Adopted Levels, Gammas

History

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

Q(β^-)=−8284 *16*; S(n)=11449 *16*; S(p)=5.70×10^3 *3*; Q(α)=6.7×10^2 *3* 2012Wa38
Note: Current evaluation has used the following Q record −7942 4511.24E3 13 *5453* 771051 102 1995Au04.

^{120}Xe Levels

Cross Reference (XREF) Flags

A ^{120}Cs ε decay (64 s+57 s)
B (HI,xnγ)

E(level)[d]	J$^\pi$[e]	T$_{1/2}$[f]	XREF	Comments
0.0[b]	0$^+$	40 min *1*	AB	%ε+%β^+=100 T$_{1/2}$: from 1965An05. Others: 43 min *3* (1965Bu03), 39.5 min *20* (1974Mu10).
322.61[b] *4*	2$^+$	45.7 ps *20*	AB	J$^\pi$: E2 γ to 0$^+$. T$_{1/2}$: value from weighted av of 52.0 ps *49* (from A. Dewald as quoted by 1995Wa25), 44.4 ps *35* (1995Wa25), and 44.4 ps *28* (1996Ma16); these values are based on RDM, except for 1995Wa25 ($\gamma\gamma$(t) in ^{120}Cs ε decay). Others: 86 ps *10* (1972Ku14), 84 ps *8* (1980KaZT), and 84 ps *18* (1985ChZY); these values based on RDM are in error due to an incorrect treatment of side feeding (1995Wa25).
796.16[b] *4*	4$^+$	5.8 ps *4*	AB	J$^\pi$: E2 γ to 2$^+$. T$_{1/2}$: based on RDM in (HI,xnγ). Value from weighted av of 6.1 ps *12* (1972Ku14), 6.0 ps *6* (from A. Dewald as quoted by 1995Wa25), and 5.6 ps (1995Wa25). Other: 7.6 ps *9* (1980KaZT).
876.10[a] *4*	2$^+$		AB	J$^\pi$: E2 γ to 0$^+$.
908.70[c] *5*	0$^+$	<6.2 ps	A	J$^\pi$: E0 transition to 0$^+$. T$_{1/2}$: from $\gamma\gamma$(t) in ^{120}Cs ε decay (1996Ma16).
1271.70[a] *4*	3$^+$		AB	J$^\pi$: stretched D to 2$^+$, M2(+M1) γ to 2$^+$, γ to 4$^+$.
1274.43[c] *4*	(2)$^+$		A	J$^\pi$: (E2) γ to 0$^+$, M1,E2 γ to π=+.
1397.33[b] *6*	6$^+$	1.73 ps *25*	AB	J$^\pi$: E2 γ to 4$^+$. T$_{1/2}$: based on RDM, value is from 1995Wa25. Others: <3.5 ps (1972Ku14), 2.1 ps *7* (1980KaZT), and 1.0 to 2.0 ps (from A. Dewald as quoted by 1995Wa25), 1.42 ps *+45−28* (2000Pa63).
1401.34[a] *5*	4$^+$		AB	J$^\pi$: E2 γ to 2$^+$, γ to 4$^+$.
1623.25 *5*	0$^+$	83 ps *28*	A	J$^\pi$: E0 transition to 0$^+$. T$_{1/2}$: from 1996Ma16 based on RDM. Other: 600 ns *21* from (β)(ce)(t) (1992Bh02).
1711.75[c] *5*	(4)$^+$		A	J$^\pi$: M1+E2+E0 γ to 4$^+$, γ to 6$^+$, (E2) γ to (2)$^+$.
1725.40 *5*	2$^+$	0.6 ns *5*	A	J$^\pi$: M1+E2+E0 γ to 2$^+$. T$_{1/2}$: from (β)(ce)(t) (1992Bh02).
1745.31 *7*	$^+$		A	J$^\pi$: M1,E2 γ to π=+.
1767.54 *6*	(2$^+$,3,4$^+$)		A	J$^\pi$: γ's to 2$^+$ and 4$^+$.
1816.98[a] *5*	(5)$^+$		AB	J$^\pi$: M1,E2 γ to 4$^+$, γ to 6$^+$.
1924.11 *8*	2$^+$		A	J$^\pi$: γ to 4$^+$, γ from 0$^+$.
1941.31 *6*	2$^+$		A	J$^\pi$: γ's to 0$^+$ and 4$^+$, M1,E2 γ to (3)$^+$.
1982.49 *11*	(1,2$^+$)		A	J$^\pi$: γ's to 0$^+$ and 2$^+$.
1985.63[a] *6*	6$^+$		AB	J$^\pi$: M1,E2 γ to 4$^+$, E2 γ to 4$^+$.
1995.07 *6*	2		A	J$^\pi$: γ's to 0$^+$ and 4$^+$.
2050.56 *7*	(2$^+$,3,4$^+$)		A	J$^\pi$: γ's to 2$^+$ and 4$^+$.
2071.99 *6*	4$^+$		A	J$^\pi$: E2(+M1) γ to 3$^+$, γ's to 2$^+$ and 6$^+$.

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Adopted Levels, Gammas (continued)

^{120}Xe Levels (continued)

E(level)[d]	Jπ[e]	$T_{1/2}$[f]	XREF	Comments
2072.7 *8*			B	
2099.20[b] *8*	8^+	0.97 ps *17*	AB	Jπ: E2 γ to 6^+. $T_{1/2}$: weighted av of 0.91 ps *17* from DSA (2000Pa63) and 1.3 ps *4* from RDM (1987Ha17), in (HI,xnγ). Others: <1.4 ps (1980KaZT), <1.80 ps *21* (1995Wa25).
2165.16 *6*	$(2^+,3,4^+)$		A	Jπ: γ′s to 2^+ and 4^+.
2186.80 *6*	(2,3,4)		A	Jπ: γ′s to 2^+ and $(4)^+$.
2236.65 *15*	0^+		A	Jπ: E0 transition to 0^+ g.s.
2242.13 *7*			A	
2272.68 *7*	$(4^-,5^-)$		A	Jπ: (E1) γ to $(4)^+$, γ to $(5)^+$.
2295.10 *9*			A	
2402.12 *6*	$(1,2)^+$		A	Jπ: γ to 0^+; M1,E2 γ to $(3)^+$.
2411.0 *10*	0^+		A	Jπ: E0 transition to 0^+ g.s.
2448.42 *9*	$(3,4)^+$		A	Jπ: M1,E2 γ to $(5)^+$; γ to $(2)^+$.
2460.88[a] *8*	7^+	0.62 ps *+35−14*	AB	Jπ: E2 γ to 5^+.
2495.2[‡] *6*	(7^-)		B	Jπ: D γ to 6^+.
2536.07 *9*			A	
2544.8[#] *7*	(6^-)		AB	Jπ: D γ to 6^+.
2637.59 *11*	$(1,2^+)$		A	Jπ: γ′s to 0^+ and 2^+.
2653.83[a] *12*	(8^+)		AB	Jπ: γ to 6^+.
2669.5 *8*			B	
2682.12 *8*			A	
2721.89 *8*	$(3,4,5)^+$		A	Jπ: γ′s to $(3)^+$ and $(5)^+$, M1,E2 γ to $(4,5)^+$.
2727.34 *8*	$(4^+,5,6^+)$		A	Jπ: γ′s to 4^+ and 6^+.
2728.5 *5*	(6^-)		B	Jπ: D γ to $(5)^+$, γ′s to (6^-) and (6^+).
2812.68 *8*	(4)		A	Jπ: γ′s to $(2)^+$ and (6^+).
2830.20 *10*	7^-		AB	Jπ: D γ to 6^+, γ to 8^+.
2830.95 *16*			A	
2853.98[h] *6*			A	
2872.70[b] *13*	10^+	0.63 ps *10*	B	Jπ: E2 γ to 8^+. $T_{1/2}$: other: 0.70 ps *35* based on RDM (1987Ha17).
2912.1 *8*			B	
2930.0[g] *5*	(7^-)		AB	Jπ: D γ to 6^+.
2966.77 *11*			A	
2966.84[†] *13*	(8^-)		B	Jπ: D γ to 7^+, γ to (6^-).
2970.80[‡] *13*	(9^-)		B	Jπ: D γ to 8^+, γ to (7^-).
3003.4[#] *6*	(8^-)		B	Jπ: Q γ to (6^-), γ to 8^+.
3075.7[g] *6*	(8^-)		B	Jπ: γ′s to 7^- and (8^-).
3149.32[†] *13*	(9^-)		B	Jπ: Q γ to (8^-), γ to 7^-.
3149.5 *10*			A	
3174.11[a] *13*	9^+	0.52 ps *7*	B	Jπ: E2 γ to 7^+, γ to 8^+.
3280.7[g] *8*	(9^-)		B	Jπ: γ to (9^-).
3326.43[@] *16*	(10^+)		B	Jπ: γ to (8^+).
3357.21 *7*	(2^+)		A	Jπ: γ′s to 0^+ and 4^+.
3383.34[†] *15*	(10^-)		B	Jπ: γ′s to (8^-) and (9^-).
3470.91 *10*	(2^+)		A	Jπ: γ′s to 0^+ and 4^+.
3535.4[#] *8*	(10^-)		B	Jπ: γ′s to (8^-) and (9^-).
3575.3[g] *9*	(10^-)		B	Jπ: Q γ to (10^-).
3591.69[‡] *16*	(11^-)		B	Jπ: Q γ to (9^-) and D γ to 10^+.
3648.44[†] *15*	(11^-)		B	Jπ: Q γ to (9^-) and γ to (10^-).
3676.51[b] *16*	12^+	0.58 ps *9*	B	Jπ: E2 γ to 10^+.
3802.62 *7*	(2^+)		A	γ′s to 0^+ and 4^+.

