Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev, S. Juutinen, D. J. Hartley	NDS 150, 1 (2018)	1-Feb-2018

Q(β^-)=−10621 *15*; S(n)=10900 *12*; S(p)=2660 *13*; Q(α)=6109 *3* 2017Wa10
Additional information 1.

^{188}Pb Levels

Cross Reference (XREF) Flags

A	^{192}Po α decay
B	^{164}Er(^{28}Si,4nγ)
C	^{156}Gd(^{36}Ar,4nγ)
D	^{108}Pd(^{83}Kr,3nγ)

E(level)†	J$^\pi$‡	T$_{1/2}$#	XREF	Comments
0	0$^+$	25.5 s *1*	ABCD	%ε+%β$^+$=91.5 *5*; %α=8.5 *5* %α: Weighted average of 8.0 *6* (2003Va16), 9.3 *8* (1999An22) and 8.5 *13* (1996Bi17). Others: 3-10 (1992Wa14,1994Wa13) and 22 *7* (1981To02). T$_{1/2}$: weighted average of 25.5 s *1* (1993Wa03,1992Wa14), 22 s *2* (1981To02,1984To09), 24.5 s *15* (1973Ho01), 26 s *2* (1974Le02), 23.6 s *45* (1972Ga27). Other: 1967Es05 quotes a value of 26 s, but without uncertainty. Δ<r^2>(^{188}Pb,^{208}Pb)=−0.930 fm^2 *10* (2007De09,2009Se13).
591.0 *20*	0$^+$		A C	E(level): From ce data in ^{156}Gd(^{36}Ar,4nγ) (1999Le61). Others: 588 keV *9* (2003Va16), 591 keV *10* (1999An22) and 569 keV *31* (1996Bi17) from Qα and Eα. Note the discrepant value of 568 keV *8* (1998Al27). J$^\pi$: E0 transition to g.s. This state is interpreted as an oblate 0$^+$.
723.6@ *3*	2$^+$	5.9 ps *24*	BCD	J$^\pi$: 723.9γ E2 to 0$^+$; band assignment. T$_{1/2}$: Other: 9 ps *5* (2003De24).
725? *2*	0$^+$		C	E(level): From ce data ^{156}Gd(^{36}Ar,4nγ) (1999Le61). Not observed in ^{192}Po α decay (2003Va16). J$^\pi$: E0 transition to g.s. A candidate for a prolate 0$^+$ intruder state.
952.5& *3*	2$^+$		C	J$^\pi$: 228.7γ E0+E2 to 2$^+$, 952.5γ to 0$^+$; band assignment.
1063.8@ *4*	4$^+$	11.0 ps *7*	BCD	J$^\pi$: 340.2γ E2 to 2$^+$; band assignment. T$_{1/2}$: Other: 11 ps *6* (2003De24).
1195.1 *6*	(3,4$^+$)		B	J$^\pi$: 471.5γ to 2$^+$; absence of γ to 0$^+$.
1218.9h *8*	(1$^-$)		C	J$^\pi$: 1219γ to 0$^+$; band assignment; systematics of similar structures in neighboring nuclei.
1314.9& *4*	4$^+$		C	J$^\pi$: 250.8γ E0+E2 to 4$^+$, 362.4γ E2 to 2$^+$; band assignment.
1411.3g *4*	4$^+$		C	J$^\pi$: 458.8γ (E2) to 2$^+$, 376.6γ M1+E2 from 5$^+$.
1433.5@ *4*	6$^+$	2.8 ps *4*	BCD	J$^\pi$: 369.7γ E2 to 4$^+$; band assignment.
1516.9h *4*	(3$^-$)		C	J$^\pi$: 793.1γ (E1) to 2$^+$, 298γ to (1$^-$); band assignment.
1786.3& *4*	6$^+$		BC	J$^\pi$: 352.6γ E0+E2 to 6$^+$, 471.5γ E2 to 4$^+$; band assignment.
1788.0g *4*	5$^+$		C	J$^\pi$: 429.2γ from 7$^+$, 354.8γ to 6$^+$; band assignment.
1867.3@ *4*	8$^+$	1.7 ps *3*	BCD	J$^\pi$: 433.8γ E2 to 6$^+$; band assignment.
1956.1h *4*	(5$^-$)		BC	J$^\pi$: 439.1γ E2 to (3$^-$), 892.4γ (E1) to 4$^+$; band assignment.
2138.0 *5*	(6$^+$)		C	J$^\pi$: 726.7γ to 4$^+$.
2210.5e *4*	(5$^-$)		C	J$^\pi$: 1146.6γ to 4$^+$, 305.5γ from 7$^-$; band assignment.
2217.1g *4*	7$^+$		BC	J$^\pi$: 783.7γ M1+E2 to 6$^+$; band assignment.
2299.2& *4*	8$^+$		BC	J$^\pi$: 431.7γ E0+E2 to 8$^+$, 513.0γ E2 to 6$^+$; band assignment.
2366.3@ *5*	10$^+$		BC	J$^\pi$: 499.0γ E2 to 8$^+$; band assignment.
2448.5 *4*	(6$^-$)		C	J$^\pi$: 129γ E2 from 8$^-$, 660.5γ to 5$^+$.

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Adopted Levels, Gammas (continued)

^{188}Pb Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
2464.7 *8*			C	E(level): From 1999Le61 in ^{156}Gd(^{36}Ar,4nγ).
2474.1[h] *4*	(7⁻)		BC	J^{π}: 518.0γ E2 to (5⁻), 606.8γ to 8⁺; band assignment.
2516.1[e] *4*	(7⁻)		C	J^{π}: 648.7γ to 8⁺; band assignment.
2577.2[a] *4*	8⁻	800 ns *20*	BC	μ=−0.297 *24* J^{π}: 278.2γ E1 to 8⁺, 360.2γ E1 to 7⁺, 129γ E2 to (6⁻). μ: From g=−0.037 *3* using TDPAD (2010Io01) in ^{164}Er(^{28}Si,4nγ). $T_{1/2}$: Weighted average of 797 ns *21* from sum of 723γ, 340γ, 370γ, 434γ and 360γ(t) in 2000By02, 830 ns *210* from 370γ(t) in 1999Dr10 and 820 ns *60* from γ(t) in 2010Io01. configuration: K^{π}=8⁻, ν(7/2⁻[514],9/2⁺[624]) at prolate deformation. Based on the measured g factor and systematics of similar structures in neighboring nuclei. An average of g_K-g_R=−0.182 *18* from in-band branching ratios (2004Dr04).
2663.4 *5*	(8)		C	J^{π}: 189.3γ to 7⁻.
2701.6[c] *5*	11⁻	26 ns *3*	BC	J^{π}: 335.4γ E1 to 10⁺. $T_{1/2}$: Weighted average of 26 ns *4* from 335.4γ(t) in 1999Dr10 and 27 ns *5* from γ(t) in 2010Io01. μ=+11.33 *33*; from g=+1.03 *3* using TDPAD (2010Io01) in ^{164}Er(^{28}Si,4nγ). configuration: K^{π}=11⁻, π(9/2⁻[505]⊗13/2⁺[606]) at oblate deformation. Based on the measured g factor and systematics of similar structures in neighboring nuclei. g_K-g_R ≈ +0.2 from in-band branching ratios (2004Dr04) is inconsistent with g factor for the 8⁻ state (2010Io01).
2702.6[g] *4*	(9⁺)		C	J^{π}: 485.5γ to 7⁺, 835.3γ to 8⁺; band assignment.
2709.8[d] *5*	12⁺	97 ns *8*	BC	J^{π}: E2 343.5γ to 10⁺. $T_{1/2}$: Weighted average of 94 ns *14* from 343.5γ(t) (1999Dr10) and 99 ns *10* from γ(t) (2010Io01) in ^{164}Er(^{28}Si,4nγ). μ=−2.148 *72*; from g=−0.179 *6* using TDPAD (2010Io01) in ^{164}Er(^{28}Si,4nγ). configuration: $\nu(i_{13/2})^{-2}$ at spherical shape.
2725.1[h] *5*	(9⁻)		C	J^{π}: 251.2γ to 7⁻, 425.8γ to 8⁺.
2752.2[b] *5*	9⁻		C	J^{π}: 174.9γ M1+E2 to 8⁻; band assignment.
2778.0[f] *5*	(8⁻)		C	J^{π}: 329.4γ to (6⁻), 561.0γ to 7⁺; band assignment.
2833.4[&] *5*	10⁺		C	J^{π}: 534.2γ E2 to 8⁺; band assignment.
2853.8[e] *4*	(9⁻)		C	J^{π}: 487.5γ to 10⁺, 986.5γ to 8⁺; band assignment.
2923.8[@] *5*	12⁺		C	J^{π}: 557.5γ E2 to 10⁺; band assignment.
2945.3[a] *5*	10⁻		C	J^{π}: 193.0γ M1+E2 to 9⁻, 368.1γ E2 to 8⁻; band assignment.
3147.0[b] *5*	11⁻		C	J^{π}: 201.6γ to 10⁻, 394.9γ to 9⁻; band assignment.
3165.7[f] *6*	(10⁻)		C	J^{π}: 387.7γ to (8⁻); band assignment.
3183.4 *5*	11⁻		C	J^{π}: 238.2γ M1+E2 to 10⁻, 431.2γ (E2) to 9⁻.
3229.2[c] *5*	12⁻		C	J^{π}: 527.5γ M1+E2 to 11⁻; band assignment.
3240.7[g] *5*	(11⁺)		C	J^{π}: 538.1γ to (9⁺); band assignment.
3241.9[e] *5*	(11⁻)		C	J^{π}: 318.4γ to 12⁺, 388.1γ to (9⁻), 875.7γ to 10⁺: band assignment.
3389.6[&] *6*	12⁺		C	J^{π}: 556.2γ to 10⁺; band assignment.
3399.4[a] *5*	12⁻		C	J^{π}: 252.2γ to 11⁻, 454.1γ to 10⁻; band assignment.
3529.8[@] *5*	14⁺		C	J^{π}: 606.0γ E2 to 12⁺; band assignment.
3617.1[c] *5*	13⁻		C	J^{π}: 387.7γ M1+E2 to 12⁻, 915.5γ E2 to 11⁻; band assignment.
3649.9[b] *5*	13⁻		C	J^{π}: 250.5γ M1+E2 to 12⁻, 466.4γ to 11⁻; band assignment.
3680.2[e] *5*	(13⁻)		C	J^{π}: 451.0γ M1+E2 to 12⁻, 978.6γ E2 to 11⁻; band assignment.
3699.7[d] *5*	14⁺		C	J^{π}: 989.9γ E2 to 12⁺.
3754.5 *6*	(13⁻)		C	J^{π}: 571.8γ to 11⁻.
3802.5[g] *6*	(13⁺)		C	J^{π}: 561.8γ to (11⁺); band assignment.
3821.3 *11*	(12)		C	J^{π}: 1455γ to 10⁺.
3843.9 *6*	(13⁻)		C	J^{π}: 614.7γ (M1) to 12⁻.

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Adopted Levels, Gammas (continued)

^{188}Pb Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$[#]	XREF	Comments
3930.4[a] 6	14⁻		C	Jπ: 280.7γ to 13⁻, 530.9γ to 12⁻; band assignment.
3983.4[&] 7	(14⁺)		C	Jπ: 593.8γ to 12⁺; band assignment.
3983.8 6	(13)		C	Jπ: 754.6γ to 12⁻.
4096.4[c] 5	15⁻		C	Jπ: 479.2γ E2 to 13⁻, 566.6γ to 14⁺.
4136.2 6	(13)		C	Jπ: 907.0γ to 12⁻.
4163.4[@] 6	16⁺		C	Jπ: 633.6γ E2 to 14⁺; band assignment.
4211.9[b] 6	15⁻		C	Jπ: 562.0γ to 13⁻; band assignment.
4244.9[d] 6	15⁺		C	Jπ: 545.2γ (M1) to 14⁺, 267γ M1+E2 from 16⁺.
4250.4 6	(15⁻)		C	Jπ: 570.2γ (E2) to 13⁻.
4294.3 12	(13)		C	Jπ: 473.0γ to (12).
4389.8? 10			C	E(level): 546γ to (13⁻); level not shown in level scheme (figures 1 and 2) of 2004Dr04.
4409.0 6	(14⁻)		C	Jπ: 791.9γ to 13⁻.
4512.4[d] 6	16⁺		C	Jπ: 267.5γ M1+E2 to 15⁺, 982.6γ and 812.8γ to 14⁺.
4533.0[a] 6	16⁻		C	Jπ: 602.6γ to 14⁻; band assignment.
4565.6[c] 6	17⁻		C	Jπ: 469.2γ E2 to 15⁻.
4780.0 7	(17)		C	Jπ: 616.6γ to 16⁺.
4783.4 7	(19⁻)	0.44 μs 6	C	Jπ: 217.8γ (E2) to 17⁻. $T_{1/2}$: from γγγ(t) (2004Dr04). configuration: π(9/2⁻[505],13/2⁺[606])⊗ν(7/2⁺[633],9/2⁺[624]).
4868.2[@] 7	(18⁺)		C	Jπ: 704.8γ to 16⁺; band assignment.
5084.2[c] 7	(18⁻)		C	Jπ: 518.6γ (M1) to 17⁻.
5128.4 8	(20⁻)		C	Jπ: 345.0γ to (19⁻).
5435.0 12	(19)		C	Jπ: 655γ to (17).
5725.4 8	(21⁻)		C	Jπ: 597.0γ to (20⁻).

† From least-squares fit to Eγ, unless otherwise stated.

‡ Based on the deduced transition multipolarities, systematics, band assignment, and relative population in (HI,xnγ). Most of the assignments are adopted from 2004Dr04 (^{156}Gd(^{36}Ar,4nγ)).

\# From 2006Gr16 (also 2008Gr04) in ^{108}Pd(^{83}Kr,3nγ), using the differential-decay curve method, unless otherwise stated.

@ Band(A): $K^{\pi}=0^+$, prolate-deformed yrast band.

& Band(B): $K^{\pi}=0^+$, oblate-deformed band.

a Band(C): $K^{\pi}=8^-$, ν(7/2⁻[514],9/2⁺[624]) (prolate), α=0.

b Band(c): $K^{\pi}=8^-$, ν(7/2⁻[514],9/2⁺[624]) (prolate), α=1.

c Band(D): $K^{\pi}=11^-$, π(9/2⁻[505],13/2⁺[606]) oblate-deformed band.

d Seq.(H): γ cascade based on $J^{\pi}=12^+$ $\nu(i_{13/2})^{-2}$ (spherical).

e Band(E): (5⁻) band, possible $\nu(p_{3/2},i_{13/2})$ configuration.

f Band(e): (6⁻) band, possible $\nu(p_{3/2},i_{13/2})$ configuration.

g Band(F): possible γ band, α=1.

h Band(G): possible $K^{\pi}=1^-$ octupole band.

Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.†	α‡	Comments
591.0	0^+	591 *2*		0	0^+	E0		E_γ: Transition energy from measured E(ce)(K). No $E\gamma$ has been observed. Mult.: from K:L = 5:1 from ce data in $^{156}Gd(^{36}Ar,4n\gamma)$ (1999Le61).
723.6	2^+	723.5 *5*	100	0	0^+	E2	0.01280	B(E2)(W.u.)=7 *3* α(K)=0.00981 *14*; α(L)=0.00227 *4*; α(M)=0.000550 *8* α(N)=0.0001393 *20*; α(O)=2.69×10^{-5} *4*; α(P)=2.39×10^{-6} *4* Mult.: DCO=0.96 *7* from $^{156}Gd(^{36}Ar,4n\gamma)$.
725?	0^+	725@ *2*		0	0^+	E0		E_γ: Transition energy from the measured E(ce)(K). Note that the energy overlaps with the much stronger 723.9γ, E2 2^+ to 0^+ transition. Mult.: K:L = 5.4:1.0 from ce data in $^{156}Gd(^{36}Ar,4n\gamma)$ (1999Le61). The measured large α(K)exp=0.044 *5* for the doublet 725γ indicate E0 component. A 767 keV *12* E0 transition was reported in ^{192}Po α decay (1998Al27), but the population of this state was questioned in the later ^{192}Po α decay work (2003Va16).
952.5	2^+	228.7 *3*	9.4 *7*	723.6	2^+	E0+E2	2.9 *5*	Mult.: A_2=−0.33 *15*, α(exp)=2.9 *5* from $^{156}Gd(^{36}Ar,4n\gamma)$; E0 component inferred from large α(exp) and A_2 implies large E2 component. An M1 admixture should be expected, if K ≠ 0 for the initial and final states. α: From α(exp) in 2004Dr04 ($^{156}Gd(^{36}Ar,4n\gamma)$).
		952.5 *3*	100 *3*	0	0^+			
1063.8	4^+	340.2 *3*	100	723.6	2^+	E2	0.0802	B(E2)(W.u.)=163 *11* α(K)=0.0486 *7*; α(L)=0.0237 *4*; α(M)=0.00605 *9* α(N)=0.001530 *22*; α(O)=0.000283 *4*; α(P)=1.84×10^{-5} *3* Mult.: A_2=+0.24 *4*, DCO=0.96 *7*, α(K)exp=0.065 *20* from $^{156}Gd(^{36}Ar,4n\gamma)$.
1195.1	$(3,4^+)$	471.5 *5*	100	723.6	2^+			E_γ: From $^{164}Er(^{28}Si,4n\gamma)$.
1218.9	(1^-)	1219 *1*	100	0	0^+			
1314.9	4^+	250.8 *3*	11.7 *10*	1063.8	4^+	E0+E2	2.4 *3*	Mult.: A_2=−0.31 *18*, α(exp)=2.4 *3*; E0 component inferred from large α(exp) and A_2 implies large E2 component. An M1 admixture should be expected, if K ≠ 0 for the initial and final states. α: From α(exp) in 2004Dr04 ($^{156}Gd(^{36}Ar,4n\gamma)$).
		362.4 *3*	100 *3*	952.5	2^+	E2	0.0672	α(K)=0.0421 *6*; α(L)=0.0189 *3*; α(M)=0.00480 *7* α(N)=0.001215 *18*; α(O)=0.000226 *4*; α(P)=1.517×10^{-5} *22* Mult.: A_2=+0.16 *14*. E_γ: 360.2γ and 362.4γ form a doublet structure.
		591.5 *3*	99 *4*	723.6	2^+	E2	0.0199	α(K)=0.01466 *21*; α(L)=0.00394 *6*; α(M)=0.000967 *14* α(N)=0.000245 *4*; α(O)=4.67×10^{-5} *7*; α(P)=3.90×10^{-6} *6* Mult.: A_2=+0.39 *10*.
1411.3	4^+	458.8 *3*	100	952.5	2^+	(E2)	0.0362	α(K)=0.0250 *4*; α(L)=0.00852 *12*; α(M)=0.00213 *3* α(N)=0.000539 *8*; α(O)=0.0001014 *15*; α(P)=7.62×10^{-6} *11* Mult.: A_2=+0.23 *14*.

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Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.†	α‡	Comments
1433.5	6^+	369.7 *3*	100	1063.8	4^+	E2	0.0637	B(E2)(W.u.)=4.3×10^2 *7* α(K)=0.0402 *6*; α(L)=0.0176 *3*; α(M)=0.00447 *7* α(N)=0.001131 *17*; α(O)=0.000210 *3*; α(P)=1.427×10^{-5} *21* Mult.: A_2=+0.26 *4*, DCO=1.06 *10* (1993He05).
1516.9	(3^-)	298 *1*	34 *9*	1218.9	(1^-)			
		793.1 *3*	100 *14*	723.6	2^+	(E1)	0.00383	α(K)=0.00319 *5*; α(L)=0.000494 *7*; α(M)=0.0001142 *16* α(N)=2.89×10^{-5} *4*; α(O)=5.71×10^{-6} *8*; α(P)=5.81×10^{-7} *9* Mult.: A_2=−0.2 *3*.
1786.3	6^+	352.6 *3*	6.3 *11*	1433.5	6^+	E0+E2	1.3 *3*	Mult.: α(exp)=1.3 *3*; E0 component inferred from large α(exp). An M1 admixture should be expected, if K ≠ 0 for the initial and final states. α: From α(exp) in 2004Dr04 ($^{156}Gd(^{36}Ar,4n\gamma)$).
		471.5 *3*	100 *2*	1314.9	4^+	E2	0.0339	α(K)=0.0235 *4*; α(L)=0.00781 *11*; α(M)=0.00195 *3* α(N)=0.000493 *7*; α(O)=9.29×10^{-5} *14*; α(P)=7.07×10^{-6} *10* Mult.: A_2=+0.24 *10*. E_γ: 471.5γ and 472.9γ from 1788 form a doublet structure.
		723 *1*	14 *4*	1063.8	4^+			
1788.0	5^+	354.8 *3*	24 *7*	1433.5	6^+			
		376.6 *3*	100 *14*	1411.3	4^+	M1+E2	0.230	α(K)=0.188 *3*; α(L)=0.0320 *5*; α(M)=0.00748 *11* α(N)=0.00190 *3*; α(O)=0.000379 *6*; α(P)=4.06×10^{-5} *6* Mult.: A_2=+1.0 *4*.
		472.9 *3*	99 *4*	1314.9	4^+			E_γ: 471.5γ from 1786.4 and 472.9γ form a doublet structure.
		724	≈14	1063.8	4^+			
1867.3	8^+	433.8 *3*	100	1433.5	6^+	E2	0.0417	B(E2)(W.u.)=3.3×10^2 *6* α(K)=0.0282 *4*; α(L)=0.01022 *15*; α(M)=0.00257 *4* α(N)=0.000649 *10*; α(O)=0.0001217 *18*; α(P)=8.92×10^{-6} *13* Mult.: A_2=+0.26 *4*, DCO=1.07 *9* (1993He05).
1956.1	(5^-)	439.1 *3*	54 *5*	1516.9	(3^-)	E2	0.0405	α(K)=0.0274 *4*; α(L)=0.00982 *14*; α(M)=0.00246 *4* α(N)=0.000623 *9*; α(O)=0.0001169 *17*; α(P)=8.62×10^{-6} *13* Mult.: A_2=+0.29 *20*.
		892.4 *3*	100 *8*	1063.8	4^+	(E1)	0.00308	α(K)=0.00257 *4*; α(L)=0.000394 *6*; α(M)=9.09×10^{-5} *13* α(N)=2.30×10^{-5} *4*; α(O)=4.55×10^{-6} *7*; α(P)=4.67×10^{-7} *7* Mult.: A_2=−0.11 *16*.
2138.0	(6^+)	726.7 *3*	100	1411.3	4^+			
2210.5	(5^-)	1146.6 *3*	100	1063.8	4^+			
2217.1	7^+	429.2 *3*	100 *11*	1788.0	5^+			E_γ: 429.2γ and 430.6γ form a doublet structure.
		430.6 *3*	21 *3*	1786.3	6^+			E_γ: 429.2γ and 430.6γ form a doublet structure.
		783.7 *3*	56 *6*	1433.5	6^+	M1+E2	0.0333	α(K)=0.0274 *4*; α(L)=0.00455 *7*; α(M)=0.001061 *15* α(N)=0.000270 *4*; α(O)=5.38×10^{-5} *8*; α(P)=5.78×10^{-6} *9* Mult.: A_2=+1.0 *2*.
2299.2	8^+	431.7 *3*	19 *3*	1867.3	8^+	E0+E2	≈0.3	Mult.: α(exp)≈0.3; E0 component inferred from large α(exp). An M1 admixture should be

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Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.†	α‡	Comments
								expected,if K ≠ 0 for the initial and final states. α: From α(exp) in 2004Dr04 (^{156}Gd(^{36}Ar,4nγ)).
2299.2	8^+	513.0 *3*	100 *3*	1786.3	6^+	E2	0.0276	α(K)=0.0197 *3*; α(L)=0.00600 *9*; α(M)=0.001489 *21* α(N)=0.000377 *6*; α(O)=7.13×10^{-5} *10*; α(P)=5.63×10^{-6} *8* Mult.: A_2=+0.21 *9*.
		866 *1*	9 *3*	1433.5	6^+			
2366.3	10^+	499.0 *3*	100	1867.3	8^+	E2	0.0295	α(K)=0.0209 *3*; α(L)=0.00653 *10*; α(M)=0.001624 *23* α(N)=0.000411 *6*; α(O)=7.77×10^{-5} *11*; α(P)=6.06×10^{-6} *9* Mult.: A_2=+0.26 *4*, DCO=1.10 *11* (1993He05).
2448.5	(6^-)	660.5 *3*	100 *17*	1788.0	5^+			
		1015 *1*	35 *5*	1433.5	6^+			
2464.7		1031 *1*		1433.5	6^+			E_γ: From 1999Le61 in ^{156}Gd(^{36}Ar,4nγ).
		1401 *1*		1063.8	4^+			E_γ: From 1999Le61 in ^{156}Gd(^{36}Ar,4nγ).
2474.1	(7^-)	518.0 *3*	100 *5*	1956.1	(5^-)	E2	0.0270	α(K)=0.0193 *3*; α(L)=0.00583 *9*; α(M)=0.001444 *21* α(N)=0.000366 *6*; α(O)=6.93×10^{-5} *10*; α(P)=5.48×10^{-6} *8* Mult.: A_2=+0.33 *13*.
		606.8 *3*	≈6.7	1867.3	8^+			
		688 *1*	≈3.3	1786.3	6^+			
		1040 *1*	≈20	1433.5	6^+			
2516.1	(7^-)	305.5 *3*	≈14	2210.5	(5^-)			
		648.7 *3*	100 *19*	1867.3	8^+			
2577.2	8^-	103.0 *3*	13.5 *20*	2474.1	(7^-)	M1	8.60 *14*	B(M1)(W.u.)=9.3×10^{-7} *15* α(K)=7.00 *12*; α(L)=1.221 *20*; α(M)=0.286 *5* α(N)=0.0728 *12*; α(O)=0.01450 *24*; α(P)=0.00155 *3* Mult.: α(exp)=8 *2*.
		129 *1*	14.2 *20*	2448.5	(6^-)	E2	2.20 *8*	α(K)=0.413 *8*; α(L)=1.33 *6*; α(M)=0.352 *14* α(N)=0.089 *4*; α(O)=0.0159 *7*; α(P)=0.000671 *25* B(E2)(W.u.)=0.0120 *20* Mult.: α(exp)=2.0 *13*.
		278.2 *3*	47.3 *20*	2299.2	8^+	E1	0.0352	B(E1)(W.u.)=1.54×10^{-9} *12* α(K)=0.0288 *4*; α(L)=0.00491 *7*; α(M)=0.001147 *17* α(N)=0.000289 *5*; α(O)=5.60×10^{-5} *8*; α(P)=5.14×10^{-6} *8* Mult.: α(exp)=0.08 *5*.
		360.2 *3*	100 *3*	2217.1	7^+	E1	0.0195	B(E1)(W.u.)=1.50×10^{-9} *11* α(K)=0.01599 *23*; α(L)=0.00265 *4*; α(M)=0.000618 *9* α(N)=0.0001559 *22*; α(O)=3.04×10^{-5} *5*; α(P)=2.88×10^{-6} *4* Mult.: α(exp)<0.05. E_γ: 360.2γ and 362.4γ form a doublet structure.
		709.9 *3*	41.2 *20*	1867.3	8^+	[E1]	0.00474	B(E1)(W.u.)=8.1×10^{-11} *7* α(K)=0.00394 *6*; α(L)=0.000614 *9*; α(M)=0.0001421 *20* α(N)=3.59×10^{-5} *5*; α(O)=7.09×10^{-6} *10*; α(P)=7.16×10^{-7} *10*
2663.4	(8)	189.3 *3*	100	2474.1	(7^-)			
2701.6	11^-	335.4 *3*	100	2366.3	10^+	E1	0.0229	B(E1)(W.u.)=2.05×10^{-7} *24* α(K)=0.0188 *3*; α(L)=0.00314 *5*; α(M)=0.000731 *11* α(N)=0.000184 *3*; α(O)=3.59×10^{-5} *5*; α(P)=3.37×10^{-6} *5* Mult.: A_2=−0.16 *8*.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.†	α ‡	Comments
2702.6	(9+)	485.5 *3*	100 *5*	2217.1	7+			
		835.3 *3*	100 *17*	1867.3	8+			
2709.8	12+	343.5 *3*	100	2366.3	10+	E2	0.0780	B(E2)(W.u.)=0.0177 *15* α(K)=0.0475 *7*; α(L)=0.0229 *4*; α(M)=0.00584 *9* α(N)=0.001477 *22*; α(O)=0.000273 *4*; α(P)=1.79×10^{-5} *3* Mult.: A_2=+0.18 *11*.
2725.1	(9−)	251.2 *3*	100 *30*	2474.1	(7−)			
		425.8 *3*	40 *10*	2299.2	8+			
2752.2	9−	174.9 *3*	100	2577.2	8−	M1+E2	1.91	α(K)=1.557 *23*; α(L)=0.268 *4*; α(M)=0.0629 *10* α(N)=0.01599 *24*; α(O)=0.00319 *5*; α(P)=0.000341 *5* Mult.: A_2=−0.63 *18*.
2778.0	(8−)	329.4 *3*	62 *9*	2448.5	(6−)			
		561.0 *3*	100 *8*	2217.1	7+			
2833.4	10+	534.2 *3*	100	2299.2	8+	E2	0.0251	α(K)=0.0181 *3*; α(L)=0.00531 *8*; α(M)=0.001313 *19* α(N)=0.000332 *5*; α(O)=6.31×10^{-5} *9*; α(P)=5.06×10^{-6} *8* Mult.: A_2=+0.31 *5*.
2853.8	(9−)	337.6 *3*	17.0 *24*	2516.1	(7−)			
		380.4@ *3*	≈20	2474.1	(7−)			
		487.5 *3*	100 *12*	2366.3	10+			
		986.5 *3*	38 *4*	1867.3	8+			
2923.8	12+	557.5 *3*	100	2366.3	10+	E2		Mult.: A_2=+0.37 *6*, DCO=1.22 *16* (1993He05).
2945.3	10−	193.0 *3*	100 *10*	2752.2	9−	M1+E2	1.447 *22*	α(K)=1.181 *18*; α(L)=0.203 *3*; α(M)=0.0476 *7* α(N)=0.01211 *18*; α(O)=0.00241 *4*; α(P)=0.000258 *4* Mult.: A_2=−0.72 *17*.
		368.1 *3*	67 *14*	2577.2	8−	E2	0.0644	α(K)=0.0406 *6*; α(L)=0.0179 *3*; α(M)=0.00454 *7* α(N)=0.001149 *17*; α(O)=0.000213 *3*; α(P)=1.446×10^{-5} *21* Mult.: A_2=+0.29 *20*.
3147.0	11−	201.6 *3*	100 *18*	2945.3	10−			
		394.9 *3*	86 *18*	2752.2	9−			
3165.7	(10−)	387.7# *3*	100#	2778.0	(8−)			
3183.4	11−	238.2 *3*	84 *16*	2945.3	10−	M1+E2	0.805	α(K)=0.657 *10*; α(L)=0.1127 *17*; α(M)=0.0264 *4* α(N)=0.00671 *10*; α(O)=0.001338 *20*; α(P)=0.0001430 *21* Mult.: A_2=−0.8 *3*.
		431.2 *3*	100 *20*	2752.2	9−	(E2)	0.0424	α(K)=0.0286 *4*; α(L)=0.01043 *15*; α(M)=0.00262 *4* α(N)=0.000662 *10*; α(O)=0.0001242 *18*; α(P)=9.07×10^{-6} *13* Mult.: A_2≈+0.3.
3229.2	12−	527.5 *3*	100	2701.6	11−	M1+E2	0.0937	α(K)=0.0768 *11*; α(L)=0.01292 *19*; α(M)=0.00302 *5* α(N)=0.000767 *11*; α(O)=0.0001530 *22*; α(P)=1.640×10^{-5} *24* Mult.: A_2=−0.63 *5*.
3240.7	(11+)	538.1 *3*	100	2702.6	(9+)			
3241.9	(11−)	318.4 *3*	18 *4*	2923.8	12+			
		388.1 *3*	100 *10*	2853.8	(9−)			
		875.7 *3*	37 *7*	2366.3	10+			
3389.6	12+	556.2 *3*	100	2833.4	10+			

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Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$ (continued)

E_i(level)	J^π_i	E_γ †	I_γ †	E_f	J^π_f	Mult. †	α ‡	Comments
3399.4	12^-	252.2 *3*	37 *9*	3147.0	11^-			
		454.1 *3*	100 *14*	2945.3	10^-			
3529.8	14^+	606.0 *3*	100	2923.8	12^+	E2	0.0188	α(K)=0.01396 *20*; α(L)=0.00368 *6*; α(M)=0.000902 *13* α(N)=0.000228 *4*; α(O)=4.36×10^{-5} *7*; α(P)=3.67×10^{-6} *6* Mult.: A_2=+0.22 *10*, DCO=1.07 *22* (1993He05).
3617.1	13^-	387.7# *3*	59# *3*	3229.2	12^-	M1+E2	0.213	α(K)=0.1742 *25*; α(L)=0.0296 *5*; α(M)=0.00691 *10* α(N)=0.001757 *25*; α(O)=0.000350 *5*; α(P)=3.75×10^{-5} *6* Mult.: A_2=−0.42 *9*.
		915.5 *3*	100 *5*	2701.6	11^-	E2	0.00792	α(K)=0.00626 *9*; α(L)=0.001267 *18*; α(M)=0.000303 *5* α(N)=7.68×10^{-5} *11*; α(O)=1.496×10^{-5} *21*; α(P)=1.417×10^{-6} *20* Mult.: A_2=+0.22 *9*.
3649.9	13^-	250.5 *3*	57 *14*	3399.4	12^-	M1+E2	0.700	α(K)=0.572 *9*; α(L)=0.0980 *15*; α(M)=0.0230 *4* α(N)=0.00583 *9*; α(O)=0.001163 *17*; α(P)=0.0001243 *18* Mult.: A_2=−0.5 *3*.
		466.4 *3*	100 *14*	3183.4	11^-			
		503.0 *3*	86 *19*	3147.0	11^-			
3680.2	(13^-)	438.4 *3*	100 *12*	3241.9	(11^-)			
		451.0 *3*	53 *3*	3229.2	12^-	M1+E2	0.1420	α(K)=0.1163 *17*; α(L)=0.0197 *3*; α(M)=0.00460 *7* α(N)=0.001168 *17*; α(O)=0.000233 *4*; α(P)=2.49×10^{-5} *4* Mult.: A_2=−0.48 *12*.
		756.2 *3*	23 *5*	2923.8	12^+			
		978.6 *3*	41 *3*	2701.6	11^-	E2	0.00695	α(K)=0.00552 *8*; α(L)=0.001085 *16*; α(M)=0.000259 *4* α(N)=6.55×10^{-5} *10*; α(O)=1.279×10^{-5} *18*; α(P)=1.229×10^{-6} *18* Mult.: A_2=+0.31 *20*.
3699.7	14^+	776 *1*	26 *5*	2923.8	12^+			
		989.9 *3*	100 *5*	2709.8	12^+	E2	0.00679	α(K)=0.00541 *8*; α(L)=0.001057 *15*; α(M)=0.000252 *4* α(N)=6.38×10^{-5} *9*; α(O)=1.246×10^{-5} *18*; α(P)=1.199×10^{-6} *17* Mult.: A_2=+0.32 *12*.
3754.5	(13^-)	571.1 *3*	100	3183.4	11^-			
3802.5	(13^+)	561.8 *3*	100	3240.7	(11^+)			
3821.3	(12)	1455 *1*	100	2366.3	10^+			
3843.9	(13^-)	614.7 *3*	100	3229.2	12^-	(M1)	0.0627	α(K)=0.0514 *8*; α(L)=0.00861 *13*; α(M)=0.00201 *3* α(N)=0.000511 *8*; α(O)=0.0001019 *15*; α(P)=1.094×10^{-5} *16* Mult.: A_2=−0.4 *2*.
3930.4	14^-	280.7 *3*	≈33	3649.9	13^-			
		530.9 *3*	100 *24*	3399.4	12^-			
3983.4	(14^+)	593.8 *3*	100	3389.6	12^+			
3983.8	(13)	754.6 *3*	100	3229.2	12^-			
4096.4	15^-	416.3 *3*	62 *7*	3680.2	(13^-)	E2	0.0464	α(K)=0.0308 *5*; α(L)=0.01172 *17*; α(M)=0.00295 *5*

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Adopted Levels, Gammas (continued)

γ(^{188}Pb) (continued)

E$_i$(level)	J$^\pi_i$	E$_\gamma$†	I$_\gamma$†	E$_f$	J$^\pi_f$	Mult.†	α‡	Comments
								α(N)=0.000746 *11*; α(O)=0.0001396 *20*; α(P)=1.004×10^{-5} *15* Mult.: A$_2$=+0.31 *16*.
4096.4	15$^-$	479.2 *3*	100 *4*	3617.1	13$^-$	E2	0.0326	α(K)=0.0227 *4*; α(L)=0.00742 *11*; α(M)=0.00185 *3* α(N)=0.000468 *7*; α(O)=8.82×10^{-5} *13*; α(P)=6.76×10^{-6} *10* Mult.: A$_2$=+0.26 *9*.
		566.6 *3*	13.2 *25*	3529.8	14$^+$			
4136.2	(13)	907.0 *3*	100	3229.2	12$^-$			
4163.4	16$^+$	633.6 *3*	100	3529.8	14$^+$	E2	0.01705	α(K)=0.01276 *18*; α(L)=0.00325 *5*; α(M)=0.000793 *12* α(N)=0.000201 *3*; α(O)=3.85×10^{-5} *6*; α(P)=3.29×10^{-6} *5* Mult.: A$_2$=+0.36 *16*.
4211.9	15$^-$	562.0 *3*	100	3649.9	13$^-$			
4244.9	15$^+$	545.2 *3*	76 *6*	3699.7	14$^+$	(M1)	0.0859	α(K)=0.0704 *10*; α(L)=0.01184 *17*; α(M)=0.00277 *4* α(N)=0.000703 *10*; α(O)=0.0001402 *20*; α(P)=1.503×10^{-5} *22* Mult.: A$_2$=−0.13 *19*.
		715.2 *3*	100 *11*	3529.8	14$^+$			
4250.4	(15$^-$)	570.2 *3*	100	3680.2	(13$^-$)	(E2)	0.0216	α(K)=0.01580 *23*; α(L)=0.00438 *7*; α(M)=0.001078 *16* α(N)=0.000273 *4*; α(O)=5.20×10^{-5} *8*; α(P)=4.28×10^{-6} *6* Mult.: A$_2$=+0.2 *3*.
4294.3	(13)	473.0 *3*	100	3821.3	(12)			
4389.8?		546@	100	3843.9	(13$^-$)			
4409.0	(14$^-$)	791.9 *3*	100	3617.1	13$^-$			
4512.4	16$^+$	267.5 *3*	100 *21*	4244.9	15$^+$	M1+E2	0.584	α(K)=0.477 *7*; α(L)=0.0817 *12*; α(M)=0.0191 *3* α(N)=0.00486 *7*; α(O)=0.000969 *14*; α(P)=0.0001036 *15* Mult.: A$_2$=−0.39 *20*.
		812.8 *3*	28 *8*	3699.7	14$^+$			
		982.6 *3*	29 *8*	3529.8	14$^+$			
4533.0	16$^-$	602.6 *3*	100	3930.4	14$^-$			
4565.6	17$^-$	469.2 *3*	100	4096.4	15$^-$	E2	0.0343	α(K)=0.0238 *4*; α(L)=0.00793 *12*; α(M)=0.00198 *3* α(N)=0.000501 *7*; α(O)=9.43×10^{-5} *14*; α(P)=7.16×10^{-6} *11* Mult.: A$_2$=+0.16 *10*.
4780.0	(17)	616.6 *3*	100	4163.4	16$^+$			
4783.4	(19$^-$)	217.8 *3*	100	4565.6	17$^-$	(E2)	0.319	B(E2)(W.u.)=0.031 *5* α(K)=0.1381 *20*; α(L)=0.1354 *21*; α(M)=0.0353 *6* α(N)=0.00891 *14*; α(O)=0.001616 *25*; α(P)=8.44×10^{-5} *13* Mult.: A$_2$=+0.3 *3*, α(exp)=0.23 or 0.51.
4868.2	(18$^+$)	704.8 *3*	100	4163.4	16$^+$			
5084.2	(18$^-$)	518.6 *3*	100	4565.6	17$^-$	(M1)	0.0980	α(K)=0.0804 *12*; α(L)=0.01352 *19*; α(M)=0.00316 *5* α(N)=0.000803 *12*; α(O)=0.0001602 *23*; α(P)=1.717×10^{-5} *25* Mult.: A$_2$=−0.21 *16*.
5128.4	(20$^-$)	345.0 *3*	100	4783.4	(19$^-$)			
5435.0	(19)	655 *1*	100	4780.0	(17)			
5725.4	(21$^-$)	597.0 *3*	100	5128.4	(20$^-$)			

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Adopted Levels, Gammas (continued)

$\gamma(^{188}Pb)$ (continued)

† From $^{156}Gd(^{36}Ar,4n\gamma)$, unless otherwise stated. Mult. deduced using $\gamma(\theta)$, $\gamma\gamma(\theta)$(DCO) and ce data.

‡ Additional information 2.

Multiply placed with intensity suitably divided.

@ Placement of transition in the level scheme is uncertain.

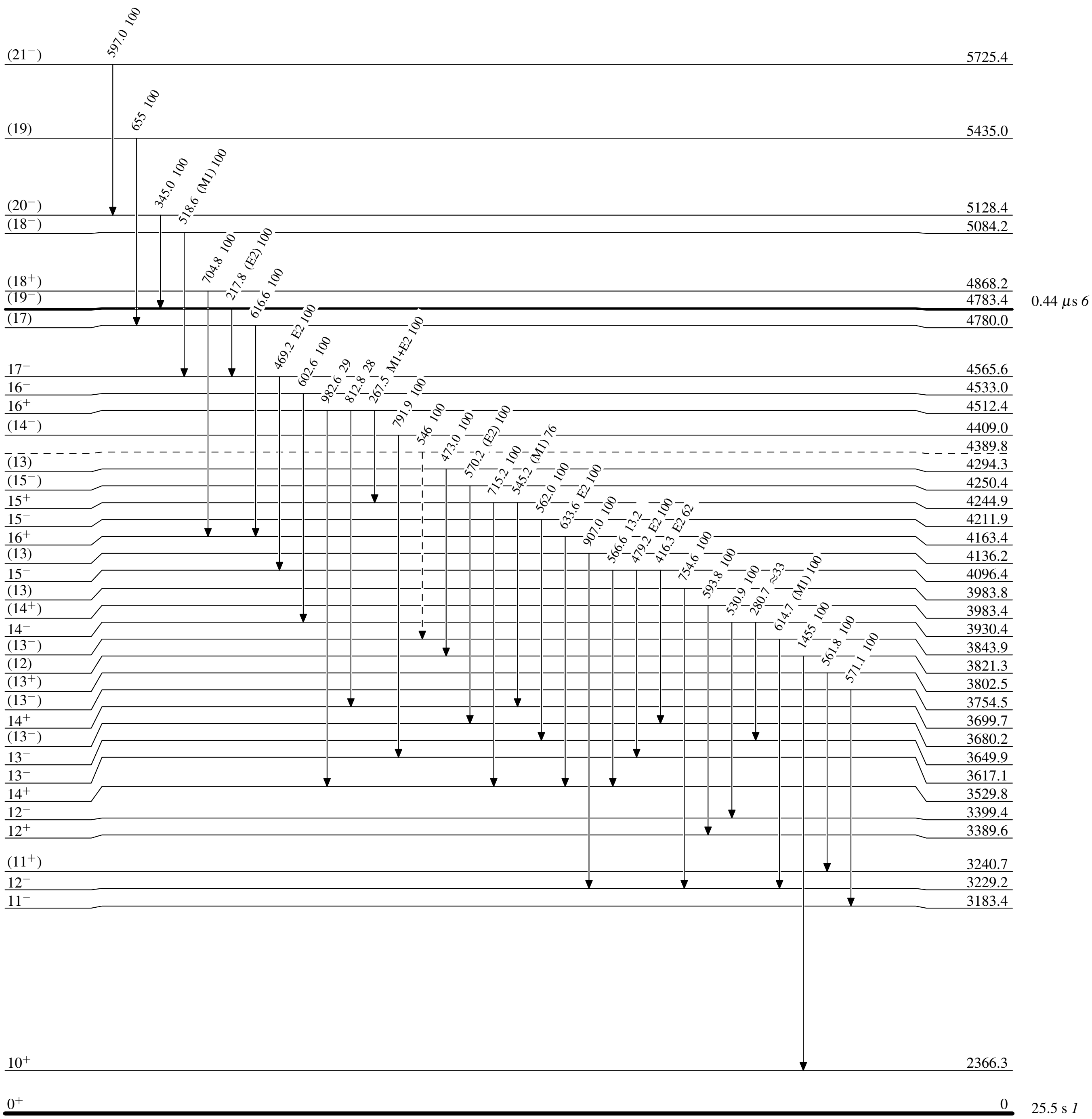
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

γ Decay (Uncertain)

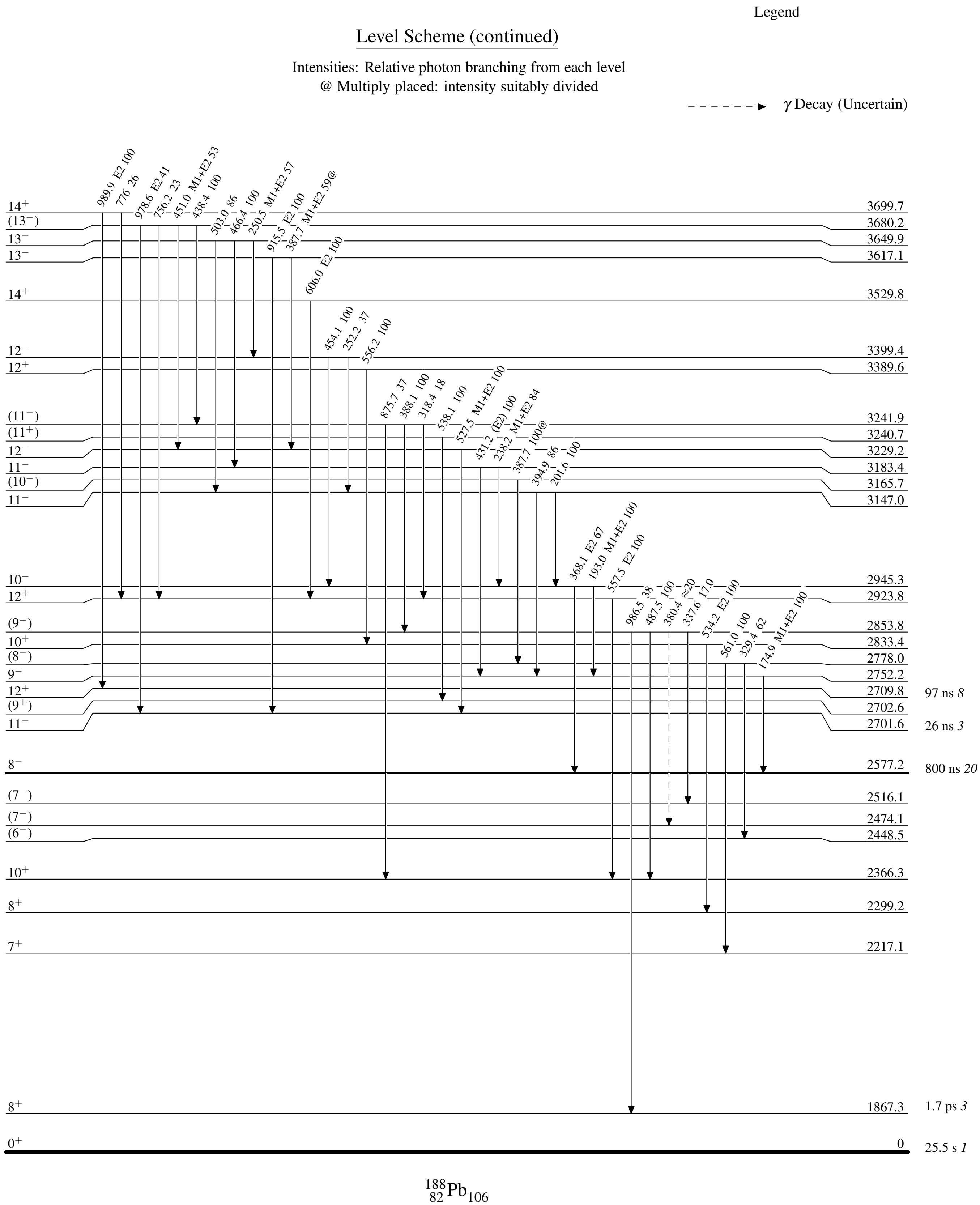


$^{188}_{82}Pb_{106}$

Adopted Levels, Gammas

Level Scheme (continued)

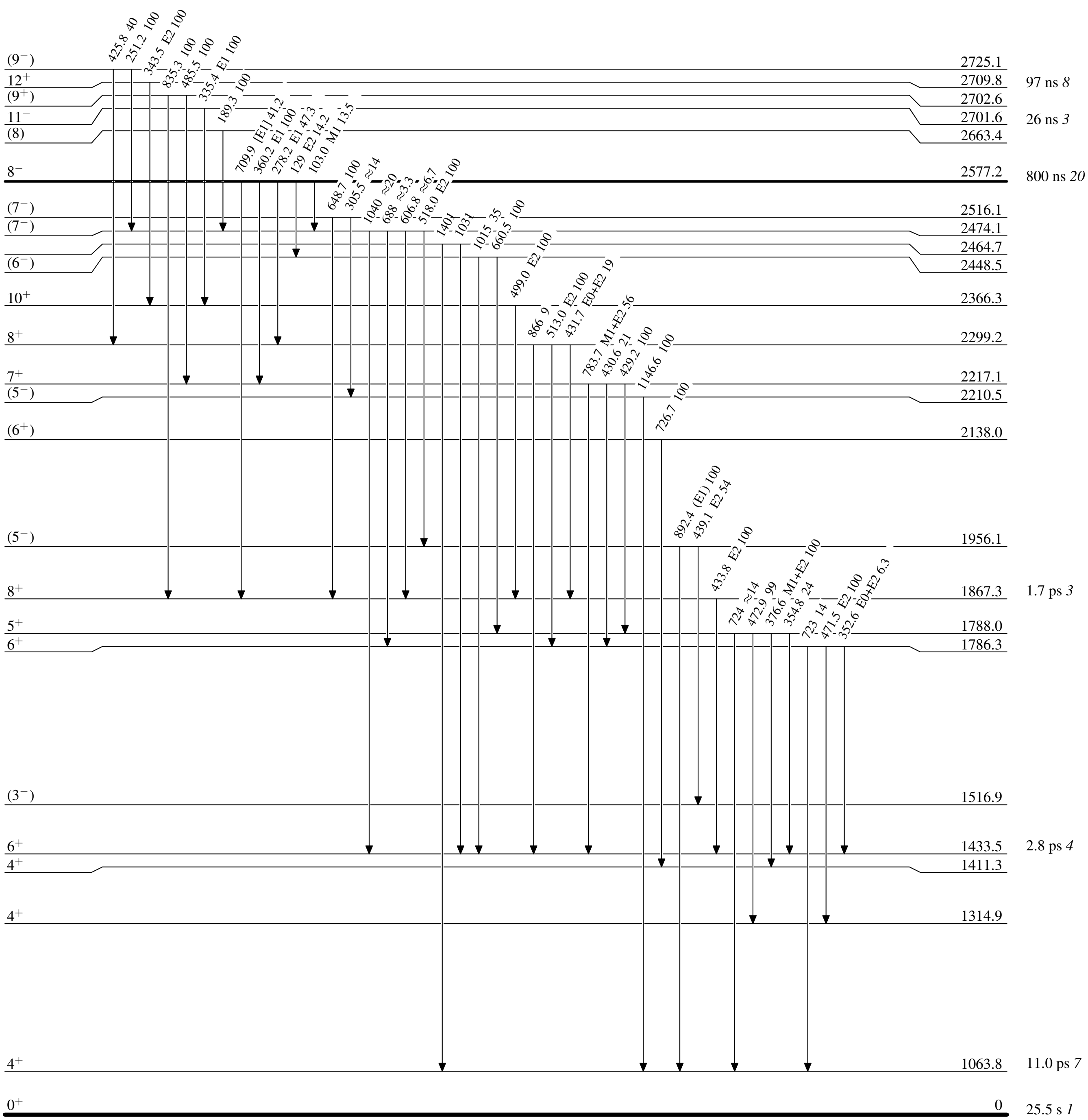
Intensities: Relative photon branching from each level
@ Multiply placed: intensity suitably divided



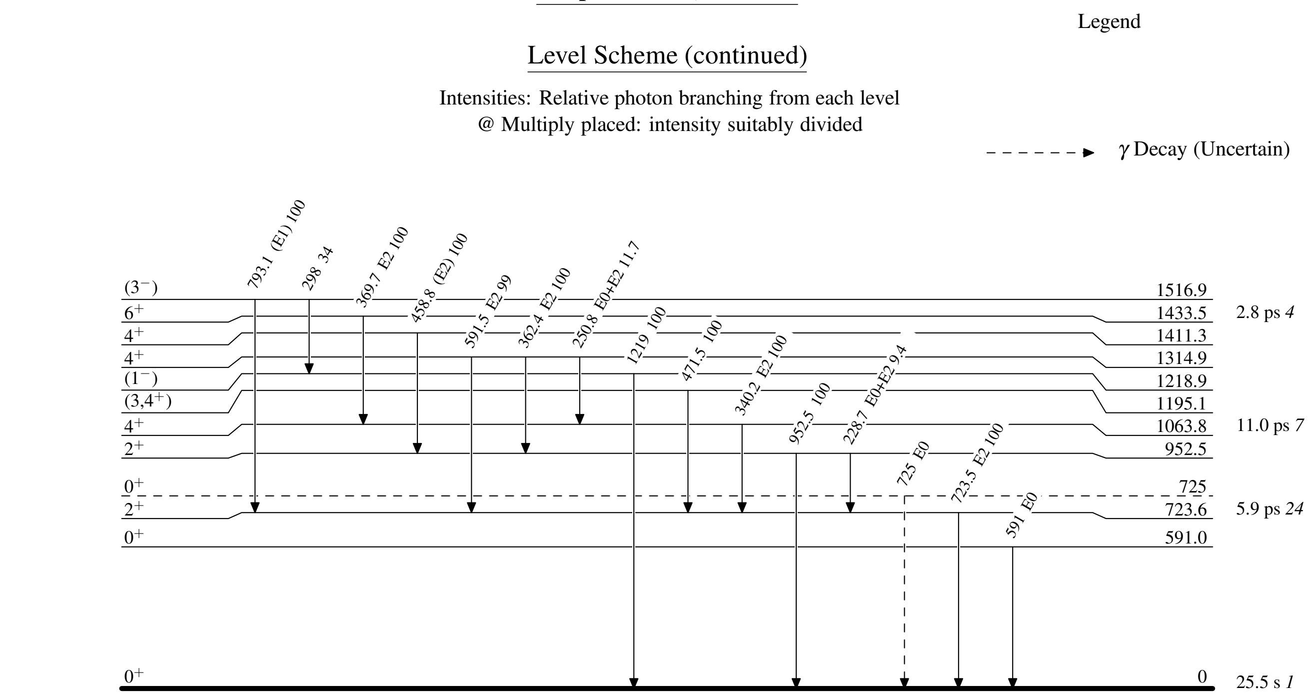
Adopted Levels, Gammas

Level Scheme (continued)

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

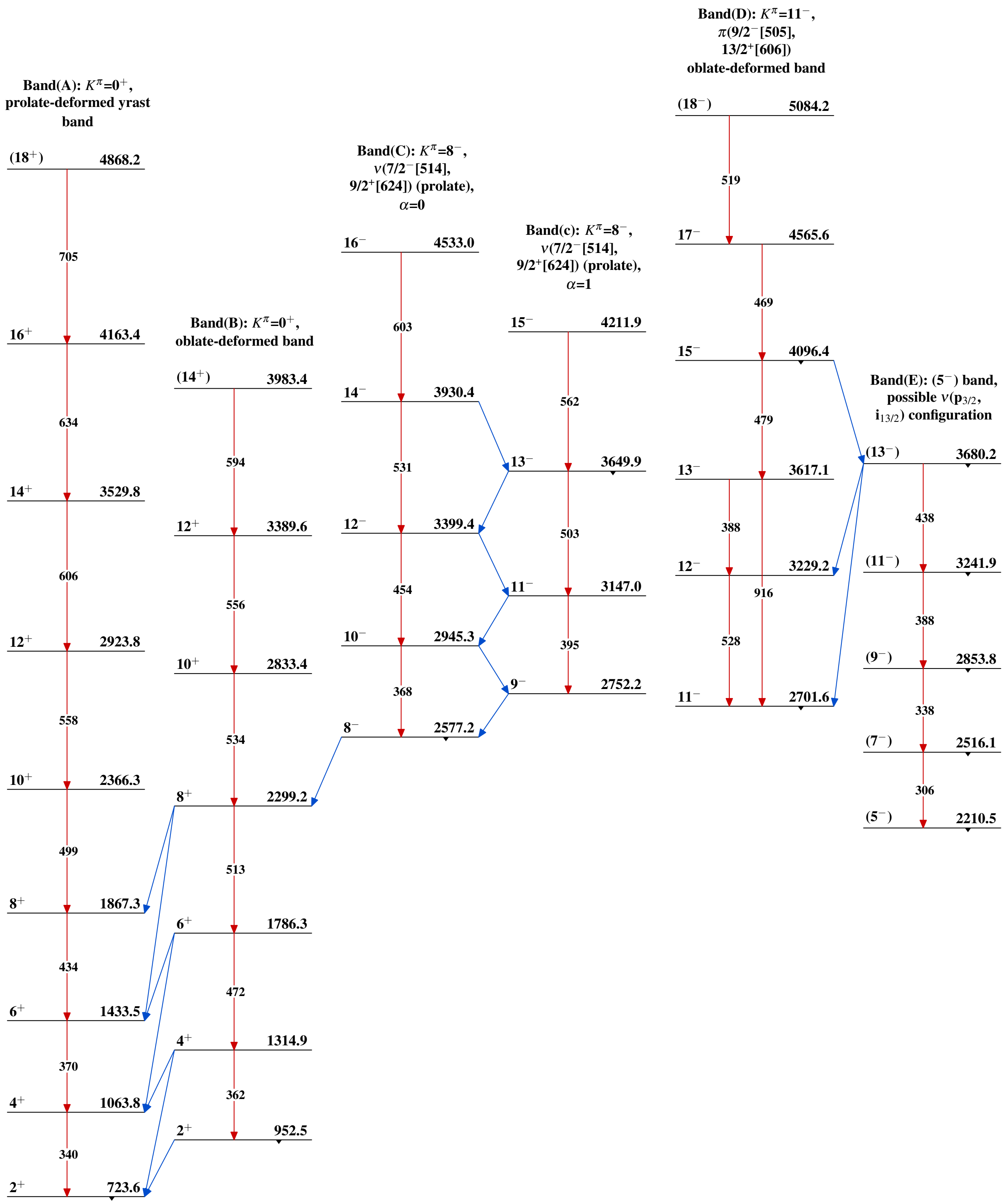


Adopted Levels, Gammas



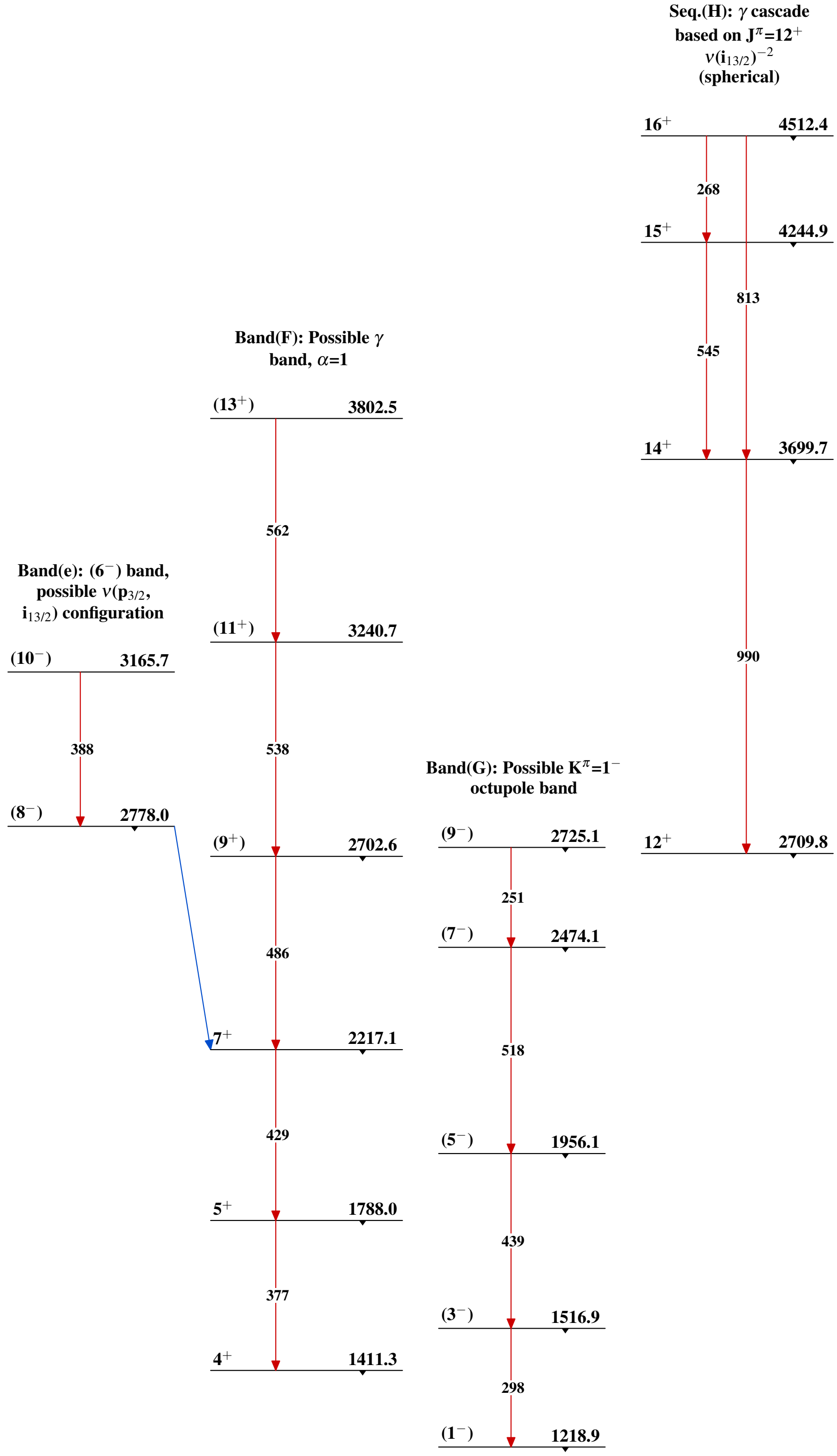
$^{188}_{82}Pb_{106}$

Adopted Levels, Gammas



$^{188}_{82}Pb_{106}$

Adopted Levels, Gammas (continued)



$^{188}_{82}Pb_{106}$

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

Q(β^-)=−5190 *15*; S(n)=8741 *14*; S(p)=6049 *15*; Q(α)=2589 *4* 2021Wa16
S(2n)=15832 *11*, S(2p)=11015 *4* (2021Wa16).

