*			G	
2608.88 *8*	(4,5)		G	
2622.92 *9*	5,6		G	
2631.8 *4*			G	
2632.4 *5*			G	
2642.4 *3*			G	
2661.43[e] *12*	7^+		DE G J L	
2664.56 *8*	$6^{(+)}$		G	
2677.85[k] *8*	7^-		DE G IJ	
2681.0 *5*			G	
2685.7 *5*			G	
2694.7 *4*			G	
2702.2 *4*			G	
2739.7 *5*			G	
2741.86 *9*	$5^{(-)}$		G	
2753.6 *3*	3^+,4,5^+		G	Jπ: γ′s to 3^+ and 5^+.
2756.9 *5*			G	
2758.22[m] *11*	8^-	1.4 ns *2*	DE G IJ	$T_{1/2}$: weighted av. of 1.3 *2* from centroid shift (1996Ko16) and 1.9 *5* from γγ(t)-coin (1982Ha44). The latter value was given as the half-life of 2591-keV 7^- level; other: 1993Se01 quote unpublished result of 1.51 ns.
2759.46 *10*			A G	
2762.60[j] *6*	6^-		G	
2765.6 *5*	(3^+,5^+)		G	Jπ: from γγ(θ) in ^{123}Te(α,nγ).
2768.0 *5*	1[@]	0.72[a] ps *+36−18*	K	

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Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)[†]	Jπ[‡]	T$_{1/2}$[&]	XREF	Comments
2779.8 *7*			G	
2788.16 *10*	(5$^+$,6$^-$)		G	
2790.0 *3*	(5)		G	Jπ: from γγ(θ) in ^{123}Te(α,nγ).
2796.42 *8*	0$^+$,1,2		A G	Jπ: log *ft*=6.07 *3* from 1$^+$; γ′s to 2$^+$.
2801.0 *5*			G	
2811.6 *4*			G	
2818.7 *5*			G	
2830.9 *4*			G	
2847.0 *5*	1[@]	0.32[a] ps *+6−4*	K	
2848.6 *4*			G	
2850.4 *5*			G	
2859.7 *5*			G	
2875.5 *5*	(5$^+$,7$^+$)		G	Jπ: from γγ(θ) in ^{123}Te(α,nγ).
2877.3 *4*			G	
2878.3 *3*			G	
2881.00[i] *9*	7$^-$		D G J	
2884.7 *4*			G	
2885.0 *4*			G	
2885.5 *5*			G	
2893.18 *5*	2$^+$		A	Jπ: γ′s to 0$^+$ and 4$^+$.
2898.0 *5*			G	
2907.6 *4*	3$^+$,4,5$^+$		G	Jπ: γ′s to 3$^+$ and 5$^+$.
2915.0 *4*			G	
2918.9 *3*	1[@]	4.35[a] fs *+25−23*	K	
2929.0 *5*			G	
2934.7 *5*	(5$^+$,7$^+$)		G	Jπ: from γγ(θ) in ^{123}Te(α,nγ).
2941.58 *23*			G	
2941.9 *5*			G	
2948.0 *3*			G	
2950.8 *4*	1[@]	20.9[a] fs *+23−21*	K	
2952.31 *9*	(7,8)		G	
2953.0 *5*			G	
2962.12 *11*			A G	
2965.9 *5*			G	
2973.9 *4*	(4,5,6)		G	Jπ: γ′s to 4$^+$ and (6$^+$).
2994.1 *4*			G	
2996.1 *5*			G	
2999.0 *5*			G	
3001.7 *5*			G	
3003.0 *5*			G	
3025.9 *5*			G	
3049.7 *4*			G	
3050.1 *5*			G	
3051.5 *4*			G	
3061.70[f] *24*	8$^+$		D G J L	Jπ: From band structure and γ ray DCO ratio in (^{9}Be,5nγ).
3064.31[n] *13*	9$^-$		DE G IJ	
3073.0 *5*			G	
3075.6 *5*			G	
3084.8 *5*			G	
3091.0 *4*			G	
3094.25[l] *15*	(8$^-$)		D G J	
3099.3 *4*			G	
3106.0 *5*			G	
3117.20[o] *13*	(8$^+$)		D G J	

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Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	$T_{1/2}$[&]	XREF	Comments
3123.6 *5*			G	
3132.0 *5*	1[@]	0.37[a] ps *+9−6*	K	
3156.4 *4*			G	
3157.4 *6*			G	
3160.0 *5*	1[@]	0.40[a] ps *+10−7*	K	
3170.3 *5*			G	
3188.6 *5*			G	
3194.7 *5*			G	
3195.9 *4*	1[@]	10[a] fs *3*	K	
3196.0 *5*			G	
3198.00[j] *10*	(8^{-})		D G J	
3209.0 *5*	1[@]	0.198[a] ps *+30−23*	K	
3217.6 *5*			G	
3218.3 *4*			G	
3219.02[k] *10*	(9^{-})		D G IJ	
3236.0 *5*	1[@]	0.35[a] ps *+11−7*	K	
3243.0 *5*			G	
3252.1 *4*			G	
3254.0 *5*	1[@]	16.1[a] fs *+12−10*	K	
3271.0 *5*			G	
3286.7 *5*			G	
3294.69[i] *16*	9^{-}[#]		D G J	
3298.0 *5*			G	
3312.7 *4*			G	
3313.3 *5*			G	
3314.15[d] *16*	10^{+}		DE G J	
3329.0 *5*			G	
3359.68[c] *14*	10^{+}		DE G J	
3360.0 *5*			G	
3369.4 *6*			G	
3381.4 *5*			G	
3383.80[o] *14*	(9^{+})		D G J	
3386.9 *5*			G	
3396.1 *5*			G	
3427.9 *4*	1[@]	12.6[a] fs *9*	K	
3446.32[m] *14*	10^{-}		D G J	
3461.9 *4*	1[@]	0.101[a] ps *+30−23*	K	
3471.1 *5*			G	
3508.1 *5*	1[@]	0.25[a] ps *+10−6*	K	
3520.43[e] *16*	9^{+}		D G J L	J$^{\pi}$: From band structure and γ ray DCO ratio in (^{9}Be,5nγ).
3521.2 *6*			G	
3544.0 *5*			G	
3578.7 *5*			G	
3591.9 *6*			G	
3625.7 *5*			G	
3760.07[l] *20*	(10^{-})[#]		D J	
3783.31[n] *18*	11^{-}		D G J	
3791.1 *5*	1[@]	0.046[a] ps *6*	K	
3875.29[j] *17*	(10^{-})[#]		D J	
3884.58[d] *16*	12^{+}		DE J	
3905.0 *4*	1[@]	0.015[a] ps *4*	K	

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Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)[†]	Jπ[‡]	XREF		E(level)[†]	Jπ[‡]	XREF	
3920.90[k] 19		D	J	7587.4[d] 6	20+#	D	J
3963.86[i] 21	11−#	D	J	7615.6[p] 7	19(+)#	D	J
3998.5[o] 3		D	J	7757.2[s] 5	20(−)#		J
4240.72[m] 20	12−#	D	J	8001.0[m] 8	20−#		J
4274.41[c] 24	12+#	D	J	8013.4[u] 8	20+#		J
4532.4[l] 3	(12−)#	D	J	8037.7[p] 7	20(+)#	D	J
4566.8[n] 3	13−#	D	J	8166.3[r] 5	21−#		J
4597.16[j] 21	(12−)#	D	J	8235.7[n] 5	21−#		J
4619.50[d] 21	14+#	DE	J	8433.3[p] 7	21(+)#	D	J
4701.1 3		D		8646.5[s] 5	22(−)#		J
4732.84[k] 23	13−#	D	J	8745.2[d] 6	22+#	D	J
4737.3[i] 3	13−#	D	J	8837.8[v] 7	22+#		J
4769.2[o] 3		D	J	8927.2[p] 7	22+#		J
5090.0[b] 4	14+#	D	J	9018.8[t] 9	(22−)#		J
5097.2[m] 4	14−#	D	J	9034.1[m] 10	22−#		J
5264.2 5	14+#		J	9054.6[u] 9	22+#		J
5334.0[j] 3	14(−)#		J	9258.7[r] 6	23−#		J
5365.9[l] 5	(14−)#		J	9369.8[n] 6	23−#		J
5392.8[n] 3	15−#	D	J	9457.5[p] 7	23(+)#		J
5508.8[d] 4	16+#	D	J	9751.5[s] 6	24(−)#		J
5636.3 4		D		9876.0[q] 7	24+#		J
5694.8[o] 4		D	J	9915.9[d] 7	24+#		J
5726.9[r] 4	15−#		J	9916.2[p] 7	24(+)#		J
5923.1[b] 5	16+#	D	J	9968.7[u] 7	24+#		J
5955.3[s] 4			J	10040.8[t] 8	24(−)#		J
6013.5[m] 4	16−#	D	J	10161.7[u] 9	24+#		J
6126.1[u] 8	16+#		J	10408.9[r] 6	25−#		J
6199.0[j] 5	(16−)#		J	10507.8[p] 7	25(+)#		J
6249.0[n] 4	17−#	D	J	10524.7[n] 7	25−#		J
6256.2[l] 7	(16−)#		J	10909.7[p] 7	26(+)#		J
6346.1[r] 4	17−#		J	10930.1[s] 7	26(−)#		J
6509.7[d] 5	18+#	D	J	10933.0[q] 8	26+#		J
6597.6[p] 7	16+#	D	J	11083.4 7	26(−)#		J
6611.1 7	16+#		J	11130.6[t] 7	26(−)#		J
6876.6[p] 6	17(+)#	D	J	11151.6[v] 8	26+#		J
6916.0[s] 5	18(−)#		J	11335.3[u] 9	26+#		J
6982.5[m] 7	18−#		J	11530.1[p] 9	(27+)#		J
7039.1[u] 6	18+#		J	11579.9[r] 7	27−#		J
7186.0[n] 4	19−#	D	J	11678.8[n] 7	27−#		J
7208.0[r] 4	19−#		J	12049.2[s] 8	28(−)#		J
7245.2 7	18#		J	12093.2[q] 10	28+#		J
7252.7[p] 7	18(+)#	D	J	12282.4[t] 8	28(−)#		J
7297.6?[l] 11	(18−)#		J	12448.8[v] 9	28+#		J

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Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
12572.7[u] 9	28+#	J	
12849.1 10		J	
12854.6[n] 9	29−#	J	
13247.4[q] 11	30+#	J	
13332.7[s] 9	30(−)#	J	
13526.9[t] 9	30(−)#	J	
13858.4[v] 9	30+#	J	
13891.8[u] 10	30+#	J	
14859.0[t] 11	32(−)#	J	
15261.0[u] 10	32+#	J	
16290.5[t] 12	34(−)#	J	
16733.3[u] 11	34+#	J	
17831.2[t] 13	36(−)#	J	
18298.6[u] 12	36+#	J	
19489.4[t] 14	38(−)#	J	
19960.1[u] 13	38+#	J	
21270.7[t] 15	40(−)#	J	
21716.7[u] 14	40+#	J	
23178.1[t] 16	42(−)#	J	
23568.8[u] 15	42+#	J	
25214.9[t] 16	44(−)#	J	
25516.3[u] 16	44+#	J	
27378.6[t] 17	46(−)#	J	
27558.2[u] 17	46+#	J	
29662.4[t] 18	48(−)#	J	
29696.1[u] 17	48+#	J	
31927.1[u] 18	50+#	J	
32016.4[t] 19	50(−)#	J	
32083.4 19		J	
34244.2[u] 19	52+#	J	
34365.4[t] 19	(52−)#	J	
34533.4 19		J	
36605.1[u] 20	54+#	J	
36807.5[t] 20	(54−)#	J	
38941.4[u] 20	56+#	J	
39322.5[t] 21	(56−)#	J	
0.0+x[x]	(23−)#	J	Additional information 1.
1034.7+x[x] 5	(25−)#	J	
2184.2+x[x] 7	(27−)#	J	
3453.0+x[x] 9	(29−)#	J	
4839.6+x[x] 10	(31−)#	J	
6341.8+x[x] 12	(33−)#	J	
7944.7+x[x] 13	(35−)#	J	
9654.3+x[x] 14	(37−)#	J	

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Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
10255.8+x *14*		J	
11477.6+x[x] *15*	(39$^-$)[#]	J	
13417.2+x[x] *15*	(41$^-$)[#]	J	
15467.0+x[x] *16*	(43$^-$)[#]	J	
17617.0+x[x] *17*	(45$^-$)[#]	J	
19853.8+x[x] *18*	(47$^-$)[#]	J	
22174.7+x[x] *18*	(49$^-$)[#]	J	
24599.1+x?[x] *19*	(51$^-$)[#]	J	
0.0+y[w]	(23$^+$)[#]	J	Additional information 2.
1156.4+y[w] *5*	(25$^+$)[#]	J	
2380.6+y[w] *7*	(27$^+$)[#]	J	
3673.3+y[w] *9*	(29$^+$)[#]	J	
5043.4+y[w] *10*	(31$^+$)[#]	J	
6488.3+y[w] *12*	(33$^+$)[#]	J	
8014.4+y[w] *13*	(35$^+$)[#]	J	
9624.1+y[w] *14*	(37$^+$)[#]	J	
11320.9+y[w] *15*	(39$^+$)[#]	J	
13107.6+y[w] *15*	(41$^+$)[#]	J	
14984.8+y[w] *16*	(43$^+$)[#]	J	
16953.3+y[w] *17*	(45$^+$)[#]	J	
19004.1+y[w] *18*	(47$^+$)[#]	J	
21097.2+y[w] *18*	(49$^+$)[#]	J	
23226.6+y[w] *19*	(51$^+$)[#]	J	
25414.0+y[w] *20*	(53$^+$)[#]	J	
27673.7+y[w] *20*	(55$^+$)[#]	J	
30018.2+y[w] *21*	(57$^+$)[#]	J	
32345.9+y?[w] *22*	(59$^+$)[#]	J	

[†] From a least-squares fit to the adopted Eγ's. If $\Delta E\gamma$ is not given, the evaluators have assigned 0.5 keV.
[‡] $\gamma(\theta)$, linear polarization, and band structure in ^{123}Te(α,nγ) and ^{116}Cd(^{13}C,3nγ), unless otherwise noted.
[#] From band structure and γ ray angular distribution ratio in ^{82}Se(^{48}Ca,4nγ).
[@] γ ray angular distribution ratio in ^{126}Xe(γ,γ').
[&] From Coulomb excitation, unless otherwise noted.
[a] Calculated from Γ_0 in ^{126}Xe(γ,γ') and adopted branching.
[b] Band(A): Band 1, (π,α)=(+,0), Based on configuration=(π h$_{11/2}$)^2.
[c] Band(B): band 2, ground-state band, (π,α)=(+,0).
[d] Band(C): Band 3, (π,α)=(+,0), based on configuration=(ν h$_{11/2}$)^2.
[e] Band(D): band 4, (π,α)=(+,1) quasi−γ band.
[f] Band(E): band 5, (π,α)=(+,0) quasi−γ band.
[g] Band(F): band ^{6,}K=0$^+$ band π=+.
[h] Band(G): band ^{7,}K=4$^+$ band.
[i] Band(H): Band 8, (π,α)=(-,1), signature partner of band 9, low K, based on ν(h$_{11/2}$+g$_{7/2}$) or π(h$_{11/2}$+d$_{5/2}$).
[j] Band(I): Band 9, (π,α)=(-,0), signature partner of band 8, low K, based on ν(h$_{11/2}$+g$_{7/2}$) or π(h$_{11/2}$+d$_{5/2}$).
[k] Band(J): Band 10, (π,α)=(-,1), signature partner of band 11, low K, based on ν(h$_{11/2}$+g$_{7/2}$) or π(h$_{11/2}$+d$_{5/2}$).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{126}Xe Levels (continued)

[l] Band(K): Band 11, (π,α)=(-,0), signature partner of band 10, low K, based on $\nu(h_{11/2}+g_{7/2})$ or $\pi(h_{11/2}+d_{5/2})$.
[m] Band(L): Band 12, (π,α)=(-,0), coupled band with band 13, high K, based on $\nu(h_{11/2}+g_{7/2})$.
[n] Band(M): Band 13, (π,α)=(-,1), coupled band with band 12, high K, based on $\nu(h_{11/2}+g_{7/2})$.
[o] Band(N): band 14.
[p] Band(O): band 15.
[q] Band(P): BAND 16.
[r] Band(Q): BAND 17, (π,α)=(-,1), signature partner of band 18.
[s] Band(R): BAND 18, (π,α)=(-,0), signature partner of band 17.
[t] Band(S): BAND a, (π,α)=(-,0), signature partner of band d, Configuration=$\pi(g^2_{7/2}\otimes h^2_{11/2})$ $\nu(i_{13/2}\otimes h_{11/2})$.
[u] Band(T): BAND b, (π,α)=(+,0), signature partner of band c, Configuration=$\pi(g_{7/2}\otimes h_{11/2})$ $\nu(i_{13/2}\otimes h_{11/2})$.
[v] Band(U): BAND b+, (π,α)=(+,0).
[w] Band(V): BAND c, (π,α)=(+,1), signature partner of band b, Configuration=$\pi(g_{7/2}\otimes h_{11/2})$ $\nu(i_{13/2}\otimes h_{11/2})$, based on a level of unknown level energy.
[x] Band(W): BAND d, (π,α)=(-,1), signature partner of band a, Configuration=$\pi(g^2_{7/2}\otimes h^2_{11/2})$ $\nu(i_{13/2}\otimes h_{11/2})$, based on a level of unknown level energy.

Adopted Levels, Gammas (continued)

γ(^{126}Xe)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
388.632	2^+	388.633 *11*	100	0.0	0^+	E2		0.0187	B(E2)(W.u.)=44 *4* E_γ: from ^{126}I β^- decay.
879.872	2^+	491.243 *11*	100.0& *3*	388.632	2^+	M1+E2	+9.1 *+43−23*		B(M1)(W.u.)=0.00020 *20*; B(E2)(W.u.)=47 *9* E_γ: from ^{126}I β^- decay. δ: from γγ(θ) in ^{126}I ε decay.
		879.876 *13*	26.2& *4*	0.0	0^+	E2			B(E2)(W.u.)=0.68 *12* E_γ: from ^{126}I β^- decay.
942.00	4^+	553.38‡ *5*	100‡	388.632	2^+	E2			B(E2)(W.u.)=76 *12*
1313.88	0^+	434.01 *5*	24.5& *12*	879.872	2^+	E2		0.01345	B(E2)(W.u.)=69 *13*
		925.24 *5*	100.0& *16*	388.632	2^+	E2			B(E2)(W.u.)=6.4 *12*
1317.680	3^+	375.66 *9*	18.5& *7*	942.00	4^+	M1+E2		0.0218 *12*	E_γ: from weighted av from (^{13}C,3nγ) and (α,nγ).
		437.85 *5*	100.0& *3*	879.872	2^+	M1+E2	+8 *+3−2*	0.01314	B(M1)(W.u.)=0.00025 *19*; B(E2)(W.u.)=56 *9* E_γ: from ^{126}Cs ε decay.
		929.08 *5*	94.9 *11*	388.632	2^+	M1+E2	+1.6 *+3−7*		B(M1)(W.u.)=0.00045 *14*; B(E2)(W.u.)=0.91 *18* E_γ: from ^{126}Cs ε decay. I_γ: weighted av from all datasets with γ's except(^{13}C,3nγ); other: Iγ(929)/Iγ(438)=1.65 *13* in (^{13}C,3nγ).
1488.38	4^+	170.9[f] *2*	3.8 *13*	1317.680	3^+	[M1,E2]		0.23 *5*	E_γ,I_γ: from (^{3}He,3nγ),(α,4nγ).
		546.4 *1*	50.4& *4*	942.00	4^+	M1+E2	+3.0 *+10−9*		B(M1)(W.u.)=0.0014 *9*; B(E2)(W.u.)=30 *4*
		608.5 *1*	100.0& *5*	879.872	2^+	E2			B(E2)(W.u.)=38 *5*
		1099.8 *1*	21.1& *3*	388.632	2^+	E2			B(E2)(W.u.)=0.42 *5*
1634.99	6^+	692.93 *13*	100	942.00	4^+	E2			B(E2)(W.u.)=89 *16* E_γ,I_γ: from (^{3}He,3nγ),(α,4nγ).
1678.573	2^+	360.86‡ *5*	15.16‡ *11*	1317.680	3^+				
		364.70‡ *5*	29.0‡ *5*	1313.88	0^+	E2		0.0226	B(E2)(W.u.)=40 *6*
		736.54‡ *5*	25.3‡ *5*	942.00	4^+	E2			B(E2)(W.u.)=1.05 *15*
		798.65‡ *5*	71.5‡ *11*	879.872	2^+	M1(+E2)			
		1289.87‡ *5*	43.6‡ *11*	388.632	2^+	M1,E2			
		1678.51‡ *5*	100.0‡ *22*	0.0	0^+				
1760.55	0^+	881	13 *3*	879.872	2^+				E_γ,I_γ: from Coulomb excitation.
		1371.9 *1*	100 *4*	388.632	2^+				E_γ: from ^{126}Cs ε decay. I_γ: from Coulomb excitation.
1867.21	(6^+)	925.2 *2*	100	942.00	4^+	(E2)			E_γ,I_γ: from (^{3}He,3nγ),(α,4nγ). Mult.: from ^{126}Te(^{3}He,3nγ).
1903.13	4^+	414.8 *2*		1488.38	4^+				

$^{126}_{54}Xe_{72}$-9

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
1903.13	4$^+$	585.3 *2*		1317.680	3$^+$				
		961.2 *2*		942.00	4$^+$				
		1023.2 *1*	100.0 *14*	879.872	2$^+$	E2			
1903.50	5$^+$	268.5 *2*	1.39 *15*	1634.99	6$^+$	D+Q			
		415.1 *1*	16.8[&] *16*	1488.38	4$^+$	M1+E2	+9 *+50−4*	0.0154	δ: from ^{126}Te(^{3}He,3nγ).
		585.8 *2*	100.0[&] *6*	1317.680	3$^+$	E2			
		961.6 *1*	45.0[&] *11*	942.00	4$^+$	M1+E2	+0.8 *3*		
2004.88	3$^{(-)}$	1062.9 *1*	20.7 *6*	942.00	4$^+$	(E1)			
		1126	3.28 *23*	879.872	2$^+$				E_γ,I_γ: from Coulomb excitation.
		1616.2 *1*	100.0 *17*	388.632	2$^+$	(E1)			E_γ: from ^{126}Cs ε decay.
		2005		0.0	0$^+$				E_γ: from Coulomb excitation.
2042.10	4$^{(+)}$	363.4 *2*	4.5 *23*	1678.573	2$^+$	Q			
		1100.2 *2*		942.00	4$^+$	D+Q	+0.19 *7*		
		1653.5 *2*	100.0 *23*	388.632	2$^+$	(Q)			
2064.0	2$^{(+)}$	1184.0 *5*	37.5 *11*	879.872	2$^+$	(M1+E2)			I_γ: from ^{126}Cs ε decay; other: Iγ(1184)/Iγ(1676)=0.76 *4* in (α,nγ).
		1675.5 *5*	100 *3*	388.632	2$^+$	D(+Q)	+0.00 *5*		I_γ: from ^{126}Cs ε decay.
2086.30	2$^+$	1144.4[‡] *1*	57[‡] *3*	942.00	4$^+$				
		1206.4[‡] *1*	100[‡] *3*	879.872	2$^+$	D+Q	+0.9 *+5−3*		Mult.: from γγ(θ) in ^{123}Te(α,nγ).
		2086.2[‡] *1*	27.4[‡] *21*	0.0	0$^+$				
2187.94		1245.93 *17*	100	942.00	4$^+$				E_γ,I_γ: from (^{3}He,3nγ),(α,4nγ).
2214.32	6$^+$	579.3 *1*	27.9[&] *4*	1634.99	6$^+$	M1+E2	+0.7 *2*		
		725.9 *1*	100.0[&] *11*	1488.38	4$^+$	E2			
		1272.1 *2*	10.4[&] *4*	942.00	4$^+$	E2			
2215.18	(1,2$^+$)	1826.9[‡] *1*	100[‡] *5*	388.632	2$^+$				
		2214.8[‡] *1*	24[‡] *4*	0.0	0$^+$				
2228.65	(1,2$^+$)	1348.9[‡] *1*	100[‡] *6*	879.872	2$^+$				
		1839.9[‡] *1*	100[‡] *6*	388.632	2$^+$				
		2228		0.0	0$^+$	(Q)[c]			E_γ: from ^{126}Xe(γ,γ′).
2258.79	(4,5)	770.4 *2*	100	1488.38	4$^+$				
2262.48	(3)	944.8 *1*	100 *3*	1317.680	3$^+$	D+Q			
		1382.1 *19*	26.9 *15*	879.872	2$^+$				
2301.56	5$^{(-)}$	666.3 *2*	29.6 *14*	1634.99	6$^+$	(E1)			
		813.0 *3*	3.1 *5*	1488.38	4$^+$				
		1359.4 *1*	100 *2*	942.00	4$^+$	(E1)			
2302.2		670.3[f]	100	1634.99	6$^+$				E_γ,I_γ: from ^{82}Se(^{48}Ca,4nγ).
2304.62	4$^{(-)}$	401.4 *3*	13.3 *15*	1903.13	4$^+$				

$^{126}_{54}Xe_{72}$-10

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
2304.62	4(−)	816.2 *1*	25.2 *7*	1488.38	4+	(E1)			
		987.0 *1*	100 *4*	1317.680	3+	(E1)			
2305.36	(2,3)	1425.8 *1*	100	879.872	2+				
2314.90	(3−)	1373	45 *4*	942.00	4+				E_γ,I_γ: from Coulomb excitation.
		1435.1 *1*	100 *4*	879.872	2+				
		1925.9 *2*	21.9 *14*	388.632	2+				
2321.56	4(−)	316.7 *1*	26.4 *7*	2004.88	3(−)				
		1003.9 *2*	45.1 *14*	1317.680	3+	(E1)			
		1379.6 *1*	100 *2*	942.00	4+	(E1)			
2347.24	0+,1,2	1958.59[‡] *5*	100[‡]	388.632	2+				
2350.57	(2,3)	1032.9 *1*	84.4 *22*	1317.680	3+				
		1408.3 *3*	37.8 *22*	942.00	4+				
		1470.7 *1*	100 *7*	879.872	2+				
2358.59	1+	1969.8 *1*	86 *11*	388.632	2+	[M1+E2]	+0.8 *+10−5*		B(M1)(W.u.)=0.03 *3*; B(E2)(W.u.)=3 *+5−3* E_γ: from ^{126}Cs ε decay. I_γ: from ^{126}Xe(γ,γ′); other: Iγ(1970)/Iγ(2359)=0.73 *22* in ^{126}Cs ε decay.
		2358.7 *1*	100	0.0	0+	[M1][c]			B(M1)(W.u.)=0.031 *+3−4* E_γ: from ^{126}Cs ε decay. I_γ: from ^{126}Xe(γ,γ′).
2363.08	5+	459.8 *1*	55.9 *10*	1903.50	5+	M1,E2		0.0126 *13*	
		460.0 *2*		1903.13	4+				
		727.7 *2*	31.4 *10*	1634.99	6+	M1,E2			E_γ: not reported in (^{3}He,3nγ).
		874.5 *2*	28.4 *10*	1488.38	4+	M1+E2			E_γ: not reported in (^{3}He,3nγ).
		1045.3 *1*	100.0 *20*	1317.680	3+	E2			E_γ: not reported in (^{3}He,3nγ).
2395.30	(3,4+)	906.8 *1*	33 *3*	1488.38	4+				
		1077.2 *2*	20.0 *17*	1317.680	3+				
		1453.5 *1*	100 *3*	942.00	4+	D+Q			
2414.29	5(−)	409.6 *3*	2.1 *7*	2004.88	3(−)				
		779.2 *2*	8 *6*	1634.99	6+	(E1)			
		926.1 *1*	31 *3*	1488.38	4+	(E1)			
		1472.1 *1*	100 *3*	942.00	4+	D(+Q)[b]			
2419.24	1+,2+	1101.8[‡] *1*	36[‡] *4*	1317.680	3+				
		1539.4[‡] *1*	100[‡] *4*	879.872	2+				
		2030.3[‡] *1*	56[‡] *3*	388.632	2+				
2435.71	8+	800.85 *14*	100	1634.99	6+	E2			B(E2)(W.u.)=57 *22* E_γ,I_γ: from (^{3}He,3nγ),(α,4nγ).
2455.324	2+	776.74[‡] *1*	1.8[‡] *6*	1678.573	2+				

$^{126}_{54}Xe_{72}$-11

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	Comments
2455.324	2+	1137.9[‡] *1*	5.5[‡] *4*	1317.680	3+			
		1513.6[‡] *1*	9.2[‡] *4*	942.00	4+			
		1575.6[‡] *1*	24.8[‡] *6*	879.872	2+			
		2066.8[‡] *1*	100.0[‡] *24*	388.632	2+			
		2455.3[‡] *1*	18.2[‡] *5*	0.0	0+			
2489.36	(2+)	1609.43[‡] *5*	100.0[‡] *20*	879.872	2+	D+Q		
		2100.9[‡] *1*	36.9[‡] *11*	388.632	2+			
2492.61	(6+)	857.7 *1*	100.0 *21*	1634.99	6+	(M1,E2)		
		1004.2 *2*		1488.38	4+			E_γ: not reported in (^{3}He,3nγ).
		1550.5 *1*	20.0 *11*	942.00	4+			E_γ: not reported in (^{3}He,3nγ).
2502.56	0+,1,2	1622.65[‡] *5*	100.0[‡] *15*	879.872	2+			
		2114.0[‡] *1*	3.3[‡] *3*	388.632	2+			
2515.21	(3)	1573.2 *1*	100	942.00	4+			
2520.87	0+,1,2	1641.1[‡] *1*	30[‡] *3*	879.872	2+			
		2132.1[‡] *1*	100[‡] *3*	388.632	2+			
2525.7		521		2004.88	3(−)			
		847		1678.573	2+			
		1208		1317.680	3+			
2537.78	4	1220.1 *1*	100	1317.680	3+			
2553.03	0+	2553.0 *1*		0.0	0+	E0		E_γ: from ^{126}Cs ε decay.
2562.14	6−	257.1 *1*	2.9 *10*	2304.62	4(−)			
		259.9	50 *30*	2302.2				E_γ,I_γ: from ^{82}Se(^{48}Ca,4nγ).
		260.4 *1*	19 *1*	2301.56	5(−)	D+Q	−0.5 *+2−17*	
		347.5[f] *3*	23 *6*	2214.32	6+			E_γ,I_γ: from (p,nγ).
		658.5 *2*	100 *1*	1903.50	5+	E1		
		927.1[f]	<5	1634.99	6+			E_γ,I_γ: from ^{82}Se(^{48}Ca,4nγ).
2565.16		1247.49[‡] *5*	37.5[‡] *14*	1317.680	3+			
		2176.50[‡] *5*	100[‡] *2*	388.632	2+			
2566.8	1	2178[@]	1.3×10^2[@] *5*	388.632	2+			
		2567[@]	100[@]	0.0	0+	D[c]		
2591.40	7−	289.9 *2*	3.7 *5*	2301.56	5(−)			
		377.1 *1*	12.3 *5*	2214.32	6+			
		956.4 *1*	100.0 *11*	1634.99	6+	E1		B(E1)(W.u.)>1.3×10^{-6}
2594.7		2206		388.632	2+			
2598.59	5	184.5 *3*	18.6 *23*	2414.29	5(−)			
		1110.4 *2*	65.1 *23*	1488.38	4+			

$^{126}_{54}Xe_{72}$-12

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
2598.59	5	1656.5 *1*	100 *5*	942.00	4^+				
2603.9		1724		879.872	2^+				
2608.88	(4,5)	705.4 *1*	96 *11*	1903.50	5^+				
		973.9 *1*	100 *4*	1634.99	6^+				
		1120.6 *2*	79 *4*	1488.38	4^+				
		1666.0 *4*		942.00	4^+				
2622.92	5,6	408.6 *2*	22.1 *15*	2214.32	6^+				
		719.4 *2*		1903.50	5^+				
		719.5 *2*	16 *3*	1903.13	4^+				
		988.0 *1*	100 *7*	1634.99	6^+				
2631.8		1314		1317.680	3^+				
		1752		879.872	2^+				
2632.4		1144		1488.38	4^+				
2642.4		1154		1488.38	4^+				
		1700		942.00	4^+				
		1763		879.872	2^+				
2661.43	7^+	447.4 *2*	2.6 *9*	2214.32	6^+				
		757.8 *2*	100 *13*	1903.50	5^+	E2			
		1026.6[f]	3.1 *10*	1634.99	6^+				E_γ,I_γ: from (^{9}Be,5nγ).
2664.56	$6^{(+)}$	622.5 *2*	78 *3*	2042.10	$4^{(+)}$	(E2)			
		1029.4 *1*	72 *3*	1634.99	6^+				
		1722.7 *1*	100 *6*	942.00	4^+	(E2)			
2677.85	7^-	376.2 *1*	≤30	2301.56	$5^{(-)}$				
		463.3 *2*	11 *1*	2214.32	6^+				
		1042.9 *1*	100 *8*	1634.99	6^+	E1			
2681.0		1739		942.00	4^+				
2685.7		2297		388.632	2^+				
2694.7		335.8		2358.59	1^+				
		1815.1		879.872	2^+				
2702.2		1214		1488.38	4^+				
		1760		942.00	4^+				
2739.7		1422		1317.680	3^+				
2741.86	$5^{(-)}$	420.6 *2*	100 *4*	2321.56	$4^{(-)}$	M1+E2	−0.9 +*7*−*17*	0.0161 *11*	
		737.0 *3*		2004.88	$3^{(-)}$				
		1253.5 *1*	96 *4*	1488.38	4^+	(E1)			
		1799.4 *2*	54 *4*	942.00	4^+				
2753.6	3^+,4,5^+	358.2		2395.30	$(3,4^+)$				
		850.0		1903.50	5^+				
		1265.4		1488.38	4^+				
		1435.8		1317.680	3^+				
2756.9		1877		879.872	2^+				

$^{126}_{54}Xe_{72}$-13

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
2758.22	8⁻	166.8 *1*	100 *2*	2591.40	7⁻	M1+E2	−3.9 *+13−19*	0.296 *7*	B(M1)(W.u.)=0.00014 *9*; B(E2)(W.u.)=53 *8* Mult.: α(K)exp and γ(θ) in ^{126}Te(^{3}He,3nγ). δ: from (α,nγ). Other: −7.1 *11* in (^{3}He,3nγ).
		322.5 *2*	18 *2*	2435.71	8⁺	[E1]			B(E1)(W.u.)=7.0×10^{-7} *13*
2759.46		2370.8[‡] *1*	100[‡]	388.632	2⁺				
2762.60	6⁻	348.3 *2*	28.1 *18*	2414.29	5(−)	(M1,E2)		0.0270 *9*	
		441.04 *2*	49 *5*	2321.56	4(−)	(E2)		0.0128	
		461.1 *2*	36.8 *18*	2301.56	5(−)				
		859.1 *1*	79 *4*	1903.50	5⁺	(E1)			
		1127.6 *1*	100 *2*	1634.99	6⁺	E1			δ: 0.0 *+12−4* in (α,nγ).
2765.6	(3⁺,5⁺)	1823.6		942.00	4⁺	D+Q			Mult.: from γγ(θ) in ^{123}Te(α,nγ).
2768.0	1	2768		0.0	0⁺	D[c]			E_γ: from ^{126}Xe(γ,γ′).
2779.8		715.8		2064.0	2(+)				
2788.16	(5⁺,6⁻)	226.2 *2*	17 *3*	2562.14	6⁻				
		483.6 *2*	100 *4*	2304.62	4(−)				
		884.6 *1*	93 *6*	1903.50	5⁺				
2790.0	(5)	376		2414.29	5(−)				
		1155		1634.99	6⁺				
		1847.8		942.00	4⁺	D+Q			Mult.: from γγ(θ) in ^{123}Te(α,nγ).
2796.42	0⁺,1,2	1916.7[‡] *1*	6.8[‡] *6*	879.872	2⁺				
		2407.6[‡] *1*	100[‡] *2*	388.632	2⁺				
2801.0		1859		942.00	4⁺				
2811.6		908		1903.50	5⁺				
		1494		1317.680	3⁺				
2818.7		2430		388.632	2⁺				
2830.9		617		2214.32	6⁺				
		1342		1488.38	4⁺				
2847.0	1	2847		0.0	0⁺	D[c]			E_γ: from ^{126}Xe(γ,γ′).
2848.6		527		2321.56	4(−)				
		1531		1317.680	3⁺				
2850.4		1362		1488.38	4⁺				
2859.7		2471		388.632	2⁺				
2875.5	(5⁺,7⁺)	1240.5		1634.99	6⁺	D+Q			Mult.: from γγ(θ) in ^{123}Te(α,nγ).
2877.3		1560		1317.680	3⁺				
		1997		879.872	2⁺				
2878.3		464		2414.29	5(−)				
		975		1903.50	5⁺				
		1936		942.00	4⁺				
2881.00	7⁻	466.7 *3*	2.1 *11*	2414.29	5(−)				E_γ: not reported in (^{13}C,3nγ).

$^{126}_{54}Xe_{72}$-14

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	Comments
2881.00	7$^-$	667.2 *2*	100 *5*	2214.32	6$^+$		E_γ: not reported in (^{13}C,3nγ).
		1245.8 *1*	41.8 *11*	1634.99	6$^+$	E1	
2884.7		286		2598.59	5		
		347		2537.78	4		
2885.0		207		2677.85	7$^-$		
		323		2562.14	6$^-$		
2885.5		982		1903.50	5$^+$		
2893.18	2$^+$	1951.1[‡] *1*	20[‡] *5*	942.00	4$^+$		
		2013.3[‡] *1*	58[‡] *3*	879.872	2$^+$		
		2504.6[‡] *1*	100[‡] *1*	388.632	2$^+$		
		2893.1[‡] *1*	12[‡] *1*	0.0	0$^+$		
2898.0		1956		942.00	4$^+$		
2907.6	3$^+$,4,5$^+$	1004		1903.50	5$^+$		
		1590		1317.680	3$^+$		
2915.0		600		2314.90	(3$^-$)		
		1012		1903.13	4$^+$		
2918.9	1	2039[@]	20.8[@] *24*	879.872	2$^+$		
		2530[@]	13.7[@] *13*	388.632	2$^+$		
		2919[@]	100[@]	0.0	0$^+$	D[c]	
2929.0		1987		942.00	4$^+$		
2934.7	(5$^+$,7$^+$)	1299.7		1634.99	6$^+$	D+Q	Mult.: from $\gamma\gamma(\theta)$ in ^{123}Te(α,nγ).
2941.58		380		2562.14	6$^-$		
		449		2492.61	(6$^+$)		
		527		2414.29	5$^{(-)}$		
		640		2301.56	5$^{(-)}$		
		727		2214.32	6$^+$		
2941.9		2062		879.872	2$^+$		
2948.0		185		2762.60	6$^-$		
		534		2414.29	5$^{(-)}$		
		647		2301.56	5$^{(-)}$		
		1044		1903.50	5$^+$		
2950.8	1	2562[@]	100[@] *15*	388.632	2$^+$		
		2951[@]	100[@]	0.0	0$^+$	D[c]	
2952.31	(7,8)	737.7 *1*	100 *8*	2214.32	6$^+$		
		1317.6 *1*		1634.99	6$^+$		
2953.0		2011		942.00	4$^+$		
2962.12		2020.1[‡] *1*	100[‡]	942.00	4$^+$		
2965.9		651		2314.90	(3$^-$)		

$^{126}_{54}Xe_{72}$-15

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	δ[d]	α[e]	Comments
2973.9	(4,5,6)	481		2492.61	(6$^+$)				
		1071		1903.13	4$^+$				
2994.1		231		2762.60	6$^-$				
		1091		1903.50	5$^+$				
2996.1		1093		1903.13	4$^+$				
2999.0		2057		942.00	4$^+$				
3001.7		1684		1317.680	3$^+$				
3003.0		1368		1634.99	6$^+$				
3025.9		2146		879.872	2$^+$				
3049.7		372		2677.85	7$^-$				
		748		2301.56	5$^{(-)}$				
3050.1		687		2363.08	5$^+$				
3051.5		616		2435.71	8$^+$				
		837		2214.32	6$^+$				
3061.70	8$^+$	626.4	13 *3*	2435.71	8$^+$				E$_\gamma$,I$_\gamma$: from (^{9}Be,5nγ).
		847.4	100	2214.32	6$^+$				
3064.31	9$^-$	306.1 *1*	100.0[&] *19*	2758.22	8$^-$	M1+E2	−1.0 *+6−8*	0.0392	Mult.: from ^{126}Te(^{3}He,3nγ). δ: other: −1.4 *+9−5* in (^{3}He,3nγ).
		473.0 *2*	48[&] *3*	2591.40	7$^-$	E2		0.0105	
		628.4	17 *3*	2435.71	8$^+$				E$_\gamma$,I$_\gamma$: from ^{82}Se(^{48}Ca,4nγ).
3073.0		2131		942.00	4$^+$				
3075.6		771		2304.62	4$^{(-)}$				
3084.8		461.9		2622.92	5,6				
3091.0		210		2881.00	7$^-$				
		1456		1634.99	6$^+$				
3094.25	(8$^-$)	416.3 *2*	74 *11*	2677.85	7$^-$				
		532.2 *2*	100 *5*	2562.14	6$^-$	(Q)			
3099.3		795		2304.62	4$^{(-)}$				
		2157		942.00	4$^+$				
3106.0		1471		1634.99	6$^+$				
3117.20	(8$^+$)	681.5 *1*	100	2435.71	8$^+$	(M1,E2)			
3123.6		802		2321.56	4$^{(-)}$				
3132.0	1	3132		0.0	0$^+$	D[c]			E$_\gamma$: from ^{126}Xe(γ,γ′).
3156.4		721		2435.71	8$^+$				
		1521		1634.99	6$^+$				
3157.4		496		2661.43	7$^+$				
3160.0	1	3160		0.0	0$^+$	D[c]			E$_\gamma$: from ^{126}Xe(γ,γ′).
3170.3		756		2414.29	5$^{(-)}$				
3188.6		426		2762.60	6$^-$				
3194.7		1877		1317.680	3$^+$				

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[a]	α[e]	Comments
3195.9	1	2807[@]	5.4×10^2[@] *14*	388.632	2$^+$			
		3196[@]	100[@]	0.0	0$^+$	D[c]		
3196.0		1561		1634.99	6$^+$			
3198.00	(8$^-$)	317.0 *1*		2881.00	7$^-$			I_γ: Iγ(317)/Iγ(762)>9.6 in ^{82}Se(^{48}Ca,4nγ).
		435.5 *2*	100 *5*	2762.60	6$^-$	(E2)	0.0133	
		536.8 *2*		2661.43	7$^+$			
		762.1 *2*	41 *5*	2435.71	8$^+$			
3209.0	1	3209		0.0	0$^+$	D[c]		E_γ: from ^{126}Xe(γ,γ′).
3217.6		916		2301.56	5$^{(-)}$			
3218.3		337		2881.00	7$^-$			
		456		2762.60	6$^-$			
3219.02	(9$^-$)	460.7	2.9 *8*	2758.22	8$^-$			E_γ,I_γ: from ^{82}Se(^{48}Ca,4nγ).
		541.1 *1*	76 *7*	2677.85	7$^-$	(E2)		I_γ: others: Iγ(541)/Iγ(783)=0.52 *4* in ^{82}Se(^{48}Ca,4nγ), <0.49 in (^{13}C,3nγ).
		783.4 *1*	100 *6*	2435.71	8$^+$	(E1)		
3236.0	1	3236		0.0	0$^+$	D[c]		E_γ: from ^{126}Xe(γ,γ′).
3243.0		1608		1634.99	6$^+$			
3252.1		574		2677.85	7$^-$			
		661		2591.40	7$^-$			
3254.0	1	3254		0.0	0$^+$	D[c]		E_γ: from ^{126}Xe(γ,γ′).
3271.0		1636		1634.99	6$^+$			
3286.7		851		2435.71	8$^+$			
3294.69	9$^-$	233.0[#] *2*	27.6 *24*	3061.70	8$^+$			I_γ: from (^{13}C,3nγ).
		413.5[#] *2*	100 *3*	2881.00	7$^-$	E2[b]	0.0155	I_γ: from (^{13}C,3nγ).
		617.1	44 *3*	2677.85	7$^-$			E_γ,I_γ: from ^{82}Se(^{48}Ca,4nγ).
3298.0		1663		1634.99	6$^+$			
3312.7		722		2591.40	7$^-$			
		1677		1634.99	6$^+$			
3313.3		704.4		2608.88	(4,5)			
3314.15	10$^+$	878.43 *16*	100	2435.71	8$^+$	E2		
3329.0		1694		1634.99	6$^+$			
3359.68	10$^+$	924.01 *12*	100	2435.71	8$^+$	E2		E_γ: from weighted av from (^{13}C,3nγ) and (^{3}He,3nγ),(α,4nγ).
3360.0		1725		1634.99	6$^+$			
3369.4		708		2661.43	7$^+$			
3381.4		790		2591.40	7$^-$			
3383.80	(9$^+$)	266.6 *1*	17 *6*	3117.20	(8$^+$)			
		722.3 *2*	100 *22*	2661.43	7$^+$	(E2)		
		948		2435.71	8$^+$			E_γ: from ^{82}Se(^{48}Ca,4nγ).
3386.9		722.3		2664.56	6$^{(+)}$			
3396.1		1033		2363.08	5$^+$			

$^{126}_{54}Xe_{72}$-17

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	α[e]	Comments
3427.9	1	3039[@]	33[@] *4*	388.632	2^+			
		3428[@]	100[@]	0.0	0^+	D[c]		
3446.32	10^-	382.0 *1*	48.4 *16*	3064.31	9^-	M1,E2	0.0209 *12*	I_γ: from (^{13}C,3nγ); others: Iγ(382)/Iγ(688)=0.27 *7* in (α,nγ), 0.66 *4* in ^{82}Se(^{48}Ca,4nγ).
		688.0 *2*	100 *3*	2758.22	8^-			I_γ: from (^{13}C,3nγ).
3461.9	1	3073[@]	50[@] *23*	388.632	2^+			
		3462[@]	100[@]	0.0	0^+	D[c]		
3471.1		806.5		2664.56	$6^{(+)}$			
3508.1	1	3508		0.0	0^+	D[c]		E_γ: from ^{126}Xe(γ,γ′).
3520.43	9^+	859.0 *1*	100	2661.43	7^+			
3521.2		763		2758.22	8^-			
3544.0		1909		1634.99	6^+			
3578.7		1143		2435.71	8^+			
3591.9		530.2		3061.70	8^+			
3625.7		1190		2435.71	8^+			
3760.07	(10^-)	541.2[#] *3*		3219.02	(9^-)			
		665.8[#] *2*		3094.25	(8^-)			
3783.31	11^-	336.9[#] *2*	18.1 *13*	3446.32	10^-			E_γ: not reported in (α,nγ).
		719.1 *2*	100 *3*	3064.31	9^-	E2		
3791.1	1	3791		0.0	0^+	D[c]		E_γ: from ^{126}Xe(γ,γ′).
3875.29	(10^-)	580.4[#] *2*	100 *14*	3294.69	9^-			
		677.4[#] *2*	26 *3*	3198.00	(8^-)			
3884.58	12^+	524.88 *12*	76.5 *17*	3359.68	10^+	Q		E_γ,I_γ: from weighted av from (^{13}C,3nγ) and (^{3}He,3nγ),(α,4nγ).
		570.40 *15*	100.0 *17*	3314.15	10^+	E2		E_γ,I_γ: from weighted av from (^{13}C,3nγ) and (^{3}He,3nγ),(α,4nγ).
3905.0	1	3025[@]	1.2×10^2[@] *4*	879.872	2^+			
		3905[@]	100[@]	0.0	0^+	D[c]		
3920.90		474.2	13.3 *15*	3446.32	10^-			
		701.9[#] *2*	100 *8*	3219.02	(9^-)			
3963.86	11^-	669.2[#] *2*	100	3294.69	9^-	E2[b]		
3998.5		614.5[#] *3*		3383.80	(9^+)			
		640		3359.68	10^+			
4240.72	12^-	457.4[#] *3*	44 *3*	3783.31	11^-			
		794.4[#] *2*	100 *3*	3446.32	10^-	E2[b]		
4274.41	12^+	914.6[#] *3*	100 *4*	3359.68	10^+	E2[b]		
		960.3[#] *3*	≤87	3314.15	10^+	E2[b]		

$^{126}_{54}Xe_{72}$-18

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]	Comments
4532.4	(12$^-$)	772.4[#] *3*	100	3760.07	(10$^-$)		
4566.8	13$^-$	325.2	6.5 *12*	4240.72	12$^-$		
		783.6[#] *3*	100 *5*	3783.31	11$^-$	E2[b]	
4597.16	(12$^-$)	633.4[#] *2*	43 *9*	3963.86	11$^-$		
		721.8[#] *2*	100 *9*	3875.29	(10$^-$)		
4619.50	14$^+$	734.88 *13*	100	3884.58	12$^+$	E2[b]	E_γ: from weighted av from (^{13}C,3nγ) and (^{3}He,3nγ),(α,4nγ).
4701.1		737.2[#] *2*	100	3963.86	11$^-$		
4732.84	13$^-$	492.3	25 *4*	4240.72	12$^-$		
		811.8[#] *2*	100 *8*	3920.90			
4737.3	13$^-$	773.0	100 *8*	3963.86	11$^-$	E2[b]	
		816.6[#] *3*	12 *3*	3920.90			
4769.2		494		4274.41	12$^+$		
		770.8[#] *2*		3998.5			
5090.0	14$^+$	466.9[f]	<3	4619.50	14$^+$		
		815.6[#] *3*	100 *18*	4274.41	12$^+$	E2[b]	
5097.2	14$^-$	530.0	34 *5*	4566.8	13$^-$		
		856.9[#] *4*	100 *19*	4240.72	12$^-$	E2[b]	
5264.2	14$^+$	990.3	100	4274.41	12$^+$	E2[b]	
5334.0	14$^{(-)}$	596.7	13 *5*	4737.3	13$^-$		
		600.8	87 *8*	4732.84	13$^-$		
		737.0	100 *17*	4597.16	(12$^-$)		
		801.7	3.5 *17*	4532.4	(12$^-$)		
5365.9	(14$^-$)	833.7	100	4532.4	(12$^-$)		
5392.8	15$^-$	296.1	2.0 *7*	5097.2	14$^-$		
		825.9[#] *2*	100 *4*	4566.8	13$^-$	E2[b]	
5508.8	16$^+$	889.1[#] *3*	100	4619.50	14$^+$	E2[b]	
5636.3		1016.8[#] *3*	100	4619.50	14$^+$		
5694.8		925.6[#] *2*	100	4769.2			
5726.9	15$^-$	393.1	100 *5*	5334.0	14$^{(-)}$	D(+Q)[b]	
		989.9	63 *4*	4737.3	13$^-$	E2[b]	
		993.7	73 *4*	4732.84	13$^-$	E2[b]	
5923.1	16$^+$	413.2[f]	<10	5508.8	16$^+$		
		833.1[#] *2*	1×10^2 *1*	5090.0	14$^+$	E2[b]	
5955.3		589.6	4.0 *8*	5365.9	(14$^-$)		
		621.1	100 *10*	5334.0	14$^{(-)}$		

$^{126}_{54}Xe_{72}$-19

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]
6013.5	16⁻	620.0[f]	<2	5392.8	15⁻	
		916.3[#] *2*	100 *14*	5097.2	14⁻	E2[b]
6126.1	16⁺	1505.7[f]	100	4619.50	14⁺	
6199.0	(16⁻)	865.0	100	5334.0	14⁽⁻⁾	
6249.0	17⁻	856.2[#] *2*	100	5392.8	15⁻	E2[b]
6256.2	(16⁻)	890.3	100	5365.9	(14⁻)	
6346.1	17⁻	147		6199.0	(16⁻)	
		391.0	0.7 *8*	5955.3		
		619.2	100 *4*	5726.9	15⁻	E2[b]
6509.7	18⁺	1000.8[#] *4*	100	5508.8	16⁺	E2[b]
6597.6	16⁺	1333.7	100	5264.2	14⁺	E2[b]
6611.1	16⁺	1347.0	100	5264.2	14⁺	E2[b]
6876.6	17⁽⁺⁾	265.7	42.6 *23*	6611.1	16⁺	D(+Q)[b]
		279.4	100 *4*	6597.6	16⁺	D(+Q)[b]
6916.0	18⁽⁻⁾	570.0	100 *4*	6346.1	17⁻	D(+Q)[b]
		960.6	<0.15	5955.3		
6982.5	18⁻	969.0	100	6013.5	16⁻	E2[b]
7039.1	18⁺	913.0	100	6126.1	16⁺	E2[b]
		1530		5508.8	16⁺	
7186.0	19⁻	937.0[#] *2*	100	6249.0	17⁻	E2[b]
7208.0	19⁻	292.0	29.5 *13*	6916.0	18⁽⁻⁾	D(+Q)[b]
		862.0	100 *4*	6346.1	17⁻	E2[b]
		958.6	19.3 *17*	6249.0	17⁻	E2[b]
7245.2	18	369.0	100	6876.6	17⁽⁺⁾	D(+Q)[b]
7252.7	18⁽⁺⁾	375.8	100	6876.6	17⁽⁺⁾	D(+Q)[b]
7297.6?	(18⁻)	1042.3[f]	100	6256.2	(16⁻)	
7587.4	20⁺	1077.6[#] *3*	100	6509.7	18⁺	E2[b]
7615.6	19⁽⁺⁾	362.6	100 *4*	7252.7	18⁽⁺⁾	D(+Q)[b]
		370.9	13.9 *11*	7245.2	18	D(+Q)[b]
		739.4	39 *3*	6876.6	17⁽⁺⁾	E2[b]
7757.2	20⁽⁻⁾	549.1	91 *4*	7208.0	19⁻	D(+Q)[b]
		841.1	100 *4*	6916.0	18⁽⁻⁾	E2[b]
8001.0	20⁻	1018.5	100	6982.5	18⁻	E2[b]
8013.4	20⁺	974.0	10×10[1] *5*	7039.1	18⁺	E2[b]
		1503.3[f]	<3×10[1]	6509.7	18⁺	
8037.7	20⁽⁺⁾	422.4	100 *4*	7615.6	19⁽⁺⁾	D(+Q)[b]
		785.0	18.4 *15*	7252.7	18⁽⁺⁾	
8166.3	21⁻	409.0	86 *4*	7757.2	20⁽⁻⁾	D(+Q)[b]
		958.1	100 *7*	7208.0	19⁻	E2[b]
8235.7	21⁻	1050.1	100	7186.0	19⁻	E2[b]
8433.3	21⁽⁺⁾	394.9	100 *4*	8037.7	20⁽⁺⁾	D(+Q)[b]
		817.8	38 *4*	7615.6	19⁽⁺⁾	E2[b]
8646.5	22⁽⁻⁾	411		8235.7	21⁻	
		480.1	23.5 *12*	8166.3	21⁻	D(+Q)[b]
		889.2	100 *5*	7757.2	20⁽⁻⁾	E2[b]
8745.2	22⁺	1157.8[#] *3*	100	7587.4	20⁺	
8837.8	22⁺	1250.1	100	7587.4	20⁺	E2[b]
8927.2	22⁺	493.8	100 *4*	8433.3	21⁽⁺⁾	D(+Q)[b]
		890.7	15.3 *25*	8037.7	20⁽⁺⁾	
9034.1	22⁻	1033.1	100	8001.0	20⁻	E2[b]
9054.6	22⁺	1040.9	100 *13*	8013.4	20⁺	E2[b]
		1466.3[f]	<5	7587.4	20⁺	
9258.7	23⁻	612.1	100 *5*	8646.5	22⁽⁻⁾	
		1092.3	40 *4*	8166.3	21⁻	E2[b]
9369.8	23⁻	1134.3	100	8235.7	21⁻	E2[b]
9457.5	23⁽⁺⁾	530.5	100 *5*	8927.2	22⁺	D(+Q)[b]
		1023.6	49 *5*	8433.3	21⁽⁺⁾	E2[b]
9751.5	24⁽⁻⁾	381.4	4.2 *7*	9369.8	23⁻	D(+Q)[b]
		492.8	4.8 *12*	9258.7	23⁻	
		1104.9	100 *4*	8646.5	22⁽⁻⁾	E2[b]
9876.0	24⁺	418.6	26.5 *25*	9457.5	23⁽⁺⁾	D(+Q)[b]
		949.3	24 *4*	8927.2	22⁺	E2[b]
		1130.3	100 *5*	8745.2	22⁺	E2[b]
9915.9	24⁺	1170.8	100	8745.2	22⁺	E2[b]
9916.2	24⁽⁺⁾	458.4	100 *6*	9457.5	23⁽⁺⁾	D(+Q)[b]
		989.3	35 *6*	8927.2	22⁺	

$^{126}_{54}Xe_{72}$-20

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. [a]	Comments
9968.7	24^+	1130.5	10×10^1 *5*	8837.8	22^+	E2 [b]	
		1224.1	3×10^1 *6*	8745.2	22^+	[b]	
10040.8	$24^{(-)}$	1022.0	100	9018.8	(22^-)	(E2) [b]	
10161.7	24^+	1106.8	100	9054.6	22^+	E2 [b]	
10408.9	25^-	657.1	13 *4*	9751.5	$24^{(-)}$		
		1150.2	100 *7*	9258.7	23^-	E2 [b]	
10507.8	$25^{(+)}$	592.0	39 *17*	9916.2	$24^{(+)}$		
		1050.4	100 *10*	9457.5	$23^{(+)}$	E2 [b]	
10524.7	25^-	1155.3	100	9369.8	23^-	E2 [b]	
10909.7	$26^{(+)}$	402.3	100 *5*	10507.8	$25^{(+)}$	D(+Q) [b]	
		993.0	59 *6*	9916.2	$24^{(+)}$	E2 [b]	
		993.8	12 *3*	9915.9	24^+		
10930.1	$26^{(-)}$	407.0	1.1 *5*	10524.7	25^-		E_γ: poor fit. Level-energy difference=405.4.
		521.0	29.4 *14*	10408.9	25^-		
		1178.3	100 *3*	9751.5	$24^{(-)}$	E2 [b]	
10933.0	26^+	1057.0	100	9876.0	24^+	E2 [b]	
11083.4	$26^{(-)}$	1042	100 *23*	10040.8	$24^{(-)}$		
		1332.2	9×10^1 *5*	9751.5	$24^{(-)}$	(E2) [b]	
11130.6	$26^{(-)}$	1090.4	10×10^1 *8*	10040.8	$24^{(-)}$	E2 [b]	
		1378.7	8×10^1 *15*	9751.5	$24^{(-)}$	E2 [b]	
11151.6	26^+	1183.2	100	9968.7	24^+	E2 [b]	
11335.3	26^+	1173.4	100	10161.7	24^+	E2 [b]	
11530.1	(27^+)	620.4	100	10909.7	$26^{(+)}$		
11579.9	27^-	650.0	<0.8	10930.1	$26^{(-)}$		
		1171.0	100 *8*	10408.9	25^-	E2 [b]	
11678.8	27^-	749.8	7×10^1 *3*	10930.1	$26^{(-)}$		
		1153.0	10×10^1 *6*	10524.7	25^-	E2 [b]	
12049.2	$28^{(-)}$	469.5	8.6 *17*	11579.9	27^-		
		1119.0	100 *5*	10930.1	$26^{(-)}$	E2 [b]	
12093.2	28^+	1160.2	100	10933.0	26^+	E2 [b]	
12282.4	$28^{(-)}$	1152.2	100 *3*	11130.6	$26^{(-)}$	E2 [b]	
		1198.7	51 *17*	11083.4	$26^{(-)}$	E2 [b]	
12448.8	28^+	1297.5	100	11151.6	26^+	E2 [b]	
12572.7	28^+	1237.1	100	11335.3	26^+	E2 [b]	

$^{126}_{54}Xe_{72}$-21

Adopted Levels, Gammas (continued)

γ(^{126}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[a]
12849.1		1319		11530.1	(27^+)	
12854.6	29^-	1175.8	100	11678.8	27^-	E2[b]
13247.4	30^+	1154.2	100	12093.2	28^+	E2[b]
13332.7	$30^{(-)}$	1283.4	100	12049.2	$28^{(-)}$	E2[b]
13526.9	$30^{(-)}$	1244.4	100	12282.4	$28^{(-)}$	E2[b]
13858.4	30^+	1285.8	<5	12572.7	28^+	
		1409.9	100 *21*	12448.8	28^+	E2[b]
13891.8	30^+	1318.7	100	12572.7	28^+	E2[b]
14859.0	$32^{(-)}$	1332.1	100	13526.9	$30^{(-)}$	E2[b]
15261.0	32^+	1368.8	100 *19*	13891.8	30^+	E2[b]
		1403.0	8×10^1 *3*	13858.4	30^+	E2[b]
16290.5	$34^{(-)}$	1431.5	100	14859.0	$32^{(-)}$	E2[b]
16733.3	34^+	1472.2	100	15261.0	32^+	E2[b]
17831.2	$36^{(-)}$	1540.7	100	16290.5	$34^{(-)}$	E2[b]
18298.6	36^+	1565.3	100	16733.3	34^+	E2[b]
19489.4	$38^{(-)}$	1658.2	100	17831.2	$36^{(-)}$	E2[b]
19960.1	38^+	1661.5	100	18298.6	36^+	E2[b]
21270.7	$40^{(-)}$	1781.3	100	19489.4	$38^{(-)}$	E2[b]
21716.7	40^+	1756.6	100	19960.1	38^+	E2[b]
23178.1	$42^{(-)}$	1907.4	100	21270.7	$40^{(-)}$	E2[b]
23568.8	42^+	1852.1	100	21716.7	40^+	E2[b]
25214.9	$44^{(-)}$	2036.8	100	23178.1	$42^{(-)}$	E2[b]
25516.3	44^+	1947.5	100	23568.8	42^+	E2[b]
27378.6	$46^{(-)}$	2163.6	100	25214.9	$44^{(-)}$	E2[b]
27558.2	46^+	2041.9	100	25516.3	44^+	E2[b]
29662.4	$48^{(-)}$	2283.8	100	27378.6	$46^{(-)}$	E2[b]
29696.1	48^+	2137.8	100	27558.2	46^+	E2[b]
31927.1	50^+	2231.0	100	29696.1	48^+	E2[b]
32016.4	$50^{(-)}$	2354.0	100	29662.4	$48^{(-)}$	E2[b]
32083.4		2421.0	100	29662.4	$48^{(-)}$	
34244.2	52^+	2317.1	100	31927.1	50^+	E2[b]
34365.4	(52^-)	2349.0	100	32016.4	$50^{(-)}$	(E2)[b]
34533.4		2450.0	100	32083.4		
36605.1	54^+	2360.9	100	34244.2	52^+	E2[b]
36807.5	(54^-)	2442.0	100	34365.4	(52^-)	
38941.4	56^+	2336.2	100	36605.1	54^+	E2[b]
39322.5	(56^-)	2515.0	100	36807.5	(54^-)	
1034.7+x	(25^-)	1034.7	100	0.0+x	(23^-)	E2[b]
2184.2+x	(27^-)	1149.5	100	1034.7+x	(25^-)	E2[b]
3453.0+x	(29^-)	1268.8	100	2184.2+x	(27^-)	E2[b]
4839.6+x	(31^-)	1386.6	100	3453.0+x	(29^-)	E2[b]
6341.8+x	(33^-)	1502.2	100	4839.6+x	(31^-)	E2[b]
7944.7+x	(35^-)	1602.9	100	6341.8+x	(33^-)	E2[b]
9654.3+x	(37^-)	1709.5	100	7944.7+x	(35^-)	E2[b]
10255.8+x		2311		7944.7+x	(35^-)	
11477.6+x	(39^-)	1823.3	100	9654.3+x	(37^-)	E2[b]
13417.2+x	(41^-)	1939.6	100	11477.6+x	(39^-)	E2[b]
15467.0+x	(43^-)	2049.8	100	13417.2+x	(41^-)	E2[b]
17617.0+x	(45^-)	2150.0	100	15467.0+x	(43^-)	E2[b]
19853.8+x	(47^-)	2236.8	100	17617.0+x	(45^-)	E2[b]
22174.7+x	(49^-)	2320.8	100	19853.8+x	(47^-)	E2[b]
24599.1+x?	(51^-)	2424.4[f]	100	22174.7+x	(49^-)	
1156.4+y	(25^+)	1156.4	100	0.0+y	(23^+)	
2380.6+y	(27^+)	1224.2	100	1156.4+y	(25^+)	E2[b]
3673.3+y	(29^+)	1292.7	100	2380.6+y	(27^+)	E2[b]
5043.4+y	(31^+)	1370.1	100	3673.3+y	(29^+)	E2[b]
6488.3+y	(33^+)	1444.9	100	5043.4+y	(31^+)	E2[b]
8014.4+y	(35^+)	1526.1	100	6488.3+y	(33^+)	E2[b]
9624.1+y	(37^+)	1609.6	100	8014.4+y	(35^+)	E2[b]
11320.9+y	(39^+)	1696.8	100	9624.1+y	(37^+)	E2[b]
13107.6+y	(41^+)	1786.7	100	11320.9+y	(39^+)	E2[b]
14984.8+y	(43^+)	1877.2	100	13107.6+y	(41^+)	E2[b]
16953.3+y	(45^+)	1968.5	100	14984.8+y	(43^+)	E2[b]
19004.1+y	(47^+)	2050.8	100	16953.3+y	(45^+)	E2[b]

$^{126}_{54}Xe_{72}$-22

Adopted Levels, Gammas (continued)

$\gamma(^{126}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[a]
21097.2+y	(49^+)	2093.0	100	19004.1+y	(47^+)	E2[b]
23226.6+y	(51^+)	2129.4	100	21097.2+y	(49^+)	E2[b]
25414.0+y	(53^+)	2187.4	100	23226.6+y	(51^+)	
27673.7+y	(55^+)	2259.7	100	25414.0+y	(53^+)	
30018.2+y	(57^+)	2344.5	100	27673.7+y	(55^+)	
32345.9+y?	(59^+)	2327.7[f]	100	30018.2+y	(57^+)	

† Except where noted otherwise, the data are from (α,nγ) up to the 3783-keV level and from (^{48}Ca,4nγ) for the higher levels.
‡ From ^{126}Cs ε decay.
# From (^{13}C,3nγ).
@ From ^{126}Xe(γ,γ').
& Weighted av from all datasets with γ's.
a From $\gamma(\theta)$, linear polarization in ^{123}Te(α,nγ) and ^{116}Cd(^{13}C,3nγ), and α(exp) in ^{126}Cs decay, unless otherwise noted.
b γ ray angular distribution ratio in ^{82}Se(^{48}Ca,4nγ).
c γ ray angular distribution ratio in ^{126}Xe(γ,γ').
d From $\gamma(\theta)$, $\gamma\gamma(\theta)$in ^{123}Te(α,nγ), unless otherwise noted.
e Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
f Placement of transition in the level scheme is uncertain.