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Adopted Levels, Gammas (continued)

^{120}Xe Levels (continued)

E(level)[d]	Jπ[e]	$T_{1/2}$[f]	XREF	Comments
3852.4[g] *11*	(11⁻)		B	Jπ: Q γ to (11⁻).
3918.7[@] *6*	12⁺	1.2 ps *+10–3*	B	Jπ: E2 γ to 10⁺, D γ to 11⁺.
3933.9[a] *10*	(11⁺)	0.55 ps *+21–14*	B	Jπ: E2 γ to (9⁺).
3956.55[†] *18*	(12⁻)		B	Jπ: Q γ to (10⁻), D γ to (11⁻).
4157.8[&] *8*	(12⁺)	0.58 ps *+14–10*	B	Jπ: γ to 10⁺, D γ to 12⁺.
4167.5[#] *13*	(12⁻)		B	Jπ: Q γ to (10⁻), γ to (11⁻).
4212.5[g] *9*	(12⁻)		B	Jπ: γ′s to (12⁻) and (11⁻).
4292.66[†] *19*	(13⁻)		B	Jπ: γ′s to (10⁻) and (11⁻).
4306.3[‡] *6*	(13⁻)		B	Jπ: Q γ to (11⁻), γ to (11⁻).
4313.12 *9*	(2⁺)		A	Jπ: γ′s to 0⁺ and 4⁺.
4458.92[b] *19*	14⁺	0.69 ps *10*	B	Jπ: E2 γ to 12⁺.
4557.7[g] *11*	(13⁻)		B	Jπ: γ′s to (11⁻) and (13⁻).
4608.4[@] *7*	(14⁺)	1.1 ps *+5–3*	B	Jπ: γ to 12⁺, D γ to 14⁺.
4664.45[†] *19*	(14⁻)		B	Jπ: Q γ to (12⁻), D γ to (13⁻).
4695.9[a] *15*	(13⁺)	0.87 ps *+22–17*	B	Jπ: γ to (11⁺).
4846.8[&] *7*	(14⁺)	0.21 ps *3*	B	Jπ: γ′s to 12⁺ and 14⁺.
4888.5[#] *17*	(14⁻)		B	Jπ: Q γ to (12⁻).
4938.5[g] *11*	(14⁻)		B	Jπ: γ′s to (12⁻) and (14⁻).
5059.1[†] *7*	(15⁻)		B	Jπ: Q γ to (13⁻), D γ to (14⁻).
5085.2[‡] *6*	(15⁻)		B	Jπ: Q γ to (13⁻), γ to (13⁻).
5232.3[b] *9*	16⁺	0.48 ps *+15–8*	B	Jπ: E2 γ to 14⁺.
5405.9[@] *12*	(16⁺)	0.45 ps *+19–9*	B	Jπ: E2 γ to (14⁺).
5479.7[†] *8*	(16⁻)		B	Jπ: Q γ to (14⁻), D γ to (15⁻).
5636.9[&] *8*	(16⁺)	0.49 ps *+21–7*	B	Jπ: E2 γ′s to 14⁺ and (14⁺).
5691.8[#] *19*	(16⁻)		B	Jπ: Q γ to (14⁻).
5919.9[†] *9*	(17⁻)		B	Jπ: Q γ to (15⁻), D γ to (16⁻).
5928.9[‡] *6*	(17⁻)		B	Jπ: Q γ to (15⁻).
6051.0[b] *14*	18⁺	0.26 ps *4*	B	Jπ: E2 γ to 16⁺.
6339.0[@] *16*	(18⁺)	0.22 ps *5*	B	Jπ: E2 γ to (15⁺).
6382.5[†] *10*	(18⁻)		B	Jπ: Q γ to (16⁻), D γ to (17⁻).
6457.1[&] *10*	(18⁺)	0.22 ps *+9–5*	B	Jπ: γ′s to (16⁺) and 16⁺.
6574.5[#] *22*	(18⁻)		B	Jπ: Q γ to (16⁻).
6833.5[‡] *12*	(19⁻)		B	Jπ: Q γ to (17⁻).
6862.6[†] *12*	(19⁻)		B	Jπ: γ′s to (18⁻) and (17⁻).
6955.4[b] *17*	20⁺	0.12 ps *3*	B	Jπ: E2 γ to 18⁺.
7320.0[@] *19*	(20⁺)	0.12 ps *4*	B	Jπ: γ to (18⁺).
7363.7?[†] *9*	(20⁻)		B	Jπ: γ to (18⁻), D γ to (19⁻).
7427.5? *14*	(20⁺)		B	Jπ: γ to (18⁺).
7511.8[#] *24*	(20⁻)		B	Jπ: γ to (18⁻).
7798.5[‡] *16*	(21⁻)		B	Jπ: Q γ to (19⁻).
7877.7?[†] *12*	(21⁻)		B	Jπ: γ to (19⁻).
7955.1[b] *20*	22⁺	0.09 ps *4*	B	Jπ: E2 γ to 20⁺.
8467[#] *3*	(22⁻)		B	Jπ: Q γ to (20⁻).
8810.2[‡] *19*	(23⁻)		B	Jπ: γ to (21⁻).
9051.1[b] *22*	(24⁺)		B	Jπ: Q γ to 22⁺.
9483[#] *3*	(24⁻)		B	Jπ: γ to (22⁻).

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Adopted Levels, Gammas (continued)

^{120}Xe Levels (continued)

E(level)[d]	J$^{\pi}$[e]	XREF	Comments
9875.2‡ *21*	(25$^-$)	B	J$^{\pi}$: γ to (23$^-$).
10241.1[b] *24*	(26$^+$)	B	J$^{\pi}$: γ to (24$^+$).
10643.1?# *21*	(26$^-$)	B	J$^{\pi}$: γ to (24$^-$).
11002.2‡ *24*	(27$^-$)	B	J$^{\pi}$: γ to (25$^-$).
11524[b] *3*	(28$^+$)	B	J$^{\pi}$: γ to (26$^+$).
12150.4?‡ *20*	(29$^-$)	B	J$^{\pi}$: γ to (27$^-$).

† Band(A): π=− band built on the 2728-keV (6$^-$) state.
‡ Band(B): π=− yrast band.
# Band(C): π=− band built on the 2545-keV (6$^-$) state.
@ Band(D): π=+ band built on the 3327−keV (10$^+$) state.
& Band(E): π=+ band built on the 4158−keV (12$^+$) state.
[a] Band(F): quasi-γ band.
[b] Band(G): π=+ yrast band.
[c] Band(H): quasi-β band.
[d] From a least-squares fit to the adopted E(γ's) by the evaluators.
[e] For band members, from syst of rotational bands in even Xe isotopes and from B(E2)(W.u.) for deexciting γ's in addition to the arguments given.
[f] From DSA measurement in (HI,xnγ) (2000Pa63), unless otherwise noted.
[g] Proposed as a member of a band built on the 2931-keV state, but intraband transitions of this band are not well established.
[h] Possible doublet (1990MaYX).

Adopted Levels, Gammas (continued)

γ(^{120}Xe)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	δ[f]	Comments
322.61	2^+	322.56[@] *5*	100	0.0	0^+	E2		B(E2)(W.u.)=101 *5*
796.16	4^+	473.44[@] *5*	100	322.61	2^+	E2		B(E2)(W.u.)=117 *8*
876.10	2^+	553.45[@] *8*	100[a] *4*	322.61	2^+	M1,E2		Mult.: from α(K)exp in ε decay, but D from DCO in (HI,xnγ).
		876.09[@] *5*	39[a] *3*	0.0	0^+	E2		
908.70	0^+	586.1[#] *1*	[#]	322.61	2^+	E2		
		908.7[#]	[#]	0.0	0^+	E0		
1271.70	3^+	395.54[@] *5*	31.1[&] *20*	876.10	2^+	D		Mult.: from DCO value in (HI,xnγ), but E2(+M1) in ^{120}Cs ε decay.
		475.46[‡] *7*	17.8 *20*	796.16	4^+			I_γ: weighted av from 1990MaYX and 1977Ge03.
		949.11[@] *7*	100[&] *8*	322.61	2^+	E2(+M1)		
1274.43	$(2)^+$	365.69[#] *7*	17.4[#] *15*	908.70	0^+	(E2)		
		398.23[#] *7*	9.3[#] *9*	876.10	2^+	M1,E2		
		478.30[#] *7*	20.3[#] *15*	796.16	4^+	E2		
		951.93[#] *7*	30[#] *3*	322.61	2^+	(E2+E0)		
		1274.52[#] *8*	100[#] *9*	0.0	0^+	(E2)		
1397.33	6^+	601.20[@] *8*	100	796.16	4^+	E2		B(E2)(W.u.)=118 *18* E_γ: doublet in (HI,xnγ).
1401.34	4^+	525.24[@] *10*	78[&] *3*	876.10	2^+	E2		
		605.27[@] *12*	100[&] *4*	796.16	4^+	M1,E2		
		1078.71[‡] *9*	5.8[b] *5*	322.61	2^+			
1623.25	0^+	348.78[#] *7*	89[#] *8*	1274.43	$(2)^+$	E2		B(E2)(W.u.)=14 *5* Mult.: α(K)exp from 1977Ge03 suggests M2 but RUL excludes mult M2, E3 and higher.
		714.6[#]	[#]	908.70	0^+	E0		
		747.24[#] *7*	100[#] *10*	876.10	2^+	(E2)		
		1300.75[#] *9*	56[#] *5*	322.61	2^+			
		1623.3[#]	[#]	0.0	0^+	E0		
1711.75	$(4)^+$	314.2[#] *3*	1.4[#] *5*	1397.33	6^+			
		437.13[#] *7*	37[#] *3*	1274.43	$(2)^+$	(E2)		
		439.6[#] *2*	5.2[#] *14*	1271.70	3^+			
		915.2[#] *1*	9.1[#] *10*	796.16	4^+	M1+E2+E0		
		1389.23[#] *7*	100[#] *10*	322.61	2^+			
1725.40	2^+	451.14[#] *7*	100[#] *10*	1274.43	$(2)^+$	M1,E2		
		453.55[#] *8*	52[#] *5*	1271.70	3^+	M1+E2	4.2 *38*	B(M1)(W.u.)=4.E−6 *+8−4*; B(E2)(W.u.)=0.26 *22*

$^{120}_{54}Xe_{66}$-5

Adopted Levels, Gammas (continued)