^{202}Pb Levels

Cross Reference (XREF) Flags

A	^{202}Pb IT decay	E	^{192}Os(^{14}C,4nγ)	I	^{203}Tl(p,2nγ)
B	^{202}Bi ε decay	F	^{197}Au(^{207}Pb,Xγ)	J	^{204}Pb(p,t)
C	^{206}Po α decay	G	^{198}Pt(^{9}Be,5nγ)	K	^{209}Bi(π^-,7nγ)
D	^{9}Be(^{208}Pb,Xγ),^{9}Be(^{238}U,Xγ)	H	^{202}Hg(α,4nγ),^{200}Hg(α,2nγ)		

E(level)†	J$^\pi$#	T$_{1/2}$	XREF	Comments
0.0	0$^+$	5.25×10^4 y *28*	ABCD HIJK	%ε=100 T$_{1/2}$: From 1981Na15. Others: ≈3×10^5 y (1954Hu61), 5.42×10^4 y *24* (1979NiZV). δ<r^2>(^{208}Pb,^{202}Pb)=−0.3280 fm^2 *27* (1986An06). Others: 1983Th03 (same authors as 1986An06), 1985Ki03.
960.67 *5*	2$^+$	≤0.1 ns	AB D HIJK	J$^\pi$: 960.67γ E2 to 0$^+$; L(p,t)=2. T$_{1/2}$: From $\gamma\gamma$(t) in 1959Jo21.
1382.84 *6*	4$^+$	1.97 ns *2*	AB D H JK	μ=+0.008 *16* (1977Th02,2020StZV) J$^\pi$: 422.13γ E2 to 2$^+$; L(p,t)=4. T$_{1/2}$: From $\gamma\gamma$(t) in 1977Th02. Other: 2.00 ns *15* [$\gamma\gamma$(t), 1959Jo21]. μ: Using g=0.002 *4* measured with integral perturbed angular correlation technique (1977Th02).
1584‡ *2*	(2$^+$)		J	J$^\pi$: L(p,t)=(2).
1623.05 *6*	4$^+$		AB D J	J$^\pi$: 662.55γ E2 to 2$^+$, 240.18γ M1(+E2) to 4$^+$; L(p,t)=4.
1657‡ *2*	2$^+$		J	J$^\pi$: L(p,t)=2.
1658.0 *5*	0$^+$	<30 ps	I	J$^\pi$: 1658γ E0 to 0$^+$. T$_{1/2}$: From 1986Ka07 using the centroid-shift technique.
1798‡ *2*	(2)$^+$		J	J$^\pi$: 2$^+$ or 4$^+$ from L(p,t)=(2,4). Nonobservation in ^{202}Bi ε decay (J^π=5$^+$) favors 2$^+$.
1815‡ *2*			J	
1862.0 *5*	0$^+$	<30 ps	I	J$^\pi$: 1862γ E0 to 0$^+$. T$_{1/2}$: From 1986Ka07 using the centroid-shift technique.
1915.12 *6*	4$^+$		AB D J	J$^\pi$: L(p,t)=4; 954.47γ E2 to 2$^+$, 291.93γ M1(+E2) to 4$^+$.
1965.14 *7*	4$^+$		B J	XREF: J(1963). J$^\pi$: 1004.44γ E2 to 2$^+$, 582.33γ M1+E2 to 4$^+$.
2040.33 *6*	5$^-$		AB D H JK	J$^\pi$: L(p,t)=5; 125.21γ and 657.49γ E1 to 4$^+$.
2159.0 *5*	0$^+$	<30 ps	I	J$^\pi$: 2159 E0 to 0$^+$. T$_{1/2}$: From 1986Ka07 using the centroid-shift technique.
2169.83 *8*	9$^-$	3.54 h *2*	A DEFGH JK	%IT=90.3 *4*; %ε+%β^+=9.7 *4* μ=−0.2276 *7* (1986An06); Q=+0.58 *9* (1986An06,2021StZZ) J$^\pi$: 786.99γ E5 to 4$^+$; L(p,t)=9. T$_{1/2}$: Weighted average of 3.53 h *1* (1981An11), 3.5 h *1* (1954Ma78) and 3.62 h *3* (1957As65). %ε+%β^+ is weighted average of 9.8% *5* in (1957Mc40) and 9.3 % *8* (1972Gu06). The value of 1957Mc40 is weighted average of 9.9 % *6* (using ce data) and 9.5 % *10* (using γ-ray data). The value of 1972Gu06 is determined from Iγ(490γ)/Iγ(961γ)=0.100 *10* and α(490γ,E2) and α(961γ,E2).

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Adopted Levels, Gammas (continued)

^{202}Pb Levels (continued)

E(level)†	Jπ#	$T_{1/2}$	XREF	Comments
				μ,Q: From 1986An06, 2021StZZ (LASER spectroscopy). Other: 1983Th03 (same authors as 1986An06). $\delta<r^2>(^{208}Pb,^{202m}Pb)=-0.3299$ fm^2 *27* (1986An06). Other: 1983Th03 (same authors as 1986An06). configuration: $\nu(f_{5/2}^{-1},i_{13/2}^{-1})$.
2185.06 *8*	3^+		B J	Jπ: 802.25γ M1+E2 to 4^+, 1224.24γ M1+E2 to 2^+;
2208.44 *7*	7^-	65.3 ns *4*	B D H J	Q=0.28 *2* (2021StZZ) Jπ: 168.11γ E2 to 5^- and 825.4γ E3 to 4^+. $T_{1/2}$: Weighted average of 65.0 ns *5* [168.1γ(t)], 65.0 ns *3* [422.1γ(t)], 66.7 ns *3* [657.3γ(t)], 65.0 ns *3* [960.7γ(t)] in 1986Ja13 and 64.5 ns *3* (2018La03). Other: 42 ns *4* in 1974Lu03. configuration: $\nu(p_{1/2}^{-1},i_{13/2}^{-1})$.
2235.42 *9*	6^+		B	Jπ: 852γ E2 to 4^+, no γ ray to 0^+. Direct population in ^{202}Bi ε decay ($J^\pi=5^+$).
2289.25 *7*	6^-		B	Jπ: 80γ M1 to 7^-, 248γ M1 to 5^-.
2307‡ *3*	7^-		J	Jπ: L(p,t)=7.
2324.93 *9*	$4^+,5^+$		B	Jπ: 942.07γ M1+E2 to 4^+; direct population in ^{202}Bi ε decay ($J^\pi=5^+$).
2360.47 *8*	$4^-,5^-$		B J	XREF: J(2364). Jπ: 320.14γ M1 to 5^-; 1363.14γ M1(+E2) from 4^-.
2386.82 *7*	5^-		B J	XREF: J(2389). Jπ: 97.58γ M1 to 6^-, 346.47γ M1+E2 to 5^-; 1336.48γ M1+E2 from 4^-.
2516‡ *3*	4^+		J	Jπ: L(p,t)=4.
2517.28 *7*	3^-		B	Jπ: 1134.33γ E1 to 4^+; 1556.69γ E1 to 2^+.
2609.59 *7*	5^-		B J	XREF: J(2600). Jπ: 569.27γ M1+E2 to 5^-, 644.44γ E1 to 4^+; L(p,t)=5.
2618.89 *7*	$4^-,5^-,6^-$		B	Jπ: 232.06γ M1(+E2) and 578.56γ M1+E2 to 5^-.
2666‡ *3*	4^+		J	Jπ: L(p,t)=4.
2750.49 *12*	6^+		B J	XREF: J(2747). Jπ: L(p,t)=6; 1367.7γ E2 to 4^+. configuration: Dominant $\nu(f_{5/2}^{-1},f_{7/2}^{-1})$ (1974Or01).
2898.76 *7*	5^-		B	Jπ: 690.33γ E2 to 7^-, 983.63γ and 1515.89γ E1 to 4^+.
2916.54 *7*	$4^-,5^-$		B	Jπ: 876.21γ M1+E2 to 5^-. 369.27γ M1(+E2) from 4^-.
2967.62 *7*	$4^-,5^-$		B	Jπ: 927.28γ M1 to 5^-, 1584.9γ (E1) to 4^+.
2995‡ *3*	5^-		J	Jπ: L(p,t)=5.
3057.9 *5*	11^-		DEFGH	Jπ: 888.1γ E2 to 9^-.
3131‡ *3*			J	
3180‡ *3*	4^+		J	Jπ: L(p,t)=4.
3191.3 *5*	10^+		E GH	Jπ: 1021.5γ D to 9^-, 46γ from 12^+.
3200‡ *30*	8^+		J	Jπ: L(p,t)=8.
3237.7 *7*	12^+	24.2 ns *3*	DEFGH	Jπ: 179.7γ stretched E1 to 11^-. $T_{1/2}$: Weighted average of 24.6 ns *5* [179.7γ(t)], 23.4 ns *3* [888.1γ(t)], 24.5 ns *2* [1021.5γ(t)] in 1986Ja13 and 23.5 ns *6* [γ-γ(Δt)] in 2019Ro12. configuration: $\nu(i_{13/2}^{-2})$.
3285.80 *7*	4^-		B	Jπ: 768.57γ M1(+E2) to 3^-, 1245γ M1(+E2) to 5^-.
3329.0 *7*	12		E GH	Jπ: 271γ D to 11^-.
3507.3 *8*	(13)		G	Jπ: 269γ D to 12^+.
3682.22 *10*	$4^-,5^-$		B	Jπ: 1072.59γ M1(+E2) to 5^-, 1164.9γ to 3^-.
3723.52 *9*	4^-		B	Jπ: 1206.25γ M1(+E2) to 3^-, 1363.14γ M1(+E2) to $5^-,6^-$.
3820.88 *8*	5^-		B J	XREF: J(3800). Jπ: 534.7γ to 4^-, 2198.03γ to 4^+, 1584.9γ E1+M2 to 6^+; L(p,t)=5.
3955.6 *7*	13^+		E GH	Jπ: 717γ M1(+E2) to 12^+.
4000‡ *30*	7^-		J	Jπ: L(p,t)=7.

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Adopted Levels, Gammas (continued)

^{202}Pb Levels (continued)

E(level)†	Jπ#	$T_{1/2}$	XREF	Comments
4022.8 *10*	(14)		G	Jπ: 515γ D to (13).
4022.9 *8*	(12)		DE GH	Jπ: 785γ (D,Q) to 12+.
4068.3 *8*	13		DE GH	Jπ: 830.6γ D to 12+.
4091.0 *8*	14+		DEFGH	Jπ: 853γ E2 to 12+.
4091.0+x	16+	106 ns *3*	DEFGH	μ=−0.67 *16* (1986Ja13,2020StZV) Additional information 1. Jπ: μ; syst of similar structures in neighboring nuclei. $T_{1/2}$: Weighted average of 120 ns *6* [179.7γ(t)], 108.5 ns *20* [853.3γ(t)], 105.5 ns *30* [888.1γ(t)] and 112 ns *9* [1021.5γ(t)] in 1986Ja13, 93 ns *4* [797γ-(689γ+841γ)(Δt) and 354γ-(689γ+841γ)(Δt)] in 2019Ro12 and 103 ns *10* [γ(t)] in 2018La03. μ: From g=−0.042 *10* (corrected for Knight shift and diamagnetic shielding) in 1986Ja13. configuration: Dominant $\nu(f_{5/2}^{-2},i_{13/2}^{-2})$.
4170.6 *8*	14+		E GH	Jπ: 215.0γ M1(+E2) to 13+, 932.9γ E2 to 12+. configuration: Dominant $\nu(p_{1/2}^{-1},f_{5/2}^{-1},i_{13/2}^{-2})$.
4322.8+x *4*	15		E H	Jπ: 231γ D to 14+.
4400‡ *30*	11−		J	Jπ: L(p,t)=11.
4445.4+x *4*	16+		DEFGH	Jπ: 122.5γ to 15, 354γ M1,ΔJ=0 to 16+.
4452.5+x *6*	16		E H	Jπ: 129γ D to 15.
4500‡ *30*	11−		J	Jπ: L(p,t)=11.
4513.1 *11*	(15)		G	Jπ: 490γ D to 14.
4600‡ *30*	6+		J	Jπ: L(p,t)=6.
5059.0 *12*	(16)		G	Jπ: 545γ D to (15).
5059.0+y@			G	Additional information 2. E(level): this level decays to the 5059.0−keV and 5242.6+x−keV levels, but the deexciting transitions are not known.
5059.0+z&			G	Additional information 3. E(level): This level decays to 5059.0 keV level, but the deexcitation transitions are not known (2000Go47).
5189.0+z& *5*			G	
5200‡ *30*	9−		J	Jπ: L(p,t)=9.
5220.3+y@ *5*			E G	
5242.0+x *4*	17		DEFGH	Jπ: 1151.0γ D to 16+.
5251.0+x *5*	18+		DE GH	Jπ: 1160γ E2 to 16+.
5251.0+u	(19−)	108 ns *3*	DEFGH	μ=−1.88 *6* (1987Fa15,2020StZV) Additional information 4. Jπ: Based on analogy to the 19− state in ^{200}Pb; μ. μ: From g=−0.099 *3* (corrected for Knight shift and diamagnetic shielding) in 1987Fa15 and 1987Ja08. $T_{1/2}$: Weighted average of 107 ns *3* [1151.0γ(t)] and 109 ns *8* [796.6γ(t)] in 1987Fa15, 113 ns *6* [797γ-(689γ+841γ)(Δt) and 354γ-(689γ+841γ)(Δt)] in 2019Ro12, and 105 ns *38* [γ(t)] in 2018La03. configuration: Dominant $\nu(f_{5/2}^{-1},i_{13/2}^{-3})$.
5300‡ *30*	9−		J	Jπ: L(p,t)=9.
5380.7+z& *7*			G	
5453.5+u *5*	(18)		E H	Jπ: 202γ D to (19−), non-yrast level due to the weak 202.5γ.
5463.5+y@ *7*			E G	
5650.5+z& *9*			G	
5796.4+y@ *9*			E G	
5940.2+u *4*	(20−)		E GH	Jπ: 689γ (M1+E2) to (19−).

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Adopted Levels, Gammas (continued)

^{202}Pb Levels (continued)

E(level)[†]	J^{π}[#]	XREF	Comments
5999.9+z[&] *10*		G	
6091.6+u *4*	(21⁻)	EFGH	J^{π}: 840γ E2 to (19⁻).
6091.6+w?[a]		E	Additional information 5.
6204.0+y[@] *10*		E G	
6274.6+w?[a] *5*		E	
6323.4+u *6*	(22)	G	J^{π}: 231γ D to (21⁻).
6416.3+z[&] *11*		G	
6514.7+w?[a] *7*		E	
6670.5+y[@] *11*		E G	
6799.7+u *4*	(21)	G	J^{π}: 1548γ (Q) to (19⁻).
6811.0+w?[a] *9*		E	
6894.2+z[&] *12*		G	
7172.9+w?[a] *10*		E	
7188.2+y[@] *12*		E G	
7301.6+u *4*	(21)	G	J^{π}: 501.9γ (D) to (21).
7405.9+u *7*	(23)	G	J^{π}: 1082.2γ D to (22).
7417.6+z[&] *13*		G	
7554.4+u *5*	22	G	J^{π}: 1463.0γ D to (21⁻).
7592.4+w?[a] *11*		E	
7708.5+u *6*	23	G	J^{π}: 154.3γ D to 22.
8079.6+w?[a] *12*		E	
8305.5+u *8*	(24)	G	J^{π}: 597.1γ D to 23.
8361.1+u *7*	(24)	G	J^{π}: 652.8γ D to 22.
8646.0+u *8*	(24)	G	J^{π}: 340.6γ ΔJ=0 to (24).
8786.6+u *7*	(25)	G	J^{π}: 1380.5γ (Q) to (23), 425.7γ D to (24).
9205.4+u *9*	(26)	G	J^{π}: 418γ D to (25).

† From a least-square fit to Eγ.
‡ From ^{204}Pb(p,t).
# From γ-ray transition multipolarities and the observed γ-ray de-excitation patterns, and L(p,t).
@ Band(A): Magnetic-rotation Band 1.
& Band(B): Magnetic-rotation Band 2.
a Band(C): Magnetic-rotation Band 3. Tentatively assigned in 1995Ba70 to ^{202}Pb [^{192}Os(^{14}C,4nγ)] because the coincidence relations were ambiguous. Not observed in 2000Go47 [^{198}Pt(^{9}Be,5n)].

Adopted Levels, Gammas (continued)

$\gamma(^{202}Pb)$

E_i(level)	J^π_i	E_γ †	I_γ †	E_f	J^π_f	Mult. ‡	δ #	α b	Comments
960.67	2^+	960.67 *5*	100	0.0	0^+	E2		0.00720 *10*	α(K)=0.00572 *8*; α(L)=0.001132 *16*; α(M)=0.000270 *4* α(N)=6.84×10^{-5} *10*; α(O)=1.336×10^{-5} *19*; α(P)=1.278×10^{-6} *18* Mult.: α(K)exp=0.00585 *28*, K/L=4.90 *22* (1974Go32); α(K)exp=0.0056 (1972Gu06) and K/L=5.0 *7*, L12/L3=15 (1957Mc40).
1382.84	4^+	422.13 *4*	100 *5*	960.67	2^+	E2		0.0448 *6*	α(K)=0.0299 *4*; α(L)=0.01119 *16*; α(M)=0.00281 *4* α(N)=0.000712 *10*; α(O)=0.0001333 *19*; α(P)=9.64×10^{-6} *14* B(E2)(W.u.)=0.291 *3* Mult.: α(K)exp=0.0296 *8*, K/L=2.68 *9* (1974Go32); K/L=2.6 *3*, L12/L3=5.6 *8* (1957Mc40).
		1382.8 *5*	3.8×10^{-4} *6*	0.0	0^+	E4		0.01446 *20*	α(K)=0.01072 *15*; α(L)=0.00283 *4*; α(M)=0.000697 *10* α(N)=0.0001775 *25*; α(O)=3.44×10^{-5} *5*; α(P)=3.21×10^{-6} *5* B(E4)(W.u.)=4.6 *8* E_γ: From ^{202}Pb IT decay. I_γ: From I(γ+ce)(1382.8γ)/I(γ+ce)(422.1γ)=3.8×10^{-6} *6* in 1975Ha25. Mult.: K/L=3.4 *7* in 1975Ha25.
1623.05	4^+	240.18 *4*	100 *7*	1382.84	4^+	M1(+E2)	<0.5	0.73 *6*	α(K)=0.59 *5*; α(L)=0.1082 *25*; α(M)=0.0256 *4* α(N)=0.00650 *11*; α(O)=0.001285 *29*; α(P)=0.000132 *8* Mult.: α(L12)exp=0.126 *12*, α(L3)exp<0.004 (1974Go32) and α(L12)exp=0.120 *14* (1985Dz05); K/L=5.0 *6* (1957Mc40).
		662.55 *11*	29 *4*	960.67	2^+	E2		0.01546 *22*	α(K)=0.01168 *16*; α(L)=0.00287 *4*; α(M)=0.000700 *10* α(N)=0.0001773 *25*; α(O)=3.40×10^{-5} *5*; α(P)=2.95×10^{-6} *4* Mult.: α(K)exp=0.016 *5*, K/L≈5 (1974Go32) and α(K)exp=0.017 *5* (1985Dz05).
1658.0	0^+	697.3	100	960.67	2^+	E2		0.01385 *19*	α(K)=0.01056 *15*; α(L)=0.002503 *35*; α(M)=0.000608 *9* α(N)=0.0001541 *22*; α(O)=2.97×10^{-5} *4*; α(P)=2.61×10^{-6} *4* E_γ,Mult.: From 1986Ka07.
		1658		0.0	0^+	E0			E_γ,Mult.: From 1986Ka07; ce(K)(E0)/ce(K)(E2)=15 *6* (1986Ka07).
1862.0	0^+	901.3	100	960.67	2^+	E2		0.00817 *11*	α(K)=0.00645 *9*; α(L)=0.001315 *18*; α(M)=0.000315 *4* α(N)=7.98×10^{-5} *11*; α(O)=1.553×10^{-5} *22*; α(P)=1.465×10^{-6} *21* E_γ,Mult.: From 1986Ka07.
		1862		0.0	0^+	E0			E_γ,Mult.: From 1986Ka07; ce(K)(E0)/ce(K)(E2)=6 *2* (1986Ka07).
1915.12	4^+	291.93 *9*	3.3 *5*	1623.05	4^+	M1+E2	0.5 *4*	0.39 *8*	α(K)=0.31 *8*; α(L)=0.060 *6*; α(M)=0.0142 *11* α(N)=0.00360 *27*; α(O)=0.00071 *7*; α(P)=7.1×10^{-5} *13* Mult.: α(K)exp=0.30 *12* (1974Go32) and 0.31 *10* (1985Dz05).
		532.34 *10*	5.6 *9*	1382.84	4^+	[M1]		0.0915 *13*	α(K)=0.0750 *11*; α(L)=0.01261 *18*; α(M)=0.00295 *4* α(N)=0.000749 *10*; α(O)=0.0001494 *21*; α(P)=1.601×10^{-5} *22*
		954.47 *6*	100 *6*	960.67	2^+	E2		0.00730 *10*	α(K)=0.00579 *8*; α(L)=0.001150 *16*; α(M)=0.000274 *4* α(N)=6.95×10^{-5} *10*; α(O)=1.356×10^{-5} *19*; α(P)=1.295×10^{-6} *18*

Adopted Levels, Gammas (continued)

γ(^{202}Pb) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[#]	α[b]	Comments
									Mult.: α(K)exp=0.0058 *3*, K/L=4.90 *22* (1974Go32) and α(K)exp=0.0061 *7*, α(L)exp=0.00118 *24* (1985Dz05).
1915.12	4^+	1915[c]		0.0	0^+				E_γ: From ^{9}Be(^{208}Pb,Xγ) (2018La03).
1965.14	4^+	342.04 *11*	44 *6*	1623.05	4^+	M1+E2	0.72 *+38−33*	0.22 *5*	α(K)=0.18 *4*; α(L)=0.035 *4*; α(M)=0.0084 *8* α(N)=0.00214 *21*; α(O)=0.00042 *5*; α(P)=4.1×10^{-5} *7* Mult.: α(K)exp=0.15 *5* (1974Go32) and α(K)exp=0.23 *7* (1985Dz05).
		582.33 *8*	100 *15*	1382.84	4^+	M1+E2	0.46 *28*	0.063 *9*	α(K)=0.052 *8*; α(L)=0.0089 *10*; α(M)=0.00209 *24* α(N)=0.00053 *6*; α(O)=0.000106 *12*; α(P)=1.11×10^{-5} *15* Mult.: α(K)exp=0.047 *11* (1974Go32) and α(K)exp=0.056 *11* (1985Dz05).
		1004.44 *8*	89 *13*	960.67	2^+	E2		0.00660 *9*	α(K)=0.00526 *7*; α(L)=0.001022 *14*; α(M)=0.0002432 *34* α(N)=6.16×10^{-5} *9*; α(O)=1.205×10^{-5} *17*; α(P)=1.163×10^{-6} *16* Mult.: α(K)exp=0.0065 *20* (1974Go32) and α(K)exp=0.0070 *17* (1985Dz05).
2040.33	5^-	125.21 *8*	2.0 *3*	1915.12	4^+	E1		0.2500 *35*	α(K)=0.2001 *28*; α(L)=0.0382 *5*; α(M)=0.00899 *13* α(N)=0.002251 *32*; α(O)=0.000426 *6*; α(P)=3.43×10^{-5} *5* Mult.: α(L12)exp<0.21 (1974Go32).
		417.25 *12*	0.69 *10*	1623.05	4^+	[E1]		0.01406 *20*	α(K)=0.01159 *16*; α(L)=0.001895 *27*; α(M)=0.000441 *6* α(N)=0.0001113 *16*; α(O)=2.177×10^{-5} *31*; α(P)=2.097×10^{-6} *29*
		657.49 *4*	100 *3*	1382.84	4^+	E1		0.00550 *8*	α(K)=0.00456 *6*; α(L)=0.000716 *10*; α(M)=0.0001659 *23* α(N)=4.19×10^{-5} *6*; α(O)=8.27×10^{-6} *12*; α(P)=8.31×10^{-7} *12* Mult.: α(K)exp=0.00445 *14*, K/L=5.8 *7* (1974Go32) and α(K)exp=0.0049 *4*, α(L)exp=0.00082 *9* (1985Dz05).
2159.0	0^+	1198.3	100	960.67	2^+	E2		0.00471 *7*	α(K)=0.00380 *5*; α(L)=0.000691 *10*; α(M)=0.0001632 *23* α(N)=4.14×10^{-5} *6*; α(O)=8.13×10^{-6} *11*; α(P)=8.08×10^{-7} *11*; α(IPF)=3.71×10^{-6} *5* E_γ,Mult.: From 1986Ka07.
		2159		0.0	0^+	E0			E_γ,Mult.: From 1986Ka07; ce(K)(E0)/ce(K)(E2)=24 *10* (1986Ka07), K/L=5.7 *4* (1990Tr01).
2169.83	9^-	129.1 *2*	0.08 *3*	2040.33	5^-	E4		514 *9*	α(K)=1.506 *21*; α(L)=361 *6*; α(M)=115.6 *20* α(N)=30.1 *5*; α(O)=5.24 *9*; α(P)=0.225 *4* B(E4)(W.u.)=0.17 *5* E_γ,I_γ: From 1972Gu06 (^{202}Pb IT decay). Mult.: K/L<0.008, L12/L3=1.88 *12* (1957Mc40).
		547.6 *3*	0.25 *8*	1623.05	4^+	E5		0.739 *11*	B(E5)(W.u.)=0.51 *17* α(K)=0.2319 *33*; α(L)=0.373 *5*; α(M)=0.1031 *15* α(N)=0.0265 *4*; α(O)=0.00487 *7*; α(P)=0.000327 *5* E_γ,I_γ: From 1972Gu06 (^{202}Pb IT decay). Mult.: α(L)exp=0.34 *15* (1972Gu06), K/L=0.8+1−8 L12/L3=6.0 *15* (1957Mc40).

$^{202}_{82}$Pb$_{120}$-6

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^{π}_i	E_γ†	I_γ†	E_f	J^{π}_f	Mult.‡	δ#	αb	Comments
2169.83	9⁻	786.99 *6*	100	1382.84	4⁺	E5		0.1624 *23*	α(K)=0.0816 *11*; α(L)=0.0599 *8*; α(M)=0.01596 *22* α(N)=0.00408 *6*; α(O)=0.000764 *11*; α(P)=5.80×10⁻⁵ *8* B(E5)(W.u.)=3.7 *4* E_γ,I_γ: From 1972Gu06 (^{202}Pb IT decay). Mult.: α(K)exp=0.078 *8* (1972Gu06), K/L=1.18 *10* and L12/L3≈10 (1957Mc40).
2185.06	3⁺	802.25 *8*	27 *4*	1382.84	4⁺	M1+E2	0.7 *6*	0.024 *7*	α(K)=0.020 *6*; α(L)=0.0034 *8*; α(M)=0.00081 *18* α(N)=0.00021 *5*; α(O)=4.1×10⁻⁵ *10*; α(P)=4.3×10⁻⁶ *11* Mult.: α(K)exp=0.020 *5* (1985Dz05).
		1224.24 *10*	100 *15*	960.67	2⁺	M1+E2	1.0 *+8−4*	0.0076 *16*	α(K)=0.0062 *13*; α(L)=0.00105 *20*; α(M)=0.00024 *5* α(N)=6.2×10⁻⁵ *12*; α(O)=1.23×10⁻⁵ *24*; α(P)=1.30×10⁻⁶ *28*; α(IPF)=8.5×10⁻⁶ *13* Mult.: α(K)exp=0.0061 *13* (1985Dz05).
2208.44	7⁻	168.11 *4*	100 *6*	2040.33	5⁻	E2		0.797 *11*	α(K)=0.2485 *35*; α(L)=0.409 *6*; α(M)=0.1074 *15* α(N)=0.0271 *4*; α(O)=0.00487 *7*; α(P)=0.0002271 *32* B(E2)(W.u.)=0.497 *7* Mult.: α(K)exp=0.32 *7*, α(L3)exp=0.142 *11* (1974Go32) and α(K)exp=0.27 *3*, α(L3)exp=0.140 *23* (1985Dz05).
		825.4 *3*	4.6 *17*	1382.84	4⁺	E3		0.02440 *34*	B(E3)(W.u.)=0.7 *3* α(K)=0.01708 *24*; α(L)=0.00552 *8*; α(M)=0.001379 *19* α(N)=0.000351 *5*; α(O)=6.70×10⁻⁵ *9*; α(P)=5.71×10⁻⁶ *8* Mult.: α(K)exp=0.05 *3* (1985Dz05).
2235.42	6⁺	852.57 *7*	100	1382.84	4⁺	E2		0.00914 *13*	α(K)=0.00716 *10*; α(L)=0.001503 *21*; α(M)=0.000361 *5* α(N)=9.14×10⁻⁵ *13*; α(O)=1.776×10⁻⁵ *25*; α(P)=1.654×10⁻⁶ *23* Mult.: α(K)exp=0.05 *3* (1985Dz05).
2289.25	6⁻	80.75 *13*	25 *4*	2208.44	7⁻	M1		3.23 *5*	α(L)=2.47 *4*; α(M)=0.580 *9* α(N)=0.1474 *22*; α(O)=0.0294 *4*; α(P)=0.00314 *5* Mult.: α(L12)exp=2.5 *5*, α(L3)exp<0.8 (1974Go32) and α(M)exp=0.55 *13* (1985Dz05).
		248.92 *4*	100 *6*	2040.33	5⁻	M1+E2	0.39 *+9−11*	0.646 *31*	α(K)=0.519 *29*; α(L)=0.0969 *19*; α(M)=0.0230 *4* α(N)=0.00583 *9*; α(O)=0.001151 *22*; α(P)=0.000117 *5* Mult.: α(K)exp=0.51 *3* (1974Go32) and α(K)exp=0.55 *6* (1985Dz05).
2324.93	4⁺,5⁺	702.2 *4*	83 *25*	1623.05	4⁺	M1(+E2)	≤0.8	0.038 *6*	α(K)=0.031 *5*; α(L)=0.0054 *7*; α(M)=0.00126 *16* α(N)=0.00032 *4*; α(O)=6.3×10⁻⁵ *8*; α(P)=6.7×10⁻⁶ *10* Mult.: α(K)exp=0.03 *1* (1974Go32) and α(K)exp=0.042 *13* (1985Dz05).
		942.07 *7*	100 *17*	1382.84	4⁺	M1+E2	0.6 *5*	0.017 *4*	α(K)=0.0141 *32*; α(L)=0.0024 *5*; α(M)=0.00056 *11* α(N)=0.000142 *27*; α(O)=2.8×10⁻⁵ *5*; α(P)=3.0×10⁻⁶ *6* Mult.: α(K)exp=0.014 *3* (1985Dz05).

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ#	αb	Comments
2360.47	$4^-,5^-$	320.14 *5*	100	2040.33	5^-	M1		0.357 *5*	α(K)=0.292 *4*; α(L)=0.0498 *7*; α(M)=0.01166 *16* α(N)=0.00296 *4*; α(O)=0.000591 *8*; α(P)=6.32×10^{-5} *9* Mult.: α(K)exp=0.28 *4* (1974Go32) and α(K)exp=0.30 *3* (1985Dz05).
2386.82	5^-	97.58 *13*	5.2 *9*	2289.25	6^-	M1		10.02 *15*	α(K)=8.16 *12*; α(L)=1.427 *21*; α(M)=0.335 *5* α(N)=0.0851 *12*; α(O)=0.01696 *25*; α(P)=0.001811 *26* Mult.: α(L12)exp=1.4 *6*, α(L3)exp<0.3 (1974Go32) and α(L12)exp=1.3 *3* (1985Dz05).
		346.47 *6*	100 *7*	2040.33	5^-	M1+E2	0.19 *14*	0.281 *14*	α(K)=0.229 *12*; α(L)=0.0395 *13*; α(M)=0.00926 *27* α(N)=0.00235 *7*; α(O)=0.000468 *15*; α(P)=4.97×10^{-5} *22* Mult.: α(K)exp=0.229 *12* (1974Go32) and α(K)exp=0.257 *23* (1985Dz05). δ: From α(K)exp=0.229 *12* (1974Go32).
2517.28	3^-	1134.33 *11*	11.1 *16*	1382.84	4^+	E1		2.00×10^{-3} *3*	α(K)=0.001670 *23*; α(L)=0.0002527 *35*; α(M)=5.82×10^{-5} *8* α(N)=1.473×10^{-5} *21*; α(O)=2.92×10^{-6} *4*; α(P)=3.04×10^{-7} *4*; α(IPF)=2.74×10^{-6} *4* Mult.: α(K)exp≤0.0048 *7* (1985Dz05).
		1556.69 *7*	100 *16*	960.67	2^+	E1		1.37×10^{-3} *2*	α(K)=0.000971 *14*; α(L)=0.0001448 *20*; α(M)=3.33×10^{-5} *5* α(N)=8.43×10^{-6} *12*; α(O)=1.677×10^{-6} *23*; α(P)=1.766×10^{-7} *25*; α(IPF)=0.0002091 *29* Mult.: α(K)exp=0.0012 *3* (1985Dz05).
2609.59	5^-	222.79 *5*	14.6 *21*	2386.82	5^-	M1+E2	0.26 *25*	0.93 *10*	α(K)=0.75 *10*; α(L)=0.1351 *26*; α(M)=0.0318 *4* α(N)=0.00809 *11*; α(O)=0.001604 *30*; α(P)=0.000166 *14* Mult.: α(K)exp=0.72 *12* (1974Go32) and α(K)exp=0.80 *16* (1985Dz05).
		569.27 *4*	100 *6*	2040.33	5^-	M1+E2	0.58 *9*	0.0628 *33*	α(K)=0.0511 *28*; α(L)=0.0090 *4*; α(M)=0.00212 *9* α(N)=0.000538 *22*; α(O)=0.000107 *4*; α(P)=1.11×10^{-5} *6* Mult.: α(K)exp=0.049 *3*, K/L=6.3 *1* (1974Go32) and α(K)exp=0.056 *5* (1985Dz05).
		644.44 *5*	14.0 *21*	1965.14	4^+	E1		0.00572 *8*	α(K)=0.00475 *7*; α(L)=0.000746 *10*; α(M)=0.0001729 *24* α(N)=4.37×10^{-5} *6*; α(O)=8.61×10^{-6} *12*; α(P)=8.64×10^{-7} *12* Mult.: α(K)exp≤0.0075 (1985Dz05) and α(K)exp<0.015 (1974Go32).
		1226.7 *4*	9.4 *31*	1382.84	4^+	E1+M2	0.51 *+20−22*	0.0066 *30*	α(K)=0.0054 *24*; α(L)=9.E−4 *4*; α(M)=2.2×10^{-4} *10* α(N)=5.5×10^{-5} *27*; α(O)=1.1×10^{-5} *5*; α(P)=1.2×10^{-6} *6*; α(IPF)=1.97×10^{-5} *28* Mult.: α(K)exp=0.0053 *24* (1985Dz05).

$^{202}_{82}Pb_{120}$-8

Adopted Levels, Gammas (continued)

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.‡	δ#	α[b]	Comments
2618.89	$4^-,5^-,6^-$	232.06 *5*	4.6 *7*	2386.82	5^-	M1(+E2)	≤0.4	0.82 *4*	α(K)=0.67 *4*; α(L)=0.1201 *20*; α(M)=0.0283 *4* α(N)=0.00719 *10*; α(O)=0.001426 *24*; α(P)=0.000148 *6* Mult.: α(K)exp=0.70 *25* (1974Go32) and α(K)exp=0.88 *22* (1985Dz05).
		578.56 *4*	100 *5*	2040.33	5^-	M1+E2	0.21 *16*	0.071 *4*	α(K)=0.058 *4*; α(L)=0.0099 *5*; α(M)=0.00231 *11* α(N)=0.000586 *28*; α(O)=0.000117 *6*; α(P)=1.25×10^{-5} *7* Mult.: α(K)exp=0.0566 *22*, K/L=6.4 *8* (1974Go32) and α(K)exp=0.064 *5*, α(L)exp=0.0108 *12* (1985Dz05).
2750.49	6^+	1127.45 *11*	64 *10*	1623.05	4^+	(E2)		0.00528 *7*	α(K)=0.00425 *6*; α(L)=0.000789 *11*; α(M)=0.0001868 *26* α(N)=4.74×10^{-5} *7*; α(O)=9.29×10^{-6} *13*; α(P)=9.15×10^{-7} *13*; α(IPF)=4.52×10^{-7} *7* Mult.: α(K)exp=0.0094 *24* (1985Dz05).
		1367.5 *4*	100 *40*	1382.84	4^+	E2		0.00370 *5*	α(K)=0.00299 *4*; α(L)=0.000522 *7*; α(M)=0.0001228 *17* α(N)=3.11×10^{-5} *4*; α(O)=6.14×10^{-6} *9*; α(P)=6.21×10^{-7} *9*; α(IPF)=2.83×10^{-5} *4* Mult.: α(K)exp=0.0034 *16* (1985Dz05).
2898.76	5^-	690.33 *17*	11.5 *18*	2208.44	7^-	E2		0.01415 *20*	α(K)=0.01077 *15*; α(L)=0.00257 *4*; α(M)=0.000625 *9* α(N)=0.0001583 *22*; α(O)=3.05×10^{-5} *4*; α(P)=2.68×10^{-6} *4* Mult.: α(K)exp<0.028 (1974Go32).
		858.42 *5*	100 *15*	2040.33	5^-				
		983.63 *6*	54 *8*	1915.12	4^+	E1		0.00258 *4*	α(K)=0.002151 *30*; α(L)=0.000328 *5*; α(M)=7.57×10^{-5} *11* α(N)=1.915×10^{-5} *27*; α(O)=3.80×10^{-6} *5*; α(P)=3.92×10^{-7} *5* Mult.: α(K)exp=0.0055 *14* (1985Dz05) and α(K)exp<0.005 (1974Go32).
		1515.89 *20*	44 *7*	1382.84	4^+	E1		1.39×10^{-3} *2*	α(K)=0.001016 *14*; α(L)=0.0001515 *21*; α(M)=3.49×10^{-5} *5* α(N)=8.82×10^{-6} *12*; α(O)=1.755×10^{-6} *25*; α(P)=1.847×10^{-7} *26*; α(IPF)=0.0001810 *25* Mult.: α(K)exp≤0.0014 (1985Dz05).
2916.54	$4^-,5^-$	529.61 *10*	38 *6*	2386.82	5^-	M1(+E2)	≤1.2	0.073 *20*	α(K)=0.059 *17*; α(L)=0.0106 *22*; α(M)=0.0025 *5* α(N)=0.00064 *12*; α(O)=0.000126 *26*; α(P)=1.30×10^{-5} *33* Mult.: α(K)exp=0.068 *25* (1974Go32) and α(K)exp=0.09 *3* (1985Dz05).
		591.5 *3*	13.1 *19*	2324.93	$4^+,5^+$				

$^{202}_{82}Pb_{120}$-9

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^{π}_i	E_{γ}[†]	I_{γ}[†]	E_f	J^{π}_f	Mult.[‡]	δ[#]	α[b]	Comments
2916.54	$4^-,5^-$	876.21 *6*	100 *15*	2040.33	5^-	M1+E2	1.3 +*10*−*5*	0.015 *4*	α(K)=0.0119 *33*; α(L)=0.0021 *5*; α(M)=0.00051 *11* α(N)=0.000129 *28*; α(O)=2.5×10^{-5} *6*; α(P)=2.6×10^{-6} *7* Mult.: α(K)exp=0.012 *3* (1985Dz05).
2967.62	$4^-,5^-$	348.77 *17*	8 *3*	2618.89	$4^-,5^-,6^-$	M1(+E2)	≤0.7	0.249 *34*	α(K)=0.201 *31*; α(L)=0.0365 *30*; α(M)=0.0086 *6* α(N)=0.00219 *16*; α(O)=0.000433 *35*; α(P)=4.5×10^{-5} *5* Mult.: α(K)exp=0.26 *8* (1974Go32) and α(K)exp≈0.32 (1985Dz05).
		358.05 *13*	4.2 *7*	2609.59	5^-	M1+E2	1.22 +*42*−*28*	0.148 *25*	α(K)=0.113 *23*; α(L)=0.0266 *22*; α(M)=0.0065 *5* α(N)=0.00164 *12*; α(O)=0.000316 *26*; α(P)=2.8×10^{-5} *4* Mult.: α(K)exp=0.103 *24* (1985Dz05) and α(K)exp=0.17 *6* (1974Go32).
		927.28 *4*	100 *6*	2040.33	5^-	M1		0.02159 *30*	α(K)=0.01776 *25*; α(L)=0.00294 *4*; α(M)=0.000684 *10* α(N)=0.0001739 *24*; α(O)=3.47×10^{-5} *5*; α(P)=3.73×10^{-6} *5* Mult.: α(K)exp=0.0186 *10*, K/L=5.4 *6* (1974Go32) and α(K)exp=0.0192 *18* (1985Dz05).
		1584.9 *5*	10 *3*	1382.84	4^+	(E1)		1.35×10^{-3} *2*	α(K)=0.000943 *13*; α(L)=0.0001404 *20*; α(M)=3.23×10^{-5} *5* α(N)=8.17×10^{-6} *11*; α(O)=1.627×10^{-6} *23*; α(P)=1.714×10^{-7} *24*; α(IPF)=0.0002290 *32* Mult.: α(K)exp=0.0037 *13* (1985Dz05).
3057.9	11^-	888.1[@]	100[@]	2169.83	9^-	E2		0.00842 *12*	α(K)=0.00663 *9*; α(L)=0.001362 *19*; α(M)=0.000326 *5* α(N)=8.27×10^{-5} *12*; α(O)=1.609×10^{-5} *23*; α(P)=1.513×10^{-6} *21* Mult.: α(K)exp=0.00673 (1986Ja13), DCO=1 (2000Go47).
3191.3	10^+	1021.5[@]	100[@]	2169.83	9^-	D		0.00241	α(K)=0.00201 *3*; α(L)=0.000306 *5*; α(M)=7.06×10^{-5} *10*; α(N+..)=2.18×10^{-5} *3* α(N)=1.79×10^{-5} *3*; α(O)=3.54×10^{-6} *5*; α(P)=3.66×10^{-7} *6* Mult.: DCO=0.71 *7* (2000Go47) and A_2=−0.22 *4*, A_4=0.06 *6* (1986Ja13,1987Fa15).
3237.7	12^+	(46.4)	0.062 *4*	3191.3	10^+	[E2]		230.8 *32*	α(L)=172.1 *24*; α(M)=45.2 *6*

$^{202}_{82}Pb_{120}$-10

γ(^{202}Pb) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[#]	α[b]	Comments
									α(N)=11.38 *16*; α(O)=2.014 *28*; α(P)=0.0689 *10* B(E2)(W.u.)=0.77 *10* E_γ: Calculated from level energy differences. I_γ: From intensity ratio of the delayed component of 888.1γ and 1021.5γ, I(γ+ce)(179.7γ)/I(γ+ce)(46.3γ)=7.6 *4* in 1986Ja13.
3237.7	12^+	179.7[@]	100[@] *1*	3057.9	11^-	E1		0.1015 *14*	α(K)=0.0823 *12*; α(L)=0.01477 *21*; α(M)=0.00347 *5* α(N)=0.000870 *12*; α(O)=0.0001668 *23*; α(P)=1.435×10^{-5} *20* B(E1)(W.u.)=1.123×10^{-6} *25* Mult.: From α(exp) [intensity balance] and A_2=−0.20 *7*, A_4=0.06 *9* in 1986Ja13; DCO=0.63 *6* (2000Go47).
3285.80	4^-	318.0 *5*	3.6 *11*	2967.62	$4^-,5^-$	[M1]		0.364 *5*	α(K)=0.298 *4*; α(L)=0.0507 *7*; α(M)=0.01188 *17* α(N)=0.00302 *4*; α(O)=0.000602 *9*; α(P)=6.44×10^{-5} *9*
		369.27 *6*	17.8 *25*	2916.54	$4^-,5^-$	M1(+E2)	≤0.5	0.225 *18*	α(K)=0.183 *16*; α(L)=0.0321 *17*; α(M)=0.0076 *4* α(N)=0.00192 *9*; α(O)=0.000381 *20*; α(P)=4.00×10^{-5} *29* Mult.: α(K)exp=0.18 *4* (1974Go32) and α(K)exp=0.22 *4* (1985Dz05).
		386.86 *13*	5.0 *7*	2898.76	5^-	M1(+E2)	≤1.1	0.17 *4*	α(K)=0.14 *4*; α(L)=0.026 *4*; α(M)=0.0061 *9* α(N)=0.00155 *22*; α(O)=0.00031 *5*; α(P)=3.1×10^{-5} *7* Mult.: α(K)exp=0.15 *5* (1974Go32).
		676.19 *5*	68 *11*	2609.59	5^-	M1(+E2)	≤0.5	0.0455 *35*	α(K)=0.0372 *29*; α(L)=0.0063 *4*; α(M)=0.00147 *9* α(N)=0.000374 *24*; α(O)=7.5×10^{-5} *5*; α(P)=7.9×10^{-6} *6* Mult.: α(K)exp=0.039 *10* (1974Go32) and α(K)exp=0.042 *9* (1985Dz05).
		768.57 *10*	24 *4*	2517.28	3^-	M1(+E2)	≤0.34	0.0338 *13*	α(K)=0.0278 *11*; α(L)=0.00464 *16*; α(M)=0.00108 *4* α(N)=0.000275 *9*; α(O)=5.49×10^{-5} *19*; α(P)=5.87×10^{-6} *22* Mult.: α(K)exp=0.036 *8* (1974Go32) and α(K)exp=0.032 *6* (1985Dz05).
		899.00 *11*	12.1 *18*	2386.82	5^-	M1(+E2)	≤0.4	0.0223 *11*	α(K)=0.0183 *9*; α(L)=0.00305 *14*; α(M)=0.000713 *31* α(N)=0.000181 *8*; α(O)=3.61×10^{-5} *16*; α(P)=3.87×10^{-6} *19* Mult.: α(K)exp=0.020 *5* (1974Go32) and α(K)exp=0.021 *4* (1985Dz05).
		1245.48 *5*	100 *6*	2040.33	5^-	M1(+E2)	≤0.28	0.00995 *25*	α(K)=0.00818 *21*; α(L)=0.001343 *33*; α(M)=0.000313 *8* α(N)=7.95×10^{-5} *19*; α(O)=1.59×10^{-5} *4*; α(P)=1.71×10^{-6} *4*; α(IPF)=1.471×10^{-5} *31* Mult.: α(K)exp=0.0099 *20* (1974Go32) and α(K)exp=0.0107 *12*, α(L)exp=0.0021 *4* (1985Dz05).
3329.0	12	271.1[@]	100[@]	3057.9	11^-	D			Mult.: A_2=−0.44 *5*, A_4=0.08 *7* (1987Fa15); DCO=0.51 *6* (2000Go47).
3507.3	(13)	269.6[&] *5*	100[&]	3237.7	12^+	D			Mult.: DCO=0.76 *14* (2000Go47).
3682.22	$4^-,5^-$	714.63 *25*	32 *5*	2967.62	$4^-,5^-$	M1(+E2)	≤0.5	0.0394 *30*	α(K)=0.0323 *25*; α(L)=0.00545 *35*; α(M)=0.00127 *8*

$^{202}_{82}Pb_{120}$-11

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.‡	δ#	α[b]	Comments
									α(N)=0.000324 *20*; α(O)=6.4×10^{-5} *4*; α(P)=6.9×10^{-6} *5* Mult.: α(K)exp=0.044 *14* (1974Go32) and α(K)exp=0.035 *9* (1985Dz05).
3682.22	4$^-$,5$^-$	783.54 *25*	39 *6*	2898.76	5$^-$	M1(+E2)	≤0.6	0.0304 *30*	α(K)=0.0249 *25*; α(L)=0.0042 *4*; α(M)=0.00098 *8* α(N)=0.000249 *21*; α(O)=5.0×10^{-5} *4*; α(P)=5.3×10^{-6} *5* Mult.: α(K)exp=0.03 *1* (1974Go32) and α(K)exp=0.028 *7* (1985Dz05).
		1072.59 *13*	100 *16*	2609.59	5$^-$	M1(+E2)	≤0.5	0.0140 *9*	α(K)=0.0115 *8*; α(L)=0.00190 *12*; α(M)=0.000443 *27* α(N)=0.000113 *7*; α(O)=2.25×10^{-5} *14*; α(P)=2.41×10^{-6} *16* Mult.: α(K)exp=0.012 *4* (1974Go32) and α(K)exp=0.014 *3* (1985Dz05).
		1164.9 *4*	19.1 *24*	2517.28	3$^-$				
		1295.35 *13*	24 *4*	2386.82	5$^-$	[M1]		0.00920 *13*	α(K)=0.00756 *11*; α(L)=0.001238 *17*; α(M)=0.000288 *4* α(N)=7.32×10^{-5} *10*; α(O)=1.462×10^{-5} *20*; α(P)=1.575×10^{-6} *22*; α(IPF)=2.63×10^{-5} *4*
		2059.5 *3*	43 *6*	1623.05	4$^+$	[E1]		1.30×10^{-3} *2*	α(K)=0.000612 *9*; α(L)=9.03×10^{-5} *13*; α(M)=2.075×10^{-5} *29* α(N)=5.25×10^{-6} *7*; α(O)=1.047×10^{-6} *15*; α(P)=1.111×10^{-7} *16*; α(IPF)=0.000572 *8*
3723.52	4$^-$	1206.25 *7*	100 *16*	2517.28	3$^-$	M1(+E2)	≤0.3	0.01075 *30*	α(K)=0.00885 *25*; α(L)=0.00145 *4*; α(M)=0.000339 *9* α(N)=8.61×10^{-5} *23*; α(O)=1.72×10^{-5} *5*; α(P)=1.85×10^{-6} *5*; α(IPF)=7.73×10^{-6} *18* Mult.: α(K)exp=0.013 *3* (1974Go32) and α(K)exp=0.015 *3* (1985Dz05).
		1336.48 *20*	45 *7*	2386.82	5$^-$	M1+E2	1.8 *8*	0.0050 *12*	α(K)=0.0040 *10*; α(L)=0.00069 *16*; α(M)=0.00016 *4* α(N)=4.1×10^{-5} *9*; α(O)=8.1×10^{-6} *19*; α(P)=8.4×10^{-7} *21*; α(IPF)=2.6×10^{-5} *4* Mult.: α(K)exp=0.004 *10* (1985Dz05).
		1363.14 *20*	35 *5*	2360.47	4$^-$,5$^-$	M1(+E2)	≤0.8	0.0073 *9*	α(K)=0.0059 *7*; α(L)=0.00098 *11*; α(M)=0.000228 *25* α(N)=5.8×10^{-5} *6*; α(O)=1.15×10^{-5} *13*; α(P)=1.23×10^{-6} *15*; α(IPF)=4.4×10^{-5} *4* Mult.: α(K)exp=0.0080 *23* (1985Dz05).
		2100.46 *25*	34 *5*	1623.05	4$^+$	[E1]		1.31×10^{-3} *2*	α(K)=0.000593 *8*; α(L)=8.74×10^{-5} *12*; α(M)=2.008×10^{-5} *28* α(N)=5.08×10^{-6} *7*; α(O)=1.013×10^{-6} *14*; α(P)=1.076×10^{-7} *15*; α(IPF)=0.000600 *8*
		2340.5 *15*	34 *12*	1382.84	4$^+$	[E1]		1.35×10^{-3} *2*	α(K)=0.000498 *7*; α(L)=7.32×10^{-5} *10*; α(M)=1.681×10^{-5} *24* α(N)=4.25×10^{-6} *6*; α(O)=8.49×10^{-7} *12*; α(P)=9.04×10^{-8} *13*; α(IPF)=0.000761 *11*
3820.88	5$^-$	534.7 *5*	24 *4*	3285.80	4$^-$	[M1]		0.0904 *13*	α(K)=0.0741 *11*; α(L)=0.01246 *18*; α(M)=0.00291 *4* α(N)=0.000740 *11*; α(O)=0.0001476 *21*; α(P)=1.582×10^{-5} *23*

$^{202}_{82}Pb_{120}$-12

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	δ[#]	α[b]	Comments
3820.88	5^-	904.24 *9*	43 *7*	2916.54	$4^-,5^-$	M1+E2	2.9 *11*	0.0097 *19*	α(K)=0.0077 *16*; α(L)=0.00150 *24*; α(M)=0.00036 *5* α(N)=9.0×10^{-5} *14*; α(O)=1.77×10^{-5} *28*; α(P)=1.72×10^{-6} *33* Mult.: α(K)exp=0.0077 *16* (1985Dz05).
		1211.52 *10*	31 *4*	2609.59	5^-	M1(+E2)	≤0.7	0.0099 *10*	α(K)=0.0081 *9*; α(L)=0.00134 *13*; α(M)=0.000312 *30* α(N)=7.9×10^{-5} *8*; α(O)=1.58×10^{-5} *16*; α(P)=1.69×10^{-6} *18*; α(IPF)=8.1×10^{-6} *6* Mult.: α(K)exp=0.011 *3* (1985Dz05).
		1584.9 *5*	100 *29*	2235.42	6^+	E1+M2	0.63 *22*	0.0047 *16*	α(K)=0.0037 *13*; α(L)=6.2×10^{-4} *24*; α(M)=1.5×10^{-4} *6* α(N)=3.7×10^{-5} *14*; α(O)=7.4×10^{-6} *28*; α(P)=7.9×10^{-7} *30*; α(IPF)=0.000180 *24* Mult.: α(K)exp=0.0037 *13* (1985Dz05).
		1635.55 *17*	24 *4*	2185.06	3^+	[M2]		0.01204 *17*	α(K)=0.00976 *14*; α(L)=0.001691 *24*; α(M)=0.000397 *6* α(N)=0.0001010 *14*; α(O)=2.014×10^{-5} *28*; α(P)=2.154×10^{-6} *30*; α(IPF)=7.18×10^{-5} *10*
		1780.53 *8*	97 *14*	2040.33	5^-	M1(+E2)	≤0.7	0.00405 *33*	α(K)=0.00313 *25*; α(L)=0.00051 *4*; α(M)=0.000118 *9* α(N)=3.00×10^{-5} *24*; α(O)=6.0×10^{-6} *5*; α(P)=6.4×10^{-7} *5*; α(IPF)=0.000261 *19* Mult.: α(K)exp=0.0040 *9* (1985Dz05).
		2198.03 *25*	14 *3*	1623.05	4^+				
3955.6	13^+	626.7[@]	5.5[@]	3329.0	12				
		717.9[@]	100[@]	3237.7	12^+	M1(+E2)		0.027 *14*	α(K)=0.022 *12*; α(L)=0.0040 *17*; α(M)=9.E−4 *4* α(N)=2.4×10^{-4} *10*; α(O)=4.8×10^{-5} *20*; α(P)=4.9×10^{-6} *24* Mult.: α(K)exp=0.039 *4* (1986Ja13); A_2=−0.85 *6*, A_4=0.15 *8* (1986Ja13,1987Fa15); DCO=0.29 *5* (2000Go47).
4022.8	(14)	515.5[&]	100[&]	3507.3	(13)	D			Mult.: DCO=0.50 *14* (2000Go47).
4022.9	(12)	785.2[@]	100[@]	3237.7	12^+	(D,Q)			Mult.: A_2=0.13 *3*, A_4=−0.01 *5* (1987Fa15) and DCO=1.01 *9* (2000Go47) consistent with ΔJ=0 or Q transition.
4068.3	13	830.6[@]	100[@]	3237.7	12^+	D			Mult.: A_2=−0.31 *5*, A_4=0.24 *7* (1987Fa15); DCO=0.63 *8* (2000Go47).
4091.0	14^+	853.3[@]	100[@]	3237.7	12^+	E2		0.00912 *13*	α(K)=0.00715 *10*; α(L)=0.001500 *21*; α(M)=0.000360 *5* α(N)=9.12×10^{-5} *13*; α(O)=1.772×10^{-5} *25*; α(P)=1.651×10^{-6} *23* Mult.: α(K)exp=0.0074 *6* (1986Ja13); DCO=1.06 *8* (2000Go47).
4170.6	14^+	215.0[@]	22[@]	3955.6	13^+	M1(+E2)		0.7 *4*	α(K)=0.5 *4*; α(L)=0.147 *4*; α(M)=0.0362 *12* α(N)=0.00917 *27*; α(O)=0.00174 *5*; α(P)=1.4×10^{-4} *5* Mult.: From A_2=−0.6 *4*, A_4=0.29 *55* (1987Fa15); DCO=0.55 *7* (2000Go47). I_γ: 31 *6* in ^{192}Os(^{14}C,4nγ); 50 *5* in ^{198}Pt(^{9}Be,5nγ).
		932.9[@]	100[@]	3237.7	12^+	E2		0.00763 *11*	α(K)=0.00604 *8*; α(L)=0.001213 *17*; α(M)=0.000290 *4* α(N)=7.34×10^{-5} *10*; α(O)=1.431×10^{-5} *20*; α(P)=1.360×10^{-6} *19*

$^{202}_{82}Pb_{120}$-13

Adopted Levels, Gammas (continued)