$^{126}_{54}Xe_{72}$-23

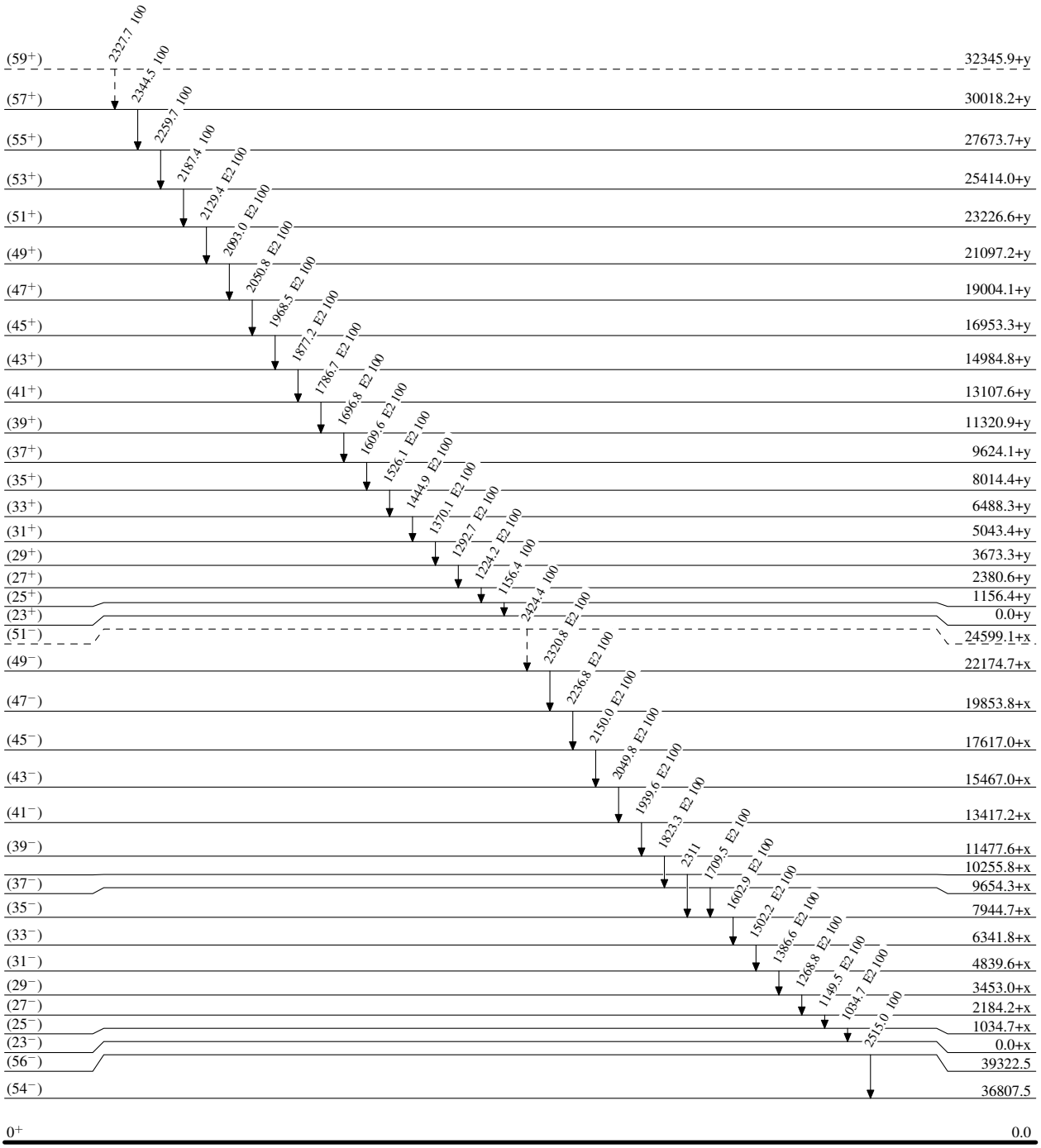
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

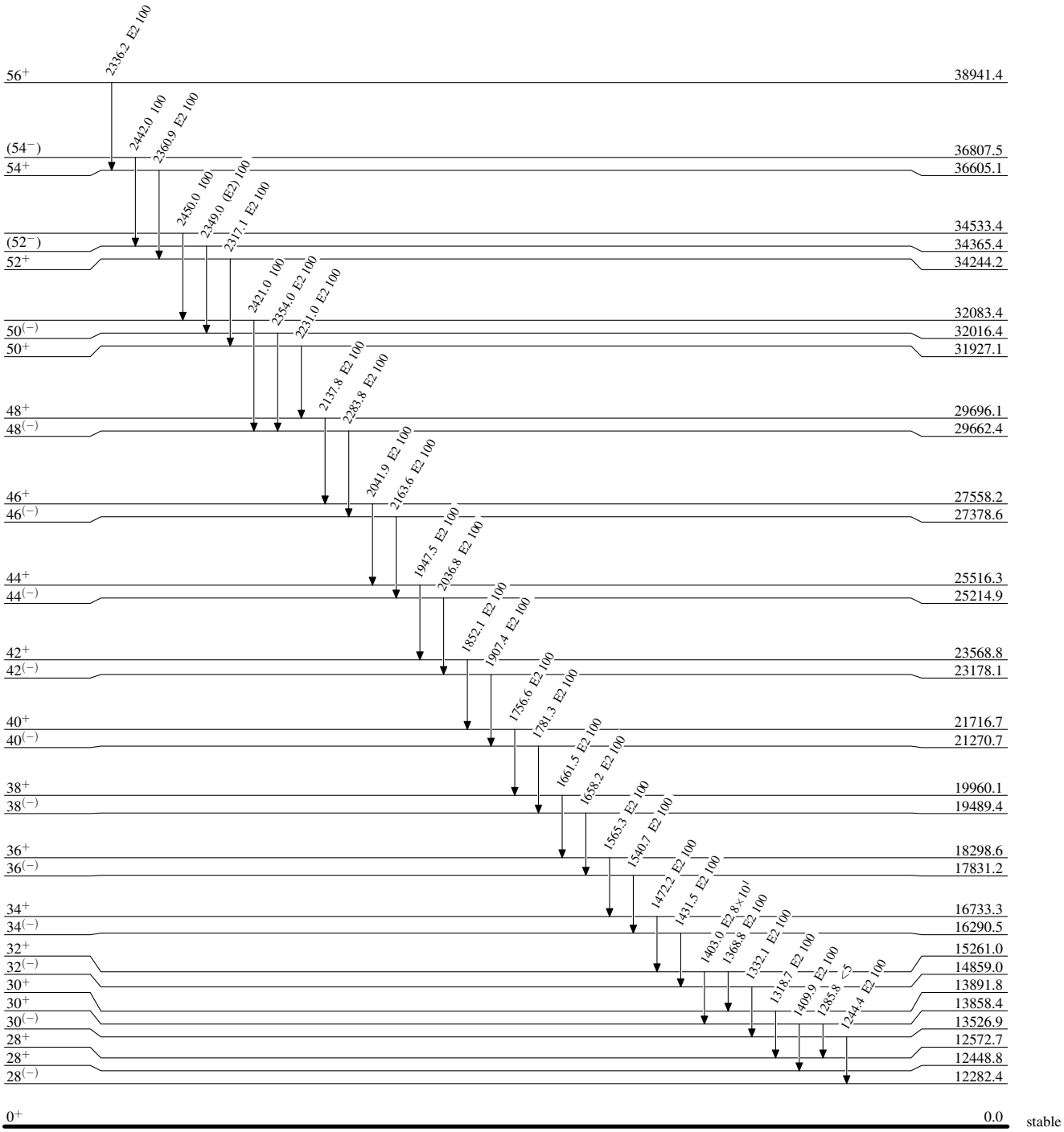


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

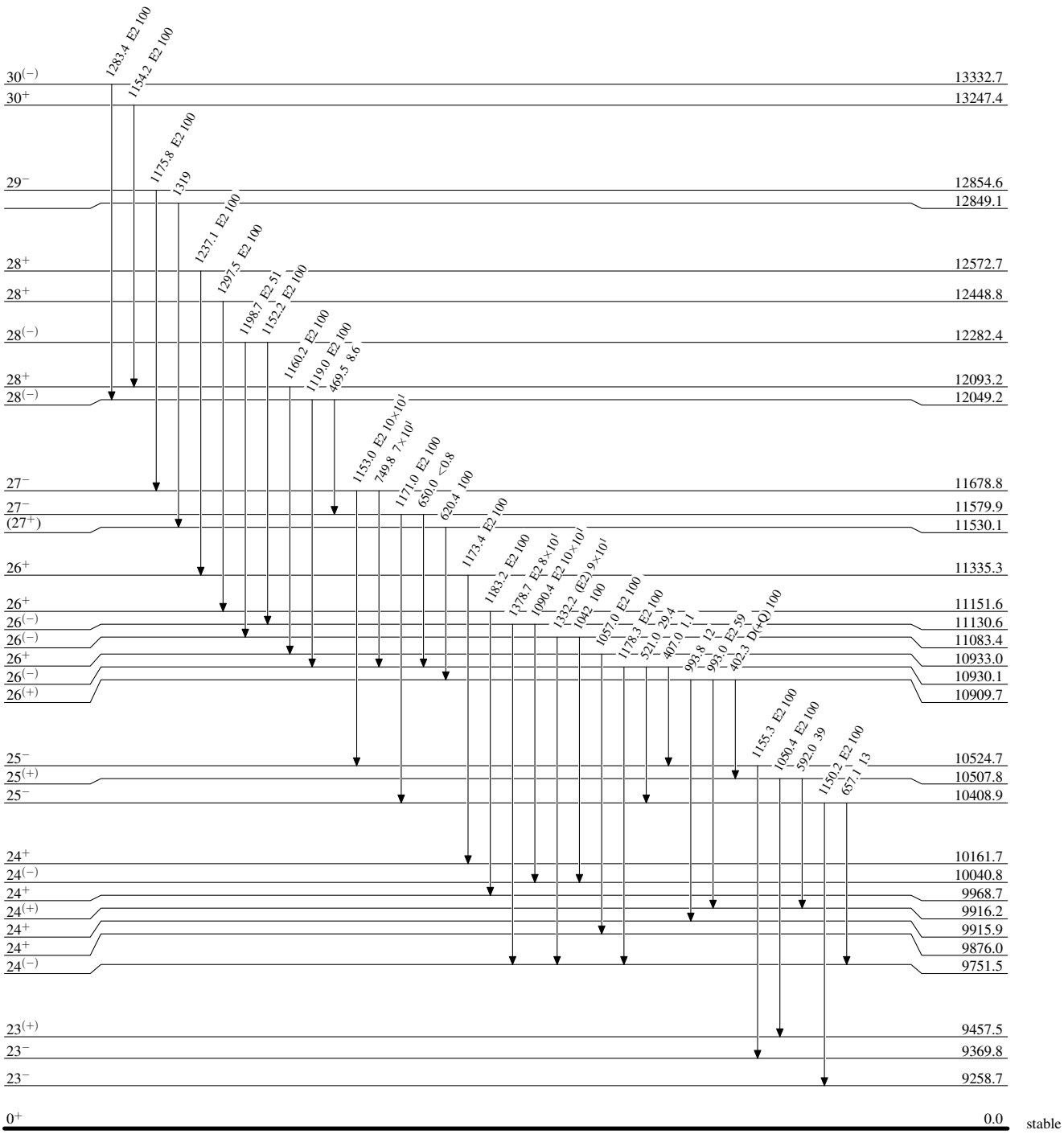


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{126}_{54}Xe_{72}$

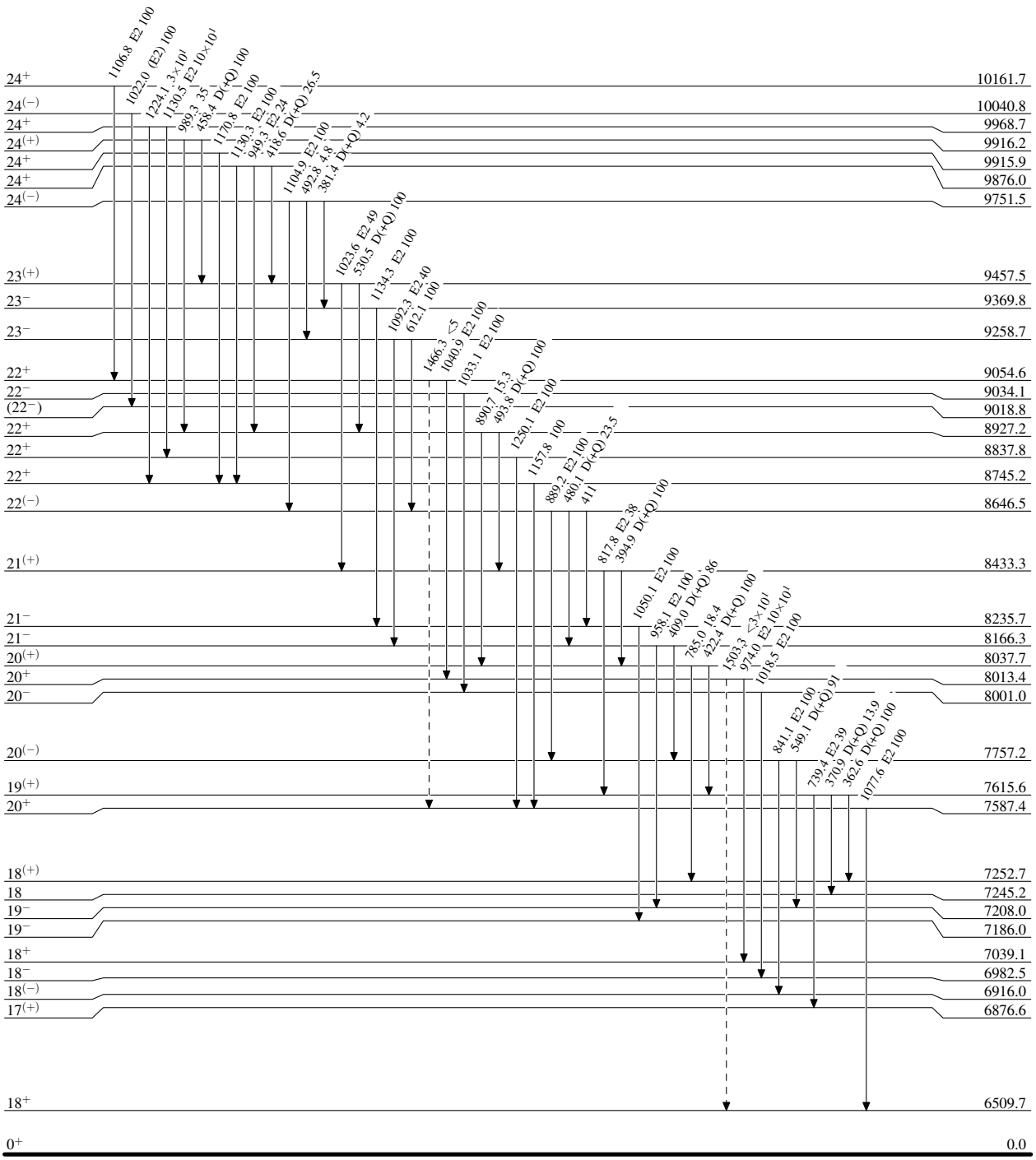
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{126}_{54}Xe_{72}$

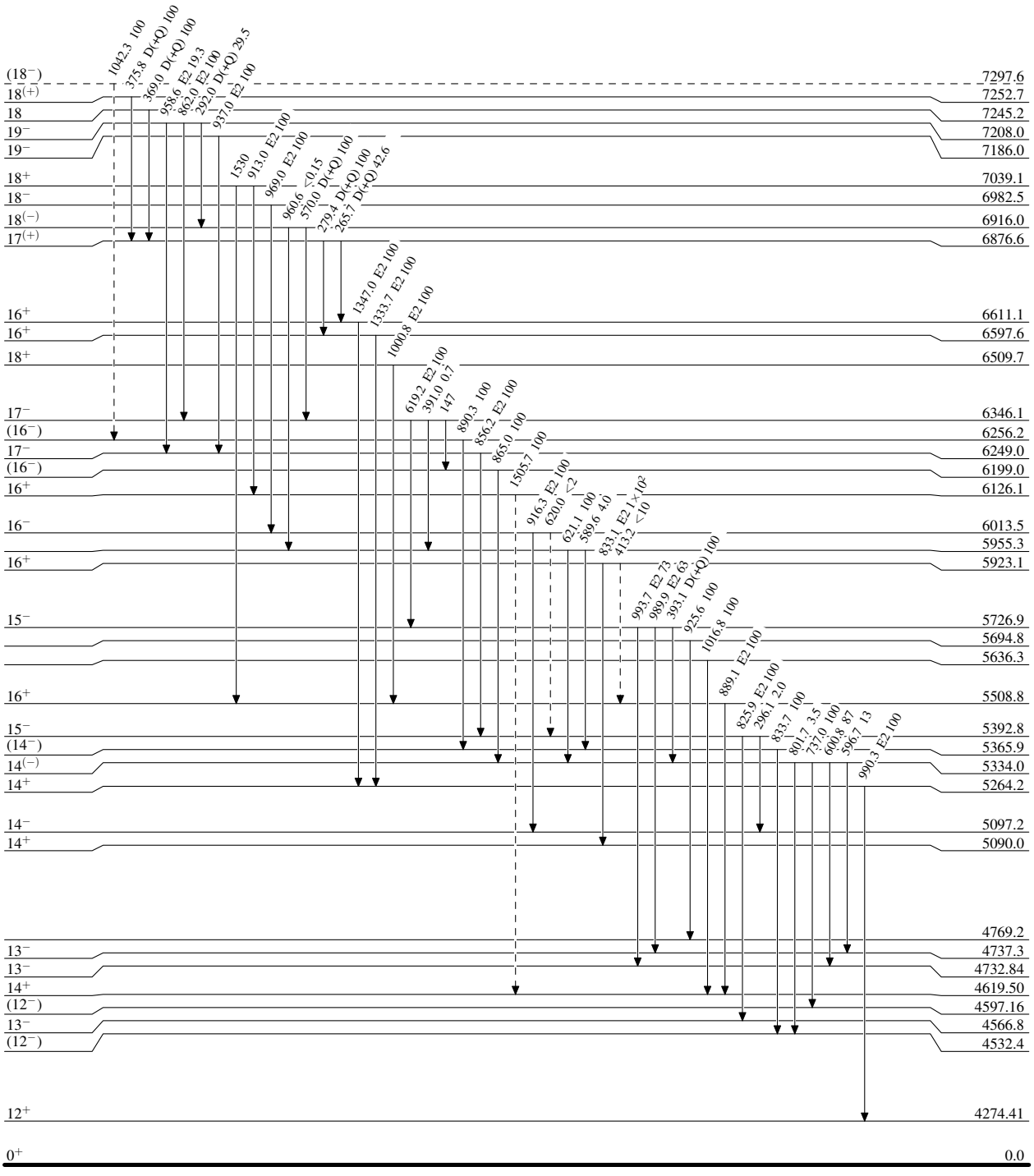
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

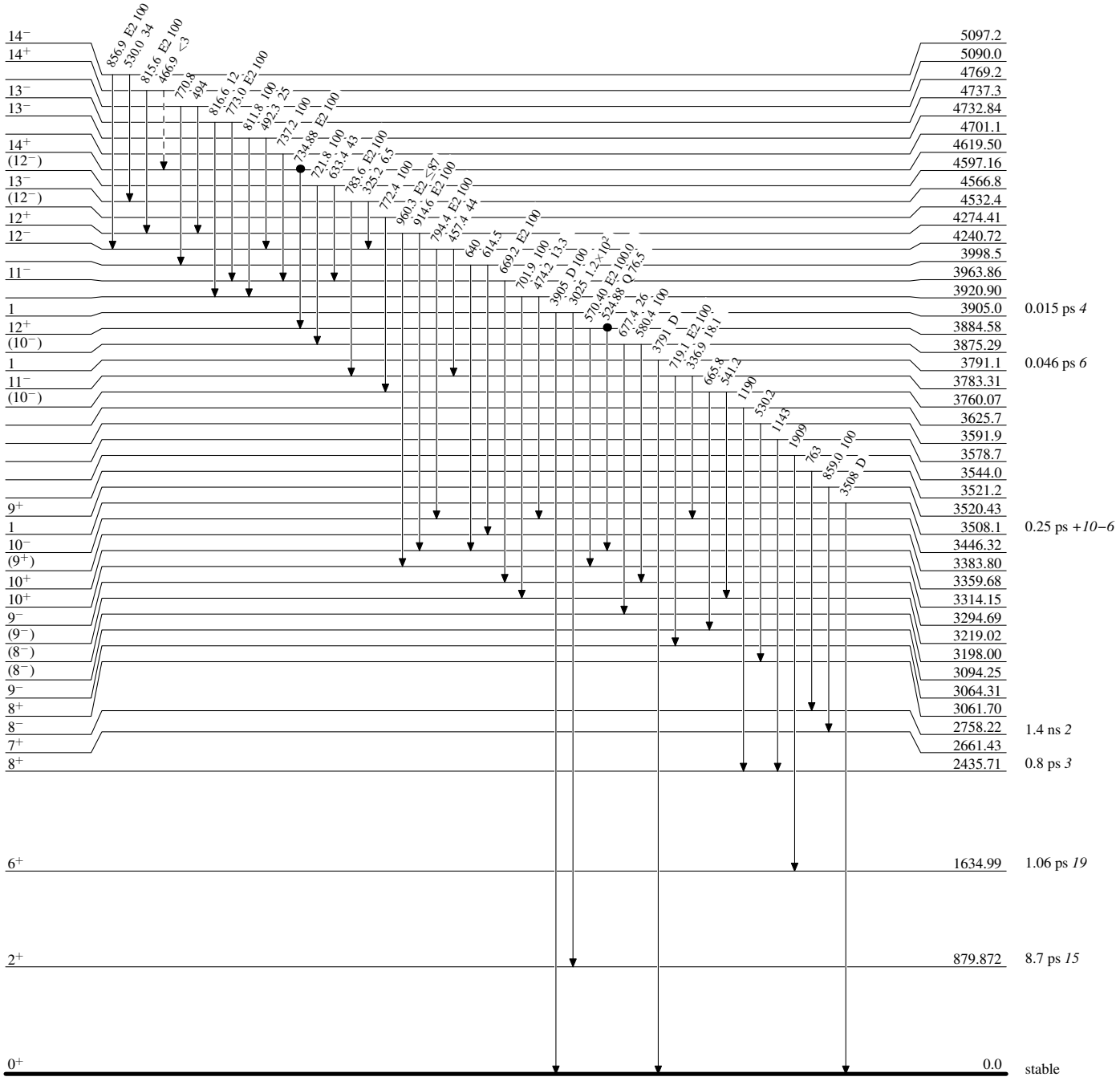
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

Coincidence



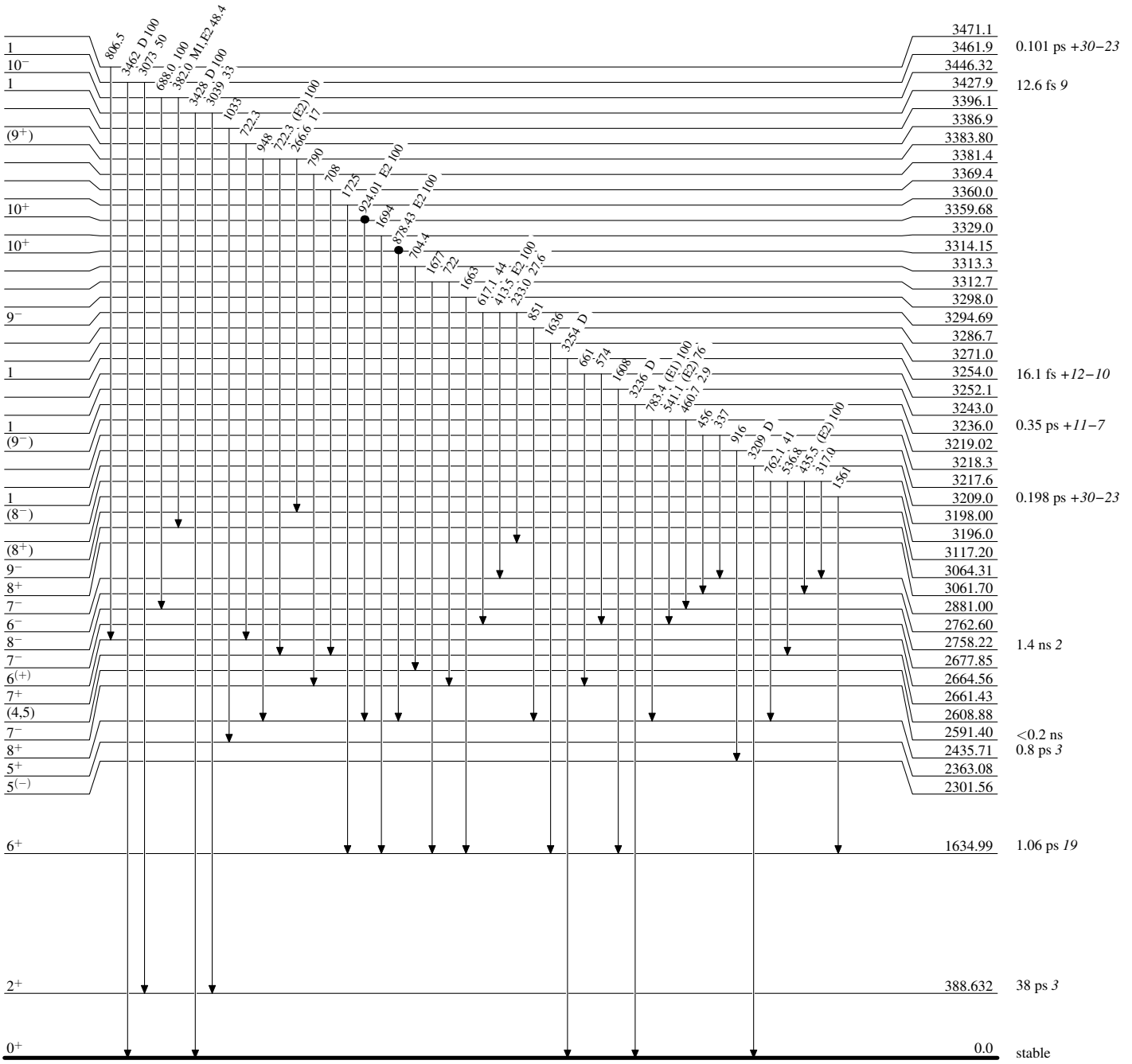
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence

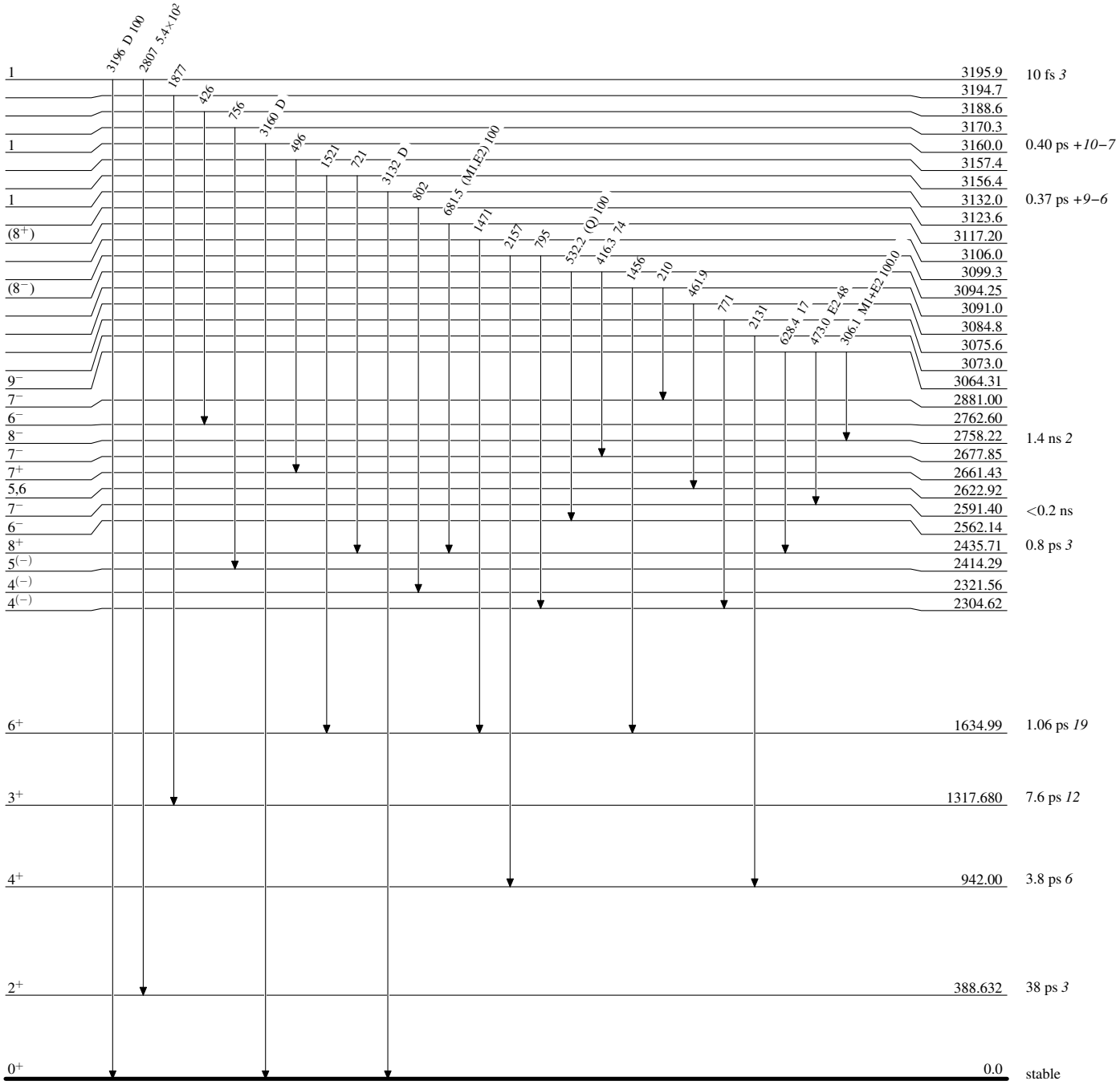


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

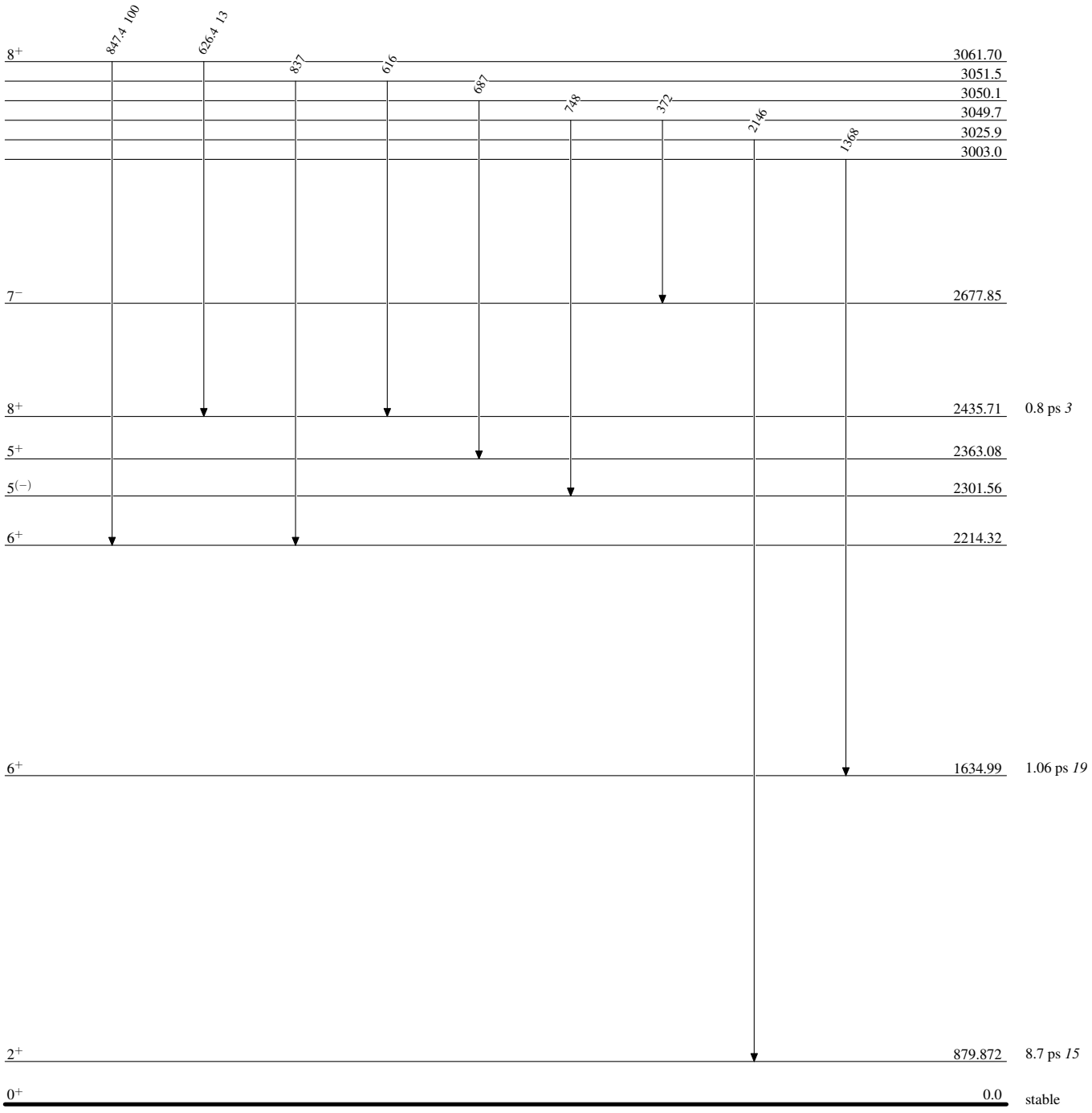


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

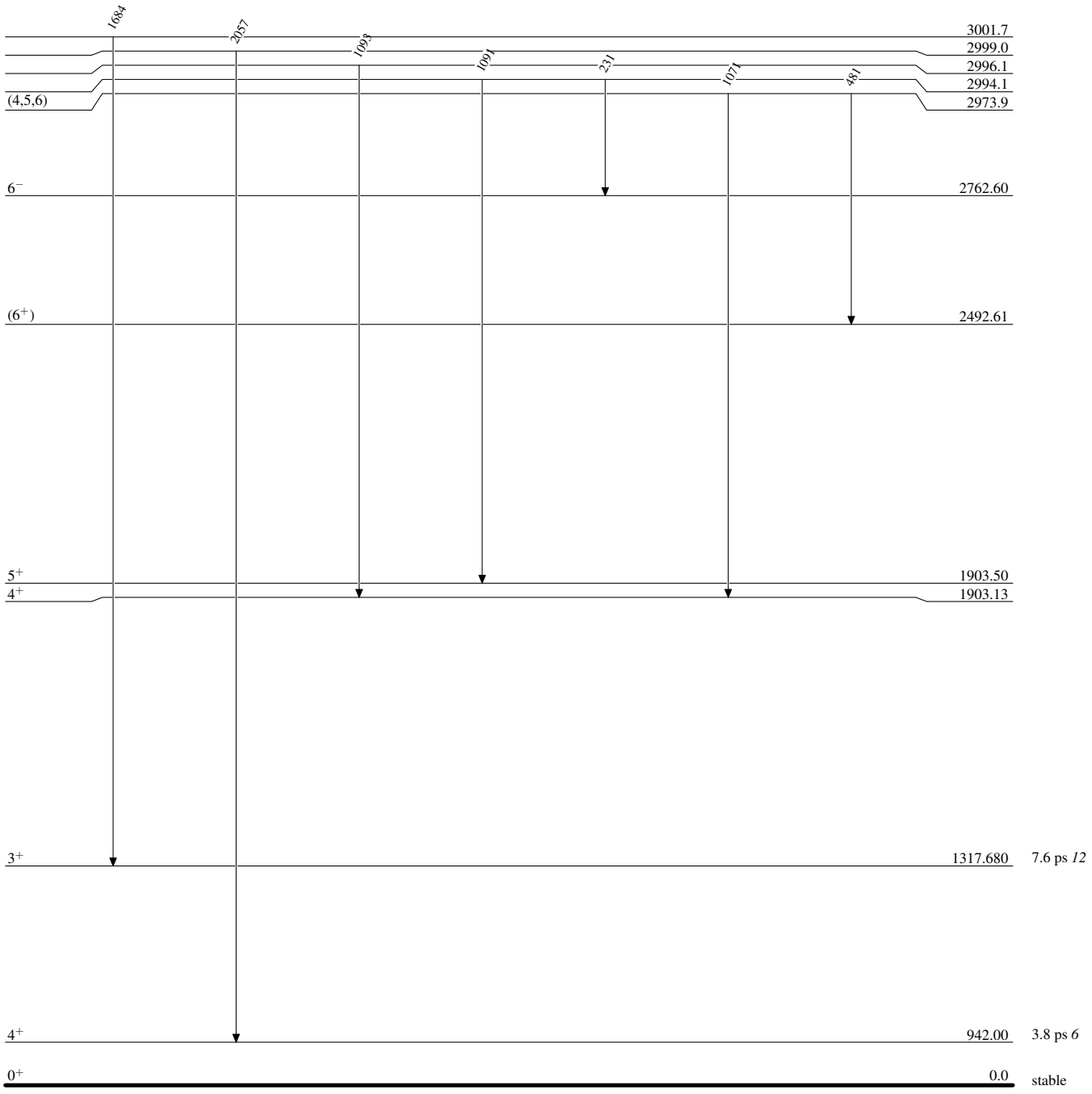


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

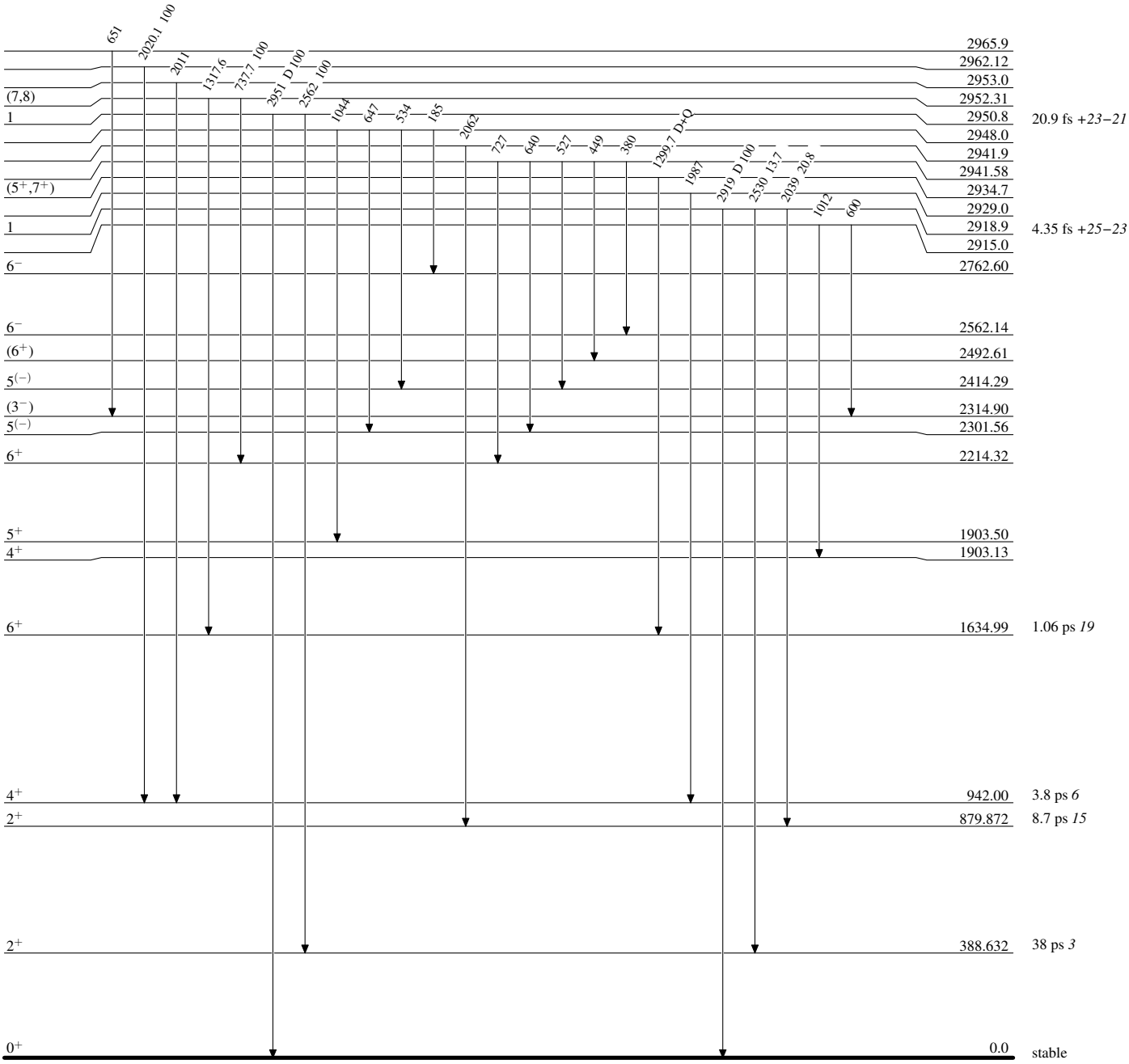


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{126}_{54}Xe_{72}$

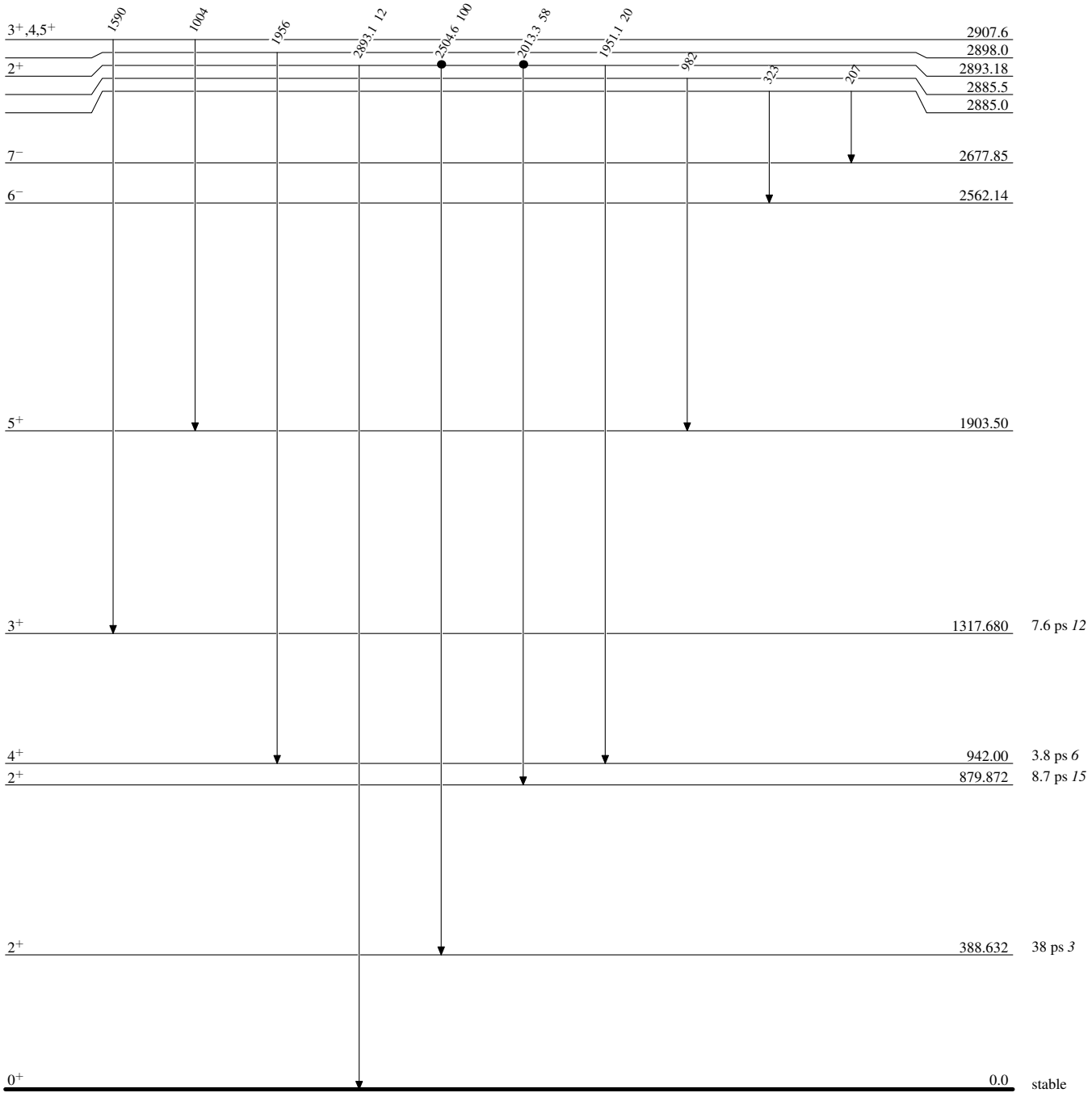
Adopted Levels, Gammas

Level Scheme (continued)

Legend

Intensities: Relative photon branching from each level

● Coincidence

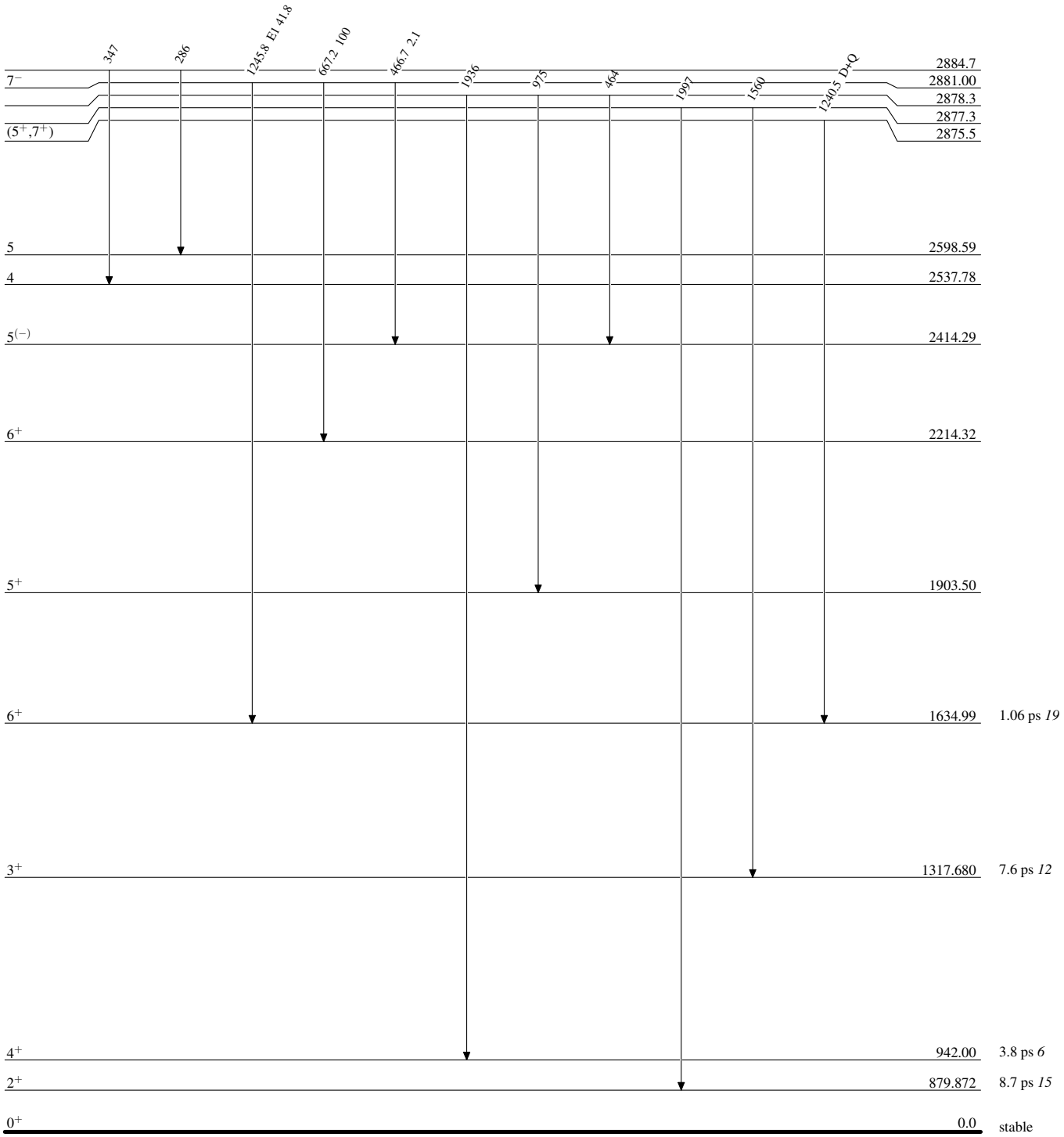


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

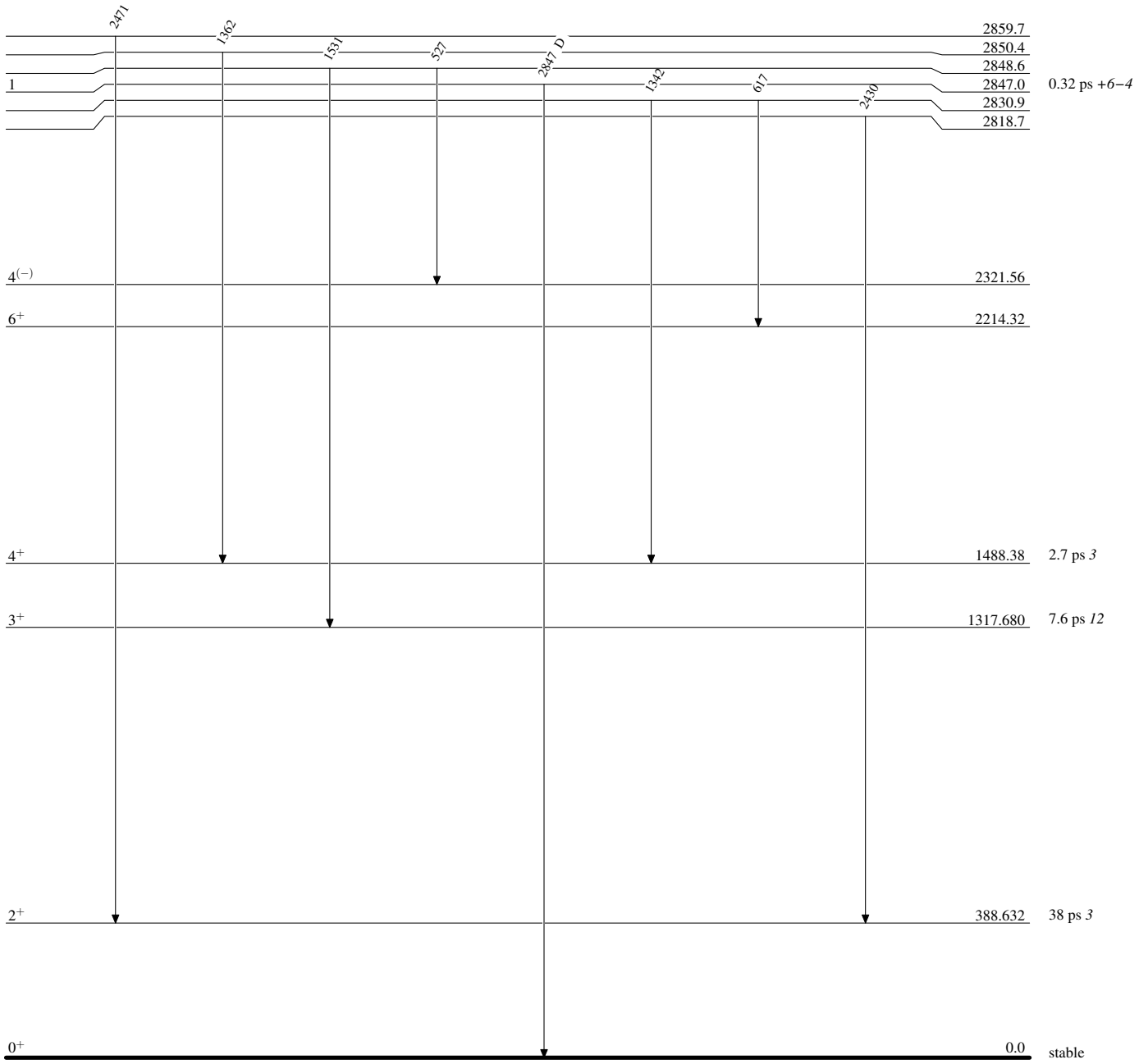


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{126}_{54}Xe_{72}$

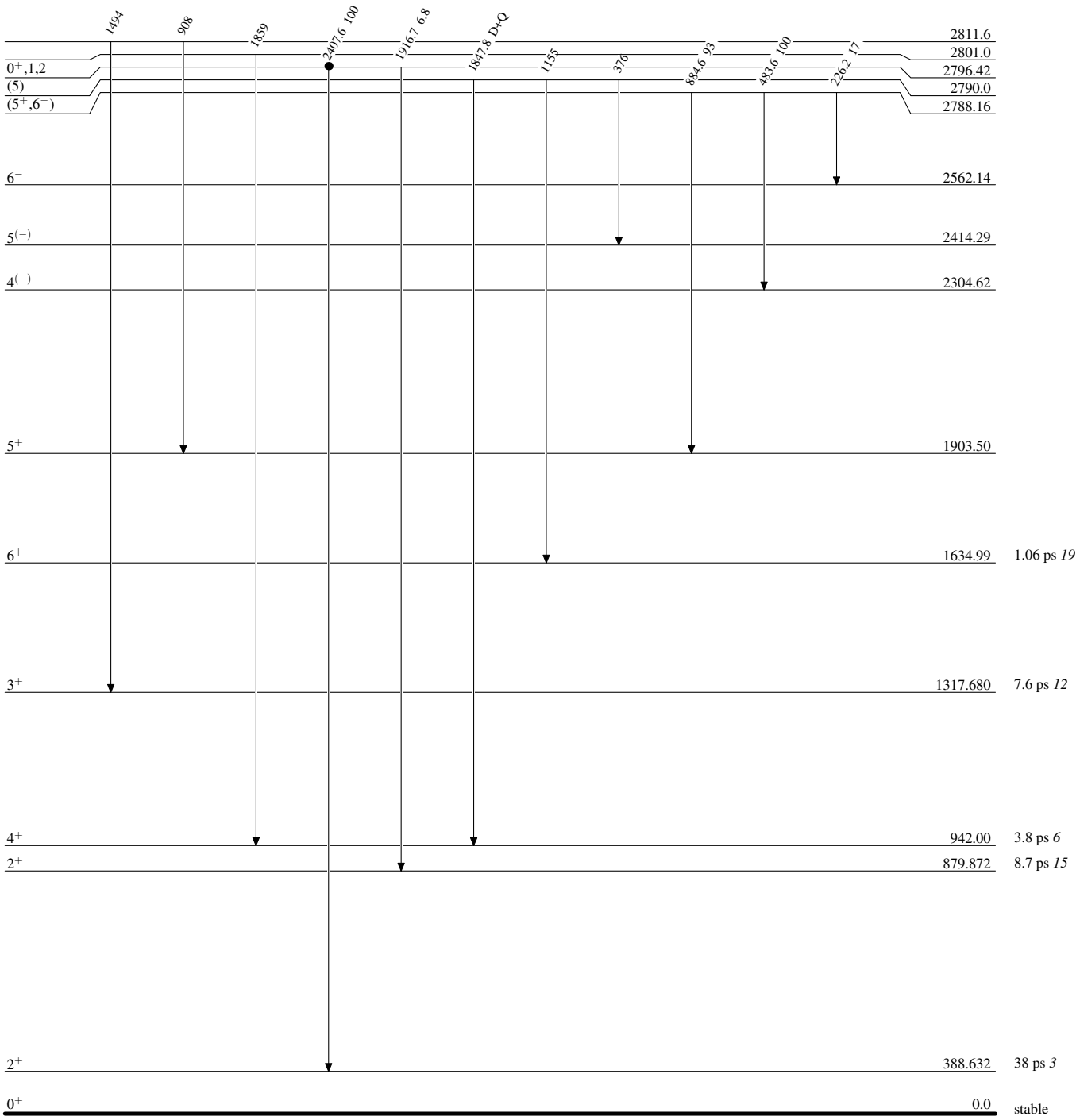
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend

● Coincidence

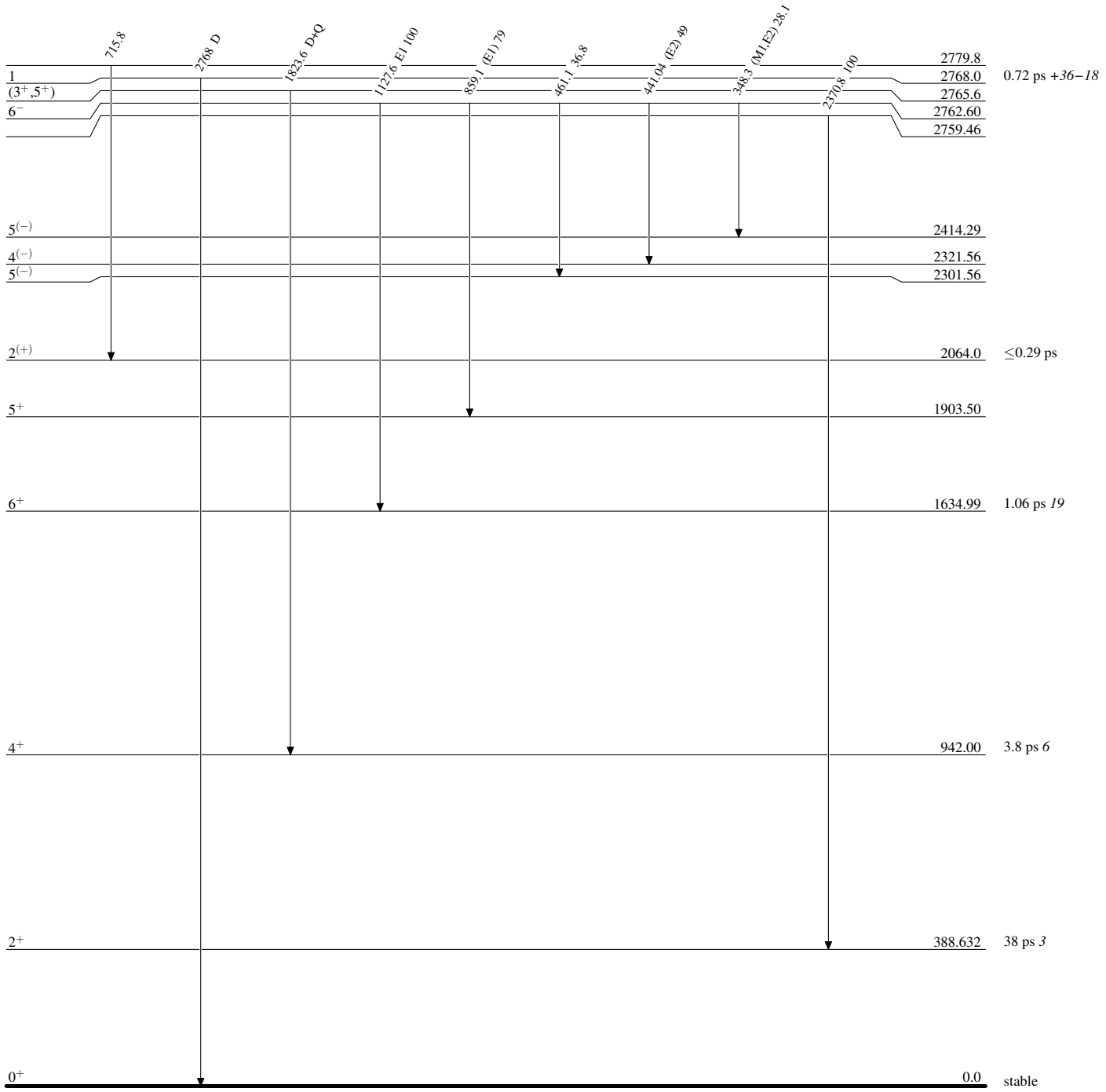


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

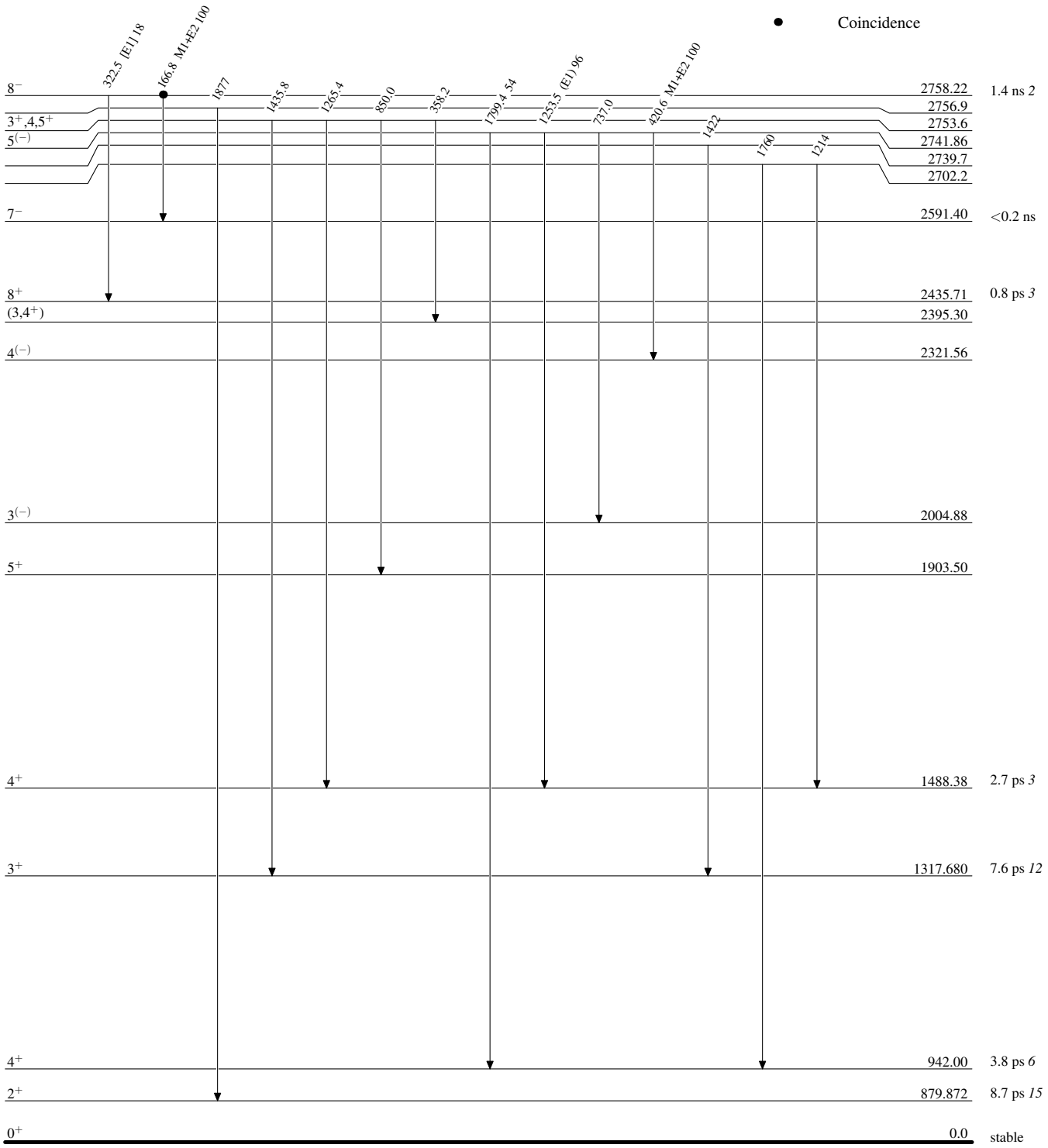


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

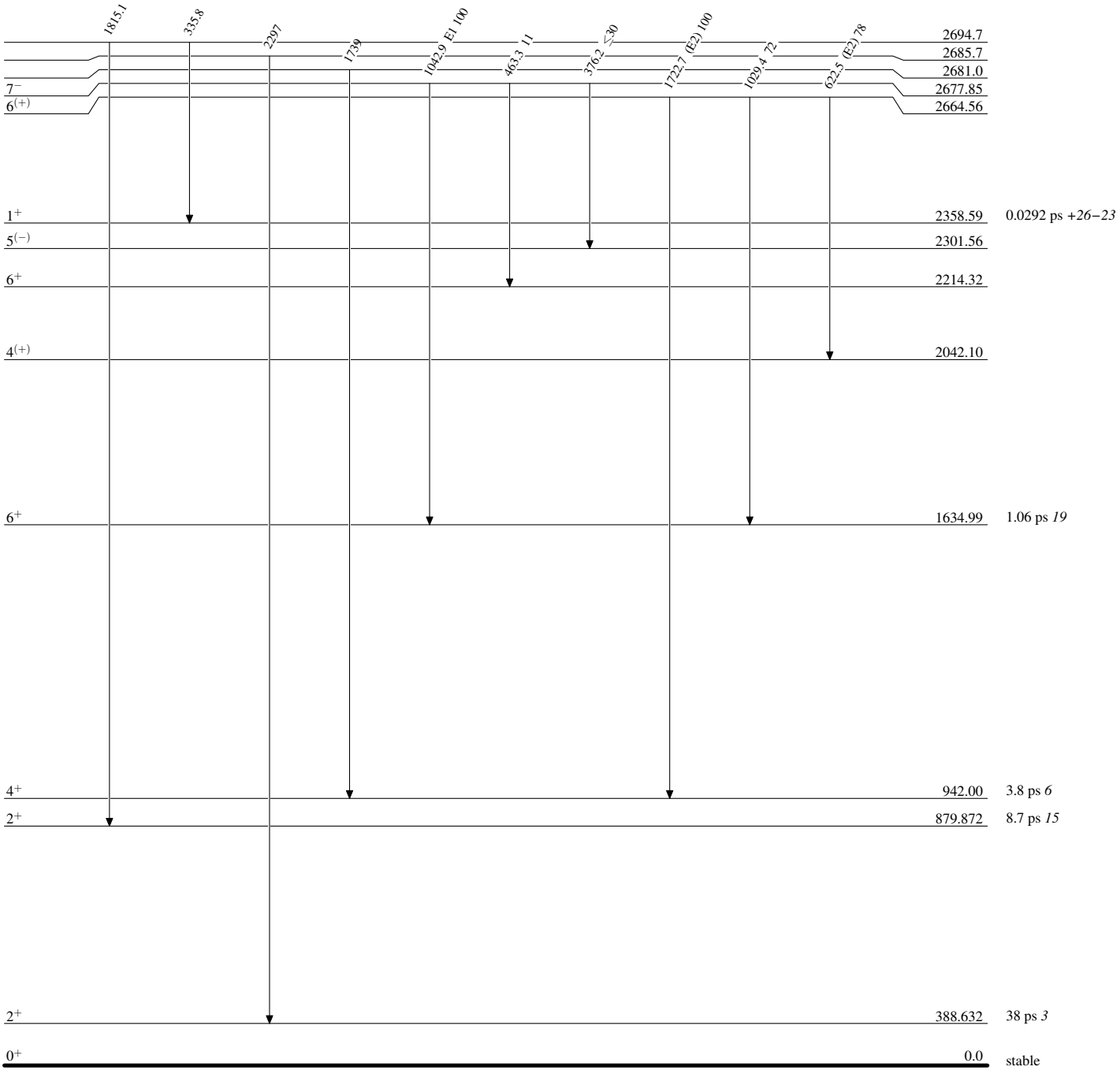


$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



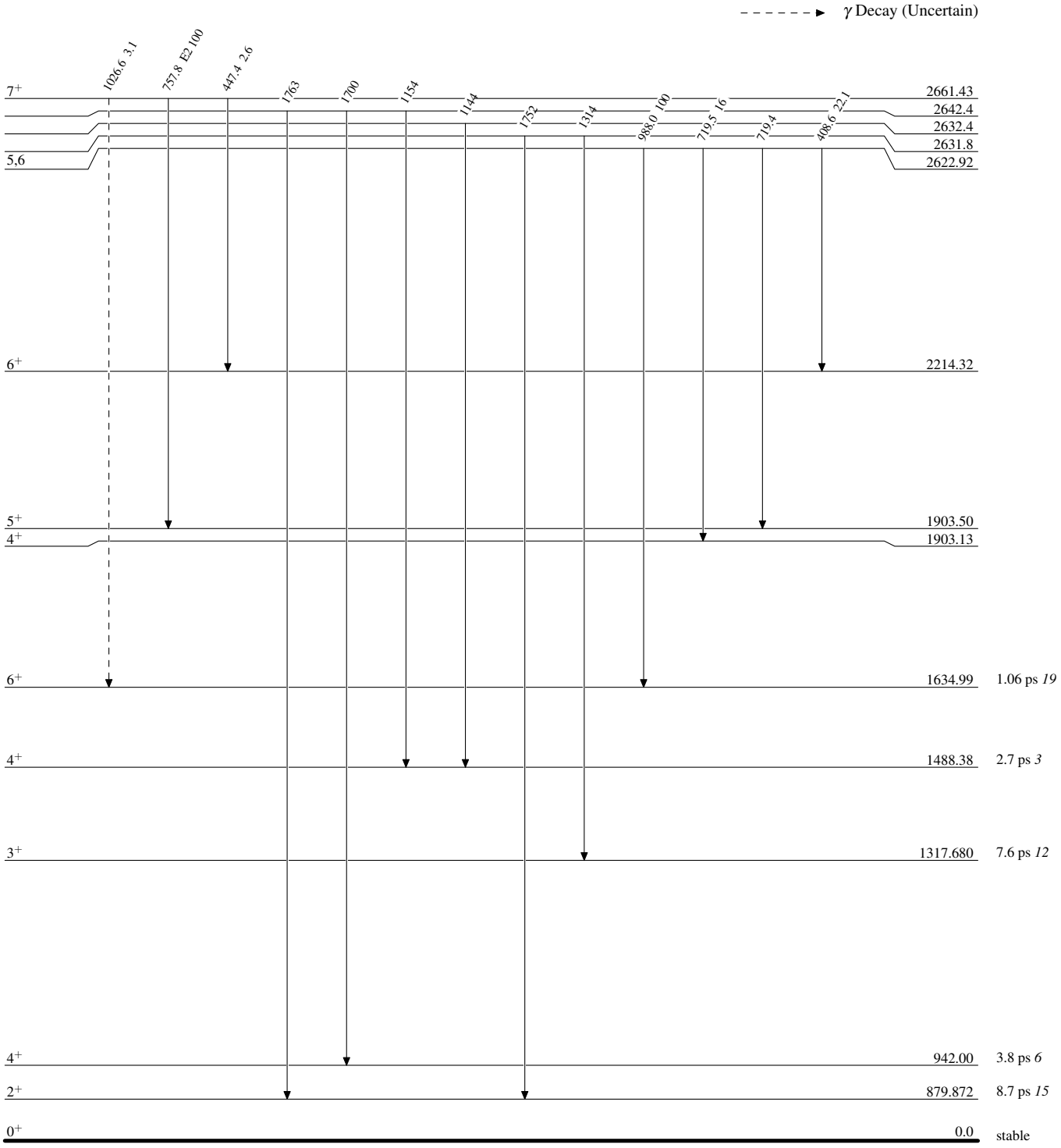
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level



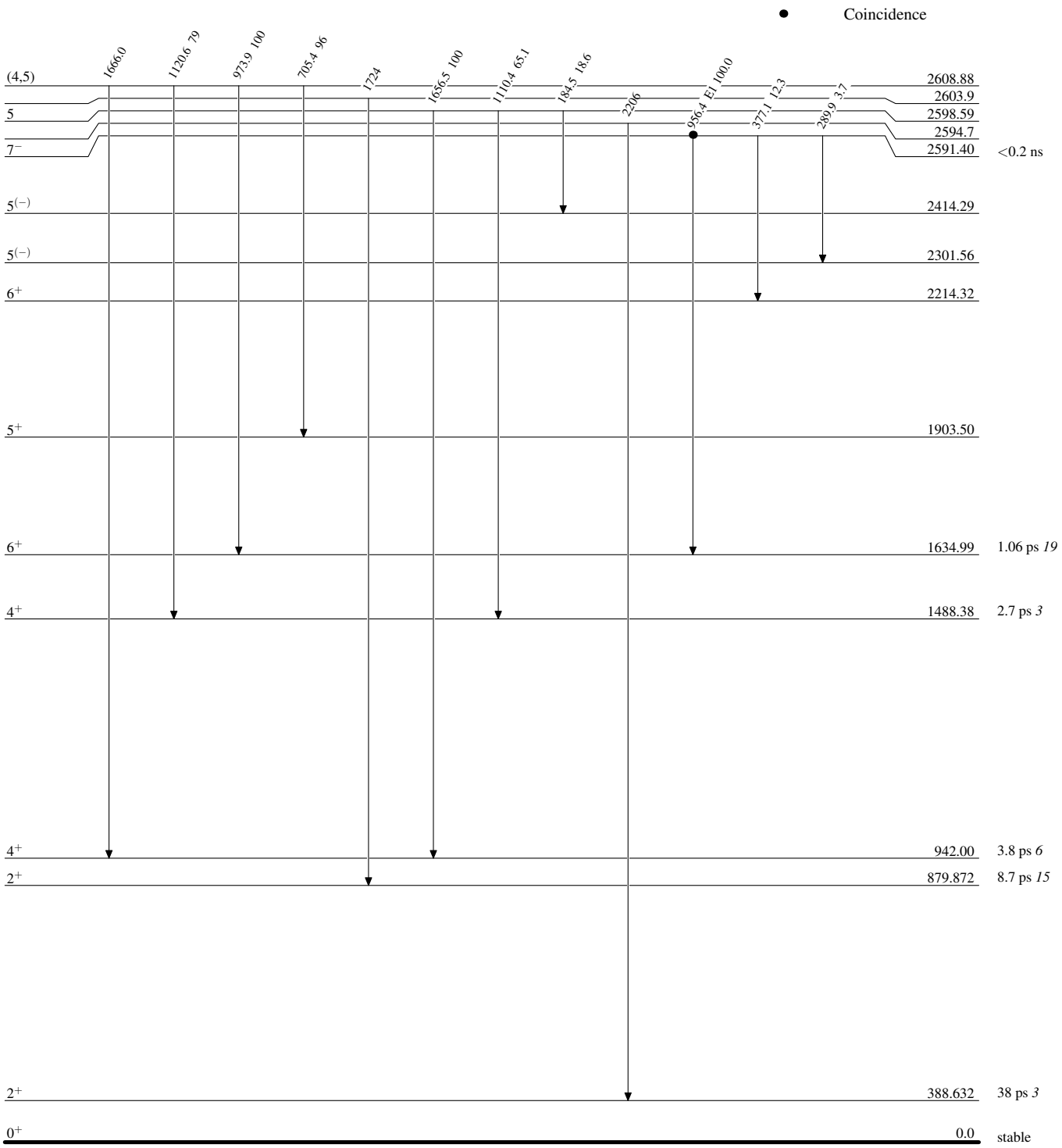
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Level Scheme (continued)

Legend

Intensities: Relative photon branching from each level



$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

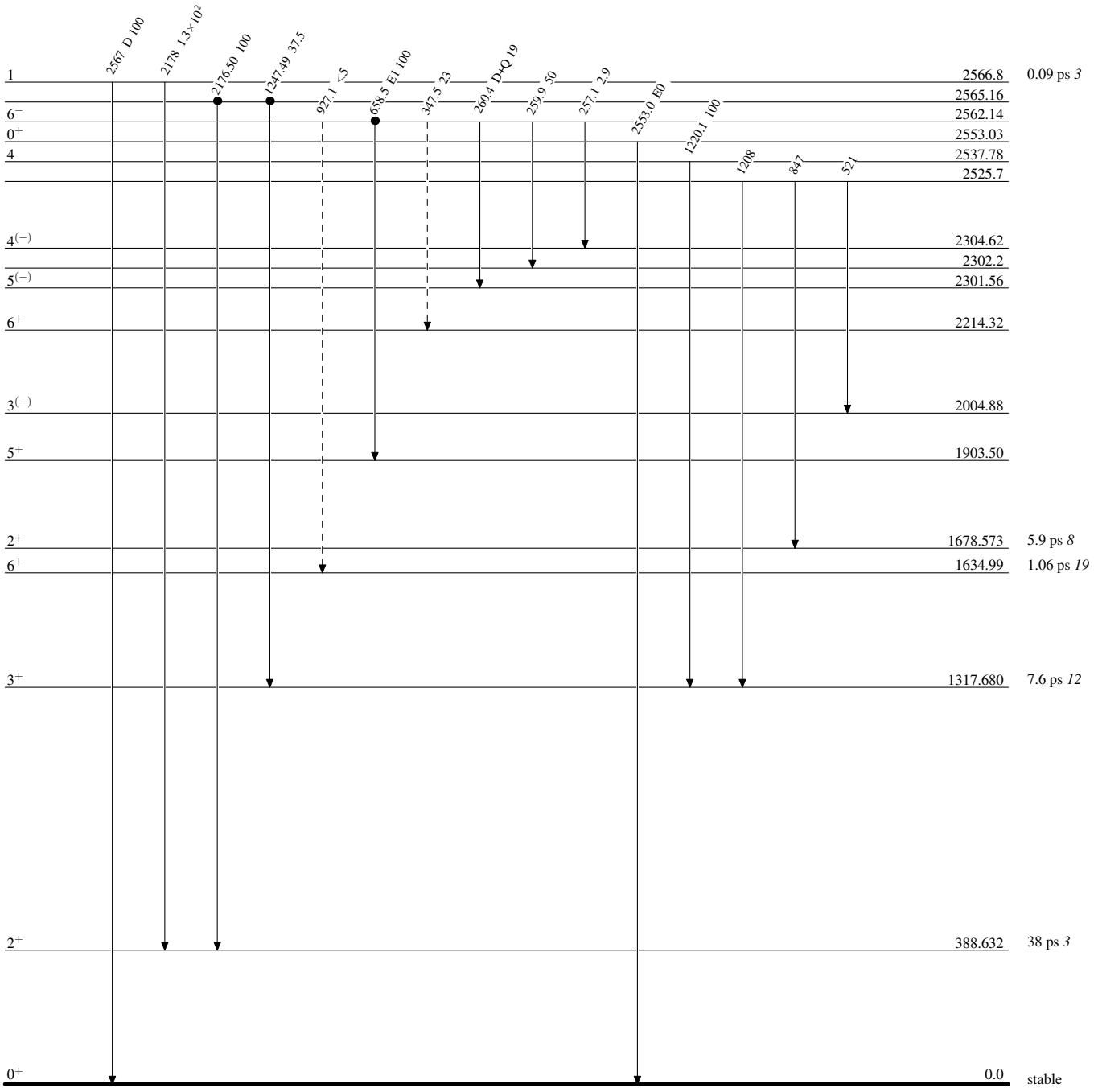
Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend

- - - - - - ► γ Decay (Uncertain)

● Coincidence



$^{126}_{54}Xe_{72}$

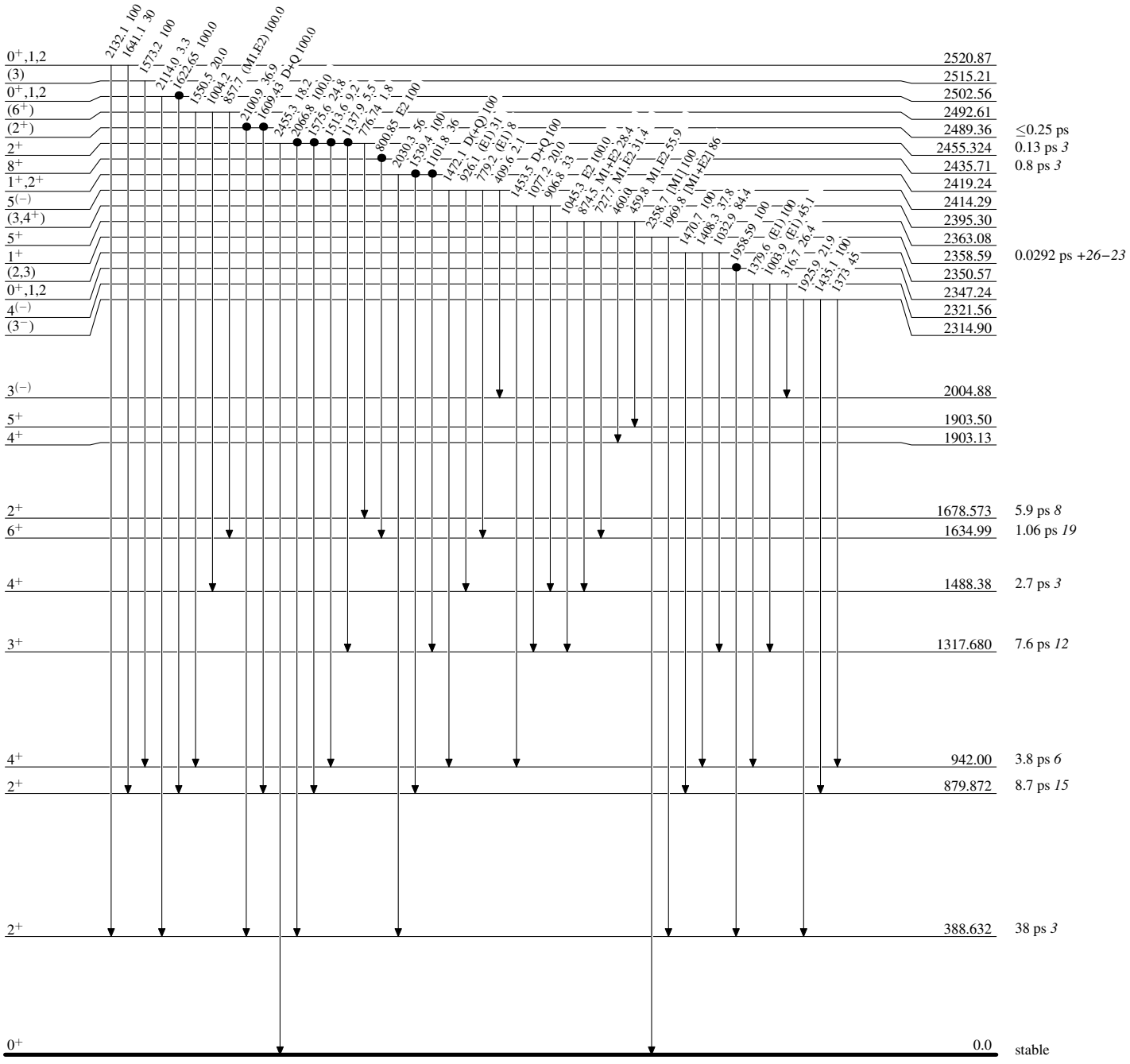
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

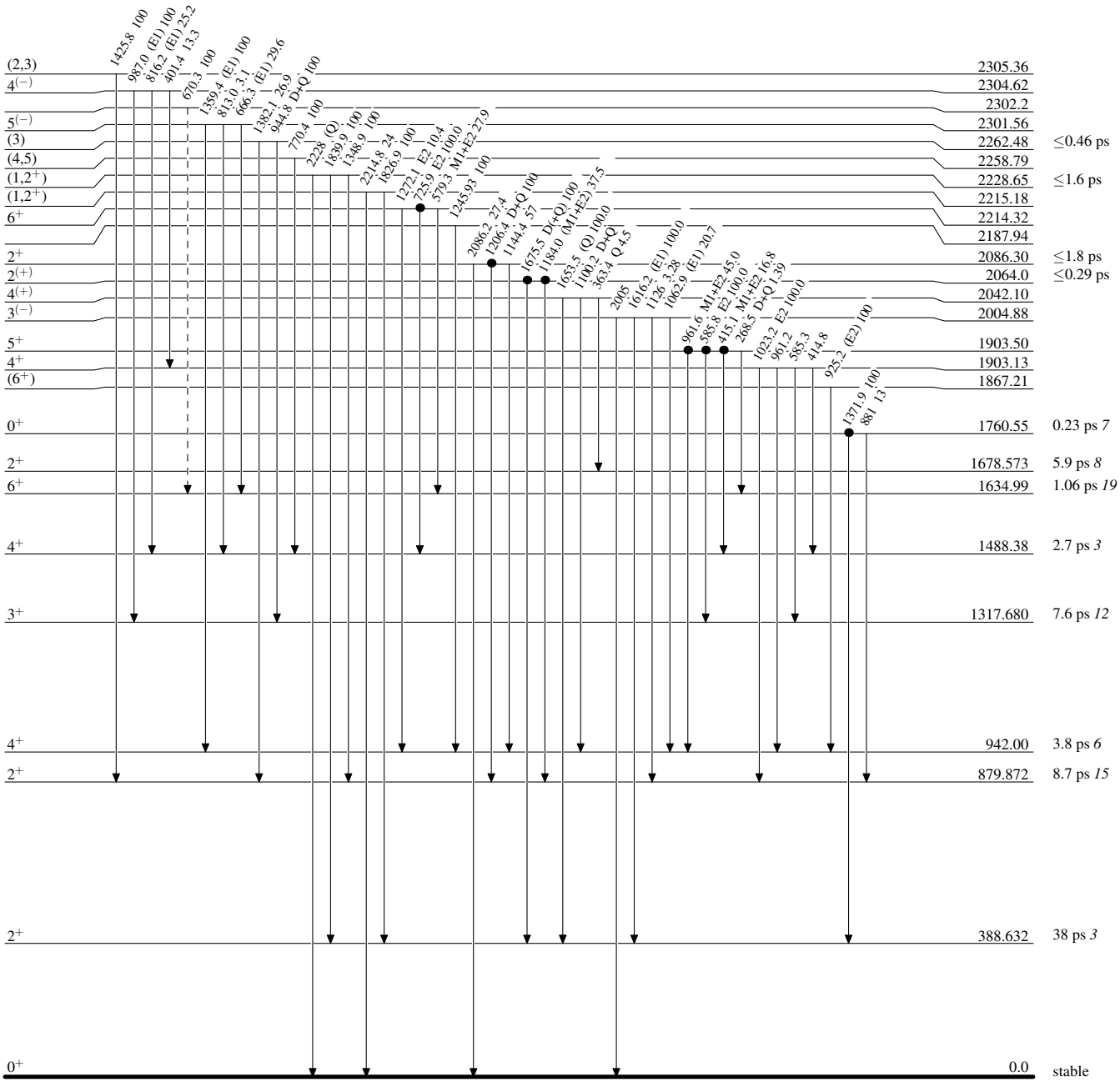
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

● Coincidence



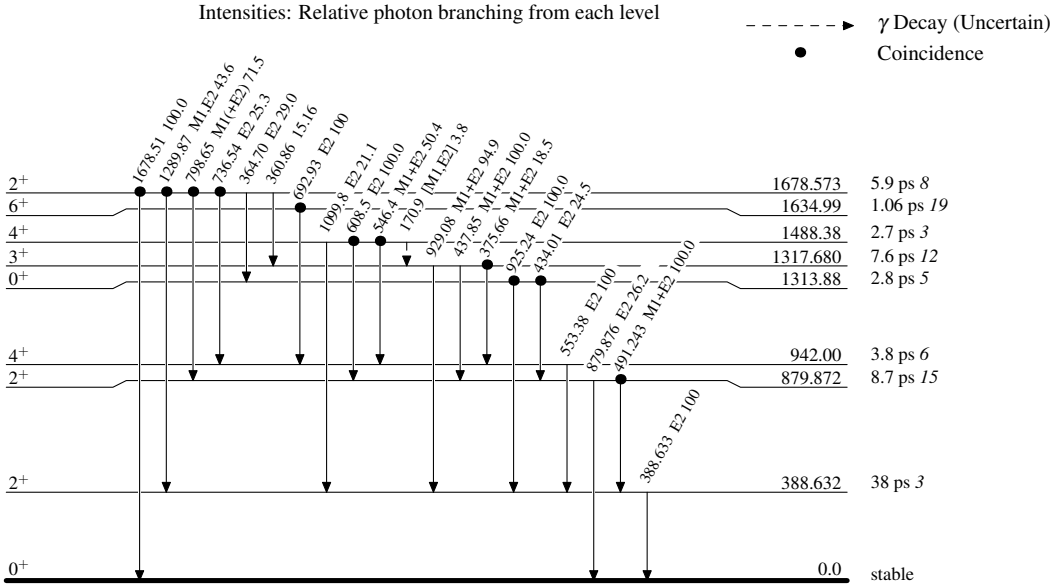
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas

Legend

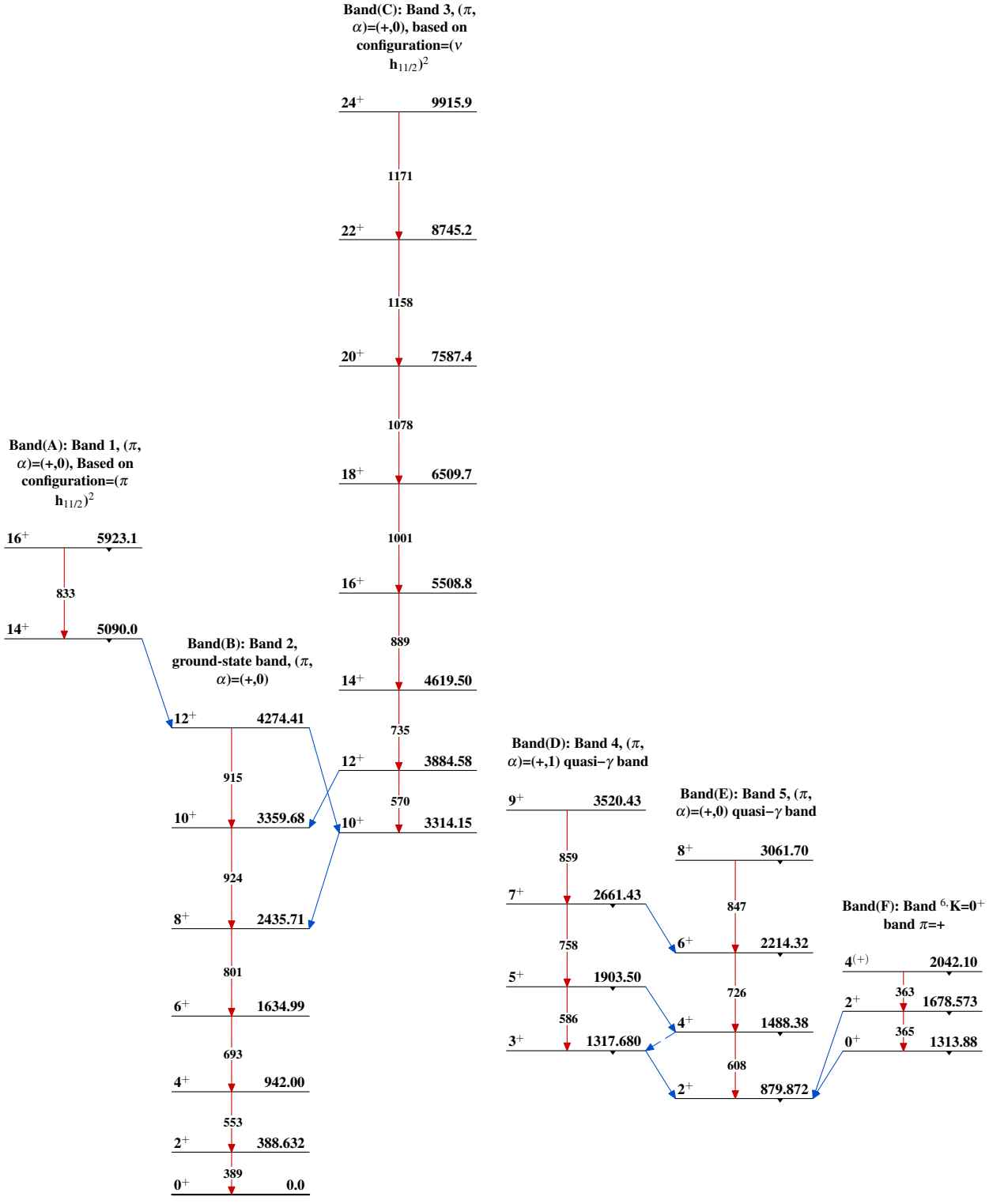
Level Scheme (continued)

Intensities: Relative photon branching from each level



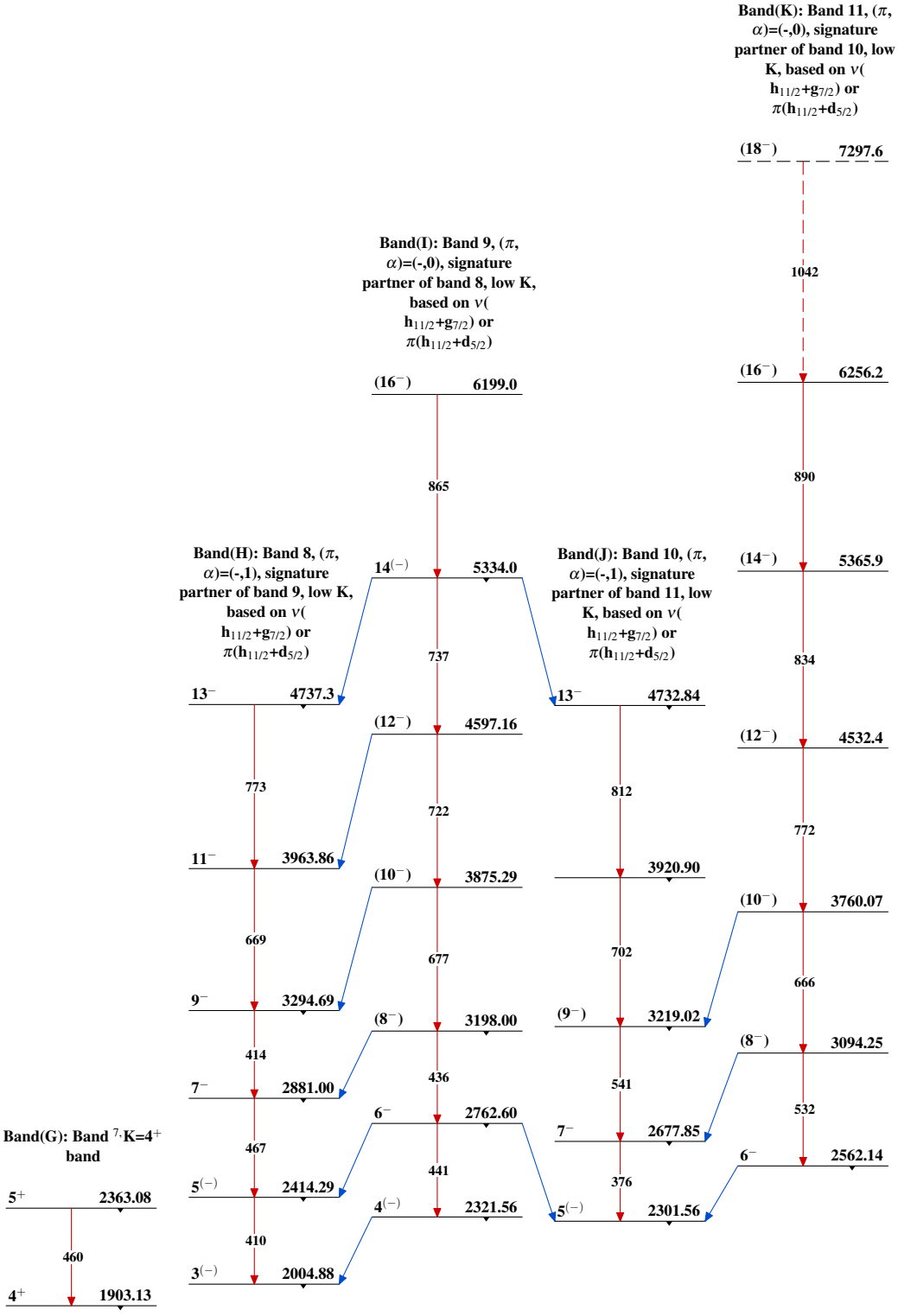
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas



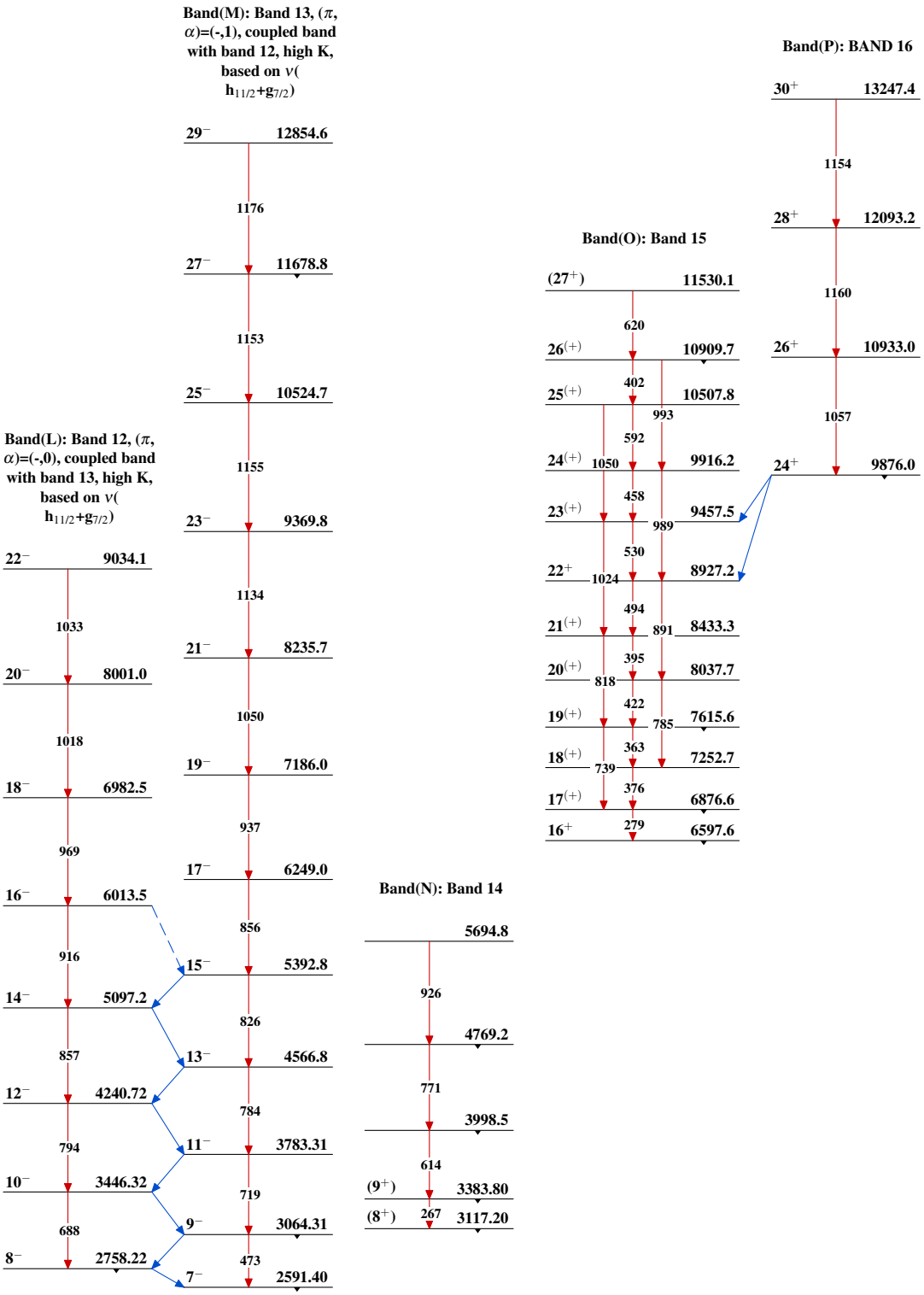
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas (continued)



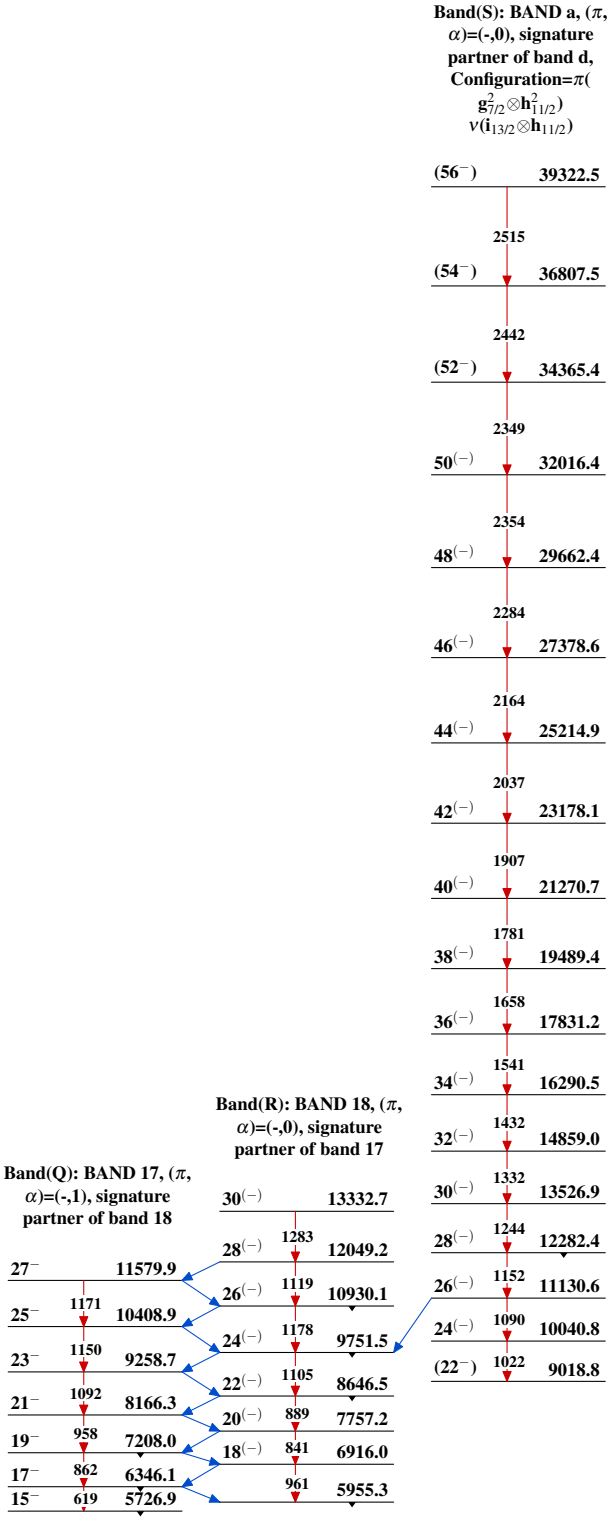
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas (continued)



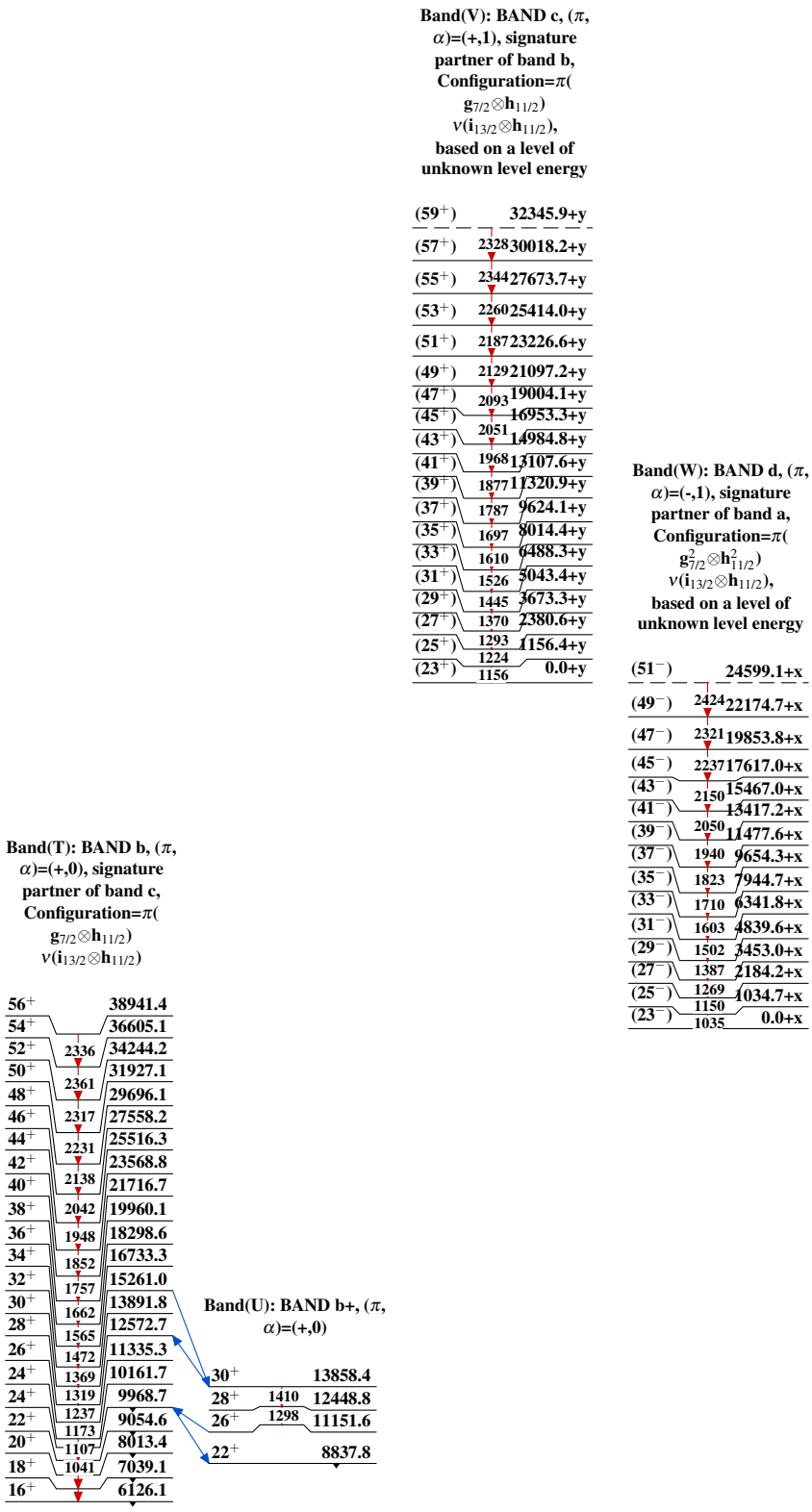
$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas (continued)



$^{126}_{54}Xe_{72}$

Adopted Levels, Gammas (continued)



Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Zoltan Elekes and Janos Timar	NDS 129,191 (2015)	28-Feb-2015

Q(β^-)=−3929 *5*; S(n)=9610 *4*; S(p)=8165 *4*; Q(α)=−1759.9 *18* 2012Wa38

^{128}Xe Levels

Cross Reference (XREF) Flags

A	^{128}I β^- decay (24.99 min)	E	Coulomb excitation
B	^{128}Cs ε decay (3.66 min)	F	(HI,xnγ)
C	^{125}Te(α,nγ),^{126}Te(α,2nγ)	G	^{128}Xe(γ,γ')
D	^{126}Te(^{3}He,n)		

E(level)	J$^\pi$	T$_{1/2}$[‡]	XREF	Comments
0.0[†]	0$^+$	stable	ABCDEFG	
442.911[†] *9*	2$^+$	18 ps *4*	ABCDEFG	μ=+0.82 *14* μ: from ion implantation PAC in Coulomb excitation value from 1977Ar19. Other: +0.62 *6* (lifetime-dependent value) (1975Go18). J$^\pi$: E2 γ to 0$^+$. T$_{1/2}$: from B(E2) 20.7 ps *4* can be derived. B(E2)=0.817 *16*. The value is weighted average of 0.90 *10* (1993Sr01), 0.69 *5* (1975Go18), 0.89 *23* (1958Pi05), 0.79 *4* (1975EdZY) and 0.825 *+11−12* (2006Mu04).
969.475[d] *11*	2$^+$	4.78 ps *28*	ABC EFG	J$^\pi$: E2 γ to 0$^+$. T$_{1/2}$: from B(E2) and γ branching 5.7 ps *5* can be derived. Other: <4 ns in (α,2nγ) (1981Go04). B(E2)(0$^+$: 0 level)=0.012 *1*, B(M1)(2$^+$: 443 level)=0.0023 *+20−11*, B(E2)(2$^+$: 443 level)=0.19 *2*; Iγ(526γ):Iγ(969γ)=11.2 *6*:3.1 *4* (1993Sr01). B(E2) values from 2009Co24 were not used since the branching ratios are uncertain.
1033.149[†] *19*	4$^+$	3.33 ps *14*	BC EF	J$^\pi$: E2 γ to 2$^+$, g.s. band member. T$_{1/2}$: from B(E2) 3.33 ps *16* can be derived. Other: <4 ns from (α,2nγ) (1981Go04). B(E2)(2$^+$: 443 level)=0.429 *24*. Weighted average of 0.41 *4* (1993Sr01) and 0.44 *3* (2009Co24).
1429.56[d] *3*	3$^+$	1.59 ps *21*	BC EF	J$^\pi$: M1+E2 γ's to 4$^+$ and 2$^+$. T$_{1/2}$: from (α,2nγ) (1981Go04).
1582.976 *15*	0$^+$		ABC E	J$^\pi$: E2 γ to 2$^+$.
1603.50[d] *15*	4$^+$	2.43 ps *14*	C EF	J$^\pi$: E2 γ to 2$^+$, M1+E2 γ to 4$^+$. T$_{1/2}$: from B(E2) 2.28 ps *23* can be derived. B(E2)(4$^+$: 1033 level)=0.114 *10* (weighted average of 0.11 *2* (1993Sr01) and 0.115 *12* (2009Co24)), B(M1)(4$^+$: 1033 level)=0.009 *2* (1993Sr01), B(E2)(2$^+$: 969 level)=0.210 *19* (weighted average of 0.22 *4* (1993Sr01) and 0.207 *21* (2009Co24)), B(E2)(2$^+$: 443 level)=0.0036 *3* (weighted average of 0.0036 *5* (1993Sr01) and 0.0036 *4* (2009Co24)).
1737.29[†] *16*	6$^+$	1.39 ps *7*	C EF	J$^\pi$: E2 γ to 4$^+$, g.s. band member. T$_{1/2}$: from B(E2) 1.00 ps *9* can be derived. Other: <4 ns in (α,2nγ) (1981Go04). B(E2)(4$^+$: 1033 level)=0.47 *7*. Weighted average of 0.43 *4* (1993Sr01) and 0.59 *7* (2009Co24).
1877.33 *8*	0$^+$	0.18 ps *3*	ABCDE	XREF: D(1850). J$^\pi$: L=0 in ^{128}Te(^{3}He,n). T$_{1/2}$: from B(E2) in Coulomb excitation.
1996.74[d] *19*	5$^+$		C F	J$^\pi$: E2 γ to 3$^+$, D+Q γ to 4$^+$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{128}Xe Levels (continued)

E(level)	Jπ	$T_{1/2}$‡	XREF	Comments
1999.645 *21*	$(2)^+$		BC	Jπ: M1+E2 γ to 2^+, γ′s to 4^+ and 0^+.
2023.06 *20*	(4^+)		C	Jπ: D+Q γ′s to 2^+ and 4^+.
2127.06 *3*	$1^+,2^+,3^+$	0.12 ps *5*	BC E	Jπ: M1(+E2) γ to 2^+. $T_{1/2}$: from DSAM in (α,nγ) (1997Wi18). 0.16 ps *5* from B(E2) in Coulomb excitation.
2138.68 *20*	(3^-)		C E	Jπ: D+Q γ to 2^+, excitation in (α,nγ).
2165.9 *4*	(4)		C E	Jπ: from excitation in (α,nγ).
2191.0 *10*	1[g]		G	
2229.22[a] *20*	5^-	<6 ns	C EF	Jπ: E1 γ to 4^+, γ to 6^+. $T_{1/2}$: from (α,2nγ) (1981Go04).
2252.89 *6*			BC	
2272.85 *3*	(2^+)		BC	Jπ: (M1) γ to 2^+, γ to 4^+.
2276.0 *10*	1[g]		G	
2280.93[d] *19*	$(6)^+$	<4 ns	C EF	Jπ: M1+E2 γ to 6^+, band member. $T_{1/2}$: from (α,2nγ) (1981Go04).
2305.7 *3*	(3)		C	Jπ: from excitation in (α,nγ).
2336.05 *21*	(4)		C	Jπ: from excitation in (α,nγ).
2360.0 *10*	1[g]		G	
2361.6 *3*	(3)		C E	Jπ: from excitation in (α,nγ).
2361.80 *4*	$(1,2^+)$		BC	Jπ: γ to 0^+.
2388.81 *24*	$(3,4^+)$		C	Jπ: D γ to 4^+, γ to 2^+.
2416.0 *10*	1[g]		G	
2421.08 *4*			B	
2430.69 *3*	$(1,2^+)$		BC E	Jπ: D γ to 2^+, γ to 0^+.
2438.8 *3*			C	
2443.92 *16*			B	
2444.0 *5*			C	
2462.73 *22*	(4)		C	Jπ: from excitation in (α,nγ).
2469.65 *22*	3,4,5		C	Jπ: D γ to 4^+.
2469.9 *5*			C	
2482.51 *3*	(2)		BC	Jπ: from excitation in (α,nγ).
2500.84[&] *21*	6^-	<3 ns	C F	Jπ: M1+E2 γ to 5^-, E1+M2 γ to 5^+.
2509.2 *4*	(3)		C	Jπ: from excitation in (α,nγ).
2510.71 *3*	(2)		BC	Jπ: γ′s to 0^+ and 4^+.
2512.9[†] *3*	8^+	0.55 ps *6*	C EF	Jπ: E2 γ to 6^+, g.s. band member. $T_{1/2}$: from B(E2) in Coulomb excitation. Other: <3 ns in (α,2nγ) (1981Go04).
2521.37 *6*			B	
2547.1 *3*			C E	
2550.67 *18*	(≤2)		B	Jπ: γ to 0^+.
2553.7 *5*	(5)		C	Jπ: from excitation in (α,nγ), D γ to 4^+.
2564.78 *15*	1[g]		B G	
2583.27[a] *23*	7^-		C F	Jπ: E2 γ to 5^-, E1+M2 γ to 6^+.
2591.57 *4*	$(1,2^+)$		BC E	Jπ: γ to 0^+ and 3^+.
2595.8 *3*	(4)		C	Jπ: from excitation in (α,nγ).
2598.58 *3*	0^+		B	Jπ: E2 γ to 2^+, γγ(θ) analysis.
2601.2 *3*	(5)		C	Jπ: from excitation in (α,nγ).
2608.7 *4*	$(3,4^+)$		C	Jπ: D̂ G to 4^+, G to 2^+.
2633.00 *3*	2^+		BCD	XREF: D(2670). Jπ: L=2 in (^{3}He,n).
2643.1 *4*	$(4,5,6^+)$		C	Jπ: D+Q γ to 5^+, γ to 4^+.
2645.84 *24*	(4)		C	Jπ: from excitation in (α,nγ).
2687.5 *5*			C	
2693.4 *4*			C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{128}Xe Levels (continued)

E(level)	Jπ	$T_{1/2}$‡	XREF	Comments
2698.0 *3*	(6⁻)		C	Jπ: D+Q γ's to 5⁻ and 5⁺, excitation in (α,nγ) and (α,2nγ) exclude J=4, 5.
2718.50 *6*	(1,2⁺)		B E	Jπ: γ's to 0⁺ and 2⁺.
2720.0 *3*	(6⁻)	<5 ns	C F	Jπ: M1+E2 γ to 5⁻, excitation in (α,2nγ) excludes J=4, 5.
2724.0 *10*	1[g]		G	
2726.22 *15*			B	
2730.6 *4*			C	
2734.2 *4*	5,6		C	Jπ: D γ to 5⁺, D+Q γ to 6⁺.
2735.5 *5*			C	
2736.7 *5*			C	
2747.0 *3*	4,5,6		C	Jπ: D+Q γ to 5⁻.
2752.0 *5*			C	
2756.4 *3*	(2⁺,3⁺,4⁺)		C	Jπ: (E2) γ to 4⁺, γ to 2⁺.
2776.0 *10*	1[g]		G	
2777.0 *3*			C	
2779.1 *5*			C	
2787.2[e] *3*	8⁻	83 ns *2*	C F	μ=−0.29 *7* μ: from time dependent perturbed angular distribution not include a Knight-shift correction (2001StZZ). Configuration=($\nu h_{11/2}$)($\nu g_{7/2}$) suggested by μ. $T_{1/2}$: from (HI,xnγ) (1984Lo07). Other: 63 ns *12* from (α,2nγ) (1981Go04). Jπ: E2(+M1) γ to 7⁻, J=8 from μ.
2792.0 *4*			C	
2794.4 *5*			C	
2807.00 *17*			B	
2819.9 *3*	(6)		C	Jπ: from excitation in (α,2n).
2820.0 *4*			C	
2822.8 *3*	(5⁻,6)		C	Jπ: γ's to 4 and 7⁻.
2823.3 *3*	(1,2⁺)		B	Jπ: γ's to 0⁺ and 2⁺.
2827.9 *5*			C	
2837.59 *4*	(2⁺)		B	Jπ: γ's to 0⁺ and 4⁺.
2837.8 *6*	1[g]		G	
2839.8 *6*			C	
2842.3 *3*	(5⁻)		C	Jπ: γ's to 4⁺ and 6⁺.
2846.4 *5*			C	
2851.5 *5*			C	
2859.51 *4*	(1,2⁺)		B	Jπ: γ's to 0⁺ and 2⁺.
2864.6 *4*			C	
2873.8 *5*			C	
2876.7 *5*			B	
2877.4 *5*			C	
2881.4 *5*	5,6,7		C	Jπ: D+Q γ to 6⁺.
2882.3 *5*			C	
2892.1 *5*			C	
2908.7 *4*	(4⁻,5,6⁺)		C	Jπ: γ's to 6⁻ and 4⁺.
2920.0 *5*			C	
2922.2 *5*			C	
2937.82 *11*	(1,2⁺)		B	Jπ: γ's to 0⁺ and 2⁺.
2941.9 *5*			C	
2942.1 *6*	(10⁺)	<4 ns	C F	Jπ: E2 γ to 8⁺.
2943.0 *4*			C	
2944.26 *23*	(4⁺)		C	Jπ: γ's to 2⁺ and 6⁺.
2954.9 *3*			C	
2974.2[d] *3*	(8)⁺		C F	Jπ: Q γ to 8⁺, γ to (6)⁺, band member.
2980.3 *5*	3,4,5		C	Jπ: D+Q γ to 4⁺.
2981.3 *5*			C	
2985.4 *3*	(7)		C	Jπ: from excitation in (α,2nγ).

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Adopted Levels, Gammas (continued)

^{128}Xe Levels (continued)

E(level)	Jπ	$T_{1/2}$‡	XREF	Comments
2997.9 *5*	5,6,7		C	Jπ: d(+Q) γ to 6+.
3007.7 *5*			C	
3013.2 *5*			C	
3016.2 *5*			C	
3026.2 *3*	(4+,5,6+)		C	Jπ: γ's to 4+ and 6+.
3042.8 *4*	(3+,4,5+)		C	Jπ: γ's to 3+ and 5+.
3050.8& *4*	8−		C F	Jπ: E2 γ to 6−, γ to 7−, band member.
3060.32 *15*	(1,2+)		B	Jπ: γ's to 0+ and 2+.
3068.6 *4*			C	
3075.2 *5*			C	
3077.6 *5*			C	
3079.9 *3*			C	
3084.4 *4*			C	
3099.59 *6*	(1,2+)		B	Jπ: γ's to 0+ and 2+.
3104.9 *3*	1g		B G	
3110.50 *7*	(1,2+)		B	Jπ: γ's to 0+ and 2+.
3113.4 *3*			C	
3115.0e *3*	9−		C F	Jπ: E2 γ to 7−, D+Q γ to 8−, band member.
3133.4 *5*			C	
3182.2 *4*	(6−,7,8−)		C	Jπ: γ's to 6− and 8−.
3186.7 *5*			C	
3195.7 *3*			C	
3196.8† *6*	10+	<4 ns	C EF	Jπ: E2 γ to 8+, band member. $T_{1/2}$: from (α,2nγ) (1981Go04).
3199.5 *5*			C	
3204.0 *10*	1g		G	
3204.1 *5*			C	
3208.0a *3*	(9−)		C F	Jπ: Q γ to 7−, D+Q γ to 8−, band member.
3214.3 *7*	+		C F	Jπ: M1+E2 γ to π=+ state.
3215.5 *4*	(6+,7−)		C	Jπ: γ's to 8+ and 5−.
3224.7 *4*			C	
3237.1 *5*			C	
3237.6 *5*			C	
3244.0 *5*			C	
3250.3 *4*			C	
3256.2 *5*			C	
3259.5 *5*			C	
3292.4 *6*			C	
3297.6 *6*			C	
3298.7 *3*	(5−,6,7−)		C	Jπ: γ's to 5− and 7−.
3312.0 *7*	1g		G	
3320.6 *3*			C	
3324.0 *6*			C	
3324.6 *5*			C	
3353.4 *6*			C	
3364.6# *6*	10+	0.9 ps *3*	C EF	Jπ: E2 γ to 8+, band member. $T_{1/2}$: from B(E2) in Coulomb excitation.
3364.9 *5*			C	
3367.0 *5*			C	
3376.4 *5*			C	
3402.9 *5*			C	
3406.61 *18*	1g		B G	
3412.8f *3*	(9−)		F	Jπ: D γ to 9−, D+Q γ to (8)+.
3417.2 *5*			C	
3450.4 *5*			C	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{128}Xe Levels (continued)

E(level)	J^π	XREF	Comments
3455.0 *5*		C	
3463.0 *7*	1[g]	G	
3524.1 *10*	1[g]	G	
3.53×10^3 *12*	3$^-$	D	J^π: L=3 in ^{126}Te(^{3}He,n).
3533.2 *5*		C	
3533.6 *6*	(9$^+$)	C	J^π: from excitation in (α,2nγ).
3542.0 *5*		C	
3566.1 *10*	1[g]	G	
3587.5 *5*		C	
3590.5 *6*		C	
3593.5[e] *3*	(10$^-$)	C F	J^π: D γ to 9$^-$, γ to 8$^-$, band member.
3596.1 *5*		C	
3596.9 *7*		C	
3624.2 *5*		C	
3636.8 *5*		C	
3685.4 *8*		C	
3694.2 *5*		C	
3707.7[&] *6*	(10$^-$)	C F	J^π: Q γ to 8$^-$, band member.
3751.0 *8*		C	
3760.8 *7*	1[g]	G	
3809.4[†] *7*	12$^+$	C F	J^π: E2 γ to 10$^+$, g.s. band member.
3863.3 *5*		C	
3865.1 *10*	1[g]	G	
3883	(11,12)	C	J^π: from excitation in (α,2nγ).
3883.9[e] *4*	(11$^-$)	C F	J^π: from excitation in (α,2nγ), band member.
3920.1 *10*	1[g]	G	
3991.3 *7*	(11$^+$)	C F	J^π: from excitation in (α,2nγ).
4006.0 *6*		C	
4014	(10)	C	J^π: from excitation in (α,2nγ).
4055.8 *7*		C	
4067.5[f] *4*	(11$^-$)	C F	J^π: from excitation in (α,2nγ), Q γ to (9$^-$), band member.
4078.2[a] *4*	(11$^-$)	F	J^π: Q γ to (9$^-$), D+Q γ to (10$^-$), band member.
4088.4[c] *8*	(12$^+$)	F	J^π: D+Q γ to (10$^-$) no γ to 10$^+$ yrast state, not strongly populated state so not an yrast state.
4151.2 *6*		C	
4251.0[#] *7*	(12$^+$)	C F	J^π: from excitation in (α,2nγ), Q γ to 10$^+$, band member.
4445.4[&] *8*	12$^-$	C F	J^π: Q γ to 10$^-$, band member.
4493.2[e] *4*	(12$^-$)	F	J^π: γ's to (10$^-$) and (11$^-$), band member.
4550.0[c] *9*	(13$^+$)	F	J^π: γ to (12$^+$), band member.
4618.1[†] *8*	14$^+$	C F	J^π: Q γ to 12$^+$, g.s. band member.
4751.7[e] *5*	(13$^-$)	F	J^π: Q γ to (11$^-$), band member.
4804.7[f] *6*	(13$^-$)	F	J^π: Q γ to (11$^-$), band member.
4808.8 *7*	(13$^+$)	F	J^π: Q γ to (11$^+$), D+Q γ to 12$^+$, band member.
4869.7[c] *9*	(14$^+$)	F	J^π: γ to (12$^+$), D+Q γ to (13$^+$), band member.
4910.7[a] *4*	(13$^-$)	F	J^π: Q γ to (11$^-$), γ to (12$^-$), band member.
5097.0[#] *8*	(14$^+$)	F	J^π: Q γ to (12$^+$), band member.
5233.0[&] *9*	12$^-$	F	J^π: Q γ to (12$^-$), band member.
5288.1[@] *9*	16$^+$	F	J^π: Q γ to 14$^+$, band member.
5335.7[c] *10*	(15$^+$)	F	J^π: γ to (14$^+$), band member.
5460.8[b] *6*	(14$^-$)	F	J^π: D+Q γ to (13$^-$), band member.
5492.2 *10*	(15$^+$)	F	J^π: D+Q γ to 14$^+$, band member.
5573.3[†] *10*	16$^+$	C F	J^π: Q γ to 14$^+$, g.s. band member.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{128}Xe Levels (continued)

E(level)	J^π	XREF	Comments
5658.3[f] 7	(15^-)	F	J^π: Q γ to (13^-), band member.
5680.4[c] 10	(16^+)	F	J^π: γ's to (14^+) and (15^+), band ordering in (HI,xnγ).
5713.1[e] 7	(15^-)	F	XREF: F(5712.3). J^π: γ to (13^-), band member.
5714.9 9		F	
5817.5 8		F	
5967.7[#] 9	(16^+)	F	J^π: Q γ to (14^+), band member.
6076.7[c] 11	(17^+)	F	J^π: γ to (16^+), band ordering in (HI,xnγ).
6118.2[&] 10	16^-	F	J^π: γ to 14^-, DCO value in (HI,xnγ) and band ordering.
6186.9[@] 10	(18^+)	F	J^π: γ to (16^+), band ordering in (HI,xnγ).
6248.8[b] 7	(16^-)	F	J^π: Q γ to (14^-), band member.
6447.1[f] 8		F	
6606.2[†] 10	18^+	F	J^π: Q γ to 16^+, g.s. band member.
6646.2[e] 8	(17^-)	F	J^π: γ to (15^-), band member.
6649.6 8		F	
7016.3[c] 12	(19^+)	F	XREF: F(7014.6). J^π: γ to (17^+), band member.
7016.4[f] 10		F	
7228.7[b] 8	(18^-)	F	J^π: Q γ to (16^-), band member.
7256.8[@] 12	(20^+)	F	J^π: γ to (18^+), band member.
7711.1[†] 11	20^+	F	J^π: Q γ to 18^+, g.s. band member.
8010.9[c] 12	(21^+)	F	J^π: Q γ to (19^+), band member.
8893.1[†] 11	22^+	F	J^π: Q γ to 20^+, g.s. band member.
8948.0 11		F	

[†] Band(A): g.s. band.
[‡] From DSAM and and Differential Decay Curve Method in Coulomb excitation, unless otherwise noted.
[#] Band(B): band based on 10^+.
[@] Band(C): band based on (16^+).
[&] Band(D): $\nu 9/2[514]\otimes\nu 1/2[400]$, $K^\pi=5^-$, $\alpha=0$.
[a] Band(E): $\nu 9/2[514]\otimes\nu 1/2[400]$, $K^\pi=5^-$, $\alpha=1$.
[b] Band(F): band based on (14^-).
[c] Band(G): 4-quasiparticle band.
[d] Band(H): $K^\pi=2^+$, γ band.
[e] Band(I): $\nu 9/2[514]\otimes\nu 7/2[404]$, $K^\pi=8^-$.
[f] Band(J): bAND based on (9^-).
[g] From the intensity ratio of γ rays measured at two angles in ^{128}Xe(γ,γ').