$\gamma(^{120}Xe)$ (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	Comments
1725.40	2^+	816.75[#] *8*	16.5[#] *15*	908.70	0^+	(E2)	
		849.37[#] *7*	35[#] *3*	876.10	2^+	M1+E2+E0	
		1402.76[#] *8*	60[#] *5*	322.61	2^+	M1+E2+E0	
1745.31	$^+$	869.31[#] *8*	64[#] *6*	876.10	2^+	M1,E2	
		1422.65[#] *8*	100[#] *9*	322.61	2^+		
1767.54	$(2^+,3,4^+)$	971.3[#] *1*	12.4[#] *8*	796.16	4^+		
		1444.97[#] *7*	100[#] *8*	322.61	2^+		
1816.98	$(5)^+$	415.60[#] *9*	19.2[#] *23*	1401.34	4^+	M1,E2	E_γ,I_γ: other: Eγ=417, Iγ<12 in (HI,xnγ).
		419.52[#] *9*	10.0[#] *8*	1397.33	6^+		
		545.28[@] *9*	100[&] *3*	1271.70	3^+	(E2)	
		1020.93[@] *6*	80[&] *5*	796.16	4^+	(E2)	
1924.11	2^+	649.84[#] *9*	100[#] *10*	1274.43	$(2)^+$		
		1015.3[#] *1*	57[#] *5*	908.70	0^+		
		1047.4[#h] *1*	81[#] *10*	876.10	2^+		
		1127.4[#] *3*	<28[#]	796.16	4^+		
1941.31	2^+	667.53[#h] *7*	17[#] *3*	1274.43	$(2)^+$	M1,E2	
		669.50[#] *8*	54[#] *4*	1271.70	3^+	M1,E2	
		1032.6[#] *1*	15.3[#] *14*	908.70	0^+		
		1065.10[#] *8*	100[#] *10*	876.10	2^+		
		1145.0[#] *2*	8.8[#] *13*	796.16	4^+		
		1619.1[#] *2*	31[#] *3*	322.61	2^+		
		1941.3[#] *8*	8.3[#] *14*	0.0	0^+		
1982.49	$(1,2^+)$	1105.6[#] *5*	1.7[#] *6*	876.10	2^+		
		1659.9[#] *1*	31[#] *5*	322.61	2^+		
		1981.6[#h] *1*	100[#] *7*	0.0	0^+		
1985.63	6^+	273.67[#] *7*	19.2[#] *6*	1711.75	$(4)^+$	(E2)	I_γ: weighted av from 1990MaYX and 1977Ge03.
		584.5[@] *1*	100[&] *4*	1401.34	4^+	E2	
		588.53[@] *12*	40[c] *14*	1397.33	6^+	M1,E2	
		1190.2[#] *4*	1.4[#] *5*	796.16	4^+		
1995.07	2	371.9[#] *1*	1.8[#] *3*	1623.25	0^+		
		723.1[#] *2*	2.1[#] *3*	1271.70	3^+		
		1086.4[#] *1*	<13[#]	908.70	0^+		

$^{120}_{54}Xe_{66}$-6

Adopted Levels, Gammas (continued)

γ(^{120}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	Comments
1995.07	2	1119.0[#] *1*	9.5[#] *11*	876.10	2^+		
		1199.6[#] *3*	2.5[#] *5*	796.16	4^+		
		1672.3[#] *1*	100[#] *11*	322.61	2^+		
		1995.0[#] *2*	19.0[#] *16*	0.0	0^+		
2050.56	$(2^+,3,4^+)$	109.10[#] *9*	3.6[#] *4*	1941.31	2^+		
		776.5[#] *2*	4.1[#] *6*	1274.43	$(2)^+$		
		779.5[g‡h] *1*	<12[g]	1271.70	3^+		
		1175.6[#] *3*	<17[#]	876.10	2^+		
		1254.1[#] *1*	15.0[#] *19*	796.16	4^+		
		1728.2[#] *1*	100[#] *6*	322.61	2^+		
2071.99	4^+	346.6[#] *1*	13.0[#] *10*	1725.40	2^+		
		674.8[#] *2*	7.0[#] *10*	1397.33	6^+		
		800.40[#] *9*	48[#] *4*	1271.70	3^+	E2(+M1)	
		1195.80[#] *9*	47[#] *4*	876.10	2^+		
		1276.3[#] *2*	100[#] *20*	796.16	4^+		
		1748.9[#] *2*	35[#] *3*	322.61	2^+		
2072.7		1276.9		796.16	4^+		E_γ: a composite peak.
2099.20	8^+	701.86[@] *5*	100	1397.33	6^+	E2	B(E2)(W.u.)=97 *17*
2165.16	$(2^+,3,4^+)$	440.4[#] *3*	14[#] *6*	1725.40	2^+		
		891.1[#] *2*	10.4[#] *16*	1274.43	$(2)^+$		
		893.4[#] *1*	15.7[#] *20*	1271.70	3^+		
		1289.0[#] *2*	21.6[#] *20*	876.10	2^+		
		1369.07[#] *8*	100[#] *8*	796.16	4^+		
		1842.2[#] *1*	80[#] *6*	322.61	2^+		
2186.80	(2,3,4)	245.7[#] *6*	1.8[#] *11*	1941.31	2^+		
		785.6[#] *1*	26.7[#] *22*	1401.34	4^+		
		912.2[#] *1*	31.1[#] *22*	1274.43	$(2)^+$		
		1310.82[#] *9*	71[#] *7*	876.10	2^+		
		1864.1[#] *1*	100[#] *7*	322.61	2^+		
2236.65	0^+	312.7[#] *2*	100[#]	1924.11	2^+		
		613.2[#]	[#]	1623.25	0^+	E0	
		2236[#]	[#]	0.0	0^+	E0	
2242.13		968.0[#] *2*	21.3[#] *13*	1274.43	$(2)^+$		

$^{120}_{54}Xe_{66}$-7

Adopted Levels, Gammas (continued)

γ(^{120}Xe) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.[e]	Comments
2242.13		1366.0# *1*	93# *9*	876.10	2^+		
		1919.4# *1*	100# *7*	322.61	2^+		
2272.68	$(4^-,5^-)$	455.9# *3*	5.3# *11*	1816.98	$(5)^+$		
		560.87# *7*	100# *10*	1711.75	$(4)^+$	(E1)	
		871.4# *2*	11.6# *21*	1401.34	4^+		
		1001.0# *2*	9.5# *11*	1271.70	3^+		
		1476.6# *1*	38# *3*	796.16	4^+		
2295.10		583.1# *1*	100# *18*	1711.75	$(4)^+$		
		1023.6# *2*	41# *6*	1271.70	3^+		
2402.12	$(1,2)^+$	460.4# *2*	9.7# *16*	1941.31	2^+		
		634.5# *2*	8.2# *15*	1767.54	$(2^+,3,4^+)$		
		656.4# *3*	10# *3*	1745.31	$^+$		
		779.5g#h *1*	<31g#	1623.25	0^+		
		1127.4# *3*	<9.4#	1274.43	$(2)^+$		
		1130.46# *7*	100# *10*	1271.70	3^+	M1,E2	
		1494.4# *3*	18# *5*	908.70	0^+		
		1526.1# *1*	39# *3*	876.10	2^+		
		2079.3# *1*	66# *5*	322.61	2^+		
		2402.6# *3*	27# *5*	0.0	0^+		
2411.0	0^+	2411#	#	0.0	0^+	E0	
2448.42	$(3,4)^+$	631.47# *8*	100# *9*	1816.98	$(5)^+$	M1,E2	
		1572.0# *2*	12.1# *24*	876.10	2^+		
		1653.0# *5*	39# *9*	796.16	4^+		
2460.88	7^+	475.5# *1*	38# *10*	1985.63	6^+		
		643.76@ *7*	100& *9*	1816.98	$(5)^+$	E2	B(E2)(W.u.)=1.4×10^2 *8*
		1063.71@ *19*	33d *3*	1397.33	6^+		
2495.2	(7^-)	1098.7	100	1397.33	6^+	(E1)	
2536.07		293.5# *3*	2.8# *10*	2242.13			
		1261.5# *2*	16# *5*	1274.43	$(2)^+$		
		1659.9# *1*	100# *7*	876.10	2^+		
		2214.0# *2*	33# *3*	322.61	2^+		
2544.8	(6^-)	1147.8	100	1397.33	6^+	D	
2637.59	$(1,2^+)$	2315.0# *1*	100# *7*	322.61	2^+		

$^{120}_{54}Xe_{66}$-8

Adopted Levels, Gammas (continued)

γ(^{120}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	Comments
2637.59	(1,2$^+$)	2636.9[#] *4*	27.1[#] *17*	0.0	0$^+$		
2653.83	(8$^+$)	668.2[@] *1*	100	1985.63	6$^+$		
2669.5		1268.6	100	1401.34	4$^+$	D	
2682.12		956.9[#] *1*	56[#] *5*	1725.40	2$^+$		
		1407.5[#] *1*	59[#] *7*	1274.43	(2)$^+$		
		1806.0[#] *2*	100[#] *7*	876.10	2$^+$		
2721.89	(3,4,5)$^+$	736.02[#] *9*	100[#] *10*	1985.63	6$^+$	M1,E2	
		905.2[#] *1*	30.0[#] *25*	1816.98	(5)$^+$		
		1450.1[#] *3*	28[#] *5*	1271.70	3$^+$		
2727.34	(4$^+$,5,6$^+$)	655.1[#] *3*	8[#] *3*	2071.99	4$^+$		
		741.9[#] *2*	7[#] *1*	1985.63	6$^+$		
		1329.87[#] *8*	52[#] *4*	1397.33	6$^+$		
		1931.1[#] *1*	100[#] *7*	796.16	4$^+$		
2728.5	(6$^-$)	59.5	25 *8*	2669.5			
		183.8	25 *8*	2544.8	(6$^-$)		
		656.2	100 *25*	2072.7			
		742.6	33 *8*	1985.63	6$^+$		
		911.9	42 *17*	1816.98	(5)$^+$	D	
2812.68	(4)	826.7[#] *3*	21[#] *3*	1985.63	6$^+$		
		1067.9[#] *2*	31[#] *3*	1745.31	$^+$		
		1411.1[#] *1*	67[#] *8*	1401.34	4$^+$		
		1538.4[#] *1*	100[#] *10*	1274.43	(2)$^+$		
		1936.4[#] *4*	36[#] *5*	876.10	2$^+$		
2830.20	7$^-$	732.4	3 *1*	2099.20	8$^+$		
		1433.0[#] *1*	100[#] *5*	1397.33	6$^+$	D	E_γ: other: 1434.0 *1* in ^{120}Cs ε decay.
2830.95		731.6[#] *2*	66[#] *15*	2099.20	8$^+$		
		759.1[#] *2*	100[#] *17*	2071.99	4$^+$		
		846.4[#h] *2*	87[#] *17*	1985.63	6$^+$		
2853.98		451.8[#] *1*	<183[#]	2402.12	(1,2)$^+$		
		688.72[#] *9*	13.3[#] *17*	2165.16	(2$^+$,3,4$^+$)		
		1037.0[#] *3*	3.3[#] *7*	1816.98	(5)$^+$		
		1086.4[#] *1*	<20[#]	1767.54	(2$^+$,3,4$^+$)		
		1142.33[#] *8*	38[#] *3*	1711.75	(4)$^+$		
		1452.69[#] *8*	100[#] *8*	1401.34	4$^+$		