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	α[b]	Comments
								Mult.: From A_2=0.21 *6*, A_4=0.09 *8* (1987Fa15); DCO=1.03 *10* (2000Go47).
4322.8+x	15	231.8[@] *5*	100[@]	4091.0+x	16^+	D		Mult.: A_2=−0.24 *3*, A_4=0.05 *5* (1987Fa15).
4445.4+x	16^+	122.5		4322.8+x	15			E_γ: From $^{202}Hg(\alpha,4n\gamma)$.
		354.4[@]	100[@]	4091.0+x	16^+	M1,E2	0.17 *10*	α(K)=0.13 *9*; α(L)=0.029 *9*; α(M)=0.0070 *18* α(N)=0.0018 *5*; α(O)=3.5×10^{-4} *10*; α(P)=3.2×10^{-5} *16* Mult.: A_2=0.17 *6*, A_4=0.08 *8* (1987Fa15); DCO=0.98 *8* (2000Go47), consistent with ΔJ=0.
4452.5+x	16	129.7[@]	100[@]	4322.8+x	15	D		Mult.: From A_2=−0.38 *17*, A_4=0.01 *28* (1987Fa15).
4513.1	(15)	490.3[&]	100[&]	4022.8	(14)	D		Mult.: DCO=0.48 *14* (2000Go47).
5059.0	(16)	545.9[&] *5*	100[&]	4513.1	(15)	D		Mult.: DCO=0.51 *16* (2000Go47).
5189.0+z		130.0[&]	100[&]	5059.0+z		M1	4.42 *6*	α(K)=3.61 *5*; α(L)=0.625 *9*; α(M)=0.1465 *21* α(N)=0.0372 *5*; α(O)=0.00742 *10*; α(P)=0.000793 *11* Mult.: DCO=0.62 *11* (2000Go47).
5220.3+y		161.3[&]	100[&]	5059.0+y		M1	2.398 *34*	α(K)=1.956 *27*; α(L)=0.338 *5*; α(M)=0.0791 *11* α(N)=0.02012 *28*; α(O)=0.00401 *6*; α(P)=0.000428 *6* Mult.: DCO=0.53 *6* (2000Go47).
5242.0+x	17	796.6[@]	49.5[@]	4445.4+x	16^+	D	0.00380	α(K)=0.00317 *5*; α(L)=0.000490 *7*; α(M)=0.0001132 *16*; α(N+..)=3.49×10^{-5} *5* α(N)=2.86×10^{-5} *4*; α(O)=5.66×10^{-6} *8*; α(P)=5.76×10^{-7} *8* Mult.: A_2=−0.22 *4*, A_4=0.09 *6* (1987Fa15); DCO=0.65 *15* (2000Go47).
		1151.0[@]	100[@]	4091.0+x	16^+	D	0.00195	α(N)=1.436×10^{-5} *21*; α(O)=2.85×10^{-6} *4*; α(P)=2.96×10^{-7} *5*; α(IPF)=4.66×10^{-6} *10* Mult.: From A_2=−0.16 *4*, A_4=0.04 *6* (1987Fa15); DCO=0.66 *7* (2000Go47).
5251.0+x	18^+	1160.0[@]	100[@]	4091.0+x	16^+	E2	0.00501 *7*	α(K)=0.00403 *6*; α(L)=0.000741 *10*; α(M)=0.0001753 *25* α(N)=4.44×10^{-5} *6*; α(O)=8.73×10^{-6} *12*; α(P)=8.63×10^{-7} *12*; α(IPF)=1.376×10^{-6} *19* Mult.: From A_2=0.25 *6*, A_4=0.05 *8* (1987Fa15); DCO=1.08 *9* (2000Go47).
5380.7+z		191.7[&]	100[&]	5189.0+z		M1	1.474 *21*	α(K)=1.204 *17*; α(L)=0.2072 *29*; α(M)=0.0486 *7* α(N)=0.01234 *17*; α(O)=0.002460 *34*; α(P)=0.000263 *4* Mult.: DCO=0.62 *7* (2000Go47).
5453.5+u	(18)	202.5[@]	100[@]	5251.0+u	(19^-)	D		Mult.: From A_2=−0.48 *10*, A_4=−0.05 *15* (1987Fa15).
5463.5+y		243.2[&]	100[&]	5220.3+y		M1	0.760 *11*	α(K)=0.621 *9*; α(L)=0.1064 *15*; α(M)=0.02492 *35* α(N)=0.00633 *9*; α(O)=0.001263 *18*; α(P)=0.0001350 *19* Mult.: From DCO=0.56 *6* (2000Go47).
5650.5+z		269.8[&]	100[&]	5380.7+z		M1	0.570 *8*	α(K)=0.466 *7*; α(L)=0.0798 *11*; α(M)=0.01868 *26* α(N)=0.00475 *7*; α(O)=0.000947 *13*; α(P)=0.0001012 *14* Mult.: DCO=0.58 *6* (2000Go47).
5796.4+y		332.9[&]	100[&]	5463.5+y		M1	0.321 *4*	α(K)=0.263 *4*; α(L)=0.0448 *6*; α(M)=0.01047 *15*

Adopted Levels, Gammas (continued)

$\gamma(^{202}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[‡]	α[b]	Comments
								α(N)=0.00266 *4*; α(O)=0.000531 *7*; α(P)=5.68×10^{-5} *8* Mult.: From DCO=0.57 *8* (2000Go47).
5940.2+u	(20⁻)	689.2[@]	100[@]	5251.0+u	(19⁻)	(M1+E2)	0.030 *16*	α(K)=0.024 *14*; α(L)=0.0045 *19*; α(M)=0.0011 *4* α(N)=2.7×10^{-4} *11*; α(O)=5.3×10^{-5} *22*; α(P)=5.4×10^{-6} *27* Mult.: A_2=−0.76 *20*, A_4=0.12 *27* (1987Fa15); DCO=0.33 *9* (2000Go47).
5999.9+z		349.4[&]	100[&]	5650.5+z		M1	0.282 *4*	α(K)=0.2305 *32*; α(L)=0.0392 *5*; α(M)=0.00918 *13* α(N)=0.002332 *33*; α(O)=0.000465 *7*; α(P)=4.98×10^{-5} *7* Mult.: DCO=0.61 *7* (2000Go47).
6091.6+u	(21⁻)	840.5[@]	100[@]	5251.0+u	(19⁻)	E2	0.00940 *13*	α(K)=0.00736 *10*; α(L)=0.001556 *22*; α(M)=0.000374 *5* α(N)=9.47×10^{-5} *13*; α(O)=1.839×10^{-5} *26*; α(P)=1.707×10^{-6} *24* Mult.: A_2=0.29 *3*, A_4=−0.03 *4* (1987Fa15); DCO=1 (2000Go47).
6204.0+y		407.6[&]	100[&]	5796.4+y		M1	0.1861 *26*	α(K)=0.1523 *21*; α(L)=0.0258 *4*; α(M)=0.00604 *8* α(N)=0.001534 *21*; α(O)=0.000306 *4*; α(P)=3.28×10^{-5} *5* Mult.: From DCO=0.62 *9* (2000Go47).
6274.6+w?		183.0[a]	100[a]	6091.6+w?		M1(+E2)[a]	1.1 *5*	α(K)=0.8 *6*; α(L)=0.260 *24*; α(M)=0.065 *9* α(N)=0.0164 *23*; α(O)=0.00309 *29*; α(P)=2.3×10^{-4} *7*
6323.4+u	(22)	231.5[&]	100[&]	6091.6+u	(21⁻)	D		Mult.: DCO=0.62 *7* (2000Go47).
6416.3+z		416.4[&]	100[&]	5999.9+z		M1	0.1757 *25*	α(K)=0.1439 *20*; α(L)=0.02436 *34*; α(M)=0.00570 *8* α(N)=0.001448 *20*; α(O)=0.000289 *4*; α(P)=3.09×10^{-5} *4* Mult.: DCO=0.57 *8* (2000Go47).
6514.7+w?		240.1[a]	100[a]	6274.6+w?		M1(+E2)[a]	0.51 *28*	α(K)=0.38 *27*; α(L)=0.101 *10*; α(M)=0.0247 *12* α(N)=0.00626 *32*; α(O)=0.00120 *11*; α(P)=1.0×10^{-4} *4*
6670.5+y		466.5[&]	100[&]	6204.0+y		M1	0.1298 *18*	α(K)=0.1063 *15*; α(L)=0.01795 *25*; α(M)=0.00420 *6* α(N)=0.001066 *15*; α(O)=0.0002126 *30*; α(P)=2.278×10^{-5} *32* Mult.: From DCO=0.51 *9* (2000Go47).
6799.7+u	(21)	1548.8[&]	100[&]	5251.0+u	(19⁻)	(Q)		Mult.: DCO=0.84 *12* (2000Go47).
6811.0+w?		296.3[a]	100[a]	6514.7+w?		M1(+E2)[a]	0.28 *16*	α(K)=0.21 *15*; α(L)=0.051 *11*; α(M)=0.0123 *21* α(N)=0.0031 *5*; α(O)=0.00060 *13*; α(P)=5.3×10^{-5} *25*
6894.2+z		477.9[&]	100[&]	6416.3+z		M1	0.1217 *17*	α(K)=0.0997 *14*; α(L)=0.01682 *24*; α(M)=0.00393 *6* α(N)=0.000999 *14*; α(O)=0.0001993 *28*; α(P)=2.135×10^{-5} *30* Mult.: DCO=0.46 *8* (2000Go47).
7172.9+w?		361.9[a]	100[a]	6811.0+w?		M1(+E2)[a]	0.16 *9*	α(K)=0.13 *8*; α(L)=0.027 *8*; α(M)=0.0066 *18* α(N)=0.0017 *4*; α(O)=3.2×10^{-4} *10*; α(P)=3.0×10^{-5} *15*
7188.2+y		517.7[&]	100[&]	6670.5+y		M1	0.0985 *14*	α(K)=0.0807 *11*; α(L)=0.01359 *19*; α(M)=0.00318 *4* α(N)=0.000807 *11*; α(O)=0.0001609 *23*; α(P)=1.724×10^{-5} *24* Mult.: DCO=0.45 *8* (2000Go47).
7301.6+u	(21)	501.9[&]	100[&] *15*	6799.7+u	(21)	(D)		Mult.: DCO=0.79 *18* (2000Go47).

$^{202}_{82}Pb_{120}$-15

Adopted Levels, Gammas (continued)

$\gamma(^{202}$Pb) (continued)

E$_i$(level)	J^π_i	E$_\gamma$[†]	I$_\gamma$[†]	E$_f$	J^π_f	Mult.[‡]	α[b]	Comments
7301.6+u	(21)	1361.4[&]	26[&] *11*	5940.2+u	(20$^-$)			
7405.9+u	(23)	1082.2[&]	100[&]	6323.4+u	(22)	D		Mult.: DCO=0.66 *8* (2000Go47).
7417.6+z		523.4[&]	100[&]	6894.2+z		M1	0.0957 *13*	α(K)=0.0784 *11*; α(L)=0.01319 *18*; α(M)=0.00308 *4* α(N)=0.000783 *11*; α(O)=0.0001563 *22*; α(P)=1.675×10^{-5} *23* Mult.: DCO=0.49 *10* (2000Go47).
7554.4+u	22	253.0[&]	6.7[&] *16*	7301.6+u	(21)			
		1463.0[&]	100[&] *6*	6091.6+u	(21$^-$)	D		Mult.: DCO=0.62 *6* (2000Go47).
7592.4+w?		419.5[a]	100[a]	7172.9+w?		M1(+E2)[a]	0.11 *6*	α(K)=0.09 *6*; α(L)=0.018 *6*; α(M)=0.0042 *14* α(N)=0.00107 *35*; α(O)=2.1×10^{-4} *7*; α(P)=2.0×10^{-5} *10*
7708.5+u	23	154.3[&]	100[&]	7554.4+u	22	D		Mult.: DCO=0.49 *8* (2000Go47).
8079.6+w?		487.2[a]	100[a]	7592.4+w?		M1(+E2)[a]	0.07 *4*	α(K)=0.06 *4*; α(L)=0.012 *4*; α(M)=0.0027 *10* α(N)=7.0×10^{-4} *25*; α(O)=1.4×10^{-4} *5*; α(P)=1.3×10^{-5} *7*
8305.5+u	(24)	597.1[&]	100[&]	7708.5+u	23	D		Mult.: DCO=0.56 *8* (2000Go47).
8361.1+u	(24)	652.8[&]	100[&]	7708.5+u	23	D		Mult.: DCO=0.48 *8* (2000Go47).
8646.0+u	(24)	340.6[&]	100[&]	8305.5+u	(24)			Mult.: DCO=0.92 *13* (2000Go47), consistent with ΔJ=0 transition.
8786.6+u	(25)	140.8[&]	87[&] *13*	8646.0+u	(24)	D		Mult.: DCO=0.61 *10* (2000Go47).
		425.7[&]	77[&] *10*	8361.1+u	(24)	D		Mult.: DCO=0.62 *9* (2000Go47).
		1380.5[&]	100[&] *13*	7405.9+u	(23)	(Q)		Mult.: DCO=0.80 *20* (2000Go47).
9205.4+u	(26)	418.8[&]	100[&]	8786.6+u	(25)	D		Mult.: DCO=0.59 *8* (2000Go47).

† From ^{202}Bi ε decay, unless otherwise stated.

‡ From α(K)exp, α(L)exp and subshell ratios in ^{202}Pb IT decay, ^{202}Bi ε decay and ^{202}Hg(α,4nγ); $\gamma(\theta)$ and $\gamma\gamma$(DCO) in ^{202}Hg(α,4nγ), ^{198}Pt(^{9}Be,5nγ) and ^{192}Os(^{14}C,4nγ).

\# From α(K)exp, α(L)exp and subshell ratios in ^{202}Pb IT decay and ^{202}Bi ε decay and the briccmixing program.

@ From ^{202}Hg(α,4nγ).

& From ^{198}Pt(^{9}Be,5nγ).

a From ^{192}Os(^{14}C,4nγ).

b Additional information 6.

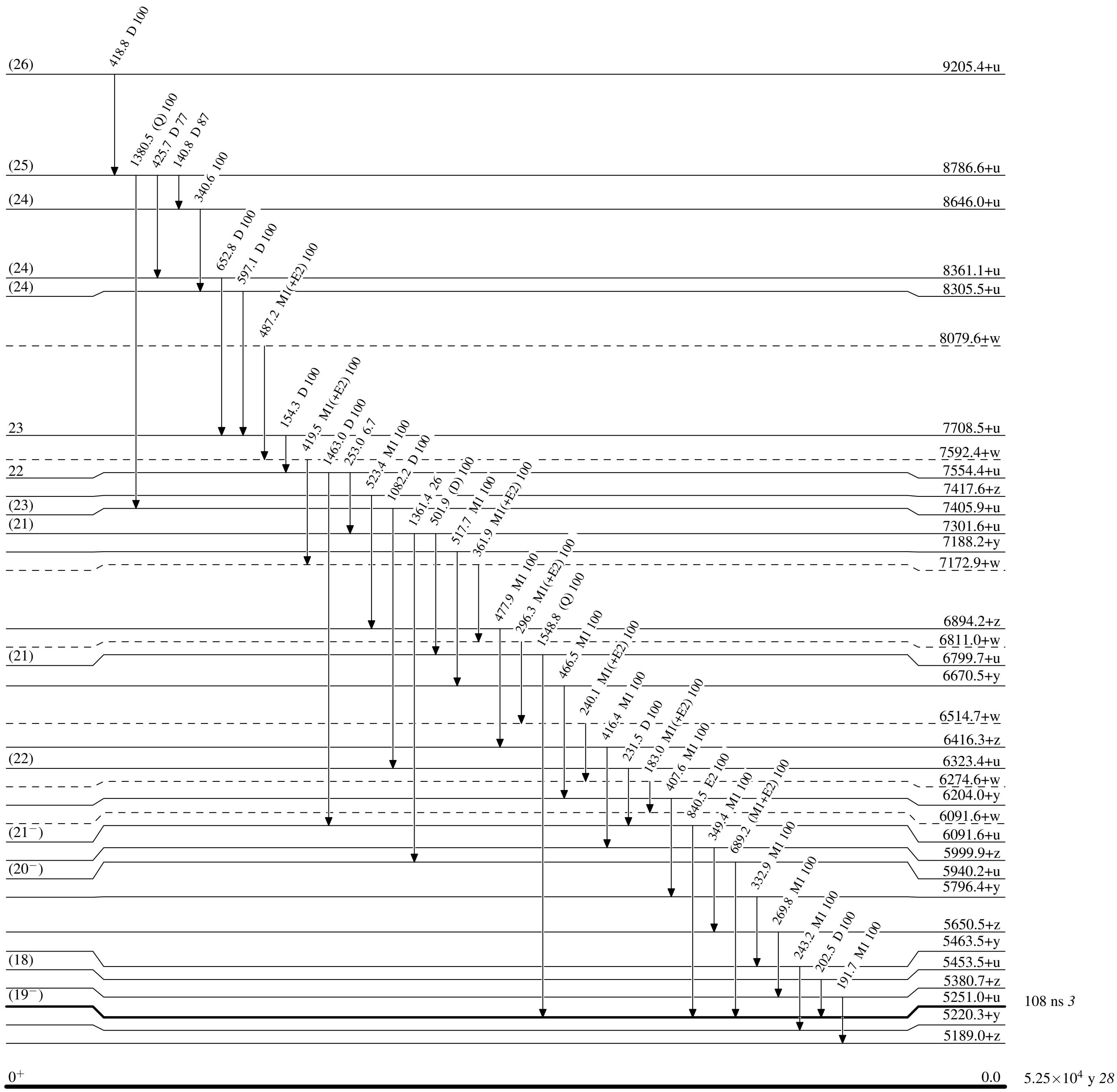
c Placement of transition in the level scheme is uncertain.

$^{202}_{82}$Pb$_{120}$-16

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

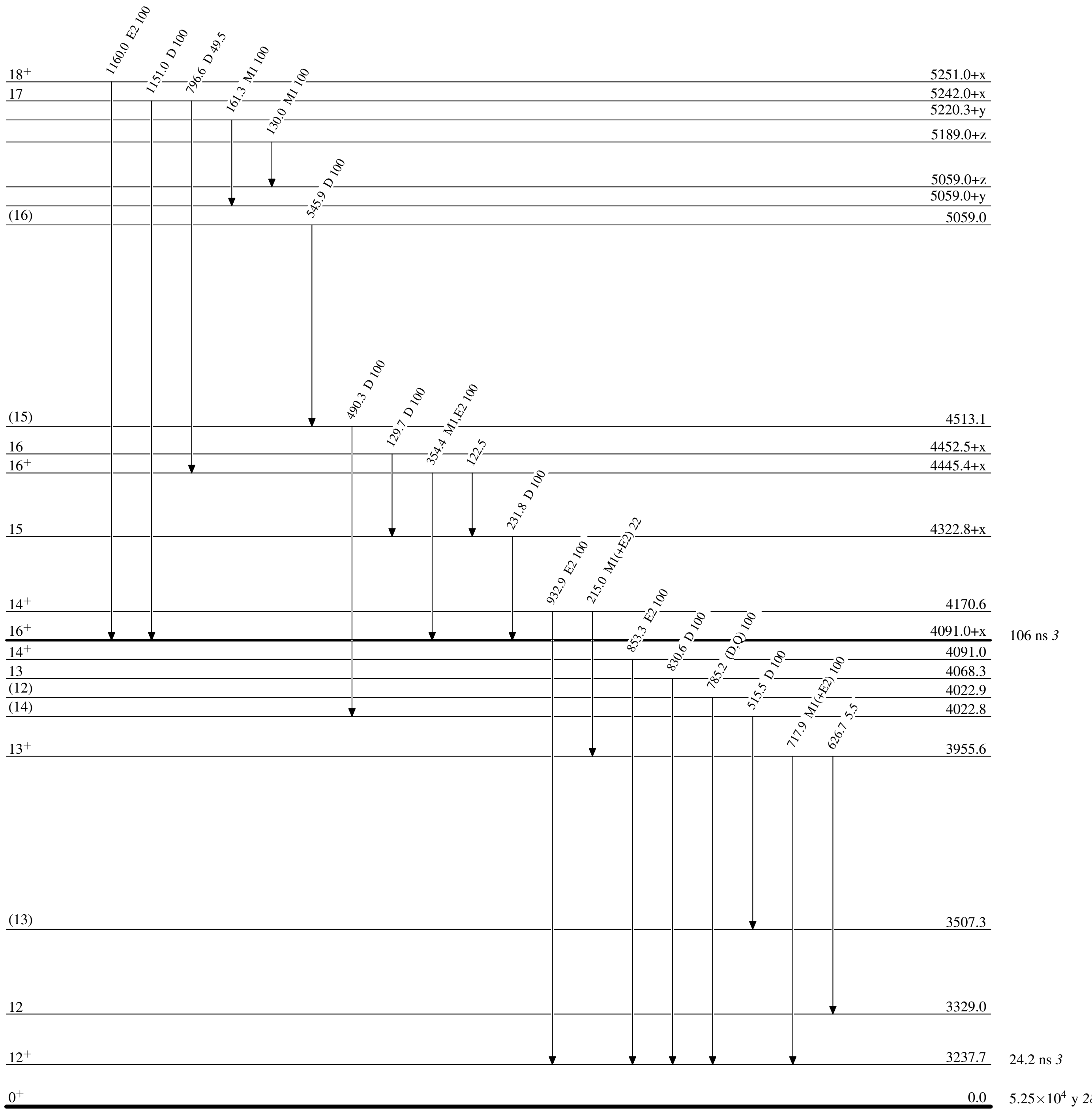


$^{202}_{82}Pb_{120}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



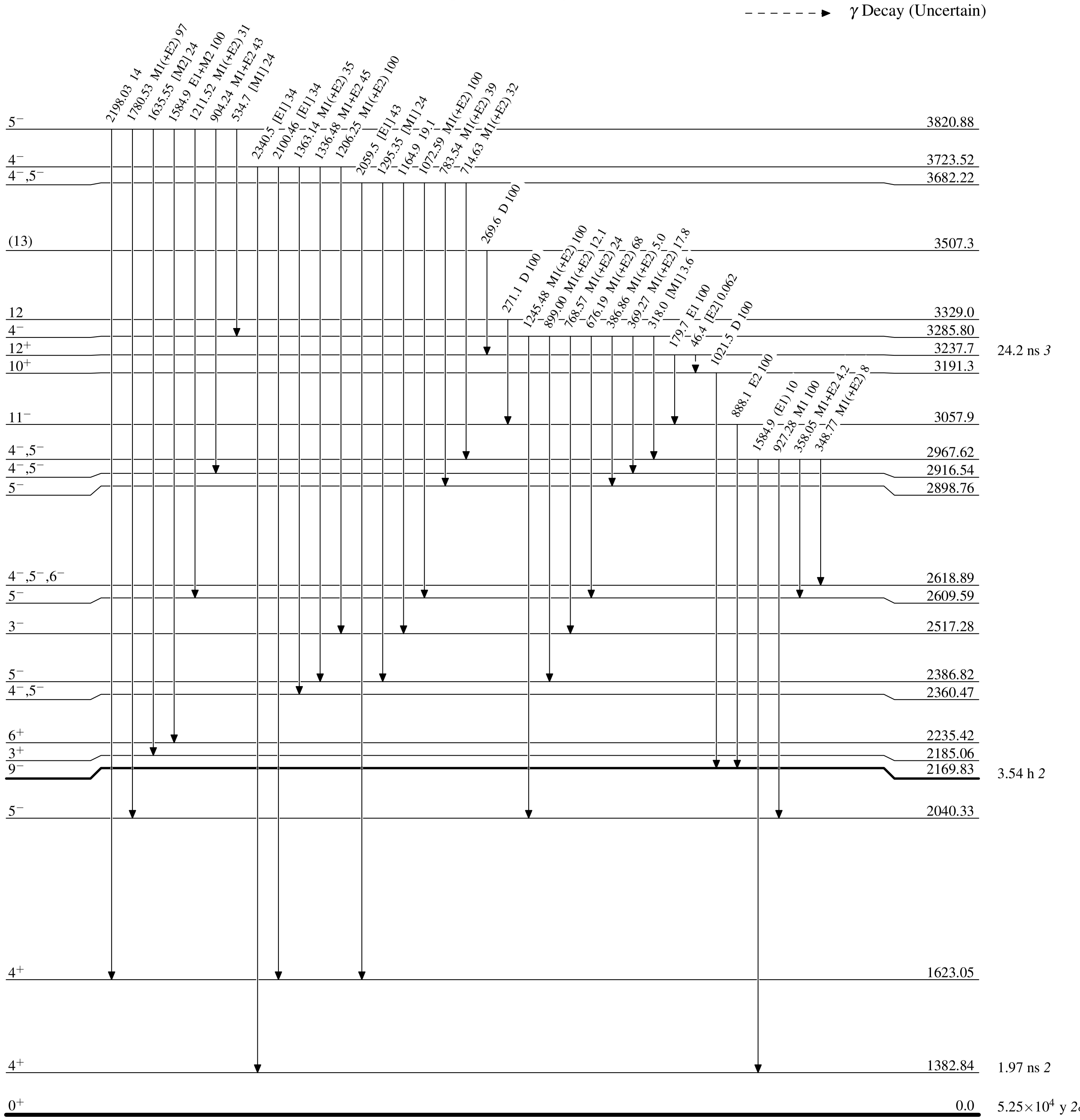
$^{202}_{82}Pb_{120}$

Adopted Levels, Gammas

Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level

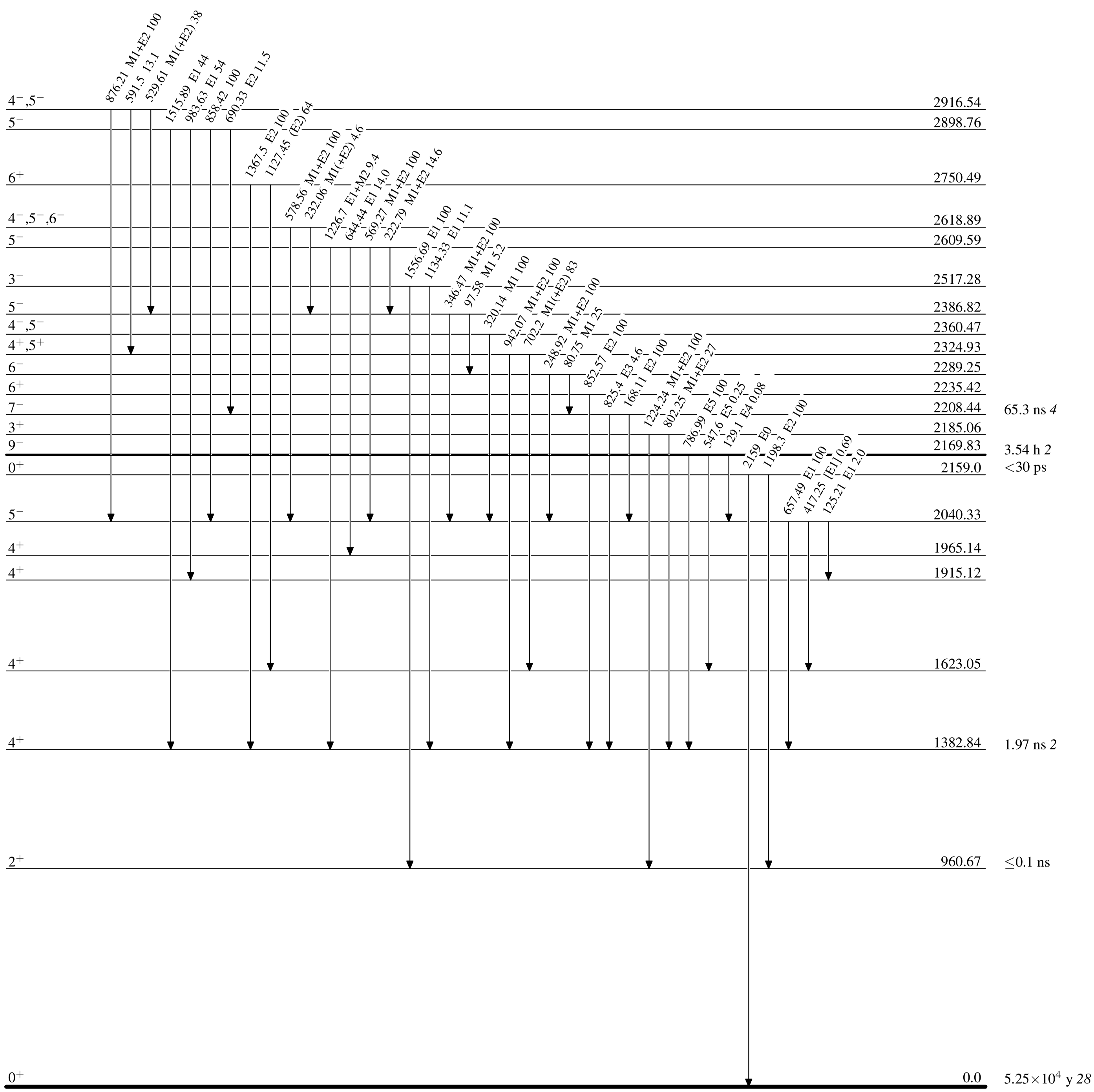


$^{202}_{82}Pb_{120}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Relative photon branching from each level



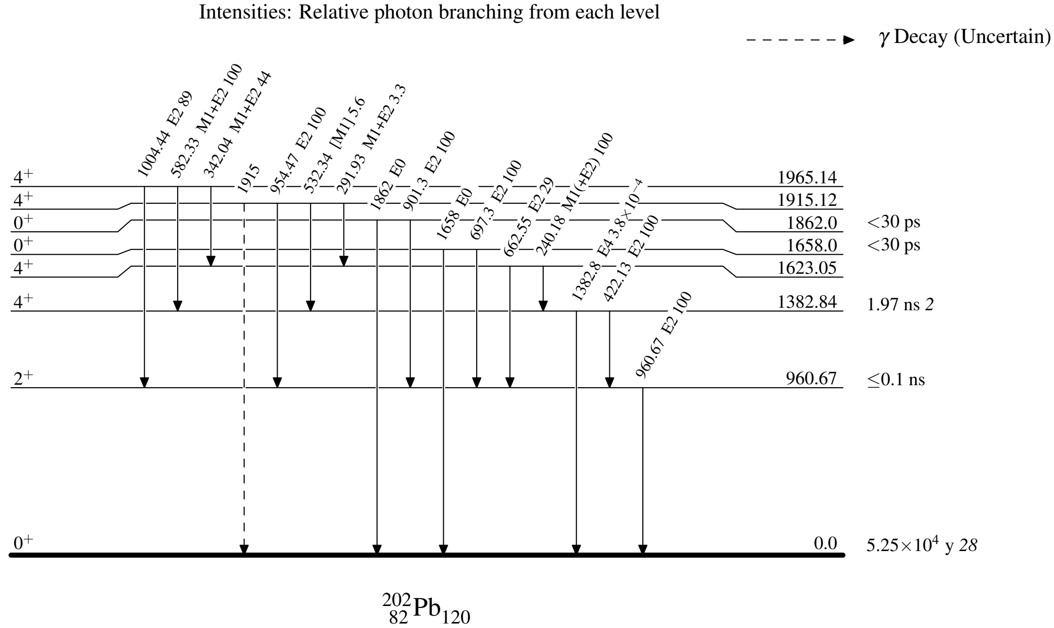
$^{202}_{82}Pb_{120}$

Adopted Levels, Gammas

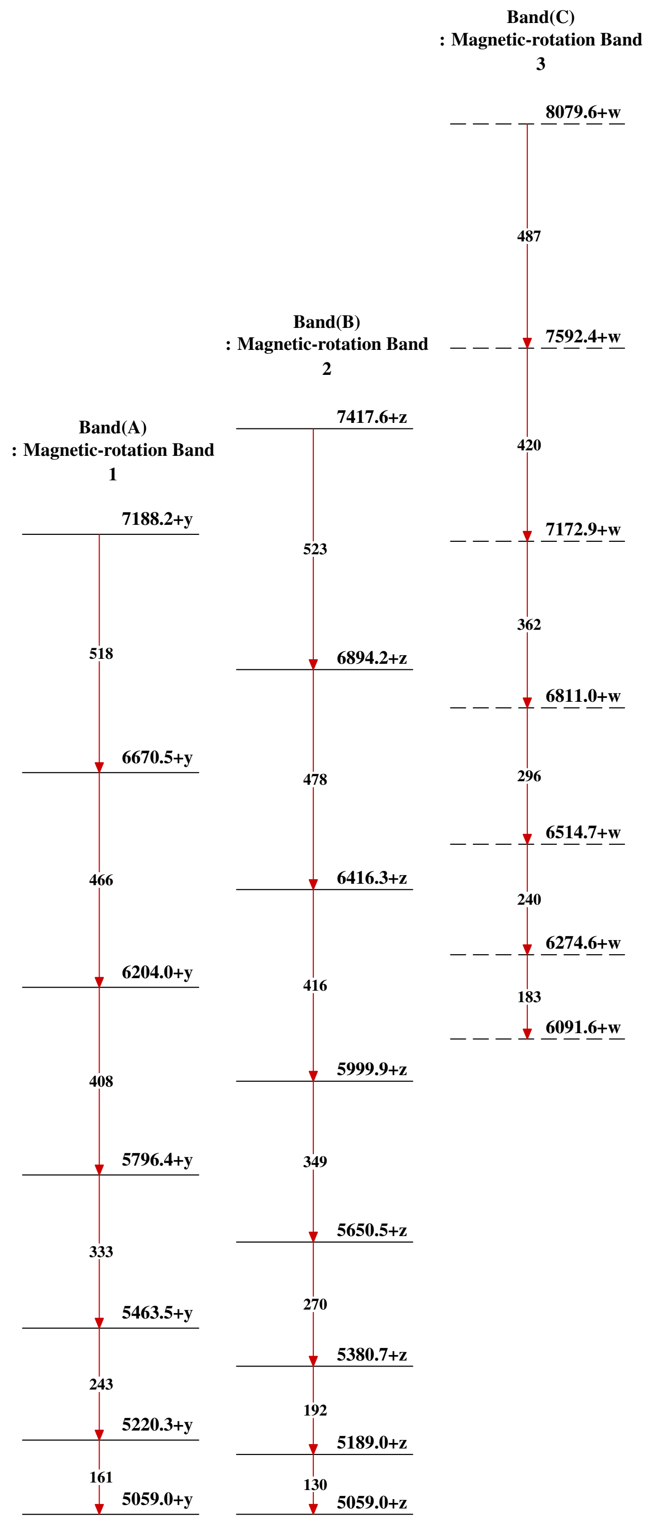
Legend

Level Scheme (continued)

Intensities: Relative photon branching from each level



Adopted Levels, Gammas



$^{202}_{82}Pb_{120}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. J. Chiara and F. G. Kondev	NDS 111,141 (2010)	1-Oct-2009

Q(β^-)=−4464 *10*; S(n)=8395 *7*; S(p)=6637.5 *4*; Q(α)=1969.3 *13* 2012Wa38
Note: Current evaluation has used the following Q record −4.44E+3 3 *8394* 6 *6637.5 3* 1969.5 *12* 2003Au03.

^{204}Pb Levels

Cross Reference (XREF) Flags

A	^{204}Tl β^- decay	H	^{204}Pb(e,e′)	O	^{205}Tl(p,2nγ),^{204}Pb(p,p′γ)
B	^{204}Pb IT decay (66.93 min)	I	^{204}Pb(n,n′γ)	P	^{206}Pb(p,t)
C	^{204}Bi ε decay	J	^{204}Pb(n,n′)	Q	^{206}Pb(^{118}Sn,Xγ)
D	^{208}Po α decay	K	^{204}Pb(p,p′) IAR	R	^{209}Bi(μ^-,5nγ)
E	^{198}Pt(HI,pxng)	L	^{204}Pb(d,d′)	S	^{209}Bi(π^-,5nγ)
F	^{204}Hg(α,4nγ)	M	^{204}Pb(α,α′)		
G	^{204}Pb(γ,γ′)	N	Coulomb excitation		

E(level)[†]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0	0$^+$	≥1.4×10^{17} y	ABCDEFGHIJKLMNOPQRS	%α=? T$_{1/2}$: 1958Ri23 and 1966Ka23 report α decay with T$_{1/2}$=1.4×10^{17} y and E(α)=2600 keV; however, this disagrees with adopted Q(α)=1969.5 keV 12. Charge radius measured: <r^2>$^{1/2}$=5.4795 fm 15 from (e,e) (1978Eu01). Charge radius differences measured: Δ<r^2>(^{204}Pb,^{206}Pb)=−0.101 fm^2 17 combining x-ray and optical shifts (1973Le16), −0.105 fm^2 2 from collinear laser spectroscopy (1987Di06); Δ<r^2>(^{204}Pb,^{208}Pb)=−0.2231 fm^2 18 from laser spectroscopy (1986An06), −0.2080 fm^2 23 from atomic-beam laser resonance (1983Th03), −0.220 fm^2 9 from isotope shifts of K x ray (1983Bo08), −0.238 fm^2 5 from optical isotope shifts (2005Wa34). Isotope shifts measured: with above methods (1973Le16, 1986An06, 1987Di06, 1983Th03, 2005Wa34), muonic x rays (1975Ke05), two-photon laser spectroscopy (1980Ti04). Neutron density radius relative to protons deduced: Δr$_{n-p}$=0.22 fm 9 (1976Gi05), reanalysis of same data with different potential Δr$_{n-p}$=0.0 fm 1 (1977Fr15). Charge density measured with (e,e) (1987Ca02). Penning trap mass measurement (2001Sc41).
899.165 *25*	2$^+$	2.88 ps *3*	BCD FGHIJKLMNOPQRS	Q=+0.23 *9* (1978Jo04); μ<0.02 (1986Bi13) E(level): Other: 1980Ho19 measure E=897.17 *13*, an isomer shift of −2.0 keV, in muonic atom. J$^\pi$: L=2 in (d,d′), (α,α′), (p,t); 899.15γ E2 to 0$^+$. B(E2)↑=0.166 *2* (1978Jo04). Others: 0.166 *9* (1974Ol02), 0.151 *15* (1972Ha59), 0.146 *15* (1971Gr31), and 0.174 (1984Pa02); ratio of B(E2)↑(^{204}Pb)/B(E2)↑(^{206}Pb)=1.7 *2* (1962Na06), 1.7 (1965An13). T$_{1/2}$: From B(E2)↑=0.166 *2* (1978Jo04). Q: From Coulomb excitation reorientation. Other: +0.19 *14* (1974Ol02).
1274.13 *5*	4$^+$	265 ns *6*	BC F HIJKLMNOP RS	Q=0.44 *2* (1989Ra17); μ=+0.224 *3* B(E4)↑≈0.029

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)†	J^π	$T_{1/2}$	XREF	Comments
				J^π: L=4 in (p,t), (d,d′); 374.76γ E2 to 2^+. $T_{1/2}$: Weighted average of 258 ns *12* (1963Sa19), 280 ns *12* (1967Li12) and 260 ns *10* (1978So02) in ^{204}Pb IT decay. μ: Weighted average of +0.216 *20* (1955Kr06) by angular correlation attenuation, +0.226 *8* (1963Sa19) and +0.220 *12* (1967Li12) by differential angular correlation method, and +0.224 *4* (1974Lu03) by TDPAD. B(E4): from (e,e′).
1351.23 *4*	2^+		C IJKLM P	J^π: L=2 in (p,t); 452.0γ M1+E2 to 2^+.
1563.42 *6*	4^+		BC I KLM OP	J^π: L=4 in (p,t); 289.30γ M1+E2 to 4^+; 663.43γ to 2^+.
1582.7 *7*	0^+	65 ps *20*	L OP	XREF: L(1579)O(1582.7)P(1582). J^π: E0 to g.s. $T_{1/2}$: From ce(t) (1986Ka07) in (p,2nγ).
1582.78 *5*	2^+		C I L OP	XREF: L(1579)O(1582.76)P(1582). J^π: 683.6γ M1+E2 to 2^+; 1582.8γ E2 to 0^+.
1604.82 *7*	3^+		C I	J^π: 705.7γ M1+E2 to 2^+; 330.6γ M1(+E2) to 4^+.
1665.27 *7*	2^+		C I KLM P	XREF: K(1660)L(1663)M(1660)P(1663). J^π: L=2 in (p,t); 1665.3γ E2 to 0^+; 766.1γ M1(+E2) to 2^+.
1681.19 *8*	$1^{(+)}$		I	J^π: 782.0γ D+Q to 2^+, 1681.2γ D; π from shell model.
1712.25 *6*	(3^+)		I	J^π: 361.1γ and 813.1γ D(+Q)′s to 2^+ levels and 438.0γ to 4^+ imply $J^\pi=2^+,3$; 438.0γ(θ) most likely rules out stretched E2, E1; Also, 604.0γ (M1+E2) from 2316.29−keV 2^+ level favors π=(+); nonobservation in (d,d′) and in (p,t) favors unnatural parity.
1729.99 *12*	0^+	<20 ps	I OP	J^π: E0 to g.s.; L=0 in (p,t). $T_{1/2}$: From ce(t) (1986Ka07) in (p,2nγ).
1761.10 *6*	2^+		I	J^π: 1761.1γ E2 to 0^+, 861.9γ M1+E2 to 2^+.
1817.54 *5*	4^+		C I LM P	XREF: M(1820). J^π: L=4 in (p,t); 918.26γ E2 to 2^+.
1872.11 *10*	1		I KL	XREF: K(1860). J^π: 1872.1γ D to 0^+.
1933.29 *8*	1		I	J^π: 1933.3γ D to 0^+.
1948.34 *6*	3^+		C I K	XREF: K(1950). J^π: 1049.2γ M1+E2 (ΔJ=1) to 2^+, 674.1γ (M1+E2) to 4^+. Additional information 1.
1960.39 *7*	$(2)^+$		I P	J^π: L=2 in (p,t).
2065.33 *7*	5^+		C I	J^π: 501.72γ M1(+E2) to 4^+; 791.20γ M1+E2 to 4^+; 1573.0γ (E1+M2) from the 6^- level at 3638 keV.
2105.50 *6*	2^+		I P	J^π: L=2 in (p,t); 2105.5γ E2 to 0^+.
2158.02 *8*	(4^+)		C I L P	J^π: 883.8γ to 4^+; 1258.9γ to 2^+; possible feeding by 934.13γ from the 5^- level at 3092 keV favors 4^+.
2185.88 *8*	9^-	66.93 min *10*	BC EF I LM P S	%IT=100 XREF: L(2180)M(2180). J^π: 622.2γ and 911.74γ E5′s to 4^+ levels, L=9 in (p,t), (d,d′). Proposed configuration=$\nu[(f_{5/2})^{-1}(i_{13/2})^{-1}]$. $T_{1/2}$: Weighted average of 67.5 min *5* (1956He50), 66.9 min *1* (1958Ba04), 66 min *3* (1972Si22), 67.2 min *9* (1977SmZV), and 68.4 min *24* (2001Li17) in ^{204}Pb IT decay.
2201.93 *11*	$(2,3,4^+)$		I	J^π: 850.7γ to 2^+.
2238.47? *16*	5,6		C	J^π: 964.32γ to 4^+; direct population in ^{204}Bi ε decay ($J^\pi=6^+$).
2258.15 *5*	5^-		C I L P	XREF: P(2257). J^π: 440.46γ E1 to 4^+; 983.98γ E1(+M2) to 4^+; L=5 in (p,t) (doublet with 2264.43-keV level); direct population in ^{204}Bi ε decay ($J^\pi=6^+$).

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Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)†	J^π	$T_{1/2}$	XREF	Comments
2264.42 6	7^-	0.45 μs +10−3	C P	XREF: P(2257?). J^π: 78.54γ E2 to 9^-; 990.4γ E3 to 4^+. $T_{1/2}$: from ^{204}Bi ε decay (1978So02). Possible configuration=$\nu[(p_{1/2})^{-1}(i_{13/2})^{-1}]$.
2269.01 10	1,2^+		I M	J^π: 2269.0γ to 0^+.
2303.92 7	3^+		I	J^π: 740.4γ (M1+E2) to 4^+; 721.2γ M1+E2 to 2^+.
2311.6 6	1		G	J^π: 2311.6γ D to 0^+.
2316.29 6	2^+		I	J^π: 586.3γ E2 to 0^+; 965.1γ (M1+E2) to 2^+.
2338.44 6	$(4)^-$		C I	J^π: 80.15γ M1(+E2) to 5^- and 1064.32γ E1+M2 to 4^+ implies $J^\pi=4^-,5^-$; however, a 5^- assignment requires δ(1064.32)=0.3, which is ruled out by α(K)exp in ^{204}Bi ε decay.
2386.19 9	5^+		C I	J^π: 822.9γ M1+E2 (ΔJ=1) to 4^+; 1780.33γ from the 5^- level at 4166 keV.
2400.34 7	$1^+,2^+,3^+$		I	J^π: 1501.1γ M1+E2 to 2^+.
2405.27 7	7^-		C P	XREF: P(2399). J^π: 219.41γ E2 to 9^-; 147.36γ to 5^-; L=(7) in (p,t).
2408.97 11	3		I	J^π: 1509.8γ D+Q to 2^+.
2432.99 13	0^+		I OP	XREF: P(2430). J^π: E0 to 0^+.
2434.24 6	6^-		C	J^π: 169.83γ M1+E2 to 7^-; 176.09γ M1(+E2) to 5^-; 368.30γ to 5^+.
2475.37 11	$1,2,3,4^+$		I	J^π: 1576.1γ to 2^+.
2480.43 7	6^-		C	J^π: 222.15γ M1 to 5^-; 216.11γ M1(+E2) to 7^-.
2491.25 7	3^+		C I P	XREF: P(2500). J^π: 1139.82− and 1592.5−keV M1+E2′s to 2^+; γ(θ) in (n,n′γ) rules out $1^+,2^+$.
2507.16 6	5^-		C L P	XREF: P(2505). J^π: L=5 in (p,t); 248.95γ M1(+E2) to 5^-; 168.4γ (M1) to 4^-.
2513.75? 16	(4)		C	J^π: weak direct population in ^{204}Bi ε decay ($J^\pi=6^+$).
2524.90 8	(1,2,3)		I	J^π: 1173.7γ and 1625.7γ to 2^+. Iγ(1173.7γ) and Iγ(1625.7γ) consistent with the two transitions being dipoles.
2546.97 11			I	
2549.76 8	2^+,3		I	J^π: 1650.6γ D(+Q) to 2^+; 1275.6γ to 4^+.
2591.50 8	1,2,3		I	J^π: 1692.3γ D(+Q) to 2^+.
2620.60 8	3^-		HIJKLMN P	B(E3)↑=0.66 4 XREF: K(2630)L(2618)M(2617). J^π: L=3 in (p,t), (d,d′), (α,α′). β_3=0.0878 14 (1976Gi10) and 0.121 (1994Hi01). B(E3): from 1978Sp08 in Coul. ex.
2627.47 10	(5^+)		C I	J^π: 1353.3γ (M1) to 4^+; direct feeding in ^{204}Bi ε decay ($J^\pi=6^+$).
2654.67 11	1,2^+,3		I p	XREF: p(2660?). J^π: 1755.5γ D(+Q) to 2^+; ΔJ=0 E1 ruled out by 1755.5γ(θ) in (n,n′γ).
2666.20 8	2^+		I p	XREF: p(2660?). J^π: 2666.2γ E2 to 0^+.
2696.71 10	7^-		C	J^π: 291.36γ M1+E2 to 7^-, 510.67γ to 9^-, 438.46γ to 5^-.
2719.33 9	5^+		C I	J^π: 1155.9γ M1+E2 to 4^+; 1155.9γ(θ) in (n,n′γ) favors ΔJ=1 transition; direct population in ^{204}Bi ε decay ($J^\pi=6^+$).
2731.92 18	$5^-,6^-,7^-$		C	J^π: 251.70γ M1 to 6^-.
2732.03 11	1,2,3		I	J^π: 1380.8γ D(+Q) to 2^+.

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Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)†	J^π	XREF	Comments
2766.94 *11*	(2+,3,4)	I	J^π: 1492.8γ to 4+; the lack of direct feeding in ^{204}Bi ε decay (J^π=6+).
2808 *3*	6+	LM P	XREF: L(2804)M(2810). J^π: L=6 in (p,t). Proposed dominant configuration=$\nu[(f_{5/2})^{-1}(f_{7/2})^{-1}](\nu^{-2})_{0+}$.
2829 *3*		P	
2861.63? *18*	(5−,6,7)	C	J^π: 164.92γ to 7−; direct population in ^{204}Bi ε decay (J^π=6+).
2887.18 *11*	2,3	C I L	XREF: L(2884). J^π: 1988.0γ D(+Q) to 2+.
2890.03? *16*	(5−,6−)	C	J^π: 631.88γ (M1+E2) to 5−; direct feeding in ^{204}Bi ε decay (J^π=6+).
2897 *3*	4+	L P	J^π: L=4 in (p,t).
2912.98 *9*	5−	C M	J^π: 1095.08γ E1+M2 to 4+,405.82γ (M1) to 5−; 1181.3γ M1(+E2) from 6−.
2919.68 *6*	5−	C	J^π: 1102.16γ and 1645.60γ E1(+M2)'s to 4+; 514.4γ (E2) to 7−.
2927.72 *9*	(5,6,7)−	C	J^π: 663.43γ (M1,E2) to 7−.
2928.89 *6*	5−	C	J^π: 1111.35γ and 1654.79γ E1(+M2)'s to 4+ levels; strong population in ^{204}Bi ε decay (J^π=6+) favors 5−.
2941.9? *3*	(4−,5−,6−)	C	J^π: 683.39γ (M1) to 5−.
2945.58 *18*	10−‡	F	Proposed configuration=$\nu[(p_{1/2})^{-1}(f_{5/2})^{-2}(i_{13/2})^{-1}]$.
3023.45 *9*	(5,6)−	C	J^π: 765.37γ (M1) to 5−, 617.80γ to 7−.
3029.28 *6*	5−	C	J^π: 1211.72γ and 1755.28γ E1(+M2)'s to 4+; 522.22γ M1 to 6−.
≈3050		M	
3092.25 *5*	5−	C	J^π: 1274.76γ and 1818.10γ E1's to 4+; 827.62γ to 7−.
3105.29 *7*	6−	C	J^π: 847.19γ M1+E2 to 5−; 841.10−keV M1(+E2) to 7−.
3147 *3*	(2)+	P	J^π: L=2 in (p,t).
3170.37 *7*	5−	C m	XREF: m(3180). J^π: 1896.27γ E1(+M2) to 4+; 736.07γ M1(+E2) to 6−.
3191.68 *18*	11−‡	EF m S	XREF: m(3180). J^π: 246.2γ M1+E2 to 10−; 1005.7γ E2 to 9−. Proposed configuration=$\nu[(p_{1/2})^{-1}(f_{5/2})^{-2}(i_{13/2})^{-1}]$.
3198.60? *16*	5−,6,7−	C	J^π: 934.13γ to 7−; 941.0γ to 5−.
3215.36 *8*	5+	C	J^π: 1652.10γ M1(+E2) to 4+; direct feeding in ^{204}Bi ε decay (J^π=6+).
3226 *3*	(2)+	P	J^π: L=2 in (p,t).
3232.27 *8*	5−	C	J^π: 1414.74γ E1(+M2) to 4+; 725.15γ M1+E2 to 5−; direct feeding in ^{204}Bi ε decay (J^π=6+).
3301.73 *9*	5−	C	J^π: 1043.63γ M1(+E2) to 5−; 821.13γ (M1) to 6−; 1037.34γ (E2) to 7−.
3377.4 *7*	1	G	J^π: 3377.4γ D to 0+.
3397.62 *7*	6−	C	J^π: 1139.82γ M1 to 5−; 1133.03γ M1(+E2) to 7−.
3420 *30*	(3)−	P	J^π: L=3 in (p,t).
3425.2? *3*	5−,6−	C	J^π: 1167.01γ (M1+E2) to 5−; direct feeding in ^{204}Bi ε decay (J^π=6+).
≈3450	(10)+	P	J^π: L=10 in (p,t). Proposed configuration=$\nu[(i_{13/2})^{-2}](\nu^{-2})_{0+}$.
3516.4 *3*	12+‡	EF M P S	XREF: M(3500?)P(3510). J^π: 324.7γ E1(+M2) to 11−. Proposed configuration=$\nu[(i_{13/2})^{-2}](\nu^{-2})_{0+}$.
≈3570.5		LM	XREF: L(3561?)M(3580?). E(level): average of 3561 keV in (d,d′) and 3580 keV in (α,α′); these may be different levels.
3638.05 *6*	6−	C	J^π: 718.41γ M1(+E2) to 5−; 1232.91γ M1(+E2)'s to 7−; 1573.0 E1+M2 to 5+.
3656.3 *3*	1	G	J^π: 3656.3γ D to 0+.
≈3719		L	
3733.40? *10*	6−,7−	C M	XREF: M(3740?). J^π: 1299.1γ M1(+E2) to 6−; 1328.21γ M1(+E2) to 7−.
3768.67 *7*	5−,6−	C	J^π: 1703.27γ E1(+M2) to 5+, 1334.50-keV M1 to 6−.
3782.28 *8*	5−	C L	XREF: L(3778).

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Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)†	J$^{\pi}$	T$_{1/2}$	XREF	Comments
				J$^{\pi}$: 1964.82γ E1 to 4^{+}; 1348.4γ M1(+E2) to 6^{-}.
3810 *30*	(2)$^{+}$		M P	XREF: M(3820). E(level): from (p,t); two nearby levels were observed in (d,d′) at 3799 and 3824 keV, but it is not clear which, if either, corresponds to this level. J$^{\pi}$: L=2 in (p,t).
3842.8? *5*	(5,6^{+})		C	J$^{\pi}$: 2279.4γ to 4^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
3876.53? *23*	(5^{-},6^{+})		C	J$^{\pi}$: 1612.15γ to 7^{-}; 2312.9γ to 4^{+}.
3891.76? *12*	5^{-},6^{-}		C	J$^{\pi}$: 1826.42γ E1(+M2) to 5^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
3893.2 *6*	2^{+}	17 fs *3*	G	J$^{\pi}$: 3893.2γ E2 to 0^{+}. T$_{1/2}$: from B(E2)↑=0.018 *3* in (γ,γ′).
3949 *4*	(6)$^{+}$		LM P	XREF: L(3951)M(3970?). J$^{\pi}$: L=6 in (p,t).
3996.33 *19*	(5,6^{+})		C l	XREF: l(4004). J$^{\pi}$: 2433.3γ and 2721.2γ to 4^{+} levels; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
3997.89? *14*	(5,6,7)$^{-}$		C l	XREF: l(4004). J$^{\pi}$: 1517.46γ M1(+E2) to 6^{-} levels; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4032.83? *23*	(5,6^{+})		C m	XREF: m(4030). J$^{\pi}$: 2758.8γ to 4^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4039.2? *4*	(5,6^{+})		C m	XREF: m(4030). J$^{\pi}$: 2475.6γ and 2765.3γ to 4^{+} levels; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4068.09 *16*	(5^{-},6^{+})		C	J$^{\pi}$: 2250.28γ and 2794.4γ to 4^{+} levels, 1803.95γ to 7^{-}.
4076.37 *13*	(5)$^{-}$		C	J$^{\pi}$: 1569.3γ M1(+E2) to 5^{-}; 971.21γ to 6^{-}; 2802.1γ to 4^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4081.05 *9*	(5,6^{+})		C	J$^{\pi}$: 2263.38γ and 2517.74γ to 4^{+} levels; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4094.43 *9*	6^{-}		C p	XREF: p(4100). J$^{\pi}$: 1836.6γ M1(+E2) to 5^{-}; 1689.05γ M1(+E2) to 7^{-}; L=7 in (p,t) for 4100 keV *30* level.
4111.47 *10*	(5)$^{-}$		C p	XREF: p(4100). J$^{\pi}$: 473.40γ M1(+E2) to 6^{-}, 2837.33γ to 4^{+}; L=7 in (p,t) for 4100 keV *30* level.
4115.21 *14*	6^{-}		C p	XREF: p(4100). J$^{\pi}$: 1856.92γ M1(+E2) to 5^{-}; 1850.65γ M1(+E2) to 7^{-}; L=7 in (p,t) for 4100 keV *30* level.
4129.57 *11*	(5,6)		C M	XREF: M(4120?). J$^{\pi}$: 2566.14γ to 4^{+} levels; 1791.17γ to 4^{-}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4134.8 *4*	14^{+}‡		EF S	J$^{\pi}$: 618.4γ E2 to 12^{+}. Proposed configuration=$\nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}]$.
4140			K	
4166.03 *9*	5^{-}		C	J$^{\pi}$: 1731.68γ M1(+E2) to 6^{-}, 1761.0γ E2 to 7^{-}.
4172.44? *14*	(5,6^{+})		C	J$^{\pi}$: 2898.0γ to 4^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4184.02 *7*	6^{-}		C	J$^{\pi}$: 1092.1γ M1(+E2) to 5^{-}, 1778.45γ M1(+E2) to 7^{-}.
4190			K	
4229.81? *20*	(5,6)		C	J$^{\pi}$: 2955.6γ to 4^{+}, 1891.37γ to 4^{-}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4244.01? *16*	(5,6^{+})		C	J$^{\pi}$: 2680.9γ to 4^{+}; direct feeding in ^{204}Bi ε decay (J$^{\pi}$=6^{+}).
4250.24 *11*	(5,6^{+})		C M	XREF: M(4270?). J$^{\pi}$: 2686.82γ and 2976.9γ to 4^{+} levels; direct feeding in ^{204}Bi ε

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)†	J^π	$T_{1/2}$	XREF	Comments
				decay (J^π=6$^+$).
4286.12 *14*	6$^-$		C	J^π: 1589.42γ M1(+E2) to 7$^-$; 2028.1γ E2(+M1) to 5$^-$.
4290			K	
4302.0 *4*	15$^+$‡		EF S	J^π: 167.2γ M1(+E2) to 14$^+$. Proposed configuration=$\nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}]$.
4340			K	
4379.05 *20*	2$^+$	4.0 fs *4*	G M	XREF: M(4400?). J^π: 4379.0γ E2 to 0$^+$. $T_{1/2}$: From B(E2)↑=0.044 *5* in (γ,γ').
4460			K	
4530			K	
4596.2 *8*	1		G	J^π: 4569.1γ D to 0$^+$.
4620			K	
4650			K	
4853 *10*	(11)$^-$		P	J^π: L=11 in (p,t). Proposed configuration=$\nu[(i_{13/2})^{-1}(h_{9/2})^{-1}](\nu^{-2})_{0+}$.
4887.7 *4*	16$^+$‡		F S	J^π: 585.7γ M1+E2 to 15$^+$; 752.9γ E2 to 14$^+$. Proposed configuration=$\nu[(f_{5/2})^{-2}(i_{13/2})^{-2}]$.
4922.1 *3*	1		G	J^π: 4922.0γ D to 0$^+$.
4933.2 *3*	1		G	J^π: 4933.1γ D to 0$^+$.
4980.37 *20*	1		G	J^π: 4980.3γ D to 0$^+$.
5000 *30*	(6)$^+$		P	J^π: L=6 in (p,t).
5012.0 *3*	1		G	J^π: 5011.9γ D to 0$^+$.
5100 *30*	(9)$^-$		P	J^π: L=9 in (p,t).
5283.2 *5*	(1,2$^+$)		G	J^π: 5283.1γ to 0$^+$.
5348.7 *4*	16$^+$‡		EF S	J^π: 1046.7γ M1(+E2) to 15$^+$; 1214.0γ E2(+M3) to 14$^+$. Proposed configuration=$\nu[(f_{5/2})^{-1}(p_{3/2})^{-1}(i_{13/2})^{-2}]$.
5365.9 *6*	(1,2$^+$)		G	J^π: 5365.8γ to 0$^+$.
5398.8 *5*	1		G	J^π: 5398.7γ D to 0$^+$.
5520 *30*	(9)$^-$		P	J^π: L=9 in (p,t).
5610.3 *9*	(1,2$^+$)		G	J^π: 5610.2γ to 0$^+$.
5664.5 *4*	17$^-$‡		EF S	J^π: 315.9γ E1 to 16$^+$. Proposed configuration=$\nu[(p_{1/2})^{-1}(i_{13/2})^{-3}]$.
5675.0 *12*	(1,2$^+$)		G	J^π: 5674.9γ to 0$^+$.
5776.7 *4*	1		G	J^π: 5776.6γ D to 0$^+$.
5795.6 *6*	1		G	J^π: 5795.5γ D to 0$^+$.
5811.4 *5*	1		G	J^π: 4912.1γ to 2$^+$; 5811.3γ D to 0$^+$.
5828.4 *3*	1		G	J^π: 5828.3γ D to 0$^+$.
5838.5 *4*	1		G	J^π: 5838.4γ D to 0$^+$.
5877.9 *6*	(1,2$^+$)		G	J^π: 5877.8γ to 0$^+$.
5890.7 *5*	(1,2$^+$)		G	J^π: 5890.6γ to 0$^+$.
5910 *30*	(9)$^-$		P	J^π: L=9 in (p,t).
5943.9 *8*	(1,2$^+$)		G	J^π: 5044.6γ to 2$^+$; 5943.8γ to 0$^+$.
5967.7 *5*	1		G	J^π: 5967.6γ D to 0$^+$.
5981.3 *3*	1		G	J^π: 5981.2γ D to 0$^+$.
5998.4 *8*	(1,2$^+$)		G	J^π: 5998.3γ to 0$^+$.
6008.8 *7*	1		G	J^π: 6008.7γ D to 0$^+$.
6020.2 *6*	1		G	J^π: 6020.1γ D to 0$^+$.
6054.1 *15*	1		G	J^π: 6054.0γ D to 0$^+$.
6066.9 *8*	1		G	J^π: 6066.8γ D to 0$^+$.
6073.0 *5*	17‡		F	J^π: 1185.3γ D to 16$^+$. Proposed configuration=$\nu[(f_{5/2})^{-1}(i_{13/2})^{-3}]$.
6074.3 *11*	1		G	J^π: 6074.2γ D to 0$^+$.
6084.5 *8*	(1,2$^+$)		G	J^π: 6084.4γ to 0$^+$.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{204}Pb Levels (continued)

E(level)[†]	Jπ	XREF	Comments
6098.2 *5*	19^-[‡]	EF S	XREF: E(6094.1). Jπ: 433.7γ E2 to 17^-. Proposed configuration=$\nu[(f_{5/2})^{-1}(i_{13/2})^{-3}]$.
6105.0 *9*	$(1,2^+)$	G	Jπ: 5205.8γ to 2^+; 6105.0γ to 0^+.
6148.4 *5*	1	G	Jπ: 6148.3γ D to 0^+.
6161.3 *6*	$(1,2^+)$	G	Jπ: 6161.2γ to 0^+.
6194.5 *8*	1	G	Jπ: 6194.4γ D to 0^+.
6210.1 *6*	$(1,2^+)$	G	Jπ: 6210.0γ to 0^+.
6229.2 *20*	$(1,2^+)$	G	Jπ: 6229.1γ to 0^+.
6254.4 *6*	1	G	Jπ: 6254.3γ D to 0^+.
6277.1 *9*	1	G	Jπ: 6277.0γ D to 0^+.
6323.0 *5*	1	G	Jπ: 6322.9γ D to 0^+.
6410.9? *6*	1	G	Jπ: 6410.9γ D to 0^+.
6419.6? *11*	$(1,2^+)$	G	Jπ: 6419.6γ to 0^+.
6457.0 *9*	$(1,2^+)$	G	Jπ: 6456.9γ to 0^+.
6469.3? *7*	$(1,2^+)$	G	Jπ: 6469.3γ to 0^+.
7402.3 *5*	(20)[‡]	F S	Jπ: 1304.1γ D+Q to 19^-. Proposed configuration=$\pi[(h_{9/2})(h_{11/2})^{-1}]\nu[(p_{1/2})^{-2}(i_{13/2})^{-2}]$.
7849.4 *6*	(21)[‡]	F	Jπ: 447.1γ D+Q to (20). Proposed configuration=$\pi[(h_{9/2})(h_{11/2})^{-1}]\nu[(p_{1/2})^{-2}(i_{13/2})^{-2}]$.
8126.1 *6*	(22)[‡]	F	Jπ: 276.7γ D+Q to 21. Proposed configuration=$\pi[(h_{9/2})(h_{11/2})^{-1}]$ $\nu[(p_{1/2})^{-1}(f_{5/2})^{-1}(i_{13/2})^{-2}]$.