Adopted Levels, Gammas (continued)

γ(^{128}Xe)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
442.911	2^+	442.901 *10*	100	0.0	0^+	E2		0.01268	α(K)=0.01068 *15*; α(L)=0.001599 *23*; α(M)=0.000328 *5*; α(N)=6.70×10^{-5} *10*; α(O)=7.96×10^{-6} *12* B(E2)(W.u.)=48 *11*
969.475	2^+	526.557 *14*	100 *2*	442.911	2^+	M1+E2	+4.4 *7*	0.00788 *12*	α(K)=0.00669 *10*; α(L)=0.000951 *14*; α(M)=0.000194 *3*; α(N)=3.98×10^{-5} *6*; α(O)=4.80×10^{-6} *7* B(E2)(W.u.)=57 *4*; B(M1)(W.u.)=0.0012 *4* δ: others: δ=+5.7 *+24−17* or δ=−0.25 *+5−7* in (^{3}He,3nγ); +6 *+4−2* in ^{128}Cs ε decay.
		969.458 *20*	26.8 *5*	0.0	0^+	E2		1.73×10^{-3}	α(K)=0.001494 *21*; α(L)=0.000192 *3*; α(M)=3.89×10^{-5} *6*; α(N)=8.04×10^{-6} *12*; α(O)=9.96×10^{-7} *14* B(E2)(W.u.)=0.76 *5*
1033.149	4^+	590.24 *2*	100	442.911	2^+	E2		0.00573	α(K)=0.00488 *7*; α(L)=0.000681 *10*; α(M)=0.0001388 *20*; α(N)=2.85×10^{-5} *4*; α(O)=3.45×10^{-6} *5* B(E2)(W.u.)=62 *3*
1429.56	3^+	396.5[&] *5*	18.4 *5*	1033.149	4^+	M1+E2	+2.8 *3*	0.0178 *3*	α(K)=0.01500 *23*; α(L)=0.00227 *4*; α(M)=0.000465 *7*; α(N)=9.51×10^{-5} *14*; α(O)=1.128×10^{-5} *17* B(E2)(W.u.)=72 *10*; B(M1)(W.u.)=0.0021 *5* δ: other: >0.11 (1981Go04).
		460.1 *1*	100.0 *20*	969.475	2^+	M1+E2	+7.8 *8*	0.01140	α(K)=0.00962 *14*; α(L)=0.001421 *20*; α(M)=0.000291 *4*; α(N)=5.95×10^{-5} *9*; α(O)=7.10×10^{-6} *10* B(E2)(W.u.)=2.1×10^2 *3*; B(M1)(W.u.)=0.0011 *3* δ: others: δ=+6.3 *+32−18* or δ=+0.45 *+8−5* (1981Go04).
		986.64 *3*	95.2 *17*	442.911	2^+	M1+E2	+1.7 *1*	0.00181	α(K)=0.001560 *25*; α(L)=0.000198 *3*; α(M)=4.00×10^{-5} *7*; α(N)=8.27×10^{-6} *13*; α(O)=1.031×10^{-6} *16* B(E2)(W.u.)=3.3 *5*; B(M1)(W.u.)=0.0016 *3*
1582.976	0^+	613.493 *13*	64 *4*	969.475	2^+	E2		0.00518	α(K)=0.00441 *7*; α(L)=0.000611 *9*; α(M)=0.0001246 *18*; α(N)=2.56×10^{-5} *4*; α(O)=3.11×10^{-6} *5*
		1140.079 *23*	100 *5*	442.911	2^+	E2		1.23×10^{-3}	α(K)=0.001057 *15*; α(L)=0.0001337 *19*; α(M)=2.70×10^{-5} *4*; α(N)=5.58×10^{-6} *8*; α(O)=6.95×10^{-7} *10*
1603.50	4^+	570.4[&] *5*	77.2 *19*	1033.149	4^+	M1+E2	+1.9 *+3−5*	0.00666 *24*	α(K)=0.00569 *22*; α(L)=0.000777 *19*; α(M)=0.000158 *4*; α(N)=3.26×10^{-5} *8*; α(O)=3.97×10^{-6} *12* B(E2)(W.u.)=28 *3*; B(M1)(W.u.)=0.0038 *10* δ: others: δ=−0.25 *9* or δ=+1.48 *+40−29* (1981Go04).
		634.0[&] *5*	100.0 *19*	969.475	2^+	E2		0.00476	α(K)=0.00406 *6*; α(L)=0.000559 *8*; α(M)=0.0001138 *17*; α(N)=2.34×10^{-5} *4*; α(O)=2.84×10^{-6} *4* B(E2)(W.u.)=27.7 *18*
		1160.6[&] *5*	36.1 *10*	442.911	2^+	Q			
1737.29	6^+	704.2[&] *5*	100	1033.149	4^+	E2		0.00365	α(K)=0.00313 *5*; α(L)=0.000422 *6*; α(M)=8.58×10^{-5} *13*;

$^{128}_{54}Xe_{74}$-7

Adopted Levels, Gammas (continued)

$\gamma(^{128}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
									α(N)=1.765×10^{-5} *25*; α(O)=2.16×10^{-6} *3* B(E2)(W.u.)=61 *3*
1877.33	0$^+$	908.2[&] *5*	19 *3*	969.475	2$^+$				
		1434.40 *8*	100 *11*	442.911	2$^+$	E2		8.26×10^{-4}	α(K)=0.000665 *10*; α(L)=8.24×10^{-5} *12*; α(M)=1.663×10^{-5} *24*; α(N)=3.44×10^{-6} *5*; α(O)=4.30×10^{-7} *6* B(E2)(W.u.)=11 *3* Mult.: Q from $\gamma(\theta)$, M1+E2 from RUL.
1996.74	5$^+$	259.5[&] *5*	2.0 *2*	1737.29	6$^+$			0.065 *4*	δ: +1.4 *9* is given in 1996Ne04, but no M indicated.
		393.2[&] *5*	13.4 *8*	1603.50	4$^+$	D+Q	+3.9 *+13−4*	0.0182 *2*	
		567.2[&] *5*	100 *2*	1429.56	3$^+$	E2		0.00637	α(K)=0.00541 *8*; α(L)=0.000762 *11*; α(M)=0.0001555 *23*; α(N)=3.19×10^{-5} *5*; α(O)=3.86×10^{-6} *6*
		963.6[&] *5*	51.7 *13*	1033.149	4$^+$	D+Q	+1.7 *+1−2*		
1999.645	(2)$^+$	416.8[&] *5*		1582.976	0$^+$				
		570.0[&] *5*		1429.56	3$^+$				
		966.48 *4*	100 *8*	1033.149	4$^+$	D,Q			
		1030.170 *21*	5.1 *3*	969.475	2$^+$	M1+E2	+3.4 *2*	1.56×10^{-3} *2*	α(K)=0.001344 *20*; α(L)=0.0001711 *25*; α(M)=3.46×10^{-5} *5*; α(N)=7.15×10^{-6} *11* α(O)=8.89×10^{-7} *13*
		1556.71 *7*	38.8 *25*	442.911	2$^+$				
		1999.7 *4*	2.3 *8*	0.0	0$^+$				
2023.06	(4$^+$)	419.6[&] *5*	14.6 *15*	1603.50	4$^+$	D+Q	−1.1 *+3−4*	0.0160 *4*	
		593.5[&] *5*	58.6 *18*	1429.56	3$^+$	D+Q	+3.9 *+6−8*		
		990.0[&] *5*	69.8 *23*	1033.149	4$^+$	D+Q	−1.1 *+1−2*		
		1053.5[&] *5*	100 *3*	969.475	2$^+$	D,Q			
2127.06	1$^+$,2$^+$,3$^+$	1157.54 *7*	6.3 *9*	969.475	2$^+$				
		1684.14 *3*	100 *2*	442.911	2$^+$	M1(+E2)	+0.08 *6*	8.22×10^{-4}	α(K)=0.000584 *9*; α(L)=7.12×10^{-5} *10*; α(M)=1.435×10^{-5} *21*; α(N)=2.98×10^{-6} *5*; α(O)=3.75×10^{-7} *6* B(E2)(W.u.)=(0.05 *+8−5*); B(M1)(W.u.)=(0.032 *14*) δ: from ^{128}Cs ε decay (3.66 min).
		2127.1 *10*	12.2 *14*	0.0	0$^+$				E_γ: from Coulomb excitation.
2138.68	(3$^-$)	1105.4[&] *5*		1033.149	4$^+$				
		1695.8[&] *5*		442.911	2$^+$	D+Q	−0.05 *5*		B(E1)(W.u.)=0.00045 *19*; B(M2)(W.u.)=2 *+4−2*
		2138.7 *10*		0.0	0$^+$				E_γ: from Coulomb excitation.
2165.9	(4)	1132.7[&] *5*	100	1033.149	4$^+$				

$^{128}_{54}Xe_{74}$-8

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
2191.0	1	2191		0.0	0^+				E_γ: from ^{128}Xe(γ,γ′).
2229.22	5^-	491.9[&b] *5*	5.0 *5*	1737.29	6^+				δ: −0.02 +*6*−*7* is given in 1996Ne04 but M is not indicated.
		625.8[&] *5*	15.2 *5*	1603.50	4^+	E1+M2	−0.05 +*3*−*6*	0.00182 *17*	α(K)=0.00158 *14*; α(L)=0.000194 *20*; α(M)=3.9×10^{-5} *4*; α(N)=8.1×10^{-6} *9*; α(O)=1.01×10^{-6} *11* B(E1)(W.u.)>2.3×10^{-8}
		1196.1[&] *5*	100.0 *22*	1033.149	4^+	E1		5.21×10^{-4}	α(K)=0.000428 *6*; α(L)=5.14×10^{-5} *8*; α(M)=1.034×10^{-5} *15*; α(N)=2.14×10^{-6} *3*; α(O)=2.69×10^{-7} *4* B(E1)(W.u.)>2.2×10^{-8}
2252.89		1283.41 *6*	100 *14*	969.475	2^+	D,Q			
		1810.0 *2*	72 *6*	442.911	2^+				
2272.85	(2^+)	1239.75 *6*	10.3 *14*	1033.149	4^+				
		1303.36 *3*	100 *3*	969.475	2^+	(M1)		1.20×10^{-3}	α(K)=0.001021 *15*; α(L)=0.0001252 *18*; α(M)=2.53×10^{-5} *4*; α(N)=5.24×10^{-6} *8*; α(O)=6.60×10^{-7} *10*
		1829.9 *1*	5.5 *7*	442.911	2^+				
2276.0	1	2276		0.0	0^+				E_γ: from ^{128}Xe(γ,γ′).
2280.93	$(6)^+$	543.6[&] *5*	100.0 *24*	1737.29	6^+	M1+E2	+0.18 +*7*−*9*	0.00901 *14*	α(K)=0.00778 *12*; α(L)=0.000983 *15*; α(M)=0.000199 *3*; α(N)=4.12×10^{-5} *6*; α(O)=5.17×10^{-6} *8* B(E2)(W.u.)>0.00043; B(M1)(W.u.)>2.3×10^{-5}
		677.2[&] *5*	37.4 *15*	1603.50	4^+	D,Q			
2305.7	(3)	876.2[&] *5*	100 *4*	1429.56	3^+	D,Q			
		1272.5[&] *5*		1033.149	4^+				
		1336.1[&] *5*		969.475	2^+				
2336.05	(4)	313.0[&] *5*	19.5 *24*	2023.06	(4^+)	D(+Q)			
		732.7[&] *5*	60	1603.50	4^+				
		906.5[&] *5*	100 *3*	1429.56	3^+	D+Q			
		1302.8[&] *5*	45	1033.149	4^+				
2360.0	1	2360		0.0	0^+				E_γ: from ^{128}Xe(γ,γ′).
2361.6	(3)	222.9[&] *5*		2138.68	(3^-)				
		1328.3[&] *5*	19 *5*	1033.149	4^+				
		1392.1[&] *5*	100 *4*	969.475	2^+				
2361.80	$(1,2^+)$	1392.31 *15*	29 *3*	969.475	2^+				

$^{128}_{54}Xe_{74}$-9

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
2361.80	(1,2$^+$)	1918.87 *5*	80 *4*	442.911	2$^+$				
		2361.8 *1*	100 *9*	0.0	0$^+$				
2388.81	(3,4$^+$)	222.8[&] *5*		2165.9	(4)				
		785.4[&] *5*	100 *5*	1603.50	4$^+$	D,Q			
		959.4[&] *5*		1429.56	3$^+$				
		1355.6[&] *5*	81 *5*	1033.149	4$^+$	D			
		1419.2[&] *5*		969.475	2$^+$				
2416.0	1	2416		0.0	0$^+$				E_γ: from ^{128}Xe(γ,γ′).
2421.08		1978.15 *4*	100	442.911	2$^+$				
2430.69	(1,2$^+$)	1461.19 *4*	100 *6*	969.475	2$^+$				E_γ: not reported in (α,nγ),(α,2nγ),(^{3}He,3nγ).
		1987.80 *7*	92 *5*	442.911	2$^+$	D			
		2430.70 *8*	20.4 *19*	0.0	0$^+$				E_γ: not reported in (α,nγ),(α,2nγ),(^{3}He,3nγ).
2438.8		415.7[&] *5*	33 *3*	2023.06	(4$^+$)				δ: −0.9 *+3−7* is given in 1996Ne04 but M is not indicated.
		835.2[&] *5*	34 *3*	1603.50	4$^+$				δ: −0.05 *+16−13* is given in 1996Ne04 but M is not indicated.
		1009.2[&] *5*	100 *5*	1429.56	3$^+$	D,Q			
2443.92		1474.42 *18*	100 *22*	969.475	2$^+$				
		2001.1 *4*	11 *6*	442.911	2$^+$				
2444.0		1014.4[&] *5*		1429.56	3$^+$				
2462.73	(4)	324.0[&] *5*	100 *3*	2138.68	(3$^-$)	D+Q			
		1033.2[&] *5*	17 *2*	1429.56	3$^+$				
		1429.7[&] *5*	89 *4*	1033.149	4$^+$	D,Q			
2469.65	3,4,5	1436.5[&] *5*	100	1033.149	4$^+$	D			
2469.9		732.6[&] *5*	100	1737.29	6$^+$				
2482.51	(2)	1513.01 *4*	100 *4*	969.475	2$^+$				
		2039.56 *5*	61 *5*	442.911	2$^+$				
		2482.7 *1*	5.6 *5*	0.0	0$^+$				
2500.84	6$^-$	271.7[&] *5*	100 *3*	2229.22	5$^-$	M1+E2	−3.1 *+3−8*	0.0572 *9*	α(K)=0.0470 *8*; α(L)=0.00817 *16*; α(M)=0.00169 *4*; α(N)=0.000343 *7*; α(O)=3.93×10^{-5} *7* B(E2)(W.u.)>1.7; B(M1)(W.u.)>1.6×10^{-5}
		504.2[&] *5*	46 *2*	1996.74	5$^+$	E1+M2	+0.02 *+3−6*	0.00290 *8*	α(K)=0.00251 *7*; α(L)=0.000311 *10*; α(M)=6.26×10^{-5} *19*; α(N)=1.29×10^{-5} *4*; α(O)=1.61×10^{-6} *5* B(E1)(W.u.)>1.8×10^{-7}
		763.3[@] *4*	20 *2*	1737.29	6$^+$				
2509.2	(3)	1476.2[&] *5*		1033.149	4$^+$				
		2066.2[&] *5*	100 *4*	442.911	2$^+$				
2510.71	(2)	1081.11 *5*	91 *6*	1429.56	3$^+$				

$^{128}_{54}Xe_{74}$-10

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
2510.71	(2)	1477.66 *9*	50 *8*	1033.149	4^+				
		1541.21 *6*	100 *8*	969.475	2^+	D,Q			
		2067.7 *1*	20 *3*	442.911	2^+				
		2510.78 *9*	18.2 *15*	0.0	0^+				
2512.9	8^+	775.6[&] *5*	100	1737.29	6^+	E2		0.00289	α(K)=0.00248 *4*; α(L)=0.000329 *5*; α(M)=6.69×10^{-5} *10*; α(N)=1.377×10^{-5} *20*; α(O)=1.691×10^{-6} *24* B(E2)(W.u.)=95 *11*
2521.37		1488.8 *6*	11 *4*	1033.149	4^+				
		1552.3 *1*	13 *4*	969.475	2^+				
		2078.23 *7*	100 *9*	442.911	2^+				
2547.1		266.2[&] *5*		2280.93	$(6)^+$				
		809.8[&] *5*	100 *4*	1737.29	6^+	D,Q			
		943.6[&] *5*		1603.50	4^+				
2550.67	(≤2)	2107.8 *2*	100 *25*	442.911	2^+				
		2550.4 *4*	38 *13*	0.0	0^+				
2553.7	(5)	1520.5[&] *5*	100	1033.149	4^+	D			
2564.78	1	2121.8 *5*	50 *25*	442.911	2^+				
		2564.76 *16*	100 *13*	0.0	0^+				
2583.27	7^-	302.4[&] *5*	<3	2280.93	$(6)^+$				
		354.0[&] *5*	20 *2*	2229.22	5^-	E2		0.0248	α(K)=0.0207 *3*; α(L)=0.00332 *5*; α(M)=0.000684 *11*; α(N)=0.0001392 *21*; α(O)=1.624×10^{-5} *24*
		846.0[&] *5*	100 *5*	1737.29	6^+	E1+M2	−0.05 *3*	0.00096 *4*	α(K)=0.00084 *3*; α(L)=0.000102 *4*; α(M)=2.05×10^{-5} *8*; α(N)=4.24×10^{-6} *15*; α(O)=5.31×10^{-7} *19*
2591.57	$(1,2^+)$	1162.02 *6*	20 *3*	1429.56	3^+				
		2148.64 *5*	100 *7*	442.911	2^+				
		2591.54 *8*	11.9 *11*	0.0	0^+				
2595.8	(4)	366.5[&] *5*		2229.22	5^-				
		457.1[&] *5*	24 *3*	2138.68	(3^-)	D+Q			
		572.8[&] *5*	100 *4*	2023.06	(4^+)	D,Q			
		992.2[&] *5*	34 *3*	1603.50	4^+	D,Q			
2598.58	0^+	1629.07 *4*	84 *2*	969.475	2^+	(E2)		7.29×10^{-4}	α(K)=0.000520 *8*; α(L)=6.39×10^{-5} *9*; α(M)=1.289×10^{-5} *18*; α(N)=2.67×10^{-6} *4*; α(O)=3.34×10^{-7} *5*
		2155.68 *5*	100 *7*	442.911	2^+	E2		7.28×10^{-4}	α(K)=0.000310 *5*; α(L)=3.75×10^{-5} *6*; α(M)=7.55×10^{-6} *11*; α(N)=1.564×10^{-6} *22*; α(O)=1.97×10^{-7} *3*
2601.2	(5)	319.5[&] *5*		2280.93	$(6)^+$				
		864.2[&] *5*	27 *3*	1737.29	6^+	D+Q			
		1568.2[&] *5*	100 *4*	1033.149	4^+	D,Q			

$^{128}_{54}Xe_{74}$-11

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	δ[#]	α[a]	Comments
2608.7	(3,4$^+$)	1005.2[&] *5*	100 *14*	1603.50	4$^+$	D			
		1639.2[&] *5*		969.475	2$^+$				
2633.00	2$^+$	1203.5 *1*	13.1 *19*	1429.56	3$^+$				
		1599.8 *2*	8.3 *15*	1033.149	4$^+$				
		1663.49 *5*	44.2 *24*	969.475	2$^+$				
		2190.08 *5*	100 *7*	442.911	2$^+$	D+Q			
		2632.94 *8*	11.2 *10*	0.0	0$^+$				
2643.1	(4,5,6$^+$)	646.5[&] *5*		1996.74	5$^+$	D+Q			
		1039.5[&] *5*		1603.50	4$^+$				
2645.84	(4)	309.8[&] *5*	64 *6*	2336.05	(4)				
		908.5[&] *5*	18 *10*	1737.29	6$^+$				
		1042.5[&] *5*	47 *5*	1603.50	4$^+$				
		1612.6[&] *5*	100 *4*	1033.149	4$^+$	D,Q			
2687.5		1654.3[&] *5*		1033.149	4$^+$				
2693.4		1089.9[&] *5*		1603.50	4$^+$				
		1660.2[&] *5*		1033.149	4$^+$				
2698.0	(6$^-$)	228.3[&] *5*	12	2469.65	3,4,5				
		362.0[&] *5*	47	2336.05	(4)				
		468.8[&] *5*	98 *7*	2229.22	5$^-$	D+Q	−3.9 +*8*−*13*	0.0109 *1*	
		701.2[&] *5*	100 *9*	1996.74	5$^+$	D+Q			
2718.50	(1,2$^+$)	1749.0 *4*	22 *7*	969.475	2$^+$				
		2275.57 *6*	100 *7*	442.911	2$^+$				
		2718.5 *2*	5.5 *18*	0.0	0$^+$				
2720.0	(6$^-$)	250.3[&] *5*	<6	2469.65	3,4,5				
		490.8[&] *5*	100 *4*	2229.22	5$^-$	M1+E2	−1.2 +*7*−*4*	0.0104 *9*	α(K)=0.0088 *9*; α(L)=0.00121 *5*; α(M)=0.000246 *9*; α(N)=5.07×10^{-5} *20*; α(O)=6.2×10^{-6} *4* B(E2)(W.u.)>0.031; B(M1)(W.u.)>4.6×10^{-6}
2724.0	1	2724		0.0	0$^+$				E$_\gamma$: from ^{128}Xe(γ,γ′).
2726.22		1756 *1*	25 *17*	969.475	2$^+$				
		2283.30 *15*	100 *17*	442.911	2$^+$				
2730.6		449.7[&] *5*	<8	2280.93	(6)$^+$				
		733.9[&] *5*	100 *6*	1996.74	5$^+$	D,Q			
2734.2	5,6	737.4[&] *5*	100 *12*	1996.74	5$^+$	D			
		996.9[&] *5*	96 *15*	1737.29	6$^+$	D+Q			
2735.5		1132.0[&] *5*		1603.50	4$^+$				

$^{128}_{54}Xe_{74}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{128}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
2736.7		1133.2[&] *5*	100	1603.50	4^+			
2747.0	4,5,6	277.5[&] *5*	100	2469.65	3,4,5			
		385.3[&] *5*	100	2361.6	(3)			
		517.8[&] *5*	100 *6*	2229.22	5^-	D+Q		
		723.9[&] *5*		2023.06	(4^+)			
2752.0		1014.7[&] *5*	100	1737.29	6^+			
2756.4	$(2^+,3^+,4^+)$	617.7[&] *5*		2138.68	(3^-)			
		1723.2[&] *5*	100 *4*	1033.149	4^+	D,Q		
		2313.4[&] *5*		442.911	2^+			
2776.0	1	2776		0.0	0^+			E_γ: from $^{128}Xe(\gamma,\gamma')$.
2777.0		1173.5[&] *5*	40 *20*	1603.50	4^+			
		1743.8[&] *5*	100 *9*	1033.149	4^+	D+Q		
2779.1		1809.6[&] *5*	100	969.475	2^+	Q		
2787.2	8^-	204.2[&] *5*	80 *17*	2583.27	7^-	(M1)	0.1130	α(K)=0.0972 *15*; α(L)=0.01264 *20*; α(M)=0.00257 *4*; α(N)=0.000531 *9*; α(O)=6.64×10^{-5} *11* B(M1)(W.u.)=1.3×10^{-5} *4*
		274.4[@] *4*	0.38 *19*	2512.9	8^+			
		286.3[&] *5*	100 *13*	2500.84	6^-	E2(+M1)	0.0473 *15*	α(K)=0.0398 *6*; α(L)=0.0060 *10*; α(M)=0.00124 *21*; α(N)=0.00025 *4*; α(O)=3.0×10^{-5} *4* B(E2)(W.u.)=0.047 *9*
2792.0		329.3[&] *5*		2462.73	(4)			
		1362.4[&] *5*		1429.56	3^+			
2794.4		1761.2[&] *5*	100	1033.149	4^+	D,Q		
2807.00		1837.5 *2*	33 *8*	969.475	2^+			
		2364.1 *3*	100 *25*	442.911	2^+			
2819.9	(6)	224.1[&] *5*		2595.8	(4)			
		350.1[&] *5*		2469.65	3,4,5			
		357.2[&] *5*		2462.73	(4)			
		539.1[&] *5*	53 *6*	2280.93	$(6)^+$	D,Q		
		1082.6[&] *5*	100 *8*	1737.29	6^+	D+Q		
2820.0		483.9[&] *5*		2336.05	(4)			
		681.3[&] *5*		2138.68	(3^-)			
2822.8	$(5^-,6)$	176.9[&] *5*		2645.84	(4)			
		239.5[&] *5*		2583.27	7^-			

$^{128}_{54}Xe_{74}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{128}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
2822.8	(5⁻,6)	353.1[&] *5*		2469.65	3,4,5			
2823.3	(1,2⁺)	2380.8 *5*	100 *33*	442.911	2⁺			
		2823.0 *4*	37 *13*	0.0	0⁺			
2827.9		1794.7[&] *5*	100	1033.149	4⁺	D,Q		
2837.59	(2⁺)	1409 *1*	16 *4*	1429.56	3⁺			
		1804.04 *17*	26 *4*	1033.149	4⁺			
		1867.96 *14*	30 *4*	969.475	2⁺			
		2394.51 *5*	100 *5*	442.911	2⁺			
		2838.07 *8*	24.3 *19*	0.0	0⁺			
2837.8	1	1868	26 *3*	969.475	2⁺			E_γ: from $^{128}Xe(\gamma,\gamma')$.
		2395	10.2 *12*	442.911	2⁺			E_γ: from $^{128}Xe(\gamma,\gamma')$.
		2838	100	0.0	0⁺			E_γ: from $^{128}Xe(\gamma,\gamma')$.
2839.8		478.2[&] *5*	100	2361.6	(3)			
2842.3	(5⁻)	561.3[&] *5*		2280.93	(6)⁺			
		1104.9[&] *5*		1737.29	6⁺			
		1809.3[&] *5*		1033.149	4⁺			δ: −0.08 *6* is given in 1996Ne04 but M is not indicated.
2846.4		1876.9[&] *5*		969.475	2⁺			
2851.5		1818.3[&] *5*		1033.149	4⁺			
2859.51	(1,2⁺)	2416.58 *5*	100 *6*	442.911	2⁺			
		2859.47 *8*	16.6 *12*	0.0	0⁺			
2864.6		583.8[&] *5*		2280.93	(6)⁺			
		1261.0[&] *5*		1603.50	4⁺			
2873.8		1840.6[&] *5*		1033.149	4⁺			
2876.7		2876.7 *5*	100	0.0	0⁺			
2877.4		1907.9[&] *5*		969.475	2⁺			
2881.4	5,6,7	1144.1[&] *5*	100	1737.29	6⁺	D+Q		
2882.3		1849.1[&] *5*		1033.149	4⁺			
2892.1		1462.5[&] *5*		1429.56	3⁺			
2908.7	(4⁻,5,6⁺)	407.9[&] *5*		2500.84	6⁻			
		1875.4[&] *5*		1033.149	4⁺			
2920.0		690.8[&] *5*		2229.22	5⁻			
2922.2		1184.9[&] *5*	100	1737.29	6⁺	D,Q		
2937.82	(1,2⁺)	2494 *1*	8 *3*	442.911	2⁺			
		2937.79 *11*	100 *9*	0.0	0⁺			
2941.9		661.0[&] *5*		2280.93	(6)⁺			
2942.1	(10⁺)	429.2[&] *5*	100	2512.9	8⁺	E2	0.01389	α(K)=0.01168 *17*; α(L)=0.00177 *3*; α(M)=0.000362 *6*; α(N)=7.40×10⁻⁵ *11*;

$^{128}_{54}Xe_{74}$-14

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
								α(O)=8.77×10^{-6} *13* B(E2)(W.u.)>0.25
2943.0		804.3[&] *5*		2138.68	(3$^-$)			
		1909.9[&] *5*		1033.149	4$^+$			
2944.26	(4$^+$)	342.9[&] *5*	68 *15*	2601.2	(5)			
		481.5[&] *5*	100 *10*	2462.73	(4)			
		947.6[&] *5*	53 *26*	1996.74	5$^+$			
		1207.0[&] *5*	88 *9*	1737.29	6$^+$			
		1974.7[&] *5*	25 *10*	969.475	2$^+$			
2954.9		309.1[&] *5*		2645.84	(4)			
		454.0[&] *5*		2500.84	6$^-$			
		485.2[&] *5*		2469.65	3,4,5			
2974.2	(8)$^+$	461.3[&] *5*	100 *6*	2512.9	8$^+$	Q	0.0113	
		693.4[&] *5*		2280.93	(6)$^+$			
2980.3	3,4,5	1947.1[&] *5*	100	1033.149	4$^+$	D+Q		
2981.3		1551.7[&] *5*		1429.56	3$^+$			
2985.4	(7)	484.5[&] *5*		2500.84	6$^-$			
		515.7[&] *5*		2469.65	3,4,5			
		1248.1[&] *5*		1737.29	6$^+$			
2997.9	5,6,7	1260.6[&] *5*	100	1737.29	6$^+$	D(+Q)		
3007.7		2564.8[&] *5*		442.911	2$^+$			
3013.2		2570.3[&] *5*		442.911	2$^+$			
3016.2		1983.0[&] *5*	100	1033.149	4$^+$	D,Q		
3026.2	(4$^+$,5,6$^+$)	424.8[&] *5*		2601.2	(5)			
		1289.1[&] *5*		1737.29	6$^+$			
		1993.0[&] *5*		1033.149	4$^+$			
3042.8	(3$^+$,4,5$^+$)	1045.9[&] *5*		1996.74	5$^+$			
		1613.4[&] *5*		1429.56	3$^+$			
3050.8	8$^-$	467.6[&] *5*	28 *3*	2583.27	7$^-$			
		549.9[&] *5*	100 *6*	2500.84	6$^-$	E2	0.00692	α(K)=0.00588 *9*; α(L)=0.000833 *12*; α(M)=0.0001701 *25*; α(N)=3.49×10^{-5} *5*; α(O)=4.21×10^{-6} *6*
3060.32	(1,2$^+$)	2090.85 *26*	100 *20*	969.475	2$^+$			
		2617.1 *2*	50 *10*	442.911	2$^+$			
		3061.9 *5*	4 *2*	0.0	0$^+$			

$^{128}_{54}Xe_{74}$-15

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
3068.6		291.7[&] *5*		2777.0				
		839.4[&] *5*		2229.22	5^-			
3075.2		794.3[&] *5*	100	2280.93	$(6)^+$			
3077.6		938.9[&] *5*		2138.68	(3^-)			
3079.9		641.1[&] *5*		2438.8				
		798.9[&] *5*		2280.93	$(6)^+$			
		1342.7[&] *5*		1737.29	6^+			
3084.4		364.4[&] *5*		2720.0	(6^-)			
		386.5[&] *5*		2698.0	(6^-)			
		583.6[&] *5*		2500.84	6^-			
3099.59	$(1,2^+)$	2129.5 *3*	100 *25*	969.475	2^+			
		2656.68 *6*	75 *13*	442.911	2^+			
		3099.2 *6*	7.5 *25*	0.0	0^+			
3104.9	1	2662 *1*	40 *20*	442.911	2^+			I_γ: 56 *6* from ^{128}Xe(γ,γ′).
		3104.9 *3*	100 *8*	0.0	0^+			
3110.50	$(1,2^+)$	2141.06 *10*	100 *8*	969.475	2^+			
		2667.52 *10*	46 *4*	442.911	2^+			
		3110 *1*	0.5 *3*	0.0	0^+			
3113.4		650.8[&] *5*		2462.73	(4)			
		974.7[&] *5*		2138.68	(3^-)			
		1376.1[&] *5*		1737.29	6^+			
3115.0	9^-	328.1[&] *5*	32 *8*	2787.2	8^-	D+Q		
		532.0[&][b] *5*	100 *8*	2583.27	7^-	E2	0.00757	α(K)=0.00642 *10*; α(L)=0.000917 *13*; α(M)=0.000187 *3*; α(N)=3.84×10^{-5} *6*; α(O)=4.62×10^{-6} *7*
3133.4		550.1[&] *5*	100	2583.27	7^-			
3182.2	$(6^-,7,8^-)$	395.0[&] *5*		2787.2	8^-			
		681.4[&] *5*		2500.84	6^-			
3186.7		1449.4[&] *5*	100	1737.29	6^+			
3195.7		914.9[&] *5*		2280.93	$(6)^+$			
		1592.2[&] *5*		1603.50	4^+			
		2162.4[&] *5*		1033.149	4^+			
3196.8	10^+	683.9[&] *5*	100	2512.9	8^+	E2	0.00393	α(K)=0.00336 *5*; α(L)=0.000456 *7*; α(M)=9.27×10^{-5} *14*; α(N)=1.91×10^{-5} *3*; α(O)=2.33×10^{-6} *4* B(E2)(W.u.)>0.024
3199.5		918.6[&] *5*		2280.93	$(6)^+$			

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
3204.0	1	3204		0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3204.1		974.9[&] *5*	100	2229.22	5^-			
3208.0	(9^-)	420.8[@] *5*	16 *2*	2787.2	8^-	D+Q		
		624.5[&] *3*	100 *6*	2583.27	7^-	Q		
3214.3	$^+$	272.2[&] *3*	100	2942.1	(10^+)	M1+E2	0.055 *3*	α(K)=0.0460 *11*; α(L)=0.0071 *13*; α(M)=0.0015 *3*; α(N)=0.00030 *6*; α(O)=3.5×10^{-5} *5*
3215.5	$(6^+,7^-)$	241.2[&] *5*		2974.2	$(8)^+$			
		746.0[&] *5*		2469.65	3,4,5			
3224.7		952.0[&] *5*		2272.85	(2^+)			
		2255.1[&] *5*		969.475	2^+			
3237.1		1240.4[&] *5*		1996.74	5^+			
3237.6		767.9[&] *5*		2469.65	3,4,5			
3244.0		1014.8[&] *5*		2229.22	5^-			
3250.3		276.2[&] *5*		2974.2	$(8)^+$			
		1513.0[&] *5*		1737.29	6^+			
3256.2		755.4[&] *5*		2500.84	6^-			
3259.5		1522.2[&] *5*		1737.29	6^+			
3292.4		561.8[&] *5*	100	2730.6				
3297.6		784.7[&] *5*	100	2512.9	8^+			
3298.7	$(5^-,6,7^-)$	715.5[&] *5*		2583.27	7^-			
		797.8[&] *5*		2500.84	6^-			
		1069.6[&] *5*		2229.22	5^-			
3312.0	1	2869	100 *19*	442.911	2^+			E_γ: from ^{128}Xe(γ,γ′).
		3312	24	0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3320.6		376.2[&] *5*		2944.26	(4^+)			
		737.4[&] *5*		2583.27	7^-			
		1039.7[&] *5*		2280.93	$(6)^+$			
3324.0		504.0[&] *5*		2820.0				
3324.6		854.9[&] *5*		2469.65	3,4,5			
3353.4		840.5[&] *5*		2512.9	8^+			
3364.6	10^+	851.7[&] *5*	100	2512.9	8^+	E2	0.00232	α(K)=0.00200 *3*; α(L)=0.000261 *4*; α(M)=5.30×10^{-5} *8*; α(N)=1.092×10^{-5} *16*; α(O)=1.347×10^{-6} *19* B(E2)(W.u.)=37 *13*

$^{128}_{54}Xe_{74}$-17

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
3364.9		1084.0[&] *5*	100	2280.93	$(6)^+$			
3367.0		1228.3[&] *5*		2138.68	(3^-)			
3376.4		875.6[&] *5*		2500.84	6^-			
3402.9		2369.7[&] *5*		1033.149	4^+			
3406.61	1	2436	77 *12*	969.475	2^+			E_γ: from ^{128}Xe(γ,γ′).
		2963.7 *5*	40 *7*	442.911	2^+			I_γ: Other: 88 *38*.
		3406.6 *2*	100 *25*	0.0	0^+			
3412.8	(9^-)	204.8[@] *4*	83 *11*	3208.0	(9^-)			
		297.7[@] *4*	89 *6*	3115.0	9^-	D		
		438.8[@] *4*	100 *11*	2974.2	$(8)^+$	D+Q		
3417.2		833.9[&] *5*		2583.27	7^-			
3450.4		2417.2[&] *5*		1033.149	4^+			
3455.0		985.3[&] *5*		2469.65	3,4,5			
3463.0	1	3020	63 *15*	442.911	2^+			E_γ: from ^{128}Xe(γ,γ′).
		3463	100	0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3524.1	1	3524		0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3533.2		2500.0[&] *5*		1033.149	4^+			
3533.6	(9^+)	803.0[&] *5*	100	2730.6				
3542.0		958.7[&] *5*		2583.27	7^-			
3566.1	1	3566		0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3587.5		2618.0[&] *5*		969.475	2^+			
3590.5		1077.6[&] *5*		2512.9	8^+			
3593.5	(10^-)	478.6[&] *2*	100 *7*	3115.0	9^-	D	0.0102	
		806.1[@] *4*	44 *7*	2787.2	8^-	Q		
3596.1		1095.3[&] *5*		2500.84	6^-			
3596.9		860.2[&] *5*		2736.7				
3624.2		2591.0[&] *5*		1033.149	4^+			
3636.8		2603.6[&] *5*		1033.149	4^+			
3685.4		743.3[&] *5*		2942.1	(10^+)			
3694.2		1956.9[&] *5*		1737.29	6^+			
3707.7	(10^-)	656.9[&] *5*	100	3050.8	8^-	Q		
3751.0		386.4[&] *5*		3364.6	10^+			
3760.8	1	2791	100 *26*	969.475	2^+			E_γ: from ^{128}Xe(γ,γ′).
		3761	42	0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]	α[a]	Comments
3809.4	12^+	612.7[&] *3*	100	3196.8	10^+	E2	0.00520	α(K)=0.00443 *7*; α(L)=0.000614 *9*; α(M)=0.0001250 *18*; α(N)=2.57×10^{-5} *4*; α(O)=3.12×10^{-6} *5*
3863.3		1582.4[&] *5*		2280.93	$(6)^+$			
3865.1	1	3865		0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3883.9	(11^-)	290.5[@] *5*	7.7 *19*	3593.5	(10^-)			
		675.8[@] *4*	37 *4*	3208.0	(9^-)	Q		
		768.8[@]	100 *4*	3115.0	9^-	Q		
3920.1	1	3920		0.0	0^+			E_γ: from ^{128}Xe(γ,γ′).
3991.3	(11^+)	794.3[@] *5*	100	3196.8	10^+	D+Q		
4006.0		1493.1[&] *5*		2512.9	8^+			
4055.8		690.9[&] *5*		3364.9				
4067.5	(11^-)	474.1[@] *4*	4.1 *27*	3593.5	(10^-)	D+Q		
		654.6[@] *4*	100 *7*	3412.8	(9^-)	Q		
		859.4[@] *4*	9.5 *27*	3208.0	(9^-)	Q		
4078.2	(11^-)	484.8[@] *4*	57.4 *21*	3593.5	(10^-)	D+Q		
		870.1[@] *4*	100 *11*	3208.0	(9^-)	Q		
4088.4	(12^+)	279.0[@] *5*	100	3809.4	12^+	D+Q		
4151.2		1638.3[&] *5*		2512.9	8^+			
4251.0	(12^+)	886.4[@] *4*	100	3364.6	10^+	Q		
4445.4	12^-	737.7[@] *5*		3707.7	(10^-)	Q		
4493.2	(12^-)	609.3[@] *4*	86 *14*	3883.9	(11^-)			
		899.8[@] *4*	100 *29*	3593.5	(10^-)			
4550.0	(13^+)	461.6[@] *5*	100	4088.4	(12^+)			
4618.1	14^+	808.7[@] *5*		3809.4	12^+	Q		
4751.7	(13^-)	867.8[@] *5*	100	3883.9	(11^-)	Q		
4804.7	(13^-)	737.2[@] *5*	100	4067.5	(11^-)	Q		
4808.8	(13^+)	817.4[@] *5*	62 *8*	3991.3	(11^+)	Q		
		999.6[@] *5*	100 *8*	3809.4	12^+	D+Q		
4869.7	(14^+)	319.8[@] *5*	90 *10*	4550.0	(13^+)	D+Q		
		781.3[@] *5*	100 *13*	4088.4	(12^+)			
4910.7	(13^-)	417.5[@] *5*	45 *10*	4493.2	(12^-)			
		832.5[@] *5*	50 *5*	4078.2	(11^-)	Q		
		1026.8[@] *5*	35 *5*	3883.9	(11^-)	Q		

$^{128}_{54}Xe_{74}$-19

Adopted Levels, Gammas (continued)

γ(^{128}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ	E_f	J_f^π	Mult.[‡]
5097.0	(14$^+$)	846.0[@] *4*	100	4251.0	(12$^+$)	Q
5233.0	12$^-$	787.6[@] *4*	100	4445.4	12$^-$	Q
5288.1	16$^+$	670.0[@] *4*	100	4618.1	14$^+$	Q
5335.7	(15$^+$)	466.1[@] *5*	100	4869.7	(14$^+$)	
5460.8	(14$^-$)	550.1[@] *5*	100 *31*	4910.7	(13$^-$)	D+Q
		709.1[@] *5*	54 *15*	4751.7	(13$^-$)	D+Q
5492.2	(15$^+$)	874.1[@] *5*	100	4618.1	14$^+$	D+Q
5573.3	16$^+$	955.2[@] *5*		4618.1	14$^+$	Q
5658.3	(15$^-$)	853.6[@] *4*	100	4804.7	(13$^-$)	Q
5680.4	(16$^+$)	344.7[@] *4*	30 *4*	5335.7	(15$^+$)	
		810.5[@] *5*	100 *13*	4869.7	(14$^+$)	
5713.1	(15$^-$)	961.4[@] *5*	100	4751.7	(13$^-$)	Q
5714.9		906.1[@] *5*	100	4808.8	(13$^+$)	Q
5817.5		159.2[@] *5*	100	5658.3	(15$^-$)	
5967.7	(16$^+$)	870.7[@] *4*	100	5097.0	(14$^+$)	Q
6076.7	(17$^+$)	396.3[@] *4*	100	5680.4	(16$^+$)	
6118.2	16$^-$	885.2[@] *5*	100	5233.0	12$^-$	
6186.9	(18$^+$)	898.8[@] *5*	100	5288.1	16$^+$	
6248.8	(16$^-$)	788.0[@] *4*	100	5460.8	(14$^-$)	Q
6447.1		629.5[@] *4*	21.4 *24*	5817.5		
		788.8[@] *4*	100 *7*	5658.3	(15$^-$)	
6606.2	18$^+$	1032.9[@] *3*	100	5573.3	16$^+$	Q
6646.2	(17$^-$)	933.1[@] *3*	100	5713.1	(15$^-$)	
6649.6		936.5[@] *3*	100	5713.1	(15$^-$)	
7016.3	(19$^+$)	939.6[@] *4*	100	6076.7	(17$^+$)	
7016.4		569.3[@] *5*	100	6447.1		
7228.7	(18$^-$)	979.9[@] *3*	100	6248.8	(16$^-$)	Q
7256.8	(20$^+$)	1069.9[@] *5*	100	6186.9	(18$^+$)	
7711.1	20$^+$	1104.9[@] *3*	100	6606.2	18$^+$	Q
8010.9	(21$^+$)	994.6[@] *4*	100	7016.3	(19$^+$)	Q
8893.1	22$^+$	1182.0[@] *3*	100	7711.1	20$^+$	Q
8948.0		1236.9[@] *4*	100	7711.1	20$^+$	

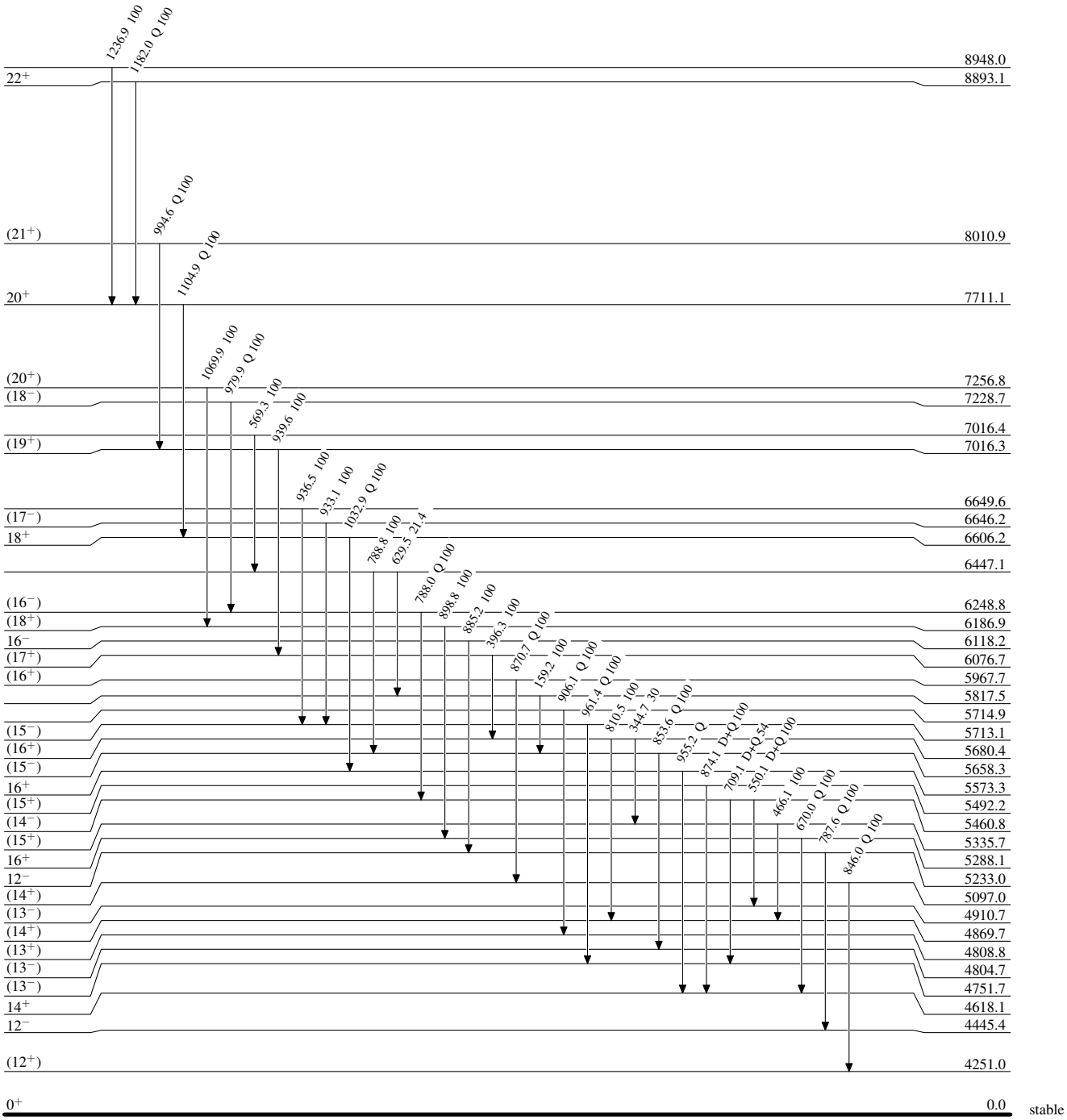
[†] From ^{128}Cs ε decay, unless otherwise noted.
[‡] Mult and δ are based on γ(θ), DCO ratio and α(exp) in in-beam γ spectroscopy, and γγ(θ) in ^{128}Cs ε decay.
[#] From (α,nγ),(α,2nγ).
[@] From (HI,xnγ).
[&] From (α,nγ),(α,2nγ).
[a] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.
[b] Placement of transition in the level scheme is uncertain.

$^{128}_{54}Xe_{74}$-20

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

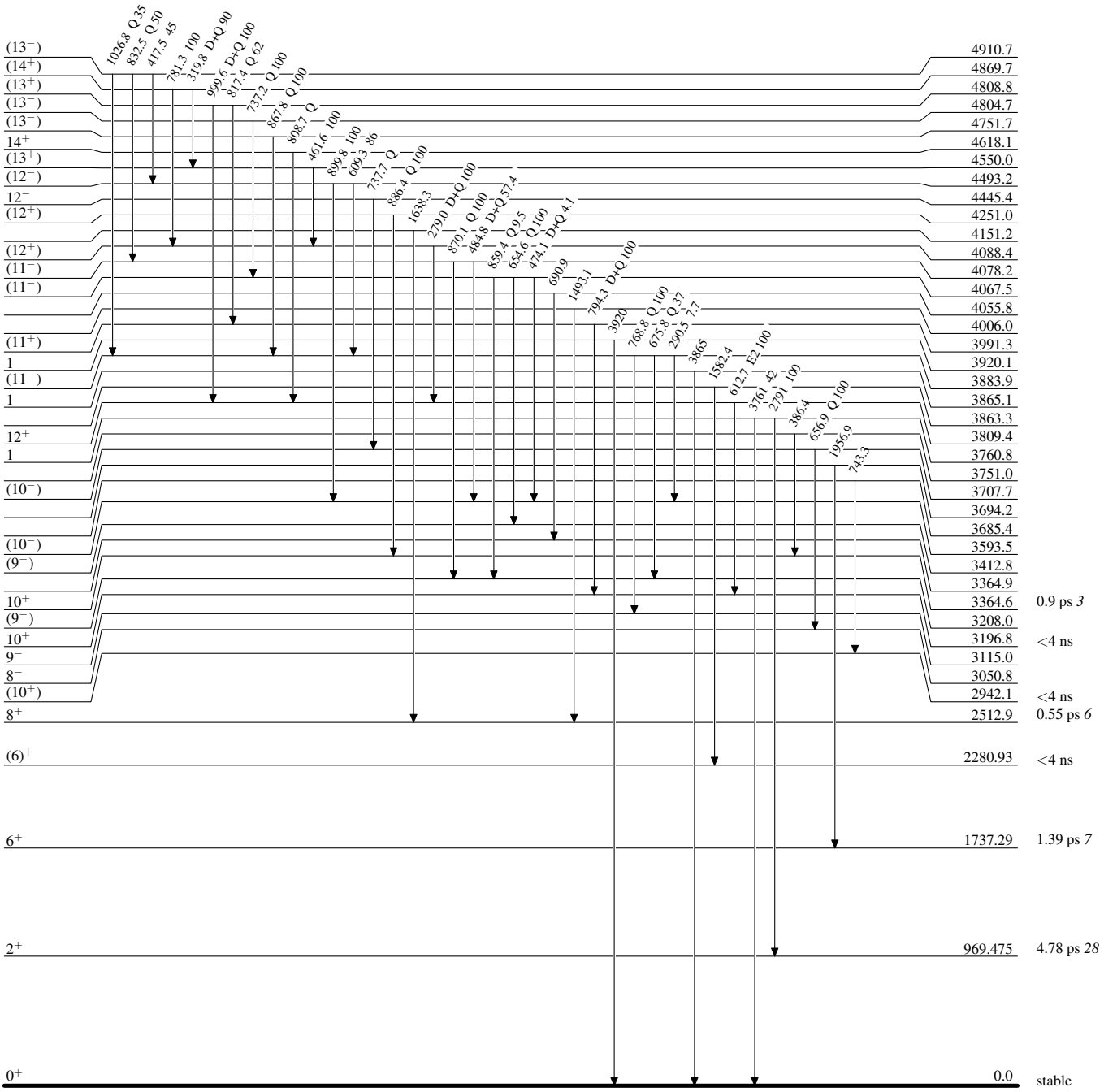


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

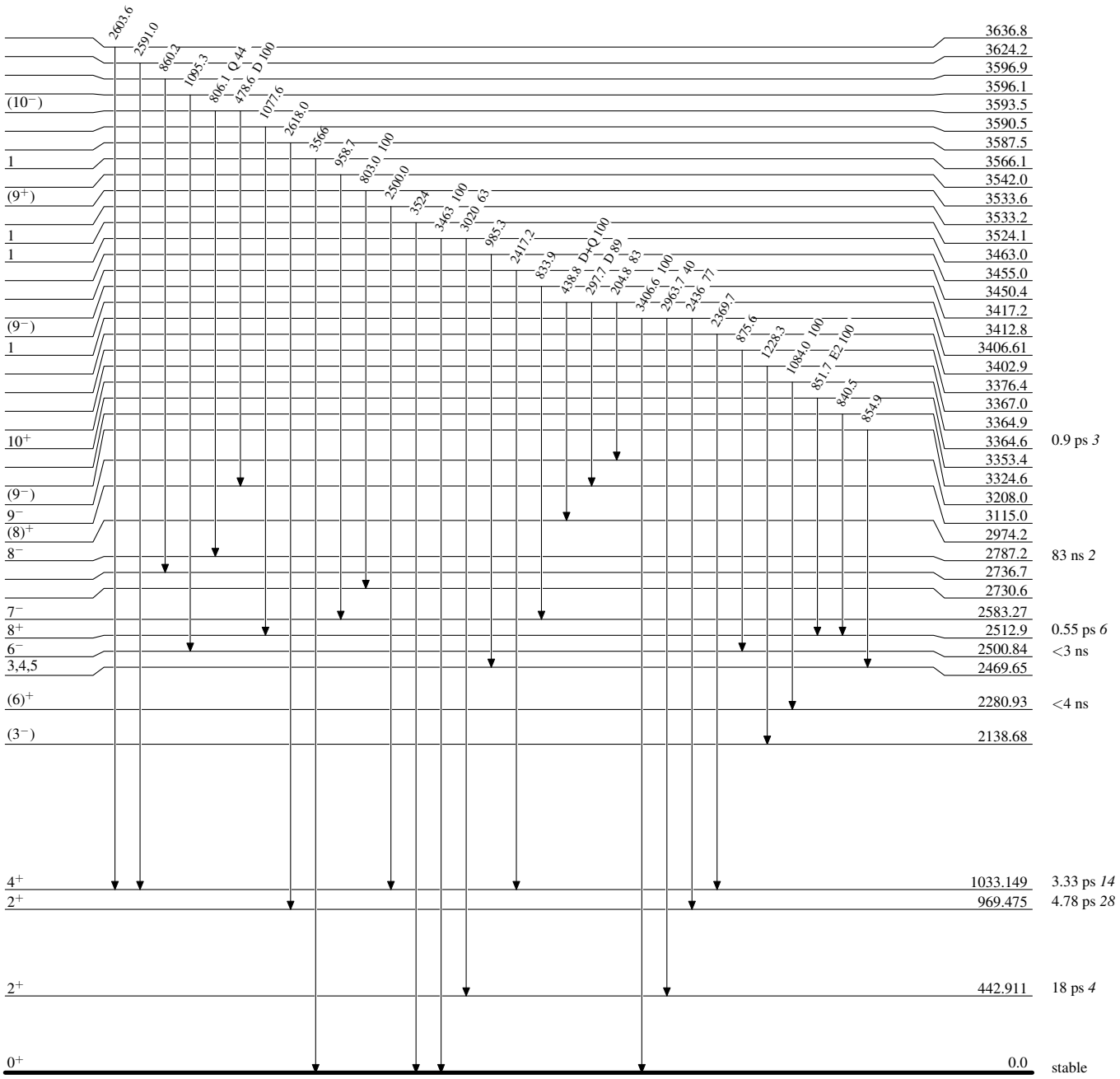


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

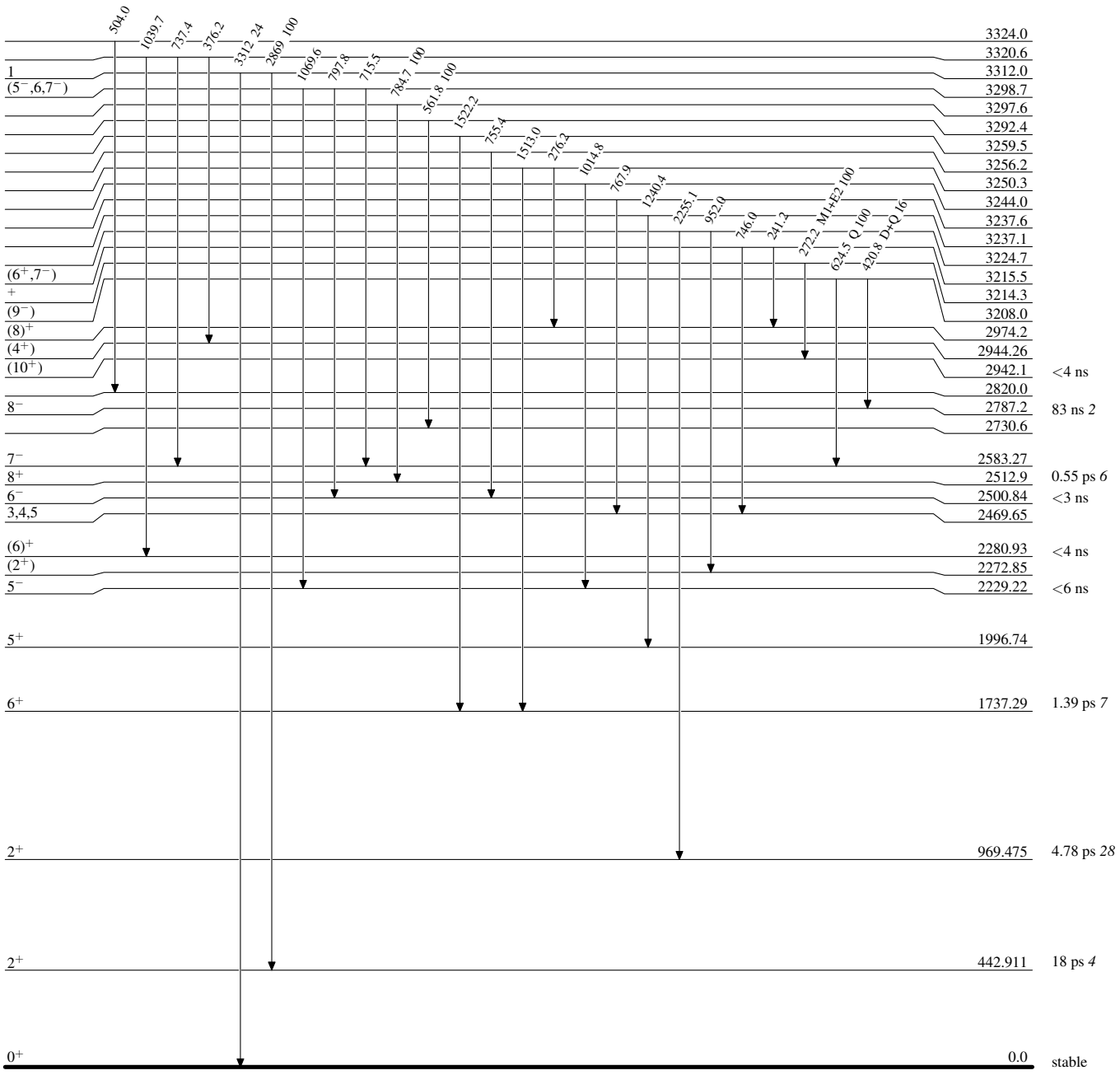


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{128}_{54}Xe_{74}$

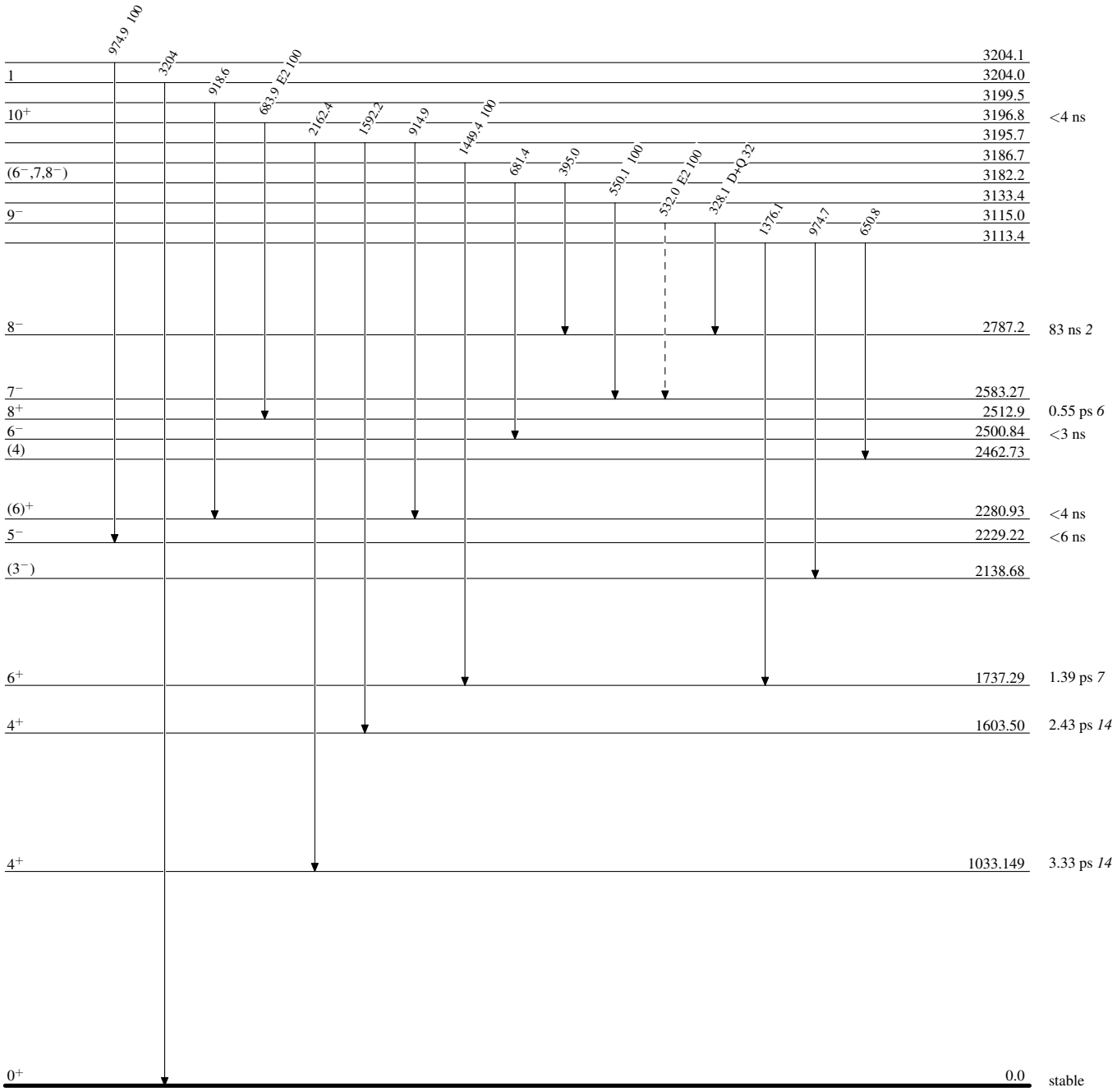
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{128}_{54}Xe_{74}$

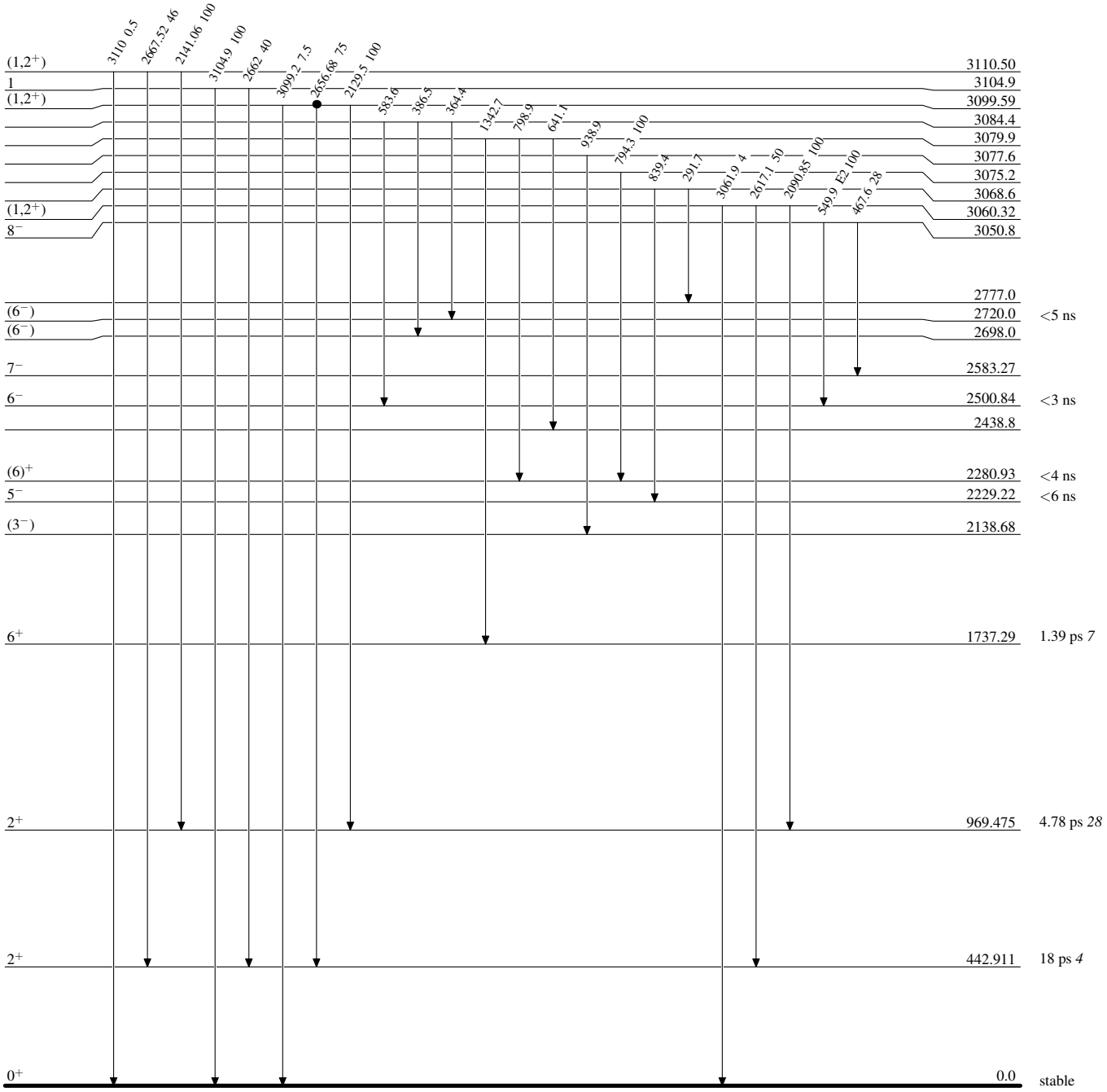
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence

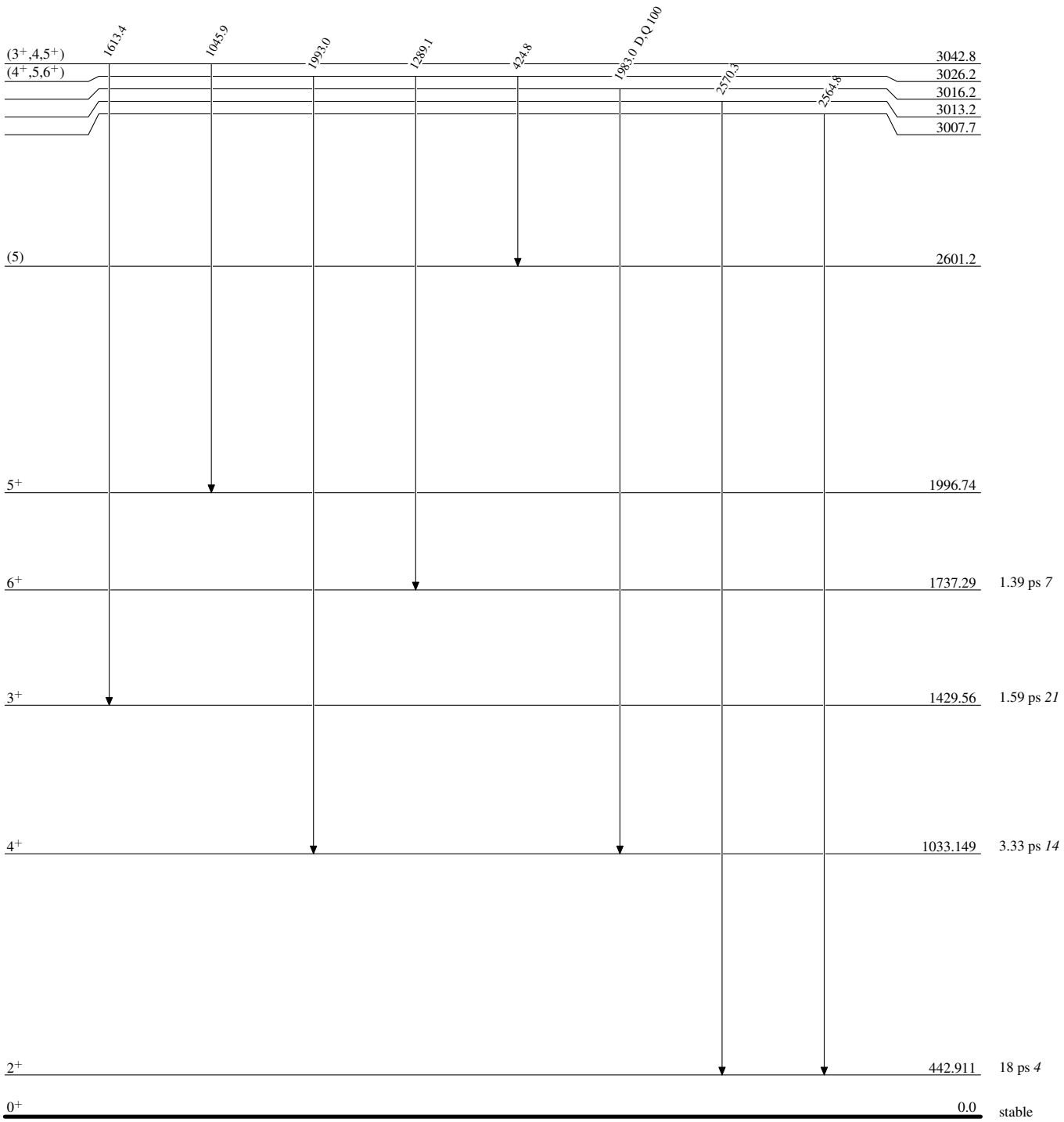


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

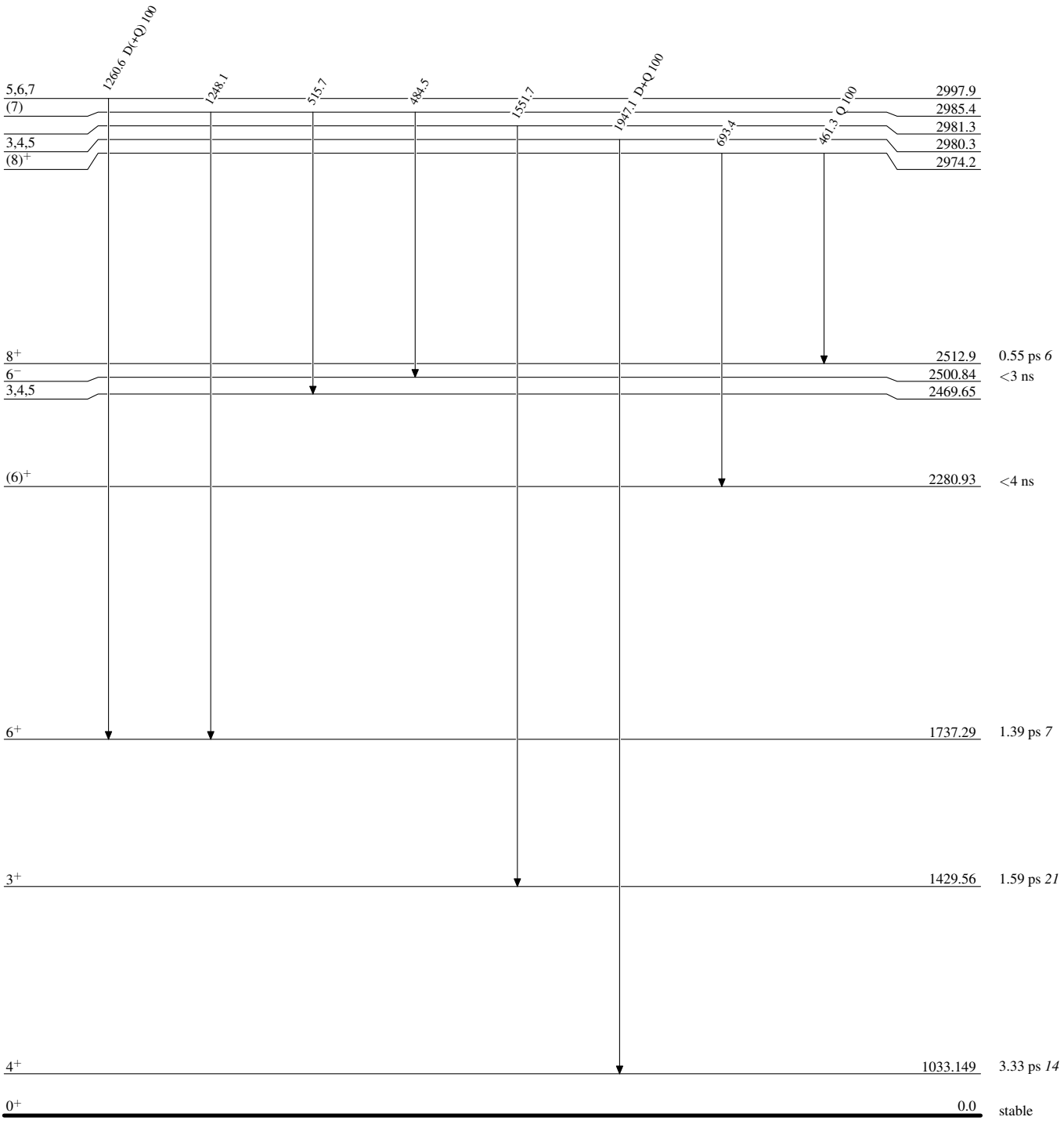


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

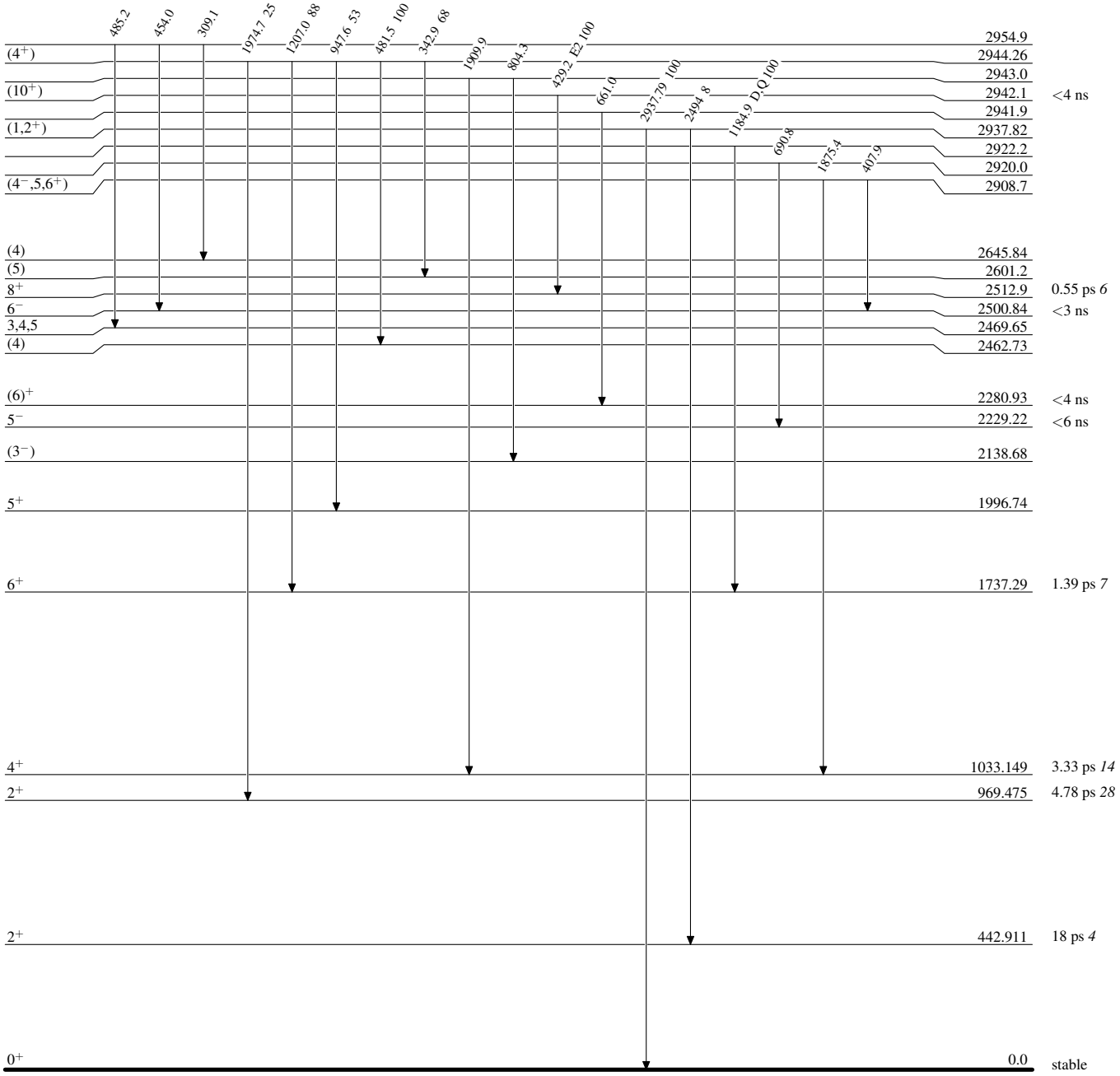


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{128}_{54}Xe_{74}$

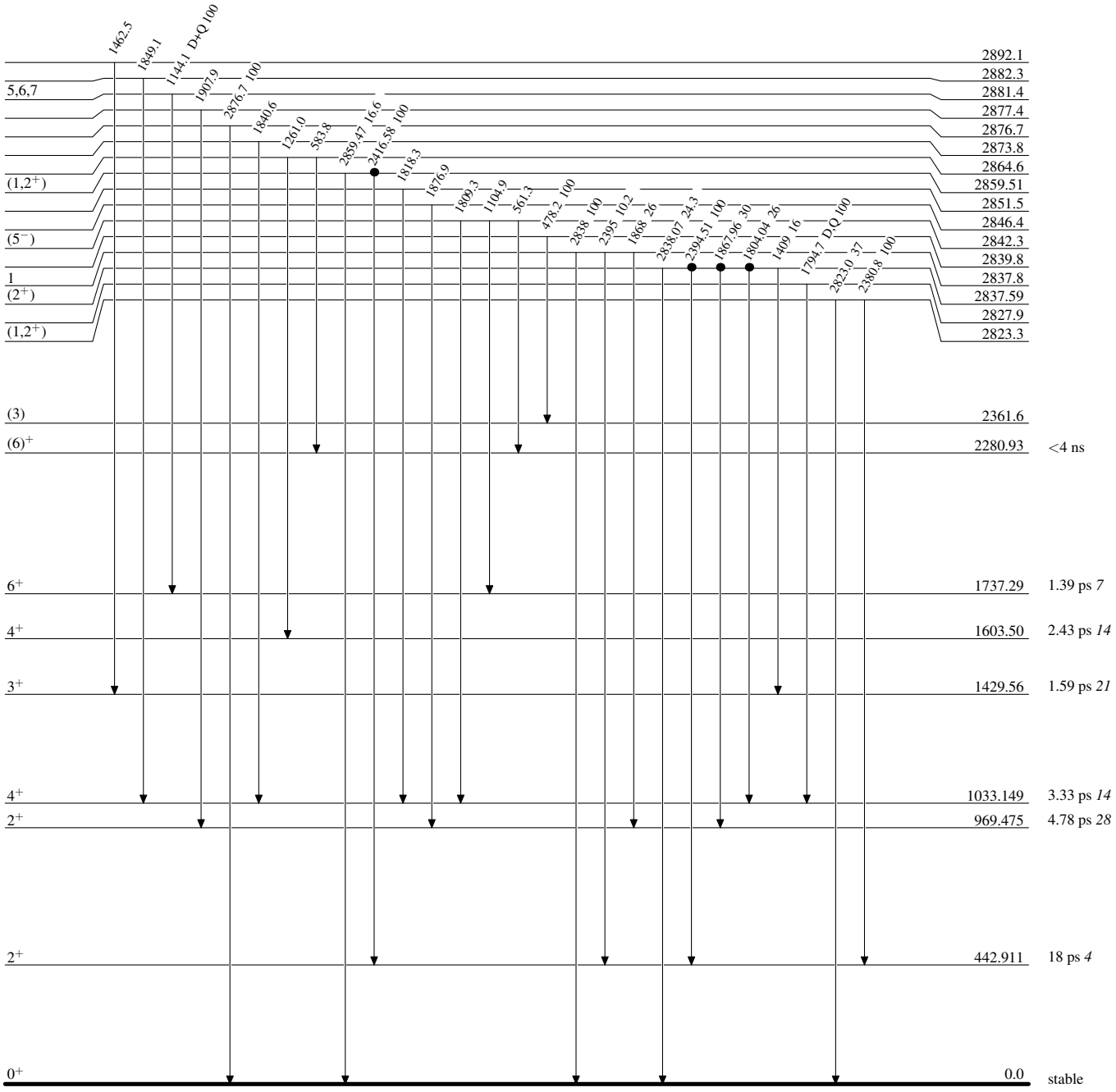
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{128}_{54}Xe_{74}$

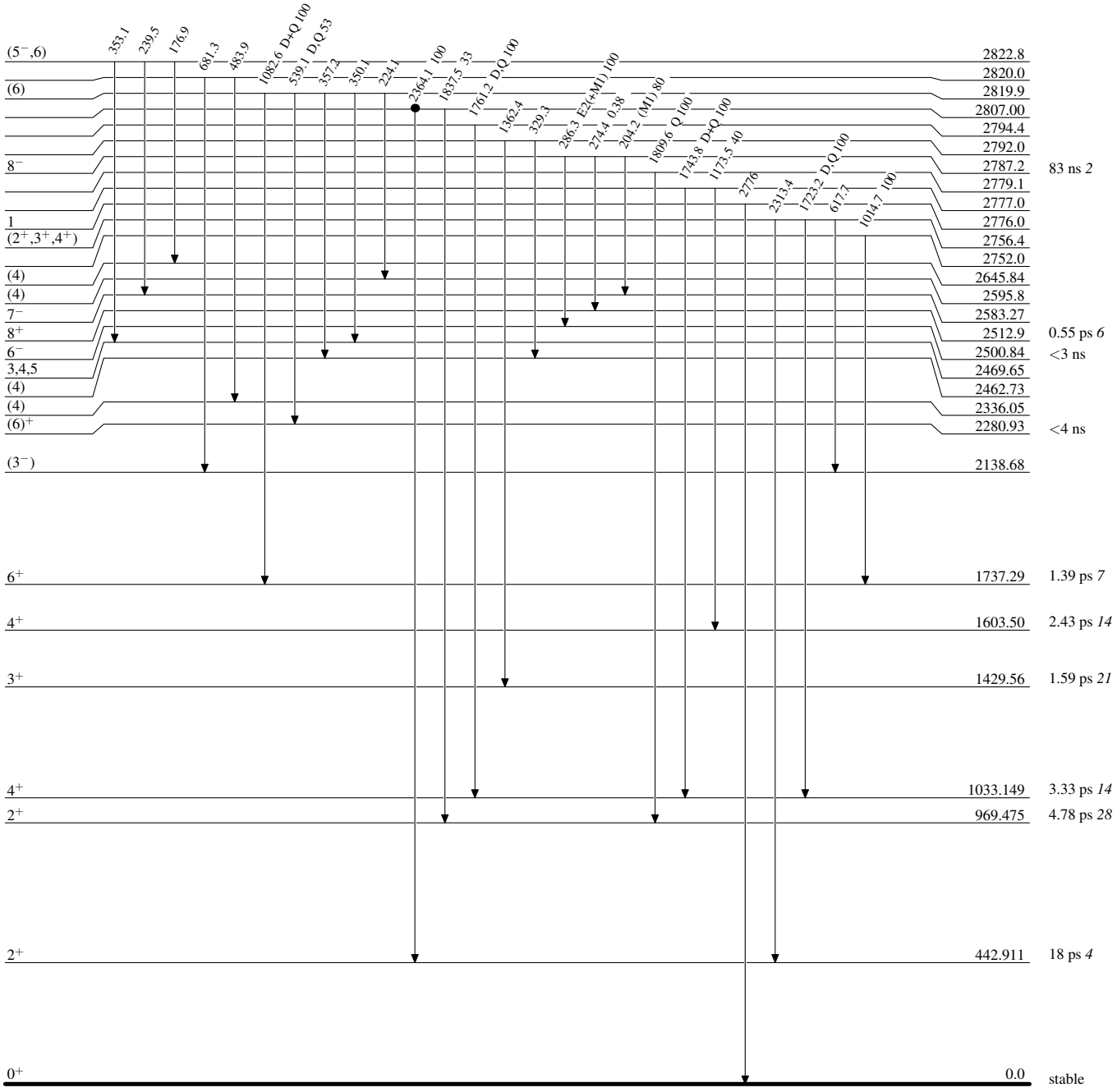
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{128}_{54}Xe_{74}$

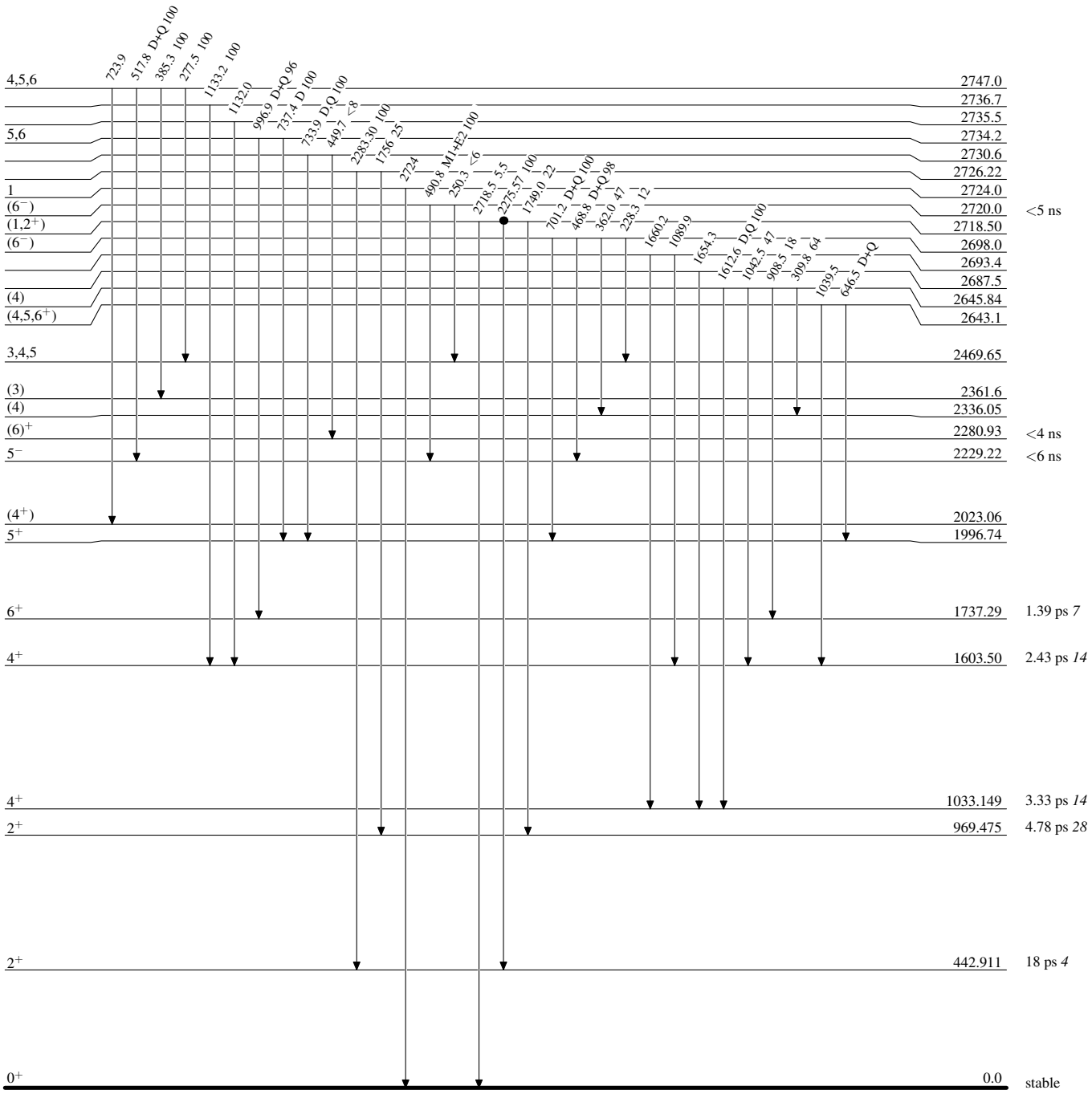
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence

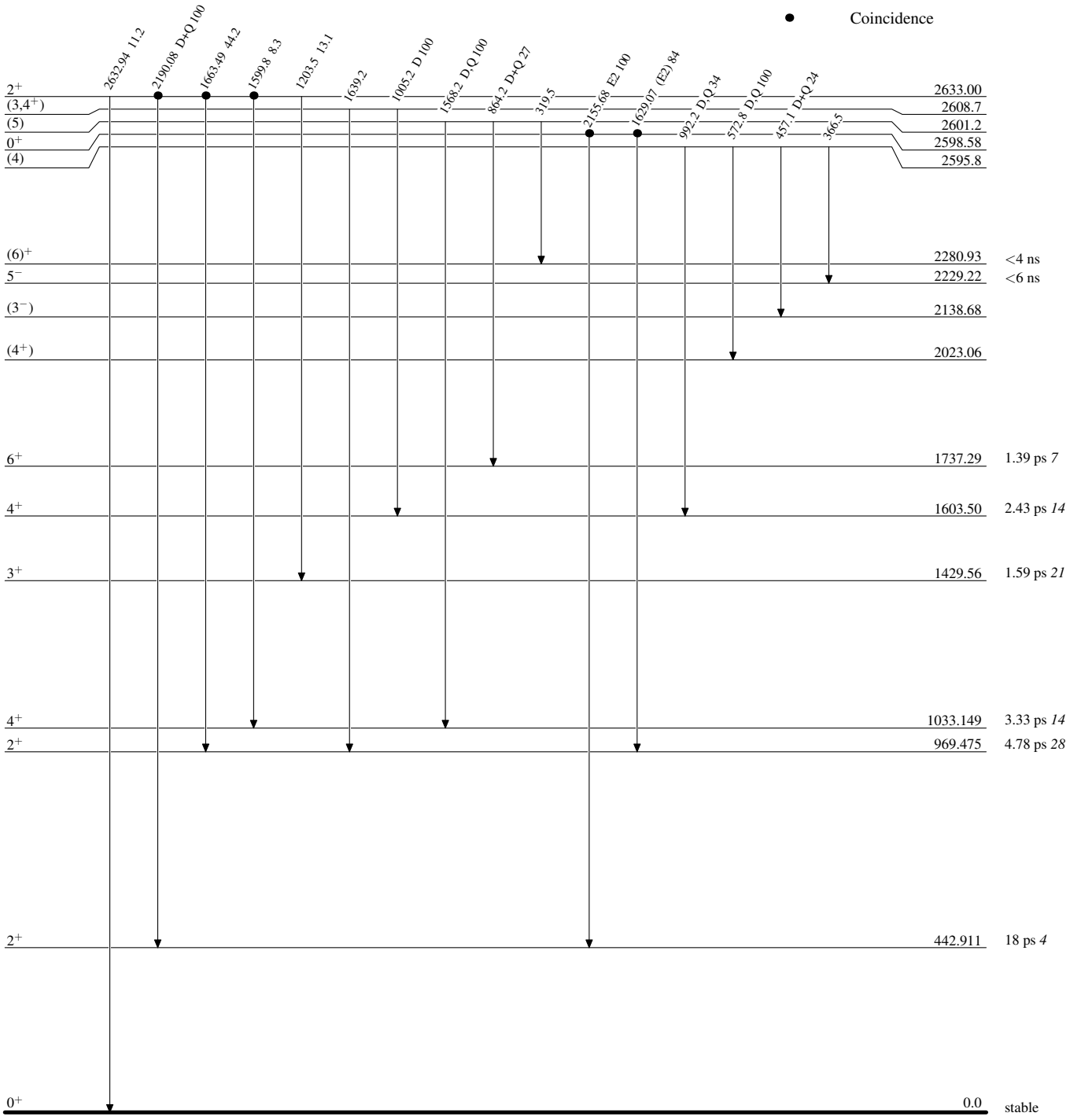


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

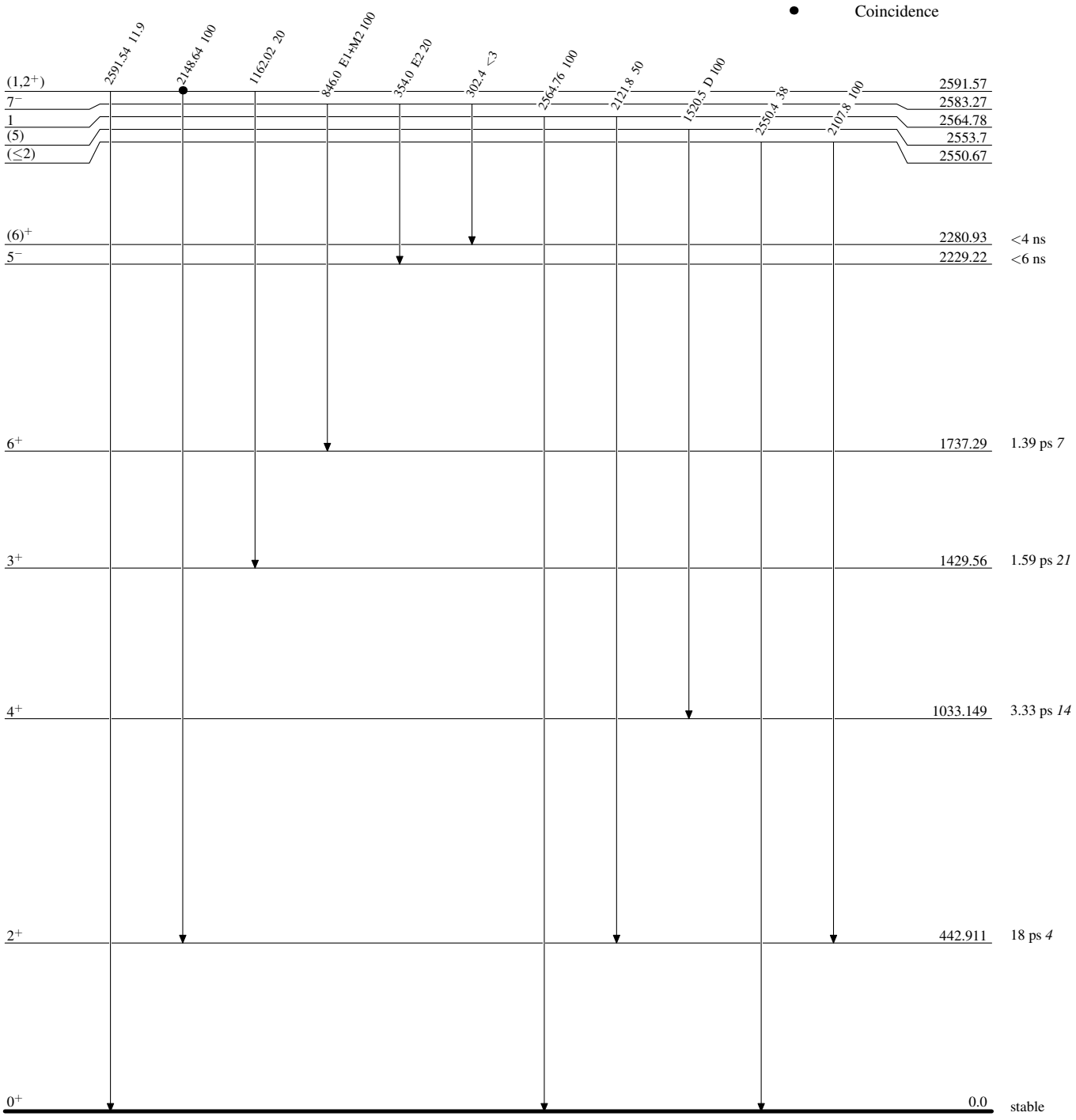


$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{128}_{54}Xe_{74}$

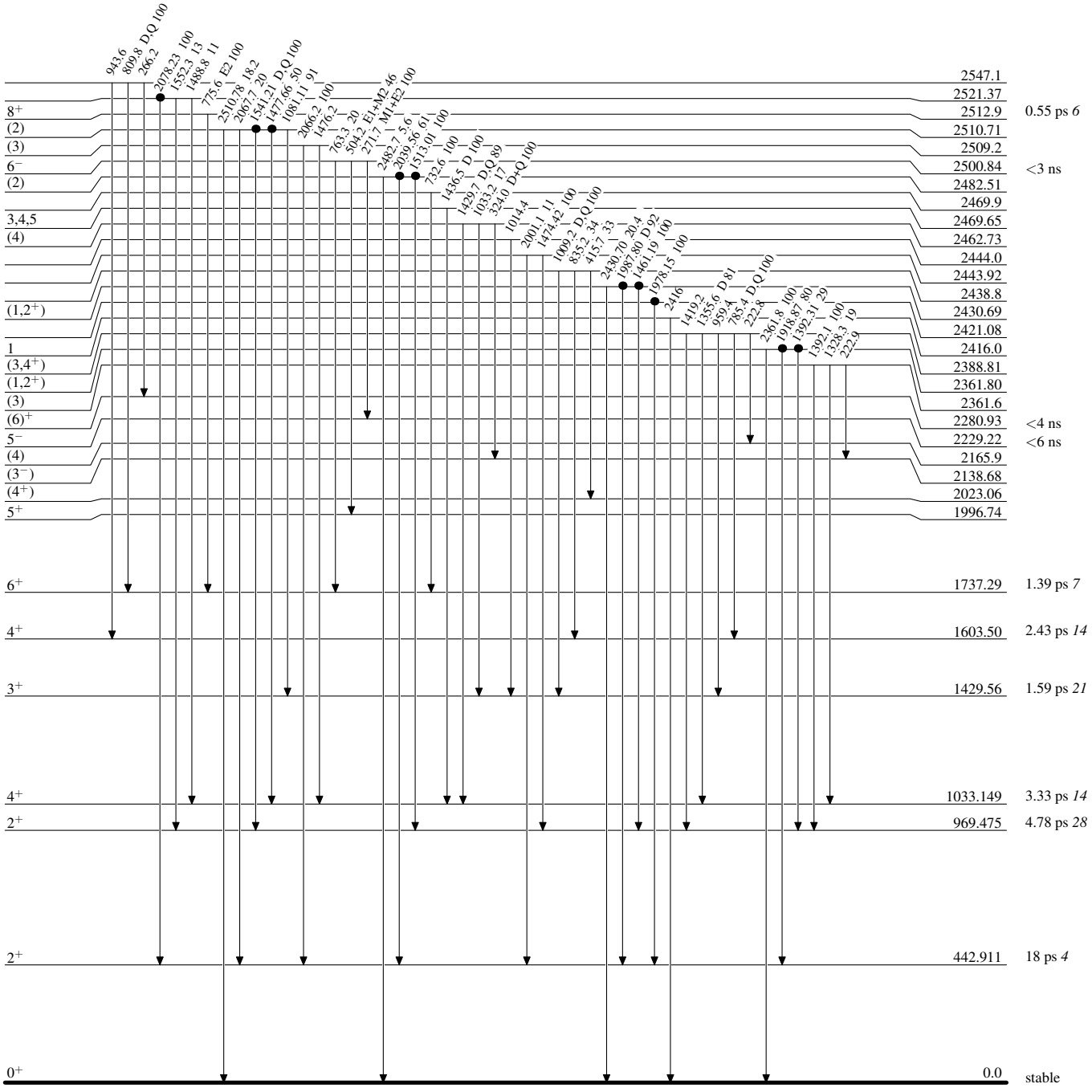
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

● Coincidence



$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

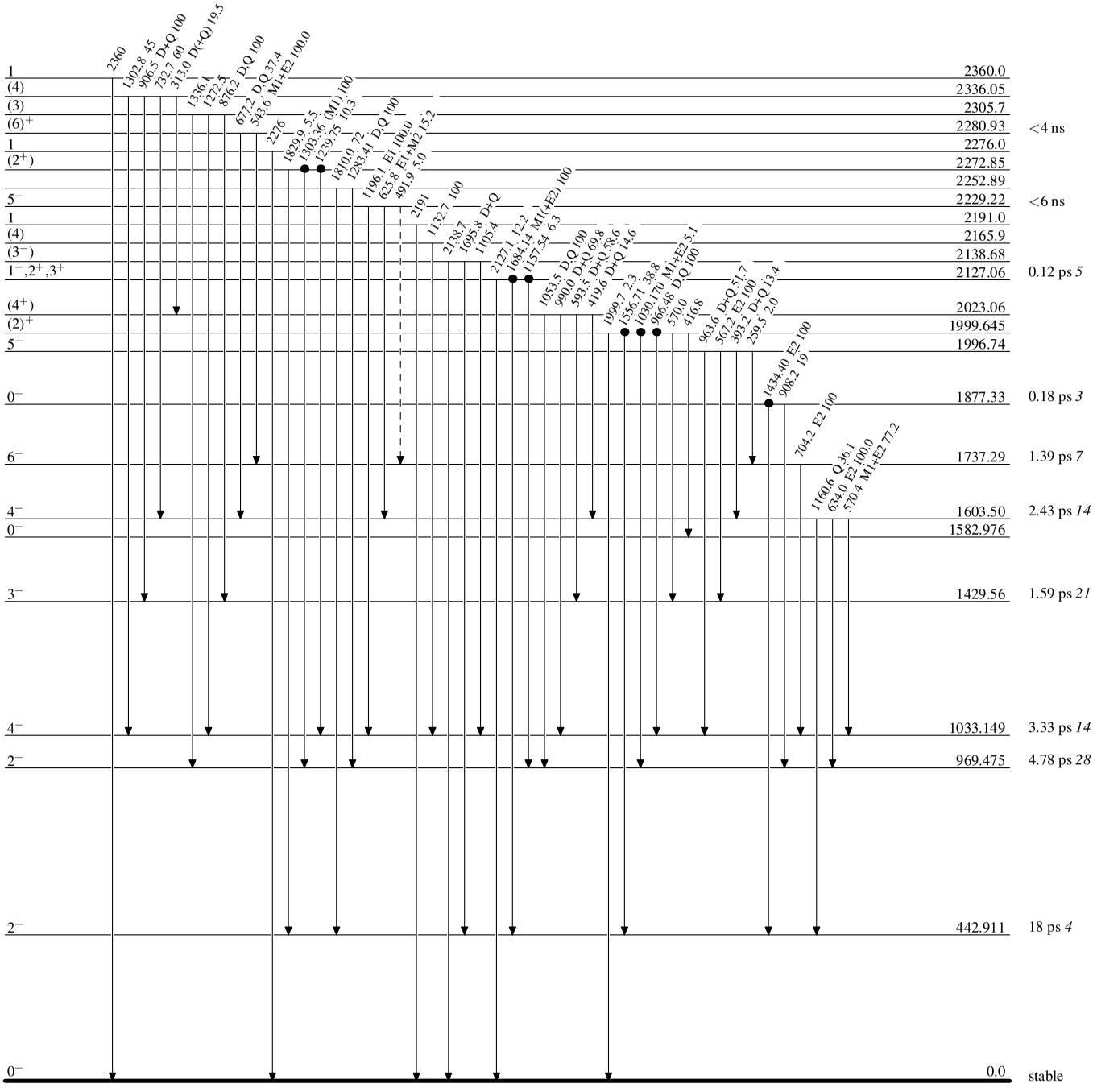
Level Scheme (continued)

Intensities: Relative photon branching from each level

Legend

γ Decay (Uncertain)

Coincidence



$^{128}_{54}Xe_{74}$

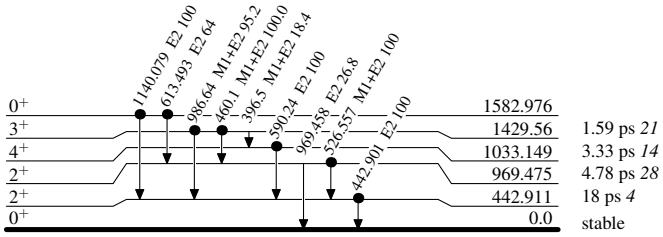
Adopted Levels, Gammas

Legend

Level Scheme (continued)

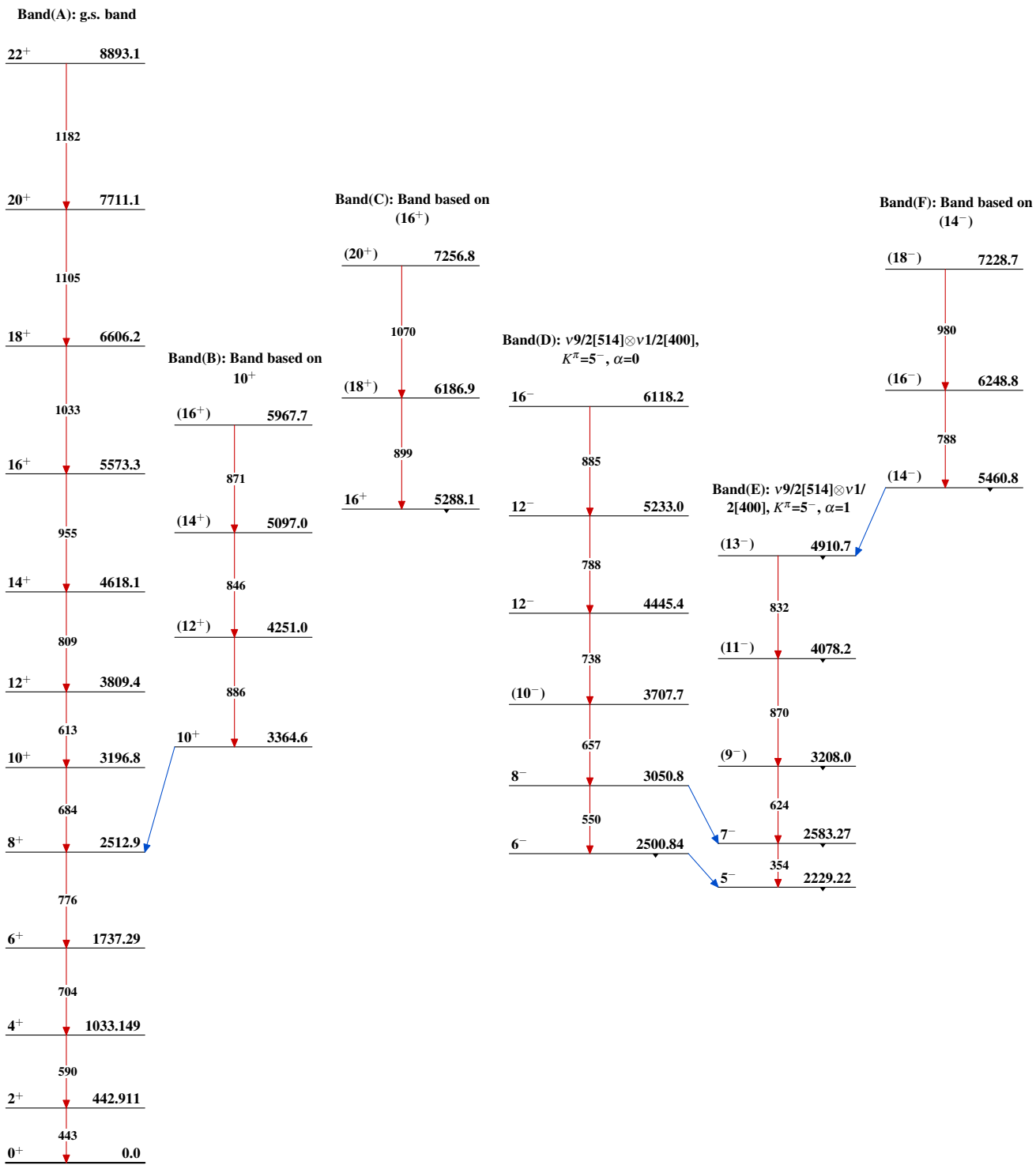
Intensities: Relative photon branching from each level

● Coincidence



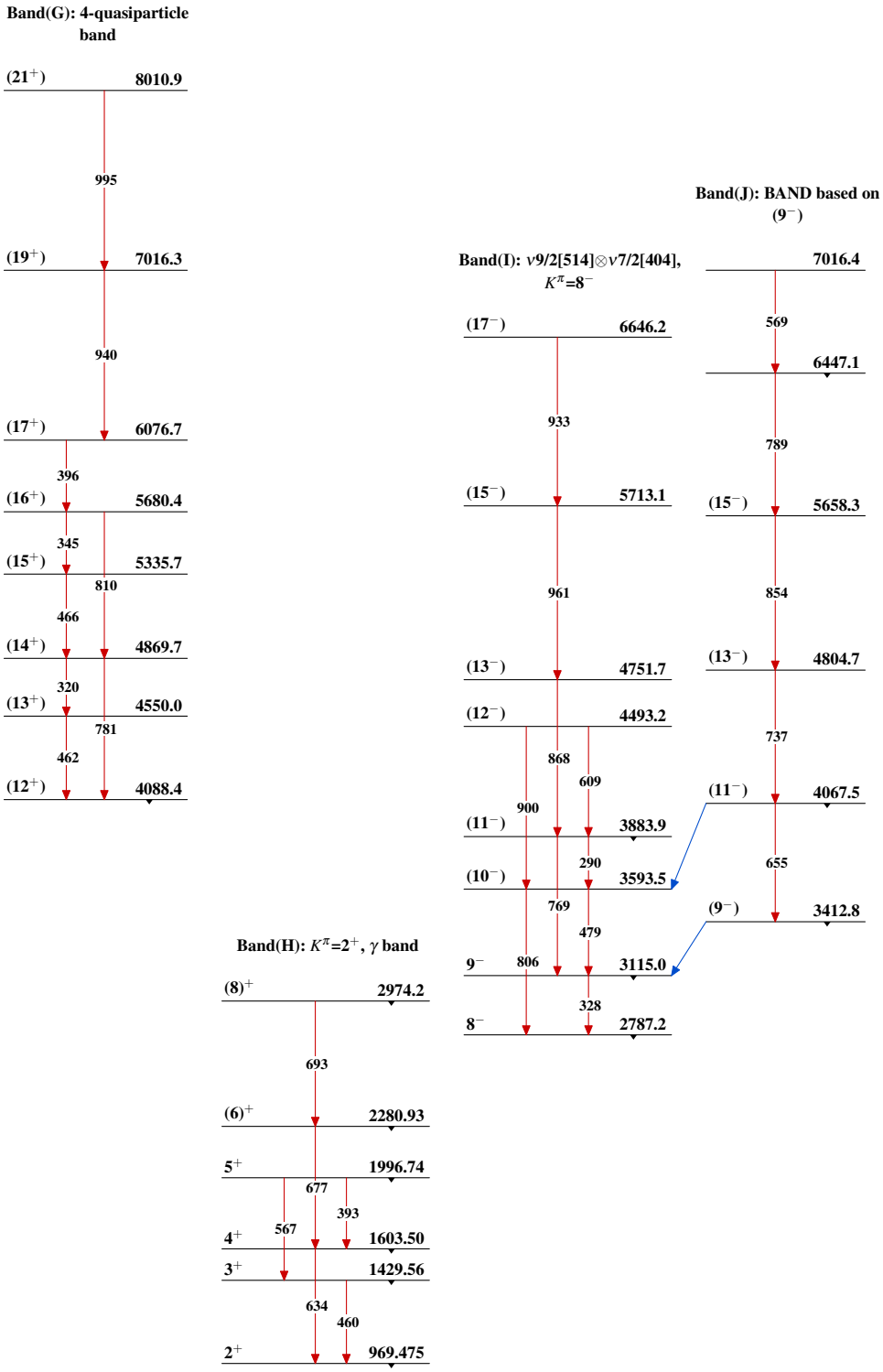
$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas



$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas (continued)



$^{128}_{54}Xe_{74}$

Adopted Levels, Gammas

Type	Author	Citation	Literature Cutoff Date
	History		
Full Evaluation	Yu. Khazov, A. A. Rodionov and S. Sakharov, Balraj Singh	NDS 104,497 (2005)	10-Feb-2005

Q(β^-)=−2122.7 *20*; S(n)=8936.65 *22*; S(p)=9125.2 *7*; Q(α)=−2710.1 *9* 2012Wa38
Note: Current evaluation has used the following Q record −2124.6 21 *8936*.5922 *9125*.1 *6* −2713.3 *20* 2003Au03.
Hyperfine structure, isotope-shift measurements: 2001Br28, 1999Da22 (also 2000Da33), 1993Wa26, 1989Pl03, 1989Bo03, 1988Ge05, 1987Al25, 1981Ge06, 1981Bo07, 1978Hu04, 1974Fi15.
Mass measurements: 1990Me08, 1986Au02, 1960Bh02.
^{132}Xe(μ^-,X): 2000Ma56, 1999Ma14.
Additional information 1.

^{132}Xe Levels

Cross Reference (XREF) Flags

A	^{132}I β^- decay (2.295 h)	E	^{130}Te(^{3}He,n)	I	^{132}Xe(γ,γ)
B	^{132}I β^- decay (1.387 h)	F	^{130}Te(α,2nγ)	J	Coulomb excitation
C	^{132}Xe IT decay (8.39 ms)	G	^{131}Xe(n,γ) E=th	K	^{133}Cs(d,^{3}He)
D	^{132}Cs ε decay (6.480 d)	H	^{131}Xe(n,γ) E=14.1 eV	L	^{232}Th(^{37}Cl,X)

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	0$^+$	stable	ABCDEFGHIJKL	
667.715 *2*	2$^+$	4.63 ps *30*	ABCD FGHIJKL	μ=+0.651 *24* (2002Ja02) μ: weighted average of +0.628 *24* (transient-field technique, 2002Ja02), +0.70 *7* (IMPAC,1993Sp01), +0.74 *10* (IMPAC,1977Ar19), +0.78 *10* (IPAC,1975Go18), +0.76 *12* (1973De42). All values except that from 1973De42 are from Coul. ex. J$^\pi$: E2 γ to 0$^+$. T$_{1/2}$: from Coul. ex as adopted by 2001Ra27. Other: 6.7 ps *20* (γ,γ').
1297.912 *13*	2$^+$	3.05 ps *28*	A D FGH JK	μ=+0.2 *4* (2002Ja02) J$^\pi$: M1+E2 γ to 2$^+$, γ to 0$^+$; $\gamma\gamma(\theta)$. T$_{1/2}$,μ: from Coul. ex.
1440.323 *10*	4$^+$	1.80 ps *14*	ABCD FGH JKL	μ=+2.4 *4* (2002Ja02) J$^\pi$: E2 γ to 2$^+$; $\gamma\gamma(\theta)$. T$_{1/2}$,μ: from Coul. ex.
1803.714 *16*	3$^+$		A D GH K	J$^\pi$: M1+E2 γ's to 2$^+$; E2 γ from 5$^+$.
1850 *80*	0$^+$&2$^+$		E K	XREF: K(?). J$^\pi$: L(^{3}He,n)=0+2.
1963.01 *7*	4$^+$		A FGH K	J$^\pi$: M1+E2 γ to 4$^+$; $\gamma(\theta)$.
1985.641 *5*	2$^+$		A D GH K	J$^\pi$: $\gamma\gamma(\theta)$; γ to 0$^+$.
2040.31 *9*	(5$^-$)		ABC FGH L	J$^\pi$: (E1+M2) γ to 4$^+$; $\gamma(\theta)$ in (α,2nγ).
2110.28 *7*	4$^+$		A GH K	J$^\pi$: E2 γ to 2$^+$; $\gamma(\theta)$.
2111.88 *16*	6$^+$		A	J$^\pi$: E2 γ to 4$^+$; $\gamma(\theta)$.
2167.09 *15*	5$^+$		A FGH k	J$^\pi$: M1+E2 γ to 4$^+$, M1+E2 γ from 5$^+$; $\gamma(\theta)$.
2168.8 *4*	(1,2$^+$)		GH k	J$^\pi$: γ to 0$^+$.
2187.40 *12*	2$^+$		A GH K	J$^\pi$: $\gamma(\theta)$; γ to 0$^+$.
2214.01 *14*	(7$^-$)	87 ns *3*	BC F L	μ=−0.063 *28* (1989Ra17,1986Vo14) Q=0.010 *5* (1989Ra17,1987Le31) μ,Q: from TDPAD (1986Vo14,1987Le31). J$^\pi$: E2 γ to (5$^-$); probable configuration=$\nu(h^{-1}_{11/2})\nu(d^{-1}_{3/2})$. T$_{1/2}$: from $\gamma\gamma$(t) (see (α,2nγ) dataset).
2303.42 *15*	(6$^+$)		A G K	J$^\pi$: (E2) γ to 4$^+$; $\gamma(\theta)$.
2350.64 *9*	5$^+$		A H K	J$^\pi$: M1+E2 γ from 5$^+$; $\gamma(\theta)$.
2353.1 *4*	(4,6)		F K	XREF: K(?). J$^\pi$: ΔJ=1 γ to (5$^-$).

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Adopted Levels, Gammas (continued)

^{132}Xe Levels (continued)

E(level)†	Jπ	$T_{1/2}$	XREF	Comments
2394.92 *8*	4^+		A GH K	Jπ: M1+E2 γ to 4^+; γγ(θ).
2424.77 *12*	3^+		A GH K	Jπ: M1+E2 γ to 2^+; γ(θ).
2468.78 *5*	(3^-)		GH	Jπ: strong (E1) primary γ from 1^+,2^+; γ to (5^-).
2490 *50*	0^+&2^+		E	Jπ: L(^{3}He,n)=0+2.
2512.2 *4*	(4^+)		G	Jπ: (E1+M2) γ to (5^-); γ to $2^{(+)}$.
2555.61 *8*	$(2^+,3)$		GH	Jπ: strong primary γ from 1^+,2^+; γ to 4^+.
2583.77 *10*	5^+		A	Jπ: M1+E2 γ to 4^+; γ(θ).
2588.69 *9*	(4^+)		A GH K	Jπ: (E2) γ to 2^+; γ(θ).
2613.45 *9*	5^+		A K	Jπ: M1+E2 γ to 4^+; γ(θ).
2650.3 *8*	(7^-)		B	Jπ: log *ft*=7.4 from (8^-); γ to (5^-).
2669.99 *11*	3^+		A G K	Jπ: M1+E2 γ to 2^+; γγ(θ).
2714.4 *4*	$(1,2^+)$		GH K	Jπ: γ to 0^+.
2752.21 *17*	(10^+)	8.39 ms *11*	C F	%IT=100 μ=(−)1.95 *5* (1989Ra17,1976Ha50) Jπ: E3 γ to (7^-); shell-model configuration=$\nu h^{-2}_{11/2}$. $T_{1/2}$,μ: from DPAD in (α,2nγ) (1976Ha50).
2754.43 *11*	(4^+)		A GH K	Jπ: (E2) γ to 2^+; γ(θ).
2828.0 *9*	$(7,8,9^-)$		B	Jπ: log *ft*=6.6 from (8^-); γ to (7^-).
2838.85 *7*	5^+		A K	Jπ: M1+E2 γ to 4^+; E2 γ to 3^+; γγ(θ).
2840.10 *12*	$4^{(+)}$		A	Jπ: (E2) γ to 2^+; γ(θ).
2872.7 *7*			G	Jπ: γ to (5^-).
2890.69 *11*	(4^+)		A K	Jπ: (E2) γ to 2^+; γ(θ).
2916.85 *13*	$(2^+,3,4^+)$		A	Jπ: γ's to 2^+ and 4^+.
2935.2 *4*			A	Jπ: γ to 2^+.
2958.76 *19*	$(2^+,3,4^+)$		A K	Jπ: γ's to 2^+ and 4^+.
2960.3 *12*	$(7,8,9^-)$		B	Jπ: log *ft*=6.9 from (8^-); γ to (7^-).
3049.6 *22*			G	
3058.14 *11*	(3^+)		A	Jπ: (M1+E2) γ to 3^+; γ(θ).
3076.43 *17*	(3^+)		A	Jπ: (M1+E2) γ to 3^+; γ(θ).
3084.4 *4*	$(3,4^+)$		A	Jπ: log *ft*=8.0 from 4^+; possible γ's to 2^+.
3112.08 *20*	$(3,4^+)$		A	Jπ: log *ft*=7.1 from 4^+; γ to 2^+.
3121.93 *24*	(4^+)		A	Jπ: log *ft*=7.3 from 4^+; γ's to 2^+ and 6^+.
3155.66 *25*	$3^+,4^+$		A K	Jπ: log *ft*=6.8 from 4^+; γ's to 2^+ and 5^+.
3180.7 *6*	(3^-)		GH	Jπ: strong primary γ from 1^+,2^+; γ to (5^-).
3192.81 *13*	(3^+)		A	Jπ: (M1+E2) γ to 2^+; γ(θ).
3213.97 *20*	$(3,4^+)$		A	Jπ: log *ft*=6.7 from 4^+; γ to 2^+.
3226.71 *20*	(3,4,5)		A	Jπ: log *ft*=6.2 from 4^+; γ to 4^+.
3237.2 *3*	$(3^+,4^+)$		A	Jπ: log *ft*=7.0 from 4^+; γ's to 2^+ and 5^+.
3243.4 *3*			GH	
3249 *2*			G	
3260.9 *3*	$(3,4^+)$		A	Jπ: log *ft*=6.4 from 4^+; γ to 2^+.
3320.4 *4*	$(3,4^+)$		A	Jπ: log *ft*=7.3 from 4^+; γ to 2^+.
3353.3 *3*	$(4^+,5)$		A	Jπ: log *ft*=6.2 from 4^+; γ to (6^+).
3385.2 *6*	$(3,4^+)$		A	Jπ: log *ft*=7.5 from 4^+; γ to 2^+.
3699.5 *7*			GH	XREF: G(3695).
3733? *2*			G	
3792.5 *5*			GH	XREF: G(3789).
3825? *2*			G	
3855 *2*			G	
3875.3? *5*			GH	XREF: G(3869).
3909? *2*			G	
3954.2 *6*			GH	XREF: G(3952).
3990 *2*			G	
4018 *2*			G	
4027.0? *6*			GH	XREF: G(4033).

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Adopted Levels, Gammas (continued)

^{132}Xe Levels (continued)

E(level)†	Jπ	XREF	Comments
4094.5 *4*	(3⁻,4⁺)	GH	XREF: G(4092). Jπ: primary γ from 1⁺,2⁺; γ to (5⁻).
4110? *2*		G	
4147? *2*		G	
4168 *2*		G	
4188.4? *3*		H	
4200 *2*		G	
4230 *2*		G	

† From least-squares fit to Eγ's.