$^{120}_{54}Xe_{66}$-9

Adopted Levels, Gammas (continued)

$\gamma(^{120}Xe)$ (continued)

E_i(level)	J_i^π	E_γ [†]	I_γ [†]	E_f	J_f^π	Mult.[e]	Comments
2853.98		1581.2[#h] *2*	6.1[#] *8*	1271.70	3^+		
		2056.7[#h] *1*	92[#] *8*	796.16	4^+		
2872.70	10^+	773.5 *1*	100	2099.20	8^+	E2	B(E2)(W.u.)=92 *15*
2912.1		1516	100	1397.33	6^+		
2930.0	(7^-)	99.5	13 *3*	2830.20	7^-	Q	
		1533.7	100 *9*	1397.33	6^+	D	
2966.77		136.8[#] *1*	32[#] *5*	2830.20	7^-		
		239.2[#] *1*	100[#] *10*	2727.34	$(4^+,5,6^+)$	M1,E2	
2966.84	(8^-)	(38)		2930.0	(7^-)		
		(56)		2912.1			
		136.6[@] *1*	51 *3*	2830.20	7^-	D	
		239.4	100 *14*	2728.5	(6^-)		
		472.7	<29	2495.2	(7^-)		
		507.5	23 *6*	2460.88	7^+	D	
2970.80	(9^-)	476	31 *4*	2495.2	(7^-)		
		871.6 *1*	100 *3*	2099.20	8^+	(E1)	Mult.: $\Delta J=1$ with $\delta=0$ from $\gamma(\theta)$.
3003.4	(8^-)	458.9	60 *10*	2544.8	(6^-)	(E2)	
		507.7	50 *10*	2495.2	(7^-)		
		904.5	100 *10*	2099.20	8^+		
3075.7	(8^-)	109.0	100 *6*	2966.84	(8^-)		
		245.2	22 *6*	2830.20	7^-		
3149.32	(9^-)	73.5	19 *5*	3075.7	(8^-)		
		182.5 *1*	87 *9*	2966.84	(8^-)	(E2)	I_γ: from weighted av from 1994To05 and 1986Lo11.
		219	2.9 *15*	2930.0	(7^-)		
		319.1 *1*	100 *3*	2830.20	7^-		I_γ: from weighted av from 1994To05 and 1986Lo11.
3149.5		182.7	100	2966.77			
3174.11	9^+	713.6	100 *18*	2460.88	7^+	E2	B(E2)(W.u.)=1.5×10^2 *5*
		1074.9 *1*	<23	2099.20	8^+		
3280.7	(9^-)	131.2	100	3149.32	(9^-)		
3326.43	(10^+)	672.6 *1*	100	2653.83	(8^+)		
3357.21	(2^+)	1590.6[#] *3*	6.4[#] *11*	1767.54	$(2^+,3,4^+)$		
		1632.0[#] *3*	31[#] *3*	1725.40	2^+		
		2448.4[#] *4*	19[#] *3*	908.70	0^+		
		2560.2[#] *3*	40[#] *4*	796.16	4^+		
		3034.5[#] *1*	100[#] *7*	322.61	2^+		
		3357.2[#] *1*	41[#] *3*	0.0	0^+		
3383.34	(10^-)	102.5	6.7 *22*	3280.7	(9^-)		
		234.1	100 *3*	3149.32	(9^-)		E_γ: doublet.

$^{120}_{54}Xe_{66}$-10

Adopted Levels, Gammas (continued)

γ(^{120}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	Comments
3383.34	(10$^-$)	416.5 *1*	79 *3*	2966.84	(8$^-$)		
3470.91	(2$^+$)	1175.6[#] *1*	<66[#]	2295.10			
		1399.5[#] *3*	32[#] *5*	2071.99	4$^+$		
		1848.2[#] *2*	44[#] *5*	1623.25	0$^+$		
		2594.9[#] *5*	46[#] *7*	876.10	2$^+$		
		3148.3[#] *2*	100[#] *7*	322.61	2$^+$		
		3470.6[#] *4*	10.0[#] *12*	0.0	0$^+$		
3535.4	(10$^-$)	532.2	100 *4*	3003.4	(8$^-$)		
		564.4	40 *8*	2970.80	(9$^-$)		
3575.3	(10$^-$)	191.8	100	3383.34	(10$^-$)	Q	
3591.69	(11$^-$)	620.9 *1*	100 *4*	2970.80	(9$^-$)	Q	
		719.5	23 *4*	2872.70	10$^+$	D	
3648.44	(11$^-$)	265.1 *1*	91 *4*	3383.34	(10$^-$)	(D)	
		499.1 *1*	100 *4*	3149.32	(9$^-$)	(E2)	
3676.51	12$^+$	803.8 *1*	100	2872.70	10$^+$	E2	B(E2)(W.u.)=83 *13*
3802.62	(2$^+$)	1560.5[#] *2*	22[#] *3*	2242.13			
		1566.1[#] *2*	19[#] *3*	2236.65	0$^+$		
		2926.5[#] *1*	76[#] *5*	876.10	2$^+$		
		3006.2[#] *1*	100[#] *7*	796.16	4$^+$		
		3480.8[#] *3*	8.1[#] *10*	322.61	2$^+$		
		3802.9[#] *2*	15.6[#] *14*	0.0	0$^+$		
3852.4	(11$^-$)	204.0	100	3648.44	(11$^-$)	Q	
3918.7	12$^+$	242.0	37 *7*	3676.51	12$^+$	D	
		592.6	93 *11*	3326.43	(10$^+$)	E2	B(E2)(W.u.)=7.E+1 *7*
		1046.1	100 *11*	2872.70	10$^+$		
3933.9	(11$^+$)	759.8	100	3174.11	9$^+$	E2	
3956.55	(12$^-$)	308.1	100 *3*	3648.44	(11$^-$)	D	I_γ: from weighted av from 1994To05 and 1986Lo11.
		573.2 *1*	92 *11*	3383.34	(10$^-$)	(E2)	I_γ: from weighted av from 1994To05 and 1986Lo11.
4157.8	(12$^+$)	481.1		3676.51	12$^+$	D	
		1285.2		2872.70	10$^+$		
4167.5	(12$^-$)	576[h]	5 *3*	3591.69	(11$^-$)		
		632.1	100 *3*	3535.4	(10$^-$)	(E2)	
4212.5	(12$^-$)	256.2	100 *20*	3956.55	(12$^-$)		
		637	100 *20*	3575.3	(10$^-$)		
4292.66	(13$^-$)	336.1 *1*	93 *10*	3956.55	(12$^-$)	D	
		644.3	100 *10*	3648.44	(11$^-$)	Q	
		702	<25	3591.69	(11$^-$)		
4306.3	(13$^-$)	657.5	5.9 *9*	3648.44	(11$^-$)		

$^{120}_{54}Xe_{66}$-11

Adopted Levels, Gammas (continued)

γ(^{120}Xe) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[e]	Comments
4306.3	(13$^-$)	714.9	100 *4*	3591.69	(11$^-$)	(E2)	
4313.12	(2$^+$)	2127.4[#] *4*	28[#] *4*	2186.80	(2,3,4)		
		2911.4[#] *2*	100[#] *7*	1401.34	4$^+$		
		3404.5[#] *4*	48[#] *4*	908.70	0$^+$		
		3990.9[#] *3*	15.9[#] *17*	322.61	2$^+$		
		4313.0[#] *1*	37[#] *3*	0.0	0$^+$		
4458.92	14$^+$	782.4 *1*	100	3676.51	12$^+$	E2	B(E2)(W.u.)=80 *12*
4557.7	(13$^-$)	265	100 *29*	4292.66	(13$^-$)		
		705[h]	<57	3852.4	(11$^-$)		
4608.4	(14$^+$)	149.2	18 *5*	4458.92	14$^+$	D	
		690.0	100 *8*	3918.7	12$^+$		
		932	<25	3676.51	12$^+$		
4664.45	(14$^-$)	371.8 *1*	53 *4*	4292.66	(13$^-$)	D	I_γ: from weighted av from 1994To05 and 1986Lo11.
		707.9 *1*	100 *4*	3956.55	(12$^-$)	(E2)	I_γ: from weighted av from 1994To05 and 1986Lo11.
4695.9	(13$^+$)	762	100	3933.9	(11$^+$)		
4846.8	(14$^+$)	387		4458.92	14$^+$		
		690[h]		4157.8	(12$^+$)		
		1170.8		3676.51	12$^+$		
4888.5	(14$^-$)	721.0		4167.5	(12$^-$)	(E2)	
4938.5	(14$^-$)	274	100	4664.45	(14$^-$)		
		726[h]		4212.5	(12$^-$)		
5059.1	(15$^-$)	394.7	74 *6*	4664.45	(14$^-$)	D	
		766.5	100 *6*	4292.66	(13$^-$)	(E2)	
5085.2	(15$^-$)	778.8 *1*	100 *5*	4306.3	(13$^-$)	(E2)	
		792.7	3.7 *12*	4292.66	(13$^-$)		
5232.3	16$^+$	773.6	100	4458.92	14$^+$	E2	B(E2)(W.u.)=1.2×10^2 *4*
5405.9	(16$^+$)	797.5	100	4608.4	(14$^+$)	E2	B(E2)(W.u.)=1.1×10^2 *5*
5479.7	(16$^-$)	420.8	65 *8*	5059.1	(15$^-$)	D	
		815.1	100 *8*	4664.45	(14$^-$)	(E2)	
5636.9	(16$^+$)	789.8	100 *25*	4846.8	(14$^+$)	(E2)	B(E2)(W.u.)=5.E+1 *3*
		1178.0	100 *17*	4458.92	14$^+$	(E2)	B(E2)(W.u.)=7 *4*
5691.8	(16$^-$)	803.3	100	4888.5	(14$^-$)	(E2)	
5919.9	(17$^-$)	440.1	38 *7*	5479.7	(16$^-$)	D	
		860.9	100 *10*	5059.1	(15$^-$)	(E2)	
5928.9	(17$^-$)	843.7 *1*	100	5085.2	(15$^-$)	(E2)	
6051.0	18$^+$	818.7	100	5232.3	16$^+$	E2	B(E2)(W.u.)=1.7×10^2 *3*
6339.0	(18$^+$)	933	100	5405.9	(16$^+$)	(E2)	B(E2)(W.u.)=103 *24*
6382.5	(18$^-$)	462.5	88 *25*	5919.9	(17$^-$)	D	
		902.8	100 *25*	5479.7	(16$^-$)	(E2)	