[†] From a least-squares fit to Eγ, except as noted.

[‡] From (α,4nγ) based on γ(θ) and mult.

$\gamma(^{204}Pb)$

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
899.165	2^+	899.15 *3*	100	0.0	0^+	E2		0.00821 *12*	B(E2)(W.u.)=4.69 *5* α(K)=0.00647 *9*; α(L)=0.001323 *19*; α(M)=0.000317 *5*; α(N+..)=9.73×10^{-5} *14* α(N)=8.02×10^{-5} *12*; α(O)=1.562×10^{-5} *22*; α(P)=1.473×10^{-6} *21*
1274.13	4^+	374.76 *7*	100 *16*	899.165	2^+	E2		0.0613	B(E2)(W.u.)=0.00382 *9* α(K)=0.0390 *6*; α(L)=0.01681 *24*; α(M)=0.00426 *6*; α(N+..)=0.001291 *18* α(N)=0.001077 *15*; α(O)=0.000200 *3*; α(P)=1.370×10^{-5} *20*
		1274	0.013 *3*	0.0	0^+	[E4]		0.01771	B(E4)(W.u.)=2.3 *6* α(K)=0.01288 *18*; α(L)=0.00365 *6*; α(M)=0.000905 *13*; α(N+..)=0.000279 *4* α(N)=0.000230 *4*; α(O)=4.45×10^{-5} *7*; α(P)=4.08×10^{-6} *6* E_γ,I_γ: from ^{204}Pb IT decay.
1351.23	2^+	452.0[@] *1*	≈28[@]	899.165	2^+	M1+E2[@]	+0.80[@] *12*	0.101 *8*	α(K)=0.081 *7*; α(L)=0.0154 *9*; α(M)=0.00366 *18*; α(N+..)=0.00113 *6* α(N)=0.00093 *5*; α(O)=0.000183 *10*; α(P)=1.82×10^{-5} *13*
		1351.2[@] *1*	100[@]	0.0	0^+	E2[@]		0.00378 *6*	α(K)=0.00305 *5*; α(L)=0.000536 *8*; α(M)=0.0001259 *18*; α(N+..)=6.37×10^{-5} *9* α(N)=3.19×10^{-5} *5*; α(O)=6.29×10^{-6} *9*; α(P)=6.36×10^{-7} *9*; α(IPF)=2.48×10^{-5} *4*
1563.42	4^+	289.30 *5*	100 *20*	1274.13	4^+	M1+E2	+0.09 *2*	0.468	α(K)=0.383 *6*; α(L)=0.0656 *10*; α(M)=0.01537 *22*; α(N+..)=0.00477 *7* α(N)=0.00391 *6*; α(O)=0.000778 *11*; α(P)=8.31×10^{-5} *12* δ: from (n,n′γ).
		663.43[b] *15*	0.88 *88*	899.165	2^+				E_γ: from ^{204}Pb IT decay.
1582.7	0^+	683.5 *10*	100	899.165	2^+	[E2]		0.01446	α(K)=0.01098 *16*; α(L)=0.00264 *4*; α(M)=0.000642 *10*; α(N+..)=0.000197 *3* α(N)=0.0001627 *24*; α(O)=3.13×10^{-5} *5*; α(P)=2.74×10^{-6} *4* B(E2)(W.u.)=0.81 *25* E_γ: from (p,2nγ).
		1582.7 *10*		0.0	0^+	E0			E_γ: From (p,2nγ). Mult.: ce(K)(1582.7)/ce(K)(683.5)>14 (1989Tr14).
1582.78	2^+	683.6[@] *1*	100[@]	899.165	2^+	M1+E2[@]	−0.18[@] *2*	0.0465	α(K)=0.0381 *6*; α(L)=0.00639 *10*; α(M)=0.001492 *22*; α(N+..)=0.000463 *7* α(N)=0.000379 *6*; α(O)=7.56×10^{-5} *11*; α(P)=8.09×10^{-6} *12*
		1582.8[@] *1*	≈3[@]	0.0	0^+	E2[@]		0.00289 *4*	α(K)=0.00229 *4*; α(L)=0.000388 *6*; α(M)=9.07×10^{-5} *13*; α(N+..)=0.0001191 *17* α(N)=2.30×10^{-5} *4*; α(O)=4.55×10^{-6} *7*; α(P)=4.67×10^{-7} *7*; α(IPF)=9.11×10^{-5} *13*

From ENSDF

Adopted Levels, Gammas (continued)

γ(^{204}Pb) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
1604.82	3^+	330.6 *1*	100 *21*	1274.13	4^+	M1(+E2)	≈+0.1	≈0.325	α(K)≈0.266; α(L)≈0.0454; α(M)≈0.01064; α(N+..)≈0.00330 α(N)≈0.00270; α(O)≈0.000539; α(P)≈5.75×10^{-5} E_γ,Mult.,δ: from (n,n′γ).
		705.7 *1*	53 *6*	899.165	2^+	M1+E2	+0.30 *4*	0.0412 *9*	α(K)=0.0338 *8*; α(L)=0.00569 *11*; α(M)=0.00133 *3*; α(N+..)=0.000413 *8* α(N)=0.000338 *7*; α(O)=6.74×10^{-5} *13*; α(P)=7.19×10^{-6} *15* E_γ,Mult.,δ: from (n,n′γ).
1665.27	2^+	766.1[@] *1*	100[@]	899.165	2^+	M1(+E2)[@]	+0.11[@] *4*	0.0350 *6*	α(K)=0.0288 *5*; α(L)=0.00479 *8*; α(M)=0.001119 *17*; α(N+..)=0.000347 *6* α(N)=0.000284 *5*; α(O)=5.67×10^{-5} *9*; α(P)=6.09×10^{-6} *10*
		1665.3[@] *1*	≈96[@]	0.0	0^+	E2[@]		0.00267 *4*	α(K)=0.00209 *3*; α(L)=0.000350 *5*; α(M)=8.18×10^{-5} *12*; α(N+..)=0.0001469 *21* α(N)=2.07×10^{-5} *3*; α(O)=4.10×10^{-6} *6*; α(P)=4.24×10^{-7} *6*; α(IPF)=0.0001216 *17*
1681.19	$1^{(+)}$	782.0[@] *1*	≈92[@]	899.165	2^+	D+Q[@]			δ: +0.1 or +3.7 in (n,n′γ).
		1681.2[@] *1*	100[@]	0.0	0^+	D[@]			
1712.25	(3^+)	361.1[@] *1*	100[@]	1351.23	2^+	D(+Q)[@]			
		438.0[@] *1*	≈21[@]	1274.13	4^+				
		813.1[@] *1*	≈17[@]	899.165	2^+	D(+Q)[@]			
1729.99	0^+	1730 *1*		0.0	0^+	E0			E_γ,Mult.: from (p,2nγ). ce(K)(E0)/ce(K)(E2)>5 (1986Ka07).
1761.10	2^+	409.9[@] *1*	≈13[@]	1351.23	2^+				
		861.9[@] *1*	100[@]	899.165	2^+	M1+E2[@]	+1.4[@] *4*	0.015 *3*	α(K)=0.0119 *24*; α(L)=0.0022 *4*; α(M)=0.00051 *8*; α(N+..)=0.000158 *25* α(N)=0.000130 *20*; α(O)=2.6×10^{-5} *4*; α(P)=2.6×10^{-6} *5*
		1761.1[@] *1*	≈79[@]	0.0	0^+	E2[@]		0.00246 *4*	α(K)=0.00189 *3*; α(L)=0.000313 *5*; α(M)=7.31×10^{-5} *11*; α(N+..)=0.000182 *3* α(N)=1.85×10^{-5} *3*; α(O)=3.67×10^{-6} *6*; α(P)=3.81×10^{-7} *6*; α(IPF)=0.0001596 *23*
1817.54	4^+	212.70 *15*	2.7 *5*	1604.82	3^+	(M1)		1.103	α(K)=0.900 *13*; α(L)=0.1547 *22*; α(M)=0.0362 *6*; α(N+..)=0.01125 *16* α(N)=0.00921 *13*; α(O)=0.00184 *3*; α(P)=0.000196 *3*
		543.27 *15*	1.25 *13*	1274.13	4^+	(M1)		0.0867	α(K)=0.0711 *10*; α(L)=0.01195 *17*; α(M)=0.00279 *4*; α(N+..)=0.000866 *13* α(N)=0.000709 *10*; α(O)=0.0001415 *20*; α(P)=1.517×10^{-5} *22*
		918.26 *15*	100 *7*	899.165	2^+	E2		0.00788 *11*	α(K)=0.00622 *9*; α(L)=0.001259 *18*; α(M)=0.000301 *5*; α(N+..)=9.25×10^{-5} *13*

$^{204}_{82}Pb_{122}$-9

γ(^{204}Pb) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
									α(K)=0.00622 9; α(L)=0.001259 18; α(M)=0.000301 5; α(N+..)=9.25×10^{-5} 13 α(N)=7.62×10^{-5} 11; α(O)=1.485×10^{-5} 21; α(P)=1.407×10^{-6} 20
1872.11	1	1872.1[@] 1	100[@]	0.0	0^+	D[@]			
1933.29	1	1034.1[@] 1	≈12[@]	899.165	2^+				
		1933.3[@] 1	100[@]	0.0	0^+	D[@]			
1948.34	3^+	365.5[@] 1	≈71[@]	1582.78	2^+	(M1+E2)[@]		0.16 10	α(K)=0.12 9; α(L)=0.027 9; α(M)=0.0064 18; α(N+..)=0.0020 6 α(N)=0.0016 5; α(O)=0.00032 10; α(P)=2.9×10^{-5} 15
		597.2[@] 1	100[@]	1351.23	2^+	(M1+E2)[@]		0.044 24	α(K)=0.035 21; α(L)=0.007 3; α(M)=0.0016 7; α(N+..)=0.00048 20 α(N)=0.00039 16; α(O)=8.E−5 4; α(P)=8.E−6 4
		674.1[@] 1	≈58[@]	1274.13	4^+	(M1+E2)[@]		0.032 18	α(K)=0.026 15; α(L)=0.0047 20; α(M)=0.0011 5; α(N+..)=0.00035 15 α(N)=0.00028 12; α(O)=5.6×10^{-5} 24; α(P)=6.E−6 3
		1049.2[@] 1	≈94[@]	899.165	2^+	M1+E2[@]	−2.4[@] 2	0.00750 25	α(K)=0.00605 21; α(L)=0.00110 4; α(M)=0.000261 8; α(N+..)=8.05×10^{-5} 23 α(N)=6.62×10^{-5} 19; α(O)=1.30×10^{-5} 4; α(P)=1.31×10^{-6} 5 δ: 1049.04 25 γ seen in ^{204}Bi ε decay has δ<1.0 (<50% E2 admixture) according to 1984Dz05. This is possibly a different γ.
1960.39	$(2)^+$	377.6[@] 1	≈41[@]	1582.78	2^+	D+Q[@]			δ: −0.1 or −1.8 in (n,n′γ).
		609.2[@] 1	≈38[@]	1351.23	2^+				
		1061.2[@] 1	100[@]	899.165	2^+	D+Q[@]			δ: −0.2 or +1.6 in (n,n′γ).
2065.33	5^+	501.72 10	25.9 24	1563.42	4^+	M1(+E2)	+0.1[@] 1	0.106 3	α(K)=0.0870 23; α(L)=0.0147 4; α(M)=0.00343 8; α(N+..)=0.001065 23 α(N)=0.000873 19; α(O)=0.000174 4; α(P)=1.86×10^{-5} 5
		791.20 9	100 7	1274.13	4^+	M1+E2	−1.2[@] 2	0.0196 20	α(K)=0.0158 17; α(L)=0.00289 24; α(M)=0.00068 6; α(N+..)=0.000211 18 α(N)=0.000173 14; α(O)=3.4×10^{-5} 3; α(P)=3.5×10^{-6} 4
2105.50	2^+	754.3[@] 1	≈69[@]	1351.23	2^+				
		1206.3[@] 1	≈53[@]	899.165	2^+				
		2105.5[@] 1	100[@]	0.0	0^+	E2[@]		0.00197 3	α(K)=0.001373 20; α(L)=0.000221 3; α(M)=5.13×10^{-5} 8; α(N+..)=0.000329 5 α(N)=1.301×10^{-5} 19; α(O)=2.59×10^{-6} 4; α(P)=2.72×10^{-7} 4; α(IPF)=0.000313 5
2158.02	(4^+)	883.8[@] 1	≈33[@]	1274.13	4^+				
		1258.9[@] 1	100[@]	899.165	2^+				

$^{204}_{82}$Pb$_{122}$-10

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
2185.88	9^-	622.2 *2*	0.24 *4*	1563.42	4^+	E5		0.417	α(K)=0.1596 *23*; α(L)=0.190 *3*; α(M)=0.0519 *8*; α(N+..)=0.01592 *23* α(N)=0.01329 *19*; α(O)=0.00246 *4*; α(P)=0.0001725 *25* B(E5)(W.u.)=0.58 *11* E_γ,I_γ,Mult.: from ^{204}Pb IT decay. B(E5)(W.u.): The contributions from 119.8γ and 368.0γ were not taken into account. Compare to B(E5)(W.u.)=0.51 *17* in ^{202}Pb.
		911.74 *15*	100.0 *14*	1274.13	4^+	E5		0.0958	α(K)=0.0544 *8*; α(L)=0.0308 *5*; α(M)=0.00809 *12*; α(N+..)=0.00249 *4* α(N)=0.00207 *3*; α(O)=0.000390 *6*; α(P)=3.10×10^{-5} *5* B(E5)(W.u.)=3.63 *8* E_γ,I_γ,Mult.: from ^{204}Pb IT decay. B(E5)(W.u.): The contributions from 119.8γ and 368.0γ were not taken into account. Compare to B(E5)(W.u.)=3.8 *4* in ^{202}Pb.
2201.93	(2,3,4$^+$)	850.7[@] *1*	100[@]	1351.23	2^+				
2238.47?	5,6	964.32 *15*	100	1274.13	4^+				
2258.15	5^-	440.46 *10*	4.2 *7*	1817.54	4^+	E1		0.01251	α(K)=0.01032 *15*; α(L)=0.001679 *24*; α(M)=0.000390 *6*; α(N+..)=0.0001197 *17* α(N)=9.85×10^{-5} *14*; α(O)=1.93×10^{-5} *3*; α(P)=1.87×10^{-6} *3*
		592.5[@b] *1*	≈3[@]	1665.27	2^+				I_γ: from (n,n′γ), not seen in ^{204}Bi ε.
		983.98 *3*	100 *5*	1274.13	4^+	E1(+M2)	<0.11	0.0028 *3*	α(K)=0.00235 *21*; α(L)=0.00037 *4*; α(M)=8.5×10^{-5} *10*; α(N+..)=2.6×10^{-5} *3* α(N)=2.15×10^{-5} *24*; α(O)=4.3×10^{-6} *5*; α(P)=4.4×10^{-7} *5*
2264.42	7^-	(6.26 *3*)	≈0.0004	2258.15	5^-	[E2]		1.19×10^{6} *4*	B(E2)(W.u.)≈0.6 α(M)=9.2×10^{5} *3*; α(N+..)=2.72×10^{5} *8* α(N)=2.30×10^{5} *7*; α(O)=4.05×10^{4} *12*; α(P)=1.19×10^{3} *4*
		78.54 *8*	27 *4*	2185.88	9^-	E2		18.2	α(L)=13.52 *20*; α(M)=3.57 *6*; α(N+..)=1.066 *16* α(N)=0.900 *14*; α(O)=0.1599 *24*; α(P)=0.00593 *9* B(E2)(W.u.)=0.15 *+4−6*
		990.4 *2*	100 *10*	1274.13	4^+	E3		0.01581	α(K)=0.01165 *17*; α(L)=0.00315 *5*; α(M)=0.000776 *11*; α(N+..)=0.000239 *4* α(N)=0.000197 *3*; α(O)=3.80×10^{-5} *6*; α(P)=3.43×10^{-6} *5* B(E3)(W.u.)=0.11 *+3−4*
2269.01	1,2$^+$	2269.0[@] *1*	100[@]	0.0	0^+				
2303.92	3^+	721.2[@] *1*	100[@]	1582.78	2^+	M1+E2		0.027 *15*	α(K)=0.022 *12*; α(L)=0.0040 *17*; α(M)=0.0009 *4*; α(N+..)=0.00029 *12* α(N)=0.00024 *10*; α(O)=4.7×10^{-5} *20*; α(P)=4.8×10^{-6} *24* Mult.: A_2=−0.11 *8* in (n,n′γ).
		740.4[@] *1*	≈100[@]	1563.42	4^+	(M1+E2)[@]		0.025 *14*	α(K)=0.021 *12*; α(L)=0.0037 *16*; α(M)=0.0009 *4*;

Adopted Levels, Gammas (continued)

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡#	E_f	J^π_f	Mult.‡	δ‡	α†	Comments
									α(N+..)=0.00027 *12* α(N)=0.00022 *9*; α(O)=4.4×10^{-5} *19*; α(P)=4.5×10^{-6} *23* Mult.: from (n,n′γ), δ is −0.3 or −15; the large quadrupole component favors M1+E2 over E1+M2.
2303.92	3^+	1404.8@ *1*	≈44@	899.165	2^+				
2311.6	1	2311.6& *6*	100&	0.0	0^+	D&			
2316.29	2^+	586.3@ *1*	≈78@	1729.99	0^+	E2@		0.0203	α(K)=0.01493 *21*; α(L)=0.00404 *6*; α(M)=0.000993 *14*; α(N+..)=0.000303 *5* α(N)=0.000251 *4*; α(O)=4.79×10^{-5} *7*; α(P)=3.99×10^{-6} *6*
		604.0@ *1*	100@	1712.25	(3^+)	(M1+E2)@		0.042 *24*	α(K)=0.034 *20*; α(L)=0.006 *3*; α(M)=0.0015 *6*; α(N+..)=0.00047 *19* α(N)=0.00038 *16*; α(O)=8.E−5 *4*; α(P)=8.E−6 *4* Mult.: δ=−0.3 or −7; the large quadrupole component favors M1+E2 over E1+M2.
		965.1@ *1*	≈56@	1351.23	2^+	(M1+E2)@		0.013 *7*	α(K)=0.011 *6*; α(L)=0.0019 *8*; α(M)=0.00044 *18*; α(N+..)=0.00014 *6* α(N)=0.00011 *5*; α(O)=2.2×10^{-5} *9*; α(P)=2.3×10^{-6} *11* Mult.: δ=+1.0 or +2.5.
		1417.1@ *1*	≈56@	899.165	2^+				
		2316.3@ *1*	≈31@	0.0	0^+	E2@		0.00181 *3*	α(K)=0.001157 *17*; α(L)=0.000184 *3*; α(M)=4.26×10^{-5} *6*; α(N+..)=0.000424 *6* α(N)=1.081×10^{-5} *16*; α(O)=2.15×10^{-6} *3*; α(P)=2.27×10^{-7} *4*; α(IPF)=0.000411 *6*
2338.44	$(4)^-$	80.15 *7*	79 *8*	2258.15	5^-	M1(+E2)	0.19 *4*	3.76 *21*	α(L)=2.87 *16*; α(M)=0.68 *5*; α(N+..)=0.211 *13* α(N)=0.174 *11*; α(O)=0.0340 *19*; α(P)=0.00328 *6*
		1064.32 *4*	100 *13*	1274.13	4^+	E1(+M2)@	≈+0.2@	≈0.00356	α(K)≈0.00293; α(L)≈0.000481; α(M)≈0.0001121 α(N)≈2.84×10^{-5}; α(O)≈5.65×10^{-6}; α(P)≈5.91×10^{-7}
2386.19	5^+	320.85 *15*	26 *5*	2065.33	5^+				
		822.9 *1*	100 *15*	1563.42	4^+	M1+E2@	+1.5@ *5*	0.016 *4*	α(K)=0.013 *4*; α(L)=0.0024 *5*; α(M)=0.00056 *11*; α(N+..)=0.00017 *4* α(N)=0.00014 *3*; α(O)=2.8×10^{-5} *6*; α(P)=2.8×10^{-6} *7* E_γ: from (n,n′γ).
2400.34	$1^+,2^+,3^+$	735.1@ *1*	≈15@	1665.27	2^+				
		817.6@ *1*	≈11@	1582.78	2^+				
		1501.1@ *1*	100@	899.165	2^+	M1+E2@		0.0048 *17*	α(K)=0.0039 *14*; α(L)=0.00064 *21*; α(M)=0.00015 *5*; α(N+..)=0.00013 *4* α(N)=3.8×10^{-5} *13*; α(O)=7.5×10^{-6} *25*; α(P)=8.E−7 *3*; α(IPF)=8.7×10^{-5} *23*

Adopted Levels, Gammas (continued)

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^{π}_i	E_γ[‡]	I_γ[‡#]	E_f	J^{π}_f	Mult.[‡]	δ[‡]	α[†]	Comments
2405.27	7^-	140.80 *10*	41 *4*	2264.42	7^-	M1+E2	1.0 *5*	2.5 *6*	α(K)=1.6 *8*; α(L)=0.70 *12*; α(M)=0.18 *4*; α(N+..)=0.054 *11* α(N)=0.045 *9*; α(O)=0.0083 *15*; α(P)=0.00055 *5*
		147.36 *15*	5.9 *14*	2258.15	5^-				
		219.41 *9*	100 *7*	2185.88	9^-	E2		0.312	α(K)=0.1358 *19*; α(L)=0.1314 *19*; α(M)=0.0342 *5*; α(N+..)=0.01029 *15* α(N)=0.00864 *13*; α(O)=0.001567 *23*; α(P)=8.22×10^{-5} *12*
2408.97	3	1509.8[@] *1*	100[@]	899.165	2^+	D+Q[@]	≈+0.07[@]		
2432.99	0^+	751.8[@] *1*	100[@]	1681.19	$1^{(+)}$				
		2433 *1*		0.0	0^+	E0			E_γ,Mult.: from (p,2nγ).
2434.24	6^-	29.0 *2*	2.8 *10*	2405.27	7^-				
		169.83 *15*	25 *4*	2264.42	7^-	M1+E2	0.5 *3*	1.81 *25*	α(K)=1.4 *3*; α(L)=0.312 *20*; α(M)=0.075 *7*; α(N+..)=0.0231 *19* α(N)=0.0191 *17*; α(O)=0.00370 *24*; α(P)=0.00034 *3*
		176.09 *5*	100 *7*	2258.15	5^-	M1(+E2)	<0.6	1.71 *16*	α(K)=1.36 *18*; α(L)=0.273 *11*; α(M)=0.065 *4*; α(N+..)=0.0201 *10* α(N)=0.0165 *9*; α(O)=0.00324 *13*; α(P)=0.000315 *20*
		368.30 *20*	44 *9*	2065.33	5^+				
2475.37	$1,2,3,4^+$	1576.2[@] *1*	100[@]	899.165	2^+				
2480.43	6^-	216.11 *15*	100 *11*	2264.42	7^-	M1		1.055	α(K)=0.861 *13*; α(L)=0.1479 *21*; α(M)=0.0347 *5*; α(N+..)=0.01076 *16* α(N)=0.00881 *13*; α(O)=0.001756 *25*; α(P)=0.000188 *3*
		222.15 *15*	66 *7*	2258.15	5^-	M1(+E2)	<0.3	0.95 *4*	α(K)=0.77 *3*; α(L)=0.1365 *20*; α(M)=0.0321 *5*; α(N+..)=0.00995 *14* α(N)=0.00816 *12*; α(O)=0.001620 *24*; α(P)=0.000170 *5*
2491.25	3^+	1139.82 *7*	100	1351.23	2^+	M1+E2[@]	≈−0.5[@]	≈0.01121	α(K)≈0.00921; α(L)≈0.001531; α(M)≈0.000357; α(N+..)≈0.0001119 α(N)≈9.07×10^{-5}; α(O)≈1.81×10^{-5}; α(P)≈1.93×10^{-6}; α(IPF)≈1.189×10^{-6} I_γ: from (n,n′γ).
		1592.5[@] *1*	≈54[@]	899.165	2^+	M1+E2[@]	≈−1.0[@]	≈0.00423	α(K)≈0.00337; α(L)≈0.000556; α(M)≈0.0001296 α(N)≈3.29×10^{-5}; α(O)≈6.55×10^{-6}; α(P)≈6.95×10^{-7}; α(IPF)≈0.0001276
2507.16	5^-	168.4 *3*	6 *2*	2338.44	$(4)^-$	(M1)		2.12	α(K)=1.73 *3*; α(L)=0.299 *5*; α(M)=0.0700 *11*; α(N+..)=0.0217 *4* α(N)=0.0178 *3*; α(O)=0.00355 *6*; α(P)=0.000379 *6*
		248.95 *5*	100 *7*	2258.15	5^-	M1(+E2)	<0.45	0.67 *5*	α(K)=0.54 *5*; α(L)=0.0979 *23*; α(M)=0.0231 *5*; α(N+..)=0.00715 *14* α(N)=0.00587 *11*; α(O)=0.00116 *3*; α(P)=0.000120 *7*
2513.75?	(4)	950.33 *15*	100	1563.42	4^+				
2524.90	(1,2,3)	1173.7[@] *1*	≈59[@]	1351.23	2^+				
		1625.7[@] *1*	100[@]	899.165	2^+				

γ(^{204}Pb) (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
2546.97		1647.8[@] 1	100[@]	899.165	2+				
2549.76	2+,3	1275.6[@] 1	100[@]	1274.13	4+				
		1650.6[@] 1	20[@]	899.165	2+	D(+Q)[@]			
2591.50	1,2,3	1240.3[@] 1	27[@]	1351.23	2+				
		1692.3[@] 1	100[@]	899.165	2+	D(+Q)[@]			
2620.60	3−	1057.1[@] 1	≈10[@]	1563.42	4+	D(+Q)[@]			
		1721.5[@] 1	100[@]	899.165	2+	D+Q[@]	≈+0.04[@]		
2627.47	(5+)	1353.3[@] 1	100[@]	1274.13	4+	(M1)		0.00825 12	α(K)=0.00676 10; α(L)=0.001106 16; α(M)=0.000258 4; α(N+..)=0.0001240 α(N)=6.54×10^{-5} 10; α(O)=1.307×10^{-5} 19; α(P)=1.407×10^{-6} 20; α(IPF)=4.41×10^{-5} 7
2654.67	1,2+,3	1755.5[@] 1	100[@]	899.165	2+	D(+Q)[@]			
2666.20	2+	1767.0[@] 1	≈30[@]	899.165	2+				
		2666.2[@] 1	100[@]	0.0	0+	E2[@]		0.001653 24	α(K)=0.000898 13; α(L)=0.0001406 20; α(M)=3.26×10^{-5} 5; α(N+..)=0.000581 α(N)=8.25×10^{-6} 12; α(O)=1.644×10^{-6} 23; α(P)=1.748×10^{-7} 25; α(IPF)=0.000571 8
2696.71	7−	216.40 20	38 3	2480.43	6−				
		291.36 15	100 12	2405.27	7−	M1+E2	0.84	0.323	α(K)=0.250 4; α(L)=0.0553 8; α(M)=0.01336 19; α(N+..)=0.00411 6 α(N)=0.00339 5; α(O)=0.000658 10; α(P)=6.06×10^{-5} 9
		438.46[b] 15	83 17	2258.15	5−				
		510.67 15	45 7	2185.88	9−				
2719.33	5+	1155.9[@] 1	≈43[@]	1563.42	4+	M1+E2[@]		0.009 4	α(K)=0.007 3; α(L)=0.0012 5; α(M)=0.00028 11; α(N+..)=9.E−5 4 α(N)=7.E−5 3; α(O)=1.4×10^{-5} 6; α(P)=1.5×10^{-6} 7; α(IPF)=1.7×10^{-6} 5
		1445.2[@] 1	100[@]	1274.13	4+				
2731.92	5−,6−,7−	251.70 20	100	2480.43	6−	M1		0.691	α(K)=0.564 8; α(L)=0.0967 14; α(M)=0.0227 4; α(N+..)=0.00703 10 α(N)=0.00576 9; α(O)=0.001148 17; α(P)=0.0001227 18
2732.03	1,2,3	1380.8[@] 1	100[@]	1351.23	2+	D(+Q)[@]			
2766.94	(2+,3,4)	1492.8[@] 1	100[@]	1274.13	4+				
2861.63?	(5−,6,7)	164.92 15	100	2696.71	7−				
2887.18	2,3	1988.0[@] 1	100[@]	899.165	2+	D(+Q)[@]			
2890.03?	(5−,6−)	631.88 15	0.10 2	2258.15	5−	(M1+E2)	<0.8	0.050 8	α(K)=0.041 7; α(L)=0.0071 10; α(M)=0.00166 21;

From ENSDF

$^{204}_{82}$Pb$_{122}$-14

Adopted Levels, Gammas (continued)

γ(^{204}Pb) (continued)

E_i(level)	J^{π}_i	E_γ‡	I_γ‡#	E_f	J^{π}_f	Mult.‡	δ‡	α†	Comments
									α(N+..)=0.00051 *7* α(N)=0.00042 *6*; α(O)=8.4×10^{-5} *11*; α(P)=8.8×10^{-6} *14*
2912.98	5⁻	405.82 *15*	100 *13*	2507.16	5⁻	(M1)		0.188	α(K)=0.1541 *22*; α(L)=0.0261 *4*; α(M)=0.00611 *9*; α(N+..)=0.00190 *3* α(N)=0.001553 *22*; α(O)=0.000310 *5*; α(P)=3.31×10^{-5} *5*
		432.53 *15*	20 *7*	2480.43	6⁻				
		654.88 *15*	53 *10*	2258.15	5⁻	(M1+E2)	<0.8	0.046 *8*	α(K)=0.037 *7*; α(L)=0.0064 *9*; α(M)=0.00151 *20*; α(N+..)=0.00047 *6* α(N)=0.00038 *5*; α(O)=7.6×10^{-5} *10*; α(P)=8.0×10^{-6} *13*
		1095.08 *25*	87 *13*	1817.54	4⁺	E1+M2	0.79 *16*	0.014 *4*	α(K)=0.012 *3*; α(L)=0.0021 *5*; α(M)=0.00049 *12*; α(N+..)=0.00015 *4* α(N)=0.00013 *3*; α(O)=2.5×10^{-5} *6*; α(P)=2.6×10^{-6} *6*
2919.68	5⁻	412.30 *12*	13.7 *19*	2507.16	5⁻	M1(+E2)	<0.42	0.170 *11*	α(K)=0.139 *9*; α(L)=0.0241 *11*; α(M)=0.00564 *23*; α(N+..)=0.00175 *8* α(N)=0.00143 *6*; α(O)=0.000285 *13*; α(P)=3.01×10^{-5} *17*
		514.4 *2*	11.6 *9*	2405.27	7⁻	(E2)		0.0274	α(K)=0.0196 *3*; α(L)=0.00595 *9*; α(M)=0.001476 *21*; α(N+..)=0.000450 *7* α(N)=0.000374 *6*; α(O)=7.08×10^{-5} *10*; α(P)=5.59×10^{-6} *8*
		661.58 *12*	100 *9*	2258.15	5⁻	M1(+E2)	<0.22	0.0509 *11*	α(K)=0.0418 *10*; α(L)=0.00700 *14*; α(M)=0.00163 *4*; α(N+..)=0.000507 *10* α(N)=0.000415 *8*; α(O)=8.28×10^{-5} *17*; α(P)=8.87×10^{-6} *19*
		971.21 *20*	10.3 *9*	1948.34	3⁺				
		1102.16 *7*	20 *3*	1817.54	4⁺	E1(+M2)	<0.24	0.0030 *9*	α(K)=0.0024 *7*; α(L)=0.00039 *13*; α(M)=9.E−5 *3*; α(N+..)=2.9×10^{-5} *10* α(N)=2.3×10^{-5} *8*; α(O)=4.6×10^{-6} *16*; α(P)=4.8×10^{-7} *17*; α(IPF)=7.88×10^{-7} *24*
		1645.60 *8*	27 *3*	1274.13	4⁺	E1(+M2)	0.16 *12*	0.0016 *5*	α(K)=0.0011 *5*; α(L)=0.00017 *8*; α(M)=3.9×10^{-5} *18*; α(N+..)=0.000280 *6* α(N)=1.0×10^{-5} *5*; α(O)=2.0×10^{-6} *9*; α(P)=2.1×10^{-7} *10*; α(IPF)=0.000268 *11*
2927.72	(5,6,7)⁻	447.08 *15*	100 *13*	2480.43	6⁻				
		522.70 *20*	32 *3*	2405.27	7⁻				
		663.43 *15*	≈83	2264.42	7⁻	(E2,M1)		0.033 *18*	α(K)=0.027 *16*; α(L)=0.0050 *21*; α(M)=0.0012 *5*; α(N+..)=0.00036 *15* α(N)=0.00030 *12*; α(O)=5.9×10^{-5} *25*; α(P)=6.E−6 *3*
2928.89	5⁻	421.61 *8*	9.9 *7*	2507.16	5⁻	M1(+E2)	<0.6	0.153 *17*	α(K)=0.125 *15*; α(L)=0.0219 *17*; α(M)=0.0052 *4*; α(N+..)=0.00160 *12* α(N)=0.00131 *10*; α(O)=0.000260 *20*; α(P)=2.7×10^{-5} *3*
		670.72 *3*	100 *7*	2258.15	5⁻	M1(+E2)	<0.66	0.045 *6*	α(K)=0.036 *5*; α(L)=0.0062 *7*; α(M)=0.00146 *15*; α(N+..)=0.00045 *5* α(N)=0.00037 *4*; α(O)=7.4×10^{-5} *8*; α(P)=7.8×10^{-6} *9*

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
2928.89	5^-	1111.35 *4*	12.9 *11*	1817.54	4^+	E1(+M2)	<0.14	0.0024 *3*	α(K)=0.00197 *24*; α(L)=0.00031 *5*; α(M)=7.1×10^{-5} *11*; α(N+..)=2.3×10^{-5} *4* α(N)=1.8×10^{-5} *3*; α(O)=3.6×10^{-6} *6*; α(P)=3.7×10^{-7} *6*; α(IPF)=1.166×10^{-6} *20*
		1654.79 *14*	4.9 *7*	1274.13	4^+	E1(+M2)	<0.25	0.0016 *3*	α(K)=0.0011 *3*; α(L)=0.00017 *5*; α(M)=4.0×10^{-5} *11*; α(N+..)=0.000286 *5* α(N)=1.0×10^{-5} *3*; α(O)=2.0×10^{-6} *6*; α(P)=2.2×10^{-7} *6*; α(IPF)=0.000273 *7*
2941.9?	$(4^-,5^-,6^-)$	683.39[b] *15*	100	2258.15	5^-	(M1)		0.0475	α(K)=0.0390 *6*; α(L)=0.00651 *10*; α(M)=0.001521 *22*; α(N+..)=0.000472 *7* α(N)=0.000386 *6*; α(O)=7.71×10^{-5} *11*; α(P)=8.27×10^{-6} *12*
2945.58	10^-	759.8[a] *2*	100[a]	2185.88	9^-	M1+E2[a]	7[a] *+12−3*	0.0121 *10*	α(K)=0.0093 *9*; α(L)=0.00206 *12*; α(M)=0.00050 *3*; α(N+..)=0.000153 *9* α(N)=0.000126 *7*; α(O)=2.44×10^{-5} *14*; α(P)=2.22×10^{-6} *17*
3023.45	$(5,6)^-$	543.27 *15*	27 *27*	2480.43	6^-	M1		0.0867	α(K)=0.0711 *10*; α(L)=0.01195 *17*; α(M)=0.00279 *4*; α(N+..)=0.000866 *13* α(N)=0.000709 *10*; α(O)=0.0001415 *20*; α(P)=1.517×10^{-5} *22*
		617.80 *20*	59 *6*	2405.27	7^-				
		765.37 *15*	100 *13*	2258.15	5^-	(M1)		0.0354	α(K)=0.0291 *4*; α(L)=0.00484 *7*; α(M)=0.001129 *16*; α(N+..)=0.000350 *5* α(N)=0.000287 *4*; α(O)=5.73×10^{-5} *8*; α(P)=6.15×10^{-6} *9*
3029.28	5^-	100.32 *10*	6.0 *5*	2928.89	5^-	M1(+E2)	<0.6	8.9 *5*	α(K)=6.6 *10*; α(L)=1.7 *4*; α(M)=0.42 *11*; α(N+..)=0.13 *4* α(N)=0.11 *3*; α(O)=0.020 *5*; α(P)=0.00171 *5*
		109.1 *3*	3.9 *26*	2919.68	5^-				
		332.20 *20*	5.0 *5*	2696.71	7^-				
		522.22 *15*	21 *3*	2507.16	5^-	M1		0.0962	α(K)=0.0789 *11*; α(L)=0.01327 *19*; α(M)=0.00310 *5*; α(N+..)=0.000962 *14* α(N)=0.000788 *11*; α(O)=0.0001572 *22*; α(P)=1.685×10^{-5} *24*
		548.74 *15*	14.7 *24*	2480.43	6^-	M1(+E2)	<0.56	0.077 *8*	α(K)=0.063 *7*; α(L)=0.0108 *9*; α(M)=0.00254 *19*; α(N+..)=0.00079 *6* α(N)=0.00064 *5*; α(O)=0.000128 *10*; α(P)=1.36×10^{-5} *13*
		595.13 *15*	12.4 *18*	2434.24	6^-				
		690.74 *7*	32 *3*	2338.44	$(4)^-$	M1+E2	0.6 *3*	0.038 *6*	α(K)=0.031 *5*; α(L)=0.0053 *7*; α(M)=0.00125 *16*; α(N+..)=0.00039 *5* α(N)=0.00032 *4*; α(O)=6.3×10^{-5} *9*; α(P)=6.6×10^{-6} *10*
		771.31 *15*	13.2 *21*	2258.15	5^-	(E2+M1)	>0.35	0.022 *11*	α(K)=0.018 *9*; α(L)=0.0032 *13*; α(M)=0.0008 *3*;

$^{204}_{82}Pb_{122}$-16

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡#	E_f	J^π_f	Mult.‡	δ‡	α†	Comments
									α(N+..)=0.00023 *9* α(N)=0.00019 *8*; α(O)=3.8×10^{-5} *15*; α(P)=3.8×10^{-6} *18*
3029.28	5$^-$	1211.72 *5*	100 *11*	1817.54	4$^+$	E1(+M2)	<0.15	0.0021 *3*	α(K)=0.00170 *22*; α(L)=0.00026 *4*; α(M)=6.1×10^{-5} *10*; α(N+..)=3.8×10^{-5} *3* α(N)=1.54×10^{-5} *24*; α(O)=3.1×10^{-6} *5*; α(P)=3.2×10^{-7} *5*; α(IPF)=1.89×10^{-5} *4*
		1755.28 *6*	41 *4*	1274.13	4$^+$	E1(+M2)	<0.16	0.00141 *12*	α(K)=0.00089 *10*; α(L)=0.000134 *17*; α(M)=3.1×10^{-5} *4*; α(N+..)=0.000359 *6* α(N)=7.8×10^{-6} *10*; α(O)=1.56×10^{-6} *20*; α(P)=1.65×10^{-7} *21*; α(IPF)=0.000350 *6*
3092.25	5$^-$	585.02 *15*	14.8 *22*	2507.16	5$^-$	M1(+E2)	<0.75	0.062 *10*	α(K)=0.051 *8*; α(L)=0.0088 *11*; α(M)=0.00206 *24*; α(N+..)=0.00064 *8* α(N)=0.00052 *6*; α(O)=0.000104 *13*; α(P)=1.09×10^{-5} *16*
		611.88 *15*	11.8 *19*	2480.43	6$^-$				
		753.79 *12*	50 *4*	2338.44	(4)$^-$	M1(+E2)	<0.72	0.033 *5*	α(K)=0.027 *4*; α(L)=0.0045 *6*; α(M)=0.00106 *12*; α(N+..)=0.00033 *4* α(N)=0.00027 *3*; α(O)=5.4×10^{-5} *6*; α(P)=5.7×10^{-6} *8*
		827.62 *15*	23 *4*	2264.42	7$^-$				
		834.16 *8*	52 *5*	2258.15	5$^-$	M1(+E2)	<0.6	0.026 *3*	α(K)=0.0212 *22*; α(L)=0.0036 *3*; α(M)=0.00083 *7*; α(N+..)=0.000258 *22* α(N)=0.000212 *18*; α(O)=4.2×10^{-5} *4*; α(P)=4.5×10^{-6} *5*
		934.13 *15*	13.3 *19*	2158.02	(4$^+$)				
		1027.59 *25*	3.3 *7*	2065.33	5$^+$				
		1274.76 *4*	100 *11*	1817.54	4$^+$	E1(+M2)	<0.16	0.0019 *3*	α(K)=0.00158 *22*; α(L)=0.00024 *4*; α(M)=5.6×10^{-5} *10*; α(N+..)=5.9×10^{-5} *3* α(N)=1.43×10^{-5} *24*; α(O)=2.8×10^{-6} *5*; α(P)=3.0×10^{-7} *5*; α(IPF)=4.17×10^{-5} *8*
		1818.10 *2*	24.1 *19*	1274.13	4$^+$	E1		0.001294 *19*	α(K)=0.000751 *11*; α(L)=0.0001112 *16*; α(M)=2.56×10^{-5} *4*; α(N+..)=0.000406 α(N)=6.47×10^{-6} *9*; α(O)=1.289×10^{-6} *18*; α(P)=1.364×10^{-7} *19*; α(IPF)=0.000398 *6*
3105.29	6$^-$	597.83 *15*	≈22	2507.16	5$^-$	(M1)		0.0674	α(K)=0.0553 *8*; α(L)=0.00927 *13*; α(M)=0.00217 *3*; α(N+..)=0.000672 *10* α(N)=0.000550 *8*; α(O)=0.0001097 *16*; α(P)=1.177×10^{-5} *17*
		841.10 *12*	28 *3*	2264.42	7$^-$	M1(+E2)	<0.89	0.024 *4*	α(K)=0.019 *4*; α(L)=0.0033 *5*; α(M)=0.00077 *12*; α(N+..)=0.00024 *4* α(N)=0.00020 *3*; α(O)=3.9×10^{-5} *6*; α(P)=4.1×10^{-6} *7*
		847.19 *8*	100 *17*	2258.15	5$^-$	M1+E2	0.6 *5*	0.022 *5*	α(K)=0.018 *5*; α(L)=0.0031 *7*; α(M)=0.00073 *15*; α(N+..)=0.00023 *5* α(N)=0.00019 *4*; α(O)=3.7×10^{-5} *8*; α(P)=3.9×10^{-6} *9*

$^{204}_{82}Pb_{122}$-17

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
3170.37	5^-	141.00 *20*	0.43 *14*	3029.28	5^-				
		257.50 *15*	0.71 *14*	2912.98	5^-				
		736.07 *15*	6.1 *7*	2434.24	6^-	M1(+E2)	<0.55	0.036 *4*	α(K)=0.030 *3*; α(L)=0.0050 *4*; α(M)=0.00117 *9*; α(N+..)=0.00036 *3* α(N)=0.000296 *22*; α(O)=5.9×10^{-5} *5*; α(P)=6.3×10^{-6} *6*
		831.95 *15*	8.6 *14*	2338.44	$(4)^-$	M1(+E2)	<0.94	0.024 *5*	α(K)=0.020 *4*; α(L)=0.0034 *6*; α(M)=0.00078 *13*; α(N+..)=0.00024 *4* α(N)=0.00020 *4*; α(O)=4.0×10^{-5} *7*; α(P)=4.2×10^{-6} *8*
		911.96 *15*	100 *14*	2258.15	5^-	(M1)		0.0225	α(K)=0.0185 *3*; α(L)=0.00307 *5*; α(M)=0.000715 *10*; α(N+..)=0.000222 *4* α(N)=0.000182 *3*; α(O)=3.62×10^{-5} *5*; α(P)=3.90×10^{-6} *6*
		1105.4 *2*	1.79 *14*	2065.33	5^+	E1		0.00209 *3*	α(K)=0.001748 *25*; α(L)=0.000265 *4*; α(M)=6.10×10^{-5} *9*; α(N+..)=1.97×10^{-5} *3* α(N)=1.544×10^{-5} *22*; α(O)=3.06×10^{-6} *5*; α(P)=3.18×10^{-7} *5*; α(IPF)=9.25×10^{-7} *15*
		1607.2 *2*	2.0 *3*	1563.42	4^+	(E1+M2)	0.45 *12*	0.0032 *9*	α(K)=0.0025 *8*; α(L)=0.00041 *13*; α(M)=0.00010 *3*; α(N+..)=0.000244 *6* α(N)=2.4×10^{-5} *8*; α(O)=4.9×10^{-6} *15*; α(P)=5.2×10^{-7} *16*; α(IPF)=0.000214 *15*
		1896.27 *8*	11.6 *11*	1274.13	4^+	E1(+M2)	<0.16	0.00138 *9*	α(K)=0.00078 *8*; α(L)=0.000117 *14*; α(M)=2.7×10^{-5} *3*; α(N+..)=0.000460 *7* α(N)=6.8×10^{-6} *8*; α(O)=1.36×10^{-6} *16*; α(P)=1.44×10^{-7} *17*; α(IPF)=0.000451 *8*
3191.68	11^-	246.2[a] *2*	3.00[a] *20*	2945.58	10^-	M1+E2[a]	0.09[a] *5*	0.730 *12*	α(K)=0.596 *11*; α(L)=0.1027 *15*; α(M)=0.0241 *4*; α(N+..)=0.00746 *11* α(N)=0.00612 *9*; α(O)=0.001219 *18*; α(P)=0.0001299 *21*
		1005.7[a] *2*	100[a] *5*	2185.88	9^-	E2[a]		0.00659 *10*	α(K)=0.00525 *8*; α(L)=0.001019 *15*; α(M)=0.000243 *4*; α(N+..)=7.46×10^{-5} *11* α(N)=6.15×10^{-5} *9*; α(O)=1.201×10^{-5} *17*; α(P)=1.160×10^{-6} *17*
3198.60?	$5^-,6,7^-$	934.13 *15*	100 *14*	2264.42	7^-				
		941.0 *5*	36 *17*	2258.15	5^-				
3215.36	5^+	1652.10 *14*	71 *10*	1563.42	4^+	M1(+E2)	<0.81	0.0047 *5*	α(K)=0.0037 *4*; α(L)=0.00060 *7*; α(M)=0.000140 *15*; α(N+..)=0.000224 *21* α(N)=3.6×10^{-5} *4*; α(O)=7.1×10^{-6} *8*; α(P)=7.6×10^{-7} *9*; α(IPF)=0.000181 *16*
		1941.19 *6*	100 *10*	1274.13	4^+	E2(+M1)	>0.33	0.0028 *7*	α(K)=0.0021 *5*; α(L)=0.00034 *9*; α(M)=7.9×10^{-5} *19*; α(N+..)=0.00033 *8* α(N)=2.0×10^{-5} *5*; α(O)=4.0×10^{-6} *10*; α(P)=4.3×10^{-7} *11*; α(IPF)=0.00031 *7*

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
3232.27	5^-	304.45 *15*	13.1 *25*	2927.72	$(5,6,7)^-$				
		604.73 *15*	22 *3*	2627.47	(5^+)				
		725.15 *11*	96 *5*	2507.16	5^-	M1+E2	1.3 *4*	0.023 *5*	α(K)=0.019 *5*; α(L)=0.0035 *6*; α(M)=0.00083 *14*; α(N+..)=0.00026 *5* α(N)=0.00021 *4*; α(O)=4.1×10^{-5} *8*; α(P)=4.1×10^{-6} *9*
		973.80 *20*	45 *3*	2258.15	5^-				
		1414.74 *10*	100 *11*	1817.54	4^+	E1(+M2)	0.18 *7*	0.0020 *5*	α(K)=0.0015 *4*; α(L)=0.00024 *7*; α(M)=5.6×10^{-5} *15*; α(N+..)=0.000130 *3* α(N)=1.4×10^{-5} *4*; α(O)=2.8×10^{-6} *8*; α(P)=3.0×10^{-7} *9*; α(IPF)=0.000112 *3*
		1669.3 *2*	8.2 *16*	1563.42	4^+	E1		0.001322 *19*	α(K)=0.000865 *13*; α(L)=0.0001285 *18*; α(M)=2.95×10^{-5} *5*; α(N+..)=0.000299 α(N)=7.48×10^{-6} *11*; α(O)=1.489×10^{-6} *21*; α(P)=1.572×10^{-7} *22*; α(IPF)=0.000290 *4*
		1958.10 *25*	41 *6*	1274.13	4^+				
3301.73	5^-	821.13 *15*	48 *7*	2480.43	6^-	(M1)		0.0295	α(K)=0.0243 *4*; α(L)=0.00403 *6*; α(M)=0.000940 *14*; α(N+..)=0.000291 *4* α(N)=0.000239 *4*; α(O)=4.76×10^{-5} *7*; α(P)=5.12×10^{-6} *8*
		1037.34 *18*	31 *4*	2264.42	7^-	(E2)		0.00620 *9*	α(K)=0.00496 *7*; α(L)=0.000950 *14*; α(M)=0.000226 *4*; α(N+..)=6.95×10^{-5} *10* α(N)=5.72×10^{-5} *8*; α(O)=1.119×10^{-5} *16*; α(P)=1.087×10^{-6} *16*
		1043.63 *10*	100 *12*	2258.15	5^-	M1(+E2)	<0.6	0.0146 *14*	α(K)=0.0120 *11*; α(L)=0.00200 *17*; α(M)=0.00047 *4*; α(N+..)=0.000145 *12* α(N)=0.000118 *10*; α(O)=2.36×10^{-5} *20*; α(P)=2.53×10^{-6} *23*
		1697.06 *20*	4.6 *7*	1604.82	3^+				
3377.4	1	3377.4[&] *7*	100[&]	0.0	0^+	D[&]			
3397.62	6^-	455.92[b] *15*	15 *3*	2941.9?	$(4^-,5^-,6^-)$				
		468.22 *12*	60 *5*	2928.89	5^-	M1(+E2)	<0.58	0.117 *12*	α(K)=0.095 *11*; α(L)=0.0165 *13*; α(M)=0.0039 *3*; α(N+..)=0.00120 *9* α(N)=0.00099 *7*; α(O)=0.000196 *15*; α(P)=2.06×10^{-5} *20*
		477.80 *15*	20 *3*	2919.68	5^-	M1(+E2)	<0.63	0.109 *13*	α(K)=0.089 *11*; α(L)=0.0155 *14*; α(M)=0.0036 *3*; α(N+..)=0.00113 *10* α(N)=0.00092 *8*; α(O)=0.000184 *16*; α(P)=1.93×10^{-5} *21*
		1133.03 *7*	100 *9*	2264.42	7^-	M1(+E2)	<0.56	0.0120 *10*	α(K)=0.0099 *8*; α(L)=0.00163 *12*; α(M)=0.00038 *3*; α(N+..)=0.000119 *9* α(N)=9.7×10^{-5} *7*; α(O)=1.93×10^{-5} *14*; α(P)=2.07×10^{-6} *16*; α(IPF)=9.7×10^{-7} *6*
		1139.82 *7*	65 *7*	2258.15	5^-	M1		0.01272	α(K)=0.01047 *15*; α(L)=0.001721 *24*; α(M)=0.000401 *6*; α(N+..)=0.0001257 *18*

Adopted Levels, Gammas (continued)

γ(^{204}Pb) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
									α(N)=0.0001019 *15*; α(O)=2.03×10^{-5} *3*; α(P)=2.19×10^{-6} *3*; α(IPF)=1.308×10^{-6} *19*
3425.2?	5$^-$,6$^-$	1167.01 *25*	100	2258.15	5$^-$	(M1+E2)	<0.82	0.0106 *15*	α(K)=0.0087 *12*; α(L)=0.00144 *18*; α(M)=0.00034 *5*; α(N+..)=0.000107 *14* α(N)=8.5×10^{-5} *11*; α(O)=1.70×10^{-5} *22*; α(P)=1.82×10^{-6} *25*; α(IPF)=2.8×10^{-6} *3*
3516.4	12$^+$	324.7[a] *2*	100[a]	3191.68	11$^-$	E1(+M2)[a]	0.03[a] *3*	0.026 *4*	α(K)=0.0210 *25*; α(L)=0.0036 *6*; α(M)=0.00084 *15*; α(N+..)=0.00026 *5* α(N)=0.00021 *4*; α(O)=4.1×10^{-5} *8*; α(P)=3.9×10^{-6} *8*
3638.05	6$^-$	240.40 *15*	15.6 *20*	3397.62	6$^-$	M1(+E2)	<0.51	0.73 *6*	α(K)=0.59 *6*; α(L)=0.108 *3*; α(M)=0.0255 *5*; α(N+..)=0.00789 *15* α(N)=0.00648 *12*; α(O)=0.00128 *3*; α(P)=0.000131 *9*
		336.38 *20*	2.9 *6*	3301.73	5$^-$				
		532.72 *10*	68 *8*	3105.29	6$^-$	M1(+E2)	<0.65	0.082 *10*	α(K)=0.066 *9*; α(L)=0.0115 *11*; α(M)=0.00270 *25*; α(N+..)=0.00084 *8* α(N)=0.00069 *7*; α(O)=0.000136 *13*; α(P)=1.44×10^{-5} *17*
		709.13 *15*	72 *12*	2928.89	5$^-$	(M1)		0.0432	α(K)=0.0355 *5*; α(L)=0.00591 *9*; α(M)=0.001380 *20*; α(N+..)=0.000428 *6* α(N)=0.000351 *5*; α(O)=6.99×10^{-5} *10*; α(P)=7.51×10^{-6} *11*
		710.48 *15*	72 *12*	2927.72	(5,6,7)$^-$	(M1)		0.0430	α(K)=0.0353 *5*; α(L)=0.00588 *9*; α(M)=0.001373 *20*; α(N+..)=0.000426 *6* α(N)=0.000349 *5*; α(O)=6.96×10^{-5} *10*; α(P)=7.47×10^{-6} *11*
		718.41 *7*	46 *3*	2919.68	5$^-$	M1(+E2)	<0.53	0.039 *4*	α(K)=0.032 *3*; α(L)=0.0053 *4*; α(M)=0.00125 *9*; α(N+..)=0.00039 *3* α(N)=0.000317 *22*; α(O)=6.3×10^{-5} *5*; α(P)=6.7×10^{-6} *6*
		1157.59 *5*	26 *3*	2480.43	6$^-$	M1(+E2)	<0.57	0.0113 *9*	α(K)=0.0093 *8*; α(L)=0.00154 *12*; α(M)=0.00036 *3*; α(N+..)=0.000114 *9* α(N)=9.1×10^{-5} *7*; α(O)=1.82×10^{-5} *14*; α(P)=1.95×10^{-6} *16*; α(IPF)=2.21×10^{-6} *14*
		1203.72 *6*	100 *12*	2434.24	6$^-$	M1(+E2)	<0.36	0.0107 *4*	α(K)=0.0088 *4*; α(L)=0.00145 *5*; α(M)=0.000338 *12*; α(N+..)=0.000112 *4* α(N)=8.6×10^{-5} *3*; α(O)=1.71×10^{-5} *6*; α(P)=1.84×10^{-6} *7*; α(IPF)=7.30×10^{-6} *22*
		1232.91 *9*	20.0 *24*	2405.27	7$^-$	M1(+E2)	<0.75	0.0094 *11*	α(K)=0.0077 *9*; α(L)=0.00127 *14*; α(M)=0.00030 *4*; α(N+..)=0.000103 *11* α(N)=7.5×10^{-5} *8*; α(O)=1.50×10^{-5} *17*; α(P)=1.60×10^{-6} *19*; α(IPF)=1.15×10^{-5} *10*
		1373.7 *2*	20 *3*	2264.42	7$^-$	M1(+E2)		0.0058 *22*	α(K)=0.0047 *18*; α(L)=0.0008 *3*; α(M)=0.00018 *7*; α(N+..)=0.00010 *3* α(N)=4.7×10^{-5} *16*; α(O)=9.E−6 *4*; α(P)=1.0×10^{-6} *4*; α(IPF)=4.1×10^{-5} *11*

$^{204}_{82}$Pb$_{122}$-20

Adopted Levels, Gammas (continued)