Adopted Levels, Gammas (continued)

$\gamma(^{132}Xe)$

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[@]	Comments
667.715	2^+	667.714 *2*	100	0.0	0^+	E2		0.00421	α(K)=0.00356 *11*; α(L)=0.00048 *2* B(E2)(W.u.)=23.1 *15*
1297.912	2^+	630.19 *2*	100	667.715	2^+	M1+E2	+4.07 *16*	0.00497 *1*	α(K)=0.00420 *1*; α(L)=0.00057 B(M1)(W.u.)=0.00154 *19*; B(E2)(W.u.)=41 *4*
		1297.91 *2*	6.7 *6*	0.0	0^+	[E2]			B(E2)(W.u.)=0.079 *11*
1440.323	4^+	772.60 *1*	100	667.715	2^+	E2		0.00294	α(K)=0.00250 *8*; α(L)=0.00033 *1* B(E2)(W.u.)=28.6 *23*
1803.714	3^+	363.34 *5*	9.3 *3*	1440.323	4^+	(M1+E2)	+1.10 *20*	0.0239	α(K)=0.0202 *3*; α(L)=0.00292 *3*; α(M)=0.00059 *1*; α(N+..)=0.00015
		505.79 *3*	100 *4*	1297.912	2^+	M1+E2	+7.5 *6*	0.0088	α(K)=0.00740 *1*; α(L)=0.00107
		1136.00 *2*	63 *2*	667.715	2^+	M1+E2	+0.34 *2*	0.00159 *1*	α(K)=0.00137; α(L)=0.00017
1963.01	4^+	522.65 *9*	100 *3*	1440.323	4^+	M1+E2	−0.09 *1*	0.0101	α(K)=0.0087; α(L)=0.00109
		1295.1 *2*	11.7 *5*	667.715	2^+	(E2)		0.00095	α(K)=0.00081 *3*; α(L)=0.00010
1985.641	2^+	687.74 *17*	0.37 *8*	1297.912	2^+				
		1317.918 *6*	100 *13*	667.715	2^+	(M1+E2)	−0.16 *5*	0.00117 *1*	α(K)=0.00100; α(L)=0.00012
		1985.625 *6*	10.0 *17*	0.0	0^+				
2040.31	(5^-)	600.1 *1*	100	1440.323	4^+	(E1+M2)	−0.18 *7*		δ: from (α,2nγ). Other: +0.03 *25* in (n,γ) E=th.
2110.28	4^+	147.4 *2*	4.3 *4*	1963.01	4^+	M1		0.279	α(K)=0.240 *8*; α(L)=0.0314 *10*; α(M)=0.00633 *19*; α(N+..)=0.00160 *5*
		306.7[&] *4*	<1.8	1803.714	3^+				
		669.8 *2*	84 *11*	1440.323	4^+	M1+E2		0.0049 *7*	α(K)=0.0042 *7*; α(L)=0.00054 *6* δ: +0.86 *16* or +0.05 *9*.
		812.0 *2*	100 *8*	1297.912	2^+	E2		0.00262	α(K)=0.00223 *7*; α(L)=0.00029 *1*
		1442.56 *10*	25.4 *9*	667.715	2^+	E2		0.00076	α(K)=0.00066 *2*
2111.88	6^+	671.4 *2*	100	1440.323	4^+	E2		0.00415	α(K)=0.00351 *11*; α(L)=0.00048 *2*
2167.09	5^+	727.0 *3*	100	1440.323	4^+	M1+E2	+0.41 +*7*−*8*	0.0040 *6*	α(K)=0.0034 *6*; α(L)=0.00044 *5* δ: from (α,2nγ).
2168.8	$(1,2^+)$	1501.2 *4*	100[#] *18*	667.715	2^+				
		2169.5 *8*	17[#] *9*	0.0	0^+				
2187.40	2^+	889.56 *15*	61 *16*	1297.912	2^+				I_γ: double placement in ^{132}I β^- (2.295 h); but (n,γ) results suggest main placement from 2187 level.
		1519.6 *2*	100 *10*	667.715	2^+	(M1+E2)		0.00067 *8*	α(K)=0.00067 *8* δ: +2.4 *5* or −0.03 *7*.
		2187.5 *6*	34[#] *8*	0.0	0^+				
2214.01	(7^-)	173.7 *1*	100	2040.31	(5^-)	E2		0.263	B(E2)(W.u.)=0.82 *3* α(K)=0.203 *6*; α(L)=0.0471 *15*; α(M)=0.0098 *3*; α(N+..)=0.00238 *8*
2303.42	(6^+)	136.7[&] *4*	<14	2167.09	5^+	M1,E2		0.47 *13*	α(K)=0.37 *8*; α(L)=0.08 *5*; α(M)=0.017 *10*; α(N+..)=0.0042 *22*
		863.0 *2*	100 *9*	1440.323	4^+	(E2)		0.00227	α(K)=0.00194 *6*; α(L)=0.00025 *1*

$^{132}_{54}Xe_{78}$-4

Adopted Levels, Gammas (continued)

$\gamma(^{132}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[@]	Comments
2350.64	5^+	183.6 *3*	12.2 *18*	2167.09	5^+	M1,E2		0.18 *4*	α(K)=0.150 *20*; α(L)=0.027 *11*; α(M)=0.0057 *22*; α(N+..)=0.0014 *6*
		387.9[&] *3*	<26	1963.01	4^+	(M1+E2)		0.0200 *12*	α(K)=0.0170 *13*; α(L)=0.00240 *7*; α(M)=0.00049 *2*; α(N+..)=0.00012 δ: −1.54 *22* or −0.45 *8*.
		547.2 *2*	100 *7*	1803.714	3^+	E2		0.00708	α(K)=0.00596 *18*; α(L)=0.00084 *3*
		910.1[a] *2*	82[a] *3*	1440.323	4^+	(M1+E2)	−1.27 *22*	0.00228 *7*	α(K)=0.00195 *6*; α(L)=0.00025 *1*
2353.1	(4,6)	312.9 *3*	100	2040.31	(5^-)	D			
2394.92	4^+	284.9 *2*	4.0 *4*	2110.28	4^+	M1+E2	−0.26 *3*	0.0472	α(K)=0.0406; α(L)=0.00533 *3*; α(M)=0.00107 *1*; α(N+..)=0.00027
		355.2[&b] *4*	<0.28	2040.31	(5^-)				
		431.8 *3*	2.7 *3*	1963.01	4^+	(M1+E2)	+0.06 *4*	0.0162	α(K)=0.0139; α(L)=0.00177; α(M)=0.00036
		591.1[&] *6*	<0.4	1803.714	3^+				
		954.55 *9*	100 *3*	1440.323	4^+	M1+E2	−0.07 *1*	0.00243	α(K)=0.00208; α(L)=0.00026
		1096.9 *4*	0.25 *5*	1297.912	2^+				
		1727.2 *4*	0.38 *4*	667.715	2^+	(E2)			
2424.77	3^+	621.2 *3*	100 *13*	1803.714	3^+	M1(+E2)		0.0059 *8*	α(K)=0.0050 *8*; α(L)=0.00065 *7*
		984.2 *2*	38 *3*	1440.323	4^+	(M1+E2)	−0.28 *1*	0.00222	α(K)=0.00191; α(L)=0.00024
		1126.5[&] *4*	<3	1297.912	2^+				
		1757.4 *2*	18.8 *19*	667.715	2^+	(M1+E2)	+0.10 *1*		
2468.78	(3^-)	428.86 *22*	8.4 *10*	2040.31	(5^-)				
		483.04 *5*	100.0 *22*	1985.641	2^+	(E1)		0.00318	α(K)=0.00276 *9*; α(L)=0.00034 *1*
		1028.79 *15*	73 *3*	1440.323	4^+	(E1+M2)	−0.071 *11*	0.00065	α(K)=0.00056 *2*
		1171.22 *15*	39.4[#] *16*	1297.912	2^+				
		1801.1 *3*	49.1 *16*	667.715	2^+				
2512.2	(4^+)	325.4 *5*	45 *30*	2187.40	2^+				
		471.2 *5*	100 *30*	2040.31	(5^-)	(E1+M2)	−0.27 *11*	0.00339	α(K)=0.00293 *9*; α(L)=0.00036 *1*
2555.61	$(2^+,3)$	570.13 *9*	80 *6*	1985.641	2^+	D+Q			δ: +0.7 *+4−3* for J(2556)=2; −0.11 *12* for J(2556)=3.
		1114.5 *2*	63[#] *7*	1440.323	4^+				I_γ: other: 16 *2* in (n,γ) E=14.1 eV. E_γ: level-energy difference=1115.3.
		1887.6 *3*	100 *11*	667.715	2^+				
2583.77	5^+	416.8 *3*	35 *4*	2167.09	5^+	(M1+E2)	−1.70 *23*	0.0158	α(K)=0.0134 *2*; α(L)=0.00194; α(M)=0.00040
		473.6 *4*	12 *3*	2110.28	4^+				
		620.9 *2*	29 *15*	1963.01	4^+				
		780.0 *2*	88 *3*	1803.714	3^+	(E2)		0.00288	α(K)=0.00244 *8*; α(L)=0.00032 *1*
		1143.3 *2*	100 *5*	1440.323	4^+	M1+E2	−0.20 *2*	0.00160	α(K)=0.00137; α(L)=0.00017
2588.69	(4^+)	478.2 *4*	14 *4*	2110.28	4^+				
		784.4 *4*	31 *4*	1803.714	3^+	(M1+E2)	+1.2 *5*	0.0032 *3*	α(K)=0.00277 *23*; α(L)=0.00036 *2*
		1147.8 *5*	22 *4*	1440.323	4^+				
		1290.8 *2*	91 *4*	1297.912	2^+	(E2)		0.00096	α(K)=0.00082 *3*; α(L)=0.00010

$^{132}_{54}Xe_{78}$-5

Adopted Levels, Gammas (continued)

γ(^{132}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[@]	Comments
2588.69	(4$^+$)	1921.08 *12*	100 *5*	667.715	2$^+$	(E2)			
2613.45	5$^+$	262.9 *1*	50 *4*	2350.64	5$^+$	M1+E2	−0.16 *5*	0.0583	α(K)=0.0502 *1*; α(L)=0.00653 *6*; α(M)=0.00131 *1*; α(N+..)=0.00033
		310.4[&] *4*	<3.5	2303.42	(6$^+$)				
		446.2 *3*	23.5 *20*	2167.09	5$^+$	M1,E2			
		572.5[&b] *4*	<2.3	2040.31	(5$^-$)				
		650.5 *2*	100 *8*	1963.01	4$^+$	M1+E2	−0.36 *3*	0.00580 *3*	α(K)=0.00497 *2*; α(L)=0.00063
		809.5 *2*	100 *12*	1803.714	3$^+$	E2		0.00263	α(K)=0.00224 *7*; α(L)=0.00030 *1*
		1172.9 *2*	42 *3*	1440.323	4$^+$	M1+E2	−0.57 *2*	0.00143 *1*	α(K)=0.00123; α(L)=0.00015
2650.3	(7$^-$)	610.0 *8*	100	2040.31	(5$^-$)				
2669.99	3$^+$	559.7 *4*	3.6 *8*	2110.28	4$^+$				
		684.4[b] *2*	1.0 *2*	1985.641	2$^+$				
		706.4 *7*	≈0.8	1963.01	4$^+$				
		866.0[&] *6*	<1.4	1803.714	3$^+$				
		1372.07 *13*	100 *4*	1297.912	2$^+$	M1+E2	−0.13 *1*	0.00107	α(K)=0.00092; α(L)=0.00011
		2002.2 *5*	46 *4*	667.715	2$^+$	(M1+E2)	−0.73 *11*		
2714.4	(1,2$^+$)	910.8[a] *7*	≈29[a]	1803.714	3$^+$				
		2714.3 *5*	100 *30*	0.0	0$^+$				
2752.21	(10$^+$)	538.2 *1*	100	2214.01	(7$^-$)	E3		0.0197	α(K)=0.0158 *5*; α(L)=0.00294 *9* B(E3)(W.u.)=0.01049 *14* Additional information 2.
2754.43	(4$^+$)	791.2 *4*	38 *8*	1963.01	4$^+$				
		1314.0 *5*	23 *4*	1440.323	4$^+$				
		1456.5 *2*	19 *3*	1297.912	2$^+$				
		2086.82 *15*	100 *8*	667.715	2$^+$	(E2)			
2828.0	(7,8,9$^-$)	614.0 *8*	100	2214.01	(7$^-$)				
2838.85	5$^+$	250.8[&] *6*	<0.25	2588.69	(4$^+$)				
		255.1[a] *2*	3.4[a] *3*	2583.77	5$^+$	M1,E2		0.067 *5*	α(K)=0.0561 *19*; α(L)=0.0088 *19*; α(M)=0.0018 *4*; α(N+..)=0.00045 *10*
		488.0[&] *4*	<6	2350.64	5$^+$				
		535.4 *3*	7.3 *7*	2303.42	(6$^+$)	(M1+E2)	+0.09 *2*	0.0096	α(K)=0.00819 *1*; α(L)=0.00103
		727.2 *3*	45 *9*	2111.88	6$^+$	M1+E2		0.0040 *6*	α(K)=0.0034 *6*; α(L)=0.00044 *5*
		728.4 *2*	23 *6*	2110.28	4$^+$	(M1+E2)	−4.1 *4*	0.0040 *6*	α(K)=0.0034 *6*; α(L)=0.00044 *5*
		1035.0 *2*	7.3 *7*	1803.714	3$^+$	(E2)		0.00152	α(K)=0.00130 *4*; α(L)=0.00017 *1*
		1398.57 *10*	100 *3*	1440.323	4$^+$	M1+E2	+0.07 *1*	0.00103	α(K)=0.00088; α(L)=0.00011
2840.10	4$^{(+)}$	250.8[&] *6*	<1.7	2588.69	(4$^+$)				
		445.0[b] *6*	<9.5	2394.92	4$^+$				
		876.6 *2*	100 *4*	1963.01	4$^+$	(M1+E2)	−1.2 *5*	0.00251 *20*	α(K)=0.00214 *18*; α(L)=0.00027 *2*
		1542.3 *6*	1.52 *19*	1297.912	2$^+$				

$^{132}_{54}Xe_{78}$-6

Adopted Levels, Gammas (continued)

γ(^{132}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.‡	δ‡	α@	Comments
2840.10	$4^{(+)}$	2172.68 *15*	20.0 *19*	667.715	2^+	(E2)			
2872.7		832.4 *7*	100	2040.31	(5^-)				
2890.69	(4^+)	136.7& *4*	<19	2754.43	(4^+)	M1,E2		0.47 *13*	α(K)=0.37 *8*; α(L)=0.08 *5*; α(M)=0.017 *10*; α(N+..)=0.0042 *22*
		306.7& *4*	<24	2583.77	5^+				
		539.7&b *4*	<26	2350.64	5^+				
		904.4 *5*	3.1 *10*	1985.641	2^+				
		927.4 *3*	100 *10*	1963.01	4^+	(M1+E2)	−0.27 *6*	0.00255 *2*	α(K)=0.00219 *2*; α(L)=0.00027
		1086.2 *4*	19 *5*	1803.714	3^+				
		1450.0 *5*	1.9 *5*	1440.323	4^+				
		1592.9 *3*	11.4 *10*	1297.912	2^+				
		2223.17 *15*	29 *5*	667.715	2^+	(E2)			
2916.85	$(2^+,3,4^+)$	1112.4 *4*	50 *12*	1803.714	3^+				
		1476.7 *2*	100 *7*	1440.323	4^+				
		1618.9 *3*	5 *4*	1297.912	2^+				
		2249.1 *3*	25.8 *16*	667.715	2^+				
2935.2		1636.5& *6*	100	1297.912	2^+				
2958.76	$(2^+,3,4^+)$	771.7b	70 *70*	2187.40	2^+				
		847.9 *5*	57 *17*	2110.28	4^+				
		995.8 *5*	100 *40*	1963.01	4^+				
		1661.4 *5*	53 *10*	1297.912	2^+				
		2290.6 *6*	12 *3*	667.715	2^+				
2960.3	$(7,8,9^-)$	310.0 *8*	100	2650.3	(7^-)				
3058.14	(3^+)	387.9& *3*	<160	2669.99	3^+				
		947.2 *6*	24 *8*	2110.28	4^+				
		1254.1 *4*	32 *4*	1803.714	3^+	(M1+E2)	+1.71 *9*	0.00109 *1*	α(K)=0.00093 *1*; α(L)=0.00012
		1617.9 *2*	5.2 *26*	1440.323	4^+				
		1760.4 *6*	32 *11*	1297.912	2^+				
		2390.48 *15*	100 *11*	667.715	2^+				
3076.43	(3^+)	488.0& *4*	<250	2588.69	(4^+)	(M1(+E2))	+0.7 *7*	0.0108 *12*	α(K)=0.0092 *11*; α(L)=0.00124 *6*; α(M)=0.00025 *1*
		888.7b *5*	<20	2187.40	2^+				
		965.8 *5*	21 *5*	2110.28	4^+				
		1272.8 *4*	100 *12*	1803.714	3^+	(M1+E2)	+1.89 *13*	0.00105 *1*	α(K)=0.00090 *1*; α(L)=0.00011
		1636.5& *6*	<7	1440.323	4^+				
		1778.5 *4*	47 *5*	1297.912	2^+				
		2408.6 *4*	5.6 *5*	667.715	2^+				
3084.4	$(3,4^+)$	1644.0 *6*	100 *30*	1440.323	4^+				
		1786.5& *6*	<85	1297.912	2^+				
		2417.1b *4*	11 *5*	667.715	2^+				

$^{132}_{54}Xe_{78}$-7

Adopted Levels, Gammas (continued)

γ(^{132}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	δ[‡]	Comments
3112.08	(3,4$^+$)	687.8 *5*	100 *50*	2424.77	3$^+$			
		1002.5[&] *6*	<65	2110.28	4$^+$			
		1126.5[&] *4*	<125	1985.641	2$^+$			
		1671.3 *4*	55 *10*	1440.323	4$^+$			
		1814.0 *5*	40 *10*	1297.912	2$^+$			
		2444.0 *6*	14.3 *20*	667.715	2$^+$			
3121.93	(4$^+$)	539.7[&b] *4*	<235	2583.77	5$^+$			
		1009.0 *4*	100 *15*	2111.88	6$^+$			
		1081.8[&] *4*	<74	2040.31	(5$^-$)			
		2454.8 *4*	4.5 *11*	667.715	2$^+$			
3155.66	3$^+$,4$^+$	316.7 *4*	100 *16*	2838.85	5$^+$			
		572.5[&b] *4*	<46	2583.77	5$^+$			
		1715.4 *4*	43 *3*	1440.323	4$^+$			
		2487.8 *6*	0.62 *16*	667.715	2$^+$			
3180.7	(3$^-$)	1140.89 *17*	100 *80*	2040.31	(5$^-$)			
		1739.8 *8*	25 *13*	1440.323	4$^+$			
3192.81	(3$^+$)	234.3 *6*	75 *25*	2958.76	(2$^+$,3,4$^+$)			
		302.0[b] *7*	≈12	2890.69	(4$^+$)			
		355.2[&b] *4*	<125	2838.85	5$^+$			
		1005.4 *6*	40 *13*	2187.40	2$^+$			
		1081.8[&] *4*	<88	2110.28	4$^+$			
		1752.3 *7*	63 *20*	1440.323	4$^+$			
		2525.14 *15*	100 *10*	667.715	2$^+$	(M1+E2)	+0.46 *5*	
3213.97	(3,4$^+$)	255.1[a] *3*	<45[a]	2958.76	(2$^+$,3,4$^+$)			
		278.4[&] *4*	<90	2935.2				
		600.0 *6*	<300	2613.45	5$^+$			I_γ: double placement (from 2040 and 3214 levels) in ^{132}I β^- decay with undivided intensity.
		1410.6 *3*	100 *16*	1803.714	3$^+$			
		2546.5 *6*	3.6 *11*	667.715	2$^+$			
3226.71	(3,4,5)	310.1[&] *4*	<330	2916.85	(2$^+$,3,4$^+$)			
		387.9[&] *3*	<1100	2838.85	5$^+$			
		831.3 *5*	96 *40*	2394.92	4$^+$			
		1263.6 *5*	100 *22*	1963.01	4$^+$			
		1786.5[&] *6*	<41	1440.323	4$^+$			
3237.2	(3$^+$,4$^+$)	278.4[&] *4*	<160	2958.76	(2$^+$,3,4$^+$)			
		886.1 *5*	100 *30*	2350.64	5$^+$			
		2569.8 *4*	20 *4*	667.715	2$^+$			
3243.4		1280.4 *3*	100 *17*	1963.01	4$^+$			

$^{132}_{54}Xe_{78}$-8

Adopted Levels, Gammas (continued)

γ(^{132}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π
3243.4		2577.0[&] *10*	<50	667.715	2^+
3260.9	(3,4$^+$)	343.7 *4*	100 *23*	2916.85	(2^+,3,4$^+$)
		591.1[&] *6*	<80	2669.99	3^+
		866.0[&] *6*	<40	2394.92	4^+
		2593.8 *8*	1.3 *4*	667.715	2^+
3320.4	(3,4$^+$)	1879.2 *5*	100 *22*	1440.323	4^+
		2653.8 *6*	7.1 *22*	667.715	2^+
3353.3	(4^+,5)	1002.5[&] *6*	<55	2350.64	5^+
		1049.6 *4*	100 *30*	2303.42	(6^+)
		1242.6 *7*	≤20	2110.28	4^+
		1390.7[b] *7*	32 *22*	1963.01	4^+
		1913.7 *5*	64 *22*	1440.323	4^+
3385.2	(3,4$^+$)	2717.5 *6*	100	667.715	2^+
3699.5		1895.8 *7*	100 *20*	1803.714	3^+
		3699.2 *25*		0.0	0^+
3792.5		1236.2 *5*	100 *30*	2555.61	(2^+,3)
3792.5		1398.8 *7*	68 *40*	2394.92	4^+
3875.3?		1120.9 *5*	100 *9*	2754.43	(4^+)
		2577[&] *1*	<50	1297.912	2^+
3954.2		1786.0 *8*	100 *30*	2168.8	($1,2^+$)
		2149.9[&] *8*	<90	1803.714	3^+
4027.0?		1858.3 *7*	100 *18*	2168.8	($1,2^+$)
		1986.4 *9*	<36	2040.31	(5^-)
4094.5	(3^-,4^+)	1539.0 *5*	63 *17*	2555.61	(2^+,3)
		1669.7 *11*	38 *14*	2424.77	3^+
		1926.0 *12*	83 *50*	2168.8	($1,2^+$)
		2055.2 *7*	100 *40*	2040.31	(5^-)
		2795.4 *7*	66 *40*	1297.912	2^+
4188.4?		1719.7 *4*	100 *25*	2468.78	(3^-)
		2149.9[&] *8*	<25	2040.31	(5^-)
		2384.2 *4*	17 *9*	1803.714	3^+

[†] Weighted averages of all available data; in some cases values are preferred from one data set if the level is very weakly populated in other studies. Most values originate from ^{132}I β- decay (2.295 h). Intensities are relative photon branches.

[‡] From ^{132}I β decay (2.295 h), except as noted.

[#] From (n,γ) E=th; the value available from other dataset(s) originates from weakly populated level.

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

[&] Multiply placed.

[a] Multiply placed with intensity suitably divided.

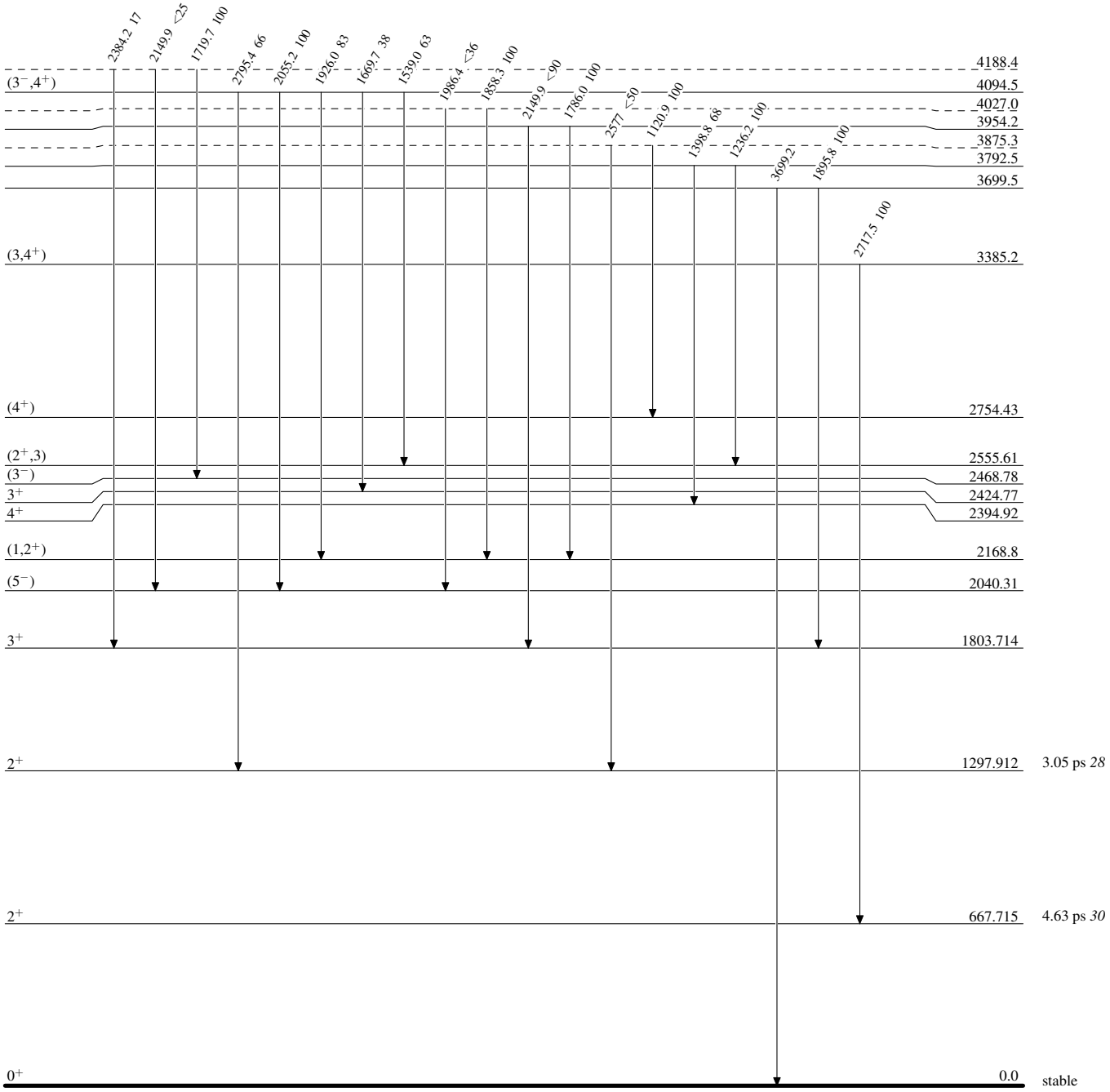
[b] Placement of transition in the level scheme is uncertain.

$^{132}_{54}Xe_{78}$-9

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{132}_{54}Xe_{78}$

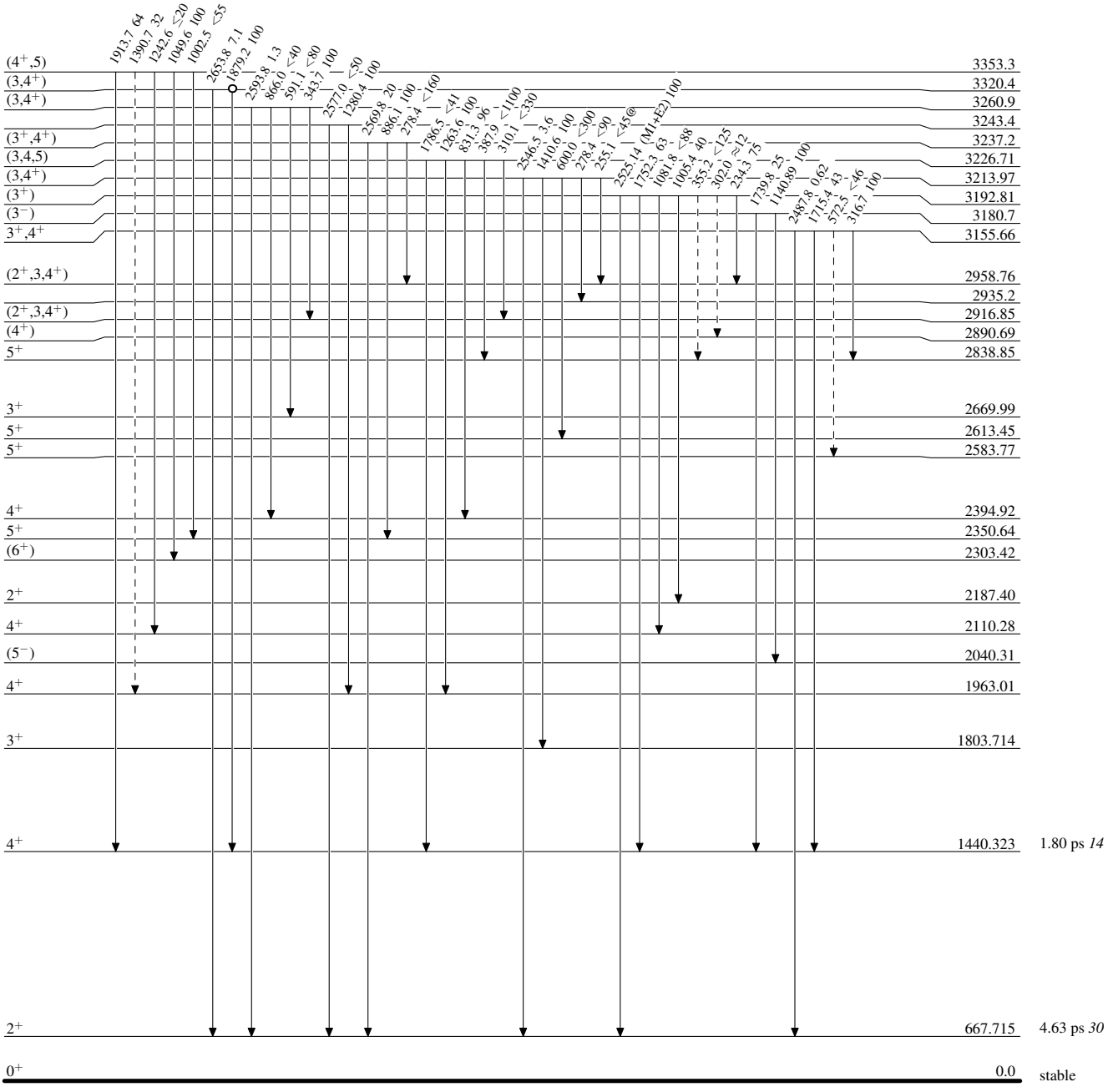
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)
Coincidence
Coincidence (Uncertain)



$^{132}_{54}Xe_{78}$

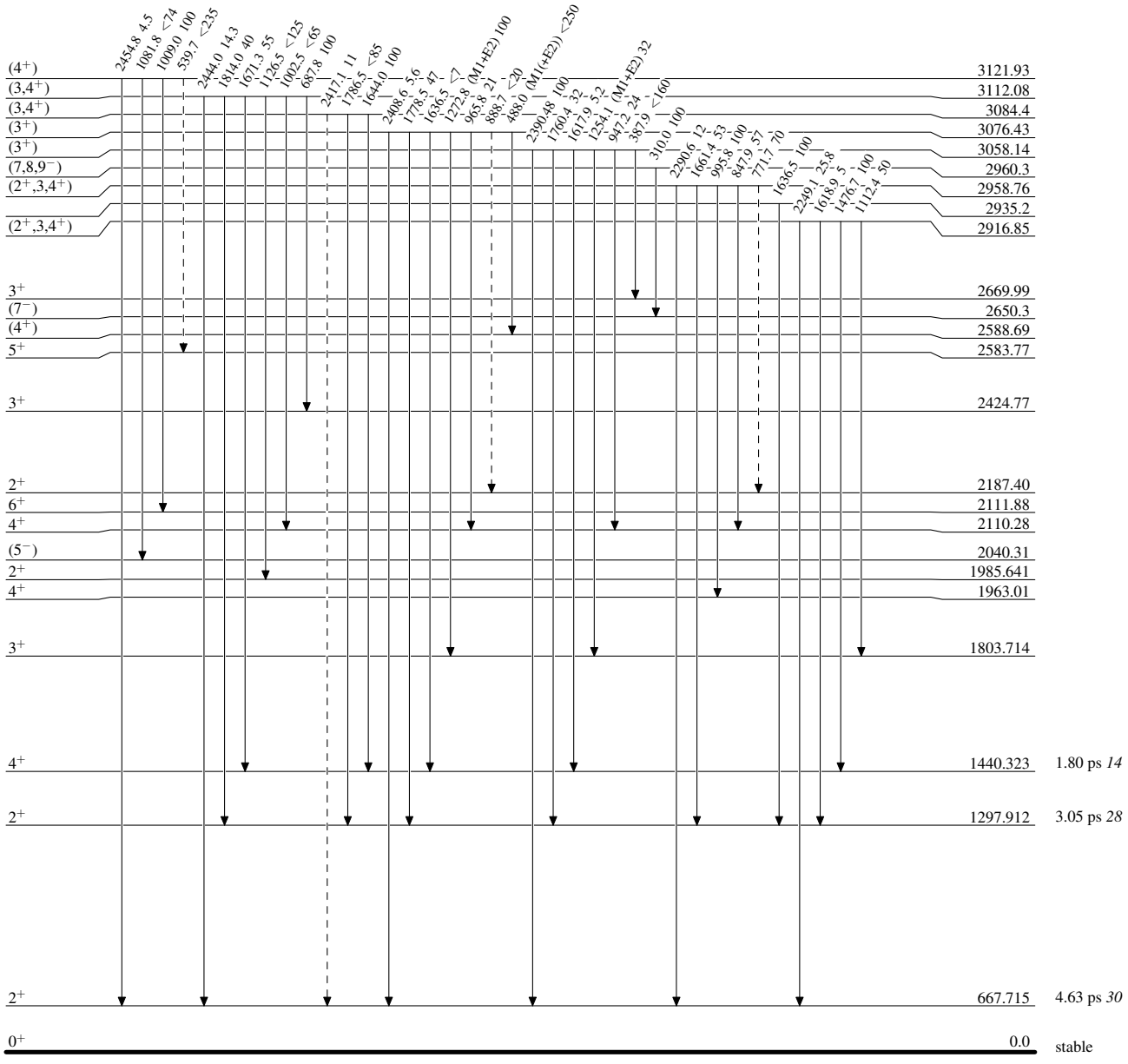
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)



$^{132}_{54}Xe_{78}$

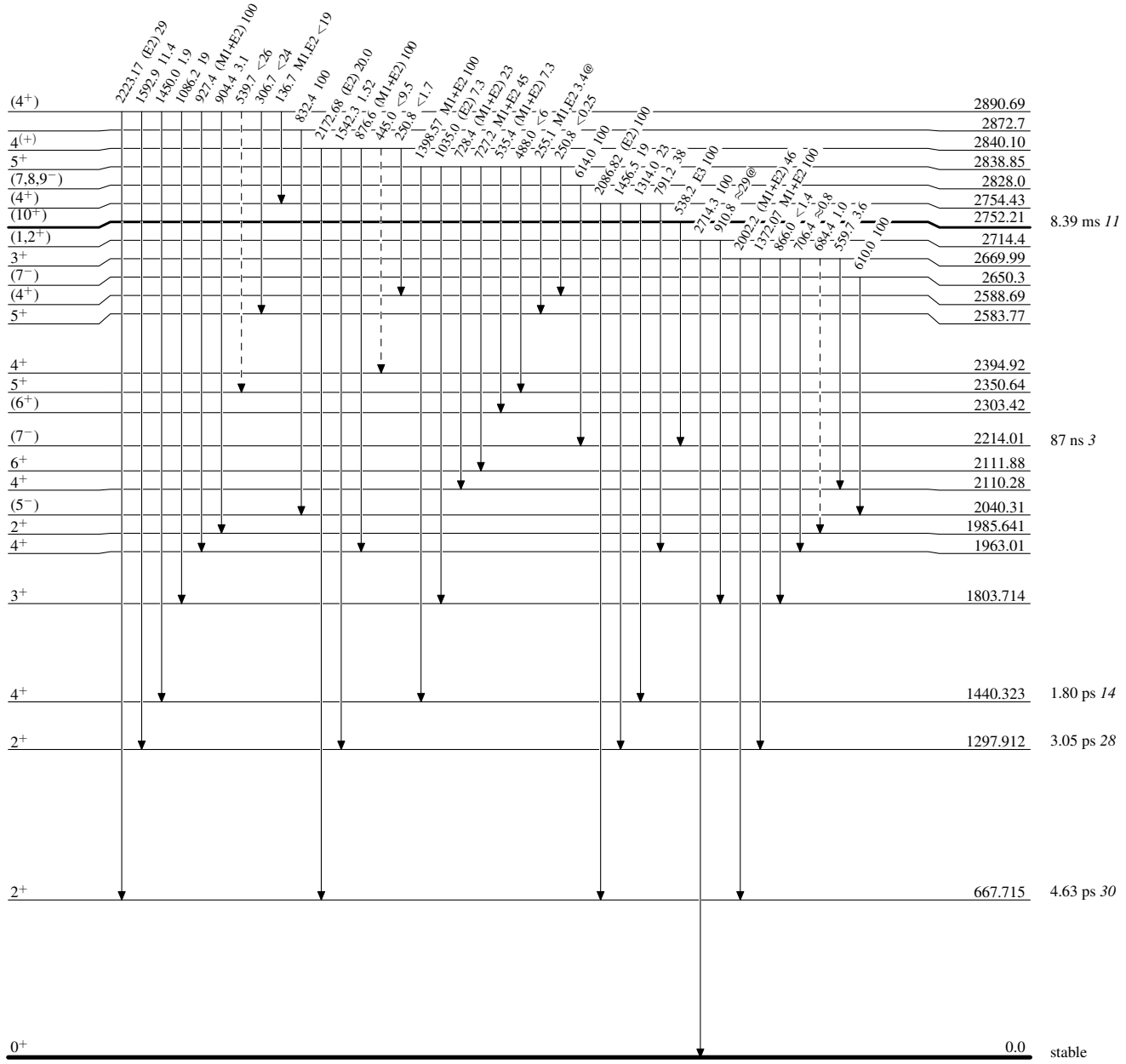
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

γ Decay (Uncertain)



$^{132}_{54}Xe_{78}$

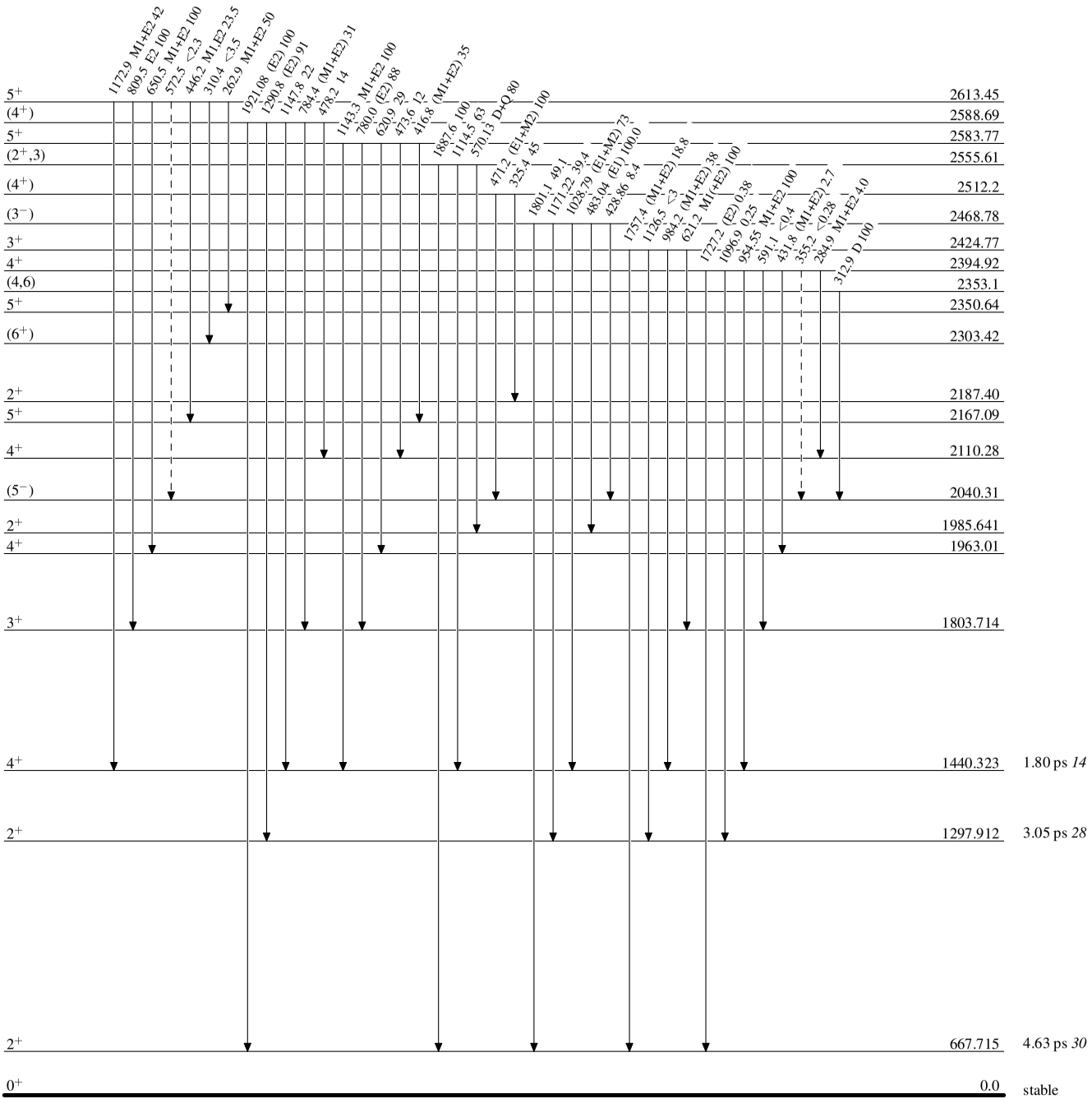
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided

- - - - - - ► γ Decay (Uncertain)

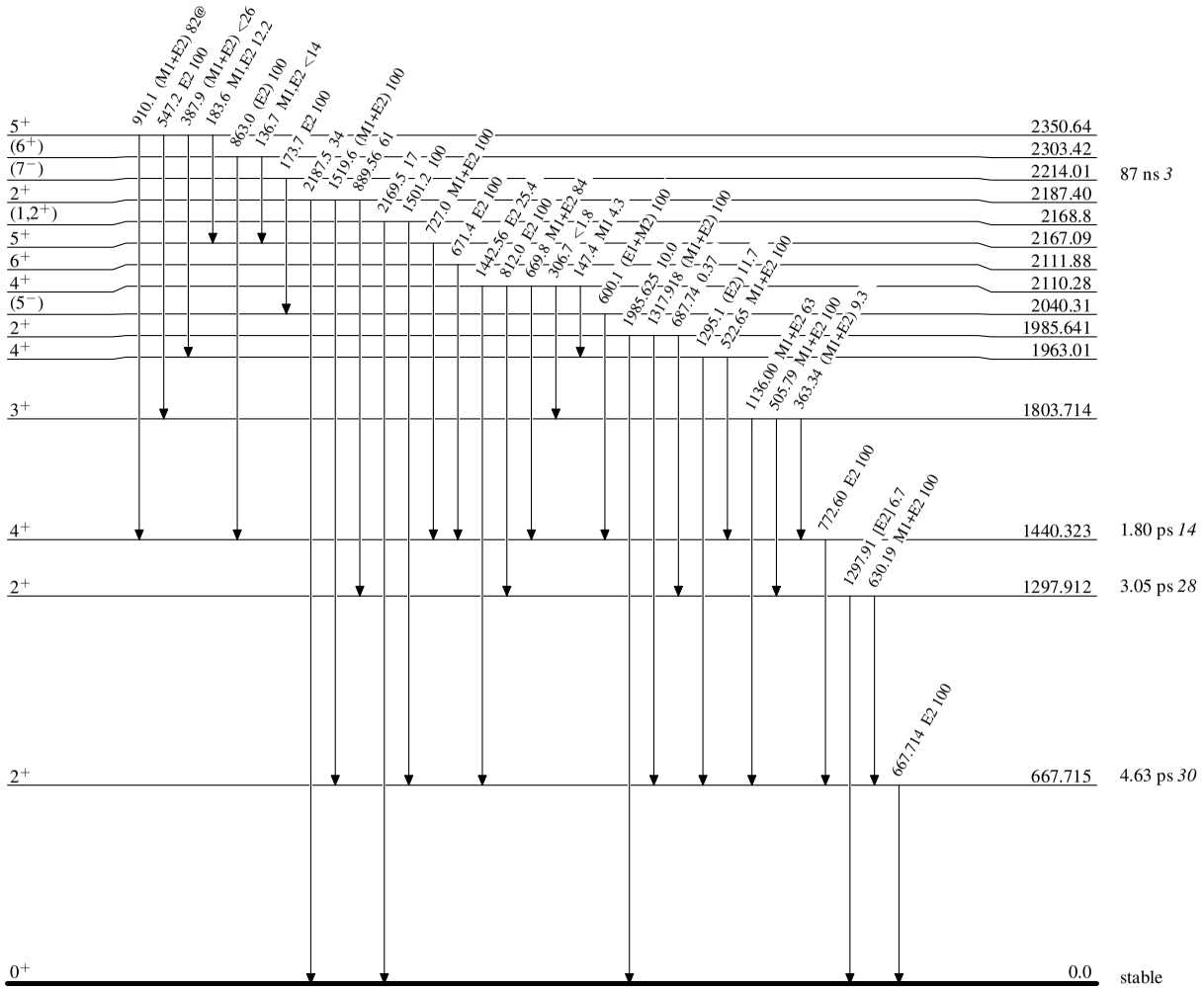


$^{132}_{54}Xe_{78}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



$^{132}_{54}Xe_{78}$

Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. A. Mccutchan	NDS 152, 331 (2018)	1-Apr-2018

Q(β^-)=−90.5 *19*; S(n)=8087 *4*; S(p)=9939.0 *21*; Q(α)=−3666 *3* 2017Wa10
S(2n)=14445.97 *1*; S(2p)=18473.4 *27*; Q(2β^-)=2457.8 *3* (2017Wa10).
α: Additional information 1.

^{136}Xe Levels

Cross Reference (XREF) Flags

A	^{136}I β^- decay (83.4 s)	F	^{248}Cm SF decay	K	^{208}Pb(^{136}Xe,^{136}Xe′γ)
B	^{136}I β^- decay (46.6 s)	G	^{136}Xe(γ,γ')	L	^{235}U(n,F),^{239}Pu(n,F)
C	^{136}I β^- decay (83.4 s+46.6 s)	H	^{136}Xe(p,p′)	M	^{238}U(^{12}C,Fγ),^{208}Pb(^{18}O,Fγ)
D	^{137}I β^-n decay	I	^{136}Xe(n,n′γ)		
E	^{252}Cf SF decay	J	Coulomb excitation		

T$_{1/2}$(2β^-,2ν)(0$^+$ to 0$^+$):
2006Ga44: >8.5×10^{21} y (90% confidence)
2004Ga49: ≥2.4×10^{21} y (90% confidence)
2002Be74: >1.0×10^{22} y (90% confidence)
2000Ga10: >8.1×10^{20} y (90% confidence)
1998Lu11: >3.6×10^{20} y (90% confidence)
1993Vu02: >2.1×10^{20} y (90% confidence)
1992Ar04: >9.3×10^{19} y (90% confidence)
1991Be47: ≥6.0×10^{19} y (90% confidence); ≥7.0×10^{19} y (68% confidence)
1990Ba22: >6.0×10^{19} y (90% confidence); >8.4×10^{19} y (68% confidence)

T$_{1/2}$(2β^-,0ν)(0$^+$ to 0$^+$):
(m(ν) ≠ 0):
2016Ga30: >1.07×10^{26} y (90% confidence)
2013Ga07: >1.9×10^{25} y (90% confidence)
2012Au03: >1.6×10^{25} y (90% confidence)
2012Ga32: >2.6×10^{24} y (90% confidence)
2006Ga44: ≥3.1×10^{23} y (90% confidence)
2002Be74: >1.2×10^{24} y (90% confidence); >4.9×10^{24} y (68% confidence)
1998Lu11: >4.4×10^{23} y (90% confidence)
1993Vu02: >3.4×10^{23} y (90% confidence); >6.4×10^{23} y (68% confidence)
1991Wo03: >2.5×10^{23} y (90% confidence); >4.9×10^{23} y (68% confidence)
1991Be47: ≥2.0×10^{22} y (90% confidence); ≥3.4×10^{22} y (68% confidence)
1990Ba22: ≥3.3×10^{21} y (68% confidence)
(right-handed-current mode):
1993Vu02: >2.6×10^{23} y (90% confidence); >4.9×10^{23} y (68% confidence)
1991Wo03: >1.7×10^{23} y (90% confidence); >3.2×10^{23} y (68% confidence)
1991Be47: ≥1.7×10^{22} y (90% confidence); ≥3.0×10^{22} y (68% confidence)
1990Ba22: >2.9×10^{21} y (68% confidence)

T$_{1/2}$(2β^-,0ν)(0$^+$ to 0$^+$):
(Majoron emission):
2014Al29: >1.2×10^{24} y (90% confidence)
2002Be74: >5.0×10^{23} y (90% confidence)
1998Lu11: >7.2×10^{21} y (90% confidence)
1993Vu02: >4.9×10^{21} y (90% confidence)

T$_{1/2}$(2β^-) Other measurements: 1991Wo06, 1991Be30, 1991Ar24, 1991Ar21, 1989Be12, 1989Ba83, 1989Ba22, 1987Iq01, 1987Ba41, 1986Ba33

T$_{1/2}$(2β^-)(0$^+$ to 2$^+$):
2002Be74: >9.4×10^{21} y (90% confidence)
1991Be47: ≥6.5×10^{21} y (90% confidence); ≥1.1×10^{22} y (68% confidence)
1990Ba22: >1.5×10^{21} y (68% confidence)

T$_{1/2}$(2β^-)(0$^+$ to excited 0$^+$):

2016Al05: >6.9×10^{23} y (90% confidence)

E(level)[†]	J$^{\pi}$	T$_{1/2}$[‡]	XREF	Comments
0.0[&]	0$^+$	2.165×10^{21} y *61*	ABCDEFGHIJKLM	%2β^-=100 T$_{1/2}$: from 2014Al03,2014To10 for 2$\nu2\beta$ decay mode. Uncertainty of 0.059×10^{21} y (systematic) and 0.016×10^{21} y (statistical) combined in quadrature. Others: 2.30×10^{21} y *12* (2012Ga32), 2.38×10^{21} y *14* (2012Ga17), 5.8×10^{21} y *+47−18* (2013Ga41), 2.11×10^{21} y *21* (2011Ac03) for 2$\nu2\beta$ decay mode. See table above for limits on 0$\nu2\beta$ decay mode. Limits on several rare decays are given in 2006Be42. No hyperfine splitting observed (1976Fu06,1934Jo01). Δ<r^2>(^{134}Xe−^{136}Xe)=−0.052 fm^2 *12*, Δ<r^2>(^{138}Xe−^{136}Xe)=0.254 fm^2 *20*, Δ<r^2>(^{137}Xe−^{136}Xe)=0.105 fm^2 *10* (2000Ga58).
1313.06[&] *7*	2$^+$	0.360 ps *14*	ABC EFGHIJKLM	μ=+1.54 *10* (2002Ja02) μ: from transient field technique (2002Ja02). Other: 2.4 *5* (1993Sp01, transient field technique). J$^{\pi}$: from Coulomb excitation and $\gamma\gamma(\theta)$ in ^{136}I decay (46.6 s). T$_{1/2}$: from DSAM in Coulomb excitation. Other: <0.15 ns from $\gamma\gamma$(t) in ^{136}I β^- decay (46.6 s). configuration=π1g7/2^{+2}.
1694.42[&] *7*	4$^+$	1.293 ns *17*	AB EF HIJKLM	μ=3.2 *6* (1985Be04,1988WoZW) μ: from TPAD. Other: +4.3 *17* from transient field technique (2002Ja02). configuration=π1g7/2^{+2}. J$^{\pi}$: E2 382γ to 2$^+$ and $\gamma\gamma(\theta)$ in ^{136}I decay (46.6 s).
1891.74[&] *7*	6$^+$	2.95 μs *17*	B EF HI KLM	%IT=100 T$_{1/2}$: weighted average of 2.9 μs *2* from ^{136}I β^- decay (46.6 s), 2.92 μs *17* from ^{252}Cf SF decay, and 3.10 μs *25* from ^{235}U(n,F),^{239}Pu(n,F). configuration=π1g7/2^{+2}. J$^{\pi}$: E2 197γ to 4$^+$ and $\gamma\gamma(\theta)$ in ^{136}I decay (46.6 s).
2125.72 *8*	3$^+$,4$^+$		ABC HI	XREF: H(2108). J$^{\pi}$: 431γ to 4$^+$, 813γ to 2$^+$, 319γ from 5, L(p,p′)=6,(5) for 2108 level is discrepant.
2261.56[a] *7*	6$^+$	≤50 ps	BC F HI M	J$^{\pi}$: ΔJ=0, M1+E2 369.8γ to 6$^+$.
2289.55 *9*	2$^+$		A GH	J$^{\pi}$: 1,2 from $\gamma(\theta)$ in ^{136}Xe(γ,γ'), 270γ from 4$^+$ and L(p,p′)=2.
2414.76 *12*	2$^+$		A GHI	J$^{\pi}$: 2 from $\gamma(\theta)$ in ^{136}Xe(γ,γ'), π from L(p,p′)=2.
2444.43 *9*	5	≤50 ps	BC hI	J$^{\pi}$: 3,5 from $\gamma\gamma(\theta)$ in ^{136}I β^- decay (46.6 s), 183γ to 6$^+$.
2465.05 *13*			BC hI	
2559.91 *9*	(4$^+$)		A C H	J$^{\pi}$: L(p,p′)=4, 1247γ to 2$^+$.
2582.4 *10*	0$^+$		A	J$^{\pi}$: E0 to g.s.
2608.47 *9*	4$^+$,5$^+$	≤50 ps	BC	J$^{\pi}$: M1 483γ to 3$^+$,4$^+$, 347γ to 6$^+$.
2634.19 *8*	1$^+$,2$^+$		A C H	J$^{\pi}$: L(p,p′)=2, 2634γ to 0$^+$.
2849.44 *11*	(1,2$^+$)		A h	J$^{\pi}$: 2849γ to 0$^+$.
2866.8[&] *3*	(8$^+$)		F M	J$^{\pi}$: 975.1γ to 6$^+$; band assignment.
2869.02 *11*	(2$^+$)		A Gh	J$^{\pi}$: 309γ to (4$^+$), 2869γ to 0$^+$.
2979.09 *22*	1$^+$,2$^+$		A H	J$^{\pi}$: L(p,p′)=2, 2979γ to 0$^+$.
3.16×10^3 *2*			H	
3211.92 *20*	(1,2$^+$)		A C	J$^{\pi}$: 3212γ to 0$^+$.
3229.2[a] *3*	8$^+$		F M	J$^{\pi}$: E2 967.6γ to 6$^+$, band assignment.
3275.26 *14*	3$^-$		A H	XREF: H(3263). J$^{\pi}$: L(p,p′)=3, 1962γ to 2$^+$, no observed β^- feeding from (1$^-$) parent.
3350.0 *10*	(1,2)[@]		GH	XREF: H(3310).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{136}Xe Levels (continued)

E(level)[†]	Jπ	XREF		Comments
3483.8[a] *3*	10^+	F	M	Jπ: E2 254.6γ to 8^+; band assignment.
3626.1 *7*	1[@]	GH		XREF: H(3630).
3675 *1*	2[@]	G		
3738 *1*	1[@]	G		
3780 *20*	(4^-)[#]	H		
3830.0[b] *4*	(9^-)	F	M	Jπ: 601γ to 8^+, configuration assignment.
3830.08 *18*	$(6^+,5)$	B		Jπ: from log *ft*=7.4 from (6^-) parent, 2136γ to 4^+.
3872.84 *21*	$(6^+,5)$	BC		Jπ: from log *ft*=7.5 from (6^-) parent, 2178γ to 4^+.
3873.18 *14*	(3^-)[#]	A C	H	
4057.63 *15*	$(6^+,5)$	B	H	Jπ: from log *ft*=7.2 from (6^-) parent, 2363γ to 4^+. J^π=(3^-) from R matrix analysis in (p,p′) is discrepant.
4150 *20*	(2^-)[#]		H	
4269.36 *10*	$2^{(+)}$	A	H	Jπ: 1709 γ to (4^+), 4269γ to 0^+; J^π=(2^-) from R matrix analysis in (p,p′) is discrepant.
4320.1 *10*	0^+	A		Jπ: E0 to g.s.
4380 *20*	4^-[#]		H	
4380.4[c] *4*	(8^+)	F	M	Jπ: 1152γ to 8^+, configuration assignment.
4454.10 *17*	$1^{(-)},2^{(+)}$	A	H	Jπ: log *ft*=6.8 from (1^-) parent, 1178γ to 3^-, 4455γ to 0^+; J^π=2^- from R matrix analysis in (p,p′) is discrepant.
4474.06 *22*	1[@]	A	G	
4545.0 *3*	$1,2^{(+)}$	A	H	Jπ: 4544γ to 0^+. R matrix analysis in (p,p′) favors (1^-) assignment.
4711.2 *4*	1[@]	A	GH	Jπ: (2^-) from R matrix analysis in (p,p′) is discrepant.
4820 *20*	1^-[#]		H	
4857.0[b] *4*	(11^-)	F	M	Jπ: 1027γ to (9^-), band assignment.
4890 *1*	1[@]	G		
4929 *1*	1[@]	G		
4947.44 *24*		A C	H	Jπ: (2^-) proposed from R matrix analysis in (p,p′).
5017.01 *21*	$(1,2^+)$	A		Jπ: 5017γ to 0^+.
5100 *20*	(2^-)[#]		H	
5128 *1*	1[@]	G		
5141.0[b] *4*	(13^-)	F	M	Jπ: 284.0γ to (11^-); band assignment.
5150 *20*	(2^-)[#]		H	
5187 *1*	1[@]	G		
5217.8 *4*		A	H	Jπ: (3^-) is suggested from R matrix analysis in (p,p′).
5321.06? *24*	$(1^+,2^+)$	A	H	XREF: H(5310). Jπ: 5321γ to 0^+, 3195γ to $3^+,4^+$.
5322 *1*	1[@]	G		
5352 *1*	1	G	H	XREF: H(5360). Jπ: D 5352γ to 0^+.
5420 *20*			H	
5458 *1*	1,2[@]	G		
5481.7[c] *4*	(10^+)		M	Jπ: 1101γ to (8^+), band assignment.
5560 *20*	$(2^-,3^-)$[#]		H	
5608.2 *3*	1[@]	A C	G	
5639 *1*	1[@]	G		
5651 *1*	1[@]	G		
5670 *20*	(3^-)[#]		H	
5728 *1*	1[@]	G		
5760.3 *3*		A C		

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Adopted Levels, Gammas (continued)

^{136}Xe Levels (continued)

E(level)[†]	Jπ	XREF	Comments
5800.2 *3*	1[@]	A G	
5832.2? *6*	(2+,3,4+)	A h	Jπ: 3272γ to (4+), 4519γ to 2+.
5861.6? *4*	(4+,5,6+)	B h	Jπ: 3600γ to 6+, 3736γ to 3+,4+.
5870.8 *12*	1	A Gh	Jπ: D 5871γ to 0+.
5879.9[c] *5*	(11+)	M	Jπ: 398γ to (10+), band assignment.
5888 *1*	1[@]	G	
5914 *1*	1[@]	G	
5950.8[c] *4*	(12+)	F M	Jπ: 469γ to (10+), band assignment.
5968.5? *10*	(1,2+)	A h	Jπ: 5968γ to 0+.
6003 *1*	1,2[@]	G	
6013.0? *10*	(1,2+)	A h	Jπ: 6013γ to 0+.
6030 *1*	1,2[@]	G	
6052.6? *4*	(1,2+)	A	Jπ: 6053γ to 0+.
6091.3? *3*		BC	
6103.9 *3*	1−	A G	Jπ: 1 from γ(θ) in (γ,γ′), 2828.5γ to 3−.
6114.5 *7*	1[@]	A G	
6126.4 *5*	1[@]	A Gh	
6155.6[b] *6*	(14−)	M	Jπ: 1015γ to (13−), band assignment.
6169.9? *8*	(1,2+)	A h	Jπ: 6170γ to 0+.
6170.3[c] *5*	(13+)	F M	Jπ: 219.5γ to (12+), band assignment.
6186.38? *25*		C	
6200.1? *13*	(1,2+)	A	Jπ: 6200γ to 0+.
6227 *1*	1[@]	G	
6253.5 *8*	1[@]	A G	
6301 *1*	1[@]	GH	XREF: H(6290).
6310 *1*	1[@]	G	
6324 *1*	1[@]	G	
6354 *1*	1[@]	G	
6372 *1*	1[@]	G	
6409.0? *8*	(1,2+)	A	Jπ: 6409γ to 0+.
6412.3 *5*		C	
6430 *1*	1[@]	G	
6455 *1*	1[@]	G	
6493 *1*	1[@]	G	
6509 *1*	1[@]	G	
6527 *1*	1[@]	G	
6562 *1*	1[@]	G	
6577 *1*	1[@]	G	
6611.6[c] *6*	(14+)	M	Jπ: 441γ to (13+), band assignment.
6624.10 *19*		A	
6665 *1*	1[@]	G	
6684 *1*	1[@]	G	
6691 *1*	1[@]	G	
6704 *1*	1[@]	G	
6715 *1*	1[@]	G	
6734 *1*	1[@]	G	
6737.8 *6*	(14+)	M	Jπ: 567.5γ to (13+), 330γ from (15+).
6771 *1*	1[@]	G	

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Adopted Levels, Gammas (continued)

^{136}Xe Levels (continued)

E(level)[†]	J^π	XREF		Comments
6797 *1*	1[@]	G		
6808 *1*	1[@]	G		
6861 *1*	1[@]	G		
6869 *1*	1[@]	G		
6884 *1*	1[@]	G		
6942 *1*	1[@]	G		
6968 *1*	1[@]	G		
7013 *1*	1[@]	G		
7023 *1*	1[@]	G		
7053 *1*	1[@]	G		
7067.6[c] *6*	(15^+)		M	J^π: 898γ to (13^+), band assignment.
7071 *1*	1[@]	G		
7082 *1*	1[@]	G		
7094 *1*	1[@]	G		
7121 *1*	1[@]	G		
7134 *1*	1[@]	G		
7165 *1*	1[@]	G		
7193 *1*	1[@]	G		
7200 *1*	1[@]	G		
7212 *1*	1[@]	G		
7232 *1*	1[@]	G		
7245 *1*	1[@]	G		
7343 *1*	1[@]	G		
7370 *1*	1[@]	G		
7512.1[c] *7*	(16^+)		M	
7635.6 *8*			M	
7692 *1*	1[@]	G		
7727 *1*	1[@]	G		
7848.5 *8*			M	
7883 *1*	1[@]	G		
7908 *1*	1[@]	G		
7947.5[c] *8*	(17^+)		M	J^π: 435γ to (16^+), band assignment.
7990 *1*	1[@]	G		
8024 *1*	1[@]	G		
8051 *1*	1[@]	G		
8066 *1*	1[@]	G		
8093 *1*	1[@]	G		

[†] From a least-squares fit to Eγ, by evaluator, for levels connected by γ-ray transitions. All other level energies are from (p,p′).
[‡] From ^{136}I β^- decay (46.9 s), except where noted.
[#] From R matrix analysis of $\sigma(\theta)$ in (p,p′).
[@] From $\gamma(\theta)$ in (γ,γ').
[&] Band(A): Based on $\pi g^{+4}_{7/2}$ (1999Da13).
[a] Band(B): Based on $\pi g^{+3}_{7/2} d_{5/2}$ (1999Da13).

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{136}Xe Levels (continued)

[b] Band(C): Based on $\pi g^{+3}_{7/2}h_{11/2}$ (1999Da13). Configuration of $(\pi g_{7/2}\pi d^{+3}_{5/2}(\pi h_{11/2})^1$ is proposed by 2012As06.

[c] Band(D): Band with proposed configuration of $(\pi g_{7/2}\pi d^{+4}_{5/2}(\nu h_{11/2})_1(\nu f_{7/2})^{-1}$ (2012As06).

Adopted Levels, Gammas (continued)

γ(^{136}Xe)

See ^{136}I β$^-$ decay (83.4-s + 46.9-s) for unplaced gammas.

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
1313.06	2$^+$	1313.02 *10*	100	0.0	0$^+$	E2		α(K)=0.000792 *11*; α(L)=9.89×10^{-5} *14*; α(M)=2.00×10^{-5} *3*; α(N)=4.13×10^{-6} *6*; α(O)=5.16×10^{-7} *8* B(E2)(W.u.)=9.7 *4*
1694.42	4$^+$	381.359[#] *7*	100	1313.06	2$^+$	E2	0.0198	α(K)=0.01652 *24*; α(L)=0.00259 *4*; α(M)=0.000532 *8*; α(N)=0.0001085 *16* α(O)=1.274×10^{-5} *18* B(E2)(W.u.)=1.281 *17*
1891.74	6$^+$	197.316[#] *7*	100	1694.42	4$^+$	E2	0.1684	α(K)=0.1330 *19*; α(L)=0.0282 *4*; α(M)=0.00591 *9*; α(N)=0.001187 *17*; α(O)=0.0001304 *19* B(E2)(W.u.)=0.0132 *8*
2125.72	3$^+$,4$^+$	431.38 *12*	24.7[c] *7*	1694.42	4$^+$			
		812.63 *8*	100.0[c] *19*	1313.06	2$^+$			
2261.56	6$^+$	369.813[#] *23*	100[b] *15*	1891.74	6$^+$	M1+E2	0.0227 *11*	α(K)=0.0193 *13*; α(L)=0.00274 *14*; α(M)=0.00056 *4*; α(N)=0.000115 *6*; α(O)=1.39×10^{-5} *3* Mult.: from α(K)exp,α(L)exp in ^{136}I β$^-$ decay. Transition is ΔJ=0 from γγ(θ) in ^{238}U(^{12}C,Fγ),^{208}Pb(^{18}O,Fγ).
		567.0[b] *5*	6[b] *4*	1694.42	4$^+$	[E2]	0.00637	α(K)=0.00542 *8*; α(L)=0.000763 *11*; α(M)=0.0001557 *23*; α(N)=3.19×10^{-5} *5*; α(O)=3.86×10^{-6} *6* B(E2)(W.u.)>0.26
2289.55	2$^+$	976.5 *2*	25.6 *19*	1313.06	2$^+$			
		2289.6 *2*	100 *5*	0.0	0$^+$	(E2)		α(K)=0.000278 *4*; α(L)=3.36×10^{-5} *5*; α(M)=6.76×10^{-6} *10*; α(N)=1.400×10^{-6} *20*; α(O)=1.762×10^{-7} *25* Mult.: D,Q from γ(θ) in ^{136}Xe(γ,γ′). E2 from level scheme.
2414.76	2$^+$	1101.4[#] *3*	7.8 *10*	1313.06	2$^+$			I_γ: weighted average of 7.1 *11* (^{136}I β$^-$ decay (83.4 s)), 8.3 *10* (^{136}Xe(n,n′γ)).
		2414.6[#] *2*	100 *3*	0.0	0$^+$	E2		α(K)=0.000253 *4*; α(L)=3.05×10^{-5} *5*; α(M)=6.13×10^{-6} *9*; α(N)=1.271×10^{-6} *18*; α(O)=1.601×10^{-7} *23* Mult.: Q from γ(θ) in ^{136}Xe(γ,γ′), Δπ=no from level scheme.
2444.43	5	182.7[#] *2*	10.5 *24*	2261.56	6$^+$			I_γ: weighted average of 12.8 *16* (^{136}I β$^-$ decay (46.6 s)), 8.1 *16* (^{136}Xe(n,n′γ)).
		318.6[#] *2*	9.1 *7*	2125.72	3$^+$,4$^+$			I_γ: weighted average of 8.8 *7* (^{136}I β$^-$ decay (46.6 s)), 10.5 *16* (^{136}Xe(n,n′γ)).
		552.69[#] *14*	14.4 *10*	1891.74	6$^+$			I_γ: weighted average of 14.5 *10* (^{136}I β$^-$ decay (46.6 s)), 14.2 *16* (^{136}Xe(n,n′γ)).
		750.05[#] *7*	100[c] *4*	1694.42	4$^+$	D		Mult.: from γγ(θ) in ^{136}I β$^-$ decay (46.6 s).