$^{120}_{54}Xe_{66}$-12

Adopted Levels, Gammas (continued)

$\gamma(^{120}Xe)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. e	Comments
6457.1	(18$^+$)	820	100 *18*	5636.9	(16$^+$)		
		1225	64 *27*	5232.3	16$^+$		
6574.5	(18$^-$)	882.7	100	5691.8	(16$^-$)	(E2)	
6833.5	(19$^-$)	904.6	100	5928.9	(17$^-$)	(E2)	
6862.6	(19$^-$)	480.1	50 *14*	6382.5	(18$^-$)		
		942.6	100 *21*	5919.9	(17$^-$)		
6955.4	20$^+$	904.4	100	6051.0	18$^+$	E2	B(E2)(W.u.)=2.2×10^2 *6*
7320.0	(20$^+$)	864 h	<167	6457.1	(18$^+$)		
		981	100 *33*	6339.0	(18$^+$)		
7363.7?	(20$^-$)	500 h	<71	6862.6	(19$^-$)	D	
		980 h	100 *36*	6382.5	(18$^-$)		
7427.5?	(20$^+$)	1088 h		6339.0	(18$^+$)		
7511.8	(20$^-$)	937.3	100	6574.5	(18$^-$)		
7798.5	(21$^-$)	965.0	100	6833.5	(19$^-$)	(E2)	
7877.7?	(21$^-$)	1014 h	100	6862.6	(19$^-$)		
7955.1	22$^+$	999.7	100	6955.4	20$^+$	E2	B(E2)(W.u.)=1.8×10^2 *8*
8467	(22$^-$)	955	100	7511.8	(20$^-$)	(E2)	
8810.2	(23$^-$)	1011.7	100	7798.5	(21$^-$)		
9051.1	(24$^+$)	1096	100	7955.1	22$^+$	(E2)	
9483	(24$^-$)	1016	100	8467	(22$^-$)		
9875.2	(25$^-$)	1065	100	8810.2	(23$^-$)		
10241.1	(26$^+$)	1190	100	9051.1	(24$^+$)		
10643.1?	(26$^-$)	1160 h	100	9483	(24$^-$)		
11002.2	(27$^-$)	1127	100	9875.2	(25$^-$)		
11524	(28$^+$)	1283	100	10241.1	(26$^+$)		
12150.4?	(29$^-$)	1147 h	100	11002.2	(27$^-$)		

† From (HI,xnγ), unless otherwise noted.
‡ From ^{120}Cs ε decay.
# From ^{120}Cs ε decay, but not observed in (HI,xnγ).
@ Weighted av from ^{120}Cs ε decay and (HI,xnγ).
& From weighted av from ^{120}Cs ε decay (1990MaYX,1977Ge03) and (HI,xnγ) (1994To05,1986Lo11).
a From weighted av from ^{120}Cs ε decay (1990MaYX) and (HI,xnγ) (1994To05,1986Lo11).
b From weighted av from ^{120}Cs ε decay (1990MaYX) and (HI,xnγ) (1994To05).
c From weighted av from ^{120}Cs ε decay (1990MaYX,1977Ge03) and (HI,xnγ) (1994To05,1986Lo11).
d From weighted av from ^{120}Cs ε decay (1990MaYX,1977Ge03) and (HI,xnγ) (1994To05).
e From α(K)exp in ^{120}Cs ε decay, from DCO ratio and $\gamma(\theta)$ in (HI,xnγ), and from placement in level scheme.

$^{120}_{54}Xe_{66}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{120}Xe)$ (continued)

[f] From ^{120}Cs ε decay.
[g] Multiply placed with intensity suitably divided.
[h] Placement of transition in the level scheme is uncertain.

$^{120}_{54}Xe_{66}$-14

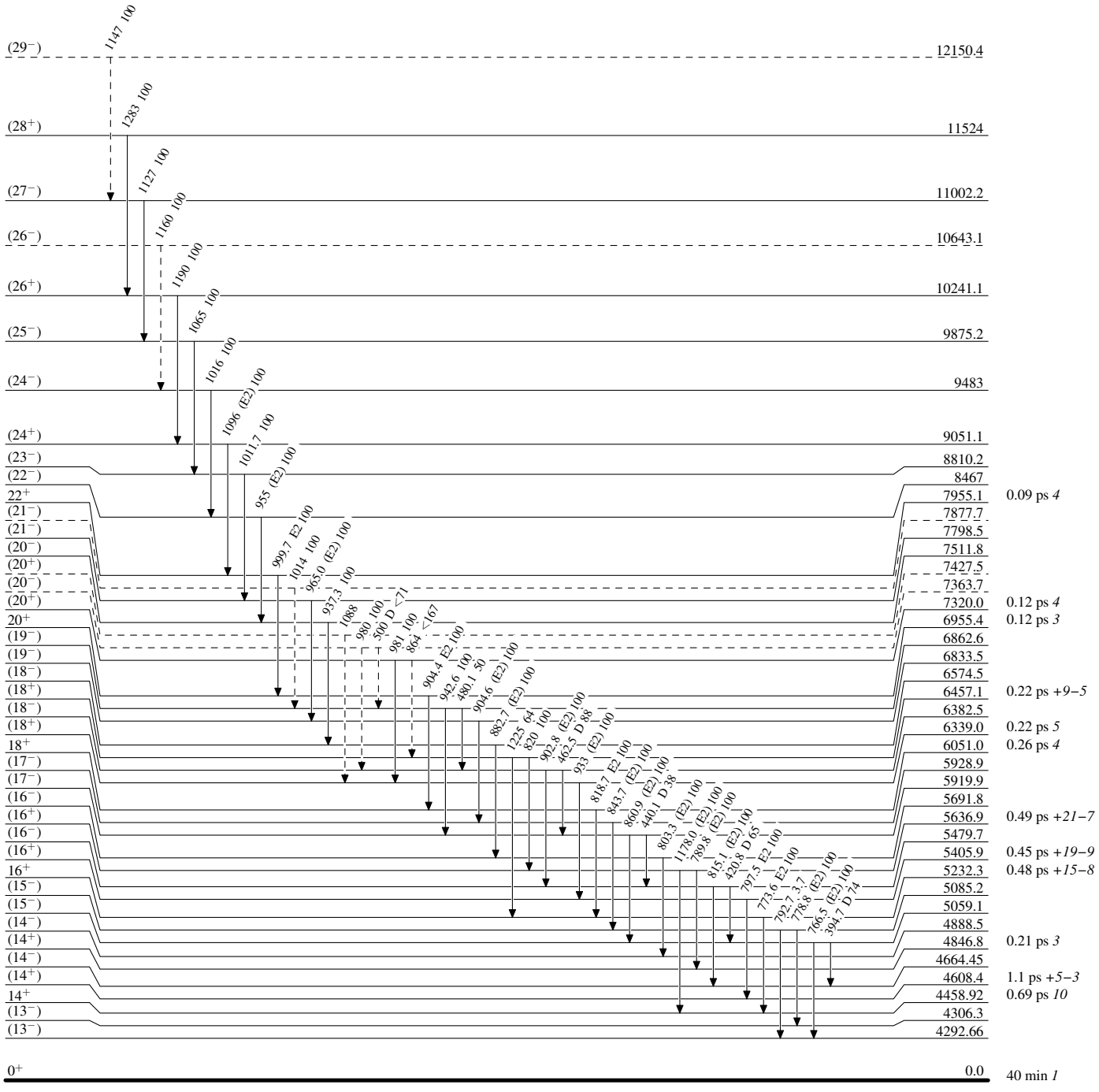
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{120}_{54}Xe_{66}$

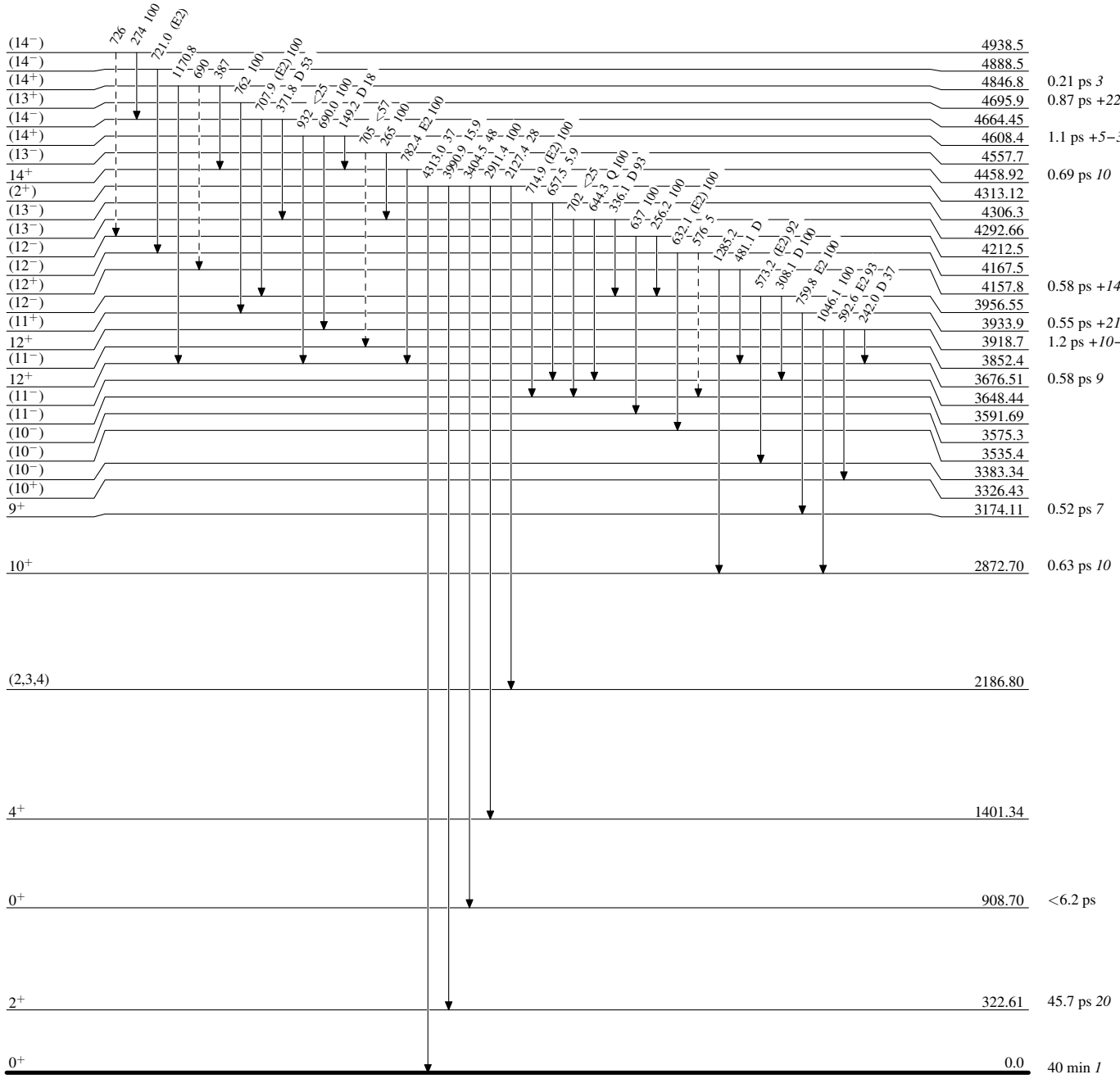
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