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^{π}_i	E_{γ}[‡]	I_{γ}[‡#]	E_f	J^{π}_f	Mult.[‡]	δ[‡]	α[†]	Comments
3638.05	6^-	1380.05 *20*	11.6 *12*	2258.15	5^-	M1(+E2)	<1.4	0.0065 *14*	α(K)=0.0053 *12*; α(L)=0.00087 *18*; α(M)=0.00020 *5*; α(N+..)=0.000110 *21* α(N)=5.2×10^{-5} *11*; α(O)=1.03×10^{-5} *22*; α(P)=1.10×10^{-6} *25*; α(IPF)=4.7×10^{-5} *8*
		1573.0 *2*	13.6 *20*	2065.33	5^+	E1+M2	0.53 *11*	0.0040 *9*	α(K)=0.0031 *7*; α(L)=0.00052 *13*; α(M)=0.00012 *3*; α(N+..)=0.000222 *5* α(N)=3.1×10^{-5} *8*; α(O)=6.2×10^{-6} *15*; α(P)=6.6×10^{-7} *16*; α(IPF)=0.000184 *12*
3656.3	1	3656.3[&] *3*	100[&]	0.0	0^+	D[&]			
3733.40?	$6^-,7^-$	1299.1 *2*	38 *6*	2434.24	6^-	M1(+E2)	<1.0	0.0079 *13*	α(K)=0.0064 *11*; α(L)=0.00107 *17*; α(M)=0.00025 *4*; α(N+..)=0.000101 *15* α(N)=6.3×10^{-5} *10*; α(O)=1.26×10^{-5} *20*; α(P)=1.34×10^{-6} *22*; α(IPF)=2.4×10^{-5} *3*
		1328.21 *10*	100 *12*	2405.27	7^-	M1(+E2)	<0.5	0.0082 *5*	α(K)=0.0067 *4*; α(L)=0.00110 *7*; α(M)=0.000256 *15*; α(N+..)=0.000114 *6* α(N)=6.5×10^{-5} *4*; α(O)=1.30×10^{-5} *8*; α(P)=1.39×10^{-6} *9*; α(IPF)=3.41×10^{-5} *16*
		1468.82 *25*	50 *50*	2264.42	7^-	(M1)		0.00676 *10*	α(K)=0.00550 *8*; α(L)=0.000897 *13*; α(M)=0.000209 *3*; α(N+..)=0.0001583 *2* α(N)=5.30×10^{-5} *8*; α(O)=1.059×10^{-5} *15*; α(P)=1.141×10^{-6} *16*; α(IPF)=9.36×10^{-5} *14*
		1475.08 *25*	22 *4*	2258.15	5^-				
		2169.4 *5*	10 *2*	1563.42	4^+				
3768.67	$5^-,6^-$	663.43 *7*	20 *20*	3105.29	6^-				
		745.28 *12*	37 *5*	3023.45	$(5,6)^-$	M1(+E2)	<0.24	0.0372 *9*	α(K)=0.0306 *8*; α(L)=0.00510 *11*; α(M)=0.00119 *3*; α(N+..)=0.000370 *8* α(N)=0.000303 *7*; α(O)=6.04×10^{-5} *13*; α(P)=6.47×10^{-6} *15*
		1261.71 *25*	6.8 *12*	2507.16	5^-				
		1334.50 *10*	15.6 *16*	2434.24	6^-	M1		0.00854 *12*	α(K)=0.00701 *10*; α(L)=0.001147 *16*; α(M)=0.000267 *4*; α(N+..)=0.0001205 α(N)=6.78×10^{-5} *10*; α(O)=1.354×10^{-5} *19*; α(P)=1.459×10^{-6} *21*; α(IPF)=3.77×10^{-5} *6*
		1703.27 *5*	100 *8*	2065.33	5^+	E1(+M2)	<0.21	0.00151 *21*	α(K)=0.00100 *17*; α(L)=0.00015 *3*; α(M)=3.5×10^{-5} *7*; α(N+..)=0.000321 *6* α(N)=9.0×10^{-6} *18*; α(O)=1.8×10^{-6} *4*; α(P)=1.9×10^{-7} *4*; α(IPF)=0.000310 *7*
		2493.9[b] *20*	0.8 *4*	1274.13	4^+				
3782.28	5^-	611.88 *15*	26 *4*	3170.37	5^-				
		1348.4 *4*	24.0 *17*	2434.24	6^-	M1(+E2)	<0.87	0.0074 *10*	α(K)=0.0060 *9*; α(L)=0.00099 *13*; α(M)=0.00023 *3*; α(N+..)=0.000110 *13*

$^{204}_{82}Pb_{122}$-21

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡#	E_f	J^π_f	Mult.‡	δ‡	α†	Comments
									α(N)=5.9×10^{-5} *8*; α(O)=1.17×10^{-5} *15*; α(P)=1.25×10^{-6} *17*; α(IPF)=3.8×10^{-5} *4*
3782.28	5$^-$	1524.07 *8*	100 *8*	2258.15	5$^-$	M1(+E2)	<0.62	0.0058 *5*	α(K)=0.0047 *4*; α(L)=0.00076 *6*; α(M)=0.000177 *13*; α(N+..)=0.000170 *12* α(N)=4.5×10^{-5} *4*; α(O)=9.0×10^{-6} *7*; α(P)=9.6×10^{-7} *8*; α(IPF)=0.000115 *8*
		1964.82 *10*	39 *4*	1817.54	4$^+$	E1		0.001293 *18*	α(K)=0.000661 *10*; α(L)=9.77×10^{-5} *14*; α(M)=2.24×10^{-5} *4*; α(N+..)=0.000512 *8* α(N)=5.68×10^{-6} *8*; α(O)=1.132×10^{-6} *16*; α(P)=1.200×10^{-7} *17*; α(IPF)=0.000505 *7*
		2176.9 *5*	5.0 *8*	1604.82	3$^+$				
3842.8?	(5,6$^+$)	2279.4 *5*	100	1563.42	4$^+$				
3876.53?	(5$^-$,6$^+$)	1612.15 *25*	100 *20*	2264.42	7$^-$				
		2312.9 *5*	36 *8*	1563.42	4$^+$				
3891.76?	5$^-$,6$^-$	1826.42 *10*	100	2065.33	5$^+$	E1(+M2)	<0.20	0.00144 *16*	α(K)=0.00087 *13*; α(L)=0.000133 *23*; α(M)=3.1×10^{-5} *6*; α(N+..)=0.000409 *7* α(N)=7.8×10^{-6} *14*; α(O)=1.5×10^{-6} *3*; α(P)=1.6×10^{-7} *3*; α(IPF)=0.000399 *8*
3893.2	2$^+$	3893.2& *6*	100&	0.0	0$^+$	E2&		0.001619 *23*	α(K)=0.000455 *7*; α(L)=6.93×10^{-5} *10*; α(M)=1.598×10^{-5} *23*; α(N+..)=0.001079 α(N)=4.05×10^{-6} *6*; α(O)=8.09×10^{-7} *12*; α(P)=8.70×10^{-8} *13*; α(IPF)=0.001074 *15* B(E2)(W.u.)=0.52 *10*
3996.33	(5,6$^+$)	1054.44 *20*	100 *9*	2941.9?	(4$^-$,5$^-$,6$^-$)				
		1931.08 *20*	18 *5*	2065.33	5$^+$				
		2433.3 *5*	36 *9*	1563.42	4$^+$				
		2721.2 *5*	36 *9*	1274.13	4$^+$				
3997.89?	(5,6,7)$^-$	1517.46 *12*	0.46 *5*	2480.43	6$^-$	M1(+E2)	<0.65	0.0058 *5*	α(K)=0.0047 *4*; α(L)=0.00077 *6*; α(M)=0.000178 *14*; α(N+..)=0.000166 *12* α(N)=4.5×10^{-5} *4*; α(O)=9.0×10^{-6} *8*; α(P)=9.7×10^{-7} *9*; α(IPF)=0.000111 *8*
4032.83?	(5,6$^+$)	1794.34 *20*	56 *8*	2238.47?	5,6				
		2758.8 *5*	100 *17*	1274.13	4$^+$				
4039.2?	(5,6$^+$)	2475.6 *5*	100 *25*	1563.42	4$^+$				
		2765.3 *5*	50 *25*	1274.13	4$^+$				
4068.09	(5$^-$,6$^+$)	1803.95 *25*	100 *14*	2264.42	7$^-$				
		2250.28 *20*	29 *7*	1817.54	4$^+$				
		2794.4 *5*	29 *14*	1274.13	4$^+$				
4076.37	(5)$^-$	971.21 *20*	≤100	3105.29	6$^-$				
		1569.3 *2*	52 *6*	2507.16	5$^-$	M1(+E2)	<0.5	0.0055 *3*	α(K)=0.00442 *24*; α(L)=0.00072 *4*; α(M)=0.000168 *9*; α(N+..)=0.000193 *10*

Adopted Levels, Gammas (continued)

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ‡	I_γ‡#	E_f	J^π_f	Mult.‡	δ‡	α†	Comments
									$\alpha(N)=4.26\times10^{-5}$ *23*; $\alpha(O)=8.5\times10^{-6}$ *5*; $\alpha(P)=9.2\times10^{-7}$ *5*; $\alpha(IPF)=0.000141$ *7*
4076.37	$(5)^-$	2471.31 *20*	9.4 *15*	1604.82	3^+				
		2802.1 *5*	6 *3*	1274.13	4^+				
4081.05	$(5,6^+)$	2263.38 *10*	100 *16*	1817.54	4^+				
		2517.74 *10*	68 *8*	1563.42	4^+				
4094.43	6^-	924.16 *15*	12 *3*	3170.37	5^-				
		1165.19 *20*	9.6 *16*	2928.89	5^-				
		1181.3 *2*	15 *3*	2912.98	5^-	M1(+E2)	<0.91	0.0101 *16*	$\alpha(K)=0.0083$ *13*; $\alpha(L)=0.00138$ *20*; $\alpha(M)=0.00032$ *5*; $\alpha(N+..)=0.000104$ *15* $\alpha(N)=8.2\times10^{-5}$ *12*; $\alpha(O)=1.62\times10^{-5}$ *24*; $\alpha(P)=1.7\times10^{-6}$ *3*; $\alpha(IPF)=4.1\times10^{-6}$ *5*
		1614.30 *20*	25 *3*	2480.43	6^-				
		1689.05 *12*	100 *10*	2405.27	7^-	M1(+E2)	<0.58	0.0046 *3*	$\alpha(K)=0.00363$ *24*; $\alpha(L)=0.00059$ *4*; $\alpha(M)=0.000138$ *9*; $\alpha(N+..)=0.000251$ *15* $\alpha(N)=3.49\times10^{-5}$ *22*; $\alpha(O)=7.0\times10^{-6}$ *5*; $\alpha(P)=7.5\times10^{-7}$ *5*; $\alpha(IPF)=0.000209$ *12*
		1836.6 *2*	12.1 *21*	2258.15	5^-	M1(+E2)	<1.1	0.0036 *5*	$\alpha(K)=0.0027$ *4*; $\alpha(L)=0.00045$ *6*; $\alpha(M)=0.000104$ *14*; $\alpha(N+..)=0.00032$ *4* $\alpha(N)=2.6\times10^{-5}$ *4*; $\alpha(O)=5.3\times10^{-6}$ *8*; $\alpha(P)=5.6\times10^{-7}$ *8*; $\alpha(IPF)=0.00028$ *4*
4111.47	$(5)^-$	473.40 *15*	58 *12*	3638.05	6^-	M1(+E2)	<0.83	0.106 *19*	$\alpha(K)=0.086$ *17*; $\alpha(L)=0.0153$ *20*; $\alpha(M)=0.0036$ *5*; $\alpha(N+..)=0.00112$ *14* $\alpha(N)=0.00092$ *11*; $\alpha(O)=0.000181$ *24*; $\alpha(P)=1.9\times10^{-5}$ *3*
		941.0 *5*	50 *23*	3170.37	5^-				
		2046.0 *5*	35 *8*	2065.33	5^+				
		2837.33 *10*	100 *15*	1274.13	4^+				
4115.21	6^-	1383.62 *25*	57 *9*	2731.92	$5^-,6^-,7^-$	(M1+E2)	<0.63	0.0072 *6*	$\alpha(K)=0.0059$ *5*; $\alpha(L)=0.00097$ *8*; $\alpha(M)=0.000226$ *18*; $\alpha(N+..)=0.000122$ *9* $\alpha(N)=5.7\times10^{-5}$ *5*; $\alpha(O)=1.14\times10^{-5}$ *10*; $\alpha(P)=1.23\times10^{-6}$ *11*; $\alpha(IPF)=5.2\times10^{-5}$ *4*
		1709.9 *2*	49 *11*	2405.27	7^-	(M1+E2)	<1.1	0.0042 *6*	$\alpha(K)=0.0033$ *5*; $\alpha(L)=0.00053$ *8*; $\alpha(M)=0.000124$ *18*; $\alpha(N+..)=0.00025$ *4* $\alpha(N)=3.1\times10^{-5}$ *5*; $\alpha(O)=6.3\times10^{-6}$ *9*; $\alpha(P)=6.7\times10^{-7}$ *11*; $\alpha(IPF)=0.00021$ *3*
		1850.65 *35*	31 *6*	2264.42	7^-	M1(+E2)	<0.37	0.00393 *12*	$\alpha(K)=0.00298$ *9*; $\alpha(L)=0.000484$ *15*; $\alpha(M)=0.000112$ *4*; $\alpha(N+..)=0.000355$ *11* $\alpha(N)=2.86\times10^{-5}$ *9*; $\alpha(O)=5.71\times10^{-6}$ *18*; $\alpha(P)=6.15\times10^{-7}$ *20*; $\alpha(IPF)=0.000320$ *9*
		1856.92 *20*	100 *11*	2258.15	5^-	M1(+E2)	<1.9		$\alpha(N)=2.4\times10^{-5}$ *5*; $\alpha(O)=4.8\times10^{-6}$ *10*; $\alpha(P)=5.2\times10^{-7}$ *11*; $\alpha(IPF)=0.00028$ *6*

$^{204}_{82}Pb_{122}$-23

γ(^{204}Pb) (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
4129.57	(5,6)	1791.17 *20*	38 *8*	2338.44	(4)$^-$				
		2064.2[b] *5*	33 *8*	2065.33	5$^+$				
		2566.14 *10*	100 *17*	1563.42	4$^+$				
		2854.9 *5*	17 *8*	1274.13	4$^+$				
4134.8	14$^+$	618.4[a] *2*	100[a]	3516.4	12$^+$	E2[a]		0.0180	α(K)=0.01340 *19*; α(L)=0.00347 *5*; α(M)=0.000850 *12*; α(N+..)=0.000260 *4* α(N)=0.000215 *3*; α(O)=4.12×10^{-5} *6*; α(P)=3.49×10^{-6} *5*
4166.03	5$^-$	1468.82 *25*	34 *34*	2696.71	7$^-$				
		1658.9 *2*	14.9 *14*	2507.16	5$^-$	(M1)		0.00510 *8*	α(K)=0.00404 *6*; α(L)=0.000657 *10*; α(M)=0.0001529 *22*; α(N+..)=0.000248 *4* α(N)=3.88×10^{-5} *6*; α(O)=7.76×10^{-6} *11*; α(P)=8.36×10^{-7} *12*; α(IPF)=0.000201 *3*
		1685.9 *2*	26 *3*	2480.43	6$^-$	M1(+E2)	<1.1	0.0043 *7*	α(K)=0.0034 *5*; α(L)=0.00055 *8*; α(M)=0.000128 *19*; α(N+..)=0.00023 *3* α(N)=3.3×10^{-5} *5*; α(O)=6.5×10^{-6} *10*; α(P)=7.0×10^{-7} *11*; α(IPF)=0.000194 *25*
		1731.68 *14*	100 *8*	2434.24	6$^-$	M1(+E2)	<0.58	0.0044 *3*	α(K)=0.00341 *22*; α(L)=0.00056 *4*; α(M)=0.000129 *8*; α(N+..)=0.000275 *16* α(N)=3.28×10^{-5} *21*; α(O)=6.6×10^{-6} *4*; α(P)=7.0×10^{-7} *5*; α(IPF)=0.000235 *13*
		1761.0 *2*	35 *4*	2405.27	7$^-$	E2		0.00246 *4*	α(K)=0.00189 *3*; α(L)=0.000313 *5*; α(M)=7.31×10^{-5} *11*; α(N+..)=0.000182 *3* α(N)=1.85×10^{-5} *3*; α(O)=3.67×10^{-6} *6*; α(P)=3.81×10^{-7} *6*; α(IPF)=0.0001595 *23*
		1780.33 *25*	57 *9*	2386.19	5$^+$	(E1+M2)	0.66 *20*	0.0039 *11*	α(K)=0.0029 *10*; α(L)=0.00049 *16*; α(M)=0.00011 *4*; α(N+..)=0.000330 *22* α(N)=2.9×10^{-5} *10*; α(O)=5.8×10^{-6} *19*; α(P)=6.2×10^{-7} *21*; α(IPF)=0.00029 *4* δ: from α(K)exp of 1984Dz05 in ε decay. Another possibility is M1+E2 with δ<3; however, that is inconsistent with J^π. Possibly this γ is an M1,E1 doublet.
		1907.23 *25*	28 *5*	2258.15	5$^-$	M1+E2	>0.36	0.0029 *7*	α(K)=0.0022 *6*; α(L)=0.00035 *9*; α(M)=8.2×10^{-5} *20*; α(N+..)=0.00031 *7* α(N)=2.1×10^{-5} *5*; α(O)=4.1×10^{-6} *11*; α(P)=4.4×10^{-7} *12*; α(IPF)=0.00029 *7*
		2100.6 *5*	6.8 *13*	2065.33	5$^+$				
4172.44?	(5,6$^+$)	1259.08 *25*	100 *16*	2912.98	5$^-$				
		1665.4 *2*	13.8 *11*	2507.16	5$^-$	E2,E1			
		1786.38 *20*	9.3 *18*	2386.19	5$^+$				
		2898.0 *5*	2.7 *9*	1274.13	4$^+$				
4184.02	6$^-$	1014.19 *25*	14 *3*	3170.37	5$^-$				

$^{204}_{82}$Pb$_{122}$-24

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ[‡#]	E_f	J_f^π	Mult.[‡]	δ[‡]	α[†]	Comments
4184.02	6⁻	1092.1 *2*	20 *4*	3092.25	5⁻	M1(+E2)	<0.77	0.0126 *16*	α(K)=0.0103 *14*; α(L)=0.00172 *21*; α(M)=0.00040 *5*; α(N+..)=0.000125 *15* α(N)=0.000102 *12*; α(O)=2.03×10⁻⁵ *24*; α(P)=2.2×10⁻⁶ *3*
		1487.78 *25*	35 *5*	2696.71	7⁻	(M1+E2)	<0.71	0.0060 *6*	α(K)=0.0049 *5*; α(L)=0.00080 *8*; α(M)=0.000185 *17*; α(N+..)=0.000153 *13* α(N)=4.7×10⁻⁵ *5*; α(O)=9.4×10⁻⁶ *9*; α(P)=1.01×10⁻⁶ *10*; α(IPF)=9.6×10⁻⁵ *8*
		1749.82 *25*	49 *8*	2434.24	6⁻	(E2+M1)	>1.2	0.0029 *5*	α(K)=0.0022 *4*; α(L)=0.00037 *6*; α(M)=8.6×10⁻⁵ *13*; α(N+..)=0.00020 *3* α(N)=2.2×10⁻⁵ *4*; α(O)=4.3×10⁻⁶ *7*; α(P)=4.6×10⁻⁷ *7*; α(IPF)=0.000176 *22*
		1778.45 *20*	46 *5*	2405.27	7⁻	M1(+E2)	<1.6	0.0037 *7*	α(K)=0.0028 *6*; α(L)=0.00046 *9*; α(M)=0.000108 *21*; α(N+..)=0.00027 *5* α(N)=2.7×10⁻⁵ *6*; α(O)=5.4×10⁻⁶ *11*; α(P)=5.8×10⁻⁷ *12*; α(IPF)=0.00024 *4*
		1925.80 *6*	100 *8*	2258.15	5⁻	M1+E2	<2.3	0.0031 *7*	α(K)=0.0023 *5*; α(L)=0.00037 *8*; α(M)=8.6×10⁻⁵ *19*; α(N+..)=0.00034 *7* α(N)=2.2×10⁻⁵ *5*; α(O)=4.4×10⁻⁶ *10*; α(P)=4.7×10⁻⁷ *11*; α(IPF)=0.00032 *7*
4229.81?	(5,6)	1891.37 *20*	100 *10*	2338.44	(4)⁻				
		2955.6 *5*	22 *11*	1274.13	4⁺				
4244.01?	(5,6⁺)	461.70 *15*	32 *6*	3782.28	5⁻				
		2680.9 *5*	100 *13*	1563.42	4⁺				
4250.24	(5,6⁺)	2183.7 *5*	12 *3*	2065.33	5⁺				
		2686.82 *10*	100 *15*	1563.42	4⁺				
		2976.9 *5*	6 *3*	1274.13	4⁺				
4286.12	6⁻	1589.42 *12*	100 *12*	2696.71	7⁻	M1(+E2)	<0.43	0.00540 *23*	α(K)=0.00433 *19*; α(L)=0.00071 *3*; α(M)=0.000164 *7*; α(N+..)=0.000205 *8* α(N)=4.17×10⁻⁵ *17*; α(O)=8.3×10⁻⁶ *4*; α(P)=9.0×10⁻⁷ *4*; α(IPF)=0.000154 *6*
		2028.1 *4*	36 *4*	2258.15	5⁻	E2(+M1)	>0.39	0.0026 *6*	α(K)=0.0019 *5*; α(L)=0.00030 *7*; α(M)=7.1×10⁻⁵ *16*; α(N+..)=0.00038 *9* α(N)=1.8×10⁻⁵ *4*; α(O)=3.6×10⁻⁶ *8*; α(P)=3.8×10⁻⁷ *9*; α(IPF)=0.00035 *8*
		3011.4 *5*	6 *2*	1274.13	4⁺				
4302.0	15⁺	167.2[a] *2*	100[a]	4134.8	14⁺	M1(+E2)[a]	0.00[a] *4*	2.17 *4*	α(K)=1.77 *3*; α(L)=0.305 *5*; α(M)=0.0715 *11*; α(N+..)=0.0222 *4* α(N)=0.0182 *3*; α(O)=0.00362 *6*; α(P)=0.000387 *6*
4379.05	2⁺	4379.0 *2*	100	0.0	0⁺	E2		0.001691 *24*	α(K)=0.000368 *6*; α(L)=5.58×10⁻⁵ *8*; α(M)=1.285×10⁻⁵ *18*; α(N+..)=0.001254 *1* α(N)=3.26×10⁻⁶ *5*; α(O)=6.51×10⁻⁷ *10*; α(P)=7.02×10⁻⁸ *10*;

From ENSDF

$^{204}_{82}Pb_{122}$-25

$\gamma(^{204}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
									α(IPF)=0.001250 *18* B(E2)(W.u.)=1.23 *13*
4596.2	1	4596.1 *8*	100	0.0	0^+	D			
4887.7	16^+	585.7[a] *2*	80[a] *4*	4302.0	15^+	M1+E2[a]	0.4[a] *2*	0.064 *7*	α(K)=0.052 *6*; α(L)=0.0090 *8*; α(M)=0.00211 *17*; α(N+..)=0.00065 *6* α(N)=0.00054 *5*; α(O)=0.000107 *9*; α(P)=1.13×10^{-5} *11*
		752.9[a] *2*	100[a] *5*	4134.8	14^+	E2[a]		0.01179	α(K)=0.00909 *13*; α(L)=0.00205 *3*; α(M)=0.000496 *7*; α(N+..)=0.0001520 *22* α(N)=0.0001256 *18*; α(O)=2.43×10^{-5} *4*; α(P)=2.19×10^{-6} *3*
4922.1	1	4922.0 *3*	100	0.0	0^+	D			
4933.2	1	4933.1 *3*	100	0.0	0^+	D			
4980.37	1	4980.3 *2*	100	0.0	0^+	D			
5012.0	1	5011.9 *3*	100	0.0	0^+	D			
5283.2	$(1,2^+)$	5283.1 *5*	100	0.0	0^+				
5348.7	16^+	1046.7[a] *2*	100[a] *5*	4302.0	15^+	M1(+E2)[a]	−0.07[a] *4*	0.01577 *24*	α(K)=0.01298 *19*; α(L)=0.00214 *4*; α(M)=0.000499 *8*; α(N+..)=0.0001546 *23* α(N)=0.0001266 *19*; α(O)=2.53×10^{-5} *4*; α(P)=2.72×10^{-6} *4*
		1214.0[a] *3*	7.7[a] *14*	4134.8	14^+	E2(+M3)[a]	−0.2[a] *1*	0.0062 *19*	α(K)=0.0050 *15*; α(L)=0.0009 *3*; α(M)=0.00022 *8*; α(N+..)=7.4×10^{-5} *23* α(N)=5.7×10^{-5} *19*; α(O)=1.1×10^{-5} *4*; α(P)=1.1×10^{-6} *4*; α(IPF)=4.91×10^{-6} *22*
5365.9	$(1,2^+)$	5365.8 *6*	100	0.0	0^+				
5398.8	1	5398.7 *5*	100	0.0	0^+	D			
5610.3	$(1,2^+)$	5610.2 *9*	100	0.0	0^+				
5664.5	17^-	315.9[a] *2*	100[a] *5*	5348.7	16^+	E1[a]		0.0262	α(K)=0.0215 *3*; α(L)=0.00361 *5*; α(M)=0.000843 *12*; α(N+..)=0.000258 *4* α(N)=0.000213 *3*; α(O)=4.13×10^{-5} *6*; α(P)=3.86×10^{-6} *6*
		776.7[a] *2*	41.5[a] *23*	4887.7	16^+	(E1)[a]		0.00399 *6*	α(K)=0.00332 *5*; α(L)=0.000514 *8*; α(M)=0.0001189 *17*; α(N+..)=3.66×10^{-5} *6* α(N)=3.01×10^{-5} *5*; α(O)=5.94×10^{-6} *9*; α(P)=6.04×10^{-7} *9*
5675.0	$(1,2^+)$	5674.9 *12*	100	0.0	0^+				
5776.7	1	5776.6 *4*	100	0.0	0^+	D			
5795.6	1	5795.5 *6*	100	0.0	0^+	D			
5811.4	1	4912.1	100 *33*	899.165	2^+				
		5811.3 *5*	67 *33*	0.0	0^+	D			I_γ: Lower limit, assuming no other decay branches.
5828.4	1	5828.3 *3*	100	0.0	0^+	D			
5838.5	1	5838.4 *4*	100	0.0	0^+	D			
5877.9	$(1,2^+)$	5877.8 *6*	100	0.0	0^+				
5890.7	$(1,2^+)$	5890.6 *5*	100	0.0	0^+				
5943.9	$(1,2^+)$	5044.6	30 *30*	899.165	2^+				I_γ: Upper limit, assuming no other decay branches.

$\gamma(^{204}\mathrm{Pb})$ (continued)

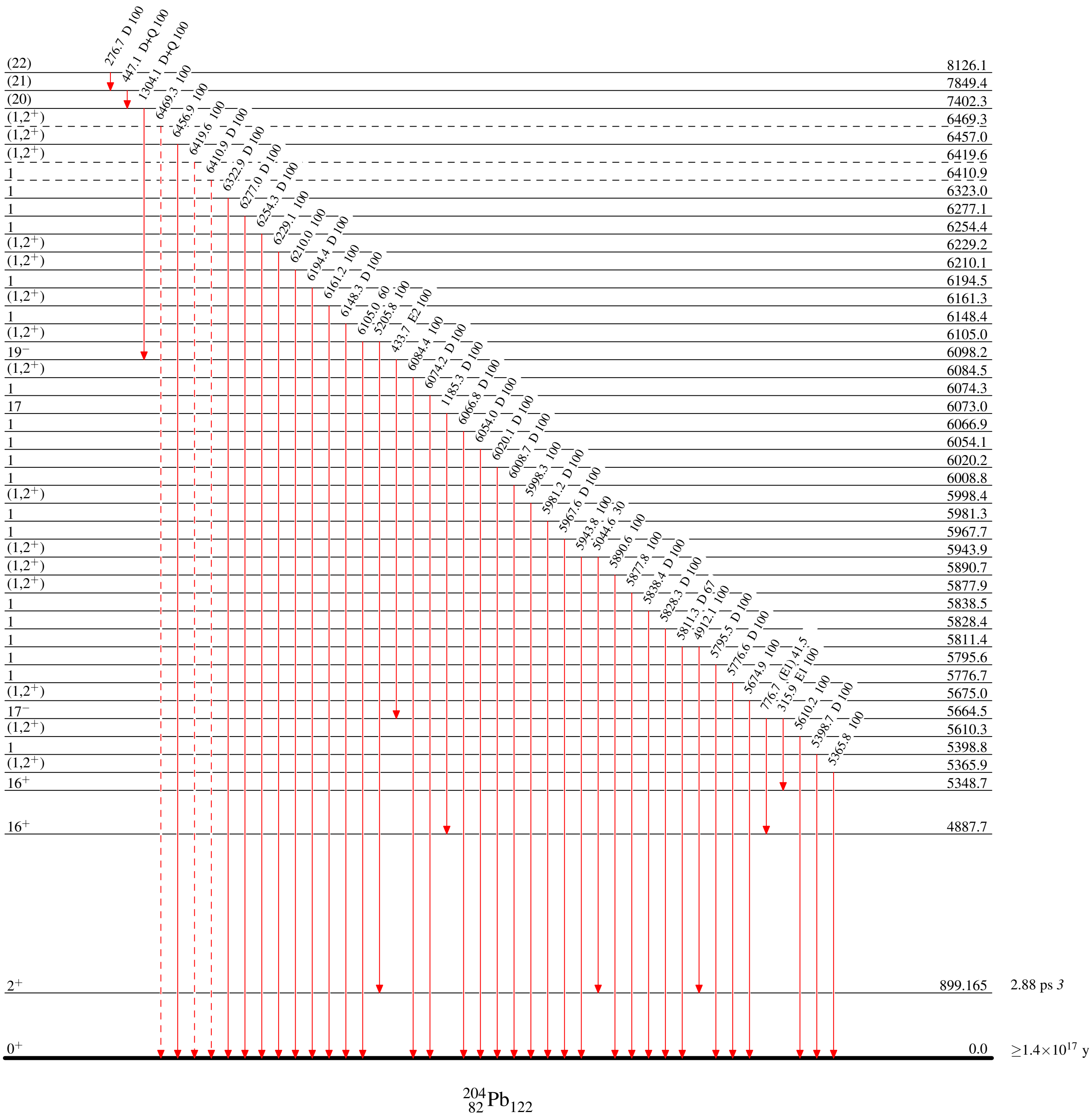
E_i(level)	J^π_i	E_γ[‡]	I_γ[‡#]	E_f	J^π_f	Mult.[‡]	δ[‡]	α[†]	Comments
5943.9	(1,2$^+$)	5943.8 *12*	100 *30*	0.0	0$^+$				
5967.7	1	5967.6 *5*	100	0.0	0$^+$	D			
5981.3	1	5981.2 *3*	100	0.0	0$^+$	D			
5998.4	(1,2$^+$)	5998.3 *8*	100	0.0	0$^+$				
6008.8	1	6008.7 *7*	100	0.0	0$^+$	D			
6020.2	1	6020.1 *6*	100	0.0	0$^+$	D			
6054.1	1	6054.0 *15*	100	0.0	0$^+$	D			
6066.9	1	6066.8 *8*	100	0.0	0$^+$	D			
6073.0	17	1185.3[a] *2*	100[a]	4887.7	16$^+$	D[a]			
6074.3	1	6074.2 *11*	100	0.0	0$^+$	D			
6084.5	(1,2$^+$)	6084.4 *8*	100	0.0	0$^+$				
6098.2	19$^-$	433.7[a] *2*	100[a]	5664.5	17$^-$	E2[a]		0.0418	α(K)=0.0282 *4*; α(L)=0.01023 *15*; α(M)=0.00257 *4*; α(N+..)=0.000780 *11* α(N)=0.000650 *10*; α(O)=0.0001218 *18*; α(P)=8.93×10^{-6} *13*
6105.0	(1,2$^+$)	5205.8	100 *30*	899.165	2$^+$				
		6105.0 *20*	60 *30*	0.0	0$^+$				I_γ: Lower limit, assuming no other decay branches.
6148.4	1	6148.3 *5*	100	0.0	0$^+$	D			
6161.3	(1,2$^+$)	6161.2 *6*	100	0.0	0$^+$				
6194.5	1	6194.4 *8*	100	0.0	0$^+$	D			
6210.1	(1,2$^+$)	6210.0 *6*	100	0.0	0$^+$				
6229.2	(1,2$^+$)	6229.1 *20*	100	0.0	0$^+$				
6254.4	1	6254.3 *6*	100	0.0	0$^+$	D			
6277.1	1	6277.0 *9*	100	0.0	0$^+$	D			
6323.0	1	6322.9 *5*	100	0.0	0$^+$	D			
6410.9?	1	6410.9[b] *6*	100	0.0	0$^+$	D			
6419.6?	(1,2$^+$)	6419.6[b] *11*	100	0.0	0$^+$				
6457.0	(1,2$^+$)	6456.9 *9*	100	0.0	0$^+$				
6469.3?	(1,2$^+$)	6469.3[b] *7*	100	0.0	0$^+$				
7402.3	(20)	1304.1[a] *2*	100[a]	6098.2	19$^-$	D+Q[a]	0.05[a] *2*		
7849.4	(21)	447.1[a] *2*	100[a]	7402.3	(20)	D+Q[a]	−0.05[a] *8*		
8126.1	(22)	276.7[a] *3*	100[a]	7849.4	(21)	D[a]	[a]		

† Additional information 2.
‡ From ^{204}Bi ε decay for E(level) below 4.3 MeV and (γ,γ') above, except as noted.
# $I\gamma'$s shown as approx are from $(n,n'\gamma)$ where uncertainties were not reported.
@ From $(n,n'\gamma)$.
& From (γ,γ').
a From $(\alpha,4n\gamma)$.
b Placement of transition in the level scheme is uncertain.

Adopted Levels, Gammas

Level Scheme

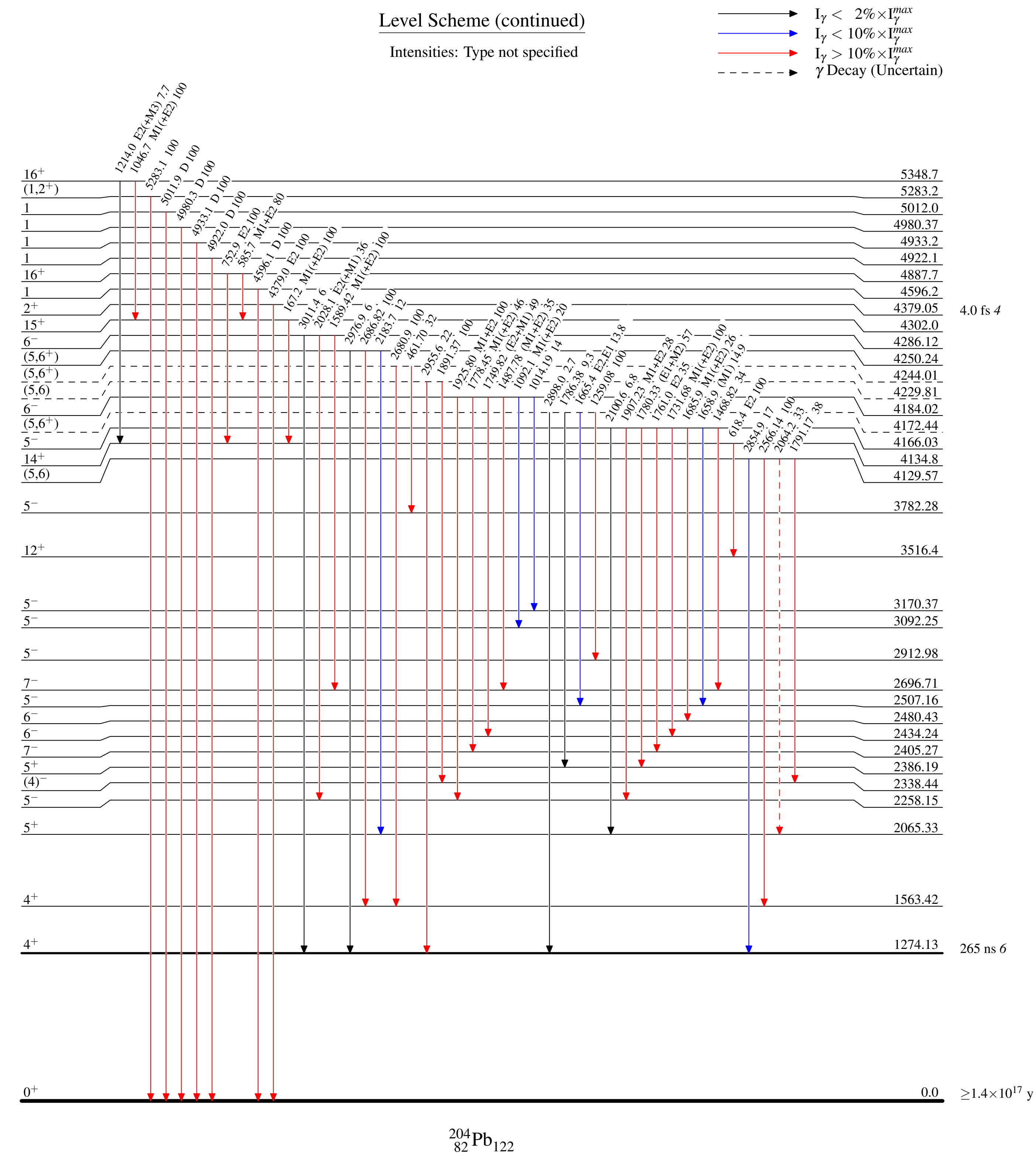
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

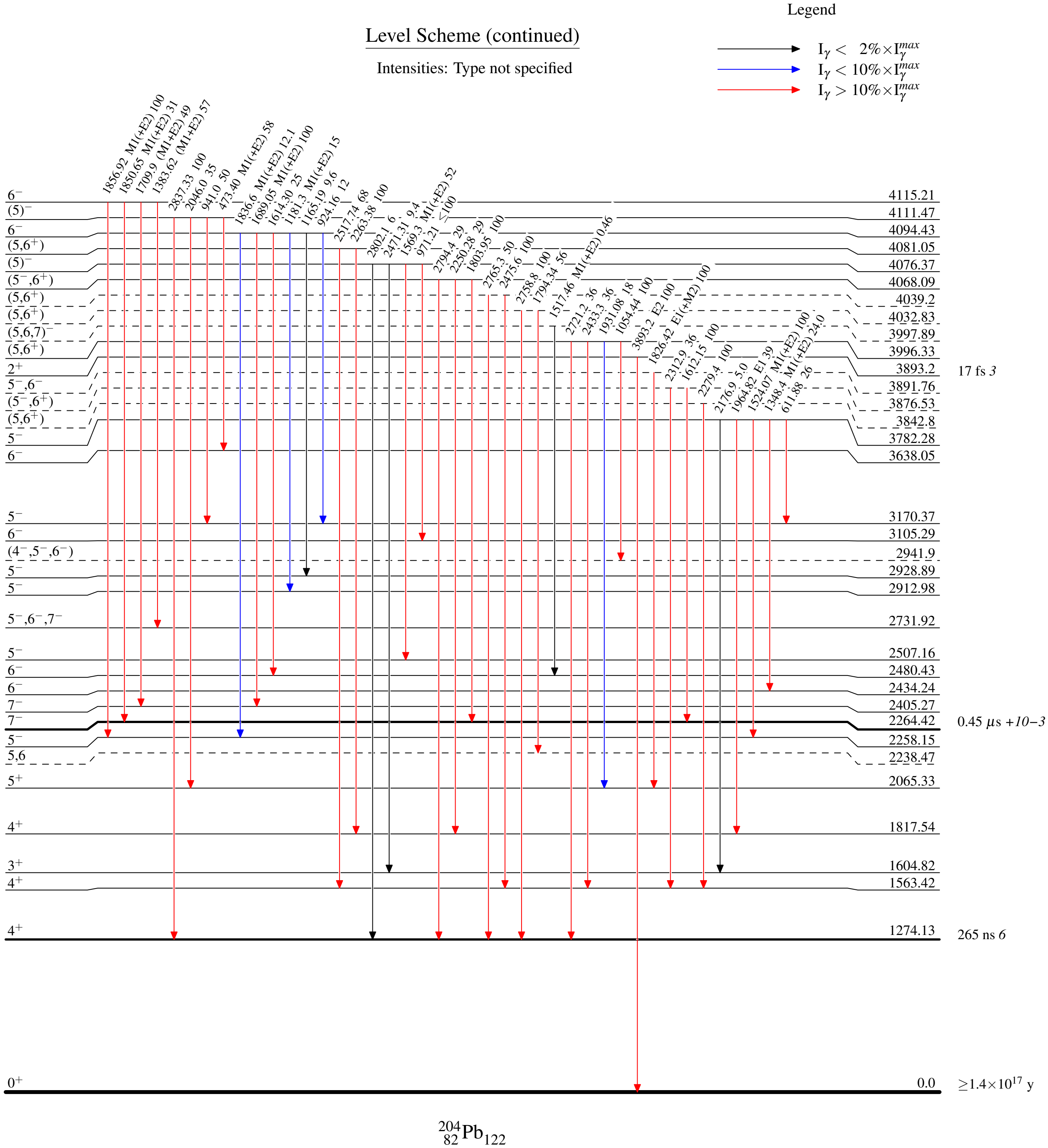
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



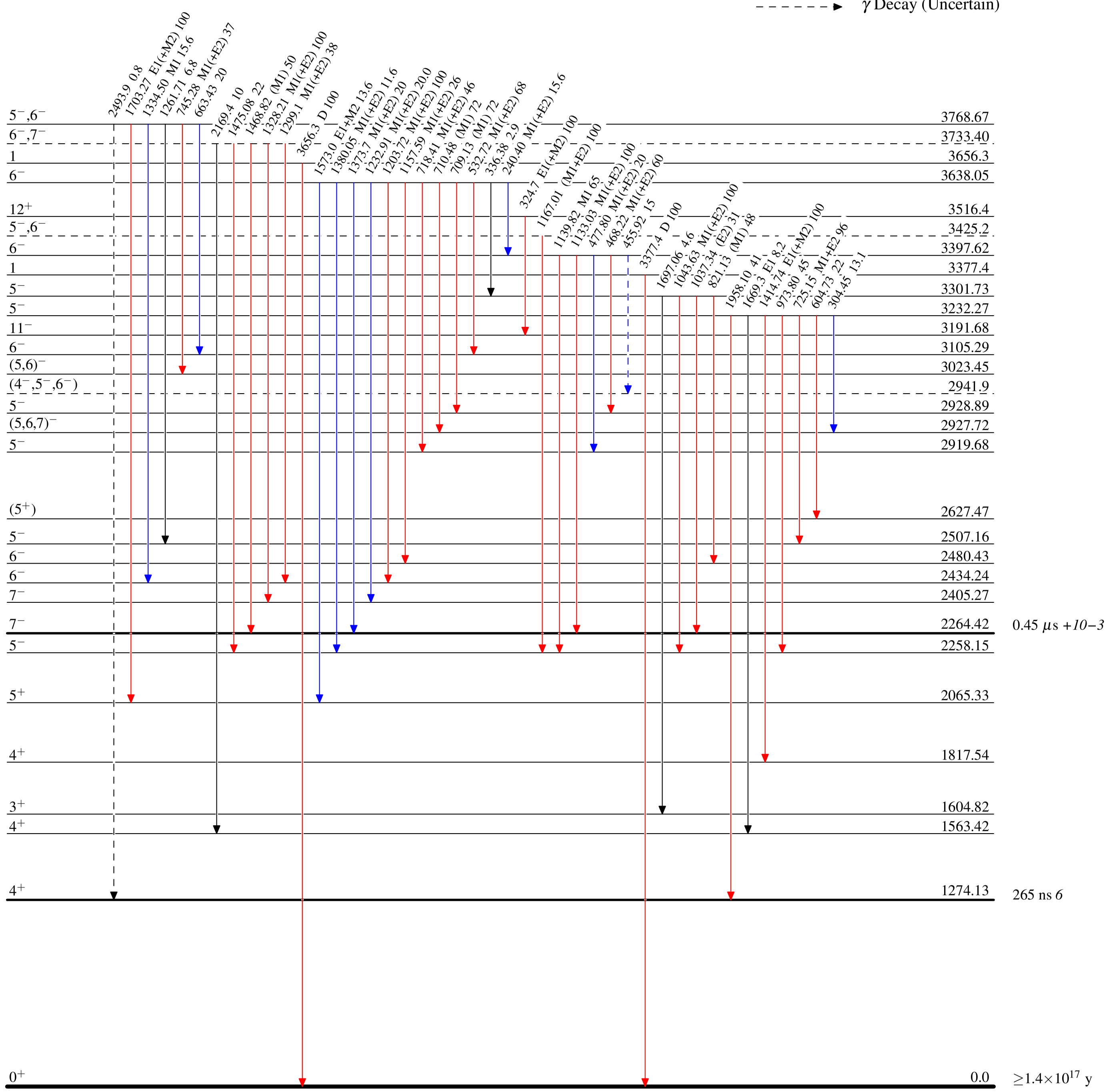
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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



$^{204}_{82}Pb_{122}$

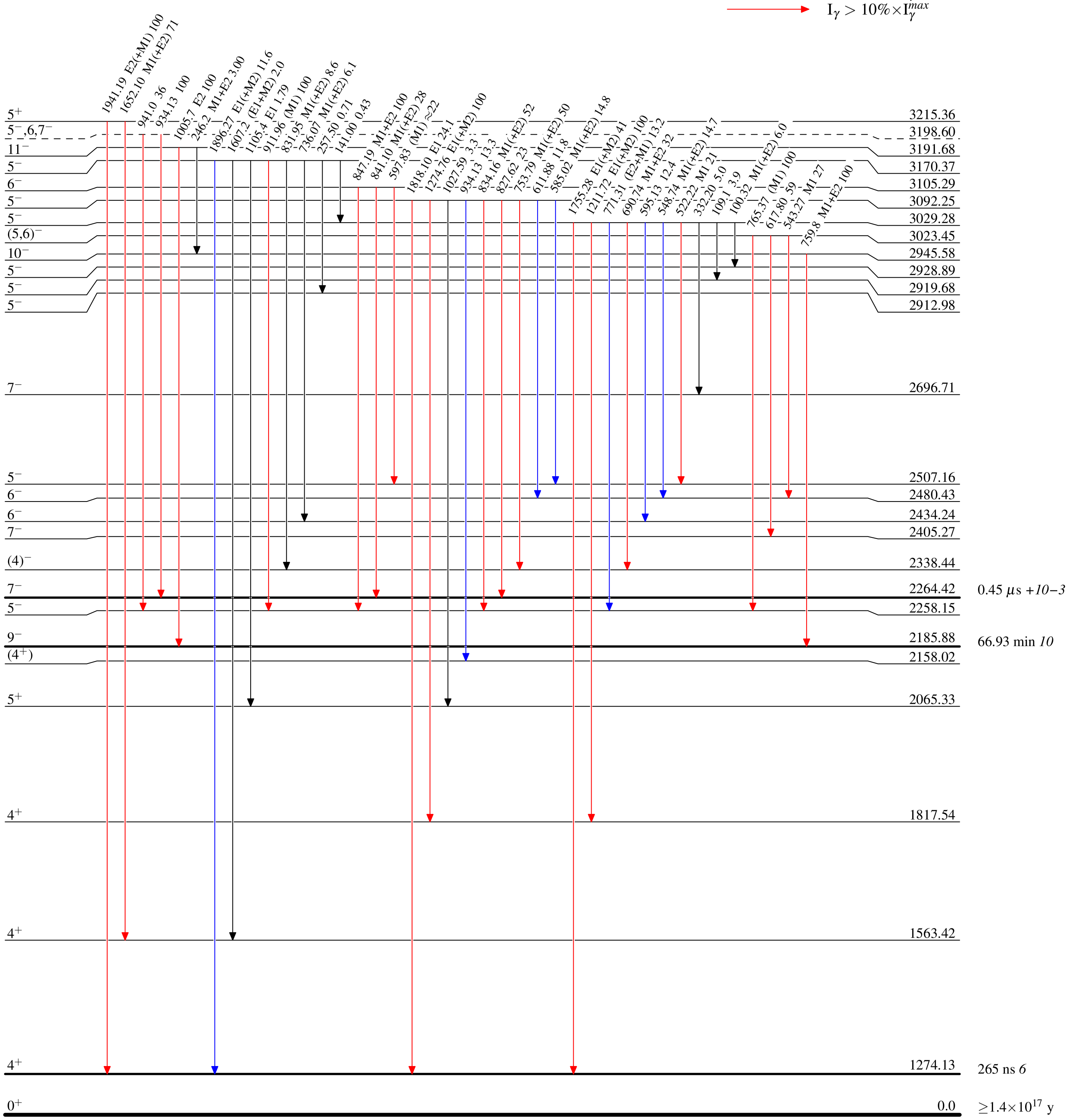
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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

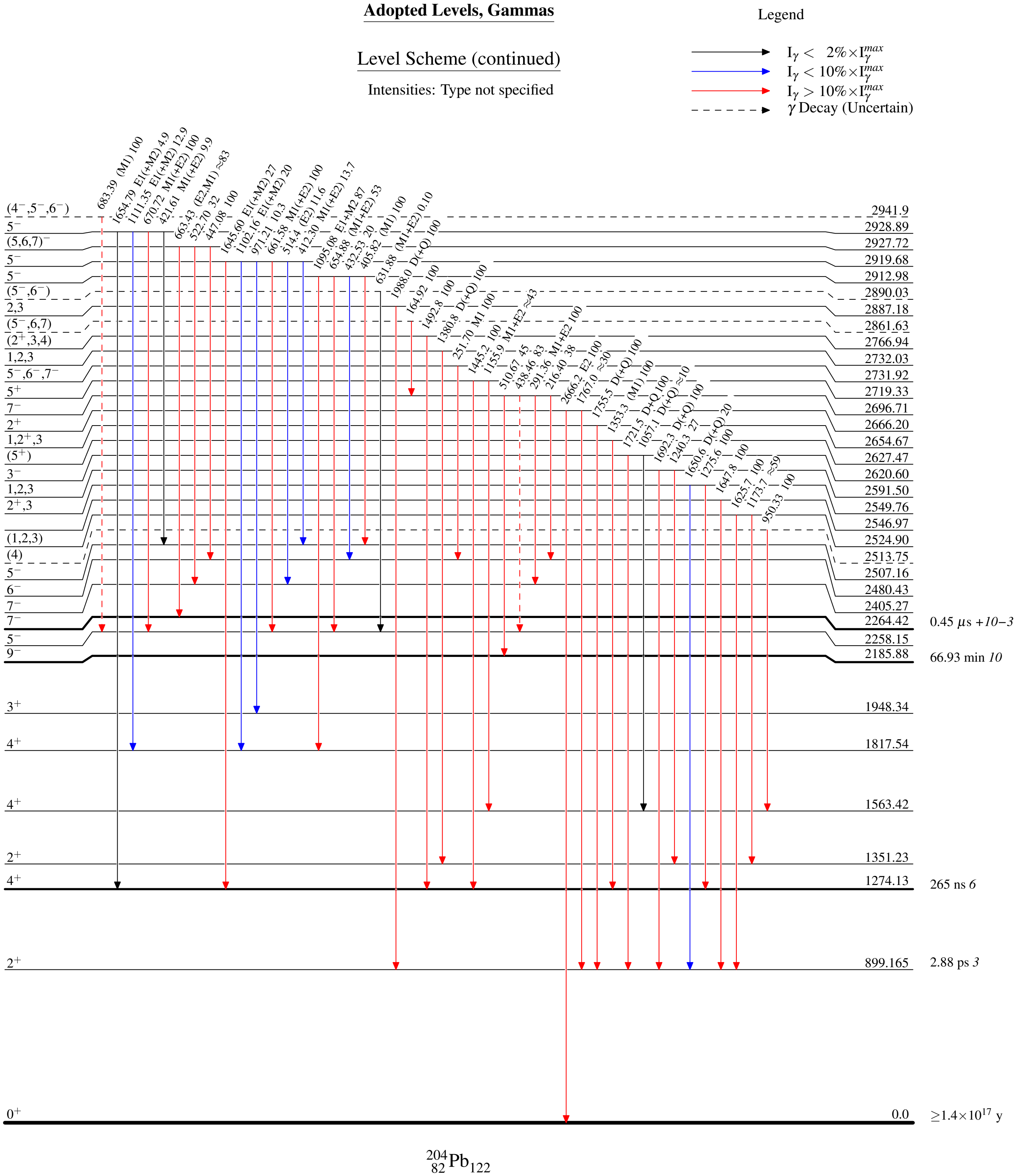


$^{204}_{82}Pb_{122}$

Adopted Levels, Gammas

Level Scheme (continued)

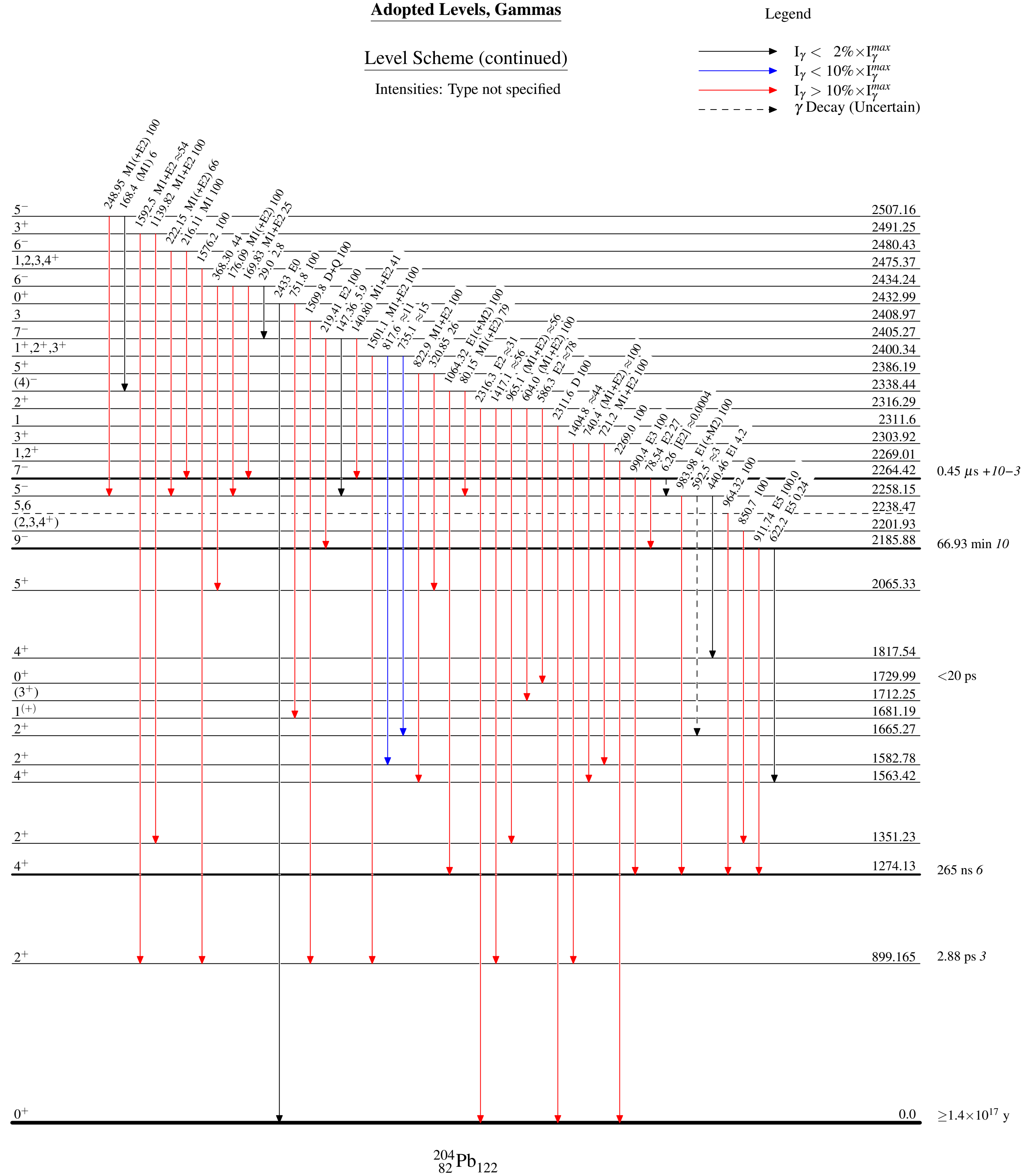
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

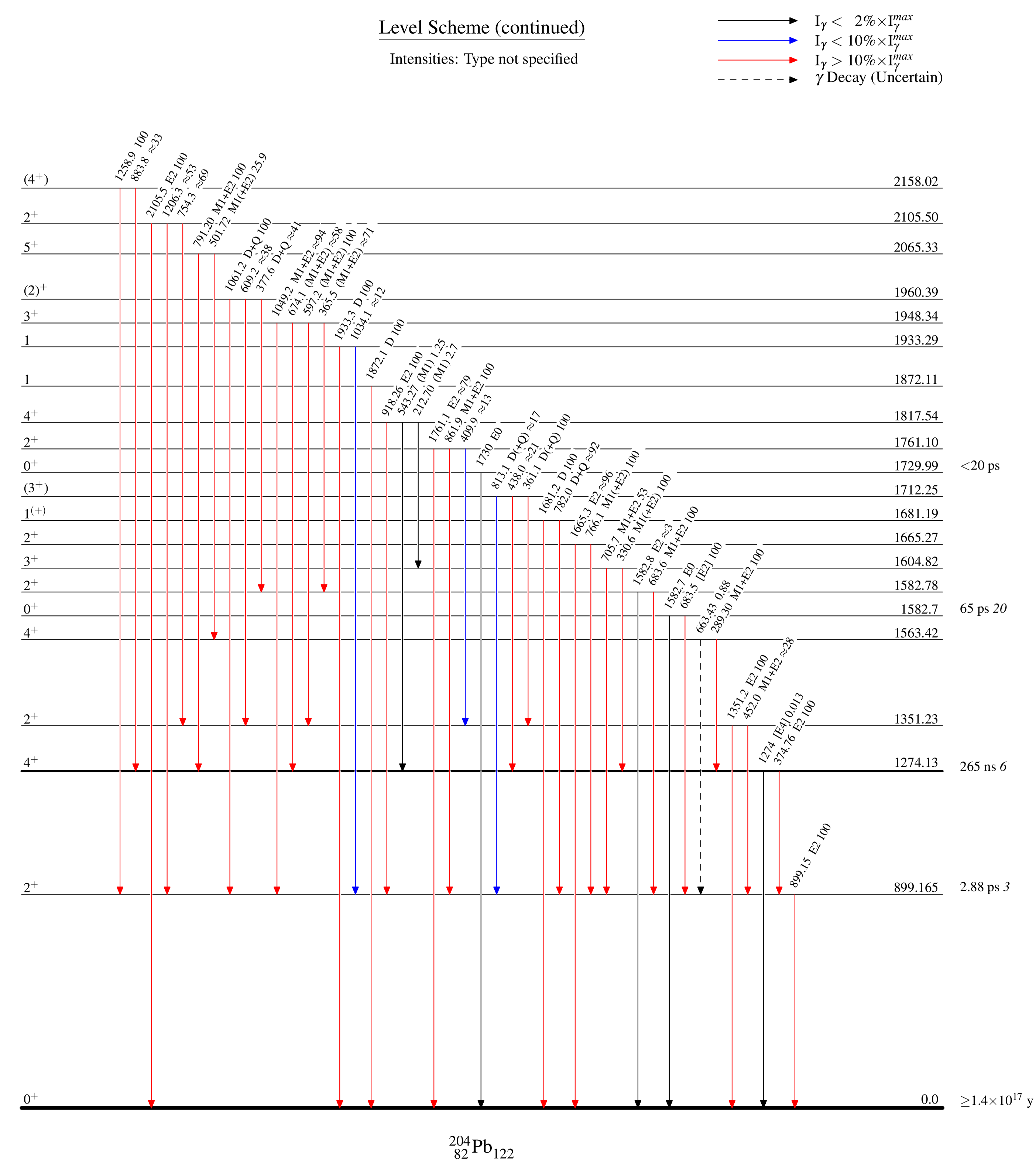
Intensities: Type not specified



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 109,1527 (2008)	31-Jan-2008

Q(β^-)=−3757 *8*; S(n)=8086.66 *6*; S(p)=7253.7 *5*; Q(α)=1135.5 *12* 2012Wa38
Note: Current evaluation has used the following Q record \$ −3758 8 *8086*.676 *7253*.8 *5* 1135.5 *11* 2003Au03.