$^{136}_{54}Xe_{82}$-7

Adopted Levels, Gammas (continued)

γ(^{136}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
2465.05		339.4[#] *2*	15.5 *11*	2125.72	3+,4+			I_γ: weighted average of 20 *4* (^{136}I β^- decay (46.6 s)), 15.2 *10* (^{136}Xe(n,n′γ)).
		770.75[#] *15*	100[c] *3*	1694.42	4+			
2559.91	(4+)	270.2 *3*	9.1 *24*	2289.55	2+			
		434.18 *11*	35 *3*	2125.72	3+,4+			
		865.5 *3*	28.2 *24*	1694.42	4+			
		1246.84 *10*	100 *5*	1313.06	2+			
2582.4	0+	2582.4		0.0	0+	E0		
2608.47	4+,5+	164.12[#] *16*	12[#] *3*	2444.43	5			
		346.81[#] *10*	86[#] *5*	2261.56	6+			
		482.80[#] *10*	50[#] *3*	2125.72	3+,4+	M1	0.01215	α(K)=0.01049 *15*; α(L)=0.001326 *19*; α(M)=0.000268 *4*; α(N)=5.56×10^{-5} *8*; α(O)=6.98×10^{-6} *10* B(M1)(W.u.)>0.00071
		716.7[#] *3*	28.0[#] *20*	1891.74	6+			
		914.1[#] *2*	100[#] *6*	1694.42	4+			
2634.19	1+,2+	219.33 *15*	3.3 *3*	2414.76	2+	not E1	0.0240	α(K)=0.0208 *7*; α(L)=0.00263 *8*; α(M)=0.00053 *2*; α(N+..)=0.00013
		344.72 *10*	9.7 *8*	2289.55	2+	M1+E2	0.0277 *9*	α(K)=0.0235 *11*; α(L)=0.0034 *3*; α(M)=0.00069 *6*; α(N)=0.000142 *11*; α(O)=1.71×10^{-5} *7*
		1321.08 *10*	100 *7*	1313.06	2+	M1(+E2)	0.00105 *12*	α(K)=0.00089 *11*; α(L)=0.000110 *12*; α(M)=2.21×10^{-5} *25*; α(N)=4.6×10^{-6} *5*; α(O)=5.7×10^{-7} *7*
		2634.2 *2*	27.2 *13*	0.0	0+			
2849.44	(1,2+)	1536.4 *1*	100 *6*	1313.06	2+			
		2849.2 *7*	2.6 *10*	0.0	0+			
2866.8	(8+)	975.1[b] *3*	100	1891.74	6+			
2869.02	(2+)	309.1 *2*	8.6 *9*	2559.91	(4+)			
		1555.97 *15*	11.9 *9*	1313.06	2+			
		2868.9 *2*	100 *9*	0.0	0+	(E2)		α(K)=0.000187 *3*; α(L)=2.24×10^{-5} *4*; α(M)=4.51×10^{-6} *7*; α(N)=9.35×10^{-7} *13*; α(O)=1.179×10^{-7} *17* Mult.: D,Q from γ(θ) in ^{136}Xe(γ,γ′), E2 from level scheme.
2979.09	1+,2+	1666.0 *4*	57 *9*	1313.06	2+			
		2979.1 *3*	100 *9*	0.0	0+			
3211.92	(1,2+)	362.5 *4*	25 *4*	2849.44	(1,2+)			
		3211.8 *3*	100 *7*	0.0	0+			
3229.2	8+	967.6[b] *3*	100	2261.56	6+	E2	1.74×10^{-3}	α(K)=0.001501 *21*; α(L)=0.000193 *3*; α(M)=3.91×10^{-5} *6*; α(N)=8.07×10^{-6} *12*; α(O)=1.000×10^{-6} *14* Mult.: Q from γγ(θ) in ^{238}U(^{12}C,Fγ),^{208}Pb(^{18}O,Fγ), E2 from band assignment.
3275.26	3−	1962.2 *3*	100	1313.06	2+			
3350.0	(1,2)	3350[@]	100	0.0	0+	D,Q[&]		

$^{136}_{54}Xe_{82}$-8

Adopted Levels, Gammas (continued)

γ(^{136}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	α	Comments
3483.8	10^+	254.6[b] *3*	100[b] *16*	3229.2	8^+	E2	0.0714	α(K)=0.0580 *9*; α(L)=0.01068 *16*; α(M)=0.00222 *4*; α(N)=0.000449 *7*; α(O)=5.07×10^{-5} *8* Mult.: Q from γγ(θ) in ^{238}U(^{12}C,Fγ),^{208}Pb(^{18}O,Fγ), E2 from band assignment.
		617.0[b] *3*	89[b] *14*	2866.8	(8^+)			
3626.1	1	2313[@]	100[@] *16*	1313.06	2^+			
		3626[@] *1*	32[@]	0.0	0^+	D[&]		
3675	2	3675[@]	100	0.0	0^+	Q[&]		
3738	1	3738[@] *1*	100	0.0	0^+	D[&]		
3830.0	(9^-)	600.8[b] *4*	100	3229.2	8^+			
3830.08	$(6^+,5)$	1385.6[#] *4*	26[#] *4*	2444.43	5			
		1937.4[#] *5*	30[#] *6*	1891.74	6^+			
		2135.8[#] *2*	100[#] *7*	1694.42	4^+			
3872.84	$(6^+,5)$	2178.4[#] *2*	100	1694.42	4^+			
3873.18	(3^-)	597.8 *2*	100 *11*	3275.26	3^-			
		1583.5 *2*	70 *9*	2289.55	2^+			
4057.63	$(6^+,5)$	1592.8[#] *2*	36[#] *4*	2465.05				
		1796.0[#] *2*	100[#] *7*	2261.56	6^+			
		2165.8[#] *15*	10[#] *9*	1891.74	6^+			
		2362.8[#] *3*	59[#] *6*	1694.42	4^+			
4269.36	$2^{(+)}$	396.0 *2*	26 *3*	3873.18	(3^-)			
		994.2 *2*	100 *5*	3275.26	3^-			
		1057.4 *4*	18 *3*	3211.92	$(1,2^+)$			
		1399.9 *5*	6.6 *17*	2869.02	(2^+)			
		1635.2 *2*	23.1 *25*	2634.19	$1^+,2^+$			
		1709.4 *2*	43 *3*	2559.91	(4^+)			
		1979.6 *3*	8.3 *12*	2289.55	2^+			
		2956.3 *2*	44.6 *25*	1313.06	2^+			
		4269.5 *2*	21.9 *13*	0.0	0^+			
4320.1	0^+	4320		0.0	0^+	E0		
4380.4	(8^+)	1151.2[b] *3*	100	3229.2	8^+			
4454.10	$1^{(-)},2^{(+)}$	1178.6 *3*	32 *5*	3275.26	3^-			
		1820.0 *3*	31 *4*	2634.19	$1^+,2^+$			
		2039.2 *4*	23 *4*	2414.76	2^+			
		3141.1 *3*	100 *6*	1313.06	2^+			
		4454.5 *7*	5.8 *15*	0.0	0^+			
4474.06	1	1624.8[e] *3*	100 *14*	2849.44	$(1,2^+)$			
		4473.8 *3*	57 *6*	0.0	0^+	D[&]		
4545.0	$1,2^{(+)}$	1911.1 *4*	100 *22*	2634.19	$1^+,2^+$			

$^{136}_{54}Xe_{82}$-9

Adopted Levels, Gammas (continued)

γ(^{136}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	Comments
4545.0	1,2$^{(+)}$	4544.4 *5*	61 *12*	0.0	0$^+$		
4711.2	1	4711.1 *4*	100	0.0	0$^+$	D[&]	
4857.0	(11$^-$)	1027.1[b] *4*	17[b] *9*	3830.0	(9$^-$)		
		1373.2[b] *3*	100[b] *22*	3483.8	10$^+$		
4890	1	4890[@] *1*	100	0.0	0$^+$	D[&]	
4929	1	4929[@] *1*	100	0.0	0$^+$	D[&]	
4947.44		1968.4 *4*	100 *16*	2979.09	1$^+$,2$^+$		
		2312.8[da] *5*	40 *5*	2634.19	1$^+$,2$^+$		I_γ: from ^{136}I β^- decay (83.4 s + 46.6 s).
		2657.9[d] *4*	56 *8*	2289.55	2$^+$		
		3634.6[d] *5*	72 *8*	1313.06	2$^+$		
5017.01	(1,2$^+$)	2168.2 *11*	28 *25*	2849.44	(1,2$^+$)		
		2382.7 *3*	100 *13*	2634.19	1$^+$,2$^+$		
		2601.8 *9*	56 *28*	2414.76	2$^+$		
		5017.0 *3*	41 *4*	0.0	0$^+$		
5128	1	5128[@] *1*	100	0.0	0$^+$	D[&]	
5141.0	(13$^-$)	284.0[b] *4*	100[b] *30*	4857.0	(11$^-$)		
		1657.0[b] *5*	70[b] *30*	3483.8	10$^+$		
5187	1	5187[@] *1*	100	0.0	0$^+$	D[&]	
5217.8		2657.9[d] *4*	350 *50*	2559.91	(4$^+$)		
		5217.5 *11*	100 *35*	0.0	0$^+$		
5321.06?	(1$^+$,2$^+$)	3195.4[e] *4*	100 *12*	2125.72	3$^+$,4$^+$		
		5320.9[e] *3*	44 *8*	0.0	0$^+$		
5322	1	5322[@] *1*	100	0.0	0$^+$	D[&]	
5352	1	5352[@] *1*	100	0.0	0$^+$	D[&]	
5458	1,2	5458[@] *1*	100	0.0	0$^+$	D,Q[&]	
5481.7	(10$^+$)	1101.3 *3*	100	4380.4	(8$^+$)		
5608.2	1	3482.6[dae] *4*	62 *7*	2125.72	3$^+$,4$^+$		I_γ: from ^{136}I β^- decay (83.4 s + 46.6 s).
		5608.0 *4*	100 *23*	0.0	0$^+$	D[&]	I_γ: from ^{136}I β^- decay (83.4 s + 46.6 s).
5639	1	5639[@] *1*	100	0.0	0$^+$	D[&]	
5651	1	5651[@] *1*	100	0.0	0$^+$	D[&]	
5728	1	5728[@] *1*	100	0.0	0$^+$	D[&]	
5760.3		2548.2 *4*	100 *21*	3211.92	(1,2$^+$)		
		3200.5[da] *10*	37 *16*	2559.91	(4$^+$)		I_γ: from ^{136}I β^- decay (83.4 s + 46.6 s).
		3634.6[d] *5*	95 *11*	2125.72	3$^+$,4$^+$		
5800.2	1	3673.9[e] *4*	100 *8*	2125.72	3$^+$,4$^+$		
		5800.5 *4*	76 *16*	0.0	0$^+$	D[&]	
5832.2?	(2$^+$,3,4$^+$)	3272.2[e] *7*	100 *23*	2559.91	(4$^+$)		

$^{136}_{54}Xe_{82}$-10

Adopted Levels, Gammas (continued)

γ(^{136}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]	Comments
5832.2?	(2$^+$,3,4$^+$)	4519.1[e] *10*	17 *8*	1313.06	2$^+$		
5861.6?	(4$^+$,5,6$^+$)	3600.0[#e] *6*	70[#] *15*	2261.56	6$^+$		
		3735.9[#e] *5*	100[#] *16*	2125.72	3$^+$,4$^+$		
5870.8	1	5870.7 *12*	100	0.0	0$^+$	D[&]	
5879.9	(11$^+$)	398.2[b] *4*	100	5481.7	(10$^+$)		
5888	1	5888[@] *1*	100	0.0	0$^+$	D[&]	
5914	1	5914[@] *1*	100	0.0	0$^+$	D[&]	
5950.8	(12$^+$)	(70.7[b])		5879.9	(11$^+$)		
		469.1[b] *5*	15[b] *7*	5481.7	(10$^+$)		
		1093.7[b] *3*	100[b] *30*	4857.0	(11$^-$)		E_γ: other: 1094.3 *10* in ^{248}Cm SF Decay.
		2467.2 *5*	45 *23*	3483.8	10$^+$		
5968.5?	(1,2$^+$)	5968.4[e] *10*	100	0.0	0$^+$		
6003	1,2	6003[@] *1*	100	0.0	0$^+$	D,Q[&]	
6013.0?	(1,2$^+$)	6012.9[e] *10*	100	0.0	0$^+$		
6030	1,2	6030[@] *1*	100	0.0	0$^+$	D,Q[&]	
6052.6?	(1,2$^+$)	4739.1[e] *5*	100 *13*	1313.06	2$^+$		
		6052.8[e] *5*	50 *13*	0.0	0$^+$		
6091.3?		3482.6[dae] *4*	344[a] *38*	2608.47	4$^+$,5$^+$		
		3626.4[dae] *4*	625[a] *50*	2465.05			
		4396.3[#e] *8*	100[#] *31*	1694.42	4$^+$		
6103.9	1$^-$	2828.5[e] *3*	75 *10*	3275.26	3$^-$		
		6104.2 *6*	100 *20*	0.0	0$^+$	E1	Mult.: D from $\gamma(\theta)$ in (γ,γ'), $\Delta\pi$=yes from level scheme.
6114.5	1	6114.4 *7*	100	0.0	0$^+$	D[&]	
6126.4	1	6126.3 *5*	100	0.0	0$^+$	D[&]	
6155.6	(14$^-$)	1014.6[b] *4*	100	5141.0	(13$^-$)		
6169.9?	(1,2$^+$)	6169.7[e] *8*	100	0.0	0$^+$		
6170.3	(13$^+$)	219.5[b] *3*	100	5950.8	(12$^+$)		E_γ: other: 221.0 *1* in ^{248}Cm SF decay.
6186.38?		2312.8[dae] *5*	83[a] *17*	3873.18	(3$^-$)		
		3626.4[dae] *4*	207[a] *17*	2559.91	(4$^+$)		
		3925.0[ae] *4*	100[a] *16*	2261.56	6$^+$		
		4873.4[ae] *9*	23[a] *10*	1313.06	2$^+$		
6200.1?	(1,2$^+$)	6199.9[e] *13*	100	0.0	0$^+$		
6227	1	6227[@] *1*	100	0.0	0$^+$	D[&]	
6253.5	1	6253.3 *8*	100	0.0	0$^+$	D[&]	
6301	1	6301[@] *1*	100	0.0	0$^+$	D[&]	
6310	1	6310[@] *1*	100	0.0	0$^+$	D[&]	
6324	1	6324[@] *1*	100	0.0	0$^+$	D[&]	

$^{136}_{54}Xe_{82}$-11

Adopted Levels, Gammas (continued)

γ(^{136}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[‡]
6354	1	6354[@] *1*	100	0.0	0^+	D[&]
6372	1	6372[@] *1*	100	0.0	0^+	D[&]
6409.0?	$(1,2^+)$	3775.0[de] *10*	143 *64*	2634.19	$1^+,2^+$	
		6408.5[e] *12*	100 *36*	0.0	0^+	
6412.3		3200.5[dae] *10*	50[a] *21*	3211.92	$(1,2^+)$	
		3967.8[ae] *5*	100[a] *13*	2444.43	5	
6430	1	6430[@] *1*	100	0.0	0^+	D[&]
6455	1	6455[@] *1*	100	0.0	0^+	D[&]
6493	1	6493[@] *1*	100	0.0	0^+	D[&]
6509	1	6509[@] *1*	100	0.0	0^+	D[&]
6527	1	6527[@] *1*	100	0.0	0^+	D[&]
6562	1	6562[@] *1*	100	0.0	0^+	D[&]
6577	1	6577[@] *1*	100	0.0	0^+	D[&]
6611.6	(14^+)	441.2[b] *3*	100	6170.3	(13^+)	
6624.10		3349.2 *3*	100 *10*	3275.26	3^-	
		3775.0[de] *10*	14 *6*	2849.44	$(1,2^+)$	
		4063.9[e] *4*	86 *10*	2559.91	(4^+)	
		4208.9 *5*	24 *6*	2414.76	2^+	
		4929.4 *3*	59 *6*	1694.42	4^+	
6665	1	6665[@] *1*	100	0.0	0^+	D[&]
6684	1	6684[@] *1*	100	0.0	0^+	D[&]
6691	1	6691[@] *1*	100	0.0	0^+	D[&]
6704	1	6704[@] *1*	100	0.0	0^+	D[&]
6715	1	6715[@] *1*	100	0.0	0^+	D[&]
6734	1	6734[@] *1*	100	0.0	0^+	D[&]
6737.8	(14^+)	567.5[b] *5*	100	6170.3	(13^+)	
6771	1	6771[@] *1*	100	0.0	0^+	D[&]
6797	1	6797[@] *1*	100	0.0	0^+	D[&]
6808	1	6808[@] *1*	100	0.0	0^+	D[&]
6861	1	6861[@] *1*	100	0.0	0^+	D[&]
6869	1	6869[@] *1*	100	0.0	0^+	D[&]
6884	1	6884[@] *1*	100	0.0	0^+	D[&]
6942	1	6942[@] *1*	100	0.0	0^+	D[&]
6968	1	6968[@] *1*	100	0.0	0^+	D[&]
7013	1	7013[@] *1*	100	0.0	0^+	D[&]
7023	1	7023[@] *1*	100	0.0	0^+	D[&]
7053	1	7053[@] *1*	100	0.0	0^+	D[&]
7067.6	(15^+)	329.8[b] *4*	100[b] *30*	6737.8	(14^+)	
		455.9[b] *4*	100[b] *30*	6611.6	(14^+)	
		897.5[b] *4*	100[b] *30*	6170.3	(13^+)	
7071	1	7071[@] *1*	100	0.0	0^+	D[&]
7082	1	7082[@] *1*	100	0.0	0^+	D[&]
7094	1	7094[@] *1*	100	0.0	0^+	D[&]
7121	1	7121[@] *1*	100	0.0	0^+	D[&]
7134	1	7134[@] *1*	100	0.0	0^+	D[&]
7165	1	7165[@] *1*	100	0.0	0^+	D[&]
7193	1	7193[@] *1*	100	0.0	0^+	D[&]
7200	1	7200[@] *1*	100	0.0	0^+	D[&]
7212	1	7212[@] *1*	100	0.0	0^+	D[&]
7232	1	7232[@] *1*	100	0.0	0^+	D[&]
7245	1	7245[@] *1*	100	0.0	0^+	D[&]
7343	1	7343[@] *1*	100	0.0	0^+	D[&]
7370	1	7370[@] *1*	100	0.0	0^+	D[&]
7512.1	(16^+)	444.5[b] *4*	100	7067.6	(15^+)	
7635.6		568.0[b] *5*	100[b]	7067.6	(15^+)	
7692	1	7692[@] *1*	100	0.0	0^+	D[&]
7727	1	7727[@] *1*	100	0.0	0^+	D[&]
7848.5		336.4[b] *4*	100	7512.1	(16^+)	
7883	1	7883[@] *1*	100[@]	0.0	0^+	D[&]
7908	1	7908[@] *1*	100	0.0	0^+	D[&]
7947.5	(17^+)	435.4[b] *4*	100	7512.1	(16^+)	
7990	1	7990[@] *1*	100	0.0	0^+	D[&]
8024	1	8024[@] *1*	100	0.0	0^+	D[&]
8051	1	8051[@] *1*	100	0.0	0^+	D[&]
8066	1	8066[@] *1*	100	0.0	0^+	D[&]
8093	1	8093[@] *1*	100	0.0	0^+	D[&]

[†] From ^{136}I β^- decay (83.4 s), except where noted.

$^{136}_{54}Xe_{82}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{136}Xe)$ (continued)

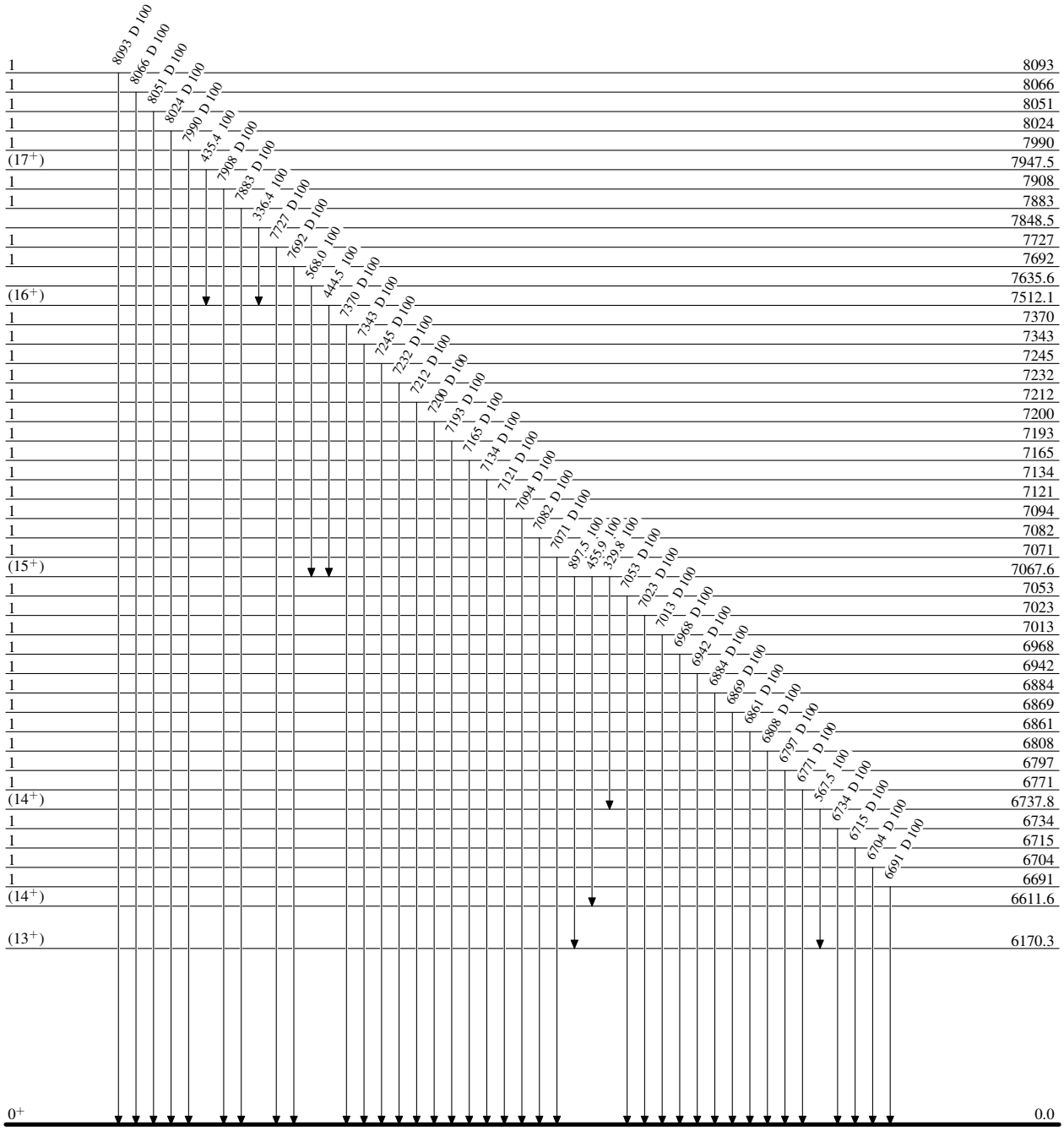
‡ From ce measurements in ^{136}I β^- decay, except where noted.
# From ^{136}I β^- decay (46.9 s).
@ From (γ,γ').
& From $\gamma(\theta)$ in (γ,γ').
a From ^{136}I β^- decay (83.4s + 46.9 s).
b From $^{238}U(^{12}C,F\gamma)$,$^{208}Pb(^{18}O,F\gamma)$.
c From $^{136}Xe(n,n'\gamma)$.
d Multiply placed.
e Placement of transition in the level scheme is uncertain.

$^{136}_{54}Xe_{82}$-13

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{136}_{54}Xe_{82}$

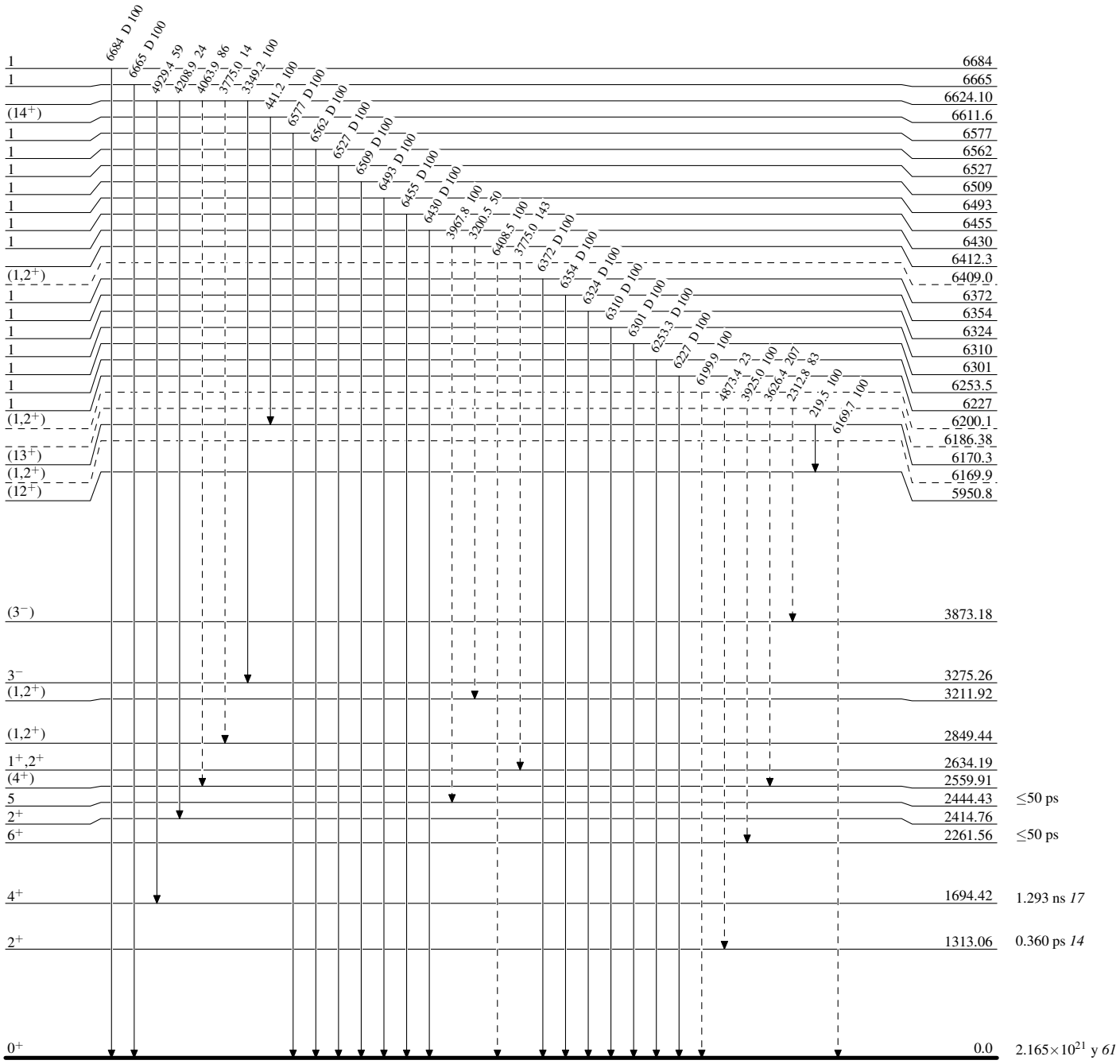
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{136}_{54}Xe_{82}$

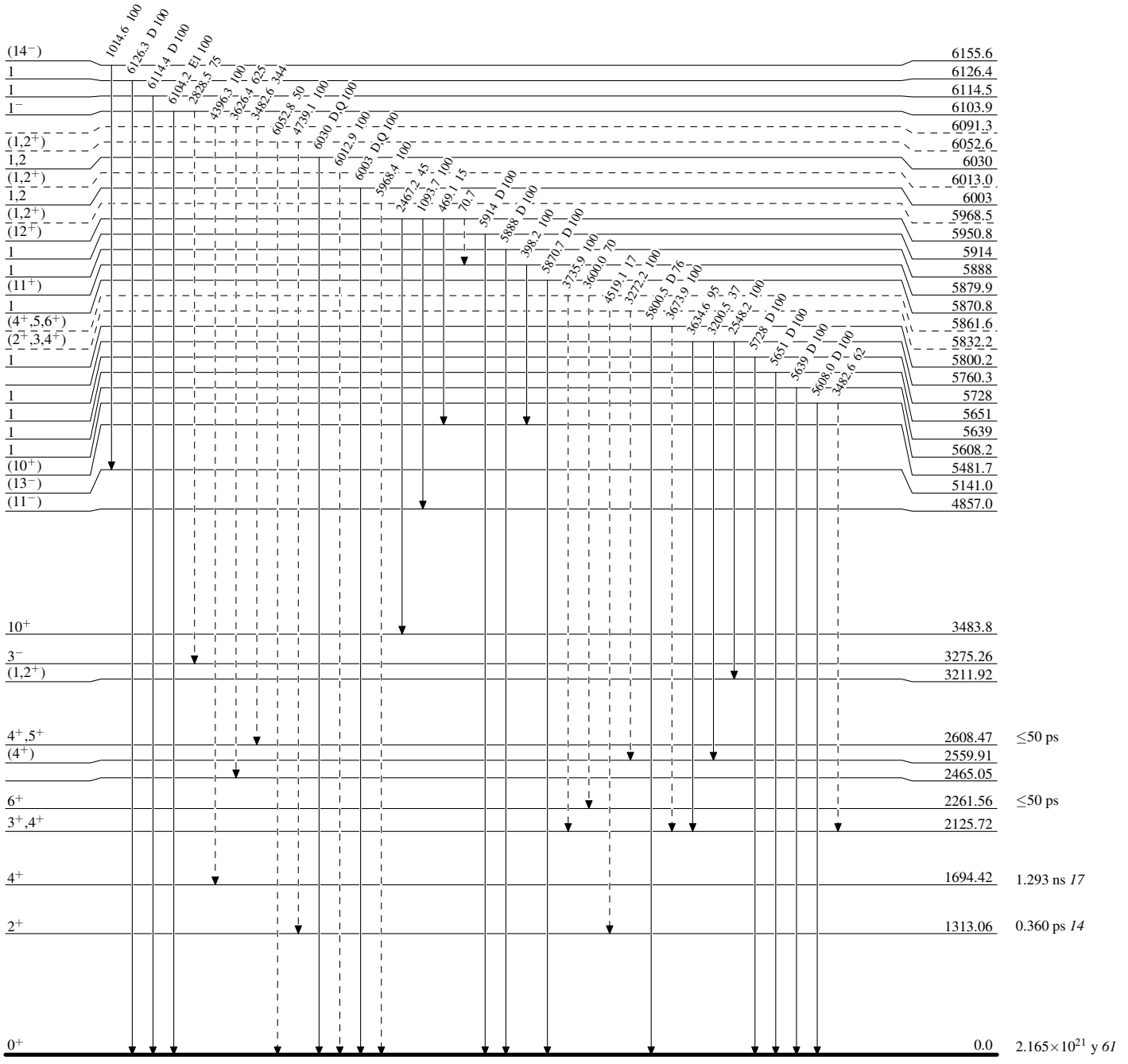
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{136}_{54}Xe_{82}$

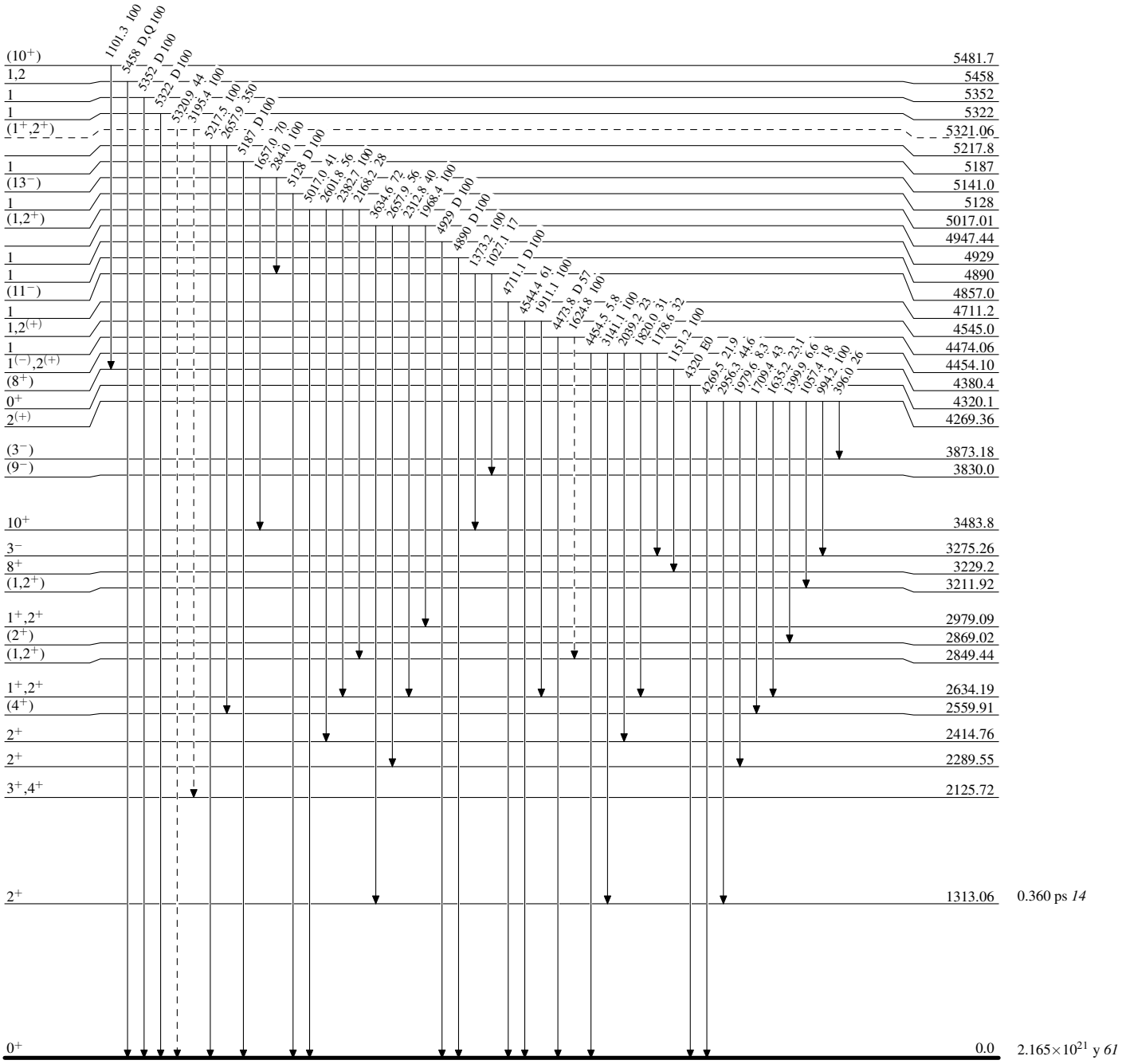
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

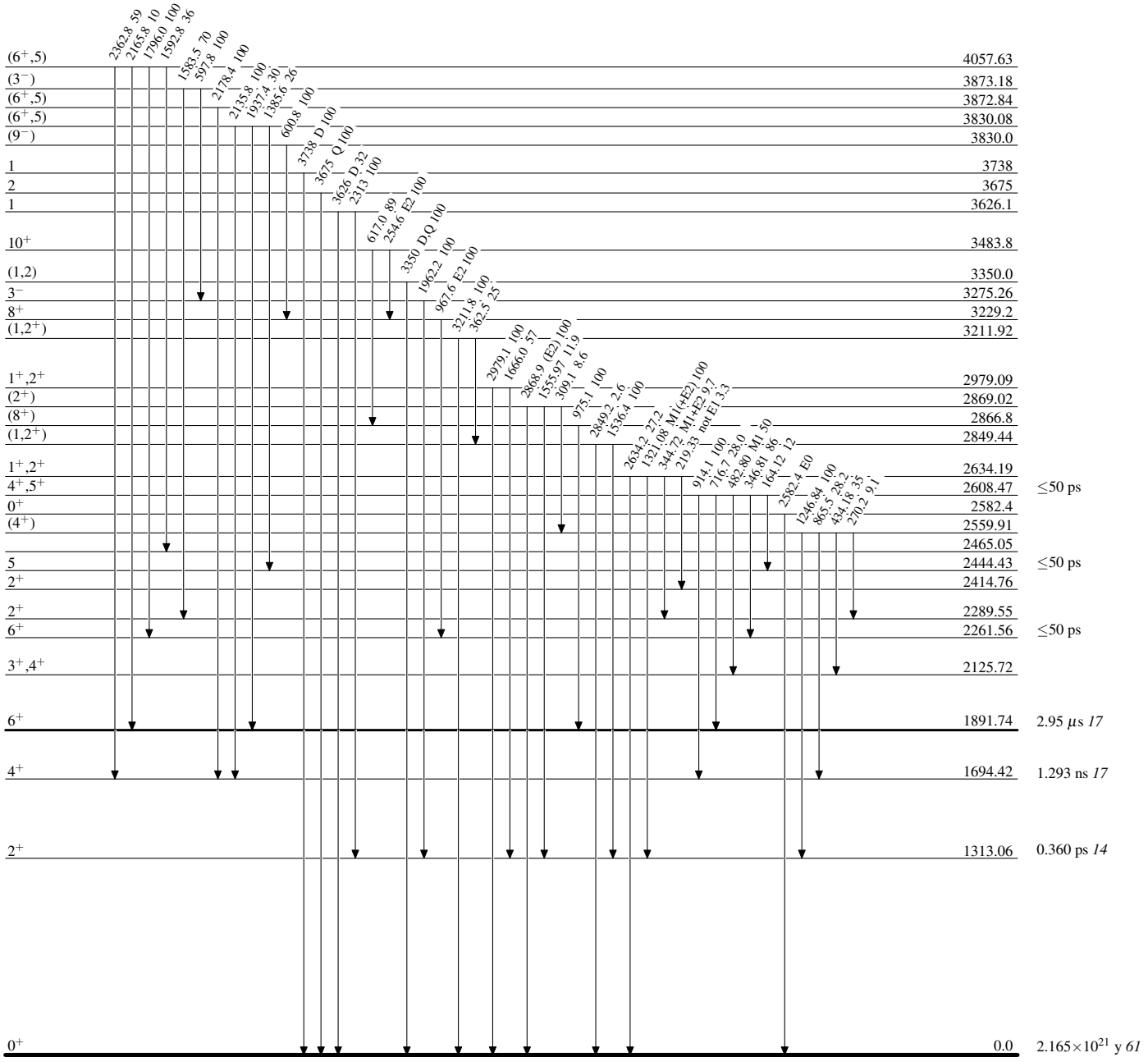


$^{136}_{54}Xe_{82}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level

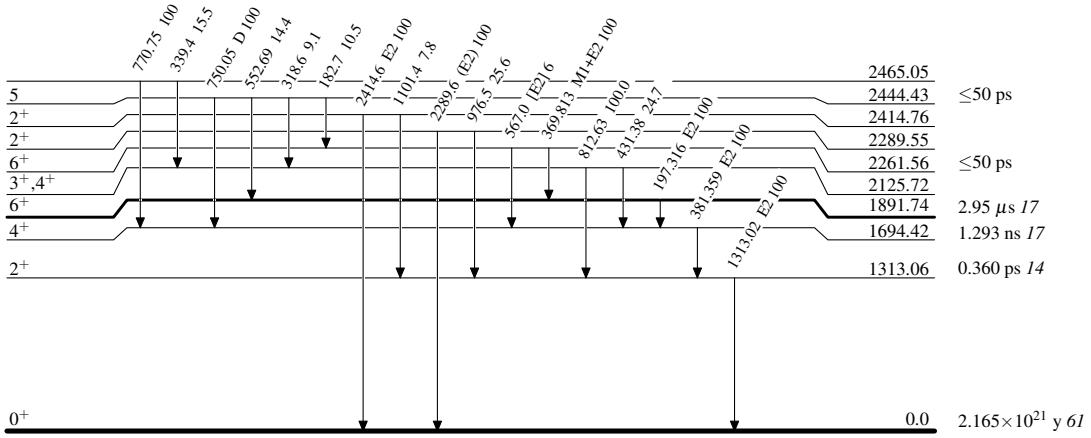


$^{136}_{54}Xe_{82}$

Adopted Levels, Gammas

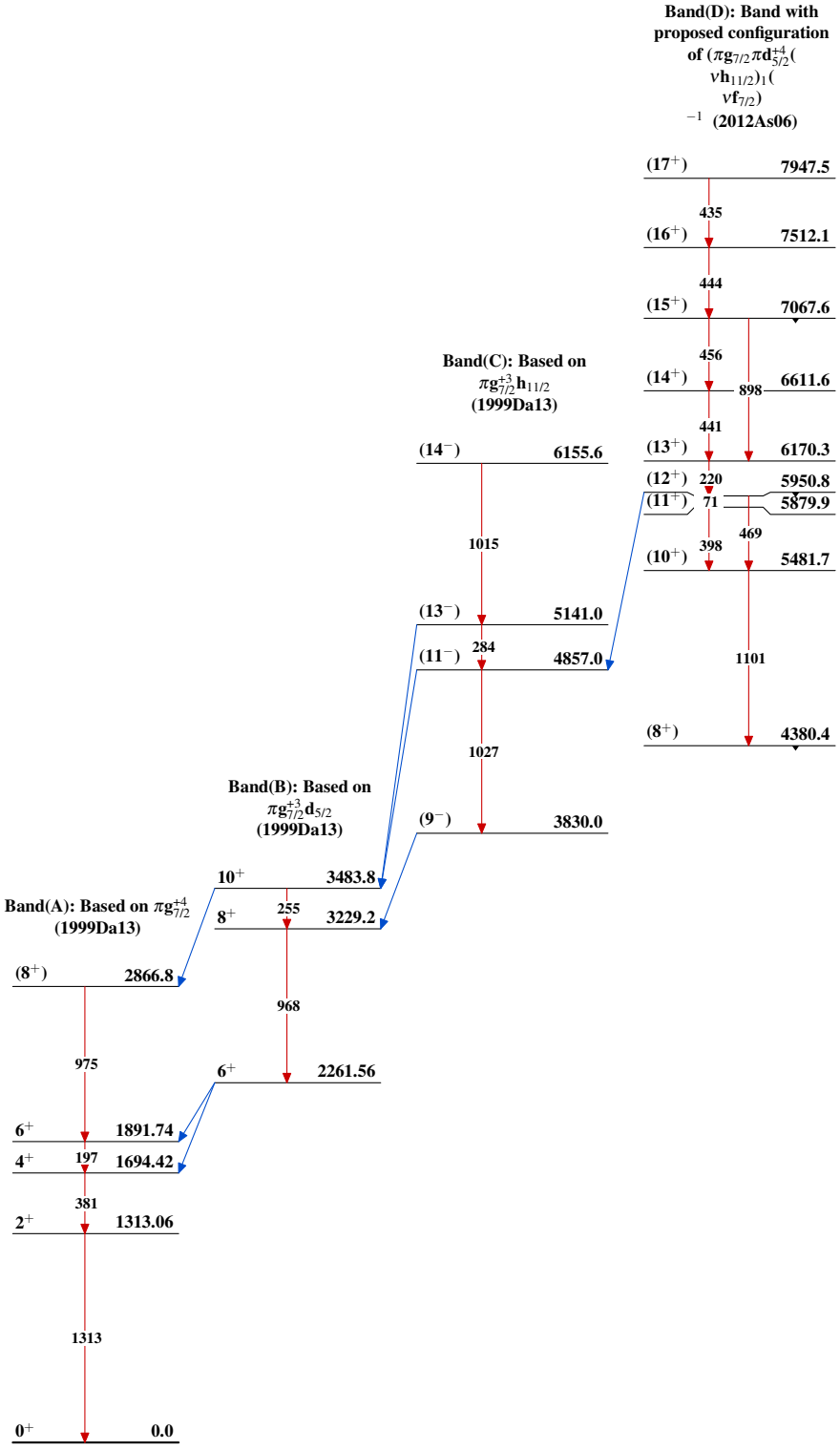
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{136}_{54}Xe_{82}$

Adopted Levels, Gammas



$^{136}_{54}Xe_{82}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 146, 1 (2017)	30-Sep-2017

Q(β^-)=2915 *10*; S(n)=5660 *3*; S(p)=10905 *9*; Q(α)=137 *4* 2017Wa10
S(2n)=9686 *3*, S(2p)=20125 *4*, Q(2β^+)=8289 *3* (2017Wa10).
First identification of ^{138}Xe nuclide by 1943Se02 (see 2013Ka01).
Other reactions:
2005Ga25: 2000Ga60: ^{232}Th,^{238}U(γ,F) E=25 MeV, measured yields.
2000JoZZ,2000YoZS: ^{235}U,^{238}U(n,F), measured yields.
1998Ph04: ^{238}U(n,F) E=1.5-3.5 MeV, measured σ.

^{138}Xe Levels

Cross Reference (XREF) Flags

A	^{138}I β^- decay	D	^{252}Cf SF decay
B	^{139}I β^-n decay	E	^{235}U(n,Fγ),^{238}U(n,Fγ)
C	^{248}Cm SF decay	F	Coulomb excitation

E(level)†	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0‡	0$^+$	14.14 min *7*	ABCDEF	%β^-=100 T$_{1/2}$: weighted average of 14.18 min *10* (2012Wa21), 14.08 min *8* (1972Mo33), 14.17 min *7* (1969Ca03), 14.0 min *2* (1964Cl01), 14.1 min *8* (1966Ar08), 14.5 min *5* (1965Pa14). Other: 1968To20. Additional information 1. Evaluated nuclear charge radius <r^2>$^{1/2}$=4.828 fm *8* (2013An02).
588.826‡ *18*	2$^+$	10.5 ps *+38−22*	ABCDEF	J$^\pi$: 588.825γ E2 to 0$^+$ g.s. T$_{1/2}$: from preliminary B(E2)↑=0.38 *10* (2007Kr19) in Coulomb excitation. Other: 15 ps *11* from $\gamma\gamma$(t) in (n,fγ).
1072.53‡ *3*	(4$^+$)		ABCDE	J$^\pi$: 484.700γ (E2) to 2$^+$, band structure.
1463.99 *7*	(2$^+$)		ABC E	J$^\pi$: 875.25γ (M1+E2) to 2$^+$, 1463.98γ to 0$^+$, systematics of N=84 nuclei.
1554.6‡ *4*	(6$^+$)		CDE	J$^\pi$: 482.1γ (E2) to (4$^+$), band structure.
1866.21 *8*	(1,2$^+$)		A	J$^\pi$: 1277.45γ to 2$^+$, 1866.20γ to 0$^+$.
1903.17 *6*	(2$^+$,3,4$^+$)		A C E	J$^\pi$: 439.04γ to (2$^+$), 830.69γ to (4$^+$), 1314.30γ to 2$^+$. (4$^+$) is proposed by 2000Ko15 in ^{248}Cm SF decay.
2015.48 *8*	(3$^-$)		A	J$^\pi$: 942.89γ to (4$^+$), 1426.76γ to 2$^+$; systematics of N=84 nuclei suggest a J^π value of 3$^-$ (1979Ho21) in ^{138}I β^- decay.
2114.67 *12*	(1,2$^+$)		A	J$^\pi$: 650.88γ to (2$^+$), 1525.83γ to 2$^+$, 2114.7γ to 0$^+$.
2115.5 *5*			C	
2117.22 *15*			A	
2212.54 *13*			A	
2262.14 *7*	(1,2$^+$)		A	J$^\pi$: 1673.28γ to 2$^+$, 2262.20γ to 0$^+$.
2284.2‡ *6*	(8$^+$)		CDE	J$^\pi$: 729.6γ (E2) to (6$^+$), band structure.
2293.2 *4*	(4$^+$,5,6$^+$)		C E	J$^\pi$: 738.6γ to (6$^+$), 1220.7γ to (4$^+$). (6$^+$) is proposed by 2000Ko15 in ^{248}Cm SF decay.
2331.92 *13*	(2$^+$,3,4$^+$)		A	J$^\pi$: 1259.1γ to (4$^+$), 1743.1γ to 2$^+$.
2334.07 *12*	(1$^-$,2,3)		A	J$^\pi$: 318.6γ to (3$^-$), 1745.0γ to 2$^+$.
2391.0 *7*			C E	
2398.15 *11*	(1,2$^+$)		A	J$^\pi$: 1809.28γ to 2$^+$, 2398.16γ to 0$^+$.
2543.71 *11*	(1,2$^+$)		A	J$^\pi$: 1954.8γ to 2$^+$, 2543.73γ to 0$^+$.
2572.42 *11*	(1,2$^+$)		A	J$^\pi$: 1108.29γ to (2$^+$), 2572.38γ to 0$^+$.
2644.8 *3*	(1,2$^+$)		A	J$^\pi$: 2644.9γ to 0$^+$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{138}Xe Levels (continued)

E(level)[†]	J^π	XREF	Comments
2655.1 *6*	$(6^+,7,8^+)$	C E	J^π: 370.9γ to (8^+), 1100.5γ to (6^+). (8^+) is proposed by 2000Ko15 in ^{248}Cm SF decay.
2674.26 *10*	$(1,2^+)$	A	J^π: 2085.43γ to 2^+, 2674.0γ to 0^+.
2710.1 *7*		C	
2794.37 *17*	$(1,2^+)$	A	J^π: 1331.2γ to (2^+), 2794.3γ to 0^+.
2835.63 *15*	(1,2)	A	J^π: 1371.57γ to (2^+), 2835.64γ to 0^+.
2890.61 *20*	$(1,2^+)$	A	J^π: 2890.7γ to 0^+.
2952.63 *15*		A	
2964.39 *12*	$(1,2^+)$	A	J^π: 2376.0γ to 2^+, 2964.4γ to 0^+.
2972.2[‡] *7*	(10^+)	CDE	J^π: 687.9γ (E2) to (8^+), band structure.
3224.7 *7*		C	
3276.5 *8*		C	
3354.7 *7*		C	
3412.7 *8*		C	
3474.79 *21*	(2^+)	A	J^π: 2402.24γ to (4^+), 3474.3γ to 0^+.
3496.59 *12*	$(1,2^+)$	A	J^π: 3496.3γ to 0^+.
3516.51? *15*	$(1,2^+)$	A	J^π: 3516.3γ to 0^+.
3571.3[‡] *8*	(12^+)	CDE	J^π: 599.0γ (E2) to (10^+), band structure.
3839.7 *8*		C	
3876.7 *9*		C	
3898.7 *7*		C	
3899.05 *11*	$(1,2^+)$	A	J^π: 3310.28γ to 2^+, 3898.4γ to 0^+.
3961.86 *11*	$(1^-,2,3)$	A	J^π: 1946.26γ to (3^-); direct feeding from (2^-) parent in ^{138}I β^- decay.
4084.6 *8*		C	
4167.56 *14*	(1,2,3)	A	J^π: direct feeding from (2^-) parent in ^{138}I β^- decay.
4182.01 *12*	$(1,2^+)$	A	J^π: 3593.0γ to 2^+, 4182.0γ to 0^+.
4318.96 *20*	$(1,2^+)$	A	J^π: 4318.9γ to 0^+.
4357.4 *8*		C	
4419.1[‡] *9*	(14^+)	C	J^π: 847.8γ to (12^+), band structure.
4490.3? *3*	(1,2,3)	A	J^π: direct feeding from (2^-) parent in ^{138}I β^- decay.
4511.8 *8*		C	
4526.3 *9*		C	
4689.9 *9*		C	
4965.0 *10*		C	
4989.7 *10*		C	
5042.0? *4*	(1,2,3)	A	J^π: direct feeding from (2^-) parent in ^{138}I β^- decay.
5142.0? *3*	(1,2,3)	A	J^π: direct feeding from (2^-) parent in ^{138}I β^- decay.
5341.66? *21*	$(1,2^+)$	A	J^π: 4752.7γ to 2^+, 5341.6γ to 0^+.
5520.0 *10*		C	
5814.0 *11*		C	

[†] From a least-squares fit to γ-ray energies, assuming $\Delta E\gamma$=0.5 keV if not given.
[‡] Band(A): Yrast band.

Adopted Levels, Gammas (continued)

γ(^{138}Xe)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	δ	α[†]	Comments
588.826	2^+	588.825 *18*	100	0.0	0^+	E2		0.00577	α(K)=0.00491 *7*; α(L)=0.000686 *10*; α(M)=0.0001398 *20* α(N)=2.87×10^{-5} *4*; α(O)=3.48×10^{-6} *5* B(E2)(W.u.)=18 *5* Mult.: from Coulomb excitation and γ(θ) in ^{248}Cm SF decay.
1072.53	(4^+)	483.700 *24*	100	588.826	2^+	(E2)		0.00985	α(K)=0.00833 *12*; α(L)=0.001218 *17*; α(M)=0.000249 *4* α(N)=5.10×10^{-5} *8*; α(O)=6.10×10^{-6} *9*
1463.99	(2^+)	875.25 *13*	100.0 *24*	588.826	2^+	(M1+E2)	−5.2 *+16−39*	0.00221 *4*	α(K)=0.00190 *4*; α(L)=0.000247 *5*; α(M)=5.01×10^{-5} *9* α(N)=1.033×10^{-5} *18*; α(O)=1.276×10^{-6} *23* Mult.,δ: D+Q from γγ(θ) (1992Co26) in ^{138}I β^- decay; positive parity for the 1464 level based on systematics of N=84 nuclei; mult=E1+M2 with such a large δ is highly unlikely.
		1463.98 *21*	7.5 *10*	0.0	0^+				
1554.6	(6^+)	482.1[#]	100	1072.53	(4^+)	(E2)		0.00995	α(K)=0.00841 *12*; α(L)=0.001231 *18*; α(M)=0.000252 *4* α(N)=5.15×10^{-5} *8*; α(O)=6.16×10^{-6} *9*
1866.21	$(1,2^+)$	1277.45 *11*	100 *3*	588.826	2^+				
		1866.20 *17*	15.3 *14*	0.0	0^+				
1903.17	$(2^+,3,4^+)$	439.04 *23*	11.5 *18*	1463.99	(2^+)				
		830.69 *8*	100 *3*	1072.53	(4^+)				
		1314.30 *10*	59 *4*	588.826	2^+				
2015.48	(3^-)	942.89 *8*	61 *3*	1072.53	(4^+)				
		1426.76 *21*	100 *4*	588.826	2^+				
2114.67	$(1,2^+)$	650.88[a] *22*	26 *3*	1463.99	(2^+)				
		1525.83 *13*	100 *5*	588.826	2^+				
		2114.7 *3*	21 *3*	0.0	0^+				
2115.5		1043.0[#]	100	1072.53	(4^+)				
2117.22		1528.38 *15*	100	588.826	2^+				
2212.54		1623.69 *13*	100	588.826	2^+				
2262.14	$(1,2^+)$	1673.28 *9*	31.5 *12*	588.826	2^+				
		2262.20 *11*	100 *3*	0.0	0^+				
2284.2	(8^+)	729.6	100	1554.6	(6^+)	(E2)		0.00335	α(K)=0.00287 *4*; α(L)=0.000385 *6*; α(M)=7.82×10^{-5} *11* α(N)=1.609×10^{-5} *23*; α(O)=1.97×10^{-6} *3*
2293.2	$(4^+,5,6^+)$	738.6[#]		1554.6	(6^+)				
		1220.7[#]		1072.53	(4^+)				
2331.92	$(2^+,3,4^+)$	1259.1 *3*	100 *18*	1072.53	(4^+)				
		1743.1 *3*	85 *9*	588.826	2^+				
2334.07	$(1^-,2,3)$	318.6 *4*	3.3 *12*	2015.48	(3^-)				

$^{138}_{54}Xe_{84}$-3

Adopted Levels, Gammas (continued)

γ(^{138}Xe) (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π
2334.07	(1⁻,2,3)	430.83 *21*	18.2 *21*	1903.17	(2⁺,3,4⁺)
		467.8 *3*	3.7 *9*	1866.21	(1,2⁺)
		870.05 *20*	100 *5*	1463.99	(2⁺)
		1745.0 *4*	37 *7*	588.826	2⁺
2391.0		836.4#	100	1554.6	(6⁺)
2398.15	(1,2⁺)	1809.28 *14*	100 *3*	588.826	2⁺
		2398.16 *15*	38 *4*	0.0	0⁺
2543.71	(1,2⁺)	212.4 *4*	76 *42*	2331.92	(2⁺,3,4⁺)
		640.0 *3*	9 *3*	1903.17	(2⁺,3,4⁺)
		1079.8 *3*	17 *4*	1463.99	(2⁺)
		1954.8 *3*	100 *8*	588.826	2⁺
		2543.73 *14*	98 *3*	0.0	0⁺
2572.42	(1,2⁺)	1108.29 *18*	33.5 *23*	1463.99	(2⁺)
		2572.38 *14*	100 *3*	0.0	0⁺
2644.8	(1,2⁺)	310.6 *3*	61 *19*	2334.07	(1⁻,2,3)
		2644.9 *4*	100 *13*	0.0	0⁺
2655.1	(6⁺,7,8⁺)	370.9#		2284.2	(8⁺)
		1100.5#		1554.6	(6⁺)
2674.26	(1,2⁺)	771.0 *4*	10 *3*	1903.17	(2⁺,3,4⁺)
		1210.2 *3*	22 *4*	1463.99	(2⁺)
		2085.43 *12*	100 *4*	588.826	2⁺
		2674.0 *3*	15.3 *22*	0.0	0⁺
2710.1		1155.5#	100	1554.6	(6⁺)
2794.37	(1,2⁺)	460.0 *3*	30 *10*	2334.07	(1⁻,2,3)
		778.90 *22*	100 *10*	2015.48	(3⁻)
		1331.2 *5*	28 *10*	1463.99	(2⁺)
		2794.3 *4*	62 *8*	0.0	0⁺
2835.63	(1,2)	1371.57 *23*	25.9 *23*	1463.99	(2⁺)
		2835.64 *19*	100 *4*	0.0	0⁺
2890.61	(1,2⁺)	678.0 *3*	56 *16*	2212.54	
		987.4 *3*	100 *20*	1903.17	(2⁺,3,4⁺)
		2890.7 *6*	48 *12*	0.0	0⁺
2952.63		621.1 *4*	21 *8*	2331.92	(2⁺,3,4⁺)
		837.80[a] *25*	56 *8*	2114.67	(1,2⁺)
		2363.74 *16*	100 *6*	588.826	2⁺
2964.39	(1,2⁺)	391.6 *4*	7 *3*	2572.42	(1,2⁺)
		849.79[a] *24*	15 *3*	2114.67	(1,2⁺)
		1061.2 *4*	12 *3*	1903.17	(2⁺,3,4⁺)
		1500.42 *11*	100 *4*	1463.99	(2⁺)
		2376.0[a] *2*	18.3 *25*	588.826	2⁺
		2964.4 *3*	17.1 *18*	0.0	0⁺

$^{138}_{54}Xe_{84}$-4

Adopted Levels, Gammas (continued)

γ(^{138}Xe) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡]	E_f	J_f^π	Mult.[@]	α[†]	Comments
2972.2	(10$^+$)	687.9[#]	100	2284.2	(8$^+$)	(E2)	0.00387	α(K)=0.00331 *5*; α(L)=0.000449 *7*; α(M)=9.13×10^{-5} *13* α(N)=1.88×10^{-5} *3*; α(O)=2.29×10^{-6} *4*
3224.7		940.5[#]	100	2284.2	(8$^+$)			
3276.5		992.3[#]	100	2284.2	(8$^+$)			
3354.7		382.6[#a]		2972.2	(10$^+$)			
		699.5[#]		2655.1	(6$^+$,7,8$^+$)			
		1070.5[#]		2284.2	(8$^+$)			
3412.7		1128.5[#]	100	2284.2	(8$^+$)			
3474.79	(2$^+$)	2402.24 *22*	100 *5*	1072.53	(4$^+$)			
		3474.3 *7*	26 *5*	0.0	0$^+$			
3496.59	(1,2$^+$)	1379.3 *5*	11 *4*	2117.22				
		2032.79[&] *15*	≤117[&]	1463.99	(2$^+$)			
		3496.3 *2*	100 *6*	0.0	0$^+$			
3516.51?	(1,2$^+$)	2927.82 *20*	75 *4*	588.826	2$^+$			
		3516.3 *2*	100 *11*	0.0	0$^+$			
3571.3	(12$^+$)	599.0[#]	100	2972.2	(10$^+$)	(E2)	0.00551	α(K)=0.00469 *7*; α(L)=0.000653 *10*; α(M)=0.0001332 *19* α(N)=2.73×10^{-5} *4*; α(O)=3.32×10^{-6} *5*
3839.7		615.0[#]		3224.7				
		867.5[#]		2972.2	(10$^+$)			
3876.7		904.5[#]	100	2972.2	(10$^+$)			
3898.7		327.4[#]		3571.3	(12$^+$)			
		544.0[#]		3354.7				
		926.5[#]		2972.2	(10$^+$)			
3899.05	(1,2$^+$)	1326.3 *3*	10 *3*	2572.42	(1,2$^+$)			
		1355.80[a] *11*	33 *4*	2543.71	(1,2$^+$)			
		1567.20[a] *25*	27 *4*	2331.92	(2$^+$,3,4$^+$)			
		2032.79[&] *15*	≤79[&]	1866.21	(1,2$^+$)			
		2826.1 *6*	6.7 *16*	1072.53	(4$^+$)			
		3310.28 *15*	100 *4*	588.826	2$^+$			
		3898.4 *6*	4.1 *10*	0.0	0$^+$			
3961.86	(1$^-$,2,3)	1629.7 *3*	22 *4*	2331.92	(2$^+$,3,4$^+$)			
		1946.26 *13*	56.3 *24*	2015.48	(3$^-$)			
		2058.84 *14*	100 *12*	1903.17	(2$^+$,3,4$^+$)			
4084.6		1112.5[#]	100	2972.2	(10$^+$)			
4167.56	(1,2,3)	1594.7 *5*	8 *3*	2572.42	(1,2$^+$)			
		1835.44 *17*	22 *4*	2331.92	(2$^+$,3,4$^+$)			
		2301.57 *16*	100 *5*	1866.21	(1,2$^+$)			
4182.01	(1,2$^+$)	1609.3 *5*	13 *5*	2572.42	(1,2$^+$)			
		1919.94 *18*	22.3 *18*	2262.14	(1,2$^+$)			

$^{138}_{54}Xe_{84}$-5

Adopted Levels, Gammas (continued)

$\gamma(^{138}Xe)$ (continued)

E_i(level)	J_i^π	E_γ ‡	I_γ ‡	E_f	J_f^π
4182.01	(1,2$^+$)	3593.0 *2*	39.3 *18*	588.826	2$^+$
		4182.0 *2*	100 *6*	0.0	0$^+$
4318.96	(1,2$^+$)	2452.5 *9*	11 *6*	1866.21	(1,2$^+$)
		4318.9 *2*	100 *7*	0.0	0$^+$
4357.4		272.9#		4084.6	
		458.9#		3898.7	
		786#		3571.3	(12$^+$)
4419.1	(14$^+$)	847.8	100	3571.3	(12$^+$)
4490.3?	(1,2,3)	994.0 *3*	100 *17*	3496.59	(1,2$^+$)
		1815.6 *4*	97 *21*	2674.26	(1,2$^+$)
		3026.1&*a* *6*	≤90&	1463.99	(2$^+$)
4511.8		613.1#		3898.7	
		940.6#		3571.3	(12$^+$)
4526.3		955.0#	100	3571.3	(12$^+$)
4689.9		1118.6#	100	3571.3	(12$^+$)
4965.0		545.9#	100	4419.1	(14$^+$)
4989.7		570.6#	100	4419.1	(14$^+$)
5042.0?	(1,2,3)	1545.6 *5*	100 *27*	3496.59	(1,2$^+$)
		2151.3 *4*	95 *21*	2890.61	(1,2$^+$)
		3026.1&*a* *5*	≤143&	2015.48	(3$^-$)
5142.0?	(1,2,3)	974.5 *3*	100 *25*	4167.56	(1,2,3)
		1666.7 *7*	69 *32*	3474.79	(2$^+$)
		3026.1&*a* *5*	≤162&	2114.67	(1,2$^+$)
5341.66?	(1,2$^+$)	1845.0 *3*	100 *14*	3496.59	(1,2$^+$)
		2389.2 *5*	74 *14*	2952.63	
		4752.7 *4*	43 *3*	588.826	2$^+$
		5341.6 *5*	63 *9*	0.0	0$^+$
5520.0		530.3#		4989.7	
		555.0#		4965.0	
5814.0		824.3#	100	4989.7	

† Additional information 2.
‡ From ^{138}I β^- decay, unless otherwise noted.
# From ^{248}Cm SF decay.
@ From $\gamma(\theta)$ in ^{248}Cm SF decay, unless otherwise noted. Brackets are added if no strong experimental evidence is available.
& Multiply placed with undivided intensity.
a Placement of transition in the level scheme is uncertain.