– – – – – – ► γ Decay (Uncertain)

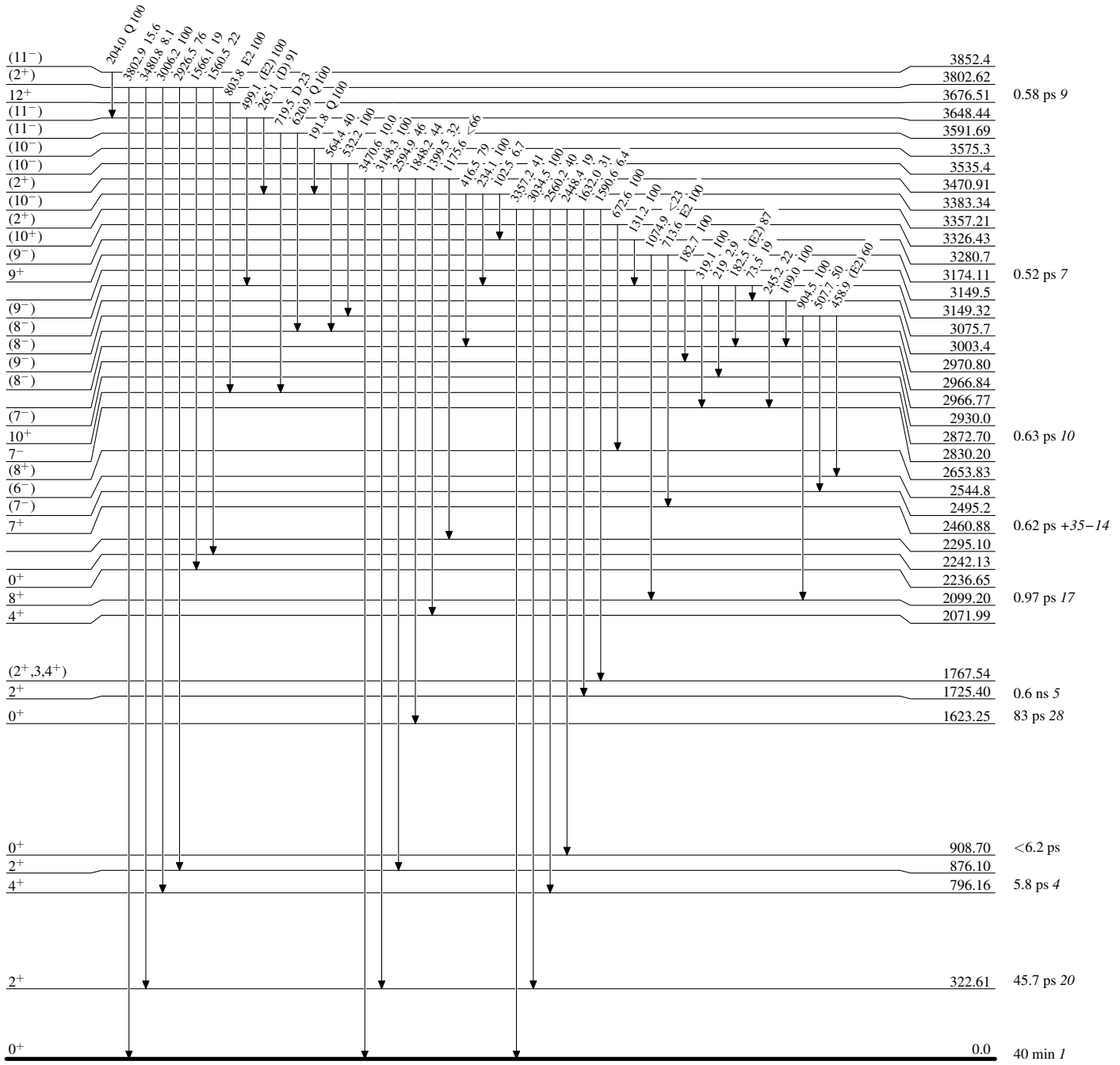


$^{120}_{54}Xe_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{120}_{54}Xe_{66}$

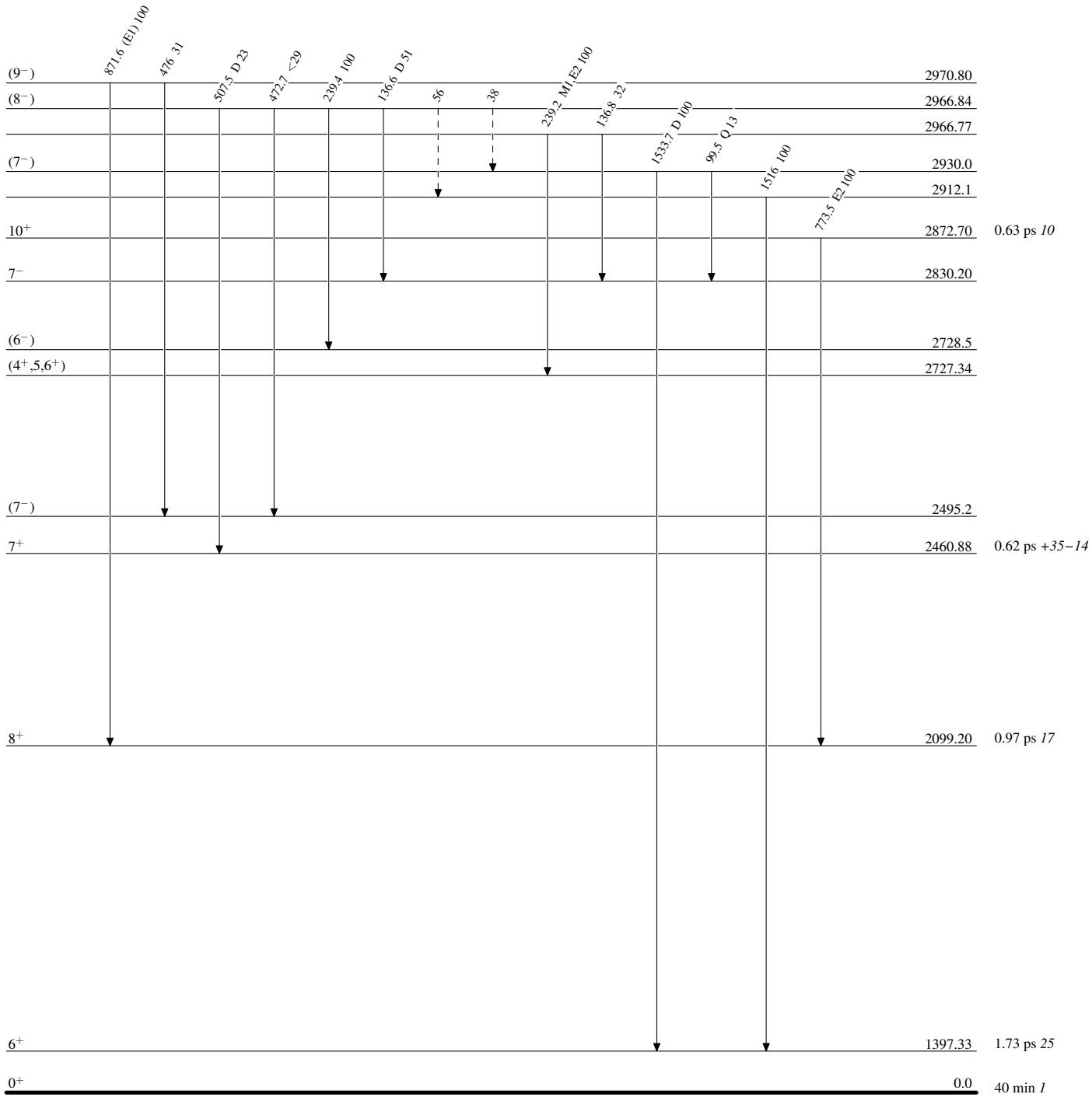
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{120}_{54}Xe_{66}$