^{206}Pb Levels

Cross Reference (XREF) Flags

A	^{206}Pb IT decay (202 ns)	L	^{207}Pb(γ,n)	W	^{209}Bi(μ^-,3nγ)
B	^{206}Pb IT decay (125 μs)	M	^{206}Pb(e,e′)	X	^{209}Bi(pol p,α)
C	^{206}Tl β^- decay	N	^{206}Pb(p,p′)	Y	^{208}Pb(p,t)
D	^{206}Bi ε decay	O	^{206}Pb(p,p′γ)	Z	^{204}Hg(^{3}He,n)
E	^{210}Po α decay	P	^{206}Pb(d,d′),(α,α′)	Others:	
F	^{204}Hg(α,2nγ)	Q	^{206}Pb(^{17}O,^{17}O′)	AA	^{204}Pb(t,p)
G	^{204}Hg(^{9}Be,α3nγ)	R	Coulomb excitation	AB	^{204}Pb(t,pγ)
H	^{205}Pb(n,γ) E=thermal	S	^{207}Pb(μ^-,nγ),^{206}Pb(μ^-,γ)	AC	^{205}Tl(^{3}He,d)
I	^{206}Pb(n,n′γ)	T	^{207}Pb(p,d),(d,t),(^{3}He,α)	AD	^{205}Tl(α,t)
J	^{206}Pb(n,n′)	U	^{208}Pb(α,^{6}He), (^{12}C,^{14}C),	AE	^{206}Pb(π,π′)
K	^{206}Pb(γ,γ′)	V	^{209}Bi(π^-,3nγ)		

E(level)[†]	J$^{\pi}$[e]	T$_{1/2}$	XREF	Comments
0.0	0$^+$	stable	ABCDEFGHIJKLMNOPQRSTUVWXYZ	XREF: Others: AA, AB, AC, AD, AE T$_{1/2}$: T$_{1/2}$(SF)>1.0×10^{23} y from search for fission product tracks in old Pb samples (1970Pr15). Δ<r^2>(208,206)=0.127 *3* fm^2 (2005Wa34). Several other articles contain information on isotope shifts and related deduced quantities: shift of K and L x-ray energies (1973Le16,1981BoZQ); shift of optical line energies (1980Ti04,1982ReZV,1986Bo18,1988Bu20); shift in charge radius (1973Le16,1981BoZQ,1982ReZV,1983Th03, 1986An06,1987Di06,1990Di09, 1991Re08); theory of these shifts (many of the above articles and 1988Ga27); and shift in energies of x rays in muonic atoms (1966Eh01,1969An26,1975Ke05,1984Ho15). The energies of the x rays from muonic atoms are given by 1966Ac02, 1969An02, and 1973Ma45. Other muonic atom articles: 1969Fo11 and 1974Fo09. Configuration: primary wave function component is ν(p$_{1/2}$)$^{-2}$. Additional information 1.
803.054 *25*	2$^+$	8.30 ps *25*	ABCDEFGHIJKLMNOPQRSTUVWXY	XREF: Others: AA, AC, AD, AE Q=+0.05 *9*; μ<0.030 J$^{\pi}$: 803.06γ E2 to 0$^+$; L=2 in (p,p′), (p,t) and (t,p). B(E2)↑: 0.101 *3*, unweighted average of 0.0957 (1984Pa02) in (e,e′), 0.100 (1991Ho13) in (^{17}O,^{17}O′), 0.090 *13* (1992Ho08) in (π,π′) and 0.103 *1* (1978Jo04), 0.115 (1960BaZZ), 0.108 *10* (1966Hr01), 0.103 *8* (1971Gr31) and 0.095 *5* (1972Ha59) in Coulomb excitation. Other values: 0.12 *3* (1955St57) and 0.13 *5* (1962Na06) in Coulomb excitation. T$_{1/2}$: From recommended here B(E2)=0.101 *3*. Values from direct measurements are: T$_{1/2}$=9.1 ps *6* (1970Qu02) in Coulomb excitation and <1 ns (1952De08) in ^{210}Po α

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
				XREF: Others: AA, AC, AD, AE Q=+0.05 *9*; μ<0.030 J^{π}: 803.06γ E2 to 0^+; L=2 in (p,p′), (p,t) and (t,p). B(E2)↑: 0.101 *3*, unweighted average of 0.0957 (1984Pa02) in (e,e′), 0.100 (1991Ho13) in (^{17}O,^{17}O′), 0.090 *13* (1992Ho08) in (π,π′) and 0.103 *1* (1978Jo04), 0.115 (1960BaZZ), 0.108 *10* (1966Hr01), 0.103 *8* (1971Gr31) and 0.095 *5* (1972Ha59) in Coulomb excitation. Other values: 0.12 *3* (1955St57) and 0.13 *5* (1962Na06) in Coulomb excitation. $T_{1/2}$: From recommended here B(E2)=0.101 *3*. Values from direct measurements are: $T_{1/2}$=9.1 ps *6* (1970Qu02) in Coulomb excitation and <1 ns (1952De08) in ^{210}Po α decay. Q: From 1978Jo04 in Coulomb excitation. μ: From 1986Bi13, based on reevaluation of original data of 1974Ol02 (g=0.07 *+7−3*) in Coulomb excitation. Other: μ=−0.02 *14* from g-factor measurements of 1970Za03 in ^{206}Bi ε decay. Configuration: primary wave function component is $\nu(p^{-1}_{1/2},f^{-1}_{5/2})$. Additional information 2.
1166.4 *3*	0^+	0.75 ns *4*	C F JKL NOP T XY	XREF: Others: AA, AB, AC XREF: J(1175)N(1170). E(level): From ce measurements in (α,2n) (1977Dr08). Others: 1165 *2* (1990Tr01) and 1166 *3* (1972Ta18,1976Ju03) in ^{206}Pb(p,p′γ), 1167 *1* (1974La01) in ^{206}Pb(p,d), 1168 *3* (1993Ga05) in (pol p,a); 1166 *4* (1974Fl04) in (t,p), 1165 *2* (1990Wo11) in (^{3}He,d). J^{π}: 1166.4γ E0 to 0^+; L=0 in (p,t), (t,p) and (^{3}He,d). $T_{1/2}$: Weighted average of 0.67 ns *7* (1972Ta18) and 0.77 ns *4* (1976Ju03) in ^{206}Pb(p,p′γ). Configuration: primary wave function component is $\nu(f_{5/2})^{-2}$. Additional information 3.
1340.49 *4*	3^+		AB D FGHIJ L N P STUVW Y	XREF: Others: AC XREF: N(1344). J^{π}: 537.5γ M1(+E2) to 2^+ level; L=3 in (p,d). Configuration: primary wave function component is $\nu(p^{-1}_{1/2},f^{-1}_{5/2})$. Additional information 4.
1466.81 *3*	2^+		F HIJKL N P STU WXY	XREF: Others: AC XREF: L(1462)U(1470)X(1462). J^{π}: 663.75γ M1(+E2) to 2^+; 1466.78γ to 0^+; L=2 in (p,p′), (p,t) and (^{3}He,d). Configuration: primary wave function component is $\nu(p^{-1}_{1/2},p^{-1}_{3/2})$. Additional information 5.
1683.99 *4*	4^+		AB D FGHIJ LMN P STUVWXY	XREF: Others: AA B(E4)↑=0.0167 XREF: N(1686)P(1680)U(1680). J^{π}: 880.98γ E2 to 2^+; L=4 in (p,p′) and (p,t). B(E4)↑: From ^{206}Pb(e,e′) (1984Pa02). Configuration: primary wave function component is $\nu(p^{-1}_{3/2},f^{-1}_{5/2})$. Additional information 6.

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)†	Jπe	$T_{1/2}$	XREF	Comments
1704.45 *3*	1^+		HIJKL N ST W Y	XREF: Others: AC XREF: J(1710)N(1708)AC(1700). Jπ: 1704.45γ to 0^+; L=1 in (p,d), and L=0 in (^{3}He,d). Configuration: primary wave function component is $\nu(p_{1/2}^{-1},p_{3/2}^{-1})$. Additional information 7.
1784.09 *6*	2^+		F HIJKL N TU W Y	XREF: Others: AC XREF: J(1762)N(1787)U(1780)AC(1781). Jπ: 1784.7γ to 0^+; L=2 in (p,p′) and (^{3}He,d). Configuration: primary wave function component is $\nu(f_{5/2})^{-2}$. Additional information 8.
1997.67 *4*	4^+		B D F HIJ L N P TU WXY	XREF: P(1993)U(2000)X(1994). Jπ: 1194.68γ E2 to 2^+; L=4 in (p,p′) and (p,t). Configuration: primary wave function component are $\nu(p_{3/2}^{-1},f_{5/2}^{-1})$ and $\nu(f_{5/2})^{-2}$. Additional information 9.
2148.97 *7*	2^+		HIJ L N TU WXY	XREF: Others: AC XREF: J(2155)N(2151)U(2150). Jπ: 808.58γ (M1+E2) to 3^+; L=1+3 in (p,d) and L=2 in (p,t) and (^{3}He,d). Configuration: primary wave function component are $\nu(p_{3/2}^{-1},f_{5/2}^{-1})$. Additional information 10.
2196.7 *4*	$(3)^+$		HIJ W	Jπ: 729.2γ and 1393.8γ (M1+E2) to 2^+; 856.6γ (M1+E2) to 3^+. The absence of γ′s to 0^+ argues against 2^+.
2200.16 *4*	7^-	125 μs *2*	AB D FG I N P TUVWXY	%IT=100 μ=−0.152 *3*; Q=0.33 *5* Jπ: 516.18γ E3 to 4^+; L=7 in (p,p′). $T_{1/2}$: Weighted average of 125 μs *19* (1995An36), 126 μs *6* (1966MoZZ), 141 μs *7* (1967Co20), and 119 μs *3* (1973DaZL) from IT decay (125 μs) and (α,2nγ); 125 μs *2* (1973Sa22); and 145 μs *15* (1953Al47), 128 μs *5* (1957To22), 123 μs *4* (1957As65), 123 μs *3* (1960Be36), 130.5 μs *15* (1962Th12), and 123.3 μs *11* (1968Ta13) from ^{206}Bi ε decay. Other: 124 μs (1994Po20) in (^{9}Be,α3nγ). μ: From g=−0.0217 *4* in 1972Ma24. Other: −0.24 *14* in 1970Qu03. Q: From 1975Ri03 using quadrupole interaction deduced from relaxation time technique. Others: 0.5 *2* (1973DiZE) and ≤0.2 (1970Qu03). Configuration: $\nu(p_{1/2}^{-1},i_{13/2}^{-1})$. Additional information 11.
2236.53 *14*			HI Y	
2314‡ *2*	0^+		I TU XY	XREF: Others: AC XREF: U(2320). Jπ: L=0 in (p,t). Configuration: primary wave function component is $\nu(p_{3/2})^{-2}$. Additional information 12.
2384.15 *4*	6^-	30 ps *10*	D F I n T W Y	μ=+0.8 *4* XREF: n(2385)Y(2379). Jπ: 183.977γ M1(+E2) to 7^-; L=6 in (p,d); σ(θ) in (p,t). $T_{1/2}$: From ^{206}Bi ε decay (1963Si12). μ: From 1970Za03 using perturbed γγ(θ) in ^{206}Bi ε decay.

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)†	J$^{\pi}$ e	T$_{1/2}$	XREF	Comments
2391.34? *8*			D J n	XREF: J(2385)n(2385). Additional information 13.
2423.36 *4*	2$^+$		HI N TU XYZ	XREF: U(2420)Y(2421)Z(2400). J$^{\pi}$: 718.92γ to 1$^+$, 1082.7γ to 3$^+$; L=1+3 in (p,d); L=2 in (p,t). Configuration: primary wave function component is $\nu(p_{3/2})^{-2}$. Additional information 14.
2647.80 *6*	3$^-$	0.087 ps *21*	D F HIJ MN PQRST W Y	XREF: Others: AA, AC, AE B(E3)↑=0.64 *4* XREF: J(2634)S(2654)AA(2643)AC(2651). J$^{\pi}$: 1844.49γ E1 to 2$^+$, 964.22γ to 4$^+$; L=3 in (p,p′), (d,d′), (p,t). Configuration: primary wave function component is octupole vibration coupled to the $\nu(p_{1/2})^{-2}$ (J^{π}=0$^+$, ground state). T$_{1/2}$: From 1972Ha59 using DSAM in Coulomb excitation. Other: 0.28 ps *14* (1971Gr31) using DSAM in Coulomb excitation. B(E3)↑: From 1968Zi02 in (e,e′). Others: 0.66 *7* (1971Gr31), 0.50 *3* (1972Ha59), 0.60 *4* or 0.65 *4* (1978Sp08) 0.83 +*18*−*25* (1966Hr01) and 0.35 *2* (1998Wo15) from Coulomb excitation. Other: 0.61 (1991Ho13) in (^{17}O,^{17}O′); 0.62 *9* (1982Ho08) in (π,π′).
2658.32 *19*	9$^-$		A FG I TUVWXY	XREF: U(2660)X(2654). Configuration: primary wave function component is $\nu(f^{-1}_{5/2},i^{-1}_{13/2})$. J$^{\pi}$: 458.1$\gamma$ E2 to 7$^-$; L=9 in (p,t).
2782.17 *4*	5$^-$		D F IJ N P U WXY	XREF: Others: AA, AC J$^{\pi}$: 581.97γ E2 to 7$^-$, 784.58γ E1 to 4$^+$; L=5 in (p,p′), (p,t), (^{3}He,d). Configuration: primary wave function component is $\nu(f^{-1}_{5/2},i^{-1}_{13/2})$. Additional information 15.
2826.31 *4*	(4)$^-$		D IJ N Y	XREF: J(2820)N(2831). J$^{\pi}$: 1142.37γ E1 to 4$^+$; 2022.8γ M2,E3 to 2$^+$; $\sigma(\theta)$ in (p,t). Configuration: primary wave function component is most likely $\nu(f^{-1}_{5/2},i^{-1}_{13/2})$.
2864.55 *6*	7$^-$		D F I N TU XY	XREF: N(2861)U(2870). J$^{\pi}$: 480.38γ M1 to 6$^-$, 664.17γ M1 to 7$^-$; L=7 in (p,t). Configuration: primary wave function component is $\nu(f^{-1}_{5/2},i^{-1}_{13/2})$. Additional information 16.
2929.09 *9*	4$^+$		F HI N P TU XY	XREF: P(2925)X(2933). J$^{\pi}$: 1588.59γ M1 to 3$^+$ level; L=4 in (p,p′), (p,t). Configuration: primary wave function component is $\nu(p^{-1}_{1/2},f^{-1}_{7/2})$. Additional information 17.
2939.60 *5*	6$^-$		D IJ	J$^{\pi}$: 157.504γ M1(E2) to 5$^-$, 739.24γ M1 to 7$^-$. Configuration: primary wave function component is $\nu(f^{-1}_{5/2},i^{-1}_{13/2})$. Additional information 18.
2954.5 *3*	8$^-$		F	J$^{\pi}$: 296.2γ M1 to 9$^-$, 754.4γ M1 to 7$^-$. Configuration: primary wave function component is

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	Jπ[e]	XREF	Comments
			$\nu(f^{-1}_{5/2},i^{-1}_{13/2})$.
2960[#] 2		N	
2984[‡] 5	2^+	N Y	XREF: N(2988). Jπ: L=2 in (p,t).
3016.43 4	5^-	D F IJ N P U XY	XREF: Others: AC XREF: U(3010)AC(3019). Jπ: 1332.33γ E1 to 4^+, 632.25γ M1+E2 to 6^-; L=5 in (p,p′), (p,t), (^{3}He,d). Configuration: primary wave function component is $\nu(p^{-1}_{3/2},i^{-1}_{13/2})$. Additional information 19.
3033[#] 3		N	
3122.38 17	(3^+)	HIJ N TU Y	XREF: J(3125). Jπ: 2319.32γ to 2^+; L=3 in (p,d); σ(θ) in (p,t). Configuration: primary wave function component is $\nu(p^{-1}_{1/2},f^{-1}_{7/2})$. Additional information 20.
3139[#] 6		N	
3194[‡] 2	(5^-)	j N t XY	XREF: Others: AD XREF: j(3200)t(3194)ad(3200). Jπ: L=(5) in (p,p′) and (p,t).
3194.3 4	(1,2)	HIj t	XREF: Others: AD XREF: j(3200)t(3194)ad(3200). Jπ: 3194.6γ to 0^+, 2391.0γ to 2^+.
3225.40 6	$(5,6,7)^-$	D I N	XREF: Others: AD XREF: ad(3200). Jπ: 841.28γ M1(+E2) to 6^-, 443.20γ to 5^-, 360.82γ to 7^-.
3244.24 4	4^-	D Ij X	XREF: Others: AC XREF: j(3250)X(3237). Jπ: 1903.56γ E1 to 3^+; 227.65γ to 5^-; L=5 in (^{3}He,d).
3260.4 5	6^+	F Ij N P U XY	XREF: j(3250)P(3256)X(3262). Jπ: 1576.4γ E2 to 4^+; L=6 in (p,p′), (p,t).
3279.21 4	5^-	D F I N P X	XREF: Others: AC XREF: N(3277)P(3276)X(3273). Jπ: 1595.27γ E1 to 4^+, 895.12 M1(+E2) to 6^-; L=5 in (p,p′), (^{3}He,d).
3328[#] 5		N	
3377[#] 2		N X	
3402.65 4	5^-	D F I N P XY	XREF: Others: AC XREF: N(3399)P(3400)X(3399)Y(3392). Jπ: 1405.01γ E1 to 4^+,754.96γ E2 to 3^-; L=5 in (p,p′), (d,d′).
3453[‡] 3	5^-	p t XY	XREF: Others: AC Jπ: L=5 in (p,t).
3453.4 7	4^+	HI N p t	XREF: N(3450). Jπ: 2650.3γ to 2^+; L=4 in (p,p′).
3484.8 4		HI N T	XREF: N(3478). Jπ: γ′s to 2^+ levels suggest J^π of 0^+, 1, 2, 3, or 4^+.
3516 3	(4^+)	HI N T XY	XREF: T(3519)X(3510). Jπ: 2713γ to 2^+ level; L=4 in (p,t). Note, that L=(5) in (p,p′) would require $J^\pi=4^-$, 5^- or 6^-.
3562.87 5	5^-	D I N P X	XREF: Others: AA XREF: N(3558)P(3559)X(3555). Jπ: 1878.65γ E1 to 4^+; L=5 in (p,p′).
3606.2 3	2^+	HI N T Y	XREF: Others: AD XREF: N(3603)Y(3599)AD(3600). Jπ: L=2 in (p,t).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J$^{\pi}$[e]	$T_{1/2}$	XREF	Comments
3623[‡] *13*	4^+		Y	J$^{\pi}$: L=4 in (p,t).
3655[#] *5*	(6^-)		N X	XREF: X(3653). J$^{\pi}$: Analyzing power in (pol p,a).
3675[‡] *6*	(4^-)		X	XREF: Others: AC J$^{\pi}$: L=3+5 in (^{3}He,d).
3682.9 *13*			I N Q	XREF: N(3675)Q(3675).
3718[#] *2*	3^-		N P X	XREF: Others: AC XREF: X(3716). J$^{\pi}$: L=3 in (p,p′), analyzing power in (pol p,a); L=3 in (^{3}He,d) would require $J^{\pi}=(3,4)^+$.
3743.7 *7*	1^-	5.1 fs *6*	I K N T	B(E1)↑=0.000049 *6* XREF: N(3737). J$^{\pi}$: 3743.7γ to 0^+ in (γ,γ'); L=0 in (p,d). B(E1)↑,$T_{1/2}$: From (γ,γ') (2003En07).
3765[‡] *4*	2^+		U XY	XREF: U(3770)X(3769). J$^{\pi}$: L=2 in (p,t); analyzing power in (pol p,a).
3776.1 *9*	5^-		F I N P	XREF: Others: AA XREF: N(3772)P(3774)AA(3768). J$^{\pi}$: 1778.4γ E1 to 4^+; L=5 in (p,p′), (t,p).
3778.5 *12*			I	
3786[a] *7*	$(3,4)^-$			XREF: Others: AC J$^{\pi}$: L=3 in (^{3}He,d).
3795[#] *6*			N	
3827[#] *5*			N X	
3847[#] *4*			N	
3883[#] *5*			N	
3901[‡] *6*	$(2)^+$		N P Y	XREF: N(3898). J$^{\pi}$: L=2 in (d,d′) data. Note, L=8 in (p,t) would require $J^{\pi}=8^+$.
3943.7 *13*			I	
3957.6 *3*	10^+		A FG N V Y	XREF: N(3963)Y(3960). J$^{\pi}$: 1299.1γ E1 to 9^-; population in (^{9}Be,α3nγ) would suggest yrast status and hence J=10; L=10 in (p,t). Configuration: primary wave function component is coupled to the $\nu(i_{13/2})^{-2}$.
3960	$(6)^+$		U	E(level): From (α,^{6}He). J$^{\pi}$: L=6+(4) in (α,^{6}He).
3963 *3*	4^+		I T Y	XREF: Y(3958). J$^{\pi}$: L=4 in (p,t) and L=3 in (p,d).
3971 *3*			I n	XREF: n(3980). J$^{\pi}$: possible γ′s to 0^+ and 2^+ levels suggest $J^{\pi}=1^+$, 1^-, or 2^+.
3980[#] *5*	2^-[f]		n X	XREF: n(3980).
3989 *3*			I n T	XREF: n(3980). J$^{\pi}$: γ′s to 2^+ and 4^+ levels suggest $J^{\pi}=2^+$, 3^+, 3^-, or 4^+; but L=(0) in (p,d) suggests $J^{\pi}=0^-$ or 1^-.
3994[@] *3*	(5^-)[f]		X	
3997 *3*			I N	XREF: Others: AD
4000[‡] *40*	10^+,12^+		Y	J$^{\pi}$: L=12+10 in (p,t). There is a 12^+ at 4027 and a possible 8^+ at 3963, which might imply 10^+ for this level.
4000.7 *8*			H	XREF: Others: AD
4005.3 *10*	(4^+)		I N T	XREF: Others: AC

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
				XREF: T(4008). J^{π}: L=(4) in (p,p′); L=5 in (p,d) levels.
4010 *3*			I X	XREF: X(4012).
4027.3 *3*	12^+	202 ns *3*	A G	%IT=100 μ=−1.795 *22*; Q=0.51 *2* J^{π}: 1369.0γ E3 to 9^-; 69.7γ E2 to 10^+. $T_{1/2}$: Weighted average of 200 ns *14* (1971Be37), 198 ns *6* (1979Ma37), 185 ns *15* (1983St15), and 205 ns *4* (1993Bl02). μ: From g-factor=−0.1496 *18* of 1983St15. Others: μ=−1.86 *5* from g-factor=−0.155 *4* (1972Na08). Q: Based on Q(^{200}Pb,12^+)/Q(^{206}Pb,12^+)=1.553 *10* (1979Ma37). Configuration: primary wave function component is $\nu(i^{-2}_{13/2})$.
4035 *3*			I Y	XREF: Y(4036).
4045 *3*	(3^-,4^-)		I N X	J^{π}: From analyzing power in (pol p,a); 3242γ to 2^+; L=(6,7) in (p,p′) would suggest J=6,7, but the level could be a doublet.
4051 *3*			I	XREF: Others: AC
4066 *3*	$(5)^-$		I N X	XREF: Others: AA XREF: N(4059)X(4064). J^{π}: L=(5) in (p,p′); L=5 in (t,p); 3263γ to 2^+ would suggest J≤4, so level may be a doublet.
4076 *3*			I N X	XREF: N(4073)X(4080). J^{π}: 3273γ to 2^+ would suggest J≤4.
4.1×10^3[d] *1*	(0^+)		Z	XREF: Others: AC J^{π}: L=0 in (^{3}He,n); L=(0) in (^{3}He,d).
4102 *6*	2^+	≤1.1 fs	MN Q	B(E2)↑=0.23 *2* XREF: M(4090)N(4107)Q(4107). J^{π}: $J^{\pi}=2^+$ in (e,e′) and L=2 in (p,p′). $T_{1/2}$: From B(E2)↑=0.23 and by assuming only a transition to the 0^+ g.s. B(E2)↑: From (e,e′) in 1968Zi02.
4113[‡] *4*	$(4)^+$		T Y	XREF: Others: AA XREF: aa(4119). J^{π}: L=4 in (p,t); L=(5) in (p,d).
4116.7 *18*	2^+	1.59 fs *16*	HI K	XREF: Others: AA, AE B(E2)↑=0.151 *16* XREF: aa(4119)AE(4111). J^{π}: From $J^{\pi}=2^+$ in (γ,γ′). $T_{1/2}$,B(E2)↑: From (γ,γ′) (2003En07).
4120[@] *3*	(6^-,7^-)[f]		X	
4123[#] *3*	6^+		N	XREF: Others: AA XREF: aa(4119). J^{π}: L=6 in (p,p′).
4140[‡] *4*	(3^-)		N Y	XREF: Others: AC XREF: N(4145)AC(4147). J^{π}: L=(3) in (p,t) and (^{3}He,d).
4145.9 *8*	1	18 fs *13*	K	B(E1)↑=0.000010 *7* J^{π}: From J=1 in (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
4168[#] *4*	(3^-)		N	J^{π}: L=(3) in (p,p′).
4187 *3*			I N	XREF: Others: AD

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
				XREF: ad(4200).
4212 *3*			I	XREF: Others: AD XREF: ad(4200).
4221[@] *3*	$(3^-,4^-)$[f]		X	
4225[‡] *4*	(4^+)		N Y	XREF: N(4219). J^{π}: L=(4) in (p,p′) and (p,t).
4238.3 *11*	(5^-)		I N	XREF: Others: AA, AC J^{π}: L=5 in (t,p); L=(3) in (^{3}He,d). However, L=(2) in (p,p′) would suggest that the level may be a multiplet.
4243[@] *3*	$(7^-,8^-)$[f]		X	
4257[@] *3*	$(5^-,7^-)$[f]		X	
4292[#] *5*	(3^-)		N	XREF: Others: AC XREF: AC(4294). J^{π}: L=(3) in (p,p′).
4317[@] *3*	(2^-)[f]		X	
4320[c]	4^+		M P	XREF: Others: AC B(E4)↑=0.22 *2* J^{π}: E4 excitation in (e,e′); L=4 in (d,d′). B(E4)↑: From (e,e′) reaction (1968Zi02).
4328.6 *5*	1^-	1.38 fs *15*	I K T	B(E1)↑=0.000117 *12* J^{π}: From (γ,γ′). $T_{1/2}$,B(E2)↑: From (γ,γ′) (2003En07).
4340 *3*	(4^+)		I N	XREF: N(4333). J^{π}: L=4 in (p,p′).
4347 *3*	6^+		I N T	XREF: Others: AA XREF: N(4357)AA(4352). J^{π}: L=6 in (p,p′) and (t,p).
4373[@] *3*			X	
4385 *3*	(5^-)		I N T	XREF: Others: AC XREF: N(4391)T(4370)AC(4391). J^{π}: L=(5) in (p,p′); L=(3) in (^{3}He,d).
4410 *3*			I Q	XREF: Q(4413).
4420 *4*			I N	
4427? *3*			I	
4433.4 *10*			I	
4459 *3*	(5^-)		I N	XREF: N(4456). J^{π}: L=(5) in (p,p′).
4469.3 *19*			I	
4474[#] *3*	(5^-)		N U	XREF: U(4470). J^{π}: L=5 in (p,p′); L=(6,7) in (α,^{6}He);
4483.6 *5*	2^+	19 fs *3*	I K Y	B(E2)↑=0.0083 *15* $T_{1/2}$,B(E2)↑: From (γ,γ′) (2003En07).
4496[#] *5*	$(4^-,5^-,6)$		N T	XREF: Others: AC XREF: T(4500)AC(4494). J^{π}: L=(5,6) in (p,p′); L=(3) in (^{3}He,d).
4512 *3*			I	
4525 *3*			I	
4534[#] *4*	5^-		N X	J^{π}: L=5 in (p,p′).
4556[‡] *10*	9^-		Y	J^{π}: L=9 in (p,t).
4563[a] *10*	$(3^-,4^-)$			XREF: Others: AC J^{π}: L=(3) in (^{3}He,d).
4580[#] *3*	$(7^-,8^+)$		N X	XREF: X(4584).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J$^{\pi}$[e]	$T_{1/2}$	XREF	Comments
				J$^{\pi}$: L=8 in (p,p′), but (7$^-$) from analyzing power in (pol p,α).
4595[#] *5*			N	
4604.7 *4*	1$^-$		I K	B(E1)↑=0.000073 *8* J$^{\pi}$: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
4614[#] *7*	(3$^-$)		N T	XREF: T(4620). J$^{\pi}$: L=(3) in (p,p′).
4626[a] *10*	(1,2,3)$^+$			XREF: Others: AC J$^{\pi}$: L=(0,2) in (^{3}He,d).
4648 *4*			I N	XREF: Others: AA XREF: AA(4634).
4657 *3*			I	
4664[#] *4*	5$^-$		N	J$^{\pi}$: L=5 in (p,p′).
4673[@] *3*	(8$^-$)[f]		X	
4675 *3*	(2$^+$,3$^+$)		I	XREF: Others: AC XREF: AC(4680). J$^{\pi}$: L=(2) in (^{3}He,d).
4687[@] *3*	(2$^-$)[f]		X	J$^{\pi}$: From analyzing power in (pol p,α); L=(2) in (^{3}He,d).
4691.5? *4*	1	6.0 fs *13*	K N	B(E1)↑=0.000021 *4* J$^{\pi}$: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
4697 *3*	(3$^-$,4$^-$)		I	XREF: Others: AC XREF: AC(4695). J$^{\pi}$: L=(3) in (^{3}He,d).
4717 *4*	4$^+$,5		I N	XREF: N(4710). J$^{\pi}$: L=(4,5) in (p,p′).
4728[@] *3*	(9$^-$)[f]		X	
4730 *3*			I N	
4742[#] *5*			N X	XREF: Others: AA, AC XREF: X(4748)AA(4739)AC(4746).
4756 *3*			I T	
4758.5 *4*	(10$^+$)		F	J$^{\pi}$: 2100.2γ d to 9$^-$.
4763 *4*			I N	XREF: N(4770).
4778.7 *7*	1	1.3 fs *9*	I K X	B(E1)↑=0.000071 *48* XREF: I(4782). J$^{\pi}$: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
4793[#] *5*	5$^-$		N	J$^{\pi}$: L=5 in (p,p′).
4795 *3*	(3$^-$,4$^-$)		I	XREF: Others: AC J$^{\pi}$: L=(3) in (^{3}He,d).
4809[#] *6*	(5$^-$,6$^+$)		N T	XREF: Others: AA, AD XREF: T(4806)AA(4805)AD(4800). J$^{\pi}$: L=(5,6) in (p,p′).
4818[@] *3*	(10$^+$)[f]		X	
4828[#] *3*	(7$^-$)		N T	J$^{\pi}$: L=(7) in (p,p′).
4833[@] *3*	(5$^-$)[f]		X	
4841.7 *5*	10$^+$		F M	J$^{\pi}$: E10 excitation in (e,e′); 2183.4γ d to 9$^-$.
4848 *4*	1,2		I T	XREF: T(4850).
4860[#] *6*	(6$^+$)		N	J$^{\pi}$: L=(6) in (p,p′).
4862[@] *3*	(3$^-$)[f]		X	

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
4878 *3*	(6^-)[f]		N X	XREF: N(4873).
4889[#] *5*	(3^-)		N	J^{π}: L=(3) in (p,p′).
4901[#] *4*	(7^-)		N Y	J^{π}: L=(7) in (p,t).
4912[@] *3*	(4^+)[f]		X	
4914 *3*	(3^-)		I N	XREF: N(4916). J^{π}: L=(3) in (p,p′).
4925[@] *3*	(5^+)[f]		X	
4933.4 *5*	$(1,2^+)$	12.0 fs *27*		B(E1)↑=9×10^{-6} *2* J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
4939[#] *4*	$(6^+,7^+)$		N X	XREF: X(4941). J^{π}: L=(6) in (p,p′); J^{π}=(7$^+$) from analyzing power in (pol p,α).
4966 *3*	(3^-)		I N	XREF: N(4960). J^{π}: L=(3) in (p,p′).
4972.1 *3*	1^-	0.65 fs *7*	I K	B(E1)↑=0.000163 *17* J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
4979[@] *3*			X	
4986[#] *3*	(3^-)		N	J^{π}: L=(3) in (p,p′).
5007[#] *4*	(4^+)		N	J^{π}: L=(4) in (p,p′).
5011[@] *3*	(9^+)[f]		X	
5025[#] *5*			N	
5038.57 *20*	1^-	0.187 fs *21*	I K N T	B(E1)↑=0.00051 *5* XREF: N(5045). J^{π}: From (γ,γ′), but L=(3) in (p,d), may suggest that this level is a doublet. $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
5040[c]	10^+		M	J^{π}: From E10 excitation in (e,e′).
5069[#] *6*			N T	XREF: T(5050).
5078[@] *3*	(3^+)[f]		X	
5089 *3*	$(3^-,4^+)$		I N T	J^{π}: L=(3,4) in (p,p′), L=(3) in (p,d).
5100[‡]	(7^-)		Y	J^{π}: L=(7) in (p,t).
5111[#] *5*	(4^+)		N	J^{π}: L=(4) in (p,p′).
5112[@] *3*	(6^+)[f]		X	
5126[#] *6*		≤21 fs	MN t	B(E2)↑=0.0038 *7* XREF: M(5124)t(5131). J^{π}: 2$^+$ from E2 excitation in (e,e′), but (5$^-$) from L=(5) in (p,p′). This level may be a doublet. $T_{1/2}$: From B(E2)↑=0.0038 *7* and by assuming no other decay branches. B(E2)↑: From (e,e′) (1987Sc19).
5128.1 *3*	1	1.99 fs *25*	K	B(E1)↑=0.000049 *6* J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
5138[#] *7*	(8^+)		N t X	XREF: Others: AA XREF: t(5131)X(5149). J^{π}: L=(8) in (t,p); analyzing power in (pol p,α).
5169[#] *4*			N T	XREF: T(5164).
5180 *4*			I	
5195 *4*	(3^+)		I N T	XREF: N(5190).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)†	J^{π} e	$T_{1/2}$	XREF	Comments
				J^{π}: L=(3) in (p,d).
5209# *5*			N T	XREF: T(5200).
5217.6 *4*	12^+		FG	J^{π}: 1190γ M1,E2 to 12^+; 459γ to (10^+).
5236.1 *10*			I N	XREF: N(5227).
5247 *4*	2^+		I N	XREF: Others: AA J^{π}: L=2 in (t,p), but L=(3) in (p,p′) may suggest that this level is a doublet.
5261 *5*	3^-		M	B(E3)↑=0.048 *2* J^{π}: E3 excitation in (e,e′). B(E3)↑: From (e,e′) (1987Sc19).
5276 *4*	(1^-)		I n T	XREF: n(5279). J^{π}: L=(0) in (p,d).
5282 *4*			I n	XREF: n(5279).
5296# *6*	$(3^-,2^+)$		MN	XREF: Others: AA XREF: M(5288)AA(5286). J^{π}: From E3,E2 excitation in (e,e′).
5315 *4*	(2^+)	≤14 fs	I MN T XY	XREF: Others: AA B(E2)↑=0.0048 *8* XREF: M(5309)N(5309)T(5325)X(5317)Y(5317)AA(5326). J^{π}: E2 excitation in (e,e′); L=(2) in (t,p); L=(3) in (p,d). $T_{1/2}$: From B(E2)↑=0.0048 and by assuming a single decay branch. B(E2)↑: From (e,e′) (1987Sc19).
5332# *7*	(3^-)		N X	XREF: X(5333). J^{π}: L=(3) in (p,p′).
5350 *4*			I Y	
5365# *6*	(6^+)		N U	XREF: U(5360). J^{π}: L=(6) in (α,^{6}He).
5378.2 *3*	1	1.65 fs *22*	I Y	XREF: Others: AA B(E1)↑=0.000051 *7* XREF: Y(5383)AA(5374). J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
5380 *60*	(9^-)		U	E(level): From (α,^{6}He). J^{π}: L=9 in (α,^{6}He).
5390 *4*			I	
5408.5 *5*	(1)	5.3 fs *12*	K N	B(E1)↑=0.000016 *3* XREF: N(5403). J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
5411‡ *8*	11^-		U Y	XREF: U(5410). J^{π}: L=11 in (p,t).
5415 *4*	(4^+)		I N T	XREF: N(5422)T(5420). J^{π}: L=(4) in (p,p′).
5435# *7*	(3^-)		MN	XREF: Others: AA XREF: M(5448)N(5435)AA(5444). J^{π}: L=(3) in (t,p); E2,E3 excitation in (e,e′).
5459.2 *6*	$(1,2^+)$	1.37 fs *27*	K N	B(E1)↑=0.000030 *7* XREF: N(5452). J^{π}: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
5463# *6*	(3^-)		N	J^{π}: L=(3) in (p,p′).
5471.9 *3*	$1^{(-)}$	0.78 fs *9*	K	B(E1)↑=0.000102 *12*

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
				J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5475 *10*	6^+			XREF: Others: AA E(level): From (t,p). J^{π}: L=6 in (t,p).
5485[#] *4*	(4^+)		N	J^{π}: L=(4) in (p,p′).
5493[c] *10*	2^+	≤15 fs	M t	B(E2)↑=0.0038 *7* XREF: t(5500). J^{π}: E2 excitation in (e,e′). $T_{1/2}$: From B(E2)↑=0.0038 and by assuming no other decay branches. B(E2)↑: From (e,e′) (1987Sc19).
5513 *4*			I N T	XREF: N(5507)T(5500).
5525.2 *3*	1	1.14 fs *14*	I K	B(E1)↑=0.000068 *8* XREF: I(5522). J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5533[#] *6*	(4^+)		N	J^{π}: L=(4) in (p,p′).
5544[#] *7*	1^-		N	XREF: Others: AA XREF: AA(5540). J^{π}: L=1 in (t,p).
5553.9 *5*	$(12)^+$		FG	J^{π}: 1527γ M1 to 12^+. 1994Po20 assigned $J^{\pi}=(11^+)$ in ^{204}Hg(^{9}Be,α3nγ).
5561[#] *8*	(4^+)		MN Y	XREF: Y(5555). J^{π}: L=(4) in (p,p′).
5581.2 *3*	1^-	0.31 fs *4*	I K M	B(E1)↑=0.000242 *27* J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5588[#] *8*	(5^-)		N	J^{π}: L=(5) in (p,p′).
5602 *4*	(2^+)		I N	XREF: Others: AA XREF: N(5599). J^{π}: L=(2) in (t,p).
5610[‡] *60*	(9^-)		Y	J^{π}: L=(9) in (p,t).
5616.2 *3*	$1^{(-)}$	0.201 fs *21*	I K MN	B(E1)↑=0.000348 *39* J^{π}: From interpretation of (γ,γ') and (e,e′) data. $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5637[&] *10*	0^+			XREF: Others: AA J^{π}: L=0 in (t,p).
5640[#] *8*	(3^-)		N	J^{π}: L=(3) in (p,p′).
5653[#] *8*			N T	XREF: T(5650).
5660[‡] *15*	(9^-)		Y	J^{π}: L=(9) in (p,t).
5676[#] *6*	(2^+)		MN	XREF: M(5682). J^{π}: $(1^-,2^+)$ is assigned in (e,e′) to a combination of levels at 5682 *20* and 5692 *20*. Since there is a 1^- at 5694, the 2^+ assignment is likely.
5687[#] *4*	(4^+)		N	XREF: Others: AA J^{π}: L=(4) in (t,p).
5694.2 *4*	1^-	0.48 fs *7*	K M	B(E1)↑=0.000148 *22* XREF: M(5692). J^{π}: From interpretation of (γ,γ') and (e,e′) data. $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5702[#] *8*	(5^-)		N	J^{π}: L=(5) in (p,p′).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
5715[#] *7*	(2$^+$)		MN	J^{π}: (1$^-$,2$^+$) is assigned in (e,e′) to the combination of levels at 5715 *20* and 5732 *20*. Since there is a 1$^-$ level at 5732, the 2$^+$ assignment is likely.
5722.2 *6*	1	1.05 fs *17*	K N	B(E1)↑=0.000044 *7* J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5733.4 *4*	1$^-$	0.32 fs *7*	K M	B(E1)↑=0.00022 *5* J^{π}: From interpretation of (γ,γ') and (e,e′) data. $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5741 *4*			I N t	XREF: N(5747)t(5750).
5762.7 *4*	1$^-$	0.67 fs *8*	K MN t	B(E1)↑=0.000102 *13* XREF: N(5763)t(5750). J^{π}: From interpretation of (γ,γ') and (e,e′) data. $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5775 *4*	(1$^-$)		I N	XREF: Others: AA XREF: AA(5782). J^{π}: L=(1) in (t,p).
5779[#] *8*	(5$^-$)		N	J^{π}: L=(5) in (p,p′).
5783.1 *4*	(13$^+$)		FG	J^{π}: 1755.5γ M1,E2 to 12$^+$.
5796[#] *7*	(4,5)		N	J^{π}: L=(4,5) in (p,p′).
5800[‡]	(8$^+$)		Y	J^{π}: L=(8) in (p,t).
5800.6 *4*	1$^+$	0.27 fs *3*	K M	B(M1)↑=2.23 *27* J^{π}: From interpretation of (γ,γ') and (e,e′) data. $T_{1/2}$,B(M1)↑: From (γ,γ') (2003En07). Other B(M1): 0.72 *15* (1993Al13) and 1.0 *3* (1987Sc19).
5819.2 *5*	1$^-$	1.80 fs *28*	K N	B(E1)↑=0.000037 *6* XREF: N(5823). J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5832 *4*			I	
5846.6 *4*	1$^-$	0.40 fs *7*	I K MN	B(E1)↑=0.000164 *29* XREF: I(5840). J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5858.3 *4*	1$^-$	0.208 fs *27*	K MN	B(E1)↑=0.00031 *4* J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5885[#] *4*			N	XREF: Others: AA XREF: AA(5894).
5903.7 *4*	1$^-$	0.132 fs *21*	K M T	B(E1)↑=0.00049 *6* XREF: T(5900). J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5911[#] *7*	(4$^+$)		N	E(level): author′S value of 5011 keV corrected to 5911 keV. J^{π}: L=(4) transfer in (p,p′).
5940 *8*			I N	XREF: Others: AA XREF: N(5949)AA(5944).
5951.9 *12*	(1,2$^+$)	3.5 fs *12*	K	B(E1)↑=0.000018 *7* J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).
5959.3 *5*	1	1.32 fs *21*	K N	B(E1)↑=0.000047 *8* J^{π}: From (γ,γ'). $T_{1/2}$,B(E1)↑: From (γ,γ') (2003En07).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)†	Jπ e	$T_{1/2}$	XREF	Comments
5974# 5	2		MN	XREF: M(5969). Jπ: M2,E2 excitation in (e,e′).
5994 4			I N	XREF: N(5990).
6000.5 7	(1,2+)	5.1 fs 29	K N T	B(E1)↑=0.000012 7 Jπ: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
6021.6 5	1	0.69 fs 10	K N	B(E1)↑=0.000086 12 XREF: N(6023). Jπ: From (γ,γ′). $T_{1/2}$,B(E1)↑: From (γ,γ′) (2003En07).
6034.2 5	14+		FG	Jπ: 250.8γ M1 to 13+, 816.5γ E2 to 12+.
6040# 5	3−		N	XREF: Others: AA XREF: AA(6045). Jπ: L=3 in (t,p).
6065# 8			N	
6071# 4			N	
6083# 7			N	
6100	(9−)		U	E(level): From (α,^{6}He). Jπ: L=(9) in (α,^{6}He).
6100.3 15	2+	1.4 fs 3	K M	B(E2)↑=0.0185 XREF: M(6103). Jπ: From (γ,γ′) and E2 excitation in (e,e′). $T_{1/2}$: From (γ,γ′) (2003En07). From B(E2)↑ in (e,e′), $T_{1/2}$(6110.7γ)≤1.8 fs.
6110.8 7	2+	0.46 fs 17	K N	XREF: Others: AA XREF: N(6117)AA(6128). Jπ: From (γ,γ′); L=2 in (t,p). $T_{1/2}$: From (γ,γ′) (2003En07).
6146# 7			N	
6154# 5			N	
6167# 6			N	
6167‡ 30	8+		U Y	XREF: U(6180). Jπ: L=8 in (α,^{6}He); L=8 in (p,t).
6181# 7	2+		MN	XREF: Others: AA B(E2)↑=0.0144 7 XREF: M(6187)AA(6176). Jπ: L=2 in (t,p) and E2 excitation in (e,e′). $T_{1/2}$: From B(E2)↑=0.0144, $T_{1/2}$(6181)≤2.2 fs. B(E2)↑: From (e,e′) (1987Sc19).
6197 4			I	
6198# 7	(6+)		N	Jπ: L=(6) in (p,p′).
6200.5 7	1	2.2 fs 4	K	B(E1)↑=0.000025 5 Jπ,B(E1)↑: From (γ,γ′). $T_{1/2}$: From (γ,γ′) (2003En07).
6220	(1+)		K	E(level),Jπ: From (γ,γ′) (1993Al13). B(M1)=0.52 8 from (γ,γ′) in 1993Al13.
6236 4			I N	XREF: N(6229).
6251 4			I	
6260 4			I N	XREF: N(6264).
6284# 8			N	
6302# 7			N	
6314# 6	(2+,3−)		MN	XREF: M(6318).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)†	J$^{\pi}$ e	T$_{1/2}$	XREF	Comments
				J$^{\pi}$: E2,E3 excitation in (e,e′).
6332# 6			N	
6346# 6	2^{+}		MN	B(E2)↑=0.0046 6 J$^{\pi}$: E2 excitation in (e,e′). T$_{1/2}$: From B(E2)↑=0.0046, T$_{1/2}$(6346)≤6.0 fs. B(E2)↑: From (e,e′) (1987Sc19).
6382.6 7	(14^{+})		G N	
6408# 8	8^{+}		N	XREF: Others: AA XREF: AA(6416). J$^{\pi}$: L=8 in (t,p).
6410.6? 6	1	0.70 fs 17	K	B(E1)↑=0.000071 17 J$^{\pi}$: From (γ,γ'). T$_{1/2}$: From (γ,γ') (2003En07).
6418.8? 8	1,2^{+}	1.14 fs 29	K M	B(E1)↑=0.000043 11; B(E2)↑=0.0038 6 XREF: M(6423). J$^{\pi}$: From (γ,γ') and E2 excitation in (e,e′). B(E1)↑: From (γ,γ') (2003En07). B(E2)↑: From (e,e′) (1987Sc19). T$_{1/2}$: From (γ,γ') (2003En07). From B(E2)↑=0.0038, T$_{1/2}$(6420)≤6.8 fs.
6430.7 5	15^{-}		F	J$^{\pi}$: 2403γ E3 to 12^{+}.
6433.8 7	1	1.3 fs 4	K N	B(E1)↑=0.000037 10 J$^{\pi}$,B(E1)↑: From (γ,γ'). T$_{1/2}$: From (γ,γ') (2003En07).
6442.5 9	(1)	2.1 fs 9	K N	B(E1)↑=0.000024 10 XREF: N(6444). J$^{\pi}$,B(E1)↑: From (γ,γ'). T$_{1/2}$: From (γ,γ') (2003En07).
6469.3? 10	1	0.7 fs 6	K N	B(E1)↑=0.00006 5 XREF: N(6459). J$^{\pi}$,B(E1)↑: From (γ,γ'). T$_{1/2}$: From (γ,γ') (2003En07).
6480# 7	(6^{+})		N	XREF: Others: AA XREF: AA(6472). J$^{\pi}$: L=(6) in (t,p).
6496# 9			N	XREF: Others: AA XREF: AA(6502).
6510.7 10	1^{-}	1.9 fs 17	K	B(E1)↑=0.000025 21 J$^{\pi}$,B(E1)↑: From (γ,γ'). T$_{1/2}$: From (γ,γ') (2003En07).
6524# 9	6^{+}		N	XREF: Others: AA J$^{\pi}$: L=6 in (t,p).
6545# 10	2^{-}		MN	B(M2)↑=2.92 27 XREF: M(6541). J$^{\pi}$: M2 excitation in (e,e′). T$_{1/2}$: From B(M2)↑=2.92, T$_{1/2}$(6543)≤73 fs. B(M2)↑: From (e,e′) (1987Sc19).
6565.3 6	(15^{-})		FG	J$^{\pi}$: 531.1γ d to 14^{+}. The J$^{\pi}$ assignment is from ^{204}Hg(^{9}Be,α3nγ).
6565.3+x 6	(17^{-})		G	Additional information 21. J$^{\pi}$: From ^{204}Hg(^{9}Be,α3nγ).
6573# 8	6^{+}		N T	XREF: Others: AA XREF: T(6560)AA(6568). J$^{\pi}$: L=6 in (t,p).

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	$T_{1/2}$	XREF	Comments
6593[#] *9*			N	
6617[#] *8*			N	
6620	(1^+)		K	B(M1)↑=0.73 *20* E(level),J^{π},B(M1)↑: From (γ,γ') (1993Al13).
6634[#] *10*	(8^+)		N	XREF: Others: AA XREF: AA(6626). J^{π}: L=(8) in (t,p).
6655[#] *8*			N	
6689[#] *11*	8^+		N	XREF: Others: AA J^{π}: L=8 in (t,p).
6692 *7*	6^+		N	XREF: Others: AA XREF: AA(6716). J^{π}: L=6 in (t,p).
6723.1 *10*	1^-		K	J^{π}: From interpretation of (γ,γ') reaction data.
6761[#] *5*			N	
6806[#] *6*			N	
6820.6 *7*	1^-		K	J^{π}: From interpretation of (γ,γ') reaction data.
6830[‡] *60*			Y	
6850	(1^+)		K	B(M1)↑=1.0 *4* E(level),J^{π},B(M1)↑: From (γ,γ') (1993Al13).
6851.4+x *10*	(17^-)		FG	J^{π}: The assignment is from ^{204}Hg(^{9}Be,α3nγ).
6946 *15*				XREF: Others: AA
7000			T	
7063.1 *20*	$1^{(-)}$		K	J^{π}: From interpretation of (γ,γ') reaction data.
7081.7 *10*	$1^{(-)}$		K	J^{π}: From interpretation of (γ,γ') reaction data.
7127.1 *20*	(1^-)		K	J^{π}: From interpretation of (γ,γ') reaction data.
7202 *4*	$1^{(-)}$		K	J^{π}: From interpretation of (γ,γ') reaction data.
7311.2 *7*	1^-		K	J^{π}: From interpretation of (γ,γ') reaction data.
7350	≥9		U Y	XREF: Y(7370). J^{π}: L>8 in (p,t).
7423 *4*	1^-		K	J^{π}: From interpretation of (γ,γ') reaction data.
7464.5 *10*	1,2		K	J^{π}: From excitation in (γ,γ').
7487 *4*	(1^-)		K	J^{π}: From interpretation of (γ,γ') reaction data.
7503.3 *9*	(1)		K T	XREF: T(7500). J^{π}: From interpretation of (γ,γ') reaction data.
7543.1 *20*	1^-		K	J^{π}: from interpretation of (γ,γ') reaction data.
7570 *4*	1		K	J^{π}: From interpretation of (γ,γ') reaction data.
7661.9+x *15*	(18^-)		G	J^{π}: 810γ d to (17^-).
7758[&] *15*	(4^+)		T	XREF: Others: AA XREF: T(7750). J^{π}: L=(4) in (t,p).
7759.2+x *18*	(19^+)	7.5 ns *9*	G	$T_{1/2}$: From ^{204}Hg(^{9}Be,α3nγ). J^{π}: 97.3γ E1 to (18^-).
7815.2 *10*			K	XREF: Others: AA XREF: AA(7830). E(level): Probably an unresolved multiplet in (γ,γ') (1980Ch22).
7846.2 *10*	1		K	J^{π}: From interpretation of (γ,γ') reaction data. E(level): Probably an unresolved multiplet (1980Ch22).
7850 *15*	8^+		y	XREF: Others: AA XREF: y(7860). E(level),J^{π}: From (t,p); L=8 in (t,p).
7874 *15*	8^+		y	XREF: Others: AA

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Adopted Levels, Gammas (continued)

^{206}Pb Levels (continued)

E(level)[†]	J^{π}[e]	XREF	Comments
			XREF: y(7860). E(level),J^{π}: From (t,p); L=8 in (t,p).
7881.0 *9*	1	K	J^{π}: From interpretation of (γ,γ') reaction data.
7890.6 *10*	1	K	J^{π}: From interpretation of (γ,γ') reaction data.
7903 *4*	1	K	XREF: Others: AA J^{π}: From interpretation of (γ,γ') reaction data.
7975.7 *10*	1	K	XREF: Others: AA XREF: AA(7983). J^{π}: From interpretation of (γ,γ') reaction data.
8000.2 *10*	1	K	XREF: Others: AA XREF: aa(8017). J^{π}: From interpretation of (γ,γ') reaction data. E(level): Probably an unresolved multiplet in (γ,γ') (1980Ch22).
8040.2 *10*		K	XREF: Others: AA XREF: aa(8017). E(level): Probably an unresolved multiplet in (γ,γ') (1980Ch22).
8080		T	
8081.8+x *20*	[20^+]	G	J^{π}: 323γ to [19^+].
8199[&] *15*			XREF: Others: AA
8226[&] *15*			XREF: Others: AA
8300[b]		T	
8705.6+x *23*	[21^+]	G	J^{π}: 624γ to [20^+].
8800[b]		T	
9150[b]		T	

† From least-squares fit to Eγ, unless otherwise specified.
‡ From ^{208}Pb(p,t).
# From ^{206}Pb(p,p′).
@ From ^{209}Bi(pol p,α).
& From ^{204}Pb(t,p).
a From ^{205}Tl(^{3}He,d).
b From ^{207}Pb(p,d).
c From 20Pb(e,e′).
d From ^{204}Hg(^{3}He,n).
e From deduced γ-ray transition multipolarities and L values in transfer reactions. The J^{π} of the various targets in transfer reactions studies are: 0^+ for ^{204}Pb(t,p), ^{206}Pb(p,p′), ^{208}Pb(p,t) and (α,^{6}He), $1/2^-$ for ^{207}Pb(p,d), $1/2^+$ for ^{205}Tl(^{3}He,d), and $9/2^-$ for ^{209}Bi(pol p,α). See ^{209}Bi(pol p,α) data set for J^{π} arguments for levels populated in this reaction only.
f From analyzing power and measured cross-section in ^{209}Bi(pol p,α).