$^{138}_{54}Xe_{84}$-6

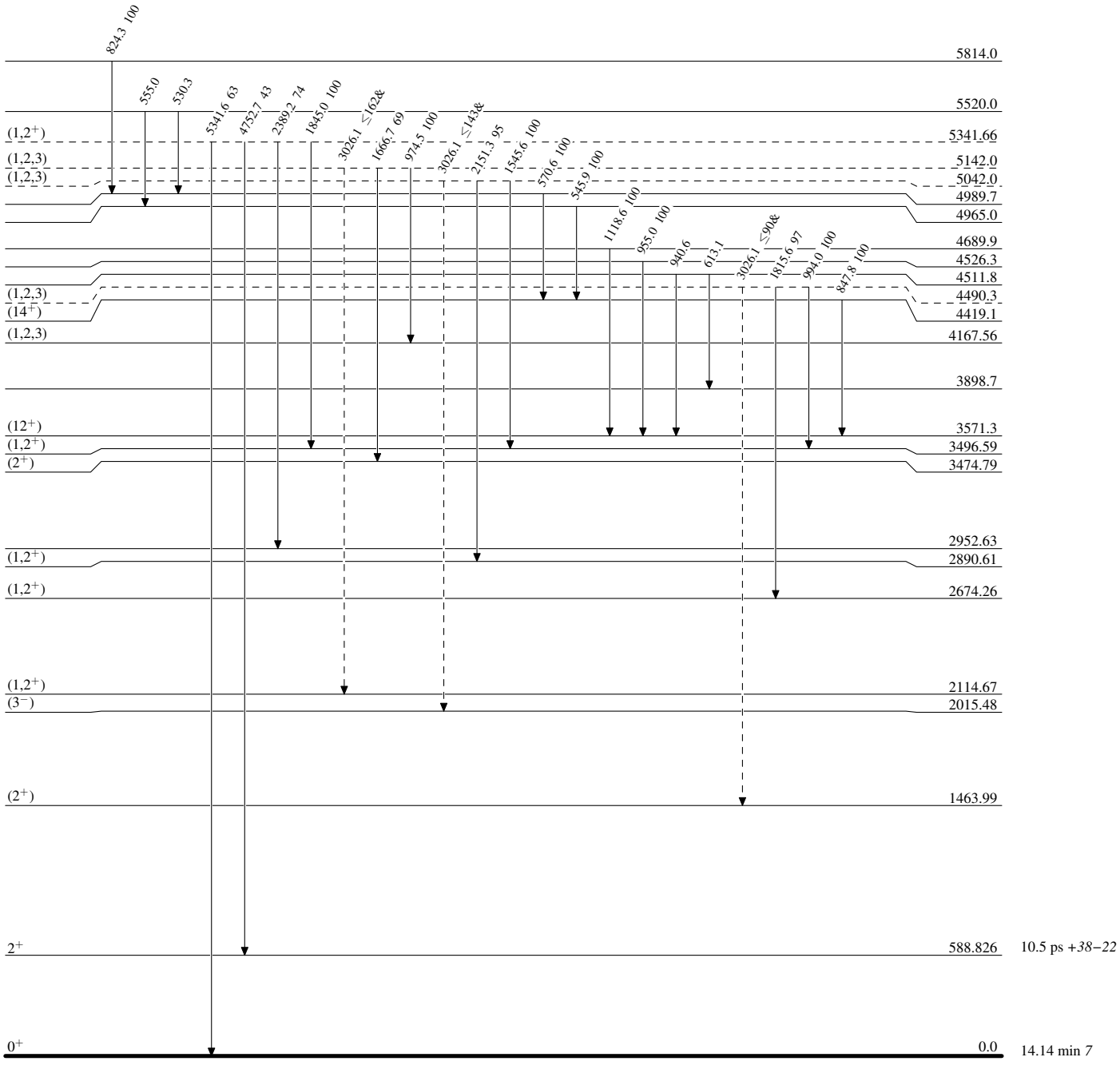
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{138}_{54}Xe_{84}$

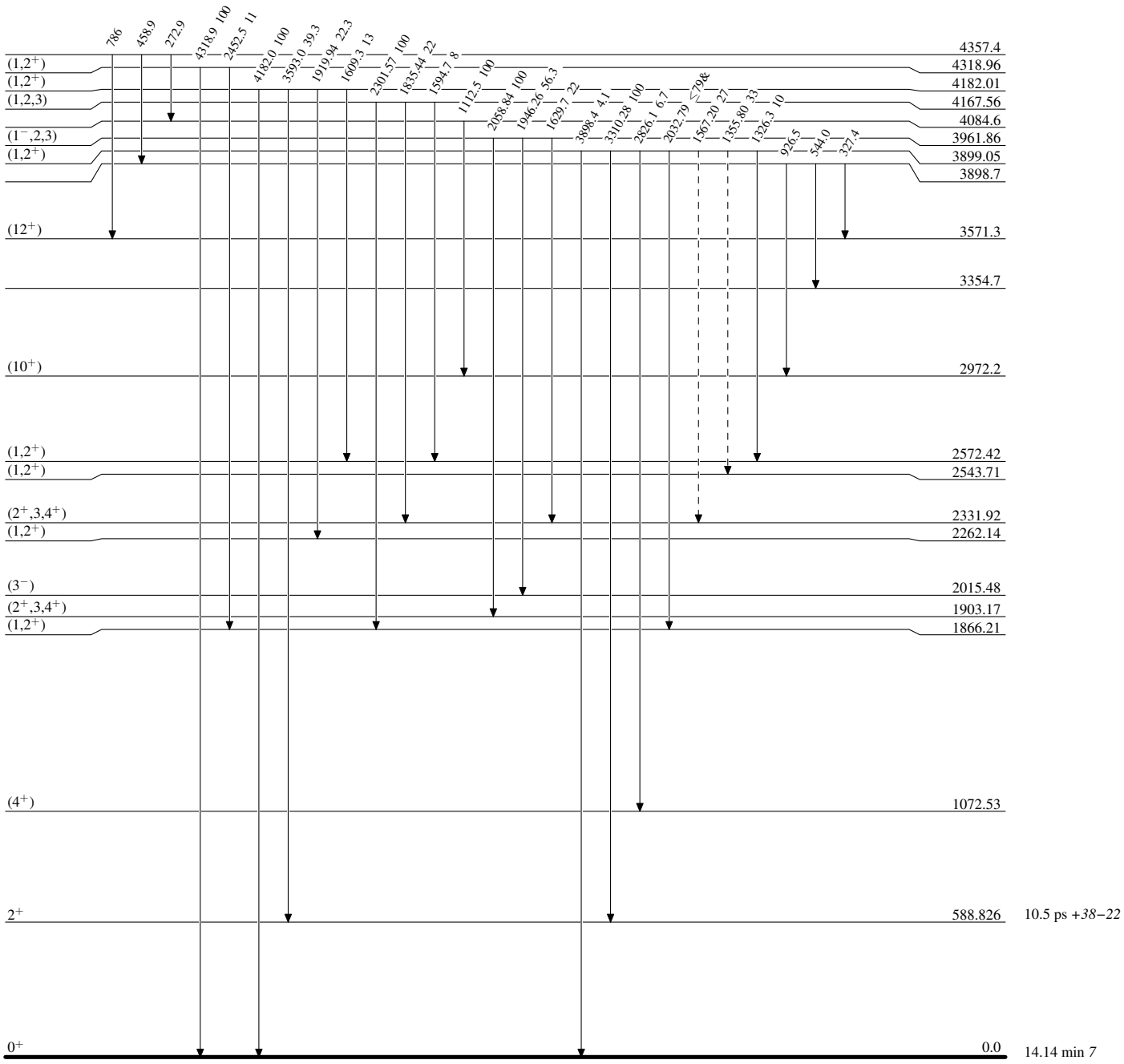
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

– – – – – – ► γ Decay (Uncertain)



$^{138}_{54}Xe_{84}$

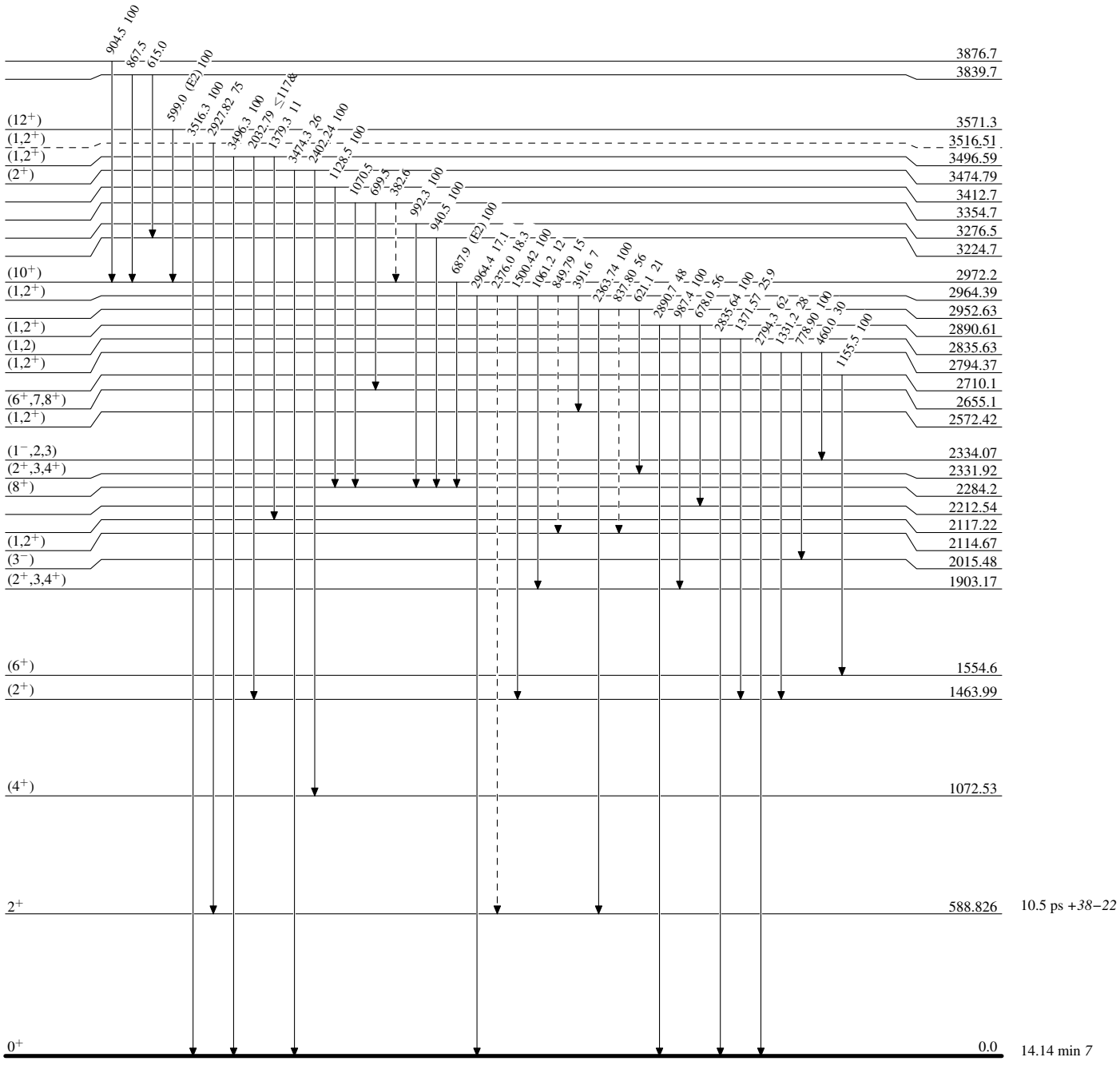
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

γ Decay (Uncertain)



$^{138}_{54}Xe_{84}$

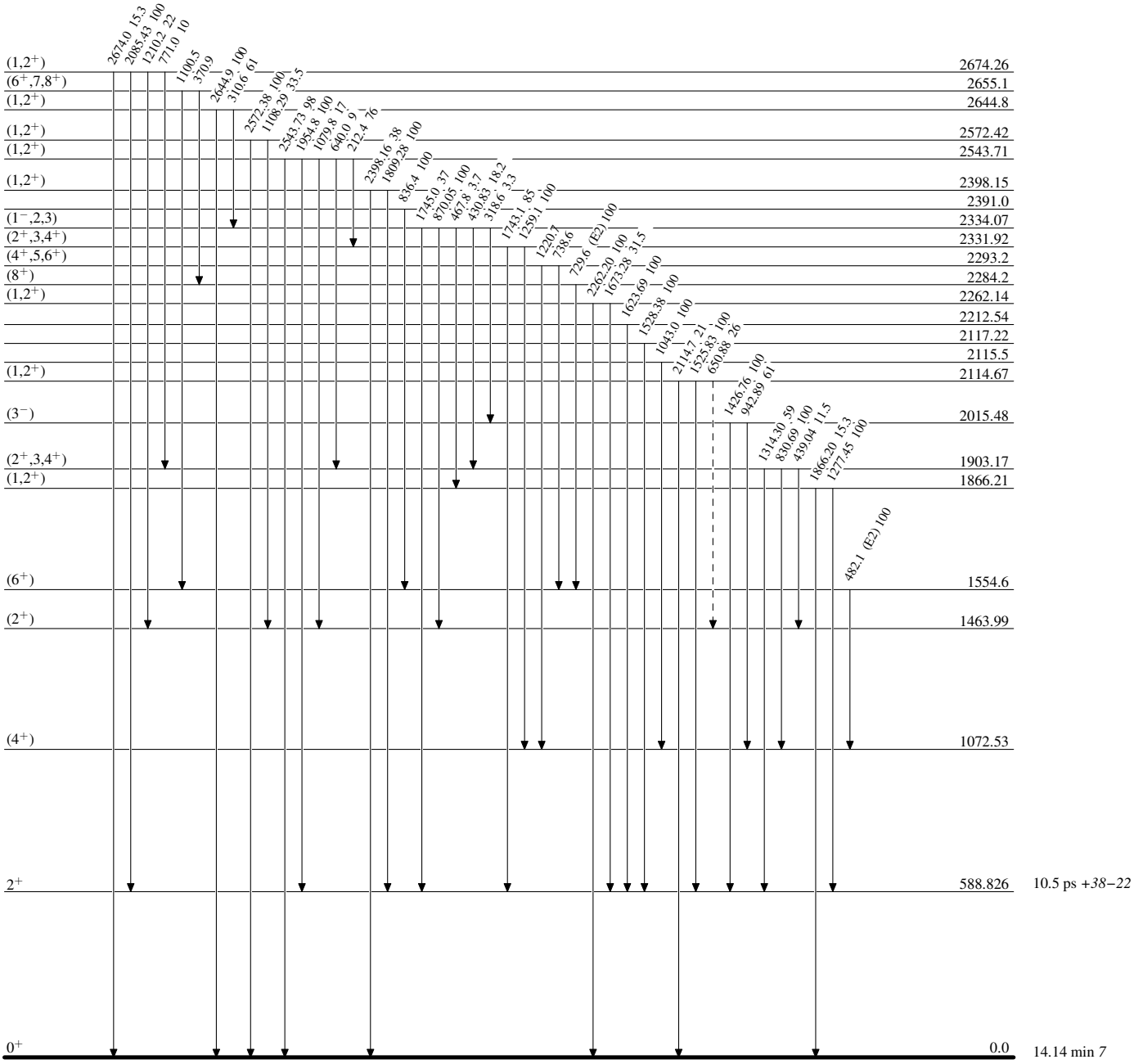
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given

- - - - - - ► γ Decay (Uncertain)

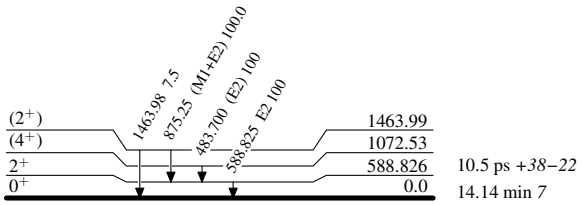


$^{138}_{54}Xe_{84}$

Adopted Levels, Gammas

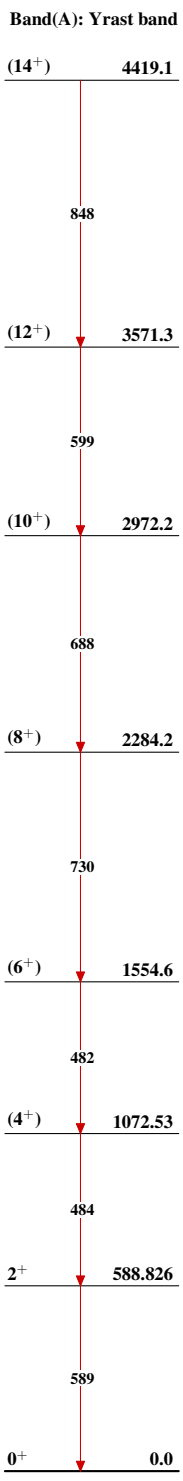
Level Scheme (continued)

Intensities: Relative photon branching from each level
& Multiply placed: undivided intensity given



$^{138}_{54}Xe_{84}$

Adopted Levels, Gammas



$^{138}_{54}Xe_{84}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	N. Nica	NDS 154, 1 (2018)	20-Nov-2018

Q(β^-)=4064 *9*; S(n)=5413 *3*; S(p)=11804 *5*; Q(α)=−986 *3* 2017Wa10
Fission yields: 2005Ga25, 2005Ga50, 2004Ga60, 2004GaZV, 2004GaZZ, 2004GaZY, 2003Ga21, 2003St03, 2002Ib01, 2000Lh02, 2000Ka02, 2000JoZZ, 2000Ga60, 1998Ph04.
Angular momenta of ^{252}Cf fission fragments: 2005Ja12.

^{140}Xe Levels

Disagreement comment (reproduced from ^{252}Cf SF decay dataset): Although there is a general good agreement in between the experimental work of 2016Ur01 (^{248}Cm SF decay), 2016Hu10, and 2017Na15 (^{252}Cf SF decay; 2017Na15, same group of authors as 2016Ur01) there is disagreement as concern the parity of band D leading to quite different theoretical interpretations. Thus while 2016Ur01 argue for the γ collectivity of band C and D (with π=+ assigned for band C and no parity assigned for band D), 2016Hu10 later argue for s=±1 doublet octupole bands based essentially on assigned π=− for band D. This indeed is based on tentative (E1) assignments for all five ΔJ=1 transitions linking band D to C. However 2017Na15 based on the relatively high quadrupole mixing ratio of 821γ, one of these ΔJ=1 transitions, concluded that this is rather a (M1+E2) transition which qualifies band D as π=+, which contradicts the interpretation of 2016Hu10 and sustains that of 2016Ur01. However 2017Na15 did not report measurement on any of the other four (E1) linking transitions. Based on these experimental findings the evaluator adopts no parity for band D and no E1 or M1 character for the linking transitions before more extensive and precise measurements are going to be published.

Cross Reference (XREF) Flags

A	^{140}I β^- decay	D	^{235}U(n,Fγ) E=thermal
B	^{248}Cm SF decay	E	^{235}U(n,Fγ),^{238}U(n,Fγ) E=3 MeV
C	^{252}Cf SF decay	F	Coulomb excitation

E(level)†	Jπ‡	$T_{1/2}$	XREF	Comments
0.0#	0+	13.60 s *10*	ABCDEF	%β^-=100 $T_{1/2}$: from 1969Ca03. Others: 15.4 s *3* (1974Gr29), 14.3 s *13* (1968Al06), 13.70 s *15* (1966Ar08), 13.33 s *27* (1965Pa14). RMS charge radius <r^2>$^{1/2}$=4.8566 fm *125* (2013An02).
376.658# *15*	2+	70.5 ps *20*	ABCDEF	μ=1.1 *3* $T_{1/2}$: weighted average of 70.5 ps *22* (β- decay (1999Li18)) and 70.7 ps *49* ($\gamma\gamma$(t) (2016Il01), ^{235}U(n,Fγ) E=thermal). Others: 68.6 ps *125* (using ^{241}Pu(n,Fγ) reaction also from 2016Il01), 70 ps *14* (2007Kr19, Coulex), 113 ps *5* (1980ChZM, γ(t) in ^{252}Cf SF decay). 2016Il01 deduce g factor=0.56 *19* using their lifetime and measured gτ from 2009Go09, as compared to g factor=0.35 *12* in 2009Go09. Jπ: E2 γ to g.s. μ: based on 2009Go09 measured g factor by the method of correlation attenuations in randomly oriented magnetic fields (IPAC) (^{252}Cf SF decay dataset). The value g=0.35 *12* reported by 2009Go09 was based on $T_{1/2}$=0.113 ns *5* (1980ChZM) from which 2011StZZ deduced μ=0.7 *2*. Based on the adopted $T_{1/2}$=70.5 ps *20* one gets g=0.56 *19* (also deduced by 2016Il01 in ^{235}U(n,Fγ) E=thermal) which gives the μ value adopted here.
834.295# *24*	4+	14.2 ps *23*	ABCDEF	Jπ: E2 γ to 2+. $T_{1/2}$: weighted average of 16 ps *3* (β- decay (1999Li18)) and 11.8 ps *35* (($\gamma\gamma$(t) (2016Il01), ^{235}U(n,Fγ) E=thermal).
1304.41& *6*	3+		BC	Jπ: M1+E2 γ's to 2+ and 4+.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{140}Xe Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1416.67[#] *5*	6^+	<8.6 ps	ABCD	Jπ: E2 γ to 4^+. $T_{1/2}$: from β- decay (1999Li18).
1443.0 *3*			B	
1512.86[@] *20*	3^-	<7.7 ps	ABC	$T_{1/2}$: from β- decay (1999Li18). Jπ: ΔJ=1 D γ to 2^+; E2 γ from 5^-.
1572.94[&] *5*	5^+		BCD	Jπ: E2 γ to 3^+.
1725.70[b] *5*	6^+		BC	Jπ: stretch E2 γ to 4^+.
1771.33[@] *5*	5^-	11 ps *3*	ABCD	Jπ: E1 γ to 6^+; E1 γ to 4^+. $T_{1/2}$: from β- decay (1999Li18).
1954.38[&] *5*	7^+		BCD	Jπ: E2 γ to 5^+.
1983.33[#] *6*	8^+		BCD	Jπ: E2 γ to 6^+.
2184.53[@] *6*	7^-		BCD	Jπ: E2 γ to 5^-; E1 γ to 6^+; γ to 8^+.
2256.51[b] *6*	8^+		BC	
2282.1[a] *8*	(4)		C	Jπ: ΔJ=1 D γ to 3^+.
2488.9[a] *7*	(6)		C	Jπ: (E2) γ to (4) and ΔJ=1 γ to 5^+.
2588.86[&] *7*	9^+		BC	Jπ: E2 γ to 7^+.
2590.59[#] *7*	10^+		BCD	Jπ: E2 γ to 8^+.
2736.12[@] *6*	9^-		BCD	Jπ: E1(+M2) γ to 8^+.
2775.07[a] *9*	(8)		BC	Jπ: D(+Q) γ to 7^+.
2933.11 *8*			BC	
2965.63[b] *11*	10^+		BC	Jπ: E2 γ to 8^+.
3159.61[a] *15*	(10)		BC	Jπ: (E2) γ to (8).
3246.41[@] *8*	11^-		BC	Jπ: E2 γ to 9^-.
3269.72[#] *9*	12^+		BCD	Jπ: E2 γ to 10^+.
3283.12[&] *8*	(11^+)		BC	Jπ: (E2) γ to 9^+.
3704.3[b] *4*			B	
3729.68[a] *12*	(12)		BC	Jπ: (E2) γ to (10).
3812.67[@] *11*	(13^-)		BC	Jπ: (E2) γ to 11^-.
3997.97[#] *11*	14^+		BC	Jπ: E2 γ to 12^+.
4125.67[&] *12*	(13^+)		BC	Jπ: (E2) γ to (11^+).
4433.87[@] *15*	(15^-)		BC	Jπ: (E2) γ to (13^-).
4744.57[#] *23*	(16^+)		BC	Jπ: (E2) γ to 14^+.
5166.67[@] *17*	(17^-)		BC	Jπ: (E2) γ to (15^-).
5504.8[#] *4*	(18^+)		BC	Jπ: (E2) γ to (16^+).

[†] From least-squares fit to Eγ's; χ^2(norm)=2.1 is slightly higher than χ^2(critical)=1.7.
[‡] Based on measured multipolarities and other arguments of which most often membership in band is tacitly applied.
[#] Band(A): Yrast band.
[@] Band(B): 3^- octupole band.
[&] Band(C): Positive band based on 3^+.
[a] Band(D): Band based on J=(4). Assigned as band referring to the work of 2016Ur01 by 2017Na15 (^{252}Cf Decay) in a discussion about its nature in contradiction with 2016Hu10 ((see the disagreement comment); no parity was adopted because of opposite assignments of 2016Hu10 (π=−) and 2017Na15 (π=+).
[b] Band(E): band based on $J=6^+$.

Adopted Levels, Gammas (continued)

γ(^{140}Xe)

See ^{140}I β- for unplaced γ's.

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#d]	α[c]	Comments
376.658	2+	376.657[@] *15*	100	0.0	0+	E2		0.0205	B(E2)(W.u.)=24.0 *7* α(K)=0.01714 *24*; α(L)=0.00270 *4*; α(M)=0.000555 *8* α(N)=0.0001131 *16*; α(O)=1.326×10^{-5} *19* Mult.: α(K)exp in β$^-$ dataset.
834.295	4+	457.630[@] *19*	100	376.658	2+	E2		0.01154	B(E2)(W.u.)=45 +*9*−*6* α(K)=0.00973 *14*; α(L)=0.001444 *21*; α(M)=0.000296 *5* α(N)=6.05×10^{-5} *9*; α(O)=7.21×10^{-6} *10* Mult.: α(K)exp in β$^-$ dataset.
1304.41	3+	470.10 *9*	70[&] *1*	834.295	4+	M1+E2	−0.11 *2*	0.01295	α(K)=0.01118 *16*; α(L)=0.001417 *20*; α(M)=0.000287 *4* α(N)=5.94×10^{-5} *9*; α(O)=7.46×10^{-6} *11*
		927.90 *9*	100[&] *3*	376.658	2+	M1+E2	+0.65 *15*	0.00235 *7*	α(K)=0.00204 *6*; α(L)=0.000255 *7*; α(M)=5.15×10^{-5} *14* α(N)=1.07×10^{-5} *3*; α(O)=1.34×10^{-6} *4*
1416.67	6+	582.44 *5*	100	834.295	4+	E2		0.00593	B(E2)(W.u.)>22.6 α(K)=0.00505 *7*; α(L)=0.000707 *10*; α(M)=0.0001442 *21* α(N)=2.96×10^{-5} *5*; α(O)=3.58×10^{-6} *5* Mult.: α(K)exp in β$^-$ dataset.
1443.0		1066.3 *3*	100[b]	376.658	2+				
1512.86	3−	678.6[@]	39 *5*	834.295	4+	(E1)		1.49×10^{-3}	B(E1)(W.u.)>2.43×10^{-5} α(K)=0.001294 *19*; α(L)=0.0001583 *23*; α(M)=3.19×10^{-5} *5* α(N)=6.59×10^{-6} *10*; α(O)=8.22×10^{-7} *12*
		1136.7[@]	100 *11*	376.658	2+	(E1)		5.48×10^{-4}	B(E1)(W.u.)>1.48×10^{-5} α(K)=0.000469 *7*; α(L)=5.64×10^{-5} *8*; α(M)=1.135×10^{-5} *16* α(N)=2.35×10^{-6} *4*; α(O)=2.95×10^{-7} *5*; α(IPF)=8.80×10^{-6} *13*
1572.94	5+	156.3 *1*	4.0[&] *3*	1416.67	6+	M1+E2[a]		0.31 *8*	α(K)=0.24 *5*; α(L)=0.049 *23*; α(M)=0.0103 *49* α(N)=0.00207 *96*; α(O)=2.31×10^{-4} *93*
		268.60 *6*	11.3[&] *6*	1304.41	3+	E2[a]		0.0599	α(K)=0.0489 *7*; α(L)=0.00877 *13*; α(M)=0.00182 *3* α(N)=0.000368 *6*; α(O)=4.18×10^{-5} *6*
		738.64 *5*	100[&] *2*	834.295	4+	M1+E2[a]	+0.51[a] *4*	0.00411 *7*	α(K)=0.00355 *6*; α(L)=0.000448 *7*; α(M)=9.06×10^{-5} *14* α(N)=1.87×10^{-5} *3*; α(O)=2.35×10^{-6} *4*
1725.70	6+	309.10 *5*	70[&] *2*	1416.67	6+	M1+E2	+0.48 *4*	0.0378	α(K)=0.0323 *5*; α(L)=0.00438 *7*; α(M)=0.000892 *14* α(N)=0.000184 *3*; α(O)=2.26×10^{-5} *4*
		891.20 *7*	100[&] *2*	834.295	4+	E2[a]		0.00209	α(K)=0.00180 *3*; α(L)=0.000234 *4*; α(M)=4.75×10^{-5} *7* α(N)=9.79×10^{-6} *14*; α(O)=1.210×10^{-6} *17*

$^{140}_{54}Xe_{86}$-3

Adopted Levels, Gammas (continued)

γ(^{140}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	α[c]	Comments
1771.33	5⁻	258.5 *2*	7.1[&] *10*	1512.86	3⁻	E2[a]	0.0679	B(E2)(W.u.)=64 *+38−22* α(K)=0.0552 *8*; α(L)=0.01010 *15*; α(M)=0.00210 *3* α(N)=0.000424 *6*; α(O)=4.80×10^{-5} *7*
		355.0	6.9 *5*	1416.67	6⁺	E1	0.00676	B(E1)(W.u.)=3.1×10^{-5} *+16−9* α(K)=0.00585 *9*; α(L)=0.000731 *11*; α(M)=0.0001474 *21* α(N)=3.04×10^{-5} *5*; α(O)=3.75×10^{-6} *6* Mult.: α(K)exp in β$^-$ dataset.
		937.03 *5*	100 *2*	834.295	4⁺	E1	7.75×10^{-4}	B(E1)(W.u.)=2.4×10^{-5} *+10−6* α(K)=0.000673 *10*; α(L)=8.15×10^{-5} *12*; α(M)=1.640×10^{-5} *23* α(N)=3.39×10^{-6} *5*; α(O)=4.25×10^{-7} *6* Mult.: α(K)exp in β$^-$ dataset.
1954.38	7⁺	228.70 *7*	16.9[&] *14*	1725.70	6⁺	(E2)[a]	0.1021	α(K)=0.0821 *12*; α(L)=0.01597 *23*; α(M)=0.00333 *5* α(N)=0.000671 *10*; α(O)=7.50×10^{-5} *11*
		381.48 *5*	100[&] *4*	1572.94	5⁺	E2	0.0197	α(K)=0.01650 *24*; α(L)=0.00259 *4*; α(M)=0.000532 *8* α(N)=0.0001084 *16*; α(O)=1.273×10^{-5} *18*
		537.70 *5*	48[&] *1*	1416.67	6⁺	(M1(+E2))[a]	0.0083 *10*	α(K)=0.0071 *9*; α(L)=0.00095 *7*; α(M)=0.000193 *12* α(N)=4.0×10^{-5} *3*; α(O)=4.9×10^{-6} *5*
1983.33	8⁺	566.64 *5*	100[&]	1416.67	6⁺	E2	0.00638	α(K)=0.00543 *8*; α(L)=0.000764 *11*; α(M)=0.0001560 *22* α(N)=3.20×10^{-5} *5*; α(O)=3.87×10^{-6} *6*
2184.53	7⁻	413.20 *7*	19.6[&] *14*	1771.33	5⁻	E2[a]	0.01554	α(K)=0.01304 *19*; α(L)=0.00199 *3*; α(M)=0.000409 *6* α(N)=8.35×10^{-5} *12*; α(O)=9.87×10^{-6} *14* Mult.: deduced in SF decay: E2,M2 for this γ, M2 excluded by non-observance of $T_{1/2}$>10 ns for the octupole band.
		767.92 *5*	100.0[&] *2*	1416.67	6⁺	E1	1.15×10^{-3}	α(K)=0.000999 *14*; α(L)=0.0001218 *17*; α(M)=2.45×10^{-5} *4* α(N)=5.07×10^{-6} *7*; α(O)=6.33×10^{-7} *9*
2256.51	8⁺	273.24 *6*	29[&] *1*	1983.33	8⁺	(M1+E2)[a]	0.0543 *25*	α(K)=0.0455 *10*; α(L)=0.0070 *13*; α(M)=0.0014 *3* α(N)=0.00029 *6*; α(O)=3.5×10^{-5} *5*
		302.22 *9*	23[&] *1*	1954.38	7⁺	(M1+E2)[a]	0.0404 *8*	α(K)=0.0340 *7*; α(L)=0.0051 *7*; α(M)=0.00104 *15* α(N)=0.00021 *3*; α(O)=2.55×10^{-5} *23*
		530.55 *12*	71[&] *2*	1725.70	6⁺	(E2)[a]	0.00762	α(K)=0.00647 *9*; α(L)=0.000925 *13*; α(M)=0.000189 *3* α(N)=3.87×10^{-5} *6*; α(O)=4.66×10^{-6} *7*
		839.79 *7*	100[&] *2*	1416.67	6⁺	E2	0.00240	α(K)=0.00206 *3*; α(L)=0.000270 *4*; α(M)=5.48×10^{-5} *8* α(N)=1.130×10^{-5} *16*; α(O)=1.393×10^{-6} *20*
2282.1	(4)	769.1[b]	100[&] *10*	1512.86	3⁻	D(+Q)[a]		Mult.: (M1+E2) not adopted (see general disagreement comment).
		977.8[b]	71[&] *6*	1304.41	3⁺	D[a]		Mult.: (E1) not adopted (see general disagreement comment).
2488.9	(6)	206.7[be]	<26[&]	2282.1	(4)	(E2)[a]	0.1437	α(K)=0.1142 *16*; α(L)=0.0235 *4*; α(M)=0.00492 *7* α(N)=0.000990 *14*; α(O)=0.0001093 *16*
		717.7[b]	34[&] *5*	1771.33	5⁻	D(+Q)[a]		Mult.: (M1+E2) not adopted (see general disagreement comment).
		915.9[b]	100[&] *5*	1572.94	5⁺	D[a]		Mult.: (E1) not adopted (see general disagreement comment).

$^{140}_{54}Xe_{86}$-4

Adopted Levels, Gammas (continued)

γ(^{140}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	δ[#d]	α[c]	Comments
2588.86	9+	605.0 *3*	71[&] *6*	1983.33	8+	(M1+E2)		0.0062 *9*	α(K)=0.0053 *8*; α(L)=0.00070 *7*; α(M)=0.000141 *12* α(N)=2.9×10^{-5} *3*; α(O)=3.6×10^{-6} *4*
		634.50 *5*	100[&] *2*	1954.38	7+	E2[a]		0.00475	α(K)=0.00405 *6*; α(L)=0.000557 *8*; α(M)=0.0001135 *16* α(N)=2.33×10^{-5} *4*; α(O)=2.84×10^{-6} *4*
2590.59	10+	607.25 *5*	100	1983.33	8+	E2[a]		0.00532	α(K)=0.00453 *7*; α(L)=0.000629 *9*; α(M)=0.0001282 *18* α(N)=2.63×10^{-5} *4*; α(O)=3.19×10^{-6} *5*
2736.12	9−	479.55 *8*	30.8[&] *13*	2256.51	8+	(E1)[a]		0.00325	α(K)=0.00281 *4*; α(L)=0.000348 *5*; α(M)=7.02×10^{-5} *10* α(N)=1.447×10^{-5} *21*; α(O)=1.80×10^{-6} *3*
		551.64 *5*	100[&] *5*	2184.53	7−	[E2]		0.00686	α(K)=0.00583 *9*; α(L)=0.000826 *12*; α(M)=0.0001685 *24* α(N)=3.46×10^{-5} *5*; α(O)=4.17×10^{-6} *6*
		752.85 *8*	77[&] *2*	1983.33	8+	E1(+M2)	+0.007 *14*	1.20×10^{-3} *2*	α(K)=0.001041 *15*; α(L)=0.0001270 *19*; α(M)=2.56×10^{-5} *4* α(N)=5.28×10^{-6} *8*; α(O)=6.60×10^{-7} *10*
2775.07	(8)	286.4[e]	<8[&]	2488.9	(6)	(E2)[a]		0.0486	α(K)=0.0399 *6*; α(L)=0.00695 *10*; α(M)=0.001440 *21* α(N)=0.000292 *4*; α(O)=3.34×10^{-5} *5*
		820.67 *7*	100[&]	1954.38	7+	D(+Q)			Mult.,δ: contradictorily assigned in ^{252}Cf decay dataset as (M1+E2) with δ=+0.21 *11* or or +3.9 *15* (2017Na15), and (E1) (2016Hu10), neither of which being adopted here (see general disagreement comment).
2933.11		197.8 *2*	33[b] *11*	2736.12	9−				E_γ: poor fit (Eγ differs by ΔE(levels) by more than 4σ).
		949.70 *6*	100[b] *11*	1983.33	8+				
2965.63	10+	376.8 *2*	100[&] *7*	2588.86	9+	(M1)[a]		0.0226	α(K)=0.0195 *3*; α(L)=0.00249 *4*; α(M)=0.000505 *7* α(N)=0.0001045 *15*; α(O)=1.311×10^{-5} *19*
		709.40 *15*	<34[&]	2256.51	8+	(E2)[a]		0.00359	α(K)=0.00307 *5*; α(L)=0.000414 *6*; α(M)=8.41×10^{-5} *12* α(N)=1.731×10^{-5} *25*; α(O)=2.12×10^{-6} *3*
		981.9 *2*	<34[&]	1983.33	8+	E2[a]		1.69×10^{-3}	α(K)=0.001453 *21*; α(L)=0.000187 *3*; α(M)=3.78×10^{-5} *6* α(N)=7.80×10^{-6} *11*; α(O)=9.67×10^{-7} *14*
3159.61	(10)	384.45 *15*	20[&] *1*	2775.07	(8)	(E2)[a]		0.0193	α(K)=0.01613 *23*; α(L)=0.00252 *4*; α(M)=0.000518 *8* α(N)=0.0001057 *15*; α(O)=1.241×10^{-5} *18*
		570.6	100[&] *3*	2588.86	9+	D[a]			Mult.: (E1) not adopted (see general disagreement comment).
3246.41	11−	280.92 *21*	10[&] *1*	2965.63	10+	(E1)[a]		0.01235	α(K)=0.01067 *15*; α(L)=0.001345 *19*; α(M)=0.000271 *4* α(N)=5.58×10^{-5} *8*; α(O)=6.85×10^{-6} *10*
		313.3 *2*	10[&] *1*	2933.11					
		510.30 *6*	100[&] *3*	2736.12	9−	E2[a]		0.00848	α(K)=0.00719 *10*; α(L)=0.001037 *15*; α(M)=0.000212 *3* α(N)=4.34×10^{-5} *6*; α(O)=5.21×10^{-6} *8*
		655.3 *3*	<3[&]	2590.59	10+	(E1)[a]		1.61×10^{-3}	α(K)=0.001394 *20*; α(L)=0.0001708 *24*; α(M)=3.44×10^{-5} *5* α(N)=7.10×10^{-6} *10*; α(O)=8.86×10^{-7} *13*
3269.72	12+	679.11 *5*	100	2590.59	10+	E2[a]		0.00400	α(K)=0.00342 *5*; α(L)=0.000464 *7*; α(M)=9.44×10^{-5} *14* α(N)=1.94×10^{-5} *3*; α(O)=2.37×10^{-6} *4*

$^{140}_{54}Xe_{86}$-5

Adopted Levels, Gammas (continued)

γ(^{140}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[‡]	E_f	J_f^π	Mult.[#]	α[c]	Comments
3283.12	(11$^+$)	350.0 *4*	13[&] *6*	2933.11				
		692.6 *1*	81[&] *13*	2590.59	10$^+$	(M1+E2)[a]	0.0044 *7*	α(K)=0.0038 *6*; α(L)=0.00049 *6*; α(M)=0.000100 *11* α(N)=2.06×10^{-5} *23*; α(O)=2.6×10^{-6} *4*
		694.26 *6*	100[&] *13*	2588.86	9$^+$	(E2)[a]	0.00378	α(K)=0.00324 *5*; α(L)=0.000438 *7*; α(M)=8.91×10^{-5} *13* α(N)=1.83×10^{-5} *3*; α(O)=2.24×10^{-6} *4*
3704.3		738.7 *3*	100	2965.63	10$^+$			
3729.68	(12)	446.6 *1*	100[&] *9*	3283.12	(11$^+$)	D[a]		Mult.: (E1) not adopted (see general disagreement comment).
		569.9 *2*	57[&] *11*	3159.61	(10)	(E2)[a]	0.00629	α(K)=0.00535 *8*; α(L)=0.000752 *11*; α(M)=0.0001534 *22* α(N)=3.15×10^{-5} *5*; α(O)=3.80×10^{-6} *6*
3812.67	(13$^-$)	543.0 *3*	8[b] *4*	3269.72	12$^+$			
		566.25 *7*	100[&] *12*	3246.41	11$^-$	(E2)[a]	0.00639	α(K)=0.00544 *8*; α(L)=0.000766 *11*; α(M)=0.0001563 *22* α(N)=3.21×10^{-5} *5*; α(O)=3.87×10^{-6} *6*
3997.97	14$^+$	728.25 *6*	100	3269.72	12$^+$	E2[a]	0.00337	α(K)=0.00288 *4*; α(L)=0.000387 *6*; α(M)=7.86×10^{-5} *11* α(N)=1.617×10^{-5} *23*; α(O)=1.98×10^{-6} *3*
4125.67	(13$^+$)	842.6 *1*	100 *7*	3283.12	(11$^+$)	(E2)[a]	0.00238	α(K)=0.00205 *3*; α(L)=0.000268 *4*; α(M)=5.44×10^{-5} *8* α(N)=1.121×10^{-5} *16*; α(O)=1.382×10^{-6} *20*
		855.5 *3*	27 *4*	3269.72	12$^+$	(M1+E2)[a]	0.0027 *4*	α(K)=0.0023 *4*; α(L)=0.00029 *4*; α(M)=5.9×10^{-5} *8* α(N)=1.23×10^{-5} *15*; α(O)=1.54×10^{-6} *21*
4433.87	(15$^-$)	621.2 *1*	100	3812.67	(13$^-$)	(E2)[a]	0.00501	α(K)=0.00428 *6*; α(L)=0.000591 *9*; α(M)=0.0001203 *17* α(N)=2.47×10^{-5} *4*; α(O)=3.00×10^{-6} *5*
4744.57	(16$^+$)	746.6 *2*	100	3997.97	14$^+$	(E2)[a]	0.00317	α(K)=0.00272 *4*; α(L)=0.000363 *5*; α(M)=7.37×10^{-5} *11* α(N)=1.517×10^{-5} *22*; α(O)=1.86×10^{-6} *3*
5166.67	(17$^-$)	732.80 *8*	100	4433.87	(15$^-$)	(E2)[a]	0.00331	α(K)=0.00284 *4*; α(L)=0.000380 *6*; α(M)=7.73×10^{-5} *11* α(N)=1.591×10^{-5} *23*; α(O)=1.95×10^{-6} *3*
5504.8	(18$^+$)	760.22 *24*	100[&]	4744.57	(16$^+$)	(E2)	0.00303	α(K)=0.00260 *4*; α(L)=0.000346 *5*; α(M)=7.03×10^{-5} *10* α(N)=1.449×10^{-5} *21*; α(O)=1.778×10^{-6} *25*

[†] From ^{248}Cm decay unless noted otherwise.
[‡] From ^{140}I β^- decay unless noted otherwise.
[#] Unless noted otherwise, from ^{248}Cm decay from measured γγ(θ) (2016Ur01 and 2003Ur02) and polarization measurements (2003Ur02) combined with extra level scheme or theoretical arguments.
[@] From ^{140}I β^- decay.
[&] From ^{252}Cf SF decay.
[a] From ^{252}Cf SF decay from γγ(θ).
[b] From ^{248}Cm SF decay.
[c] Additional information 1.

$^{140}_{54}Xe_{86}$-6

Adopted Levels, Gammas (continued)

$\gamma(^{140}Xe)$ (continued)

[d] If No value given it was assumed δ=1.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[e] Placement of transition in the level scheme is uncertain.

$^{140}_{54}Xe_{86}$-7

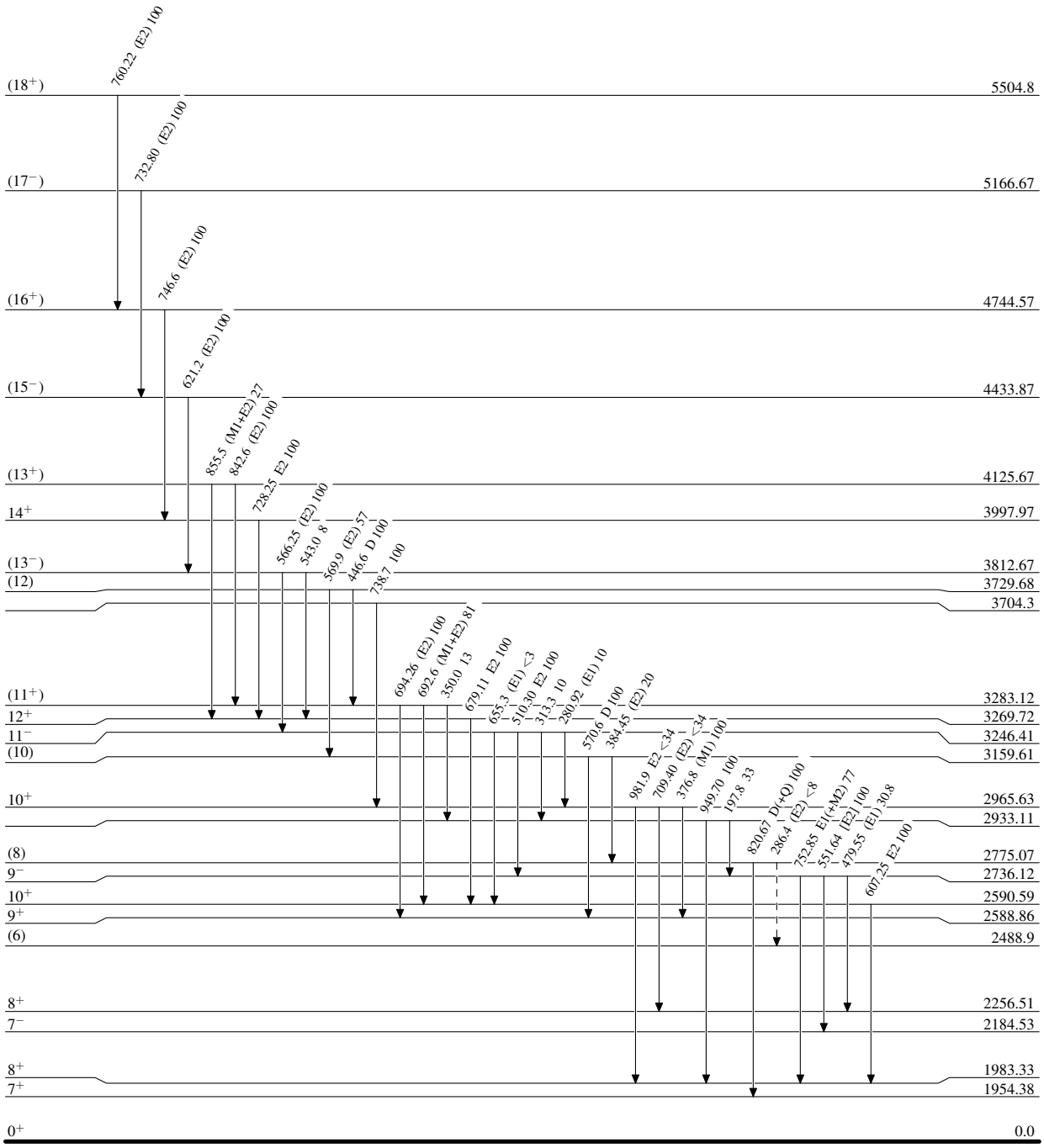
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{140}_{54}Xe_{86}$

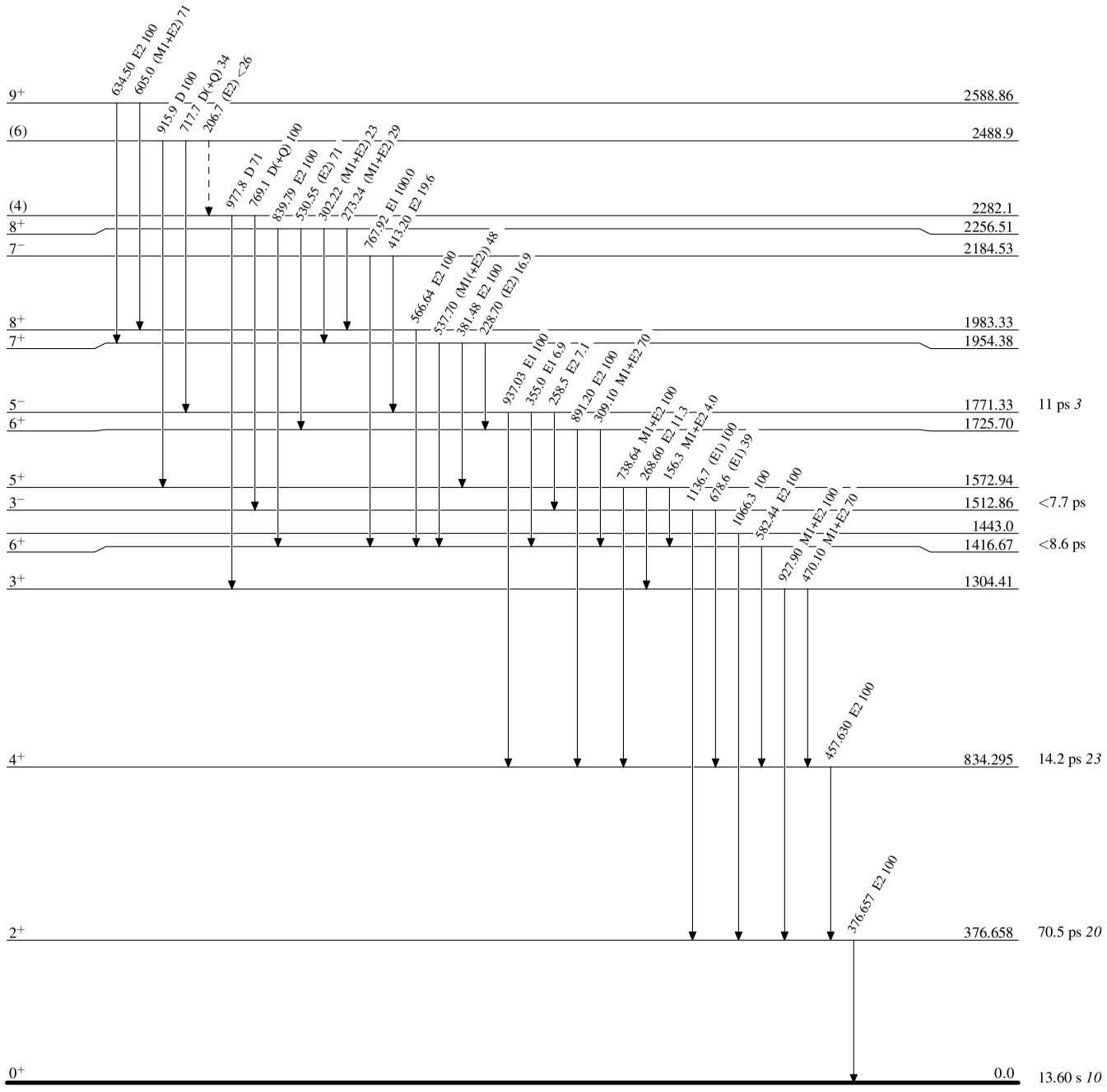
Adopted Levels, Gammas

Legend

Level Scheme (continued)

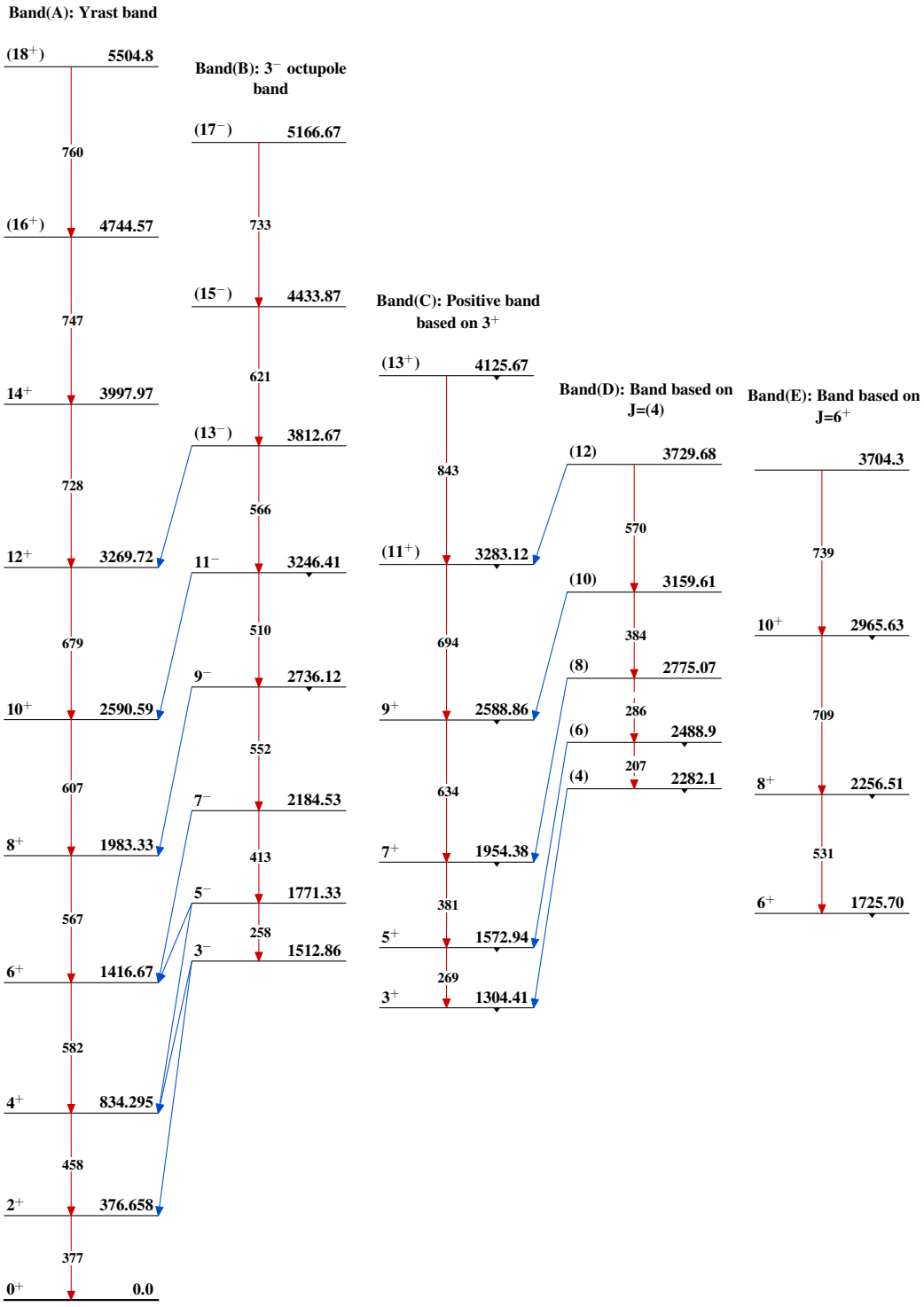
Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{140}_{54}Xe_{86}$

Adopted Levels, Gammas



$^{140}_{54}Xe_{86}$

Adopted Levels, Gammas

History			
Type	Author	Citation	Literature Cutoff Date
Full Evaluation	T. D. Johnson, D. Symochko(a), M. Fadil(b), and J. K. Tuli	NDS 112,1949 (2011)	1-Jun-2010

Q(β^-)=5288 *8*; S(n)=5104 *4*; S(p)=1.261×10^4 *syst*; Q(α)=−1958 *6* 2012Wa38
Note: Current evaluation has used the following Q record 5296 115104 4 *1.222e*$^+$413-1900 *120* 2011AuZZ.
Q(β^-n)=1179 *11*, Q(εp)=−2.12×10^4 *4* 2011AuZZ.
Values in 2003Au03: Q(β^-)=5040 *10*, S(n)=5220 *14*, S(p)=12250 *22* (syst.), Q(α)=−1970 *23* (syst.), Q(β^-n)=930 *10*, Q(εp)=−2.12×10^4 *4*.
Some recent theory, calculations: 2007Ji05, 2006Mo34, 1998Zh37, 1995Ba45, 1994Ma02, 1993Sh13, 1992Na07.

^{142}Xe Levels

Cross Reference (XREF) Flags

A ^{248}Cm SF decay
B Coulomb excitation

E(level)‡	Jπ†	$T_{1/2}$	XREF	Comments
0.0#	0$^+$	1.23 s *2*	AB	%β^-=100; %β^-n=0.21 *6* (2009Be05) %β^-n: Other: 0.406 *34* (1975As04). $T_{1/2}$: weighted average: 1.25 s *3* (2003Be05), 1.24 s *2* (1969Ca03), 1.18 s *4* (1967Co31), 1.15 s *4* (1965Pa14); others: 1974CrZT, 1971Kr22, 1969WiZX, 1960Wo03. For predictions on the features of delayed-neutron emission see 1982Ru01.
287.20# *20*	2$^+$	0.20 ns *3*	AB	μ=+0.84 *26* (2009Go09) $T_{1/2}$: Deduced by evaluators using B(E2)↑=0.69 *10* measured in Coulomb excitation (2007Kr19). Other: 0.34 ns *+12−7* reported for 205γ from ^{254}Cf SF decay and tentatively assigned to 2$^+$ level in ^{142}Xe (1980ChZM); however, 205γ in ^{142}Xe was not seen in any other work.
690.7# *3*	(4$^+$)		A	Jπ: possible band member and systematics.
1181.1# *4*	(6$^+$)		A	Jπ: possible band member and systematics.
1258.5@ *11*	(3$^-$)		A	Jπ: possible band member.
1516.3@ *11*	(5$^-$)		A	Jπ: possible band member.
1622.4 *5*			A	
1732.2# *4*	(8$^+$)		A	Jπ: possible band member and systematics.
1864.5 *8*			A	
1888.3@ *9*	(7$^-$)		A	Jπ: ΔJ=1 to 6$^+$; band assignment.
1981.2 *6*			A	
2211.7 *7*			A	
2342.6# *5*	(10$^+$)		A	Jπ: possible band member and systematics.
2351.2@ *7*	(9$^-$)		A	Jπ: E1 to (8$^+$); band assignment.
2605.3 *6*			A	
2805.9& *9*			A	
2891.7@ *9*	(11$^-$)		A	Jπ: stretched quadrupole to (9$^-$); band assignment.
3014.3# *7*	(12$^+$)		A	
3210.4& *14*			A	
3496.2@ *14*	(13$^-$)		A	Jπ: Band assignment.
3739.7# *12*	(14$^+$)		A	
3764.3& *17*			A	
4511.2# *16*	(16$^+$)		A	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{142}Xe Levels (continued)

† From $\gamma\gamma$ angular correlations (consistent with stretched E2), linear polarization and systematics of collective bands in neighboring even-even nuclei, except where noted.
‡ From least-squares fit to Eγ.
# Band(A): g.s. band.
@ Band(B): octupole band.
& Band(C): possible rotational band.

$\gamma(^{142}Xe)$

All data are from ^{248}Cm SF decay.

E$_i$(level)	J$_i^\pi$	E$_\gamma$	I$_\gamma$	E$_f$	J$_f^\pi$	Mult.	α†	Comments
287.20	2^+	287.2 *2*	100	0.0	0^+			
690.7	(4^+)	403.5 *2*	100	287.20	2^+			
1181.1	(6^+)	490.4 *2*	100	690.7	(4^+)			
1258.5	(3^-)	971.3	100	287.20	2^+			
1516.3	(5^-)	825.6	100	690.7	(4^+)			
1622.4		441.1		1181.1	(6^+)			
		931.7 *5*		690.7	(4^+)			
1732.2	(8^+)	551.1 *2*	100	1181.1	(6^+)			
1864.5		683.4	100	1181.1	(6^+)			
1888.3	(7^-)	372‡		1516.3	(5^-)			
		707.2		1181.1	(6^+)	D		
1981.2		116.7	28 *3*	1864.5				
		358.9	38 *3*	1622.4				
		800.1 *5*	100 *5*	1181.1	(6^+)			
2211.7		230.4		1981.2				
		347.2		1864.5				
		479.5		1732.2	(8^+)			
2342.6	(10^+)	610.4 *2*	100	1732.2	(8^+)			
2351.2	(9^-)	462.9	19 *2*	1888.3	(7^-)			
		618.9	100 *1*	1732.2	(8^+)	E1	0.00182 *3*	α(K)=0.001577 *22*; α(L)=0.000194 *3*; α(M)=3.90×10^{-5} *6*; α(N+..)=9.06×10^{-6} *13* α(N)=8.06×10^{-6} *12*; α(O)=1.004×10^{-6} *14*
2605.3		254.0	22 *6*	2351.2	(9^-)			
		393.4	32 *6*	2211.7				
		873.1 *5*	100 *8*	1732.2	(8^+)			
2805.9		200.6		2605.3				
		454.8		2351.2	(9^-)			
2891.7	(11^-)	540.5		2351.2	(9^-)	(E2)	0.00725 *11*	α(K)=0.00615 *9*; α(L)=0.000876 *13*; α(M)=0.000179 *3*; α(N+..)=4.11×10^{-5} *6* α(N)=3.67×10^{-5} *6*; α(O)=4.42×10^{-6} *7*
		549.1		2342.6	(10^+)			
3014.3	(12^+)	671.7 *5*	100	2342.6	(10^+)			
3210.4		404.5	100	2805.9				
3496.2	(13^-)	481.6‡		3014.3	(12^+)			
		604.5		2891.7	(11^-)			
3739.7	(14^+)	725.4	100	3014.3	(12^+)			
3764.3		553.9		3210.4				
4511.2	(16^+)	771.5		3739.7	(14^+)			

† Additional information 1.
‡ Placement of transition in the level scheme is uncertain.

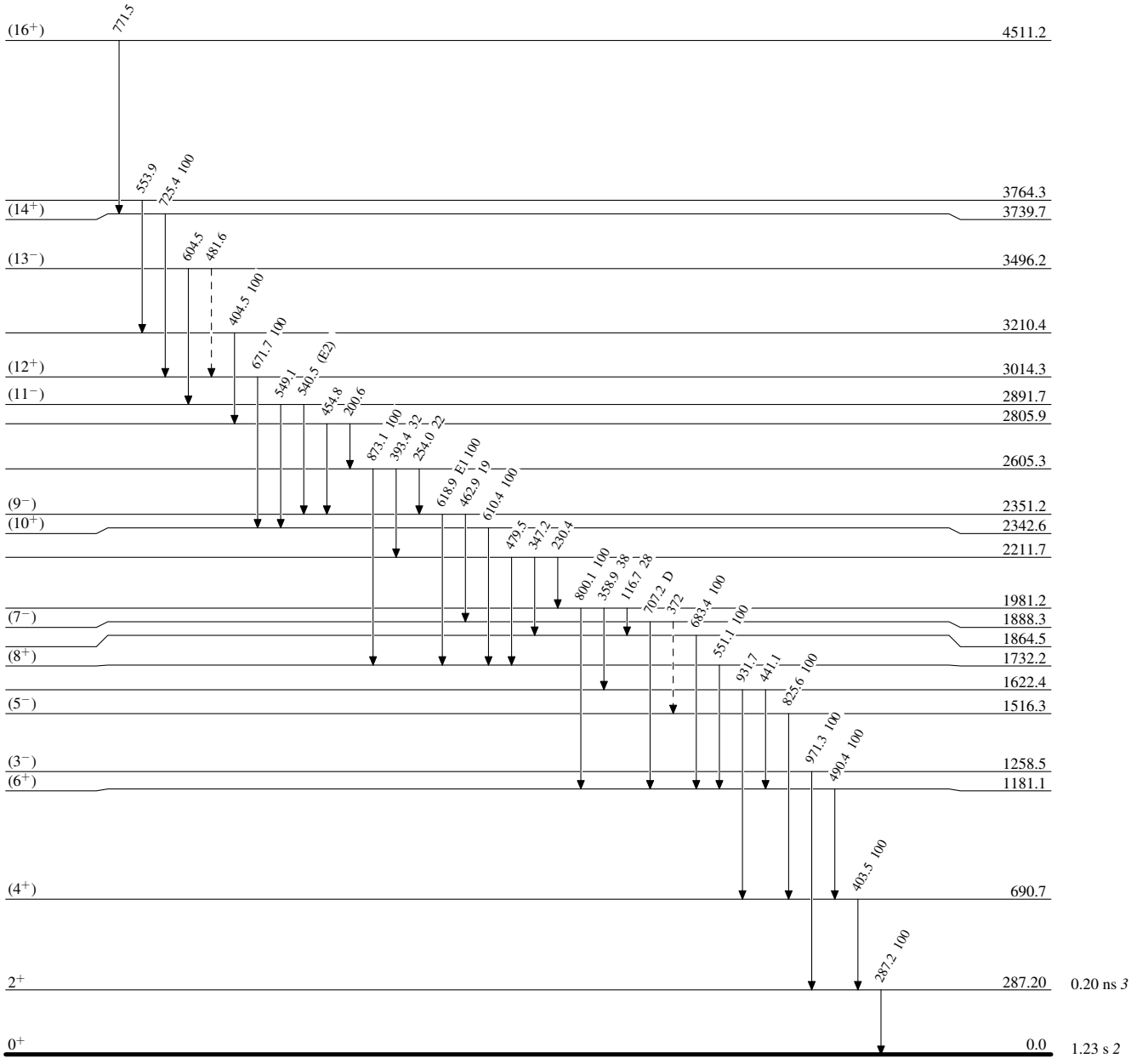
Adopted Levels, Gammas

Legend

Level Scheme

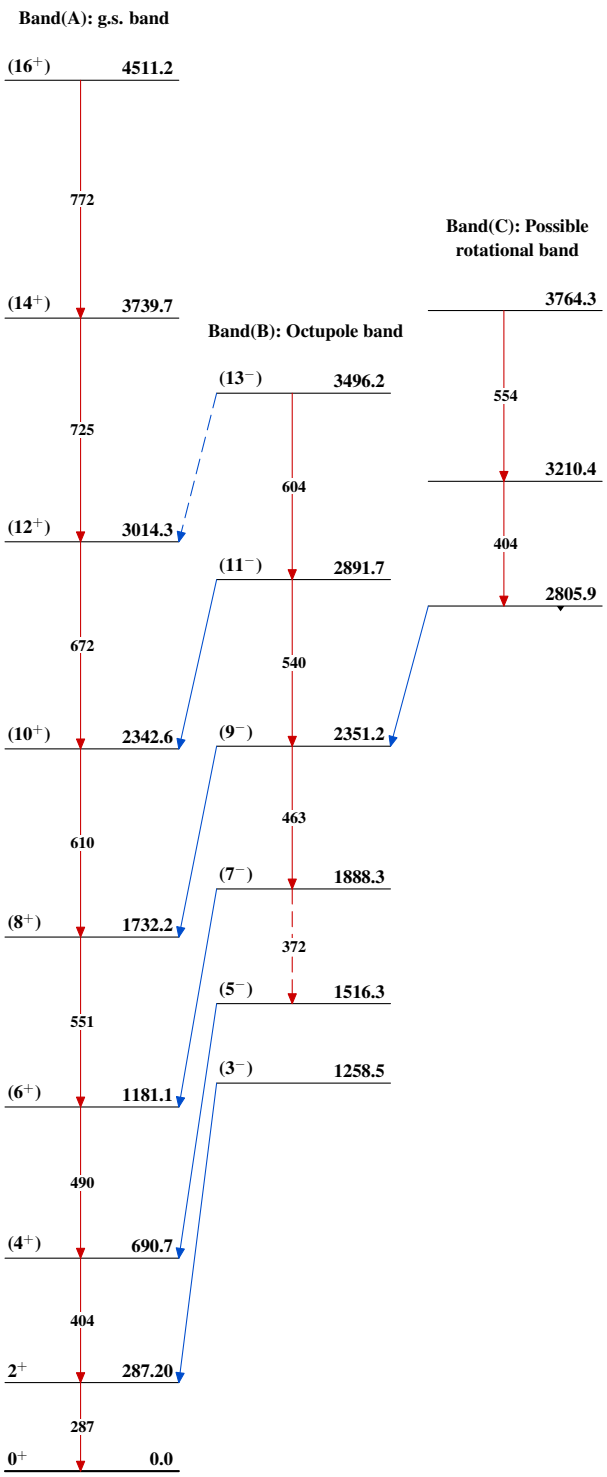
Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)



$^{142}_{54}Xe_{88}$

Adopted Levels, Gammas



$^{142}_{54}Xe_{88}$