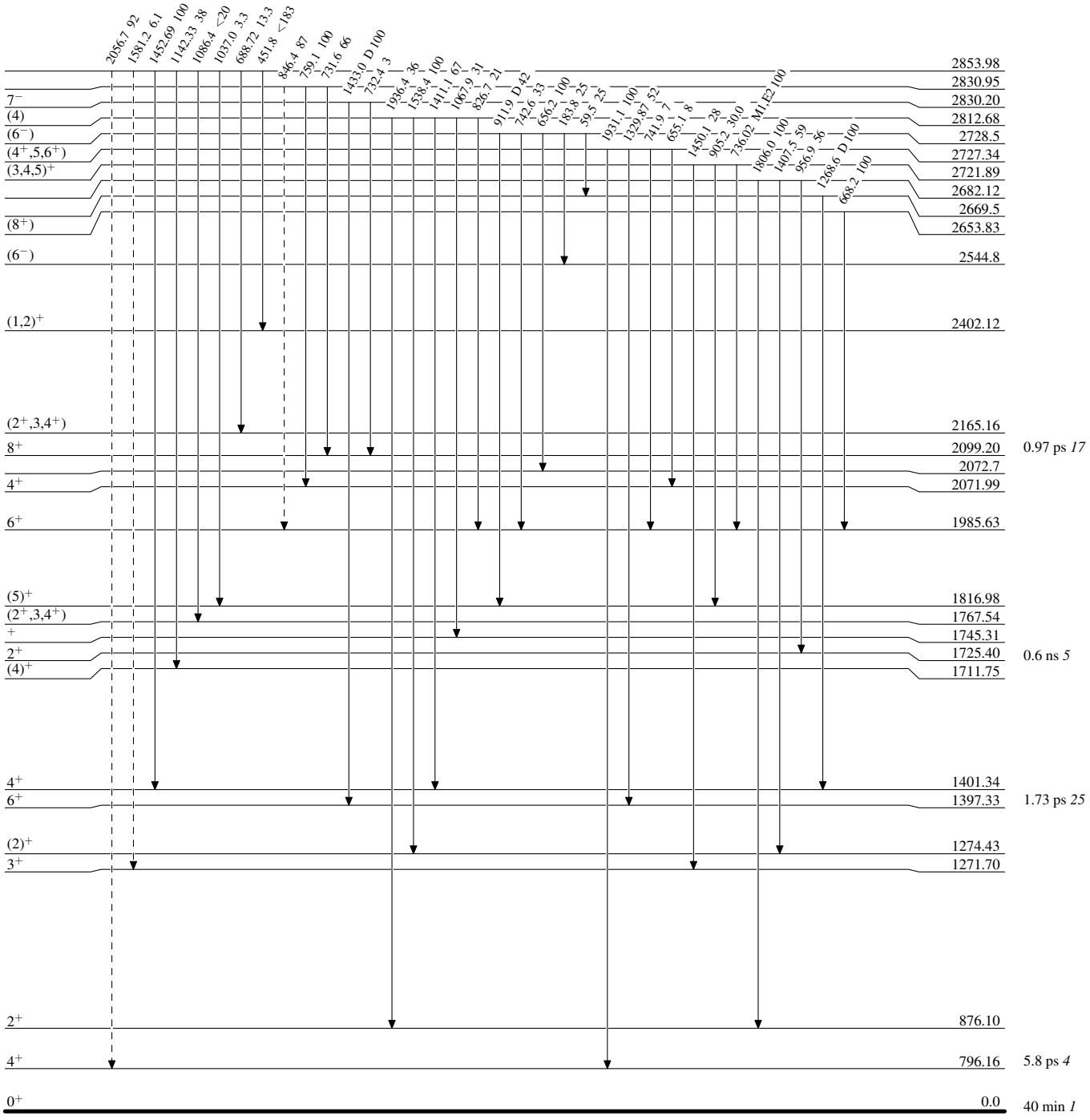
Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

γ Decay (Uncertain)



$^{120}_{54}Xe_{66}$

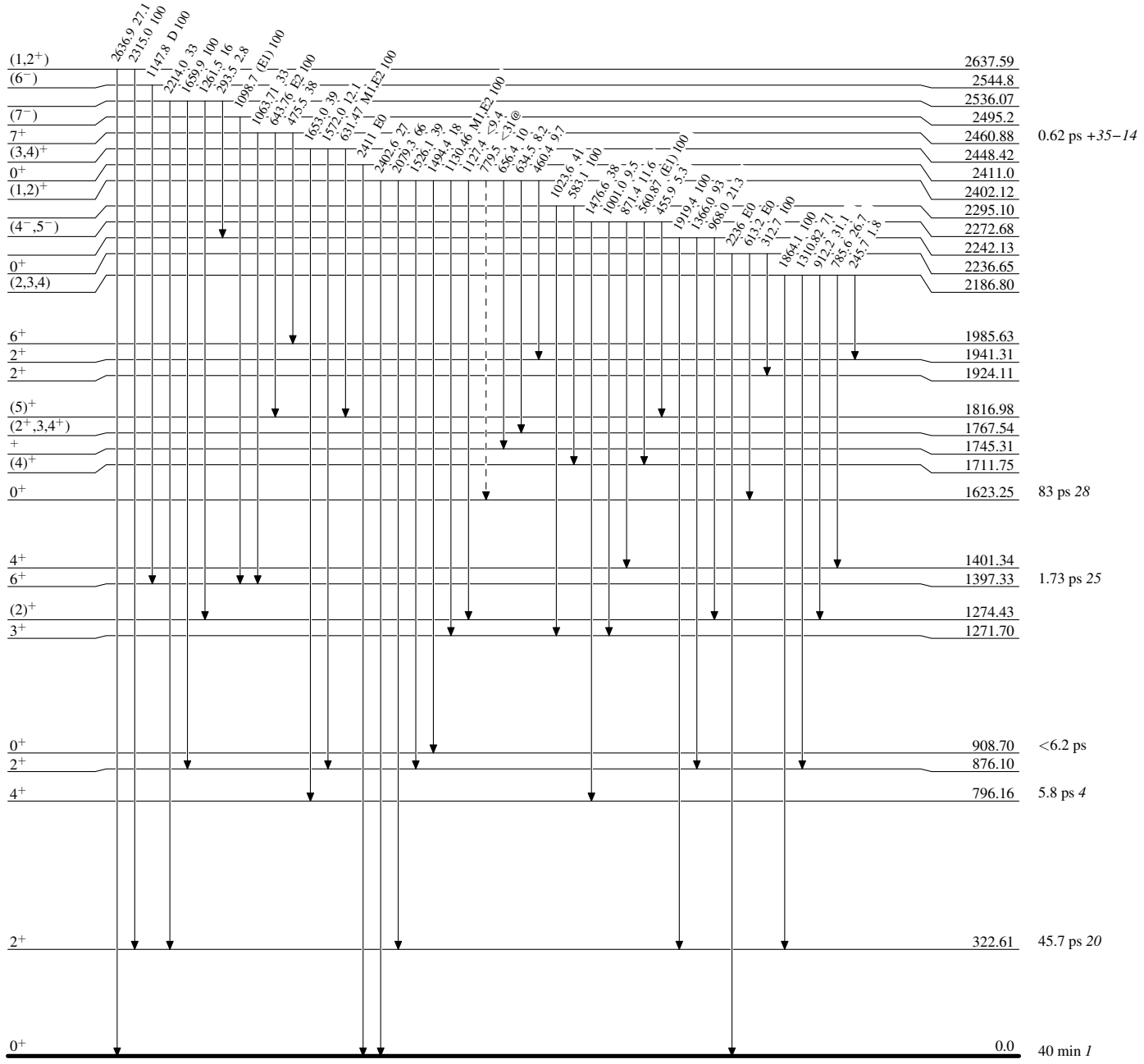
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

- - - - - - ► γ Decay (Uncertain)



$^{120}_{54}Xe_{66}$

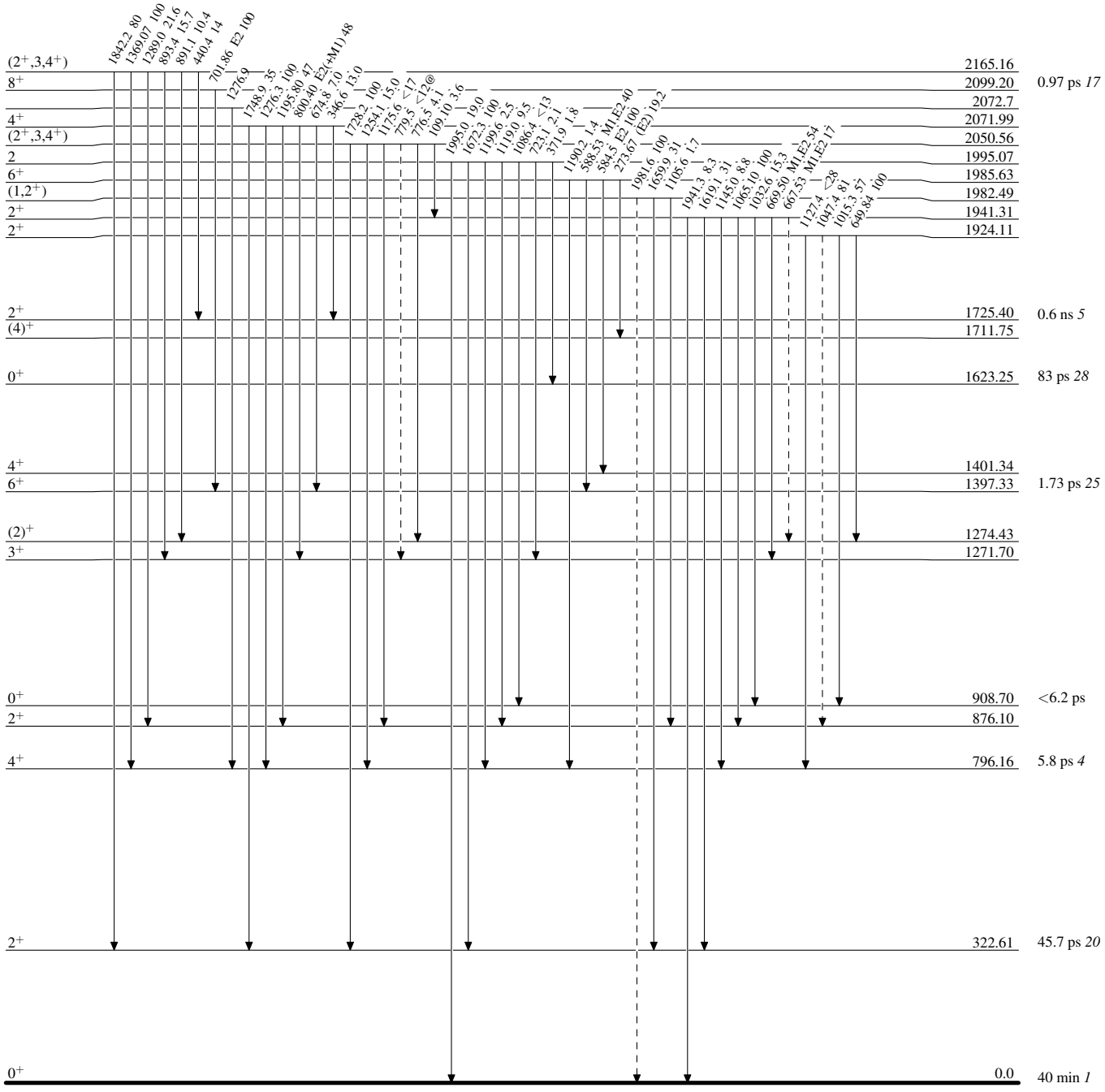
Adopted Levels, Gammas

Legend

Level Scheme (continued)