Adopted Levels, Gammas (continued)

$\gamma(^{206}Pb)$

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.†	δ†	α[c]	$I_{(\gamma+ce)}$	Comments
803.054	2^+	803.06‡ *3*	100‡	0.0	0^+	E2		0.01033		α(K)=0.00804 *12*; α(L)=0.001745 *25*; α(M)=0.000420 *6*; α(N+..)=0.0001290 *18* α(N)=0.0001065 *15*; α(O)=2.06×10^{-5} *3*; α(P)=1.89×10^{-6} *3* B(E2)(W.u.)=2.80 *9* Mult.: α(K)exp=0.00808 *7*, α(L)exp=0.00161 *16* and α(M)exp=0.00062 *15* (1977Dr08); α(K)exp=0.0081 *14* (1999Oh02).
1166.4	0^+	(363.3 *5*)	≤0.24	803.054	2^+					E_γ: From level energy differences. I_γ: From ^{206}Tl β^- decay.
		1166.4 *5*		0.0	0^+	E0			100 *13*	E_γ: From ce measurements in (α,2n) (1977Dr08). Mult.: α(K)exp=0.00808 *7*, α(L)exp=0.00161 *16* and α(M)exp=0.00062 *15* (1977Dr08) in (α,2n); ce(K)/ce(L)=5.61 *38* (1990Tr01) in ^{206}Pb(p,p′γ). $I_{(\gamma+ce)}$: From ^{206}Tl β^- decay. Monopole strength: 0.026 *3* (1972Ta18) and 0.034 *2* (1976Ju03) in ^{206}Pb(p,p′γ).
1340.49	3^+	537.47‡ *3*	100‡	803.054	2^+	M1(+E2)	+0.001 *5*	0.0900		α(K)=0.0738 *11*; α(L)=0.01240 *18*; α(M)=0.00290 *4*; α(N+..)=0.000899 *13* α(N)=0.000737 *11*; α(O)=0.0001469 *21*; α(P)=1.575×10^{-5} *22*
1466.81	2^+	126.42# *6*	3.8# *4*	1340.49	3^+					
		663.75# *3*	100# *1*	803.054	2^+	(M1+E2)	−0.07 *2*	0.0516		α(K)=0.0423 *6*; α(L)=0.00708 *10*; α(M)=0.001653 *24*; α(N+..)=0.000513 *8* α(N)=0.000420 *6*; α(O)=8.38×10^{-5} *12*; α(P)=8.99×10^{-6} *13* Mult.,δ: From ^{206}Pb(n,n′γ).
		1466.78# *4*	30.4# *7*	0.0	0^+	E2		0.00328		α(K)=0.00264 *4*; α(L)=0.000453 *7*; α(M)=0.0001063 *15*; α(N+..)=8.66×10^{-5} *13* α(N)=2.69×10^{-5} *4*; α(O)=5.32×10^{-6} *8*; α(P)=5.43×10^{-7} *8*; α(IPF)=5.38×10^{-5} *8*
1683.99	4^+	343.51‡ *3*	35.4‡ *5*	1340.49	3^+	M1(+E2)	+0.001 *3*	0.297		α(K)=0.243 *4*; α(L)=0.0414 *6*; α(M)=0.00969 *14*; α(N+..)=0.00301 *5* α(N)=0.00246 *4*; α(O)=0.000491 *7*; α(P)=5.26×10^{-5} *8* I_γ: Note that Iγ=42.2 *17* in (n,n′γ). Mult.: α(K)exp=0.23 *3*, α(L)exp=0.033 *4* and α(M)exp=0.0091 *14* (1977Dr08). δ: Other: −0.11 *4* in (n,n′γ).
		880.98‡ *4*	100.0‡ *10*	803.054	2^+	E2		0.00857		α(K)=0.00674 *10*; α(L)=0.001392 *20*; α(M)=0.000333 *5*;

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult. †	δ †	α c	Comments
									α(N+..)=0.0001025 *15* α(N)=8.45×10^{-5} *12*; α(O)=1.643×10^{-5} *23*; α(P)=1.543×10^{-6} *22* Mult.: α(K)exp=0.00713 *7*, α(L)exp=0.00127 *8* (1977Dr08).
1704.45	1$^+$	1704.45# *3*	100#	0.0	0$^+$				
1784.09	2$^+$	317.52# *14*	23# *3*	1466.81	2$^+$				
		617.6# *4*	11# *3*	1166.4	0$^+$				
		980.99# *5*	100# *4*	803.054	2$^+$	M1+E2	0.17 *2*	0.0185	α(K)=0.01524 *23*; α(L)=0.00252 *4*; α(M)=0.000588 *9*; α(N+..)=0.000182 *3* α(N)=0.0001493 *22*; α(O)=2.98×10^{-5} *5*; α(P)=3.20×10^{-6} *5* Mult.,δ: From 1989BeYQ in (n,n′γ).
		1784.7 *11*	5.2 *15*	0.0	0$^+$				E_γ,I_γ: From 1989BeYQ in (n,n′γ).
1997.67	4$^+$	313.66‡ *4*	21‡ *2*	1683.99	4$^+$	M1(+E2)		0.24 *14*	α(K)=0.19 *13*; α(L)=0.043 *11*; α(M)=0.0103 *22*; α(N+..)=0.0032 *7* α(N)=0.0026 *6*; α(O)=0.00051 *13*; α(P)=4.6×10^{-5} *22*
		657.18‡ *4*	100‡ *2*	1340.49	3$^+$	M1(+E2)	<0.44	0.050 *4*	α(K)=0.041 *3*; α(L)=0.0069 *4*; α(M)=0.00162 *9*; α(N+..)=0.00050 *3* α(N)=0.000412 *22*; α(O)=8.2×10^{-5} *5*; α(P)=8.8×10^{-6} *6*
		1194.68‡ *8*	14.5‡ *8*	803.054	2$^+$	E2		0.00474	α(K)=0.00383 *6*; α(L)=0.000697 *10*; α(M)=0.0001646 *23*; α(N+..)=5.42×10^{-5} *8* α(N)=4.17×10^{-5} *6*; α(O)=8.20×10^{-6} *12*; α(P)=8.15×10^{-7} *12*; α(IPF)=3.43×10^{-6} *5* I_γ: From ^{206}Bi ε decay; Iγ=9.8 *23* from (n,n′γ).
2148.97	2$^+$	682.29# *19*	20# *3*	1466.81	2$^+$	(M1+E2)	−0.22 *5*	0.0466 *10*	α(K)=0.0382 *9*; α(L)=0.00642 *13*; α(M)=0.00150 *3*; α(N+..)=0.000465 *9* α(N)=0.000381 *8*; α(O)=7.60×10^{-5} *15*; α(P)=8.13×10^{-6} *17* Mult.,δ: From ^{206}Pb(n,n′γ).
		808.58# *17*	20# *3*	1340.49	3$^+$	(M1+E2)	−0.27 *11*	0.0296 *13*	α(K)=0.0243 *11*; α(L)=0.00406 *16*; α(M)=0.00095 *4*; α(N+..)=0.000294 *12* α(N)=0.000241 *10*; α(O)=4.80×10^{-5} *19*; α(P)=5.14×10^{-6} *22* Mult.,δ: From ^{206}Pb(n,n′γ).
		1345.88# *7*	100# *5*	803.054	2$^+$				
2196.7	(3)$^+$	729.2 *8*	7 *3*	1466.81	2$^+$	(M1+E2)	−0.05 *5*	0.0405 *7*	α(K)=0.0332 *5*; α(L)=0.00554 *9*; α(M)=0.001292 *20*; α(N+..)=0.000401 *6* α(N)=0.000328 *5*; α(O)=6.55×10^{-5} *10*; α(P)=7.04×10^{-6} *11* E_γ,I_γ,Mult.,δ: From ^{206}Pb(n,n′γ).
		856.6 *6*	100	1340.49	3$^+$	(M1+E2)	−0.026 *15*	0.0267	α(K)=0.0220 *4*; α(L)=0.00364 *6*; α(M)=0.000849 *12*; α(N+..)=0.000263 *4* α(N)=0.000216 *3*; α(O)=4.31×10^{-5} *6*; α(P)=4.63×10^{-6} *7*

$^{206}_{82}Pb_{124}$-19

Adopted Levels, Gammas (continued)

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.†	δ†	α[c]	Comments
									E_γ: From $^{205}Pb(n,\gamma)$, E=thermal. I_γ,Mult.,δ: From $^{206}Pb(n,n'\gamma)$.
2196.7	$(3)^+$	1393.8 *8*	78 *5*	803.054	2^+	(M1+E2)	−0.019 *9*	0.00775	α(K)=0.00634 *9*; α(L)=0.001037 *15*; α(M)=0.000241 *4*; α(N+..)=0.0001347 *19* α(N)=6.13×10^{-5} *9*; α(O)=1.224×10^{-5} *18*; α(P)=1.319×10^{-6} *19*; α(IPF)=5.98×10^{-5} *9* E_γ: From $^{205}Pb(n,\gamma)$, E=thermal. I_γ,Mult.,δ: From $^{206}Pb(n,n'\gamma)$.
2200.16	7^-	202.44 *3*	0.11 *1*	1997.67	4^+	[E3]		3.78	α(K)=0.426 *6*; α(L)=2.47 *4*; α(M)=0.678 *10*; α(N+..)=0.205 *3* α(N)=0.1728 *25*; α(O)=0.0311 *5*; α(P)=0.001536 *22* B(E3)(W.u.)=0.28 *3*
		516.18 *4*	100 *1*	1683.99	4^+	E3		0.0887	α(K)=0.0483 *7*; α(L)=0.0302 *5*; α(M)=0.00783 *11*; α(N+..)=0.00239 *4* α(N)=0.00199 *3*; α(O)=0.000371 *6*; α(P)=2.64×10^{-5} *4* B(E3)(W.u.)=0.361 *8* Mult.: α(K)exp=0.0516 *5*, α(L)exp=0.031 *3* and α(M)exp=0.0084 *14* (1977Dr08).
2236.53		1433.47# *13*	100#	803.054	2^+				
2384.15	6^-	183.977 *16*	100	2200.16	7^-	M1(+E2)	−0.013 *25*	1.668	α(K)=1.361 *20*; α(L)=0.234 *4*; α(M)=0.0550 *8*; α(N+..)=0.01705 *24* α(N)=0.01397 *20*; α(O)=0.00278 *4*; α(P)=0.000298 *5* B(M1)(W.u.)=(0.044 *15*); B(E2)(W.u.)=(0.08 *+31−8*)
2391.34?		1588.2 *1*	100	803.054	2^+	M1(+E2),E3			
2423.36	2^+	639.0# *4*	4.9# *13*	1784.09	2^+				
		718.92# *5*	48.5# *20*	1704.45	1^+				
		956.56# *11*	20.6# *16*	1466.81	2^+				
		1082.7# *3*	8.5# *16*	1340.49	3^+				
		1620.30# *6*	100# *4*	803.054	2^+				
2647.80	3^-	964.22 *10*	6.4 *7*	1683.99	4^+	[E1]		0.00267	B(E1)(W.u.)=0.00015 *4* α(K)=0.00223 *4*; α(L)=0.000341 *5*; α(M)=7.86×10^{-5} *11*; α(N+..)=2.42×10^{-5} *4* α(N)=1.99×10^{-5} *3*; α(O)=3.94×10^{-6} *6*; α(P)=4.06×10^{-7} *6*
		1844.49 *10*	100 *4*	803.054	2^+	E1		1.29×10^{-3}	B(E1)(W.u.)=0.00033 *9* α(K)=0.000733 *11*; α(L)=0.0001086 *16*; α(M)=2.50×10^{-5} *4*; α(N+..)=0.000425 *6* α(N)=6.32×10^{-6} *9*; α(O)=1.259×10^{-6} *18*; α(P)=1.333×10^{-7} *19*; α(IPF)=0.000417 *6*

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ †	I_γ †	E_f	J^π_f	Mult. †	δ †	α c	Comments
2658.32	9⁻	458.1@ *2*	100@	2200.16	7⁻	E2@		0.0364	α(K)=0.0251 *4*; α(L)=0.00857 *12*; α(M)=0.00214 *3*; α(N+..)=0.000652 *10* α(N)=0.000542 *8*; α(O)=0.0001020 *15*; α(P)=7.67×10^{-6} *11*
2782.17	5⁻	398.00 *3*	79.6 *7*	2384.15	6⁻	M1(+E2)	0.038 *3*	0.200	α(K)=0.1636 *23*; α(L)=0.0277 *4*; α(M)=0.00649 *9*; α(N+..)=0.00201 *3* α(N)=0.001649 *23*; α(O)=0.000329 *5*; α(P)=3.52×10^{-5} *5*
		581.97 *8*	3.59 *18*	2200.16	7⁻	E2		0.0206	α(K)=0.01518 *22*; α(L)=0.00413 *6*; α(M)=0.001017 *15*; α(N+..)=0.000311 *5* α(N)=0.000257 *4*; α(O)=4.91×10^{-5} *7*; α(P)=4.07×10^{-6} *6* Mult.: Note, that original assignment allowed E3, but placement excludes it.
		784.58 *7*	3.97 *7*	1997.67	4⁺	E1		0.00391	α(K)=0.00326 *5*; α(L)=0.000505 *7*; α(M)=0.0001166 *17*; α(N+..)=3.59×10^{-5} *5* α(N)=2.95×10^{-5} *5*; α(O)=5.83×10^{-6} *9*; α(P)=5.93×10^{-7} *9*
		1098.26 *7*	100 *11*	1683.99	4⁺	E1		0.00212	α(K)=0.001768 *25*; α(L)=0.000268 *4*; α(M)=6.18×10^{-5} *9*; α(N+..)=1.91×10^{-5} *3* α(N)=1.563×10^{-5} *22*; α(O)=3.10×10^{-6} *5*; α(P)=3.22×10^{-7} *5*
2826.31	(4)⁻	44.110 *18*	6.4 *8*	2782.17	5⁻	M1(+E2)	≤0.037	19.3 *4*	α(L)=14.8 *3*; α(M)=3.47 *7*; α(N+..)=1.076 *19* α(N)=0.882 *16*; α(O)=0.176 *3*; α(P)=0.0186 *3*
		434.89 *10*	20.5 *18*	2391.34?					
		442.14 *10*	34 *4*	2384.15	6⁻				
		1142.37 *10*	100 *4*	1683.99	4⁺	E1		0.00198	α(K)=0.001650 *24*; α(L)=0.000250 *4*; α(M)=5.75×10^{-5} *8*; α(N+..)=2.13×10^{-5} *3* α(N)=1.455×10^{-5} *21*; α(O)=2.89×10^{-6} *4*; α(P)=3.00×10^{-7} *5*; α(IPF)=3.57×10^{-6} *6*
		2022.80 *20*	11.6 *18*	803.054	2⁺	M2,E3		0.0055 *19*	α(K)=0.0043 *15*; α(L)=0.00075 *24*; α(M)=0.00018 *6*; α(N+..)=0.00024 *5* α(N)=4.5×10^{-5} *14*; α(O)=9.E−6 *3*; α(P)=9.E−7 *4*; α(IPF)=0.000187 *25*
2864.55	7⁻	480.38 *10*	91 *9*	2384.15	6⁻	M1		0.1211	α(K)=0.0992 *14*; α(L)=0.01674 *24*; α(M)=0.00391 *6*; α(N+..)=0.001214 *17* α(N)=0.000994 *14*; α(O)=0.000198 *3*; α(P)=2.13×10^{-5} *3*
		664.17 *10*	100 *5*	2200.16	7⁻	M1		0.0517	α(K)=0.0424 *6*; α(L)=0.00709 *10*; α(M)=0.001655 *24*; α(N+..)=0.000513 *8* α(N)=0.000420 *6*; α(O)=8.39×10^{-5} *12*; α(P)=9.00×10^{-6} *13*
		1180.70 *10*	68 *7*	1683.99	4⁺	[E3]		0.01068	α(K)=0.00815 *12*; α(L)=0.00192 *3*; α(M)=0.000468 *7*; α(N+..)=0.0001449 *21* α(N)=0.0001189 *17*; α(O)=2.31×10^{-5} *4*; α(P)=2.17×10^{-6} *3*; α(IPF)=7.28×10^{-7} *11*
2929.09	4⁺	1588.59# *8*	100#	1340.49	3⁺	M1		0.00568	α(K)=0.00456 *7*; α(L)=0.000742 *11*; α(M)=0.0001727 *25*;

Adopted Levels, Gammas (continued)

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ †	I_γ †	E_f	J^π_f	Mult. †	δ †	α c	Comments
									α(N+..)=0.000212 *3* α(N)=4.39×10^{-5} *7*; α(O)=8.76×10^{-6} *13*; α(P)=9.45×10^{-7} *14*; α(IPF)=0.0001584 *23* Mult.: From ^{204}Hg(α,2nγ).
2939.60	6$^-$	157.504 *28*	22.6 *25*	2782.17	5$^-$	M1(+E2)	<0.14	2.57	α(K)=2.09 *4*; α(L)=0.366 *6*; α(M)=0.0859 *14*; α(N+..)=0.0266 *4* α(N)=0.0218 *4*; α(O)=0.00435 *7*; α(P)=0.000461 *7*
		555.30 *10*	23.9 *25*	2384.15	6$^-$				
		739.24 *8*	100 *5*	2200.16	7$^-$	M1(+E2)		0.026 *14*	α(K)=0.021 *12*; α(L)=0.0038 *16*; α(M)=0.0009 *4*; α(N+..)=0.00027 *12* α(N)=0.00022 *10*; α(O)=4.4×10^{-5} *19*; α(P)=4.5×10^{-6} *23*
2954.5	8$^-$	296.2@ *4*	68@ *8*	2658.32	9$^-$	M1@		0.445	α(K)=0.364 *6*; α(L)=0.0622 *9*; α(M)=0.01455 *21*; α(N+..)=0.00452 *7* α(N)=0.00370 *6*; α(O)=0.000737 *11*; α(P)=7.89×10^{-5} *12*
		754.4@ *4*	100@ *8*	2200.16	7$^-$	M1@		0.0371	α(K)=0.0305 *5*; α(L)=0.00507 *8*; α(M)=0.001184 *17*; α(N+..)=0.000367 *6* α(N)=0.000301 *5*; α(O)=6.00×10^{-5} *9*; α(P)=6.45×10^{-6} *9*
3016.43	5$^-$	190.04 *3*		2826.31	(4)$^-$				
		234.242 *23*	5.4 *3*	2782.17	5$^-$	M1(+E2)	<0.19	0.839 *16*	α(K)=0.684 *14*; α(L)=0.1187 *17*; α(M)=0.0279 *4*; α(N+..)=0.00864 *13* α(N)=0.00708 *10*; α(O)=0.001410 *20*; α(P)=0.000150 *3*
		632.25 *5*	100 *1*	2384.15	6$^-$	M1+E2	−0.12 *3*	0.0582	α(K)=0.0477 *8*; α(L)=0.00800 *12*; α(M)=0.00187 *3*; α(N+..)=0.000580 *9* α(N)=0.000475 *7*; α(O)=9.47×10^{-5} *14*; α(P)=1.015×10^{-5} *16*
		816.25 *10*		2200.16	7$^-$				
		1332.33 *10*	6.3 *3*	1683.99	4$^+$	E1		1.58×10^{-3}	α(K)=0.001264 *18*; α(L)=0.000190 *3*; α(M)=4.37×10^{-5} *7*; α(N+..)=8.13×10^{-5} *12* α(N)=1.105×10^{-5} *16*; α(O)=2.20×10^{-6} *3*; α(P)=2.30×10^{-7} *4*; α(IPF)=6.78×10^{-5} *10*
3122.38	(3$^+$)	1655.5# *6*	28# *7*	1466.81	2$^+$				
		2319.32# *17*	100# *10*	803.054	2$^+$				
3194.3	(1,2)	2391.0# *4*	65# *15*	803.054	2$^+$				
		3194.6# *5*	100# *19*	0.0	0$^+$				
3225.40	(5,6,7)$^-$	360.82 *6*		2864.55	7$^-$				
		443.20 *7*		2782.17	5$^-$				

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[†]	δ[†]	α[c]	Comments
3225.40	(5,6,7)$^-$	841.28 *7*	100 *5*	2384.15	6$^-$	M1(+E2)		0.019 *10*	α(K)=0.015 *8*; α(L)=0.0027 *12*; α(M)=0.0006 *3*; α(N+..)=0.00020 *8* α(N)=0.00016 *7*; α(O)=3.2×10^{-5} *14*; α(P)=3.3×10^{-6} *16* Mult.: Original assignment allowed E3, but placement excluded it.
		1025.30 *10*	22.9 *21*	2200.16	7$^-$				
3244.24	4$^-$	227.65 *5*		3016.43	5$^-$				
		1047.6[a]	18[a] *9*	2196.7	(3)$^+$				
		1246.46 *10*	22.2 *21*	1997.67	4$^+$	E1		1.73×10^{-3}	α(K)=0.001418 *20*; α(L)=0.000213 *3*; α(M)=4.92×10^{-5} *7*; α(N+..)=4.64×10^{-5} *7* α(N)=1.244×10^{-5} *18*; α(O)=2.47×10^{-6} *4*; α(P)=2.58×10^{-7} *4*; α(IPF)=3.13×10^{-5} *5*
		1560.30 *8*	100 *5*	1683.99	4$^+$				
		1903.56 *10*	92 *4*	1340.49	3$^+$	E1		1.29×10^{-3}	α(K)=0.000697 *10*; α(L)=0.0001030 *15*; α(M)=2.37×10^{-5} *4*; α(N+..)=0.000468 *7* α(N)=5.99×10^{-6} *9*; α(O)=1.194×10^{-6} *17*; α(P)=1.265×10^{-7} *18*; α(IPF)=0.000460 *7*
		2439.0 *4*	1.3 *5*	803.054	2$^+$				
3260.4	6$^+$	1576.4[@] *5*	100[@]	1683.99	4$^+$	E2[@]		0.00292	α(K)=0.00232 *4*; α(L)=0.000392 *6*; α(M)=9.16×10^{-5} *13*; α(N+..)=0.0001171 *17* α(N)=2.32×10^{-5} *4*; α(O)=4.60×10^{-6} *7*; α(P)=4.72×10^{-7} *7*; α(IPF)=8.88×10^{-5} *13*
3279.21	5$^-$	34.954 *18*	0.11 *1*	3244.24	4$^-$	M1(+E2)	<0.032	38.4 *7*	α(L)=29.4 *6*; α(M)=6.91 *14*; α(N+..)=2.14 *4* α(N)=1.76 *4*; α(O)=0.349 *7*; α(P)=0.0370 *6*
		262.70 *3*	19.3 *3*	3016.43	5$^-$	M1(+E2)	<0.11	0.616	α(K)=0.503 *8*; α(L)=0.0864 *13*; α(M)=0.0203 *3*; α(N+..)=0.00628 *9* α(N)=0.00515 *8*; α(O)=0.001026 *15*; α(P)=0.0001095 *16*
		339.85 *6*		2939.60	6$^-$				
		452.84 *8*	1.00 *5*	2826.31	(4)$^-$				
		497.06 *4*	97.8 *10*	2782.17	5$^-$	M1(+E2)	−0.090 *20*	0.1100	α(K)=0.0901 *13*; α(L)=0.01521 *22*; α(M)=0.00356 *5*; α(N+..)=0.001103 *16* α(N)=0.000903 *13*; α(O)=0.000180 *3*; α(P)=1.93×10^{-5} *3*
		895.12 *5*	100.0 *10*	2384.15	6$^-$	M1(+E2)	−0.030 *3*	0.0239	α(K)=0.0196 *3*; α(L)=0.00325 *5*; α(M)=0.000757 *11*; α(N+..)=0.000235 *4* α(N)=0.000192 *3*; α(O)=3.84×10^{-5} *6*; α(P)=4.13×10^{-6} *6*
		1281.81 *10*	0.42 *4*	1997.67	4$^+$	E1		1.66×10^{-3}	α(K)=0.001351 *19*; α(L)=0.000203 *3*;

$^{206}_{82}Pb_{124}$-23

γ(^{206}Pb) (continued)

E$_i$(level)	J$^\pi_i$	E$_\gamma$†	I$_\gamma$†	E$_f$	J$^\pi_f$	Mult.†	δ†	α^c	Comments
									α(M)=4.68×10^{-5} 7; α(N+..)=5.94×10^{-5} 9 α(N)=1.184×10^{-5} 17; α(O)=2.35×10^{-6} 4; α(P)=2.46×10^{-7} 4; α(IPF)=4.49×10^{-5} 7
3279.21	5$^-$	1595.27 8	32.0 4	1683.99	4$^+$	E1		1.35×10^{-3}	α(K)=0.000933 13; α(L)=0.0001389 20; α(M)=3.20×10^{-5} 5; α(N+..)=0.000246 4 α(N)=8.09×10^{-6} 12; α(O)=1.610×10^{-6} 23; α(P)=1.697×10^{-7} 24; α(IPF)=0.000236 4
		2476.7 2	0.09 1	803.054	2$^+$				
3402.65	5$^-$	123.415 30	0.07 1	3279.21	5$^-$	M1(+E2)	<0.13	5.15	α(K)=4.18 7; α(L)=0.738 13; α(M)=0.174 4; α(N+..)=0.0538 10 α(N)=0.0441 9; α(O)=0.00877 16; α(P)=0.000927 13
		158.386 21	0.26 2	3244.24	4$^-$	M1(+E2)	<0.14	2.53	α(K)=2.06 4; α(L)=0.360 6; α(M)=0.0845 13; α(N+..)=0.0262 4 α(N)=0.0215 4; α(O)=0.00428 7; α(P)=0.000453 7
		386.20 7	1.62 3	3016.43	5$^-$	M1(+E2)	<0.35	0.208 10	α(K)=0.170 8; α(L)=0.0293 10; α(M)=0.00687 20; α(N+..)=0.00213 7 α(N)=0.00175 6; α(O)=0.000347 11; α(P)=3.68×10^{-5} 15
		462.92 10	0.17 2	2939.60	6$^-$				
		576.36 10	0.35 3	2826.31	(4)$^-$				
		620.48 5	18.1 2	2782.17	5$^-$	M1(+E2)	−0.33 29	0.057 8	α(K)=0.047 7; α(L)=0.0080 9; α(M)=0.00187 21; α(N+..)=0.00058 7 α(N)=0.00047 6; α(O)=9.5×10^{-5} 11; α(P)=1.01×10^{-5} 14
		754.96 7	1.66 3	2647.80	3$^-$	E2		0.01174	α(K)=0.00905 13; α(L)=0.00204 3; α(M)=0.000493 7; α(N+..)=0.0001512 22 α(N)=0.0001249 18; α(O)=2.41×10^{-5} 4; α(P)=2.18×10^{-6} 3
		1018.63 8	23.8 3	2384.15	6$^-$	M1(+E2)	−0.018 3	0.01713	α(K)=0.01409 20; α(L)=0.00232 4; α(M)=0.000542 8; α(N+..)=0.0001680 24 α(N)=0.0001376 20; α(O)=2.75×10^{-5} 4; α(P)=2.96×10^{-6} 5
		1202.58 10	0.33 2	2200.16	7$^-$	E2		0.00469	α(K)=0.00378 6; α(L)=0.000687 10; α(M)=0.0001623 23; α(N+..)=5.41×10^{-5} 8 α(N)=4.11×10^{-5} 6; α(O)=8.09×10^{-6} 12; α(P)=8.04×10^{-7} 12; α(IPF)=4.06×10^{-6} 6
		1405.01 8	4.50 8	1997.67	4$^+$	E1		1.49×10^{-3}	α(K)=0.001155 17; α(L)=0.0001729 25; α(M)=3.98×10^{-5} 6; α(N+..)=0.0001213 17 α(N)=1.007×10^{-5} 14; α(O)=2.00×10^{-6} 3; α(P)=2.10×10^{-7} 3; α(IPF)=0.0001091 16
		1718.70 7	100.0 11	1683.99	4$^+$	E1		1.31×10^{-3}	α(K)=0.000824 12; α(L)=0.0001224 18; α(M)=2.81×10^{-5} 4; α(N+..)=0.000335 5 α(N)=7.12×10^{-6} 10; α(O)=1.418×10^{-6} 20; α(P)=1.498×10^{-7} 21; α(IPF)=0.000326 5

$^{206}_{82}$Pb$_{124}$-24

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[†]	α[c]	Comments
3402.65	5^-	2599.6 *2*	0.41 *3*	803.054	2^+	E3	0.00248	α(K)=0.001731 *25*; α(L)=0.000297 *5*; α(M)=6.95×10^{-5} *10*; α(N+..)=0.000387 *6* α(N)=1.765×10^{-5} *25*; α(O)=3.50×10^{-6} *5*; α(P)=3.66×10^{-7} *6*; α(IPF)=0.000365 *6* Mult.: Measured M1,E3, but the level scheme requires E3.
3453.4	4^+	2650.3[#] *7*	100[#]	803.054	2^+			
3484.8		1699.5[#] *9*	54[#] *14*	1784.09	2^+			
		2682.0[#] *4*	100[#] *18*	803.054	2^+			
3516	(4^+)	2713[a] *3*	100[a]	803.054	2^+			
3562.87	5^-	283.75 *6*		3279.21	5^-			
		780.66 *10*		2782.17	5^-			
		915.0 *1*	1.53 *15*	2647.80	3^-			
		1565.34 *8*	15.1 *7*	1997.67	4^+	E1	1.36×10^{-3}	α(K)=0.000963 *14*; α(L)=0.0001435 *20*; α(M)=3.30×10^{-5} *5*; α(N+..)=0.000225 *4* α(N)=8.35×10^{-6} *12*; α(O)=1.663×10^{-6} *24*; α(P)=1.751×10^{-7} *25*; α(IPF)=0.000215 *3* I_γ: 42 *14* in (n,n′γ).
		1878.65 *8*	100 *2*	1683.99	4^+	E1	1.29×10^{-3}	α(K)=0.000712 *10*; α(L)=0.0001053 *15*; α(M)=2.42×10^{-5} *4*; α(N+..)=0.000450 *7* α(N)=6.13×10^{-6} *9*; α(O)=1.221×10^{-6} *17*; α(P)=1.293×10^{-7} *19*; α(IPF)=0.000442 *7*
		2759.6 *10*	0.69 *10*	803.054	2^+			
3606.2	2^+	957.5[ae] *9*	64[a] *13*	2647.80	3^-			
		1822.1[#] *3*	100[#]	1784.09	2^+			
3682.9		1899.6[ae] *12*	100[a] *39*	1784.09	2^+			
		2880[ae] *3*	44[a] *22*	803.054	2^+			
3743.7	1^-	2041[ae] *2*	48[a] *13*	1704.45	1^+			
		2941[ae] *3*	16[ba] *6*	803.054	2^+			
		3743.7[&] *7*	100[&] *10*	0.0	0^+			
3776.1	5^-	515.7[a]	100[a] *25*	3260.4	6^+			
		1778.4[ae] *11*	10[a] *5*	1997.67	4^+	E1	1.30×10^{-3}	α(K)=0.000779 *11*; α(L)=0.0001155 *17*; α(M)=2.65×10^{-5} *4*; α(N+..)=0.000378 *6* α(N)=6.72×10^{-6} *10*; α(O)=1.339×10^{-6} *19*; α(P)=1.416×10^{-7} *20*; α(IPF)=0.000369 *6* Mult.: From ^{204}Hg(α,2nγ), incorrectly given as M1.
		2092.1 *12*	69[b] *19*	1683.99	4^+			
3778.5		1995.5[ae] *12*	54[ba] *26*	1784.09	2^+			
		2314[ae] *2*	100[a] *26*	1466.81	2^+			

$^{206}_{82}Pb_{124}$-25

$\gamma(^{206}$Pb) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.[†]	α[c]	Comments
3778.5		2977[ae] 3	12[a] 8	803.054	2^+			
3943.7		1520.0[ae] 11	100[a] 37	2423.36	2^+			
		2605[ae] 3	78[a] 48	1340.49	3^+			
		3141[ae] 3	≤97[ba]	803.054	2^+			
3957.6	10^+	1299.1[@] 3	100[@]	2658.32	9^-	E1[@]	1.63×10^{-3}	α(K)=0.001320 19; α(L)=0.000198 3; α(M)=4.57×10^{-5} 7; α(N+..)=6.62×10^{-5} 10 α(N)=1.156×10^{-5} 17; α(O)=2.30×10^{-6} 4; α(P)=2.40×10^{-7} 4; α(IPF)=5.21×10^{-5} 8
		1757.7[@] 5	≤3[@]	2200.16	7^-	(E3)[@]	0.00471	α(K)=0.00370 6; α(L)=0.000709 10; α(M)=0.0001686 24; α(N+..)=0.0001367 20 α(N)=4.28×10^{-5} 6; α(O)=8.43×10^{-6} 12; α(P)=8.49×10^{-7} 12; α(IPF)=8.46×10^{-5} 12
3963	4^+	3963[a] 3	100[a]	0.0	0^+			E_γ: Note, 3963γ to 0^+ would imply M4 multipolarity.
3971		3168[ae] 3	100[a] 14	803.054	2^+			
		3971[a] 3	55[ba] 17	0.0	0^+			
3989		2305[ae] 2	100[a] 27	1683.99	4^+			
		3186[a] 3	59[a] 14	803.054	2^+			
3997		3997[a] 3	100[a]	0.0	0^+			
4000.7		1764.2[#] 7	100[#]	2236.53				
4005.3	(4^+)	1075.9[ae] 9	88[a] 47	2929.09	4^+			
		2008.0[ae] 12	100[a] 26	1997.67	4^+			
4010		3207[a] 3	100[a]	803.054	2^+			
4027.3	12^+	69.7[@] 5	2.8[@] 4	3957.6	10^+	E2[@]	32.2 13	α(L)=24.0 9; α(M)=6.32 24; α(N+..)=1.89 8 α(N)=1.59 6; α(O)=0.283 11; α(P)=0.0103 4 B(E2)(W.u.)=0.34 6 Mult.: ce(L)/ce(M) exp=3.5 7 (1977Dr08).
		1369.0[@] 3	100[@] 4	2658.32	9^-	E3[@]	0.00778	α(K)=0.00605 9; α(L)=0.001303 19; α(M)=0.000314 5; α(N+..)=0.0001083 16 α(N)=7.98×10^{-5} 12; α(O)=1.559×10^{-5} 22; α(P)=1.512×10^{-6} 22; α(IPF)=1.142×10^{-5} 17 B(E3)(W.u.)=0.137 12 Mult.: α(K)exp=0.0055 11, α(L)exp=0.0013 3 and α(M)exp=0.00050 9 (1977Dr08).
4035		3232 3	100	803.054	2^+			
4045	$(3^-,4^-)$	3242[a] 3	100[a]	803.054	2^+			
4051		4051[a] 3	100[a]	0.0	0^+			
4066	$(5)^-$	3263[a] 3	100[a]	803.054	2^+			
4076		3273[a] 3	100[a]	803.054	2^+			

$^{206}_{82}$Pb$_{124}$-26

γ(^{206}Pb) (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Comments
4116.7	2^+	995.1[ae] *9*	24[a] *8*	3122.38	(3^+)	
		2775.0[ae] *14*	71[ba] *16*	1340.49	3^+	
		4116.7[a] *18*	100[a] *8*	0.0	0^+	E_γ: 4115.9 keV *6* in ^{205}Pb(n,γ), E=thermal; 4116.0 *7* in (γ,γ').
4145.9	1	4145.9[&] *8*	100[&]	0.0	0^+	
4187		2503[ae] *3*	100[a]	1683.99	4^+	
4212		4212[a] *3*	100[a]	0.0	0^+	
4238.3	(5^-)	1854.1[a] *11*	100[a]	2384.15	6^-	
4328.6	1^-	2627[ae] *3*	66[a] *48*	1704.45	1^+	
		4328.6[&] *5*	100[&]	0.0	0^+	E_γ: 4330.7 *19* in (n,n′γ).
4340	(4^+)	4340[a] *3*	100[a]	0.0	0^+	
4347	6^+	3544[a] *3*	100[a]	803.054	2^+	
4385	(5^-)	2701[ae] *3*	100[a]	1683.99	4^+	
4410		2627[dae] *3*	≤40[da]	1784.09	2^+	
		3607[a] *3*	100[ba] *18*	803.054	2^+	
4420		2717[ae] *3*	100[ba] *33*	1704.45	1^+	
		3079[dae] *3*	≤84[da]	1340.49	3^+	
		4420[a] *4*	18[a] *7*	0.0	0^+	
4427?		3624[ae] *3*	100[a]	803.054	2^+	
4433.4		1239.0[a] *10*	100[ba] *29*	3194.3	(1,2)	
		3631[a] *3*	92[a] *46*	803.054	2^+	
		4434[a] *4*	42[a] *21*	0.0	0^+	
4459	(5^-)	3656[a] *3*	25[a] *13*	803.054	2^+	
4469.3		2235[ae] *2*	100[ba] *41*	2236.53		
		4469.2[a] *19*	38[a] *9*	0.0	0^+	
4483.6	2^+	4483.5[&] *5*	100[&]	0.0	0^+	E_γ: 4482.9 *19* from (n,n′γ).
4512		3709[a] *3*	100[a]	803.054	2^+	
4525		3722[a] *3*	100[a]	803.054	2^+	
4604.7	1^-	3141[ae] *3*	100[ba] *24*	1466.81	2^+	
		4604.6 *4*	38 *14*	0.0	0^+	E_γ: 4606 *4* in (n,n′γ). I_γ: From (n,n′γ).
4648		3307[ae] *3*	100[ba] *50*	1340.49	3^+	
		4648[a] *4*	27[a] *13*	0.0	0^+	
4657		2460[ae] *3*	100[ba] *48*	2196.7	$(3)^+$	
		3854[a] *3*	74[ba] *13*	803.054	2^+	
4675	$(2^+,3^+)$	3872[a] *3*	100[a]	803.054	2^+	
4691.5?	1	4691.4[&] *4*	100[&]	0.0	0^+	
4697	$(3^-,4^-)$	2385[ae] *2*	100[a] *64*	2314	0^+	
		3894[a] *3*	100[a] *21*	803.054	2^+	

$^{206}_{82}$Pb$_{124}$-27

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[†]	α[c]	Comments
4717	4^+,5	4717[a] *4*	100[a]	0.0	0^+			
4730		2495[ae] *3*	20[ba] *14*	2236.53				
		2583[ae] *3*	100[ba] *39*	2148.97	2^+			
		3927[a] *3*	45[ba] *16*	803.054	2^+			
4756		3953[a] *3*	100[a]	803.054	2^+			
4758.5	(10^+)	2100.2[@] *4*	100[@]	2658.32	9^-	D[@]		
4763		4763[a] *4*	100[a]	0.0	0^+			
4778.7	1	3079[de] *3*	[d]	1704.45	1^+			E_γ: From (n,n′γ).
		3975.6[&]	18[&] *18*	803.054	2^+			
		4778.6[&] *10*	100[&] *18*	0.0	0^+			E_γ: 4782 *4* in (n,n′γ).
4795	$(3^-,4^-)$	3992[a] *3*	100[a]	803.054	2^+			
4841.7	10^+	2183.4[@] *4*	100[@]	2658.32	9^-	D[@]		
4848	1,2	4848[a] *4*	100[a]	0.0	0^+			
4914	(3^-)	4111[ae] *3*	100[a]	803.054	2^+			
4933.4	$(1,2^+)$	4933.3[&] *5*	100[&]	0.0	0^+			
4966	(3^-)	4163[ae] *3*	100[a]	803.054	2^+			
4972.1	1^-	4972.0[&] *3*	100[&]	0.0	0^+			E_γ: 4973 *1* in (n,n′γ).
5038.57	1^-	4235.5[&]	16[&] *16*	803.054	2^+			
		5038.5 *2*	100 *16*	0.0	0^+			E_γ: 5042γ in (n,n′γ).
5089	$(3^-,4^+)$	4286[a] *3*	[a]	803.054	2^+			
5128.1	1	5128.0[&] *3*	100[&]	0.0	0^+			
5180		5180[a] *4*	100[a]	0.0	0^+			
5195	(3^+)	5195[a] *4*	100[a]	0.0	0^+			
5217.6	12^+	459.1[@] *5*	12[@] *4*	4758.5	(10^+)	[E2][@]		
		1190.3[@] *4*	100[@] *16*	4027.3	12^+	M1,E2[@]	0.008 *4*	α(K)=0.007 *3*; α(L)=0.0011 *5*; α(M)=0.00026 *10*; α(N+..)=9.E−5 *4* α(N)=6.7×10^{-5} *25*; α(O)=1.3×10^{-5} *5*; α(P)=1.4×10^{-6} *6*; α(IPF)=4.4×10^{-6} *13*
5236.1		5236[a]	100[a]	0.0	0^+			
5247	2^+	5247[ae] *4*	100[a]	0.0	0^+			
5276	(1^-)	4473[a] *4*	100[a]	803.054	2^+			
5282		5282[ae] *4*	100[a]	0.0	0^+			
5315	(2^+)	5315[a] *4*	100[a]	0.0	0^+			
5350		5350[ae] *4*	100[a]	0.0	0^+			
5378.2	1	4576 *4*		803.054	2^+			E_γ: From (n,n′γ).
		5378.1[&] *3*	100[&]	0.0	0^+			
5390		5390[a] *4*	100[a]	0.0	0^+			

$^{206}_{82}Pb_{124}$-28

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[†]	α[c]	Comments
5408.5	(1)	5408.4[&] *5*	100[&]	0.0	0^+			
5415	(4^+)	4612[ae] *4*	100[a]	803.054	2^+			
5459.2	$(1,2^+)$	4656.1[&]	82[&] *27*	803.054	2^+			
		5459.1[&] *6*	100[&] *27*	0.0	0^+			
5471.9	$1^{(-)}$	5471.8[&] *3*	100[&]	0.0	0^+			
5513		5513[ae] *4*	100[a]	0.0	0^+			
5525.2	1	5525.1[&] *3*	100[&]	0.0	0^+			E_γ: 5522 *4* in (n,n′γ).
5553.9	$(12)^+$	336.2[@] *4*	100[@] *25*	5217.6	12^+	M1,E2[@]	0.20 *12*	α(K)=0.15 *11*; α(L)=0.034 *10*; α(M)=0.0083 *20*; α(N+..)=0.0026 *7* α(N)=0.0021 *5*; α(O)=0.00041 *12*; α(P)=3.7×10^{-5} *19*
		1526.6[@] *5*	67[@] *25*	4027.3	12^+	M1[@]	0.00623	α(K)=0.00504 *7*; α(L)=0.000822 *12*; α(M)=0.000191 *3*; α(N+..)=0.000182 *3* α(N)=4.86×10^{-5} *7*; α(O)=9.70×10^{-6} *14*; α(P)=1.046×10^{-6} *15*; α(IPF)=0.0001232 *18* Mult.: From ^{204}Hg(^{9}Be,α3nγ).
5581.2	1^-	5581.1[&] *3*	100[&]	0.0	0^+			I_γ: Possible branch to the 2^+ state coincides with the 4779γ (2003En07). E_γ: 5581 *1* from (n,n′γ).
5602	(2^+)	4799[a] *4*	100[a]	803.054	2^+			
5616.2	$1^{(-)}$	4813.1	18 *18*	803.054	2^+			
		5616.1 *3*	100 *18*	0.0	0^+			E_γ: 5616 *1* in (n,n′γ).
5694.2	1^-	5694.1[&] *4*	100[&]	0.0	0^+			
5722.2	1	4919.1[&]	39[&] *28*	803.054	2^+			
		5722.1[&] *6*	100[&] *28*	0.0	0^+			
5733.4	1^-	5733.3[&] *4*	100[&]	0.0	0^+			
5741		4938[a] *4*	100[a]	803.054	2^+			
5762.7	1^-	5762.6[&] *4*	100[&]	0.0	0^+			
5775	(1^-)	4972[ae] *4*	100[a]	803.054	2^+			
5783.1	(13^+)	229.4	9.0 *15*	5553.9	$(12)^+$	(E2,M1)	0.6 *4*	α(K)=0.4 *3*; α(L)=0.118 *9*; α(M)=0.0290 *7*; α(N+..)=0.0089 *4* α(N)=0.00735 *20*; α(O)=0.00140 *10*; α(P)=0.00012 *5* E_γ,I_γ,Mult.: From ^{204}Hg(^{9}Be,α3nγ).
		565.5 *5*	20 *7*	5217.6	12^+			E_γ,I_γ: From ^{204}Hg(α,2nγ).
		1755.5[@] *4*	100[@] *20*	4027.3	12^+	M1,E2[@]	0.0035 *11*	α(K)=0.0027 *9*; α(L)=0.00045 *13*; α(M)=0.00010 *3*; α(N+..)=0.00024 *7* α(N)=2.6×10^{-5} *8*; α(O)=5.2×10^{-6} *16*; α(P)=5.6×10^{-7} *18*; α(IPF)=0.00021 *6*
5800.6	1^+	5800.5[&] *4*	100[&]	0.0	0^+			
5819.2	1^-	5819.1[&] *5*	100[&]	0.0	0^+			
5832		5029[ae] *4*	100[a]	803.054	2^+			
5846.6	1^-	5846.5[&] *4*	100[&]	0.0	0^+			E_γ: 5847 *2* in (n,n′γ).
5858.3	1^-	5858.2[&] *4*	100[&]	0.0	0^+			

$^{206}_{82}Pb_{124}$-29

$\gamma(^{206}Pb)$ (continued)

E_i(level)	J^π_i	E_γ[†]	I_γ[†]	E_f	J^π_f	Mult.[†]	α[c]	Comments
5903.7	1^-	5903.6[&] *4*	100[&]	0.0	0^+			
5940		5936[ae] *4*	100[a]	0.0	0^+			
5951.9	$(1,2^+)$	5951.8[&] *12*	100[&]	0.0	0^+			
5959.3	1	5959.2[&] *5*	100[&]	0.0	0^+			
5994		5994[a] *4*	100[a]	0.0	0^+			
6000.5	$(1,2^+)$	6000.4[&] *7*	100[&]	0.0	0^+			
6021.6	1	6021.5[&] *5*	100[&]	0.0	0^+			
6034.2	14^+	250.8[@] *5*	44[@] *11*	5783.1	(13^+)	M1[@]	0.703	α(K)=0.575 *9*; α(L)=0.0985 *15*; α(M)=0.0231 *4*; α(N+..)=0.00716 *11* α(N)=0.00586 *9*; α(O)=0.001169 *18*; α(P)=0.0001250 *19*
		816.5[@] *5*	100[@] *22*	5217.6	12^+	E2[@]	0.00999	α(K)=0.00779 *11*; α(L)=0.001675 *24*; α(M)=0.000403 *6*; α(N+..)=0.0001237 *18* α(N)=0.0001021 *15*; α(O)=1.98×10^{-5} *3*; α(P)=1.82×10^{-6} *3*
		2007.3[@] *5*	78[@] *11*	4027.3	12^+	E2,M3[@]	0.007 *5*	α(K)=0.006 *4*; α(L)=0.0010 *8*; α(M)=0.00024 *18*; α(N+..)=0.000264 *22* α(N)=6.E−5 *5*; α(O)=1.2×10^{-5} *10*; α(P)=1.3×10^{-6} *10*; α(IPF)=0.00019 *8*
6100.3	2^+	6100.2[&] *15*	100[&]	0.0	0^+			
6110.8	2^+	5307.7[&]	100[&] *19*	803.054	2^+			
		6110.7[&] *10*	54[&] *19*	0.0	0^+			
6197		6197[a] *4*	100[a]	0.0	0^+			
6200.5	1	6200.4[&] *7*	100[&]	0.0	0^+			
6236		6236[ae] *4*	100[a]	0.0	0^+			
6251		6251[a] *4*	100[a]	0.0	0^+			
6260		6260[a] *4*	100[a]	0.0	0^+			
6382.6	(14^+)	348.4 *5*	100	6034.2	14^+			E_γ,I_γ: From $^{204}Hg(^9Be,\alpha3n\gamma)$.
6410.6?	1	6410.5[&] *6*	100[&]	0.0	0^+			
6418.8?	$1,2^+$	6418.8[&e] *8*	100[&]	0.0	0^+			I_γ: Possible branch to 1st excited state coincides with 5616γ (2003En07).
6430.7	15^-	2403.4[@] *4*	100[@]	4027.3	12^+	E3[@]	0.00277	α(K)=0.00201 *3*; α(L)=0.000351 *5*; α(M)=8.25×10^{-5} *12*; α(N+..)=0.000319 *5* α(N)=2.09×10^{-5} *3*; α(O)=4.15×10^{-6} *6*; α(P)=4.32×10^{-7} *6*; α(IPF)=0.000294 *5*
6433.8	1	6433.7[&] *7*	100[&]	0.0	0^+			
6442.5	(1)	6442.4[&] *9*	100[&]	0.0	0^+			
6469.3?	1	5666.2	43 *43*	803.054	2^+			
		6469.2[#e] *8*	100[#] *43*	0.0	0^+			I_γ: Coincides with the single-escape peak of a transition in ^{207}Pb, contribution subtracted (approximately 50%).
6510.7	1^-	6510.6[&] *10*	100[&]	0.0	0^+			
6565.3	(15^-)	531.1[@] *4*	100[@]	6034.2	14^+	D[@]		

$^{206}_{82}Pb_{124}$-30

$\gamma(^{206}\mathrm{Pb})$ (continued)

E_i(level)	J^π_i	E_γ†	I_γ†	E_f	J^π_f	Mult.†	α^{c}	Comments
6723.1	1^-	$6723^{\&}$ *1*	$100^{\&}$	0.0	0^+			
6820.6	1^-	$5036^{\&}$	$^{\&}$	1784.09	2^+			
		$6821^{\&}$ *1*	$^{\&}$	0.0	0^+			
6851.4+x	(17^-)	$286.1^{@}$	$100^{@}$	6565.3+x	(17^-)	$\mathrm{M1}^{@}$	0.490	α(K)=0.400 *6*; α(L)=0.0684 *10*; α(M)=0.01602 *23*; α(N+..)=0.00497 *7* α(N)=0.00407 *6*; α(O)=0.000811 *12*; α(P)=8.68×10^{-5} *13*
7063.1	$1^{(-)}$	$7063^{\&}$ *2*	$100^{\&}$	0.0	0^+			
7081.7	$1^{(-)}$	$5615^{\&}$	$^{\&}$	1466.81	2^+			
		$7078^{\&}$ *4*	$^{\&}$	0.0	0^+			
7127.1	(1^-)	$7127^{\&}$ *2*	$100^{\&}$	0.0	0^+			
7202	$1^{(-)}$	$7202^{\&}$ *4*	$100^{\&}$	0.0	0^+			
7311.2	1^-	$6509^{\&}$	$^{\&}$	803.054	2^+			
		$7310^{\&}$	$^{\&}$	0.0	0^+			
7423	1^-	$5963^{\&e}$	$^{\&}$	1466.81	2^+			E_γ: Original value of 5693 keV from (γ,γ') (1980Ch22) is probably a typographical error.
		$7423^{\&}$ *4*	$^{\&}$	0.0	0^+			
7464.5	1,2	$5760^{\&}$	$^{\&}$	1704.45	1^+			
		$7464^{\&}$ *4*	$^{\&}$	0.0	0^+			
7487	(1^-)	$7487^{\&}$ *4*	$100^{\&}$	0.0	0^+			
7503.3	(1)	$5798^{\&}$	$^{\&}$	1704.45	1^+			
		$7506^{\&}$ *2*	$^{\&}$	0.0	0^+			
7543.1	1^-	7543 *2*	100	0.0	0^+			
7570	1	$7570^{\&}$ *4*	$100^{\&}$	0.0	0^+			
7661.9+x	(18^-)	810.5	100	6851.4+x	(17^-)	D		E_γ,I_γ: From ^{204}Hg(^{9}Be,α3nγ).
7759.2+x	(19^+)	97.3	100	7661.9+x	(18^-)	E1	0.467	α(K)=0.369 *6*; α(L)=0.0750 *11*; α(M)=0.01771 *25*; α(N+..)=0.00531 *8* α(N)=0.00442 *7*; α(O)=0.000828 *12*; α(P)=6.32×10^{-5} *9* B(E1)(W.u.)=1.91×10^{-5} *24* E_γ,I_γ: From ^{204}Hg(^{9}Be,α3nγ).
7815.2		$7815^{\&}$	$^{\&}$	0.0	0^+			
7846.2	1	$7846^{\&}$	$100^{\&}$	0.0	0^+			
7881.0	1	$7078^{\&}$	$^{\&}$	803.054	2^+			
		$7880^{\&}$ *2*	$^{\&}$	0.0	0^+			
7890.6	1	$6724^{\&}$	$^{\&}$	1166.4	0^+			
		$7891^{\&}$ *4*	$^{\&}$	0.0	0^+			
7903	1	$7903^{\&}$ *4*	$100^{\&}$	0.0	0^+			

$^{206}_{82}\mathrm{Pb}_{124}$-31

γ(^{206}Pb) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
7975.7	1	6509[&]	[&]	1466.81	2^+	
		7972[&] 4	[&]	0.0	0^+	
8000.2	1	7202[&e]	[&]	803.054	2^+	
		8000[&]	[&]	0.0	0^+	
8040.2		8040[&]	100[&]	0.0	0^+	
8081.8+x	[20^+]	322.6	100	7759.2+x	(19^+)	E_γ,I_γ: From ^{204}Hg(^{9}Be,α3nγ).
8705.6+x	[21^+]	623.8	100	8081.8+x	[20^+]	E_γ,I_γ: From ^{204}Hg(^{9}Be,α3nγ).

† From ^{206}Bi ε decay, unless otherwise specified.
‡ Weighted average (limitation of relative statistical weights method) from ^{206}Bi ε decay and ^{205}Pb(n,γ), E=thermal.
# From ^{205}Pb(n,γ), E=thermal.
@ From ^{204}Hg(α,2nγ).
& From ^{206}Pb(γ,γ').
a From ^{206}Pb(n,n$'\gamma$).
b From ^{206}Pb(n,n$'\gamma$) study (1982DiZT). Value is from a broad peak or may contain contribution from another reaction.
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 Multiply placed with intensity suitably divided.
e Placement of transition in the level scheme is uncertain.

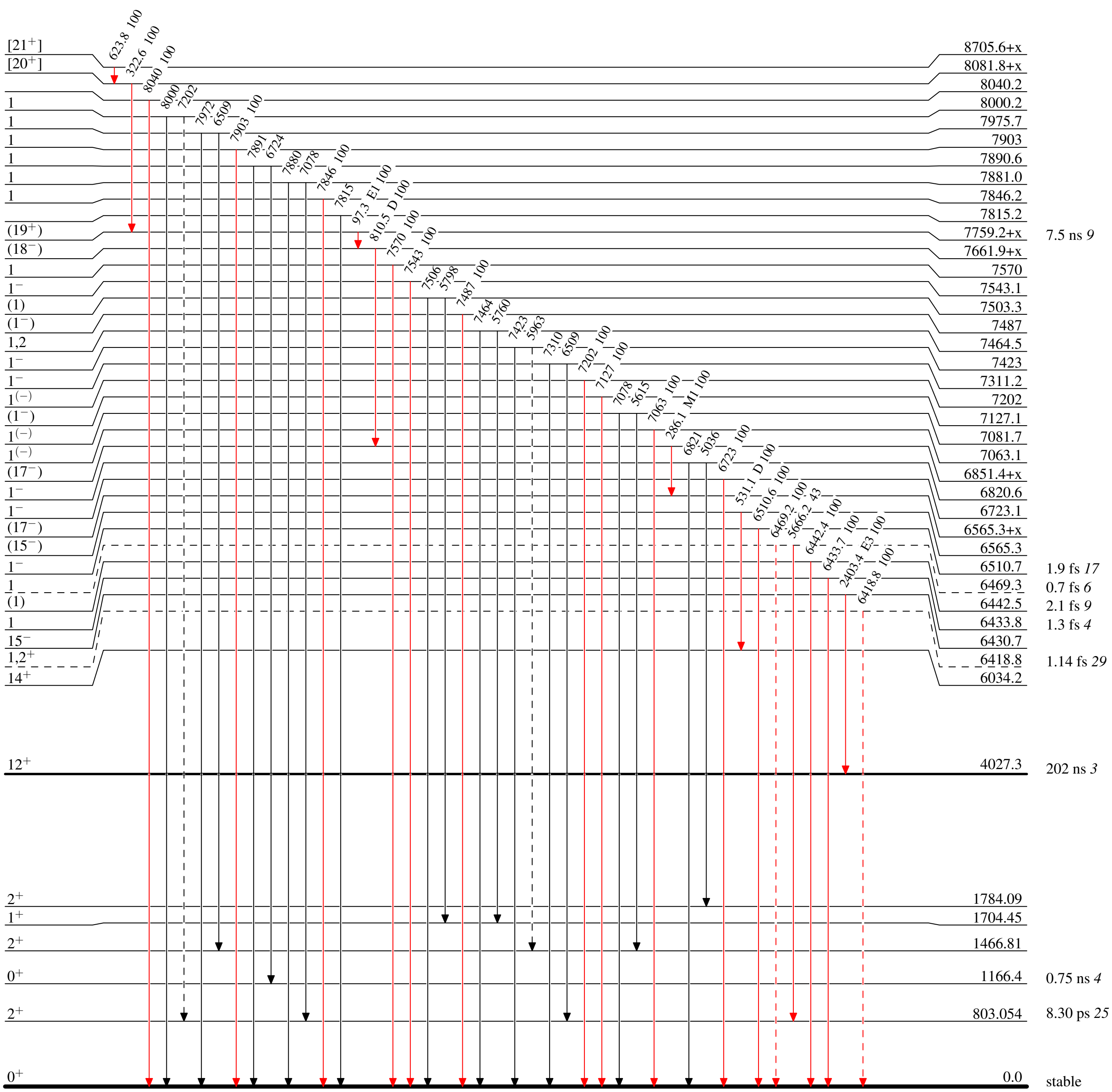
Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

Legend

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



$^{206}_{82}Pb_{124}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

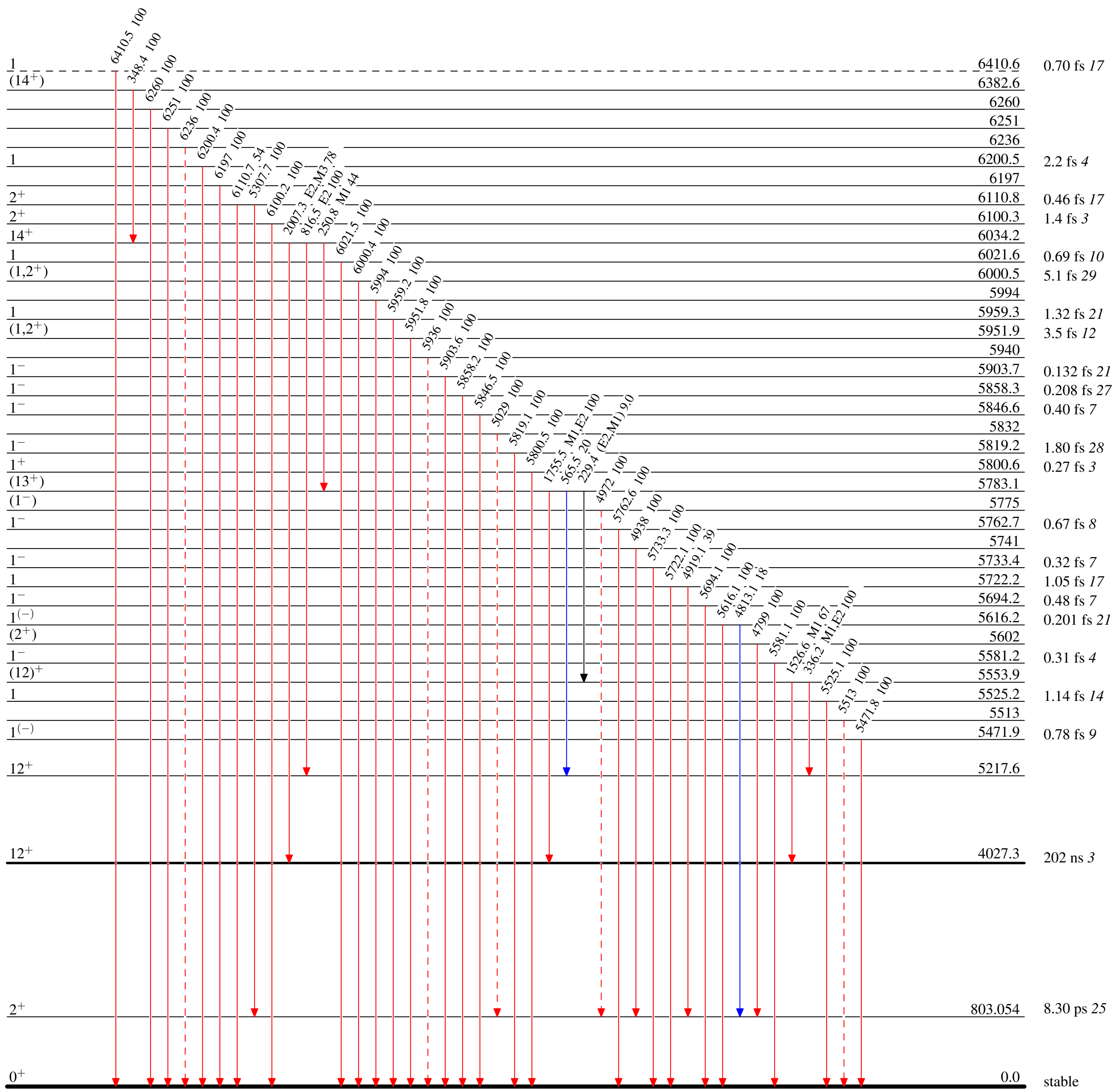
Legend

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

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

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

γ Decay (Uncertain)

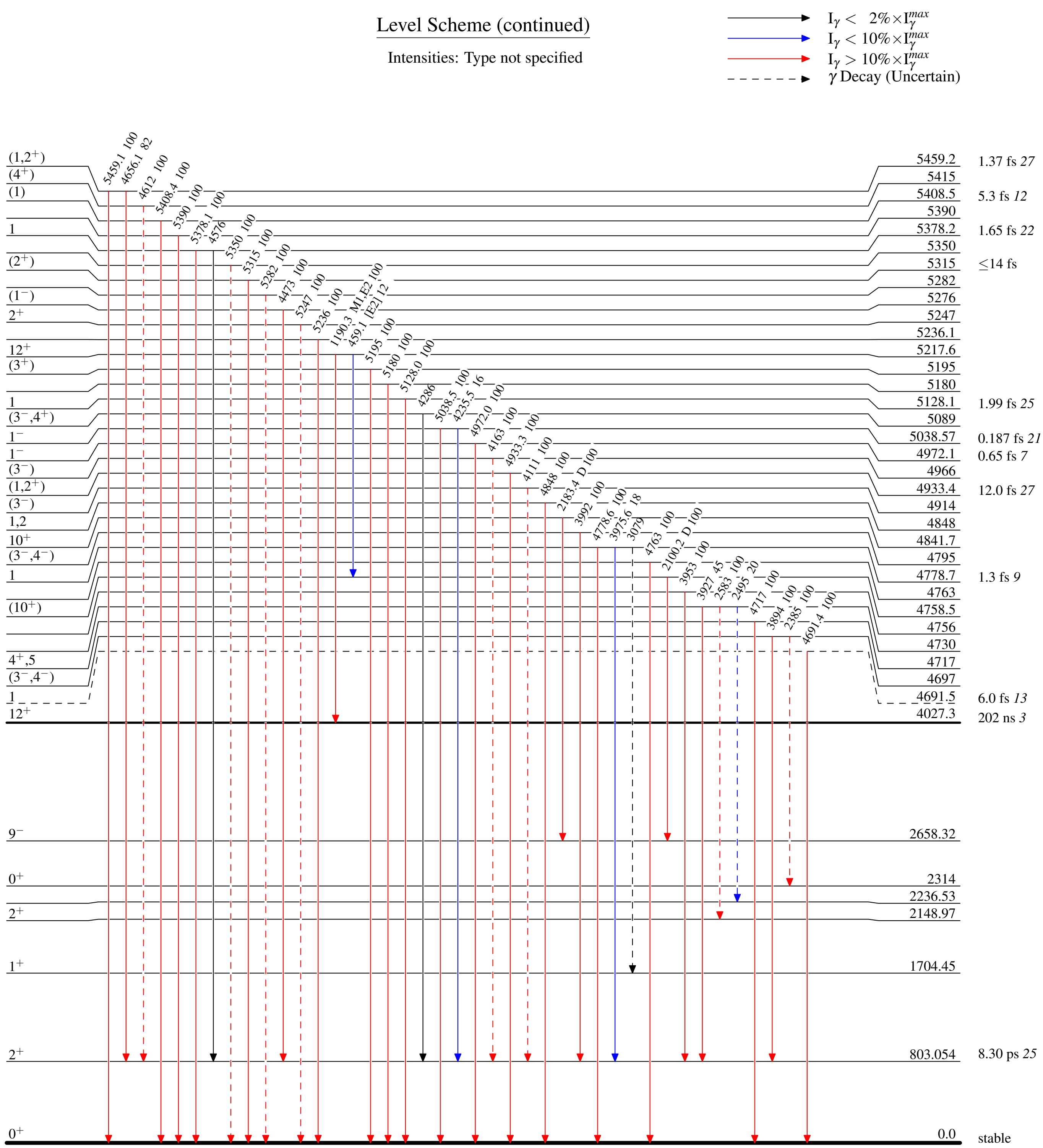


$^{206}_{82}Pb_{124}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



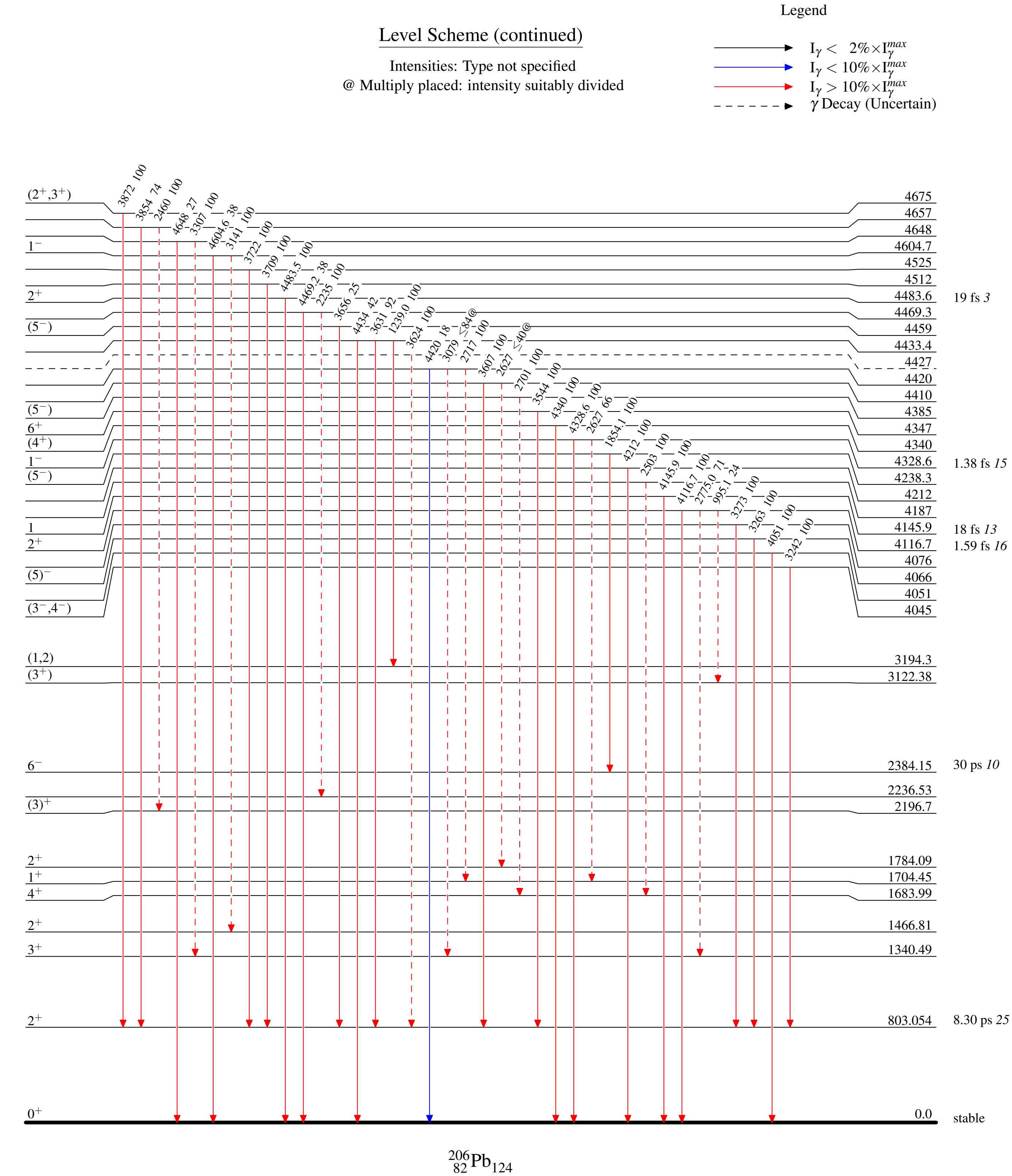
$^{206}_{82}Pb_{124}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