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

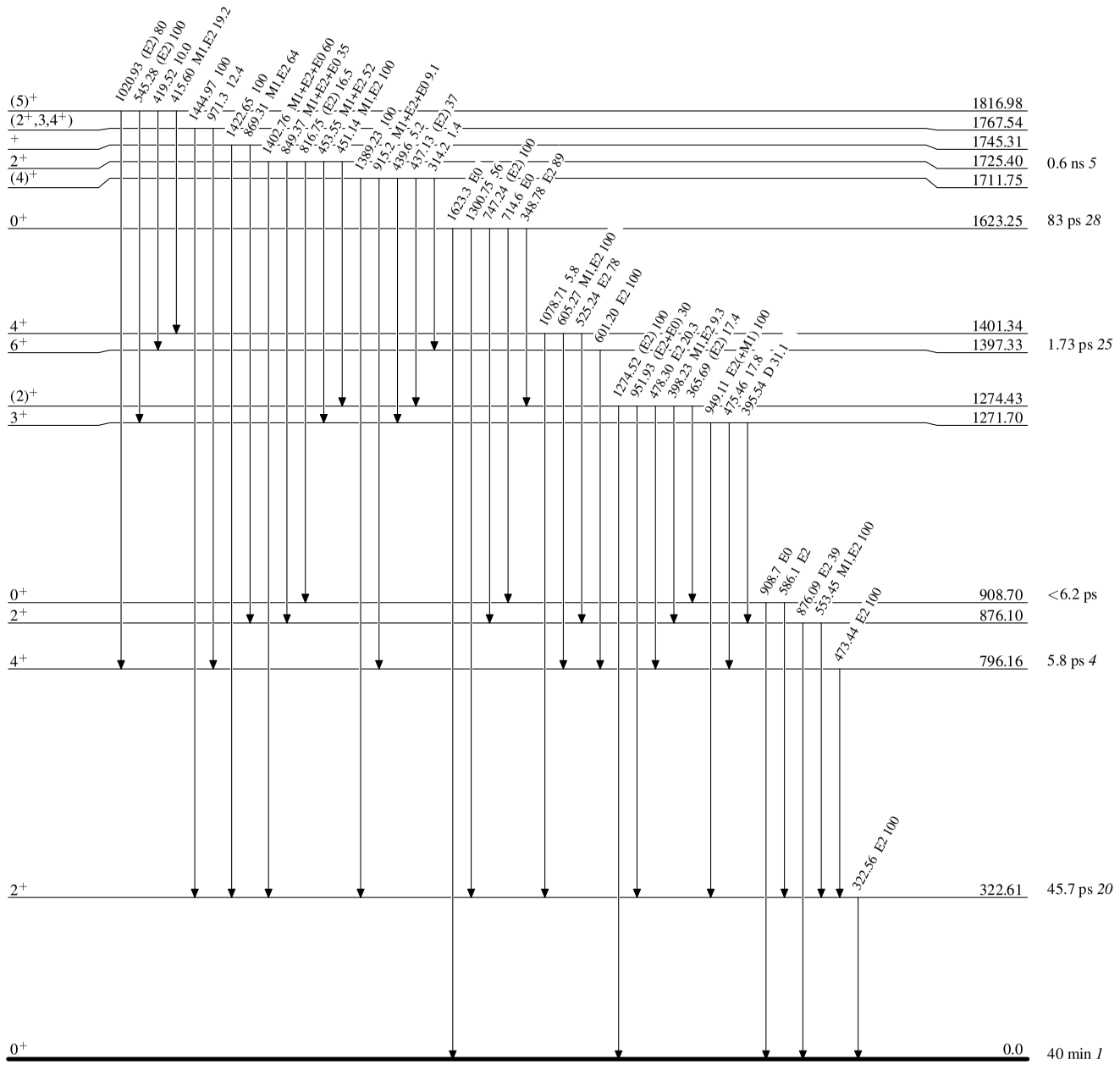
γ Decay (Uncertain)



Adopted Levels, Gammas

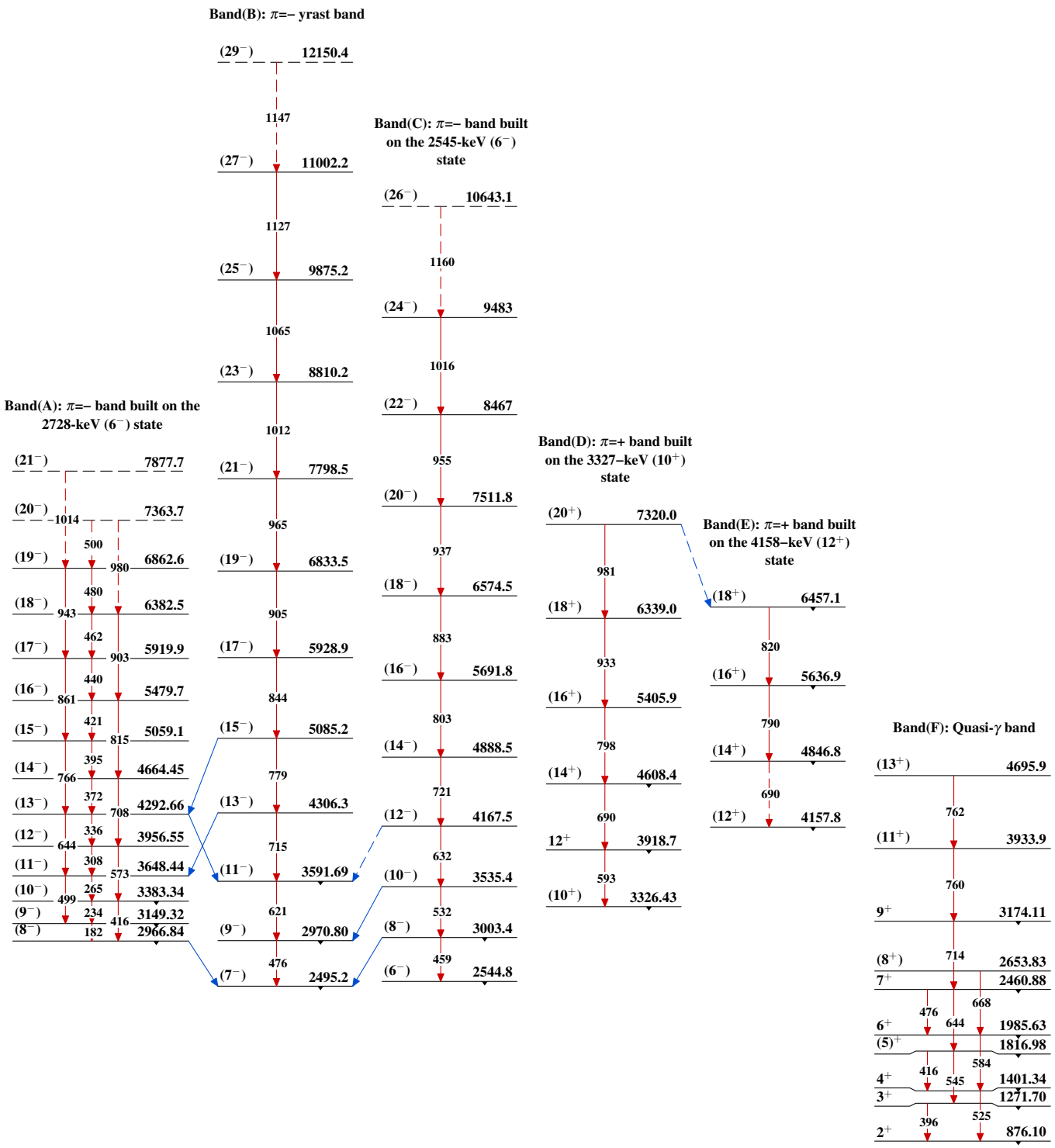
Level Scheme (continued)

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

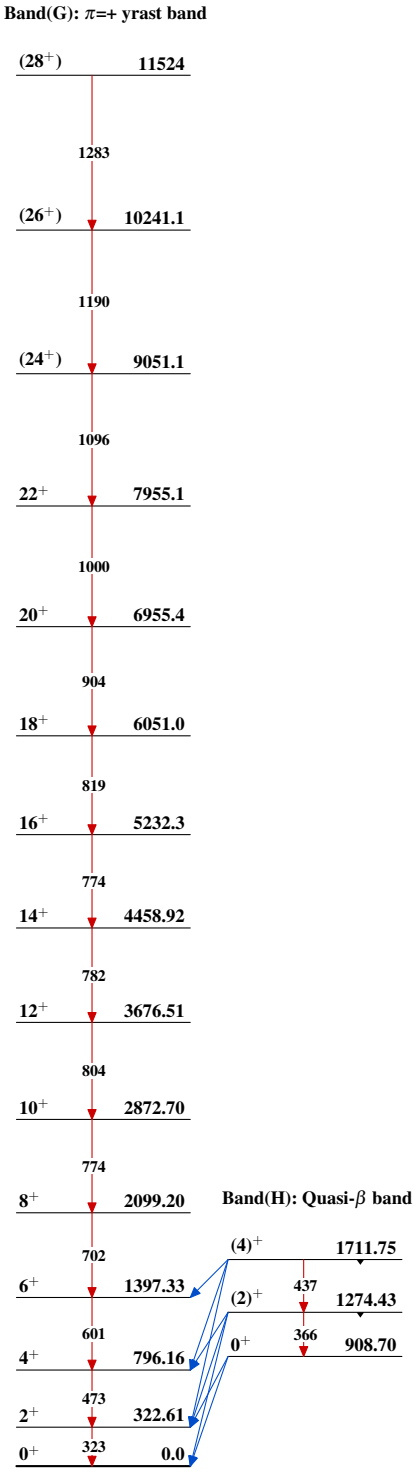


$^{120}_{54}Xe_{66}$

Adopted Levels, Gammas



Adopted Levels, Gammas (continued)



$^{120}_{54}Xe_{66}$