@ Multiply placed: intensity suitably divided



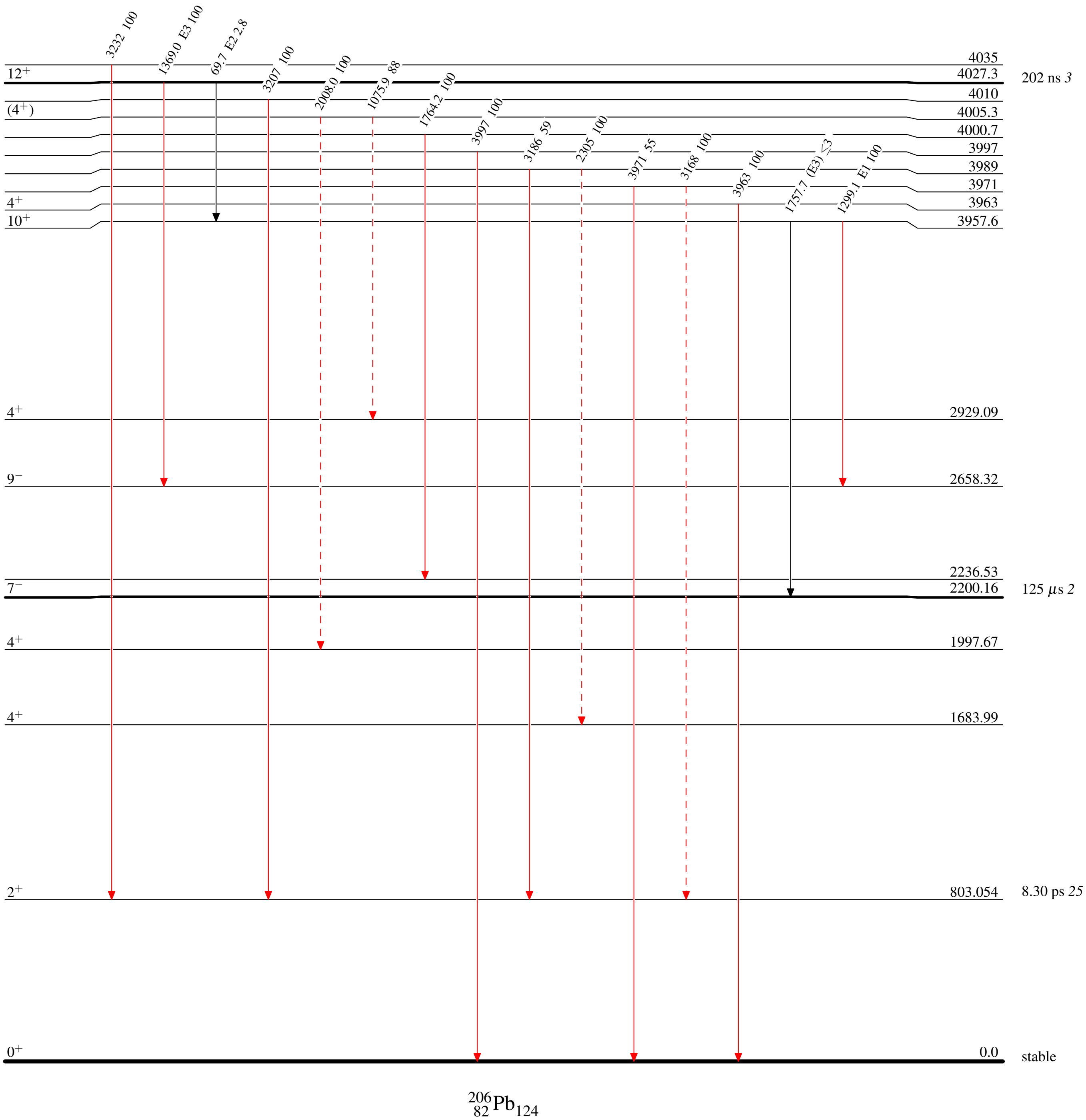
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified
@ Multiply placed: intensity suitably divided

Legend

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

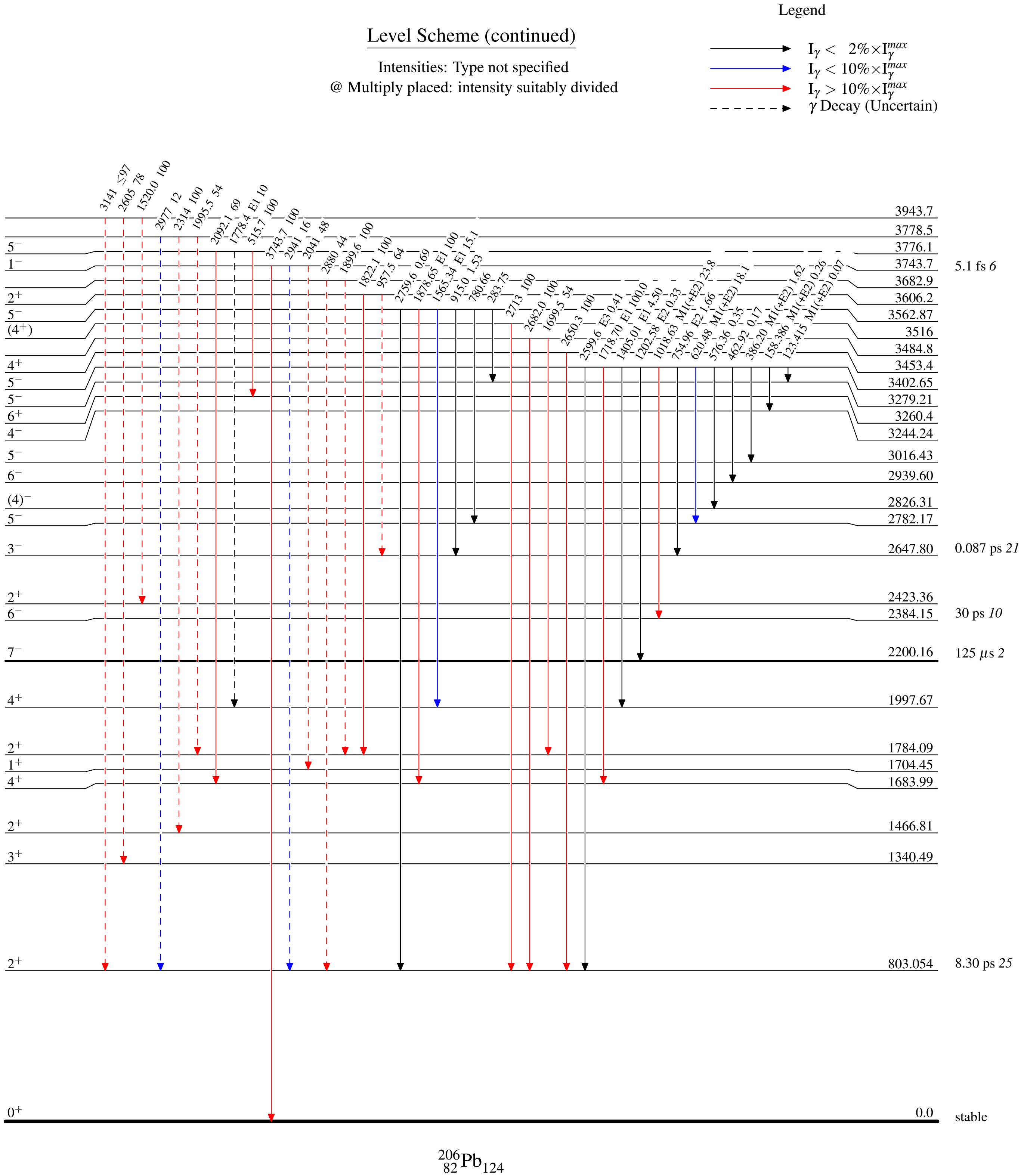


Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

@ Multiply placed: intensity suitably divided

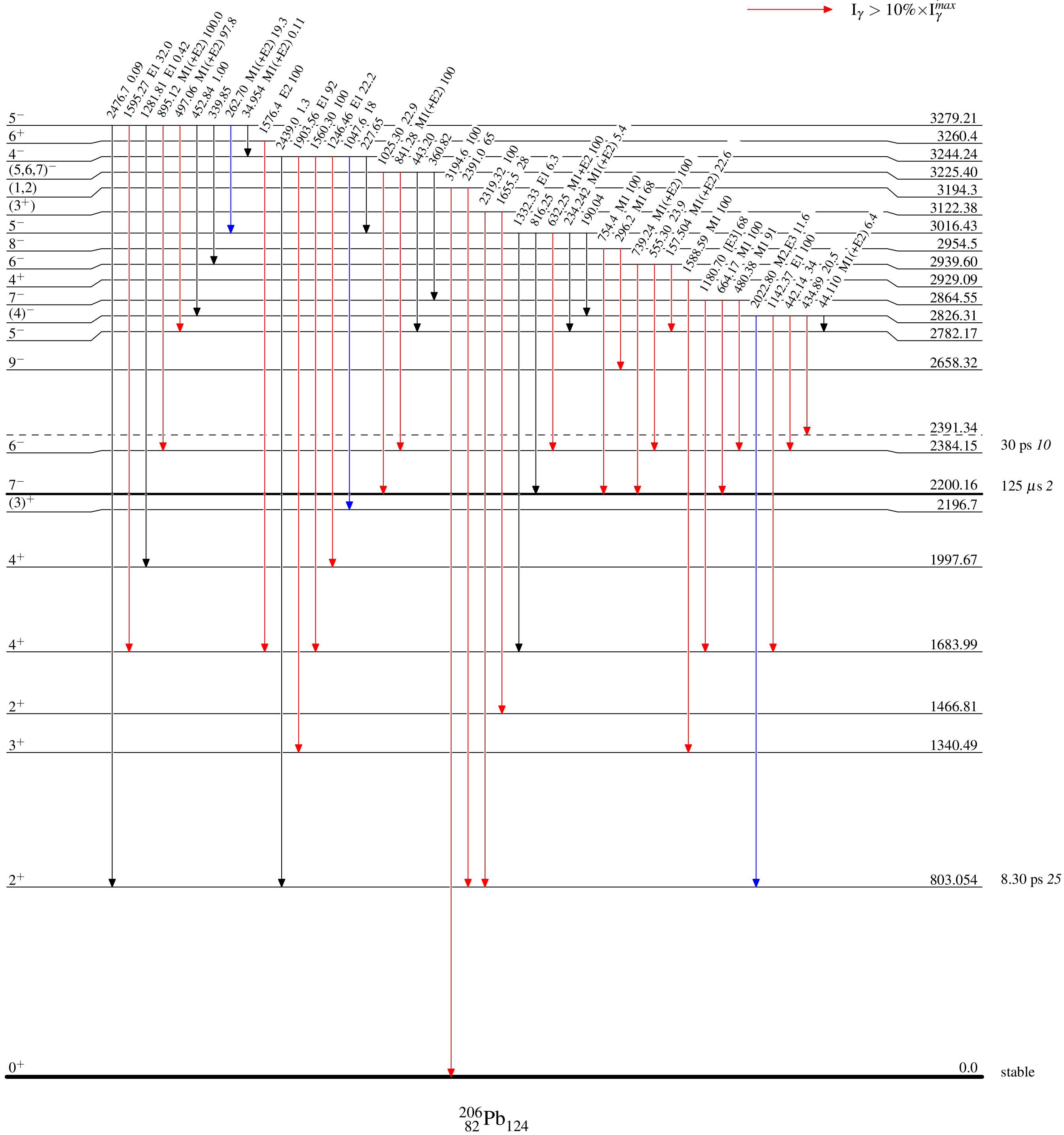


Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

@ Multiply placed: intensity suitably divided

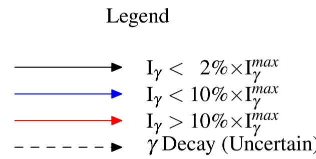


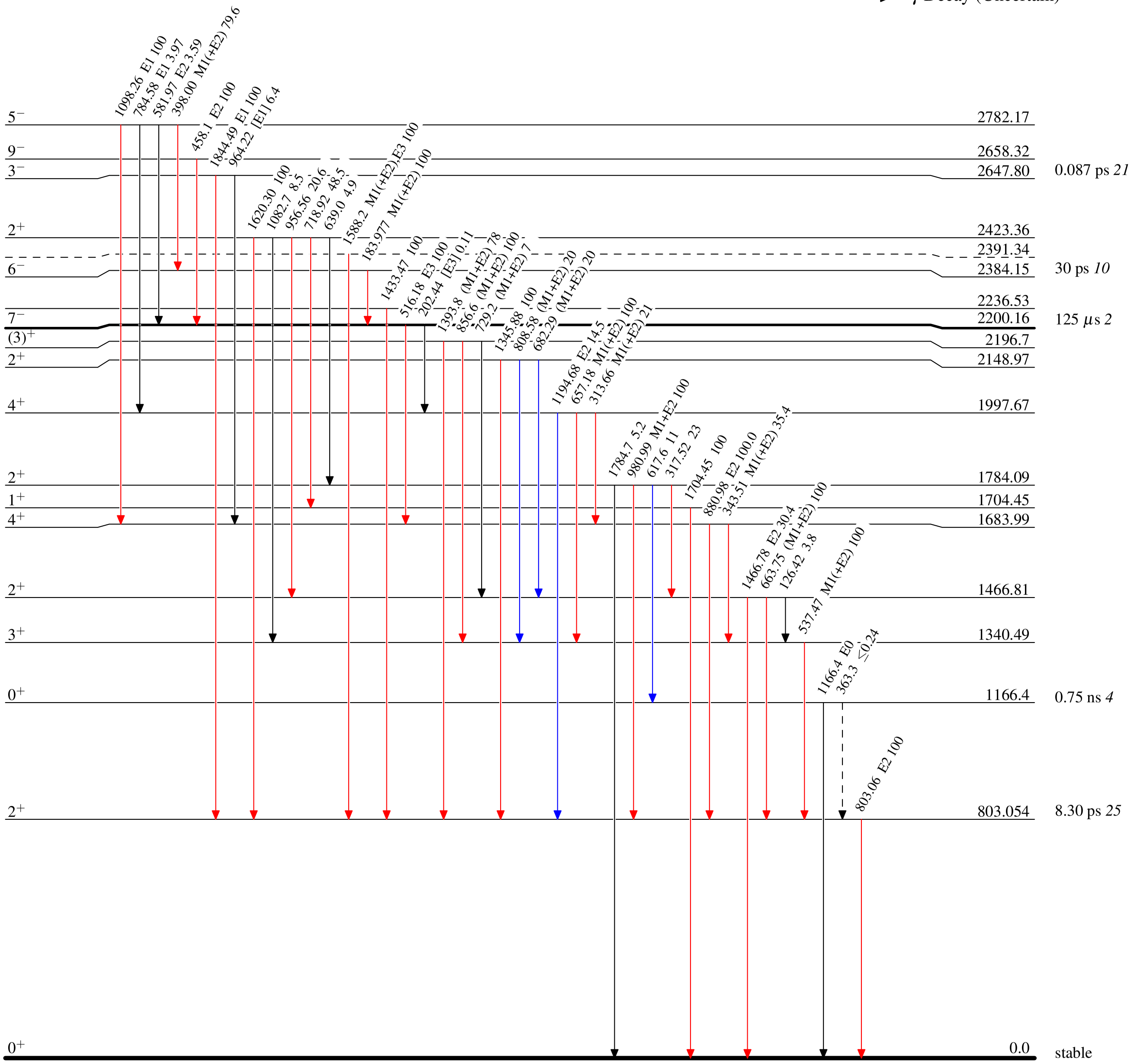
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

@ Multiply placed: intensity suitably divided





$^{206}_{82}Pb_{124}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 108,1583 (2007)	1-Jun-2007

Q(β^-)=−2878.4 *21*; S(n)=7367.87 *5*; S(p)=8004 *6*; Q(α)=517.2 *13* 2012Wa38

Note: Current evaluation has used the following Q record −2878.4 20 *7367.87* *5* 8004 5 *516.9* *13* 2003Au03.

Neutron and ground-state γ widths are given in the resonance reactions, (n,γ), (n,X), and (γ,n).

For measurements of the neutron-skin thickness see 2004Kr02 and references contained therein. The rms(n)-rms(p) values, in fm, range from 0.12 *7* to 0.20 *4*.

Adopted Levels, Gammas (continued)

^{208}Pb Levels

The neutron-particle, neutron-hole configurations are from (d,p) and from (p,p′) (via IAR). The proton-particle, proton-hole configurations are from (d,^{3}He). Other configurations, especially for the high-spin states are from (e,e′). In addition to the configurations given in those source datasets, 2006He21 (in their reference 24) analyze (p,p′) via IAR, (d,p), and (d,^{3}He) data to deduce configuration amplitudes for several levels below 4500. Amplitudes for non-dominant configurations are included in their calculations but are not given here. Only the dominant neutron particle-hole and/or proton particle-hole configurations are given.

The B(EL) values for levels above the 2614.5 level are from (e,e′).

Cross Reference (XREF) Flags

A	^{207}Pb(d,pγ),^{209}Bi(t,$\alpha\gamma$)	L	^{208}Pb(p,p′γ),^{207}Pb(d,pγ)	W	Muonic atom
B	^{208}Pb(α,α′),(α,α′γ),(α,α′n)	M	^{207}Pb(n,γ)	X	^{212}Po α decay (17.1 ns)
C	^{208}Pb(d,d′),(pol d,d′)	N	^{207}Pb(n,X),(n,n)	Y	^{212}Po α decay (45.1 s)
D	^{208}Pb(p,p′),(pol p,p′)	O	^{207}Pb(n,γ) E=resonance	Z	^{212}Po α decay (0.299 μs)
E	^{208}Pb(γ,γ′),(pol γ,γ′)	P	^{208}Pb(γ,n),(γ,pol n)	Others:	
F	^{207}Pb(d,p),(pol d,p)	Q	^{208}Pb(x,x′),(x,x′γ)	AA	^{208}Pb(d,t),(p,d)
G	^{208}Pb(e,e′),(e,e′n)	R	Coulomb excitation	AB	^{208}Pb(e,F)
H	^{208}Pb(n,n′γ)	S	^{208}Bi ε decay	AC	^{210}Pb(p,t)
I	^{209}Bi(d,^{3}He)	T	^{208}Pb(γ,p),(e,e′p) IAR	AD	^{209}Bi(t,α)
J	^{208}Pb(x,x′γ)	U	^{204}Hg(^{16}O,^{12}C)	AE	^{208}Pb(^{17}O,^{17}O′γ),(^{17}O,^{17}O′nγ)
K	^{208}Tl β^- decay	V	^{206}Pb(t,p),(pol t,p)	AF	^{209}Bi(μ^-,νnγ)

E(level)†	J$^\pi$‡	T$_{1/2}$#	XREF	Comments
0	0$^+$	stable	ABCDEFGHIJKLM QRS VWXYZ	XREF: Others: AA, AB, AC, AD, AE, AF
2614.522 *10*	3$^-$	16.7 ps *3*	ABCD FGHIJKLM QRS VW Y	XREF: Others: AA, AB, AC, AD, AE, AF μ=+1.9 *2* (1973ScYX,1969Bo12,2005St24) Q=−0.34 *15* (1984Ve07,1983Sp02,2005St24) J$^\pi$: from L=3 in (α,α′), (d,d′), (p,p′), (e,e′). T$_{1/2}$: from B(E3)=0.611 *9*, a weighted average of 0.611 *12* (1983Sp02) in Coulomb excitation, and 0.612 *13* (1980Go12) in (e,e′). The value of 32 ps *11* reported by 1962We14 in β^- decay appears to Be in error. Other: 15.4 ps *12* from B(E2) in (α,α′). Isomer shift=6.25 *28* from muonic atom (1977Sh07).
3197.711 *10*	5$^-$	294 ps *15*	ABCD FGHIJKL Q V Y	XREF: Others: AC, AD μ=+0.11 *4* (1969Bo01,2005St24); B(E5)↑=0.0447 *30* configuration=$\nu 2g_{9/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$ + $\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$. J$^\pi$: L=5 in ($\alpha$,$\alpha$′), (d,d′), (p,p′), (e,e′). T$_{1/2}$: from β^- decay.
3475.078 *11*	4$^-$	4 ps *3*	A CD F HIJKL Q	XREF: Others: AF configuration=$\nu 2g_{9/2}\nu 3p^{-1}_{1/2}$. J$^\pi$: M1+E2 γ′s to 3$^-$ and 5$^-$.

$^{208}_{82}Pb_{126}$-2

^{208}Pb Levels (continued)

E(level)†	J$^\pi$‡	T$_{1/2}$#	XREF	Comments
				T$_{1/2}$: from β^- decay.
3708.451 *12*	5$^-$		ABCD FGHIJKL V	XREF: Others: AD, AF B(E5)↑=0.0241 *18* configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$ + $\nu 2g_{9/2}\nu 3p^{-1}_{1/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^\pi$: L=5 in ($\alpha,\alpha'$), (d,d′), (p,p′). T$_{1/2}$: <100 ps from β^- decay and >0.69 ps from (n,n′γ).
3919.966 *13*	6$^-$	>690 fs	A D H JKL	XREF: Others: AF configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J$^\pi$: M1 γ to 5$^-$. Not seen in (α,α'), (d,d′), (p,t) or (t,p) thus J^π=4$^-$ or 6$^-$. γ from 7$^-$ 5542 level.
3946.578 *14*	4$^-$	>430 fs	A D HIJKL	XREF: Others: AF configuration=$\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J$^\pi$: L(d,^{3}He)=0+2 gives J^π=4$^-$ or 5$^-$. Not seen in (α,α') or (d,d′), thus J^π=5$^-$ is ruled out. A confirming argument is the strength in (d,^{3}He) which rules out J=5, given J=5 for the 3708 and 3961 levels.
3961.162 *13*	5$^-$		ABCD GHIJKL V	XREF: Others: AC, AD, AF B(E5)↑≈0.0008 configuration=$\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J$^\pi$: J=5 from $\gamma\gamma(\theta)$ and ce data in β^- decay. π=− from L=0+2 in (d,^{3}He). T$_{1/2}$: ≤18 ps from β^- decay and >0.47 ps from (n,n′γ).
3995.438 *13*	4$^-$	>690 fs	A D F HI KLM Q	XREF: Others: AF configuration=$\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J$^\pi$: L(d,^{3}He)=0. Not seen in (α,α') or (d,d′) thus J^π is not 5$^-$. A confirming argument is the dipole component of the 1380γ to 3$^-$.
4037.443 *14*	7$^-$	>690 fs	ABCD GH J L V	XREF: Others: AC B(E7)↑≈0.0010 configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J$^\pi$: L(p,p′)=7.
4051.134 *13*	3$^-$	326 fs *+28−21*	AB D F HI LM	XREF: Others: AF J$^\pi$: dipole γ to 3$^-$, γ to 4$^-$, and γ from 2$^-$ allow 2$^-$,3$^-$,4$^-$. Excitation in (α,α') rules out 2$^-$ and 4$^-$. Note that L=0 is given in (d,^{3}He), which gives 4$^-$ or 5$^-$. The level is weakly excited and no $\sigma(\theta)$ is shown. Also, L=(6) is reported in (d,p), suggesting J^π=5$^-$ or 6$^-$. The evaluator notes that $\sigma(\theta)$ in (d,p) is too forward peaked to Be fit with L=2 and/or 4, required for J^π=3$^-$. If the reaction L values are correct, there must Be a doublet at this energy, possibly with J^π=5$^-$ for the second member. There is no evidence of a doublet in the high-precision γ data. Note finally that L=(3) in (p,p′).
4085.52 *4*	2$^+$	0.80 fs *4*	ABCDE GHI LM QR V	XREF: Others: AC, AE, AF Q=−0.7 *3* (1984Ve07,2005St24) configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.

$^{208}_{82}$Pb$_{126}$-3

Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	J$^{\pi}$‡	$T_{1/2}$#	XREF	Comments
				J$^{\pi}$: L=2 in (α,α'). $T_{1/2}$: weighted average of 0.78 fs *4* from B(E2)=0.318 *16* in (e,e$'$) and 0.87 fs *7* from Γ in (γ,γ'). Both values were deduced using $\Gamma_{\gamma0}/\Gamma$=0.9954 *15*.
4125.347 *12*	5$^-$	>490 fs	AB D FGHIJKL	XREF: Others: AD, AF configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: L(d,p)=4+6. The assignment is confirmed in ^{208}Pb(p,p$'$) IAR. See reference 24 of 2006He21.
4144? *5*	+		I	E(level): seen only in (d,^{3}He) and weakly excited so level is questionable. configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J$^{\pi}$: L(d,^{3}He)=5.
4180.414 *14*	5$^-$	319 fs *35*	AB D FGHI KL V	XREF: Others: AC, AF configuration=$\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 3s^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: from σ and form factor in (e,e$'$).
4206.277 *14*	6$^-$	>690 fs	A D F HIJ L	XREF: Others: AF configuration=$\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$ $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: L(d,p)=6. Not observed in (α,α'). Dipole component in γ to 5$^-$.
4229.590 *17*	2$^-$	333 fs *28*	A D F H LM	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: J=2 from $\gamma(\theta)$ in (n,n$'\gamma$). L(d,p)=2.
4254.795 *17*	3$^-$	97 fs *7*	AB D FGHI LM V	XREF: Others: AC configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L(d,p)=2 for $3d_{3/2}$ gives 2$^-$ or 3$^-$. Excitation in (α,α') rules out 2$^-$. Note that L=0 in (d,^{3}He) gives 4$^-$ or 5$^-$; however, the state is weakly excited and no $\sigma(\theta)$ is shown.
4261.871 *13*	4$^-$	>520 fs	A D F HI KL	XREF: Others: AF configuration=$\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: L(d,p)=4 for configuration=$\nu 2g_{9/2}$ allows J^{π}=4$^-$ or 5$^-$. The 1647γ to 3$^-$ has a dipole component. For the neutron configuration see reference 24 of 2006He21.
4296.560 *13*	5$^-$	201 fs *+49−35*	AB D F HI KL V	XREF: Others: AC, AF configuration=$\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: L(p,p$'$)=5. A confirming argument is L(d,^{3}He)=0+2, allowing 4$^-$ or 5$^-$. Excitation in (α,α') rules out 4$^-$.
4323.946 *14*	4$^+$	11.7 ps *+15−18*	ABCD GHIJ L Q V	XREF: Others: AC, AF configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J$^{\pi}$: L=4 in ($\alpha$,$\alpha'$) and (d,d$'$). $T_{1/2}$: from B(E4)=0.155 *11* in (e,e$'$) and $\Gamma_{\gamma0}/\Gamma$=0.00260 *+27−35*.
4358.670 *13*	4$^-$	194 fs *21*	A CD F HI KL	XREF: Others: AF configuration=$\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J$^{\pi}$: L(d,^{3}He)=0+2 allows 4$^-$ or 5$^-$. The 1744γ to 3$^-$ has a dipole component. For the neutron configuration see reference 24 of 2006He21.

$^{208}_{82}Pb_{126}$-4

^{208}Pb Levels (continued)

E(level)†	J^{π}‡	$T_{1/2}$#	XREF	Comments
4383.285 *17*	6^-	>690 fs	A D FGHI KL	XREF: Others: AF configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{5/2}$. J^{π}: from σ and form factor in (e,e′).
4423.647 *15*	6^+	>110 fs	ABCD FGHIJ L Q V	XREF: Others: AC, AF B(E6)↑=0.067 *7* configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: L=6 in (α,α') and (p,p′).
4447? *5*	$-$		I	E(level): seen only in (d,^{3}He) and weakly excited so level is questionable. configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$. J^{π}: L(d,^{3}He)=2.
4480.746 *16*	6^-	97 fs *7*	ABCD FGHIJKL	XREF: Others: AF configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$ + $\nu 2g_{9/2}\nu 3p^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{1/2}$. J^{π}: from σ and form factor in (e,e′).
4610.748 *16*	8^+	3.2 ns *5*	AB D FGHIJ L V	BE8UP=0.0054 *9* configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: L(α,α')=8. L=8 also in (p,p′) and (e,e′). $T_{1/2}$: from $\alpha\gamma$(t) in (t,$\alpha\gamma$).
4680.266 *22*	7^{-}g	>690 fs	AB D H J	configuration=$\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$. J^{π}: the 474γ and 760γ to 6^- levels have dipole components and the magnitude of δ for both transitions argues against mult=E1+M2. Excitation in (α,α') rules out 6^-. L=(9) is reported in (p,p′), but the evaluator notes that L=5 or 7 seem to give as good a fit. Absence of gammas to levels with J<6 suggests 7^- rather than 5^-.
4698.323 *17*	3^{-}g	139 fs *+42−28*	AB D FGHI L V	XREF: Others: AC configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$. J^{π}: L(α,α')=3. $J^{\pi}=3^-$ from σ and form factor in (e,e′). L(p,p′)=3.
4708.727 *21*	5^{-}g	0.24 ps *+20−9*	AB D HI	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$. J^{π}: L(d,^{3}He)=2. The 1511γ and 1000γ to $J^{\pi}=5^-$ levels have dipole components. Excitation in (α,α') rules out 4^- or 6^-.
4711.817 *21*	4^{-}g	>340 fs	A D F H M	configuration=$\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$. J^{π}: dipole components in γ′s to 3^- and 4^- levels. Not seen in (α,α') so J^{π} probably not 3^-.
4761.956 *23*	6^{-}g	0.26 ps *+18−9*	A D FGH	configuration=$\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$. J^{π}: L(p,p′)=(7). Not seen in (α,α') so J^{π} probably 6^- or 8^-. γ′s to 5^-.
4830	(8,9,10)		G	J^{π}: L(e,e′)=(8 to 10).
4841.60 *5*	1^-	0.068 fs *+21−15*	AB DEFGH L	XREF: Others: AC J^{π}: L(α,α')=1. Confirming arguments are $J^{\pi}=1^-$ from σ and form factor in (e,e′) and $J^{\pi}=1^-$ from $\gamma(\theta)$ and γ(pol) in (γ,γ').

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Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
				$T_{1/2}$: from (γ,γ'). Other: <9 fs from $(n,n'\gamma)$. configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$.
4860.78 *6*	8^+	>22 fs	AB D F HIJ	configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. Jπ: L(d,p)=7 for $j_{15/2}$ gives 7^+ or 8^+. Excitation in (α,α') rules out 7^+.
4867.91 *4*	7^+	>97 fs	A D F H	configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=7 for $j_{15/2}$ allows 7^+ or 8^+. The 387γ to 6^- has a dipole dipole component.
4868.35 *5*	0^+	>312 fs	AB H L V	XREF: Others: AC Jπ: E0 transition to the g.s.
4878 *2*			D F	
4895.23 *5*	10^+	0.50 μs *5*	AB D G IJ	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. Jπ: from σ and form factor in (e,e′). $T_{1/2}$: from $\alpha\gamma$(t) in $(t,\alpha\gamma)$.
4909.5 *3*			D F	Jπ: 1997VaZT give L=(7) and propose configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{1/2}$, which gives $J^\pi=7^+$ or 8^+; however, the error bars for $\sigma(\theta)$ for this level are very large (evaluator).
4911.343 *20*	4	215 fs *+63−42*	H	Jπ: D+Q transitions to 3^- and 5^-.
4918.8 *4*	8^- g		D	configuration=$\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$.
4928.1 *15*	2^+		D V	XREF: Others: AC Jπ: L(p,p′)=2.
4937.19 *4*	3^-	17.3 fs *+35−28*	AB D F HI LM	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$ and $\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. Jπ: L(α,α′)=3. Confirming arguments are L(p,p′)=3 and L(d,p)=2+4.
4953.302 *17*	3^-	33.3 fs *14*	AB D F H	Jπ: L(p,p′)=3.
4962.428 *21*	$4^{(-)},5^{(+)}$	>440 fs	D H	Jπ: D+Q γ to 5^-. γ to 4^+. Not seen in (α,α') so level probably has unnatural parity.
4973.918 *19*	3^-	166 fs *21*	AB D FGH L V	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. Jπ: L(α,α′)=3. Confirming arguments are L(p,p′)=3, and $J^\pi=3^-$ from σ and form factor in (e,e′).
4992.5 *6*	$(2)^-$		F	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=2 for d5/2 allows 2^- or 3^-. Not excited in (α,α') so J^π probably not 3^-.
4994.7 *6*	≥7		D	Jπ: L(p,p′)≥8.
5010.43 *14*	9^+		A D G J	configuration=$\nu 2g_{9/2}\nu 1i^{-1}_{13/2}$. Jπ: from σ and form factor in (e,e′).
5037.536 *18*	3^-	90 fs *7*	AB D F H L V	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=2 for d5/2 allows 2^- or 3^-. Excitation in (α,α') rules out 2^-.
5056.1 *3*			D F	
5069.31 *10*	10^+		AB D G IJ	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. Jπ: from σ and form factor in (e,e′).
5074.81 *6*	h	69 fs *+13−10*	d H	Jπ: γ′s to 5^- and 6^-.
5075.78 *18*	h		A d F H	Jπ: γ to 5^-.

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^{208}Pb Levels (continued)

E(level)†	J^{π}‡	$T_{1/2}$#	XREF	Comments
5079.912 *20*	6^{-} g	111 fs *+28−21*	D F H	configuration=$\nu 1i_{11/2}\nu 3p^{-1}_{3/2}$. J^{π}: γ's to 5^{-} and 6^{-}.
5085.470 *24*	7^{-} gj	>229 fs	AB D Hi L	configuration=$\nu 1i_{11/2}\nu 3p^{-1}_{3/2}$. J^{π}: D+Q γ to 6^{-}.
5087.9 *15*	3^{-} j		D i	J^{π}: L(p,p′)=3.
5092.99 *3*	8^{+}	>690 fs	AB D F HI	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ + $\nu 1j_{15/2}\nu lj^{-1}$ with a $3p_{1/2}$, $2f_{5/2}$, or $3p_{3/2}$ neutron hole state. J^{π}: γ's to 8^{+}. Excitation in (α,α') gives natural parity. L(d,^{3}He)=5. Strength in (t,$\alpha\gamma$) rules out 6^{+} or 10^{+}.
5103.3 *15*			D	
5127.356 *16*	2^{-},3^{-}	64 fs *3*	A D F HI L	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J^{π}: L(d,p)=2 for d5/2 allows 2^{-} or 3^{-}. L(d,^{3}He)=2. γ's to 4^{-} and 0^{+}. Non-observation in (α,α') is a weak argument against 3^{-}. J^{π}=2^{-} is given in ^{207}Pb(pol p,p′) IAR.
5162.05 *5*	9^{+}		A D F IJ	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: γ's to 8^{+} and 10^{+}. L(d,^{3}He)=5. From strength in (t,$\alpha\gamma$), given the strength observed for the (d,^{3}He) L=5 states with J^{π}=8^{+} and 10^{+}.
5193.428 *25*	5^{+} i	>319 fs	A HI	J^{π}: γ's to 4^{+} and 6^{+}. configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.
5195.054 *23*	3^{-},4^{-}	187 fs *+42−35*	D F H	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J^{π}: L(d,p)=4 for g7/2 allows 3^{-} or 4^{-}.
5195.37 *10*	7^{+} i	>690 fs	A HIJ	J^{π}: γ's to 6^{+}, 6^{-}, 8^{+}. configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ + $\nu 1j_{15/2}\nu lj^{-1}$ with a $3p_{1/2}$, $2f_{5/2}$, or $3p_{3/2}$ neutron hole state.
5213.007 *21*	6^{+} i	76 fs *+21−14*	A D HIJ	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: γ's to 5^{-} and 6^{+}.
5213.98 *3*	(5^{-})	14 fs *3*	FGH	J^{π}: from σ and form factor in (e,e′). configuration=$\nu 2d_{5/2}\nu lj^{-1}$.
5216.214 *18*	4^{+} i	32 fs *3*	AB D HIJ	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: γ to 3^{-} has a dipole component.
5234 *5*	+		I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^{π}: L(d,^{3}He)=5.
5235.37 *11*	(11^{+})@		D J	J^{π}: γ from 12^{+}. γ to 10^{+}. No transition to levels with J<10. 1993Sc08 propose configuration=$\nu 2g_{9/2}\nu 1i^{-1}_{13/2}$.
5239.3 *4*	4^{-} g		A D F H	configuration=$\pi 2f_{7/2}\pi 2d^{-1}_{3/2}$ + $\nu 1i_{11/2}\nu 3p^{-1}_{3/2}$. J^{π}: γ to 3^{-}.
5241.1 *3*	0^{+}	>690 fs	A H L V	XREF: Others: AC configuration: 1996Ye01 propose that this state is the lowest-spin member of the expected quartet of two-phonon octupole states at an energy about twice that of the

^{208}Pb Levels (continued)

E(level)†	J^{π}‡	$T_{1/2}$#	XREF	Comments
				3^- 2614 state. J^{π}: from E0 to 0^+.
5245.246 *21*	3^-	17 fs *+7−6*	AB D FGH L	configuration=$\nu 3d_{5/2}\nu 3p_{1/2}^{-1}$. J^{π}: from σ and form factor in (e,e′). $T_{1/2}$: other: 5.3 fs *+19−15* from B(E3)=0.13 *3* in (e,e′) and $\Gamma_{\gamma 0}/\Gamma$=0.0088 *18*.
5254.12 *15*			A F H J	J^{π}: γ to 4^-.
5260	9^+		G	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. J^{π}: from σ and form factor in (e,e′).
5261.2 *8*			F	
5266.6 *9*			F	
5270	(11^+)		G	J^{π}: from σ and form factor in (e,e′).
5276.418 *24*	4^-g	44 fs *+6−5*	D F HI	configuration=$\pi 1h_{9/2}\pi 2d_{5/2}^{-1} + \nu 1i_{11/2}\nu 3p_{3/2}^{-1}$. J^{π}: γ's to 3^- and 6^- allow 4^- or 5^-.
5280.47 *4*	0^-	>319 fs	A D F H L	configuration=$\nu 4s_{1/2}\nu 3p_{1/2}^{-1}$ with a small admixture of configuration=$\nu 3d_{5/2}\nu 2f_{5/2}^{-1}$. J^{π}: L(d,p)=0 gives 0^- or 1^-. S for the 5280 and 5292 L(d,p)=0 levels rules out J^{π}(5280)=1^- given J^{π}(5292)=1^-.
5286.484 *17*	2,3^-	76 fs *7*	D F H	J^{π}: dipole γ to 3^- allows J=2,3, or 4. γ to 0^+ and $T_{1/2}$ rule out J=4 and J^{π}=3^+. For J^{π}=2^-, the g.s. transition would have B(M2)(W.u.)=0.48 *7* and for J^{π}=3^- would have B(E3)(W.u.)=9.3 *14*.
5291 *6*	11^+		G	configuration=$\nu 2g_{9/2}\nu 1i_{13/2}^{-1}$. J^{π}: from σ and form factor in (e,e′).
5291.90 *12*	1^-	0.049 fs *+28−18*	AB DEF H L	configuration=$\nu 4s_{1/2}\nu 3p_{1/2}^{-1}$. J^{π}: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). $T_{1/2}$: from (γ,γ'). Other: <2.1 fs from (n,n′γ).
5307.6 *15*			F	
5317.041 *18*	$(3)^+$k	>690 fs	A d F HI	XREF: F(1513). J^{π}: γ's to 3^- and 4^+. L(d,^{3}He)=5. On the basis of these decay modes, and the strength in (t,$\alpha\gamma$), 1997Sc21 propose J^{π}=(3^+). configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$.
5317.2 *6*	k		A d F	J^{π}: γ to 5^-.
5326.6 *2*	+k		D F	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1} + \nu 1j_{15/2}\nu lj^{-1}$ with a $3p_{1/2}$, $2f_{5/2}$, or $3p_{3/2}$ neutron hole state.
5339.46 *6*	8^+	32 fs *+37−18*	A D F HI	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1} + \nu 1j_{15/2}\nu lj^{-1}$, with a $3p_{1/2}$, $2f_{5/2}$, or $3p_{3/2}$ neutron hole state. J^{π}: γ's to 8^+ and 7^-. L(d,^{3}He)=5. Strength in (t,$\alpha\gamma$).
5347.270 *18*	3^-	28.4 fs *14*	ABCD FGH	configuration=$\nu 3d_{5/2}\nu 3p_{1/2}^{-1} + \nu 2g_{7/2}\nu 3p_{1/2}^{-1}$. J^{π}: from σ and form factor in (e,e′). Confirming arguments are L(α,α')=3 and L(d,p)=2+4.
5352 *6*	+		I	J^{π}: L(d,^{3}He)=5.

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Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	T$_{1/2}$[#]	XREF	Comments
				configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.
5364 *3*			D	
5373.8 *8*	(6)$^+$		B D Fg	J$^{\pi}$: excitation function resonates at $\nu 1j_{15/2}$ IAR in (p,p′), so π=+, inconsistent with L(p,p′)=5. The evaluator notes that from the $\sigma(\theta)$ of 1975Wa18 L=5 gives the best fit; however, the fit for L=6 is also reasonable.
5380.6[&] *8*	$-$		A g I	J$^{\pi}$: γ to 3$^-$. L(d,^{3}He)=2. configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$.
5382.82[&] *3*	3$^+$,4$^+$,5$^+$	37 fs *+7−6*	A gHI	J$^{\pi}$: γ to 4$^-$. L(d,^{3}He)=5. The 1387γ to 4$^-$ cannot Be M2 (RUL). configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.
5384.59 *3*	3$^-$	76 fs *14*	AB D FgH LM	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L(d,p)=2 for d5/2 gives 2$^-$ or 3$^-$. Excitation in (α,α') rules out 2$^-$.
5401 *2*			D	
5418.6 *5*	(6)$^+$		D	J$^{\pi}$: excitation function resonates at $\nu 1j_{15/2}$ IAR in (p,p′), so π=+, given the available neutron hole states. L(p,p′)=(6,7).
5473 *6*	+		I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J$^{\pi}$: L(d,^{3}He)=5.
5481.87[q] *3*	5$^-$	90 fs *14*	AB D FGH L Q	J$^{\pi}$: L(α,α')=5. L(p,p′)=5.
5490?[a] *2*	[a]		B	
5490.34[a] *5*	(4$^-$,6$^-$)[a]		A f Hi	J$^{\pi}$: γ's to 5$^-$ and 6$^-$.
5491.53[a] *3*	(4$^-$,6$^-$)[a]	125 fs *+35−21*	A D f Hi L	J$^{\pi}$: γ's to 5$^-$ and 6$^-$.
5502 *3*			D g	
5511.78 *14*	1$^-$	0.0194 fs *+12−18*	AB DEFgH L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). T$_{1/2}$: from (γ,γ'). Other: <3.5 fs from (n,n′γ).
5516.714 *23*	3$^-$	40.9 fs *21*	AB D FGH	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L($\alpha$,$\alpha'$)=3.
5524 *3*	+		D I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J$^{\pi}$: L(d,^{3}He)=5.
5531 *3*			D F	
5536.58 *19*	10$^+$		A D G	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ + $\nu 1j_{15/2}\nu 2f^{-1}_{5/2}$. J$^{\pi}$: from σ and form factor in (e,e′).
5543.01 *14*	7$^-$		Ab d G I	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J$^{\pi}$: from σ and form factor in (e,e′).
5545.46 *4*	(5$^-$)	37 fs *+8−6*	Ab d H	J$^{\pi}$: γ's to 5$^-$ and 4$^-$. 1997Sc21 propose *J*$^{\pi}$=5$^-$ on the basis of the observed γ decay and the strength of the level in their (t,$\alpha\gamma$) work.
5548.113 *23*	2$^-$	83 fs *7*	A D F H L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L(d,p)=2 with both d3/2 and d5/2 components.
5554 *2*			D	
5557.2 *10*			F	
5561.31 *5*	2$^+$	38 fs *4*	B D H	J$^{\pi}$: L(α,α')=2. L(p,p′)=2.

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^{208}Pb Levels (continued)

E(level)†	J^π‡	$T_{1/2}$#	XREF	Comments
5563.73 *4*	3^-	44 fs +*9*−*7*	A F H L	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J^π: from L(d,p)=2+4.
5565.2 *5*	(4^+)		A G J	J^π: from σ and form factor in (e,e′).
5572.0 *8*			F	
5576.6 *15*	[l]		D i	
5579.0 *9*	[l]		F i	
5587.7 *5*	[l]		D F i	
5599.48 *6*	0^-	>159 fs	A D F H L	configuration=$\nu 3d_{5/2}\nu 2f^{-1}_{5/2}$ with a small admixture of configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$. J^π: L(d,p)=0. Strength in (d,p) rules out 1^- given $J^\pi=1^-$ for the 4842, 5292, and 5512 L=0 levels.
5615.4 *4*	7^+		D FG	J^π: excitation function resonates at $\nu 1j_{15/2}$ IAR in (p,p′). configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{3/2}$ with $J^\pi=7^+$ from $\sigma(\theta)$ in (p,p′) IAR.
5627 *5*	$^+$		I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^π: L(d,^{3}He)=5.
5639.55 *9*	1^-	0.13 ps +*12*−*5*	Ab D F H L	J^π: γ′s to 0^+ and 3^-. RUL for the transition to g.s. rules out 2^-. (p,p′) via IAR rules out $J^\pi=2^+$ (2007He01). configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$.
5641.98 *20*	$1,2^+$	<5.5 fs	b D H	J^π: γ to 0^+. RUL rules out 2^- or J>2.
5643 *4*	2 to 7^-		b I	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J^π: L(d,^{3}He)=2.
5649.01 *6*	$3^-,4^-$	37 fs +*13*−*10*	A D FgH	J^π: D+Q γ to 3^-. γ to 5^- is not M2 or E3 (RUL)E3. Resonates at the $\nu 2g_{9/2}$ IAR in (p,p′). configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{7/2}$ from $\sigma(\theta)$ in (p,p′) IAR (2007HeZW).
5649.5 *4*	6 to 9^+		D	J^π: excitation function resonates at $\nu 1j_{15/2}$ IAR in (p,p′). configuration=$\nu 1j_{15/2}\nu 3p^{-1}_{3/2}$ from $\sigma(\theta)$ in (p,p′) IAR.
5658.51 *4*	5^-[m]	31 fs +*7*−*6*	B D FgHi	J^π: L(α,α′)=5. L(p,p′)=5.
5665.7 *11*	[m]		B D i	
5675.366 *23*	$2^-,3,4$[n]	13 fs +*6*−*5*	A D F Hi	J^π: D+Q γ to 3^- allows J=2, 3, or 4. RUL for γ′s to 4^- rule out 2^+ L(p,p′)=(3).
5686.5 *7*	6^-[gn]		A D F Hi	J^π: γ′s to 5^- and 6^-. configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{7/2}$.
5690.117 *23*	4^+	46 fs *4*	ABCD GHI	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^π: from σ and form factor in (e,e′). Confirming assignments are L(α,α′)=4 and L(p,p′)=4.
5694.22 *12*	7^-[g]	58 fs +*84*−*30*	A D HI	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$ + $\nu 2g_{9/2}\nu 2f^{-1}_{7/2}$. J^π: γ to 6^-. L(d,^{3}He)=2.
5715.53 *9*	2^+	3.7 fs *11*	A DE GHI	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^π: from $\gamma(\theta)$ and γ(pol) in (γ,γ′). $T_{1/2}$: unweighted average of 4.8 fs *9* from (n,n′γ) and 2.6 fs +*5*−*3* from (γ,γ′).
5721.51 *4*	7^-	28 fs +*9*−*7*	B D F H	J^π: L(α,α′)=7.

From ENSDF

^{208}Pb Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
5727 *6*	+		I	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. Jπ: L(d,^{3}He)=5.
5737.9 *3*			D L	
5741.1 *4*	6 to 9+		D F	Jπ: excitation function resonates at $\nu 1j_{15/2}$ IAR in (p,p′). configuration=$\nu 1j_{15/2}\nu 3p_{3/2}^{-1}$ from $\sigma(\theta)$ in (p,p′) IAR.
5749.67 *14*	(11+)@		J	
5763.7 *8*	6+		D I	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$ + $\nu 1j_{15/2}\nu 3p_{3/2}^{-1}$. Jπ: L(p,p′)=6. L(d,^{3}He)=5.
5777.96 *3*	2−,3−	15.9 fs *14*	A D FGHI L	configuration=$\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$ + $\nu 3d_{5/2}\nu 3p_{1/2}^{-1}$ or $\nu 3d_{3/2}\nu 3p_{1/2}^{-1}$ + $\nu 3d_{5/2}\nu 3p_{1/2}^{-1}$ + $\pi 1h_{9/2}\pi 2d_{5/2}^{-1}$. Jπ: L(d,p)=2+4, or L=2 with both d3/2 and d5/2.
5783.22 *7*		41 fs *+22−14*	A H	Jπ: γ to 6−.
5789.34 *4*	2+,3+,4+	40 fs *+4−3*	HI	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. Jπ: L(d,^{3}He)=5. γ to 3− rules out 1+ and *J*π>4+.
5799.41 *9*		>690 fs	A D H	Jπ: γ to 4−.
5805.0 *3*	1	5.1 fs *+11−10*	A D H L	Jπ: from γ(θ) in (n,n′γ).
5813.27 *4*	3−	22 fs *+4−3*	ABCD FGH L	configuration=$\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$. Jπ: L(α,α′)=3. L(p,p′)=3.
5819.49 *20*	1+,2+	222 fs *+42−35*	F HI	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. Jπ: L(d,^{3}He)=5. γ to 0+.
5825.3 *5*			A D F	Jπ: γ to 8+.
5835 *2*			B	E(level): excited in (α,α′) so this level must Be different from the 5835.8 level which has unnatural parity.
5835.8 *6*	8−		D F	configuration=$\nu 2g_{9/2}\nu 2f_{7/2}^{-1}$. Jπ: excitation function resonates at $\nu 2g_{9/2}$ IAR in (p,p′). *J*π=8− from $\sigma(\theta)$ in (p,p′) IAR.
5844.49 *20*	1+	≤0.31 fs	A CDE GHI M	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. Jπ: from γ(θ) and γ(pol) in (γ,γ′). $T_{1/2}$: from (γ,γ′). Γ data in (γ,γ′) gives $T_{1/2}$=0.283$\Gamma_{\gamma 0}/\Gamma$ fs +27−23. B(M1)=1.01 *+43−13* in (e,e′) gives $T_{1/2}$=0.59$\Gamma_{\gamma 0}/\Gamma$ fs +9−17. $T_{1/2}$<2.1 fs is reported in (n,n′γ). The uncertainties in the (e,e′) work do not include a systematic component.
5860 *6*	11+		G	configuration=$\nu 1i_{11/2}\nu 1i_{13/2}^{-1}$. Jπ: from σ and form factor in (e,e′).
5867 *4*	+		I	configuration=$\pi 1h_{9/2}\pi 1h_{11/2}^{-1}$. Jπ: L(d,^{3}He)=5.
5873.573 *23*	3−	13.2 fs *+21−14*	AB D F H J L	configuration=$\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$. Jπ: L(α,α′)=3.
5885.55 *4*	3−	13.9 fs *14*	AB D F HI L	configuration=$\nu 3d_{5/2}\nu 3p_{1/2}^{-1}$ + $\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$ + $\pi 1h_{9/2}\pi 2d_{5/2}^{-1}$.

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Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
				J^π: L(d,p)=2+4.
5901 *3*	$(8)^+$		D I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. J^π: L(p,p′)=(8); L(d,^{3}He)=5.
5918.28 *4*	$3^-,4,5^-$	173 fs *+56−42*	D H	J^π: γ′s to 3^- and 5^- are not M2 or E3 (RUL).
5923.67 *3*	2^-	104 fs *+90−42*	A D F H L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J^π: L(d,p)=2 for d3/2 gives 1^- or 2^-. Strength in (d,p) rules out 1^- given $J^\pi=1^-$ for the 5947 level.
5928.0 *3*	10^+		A G I	J^π: from σ and form factor in (e,e′). configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.
5944 *5*	+		I	J^π: L(d,^{3}He)=5. configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$.
5946.77 *20*	1^-	≤0.48 fs	A DEF H L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J^π: from $\gamma(\theta)$ and γ(pol) in (γ,γ′). $T_{1/2}$: from (γ,γ′). Other: <1.4 fs from (n,n′γ).
5954 *6*	9^+		G	configuration=$\nu 1i_{11/2}\nu 1i^{-1}_{13/2}$ + $\pi 2f_{7/2}\pi 1h^{-1}_{11/2}$. J^π: from σ and form factor in (e,e′).
5957.3 *6*			D	
5965.8 *4*			A	J^π: γ to 4^+.
5967.8 *8*	≈9		D	J^π: L(p,p′)≈9.
5968.55 *6*	4^-	7.6 fs *+42−35*	A D F H L	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J^π: L(d,p)=4 for 2g7/2 gives 3^- or 4^-. Mult(1762γ) to 6^- cannot Be M3 (RUL).
5973.0 *4*	2^+		AB	J^π: γ′s to 4^+ and 0^+.
5981 *2*			D	
5989.1 *12*			D F	
5992.67 *25*	6^+		ABCD FG	J^π: from σ and form factor in (e,e′). Confirming arguments are L(α,α′)=6 and L(p,p′)=6.
5996 *5*	−		I	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J^π: L(d,^{3}He)=2.
6009.75 *4*	3^-	11 fs *+5−4*	ABCD FGH L	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J^π: L(α,α′)=3. L(p,p′)=3.
6011.64 *6*		57 fs *+13−11*	H	J^π: γ to 3^-.
6020.4 *20*			D	
6025.8 *6*			A D F	J^π: γ to 4^-.
6033 *2*			D	
6037.5 *12*	$(5^+,6^+)$		D F	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? J^π: probable configuration for L(d,p)=(5).
6053.7 *6*	4^+		B D G	J^π: L(p,p′)=4. Excited in (α,α′).
6068.2 *12*	$(5^+,6^+)$		D F	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? J^π: probable configuration for L(d,p)=(5).
6071 *5*	−		I	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$.

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Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
				Jπ: L(d,^{3}He)=2.
6076.4 *13*	$0^-,1^-$		D F	configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=0.
6086.56 *4*	1^-	37 fs *+25−15*	AB D F H L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=2 for d3/2. γ's to 0^+ and 3^-. Excited in (α,α′) so 2^- is ruled out.
6099.8 *4*			A D	Jπ: γ to 5^- and to the 5239 level that deexcites to 3^-.
6100.69 *14*	12^+		D G J	configuration=$\nu 1i_{11/2}\nu 1i^{-1}_{13/2}$. Jπ: from σ and form factor in (e,e′).
6101.1 *10*	(5^+)	>690 fs	D F H	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? Jπ: probable configuration for L(d,p)=(5) allows 5^+ or 6^+. γ to 4^- is not M2 (RUL).
6103.5 *5*			A	Jπ: γ to 5^- and to the 5566 level that deexcites to 4^-.
6147.8 *8*			A H	Jπ: γ to 4^-.
6179 *5*	2^+		D I	configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$. Jπ: L(p,p′)=2.
6191.0 *15*	3^-		D F	Jπ: L(p,p′)=3. Note that L=(5) is reported in (d,p); however, the assignment is tentative.
6193.1 *4*	2^+	0.62 fs *5*	B DE G	XREF: B(6195.6). Jπ: from γ(θ) and γ(pol) in (γ,γ′). A confirming argument is from σ and form factor in (e,e′). $T_{1/2}$: from B(E2)=0.0505 *37* in (e,e′). Other: 0.75 fs *+20−13* from (γ,γ′), both deduced for $\Gamma_{\gamma 0}/\Gamma$=1.
6216.8 *15*			D	
6223.9 *15*			D	
6234.9 *6*			D g	
6242.4 *9*	*o*		AB D FgHi	Jπ: γ to 3^-.
6250.6 *15*	*o*		D G i	
6255.68 *6*	2^+	≤0.91 fs	A DEF H	Jπ: from γ(θ) and γ(pol) in (γ,γ′). $T_{1/2}$: from (γ,γ′).
6263.7 *1*	1^-	≤0.21 fs	AB DEFG L	configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. Jπ: from γ(θ) and γ(pol) in (γ,γ′). Confirming arguments are L(α,α′)=1 and L(d,p)=0+2. $T_{1/2}$: from (γ,γ′).
6274.55 *22*	3^-	12 fs *+16−10*	AB D F H	configuration=$\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$ + $\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. Jπ: L(d,p)=2+4. A confirming argument is L(p,p′)=3.
6283 *6*	10^-		G	Jπ: from σ and form factor in (e,e′).
6313.9 *1*	1^-	≤0.17 fs	AB DEF L	configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$. Jπ: from γ(θ) and γ(pol) in (γ,γ′). $T_{1/2}$: from (γ,γ′).
6317.6 *15*			D	
6327.2 *15*			D	
6332.9 *15*	*b*		D g	

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^{208}Pb Levels (continued)

E(level)†	J^{π}‡	$T_{1/2}$#	XREF	Comments
6340 *5*	$1^-,2,3^-$ b		A D Fg M	J^{π}: γ to 3^-. Fed from $0^-,1^-$ capturing state.
6348.3 *15*	b		D g	
6354.4 *4*			A D F	J^{π}: γ to 3^-.
6361.6 *1*	1^-	≤0.30 fs	AB DEF L	configuration=$\nu 3d_{3/2}\nu 3p_{1/2}^{-1}$. J^{π}: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). A confirming argument is L(α,α')=1. $T_{1/2}$: from (γ,γ').
6371.8 *15*	$2^+,3^-$		D G	J^{π}: from σ and form factor in (e,e′). 2^+ is preferred by the authors, but 3^- cannot Be ruled out.
6378.8 *6*			D	
6389.6 *5*	$-$p		D Fg l	configuration=$\nu 3d_{3/2}\nu 3p_{1/2}^{-1}$ or $\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$. J^{π}: L(d,p)=2 or 4.
6397.1 *15*	p		D g l	
6420.2 *14*	$(5^+,6^+)$		D F	XREF: D(6418.8)F(6421.6). configuration=$\nu 2h_{11/2}\nu 3p_{1/2}^{-1}$? E(level): the energy agreement between (d,p) and (p,p′) is poor, but 1997VaZT assign these as the same level. J^{π}: probable configuration for L(d,p)=(5) allows 5^+ or 6^+.
6427.6 *15*			D G	
6428 *10*	2^-		G	B(M2)↑≈2.4 E(level),J^{π}: from σ and form factor in (e,e′). The evaluator assumes that this level is distinct from that at 6427.6 since (α,α') is not expected to excite an unnatural parity level.
6435.57 *23*	12^-		D G J	configuration=$\nu 1j_{15/2}\nu 1i_{13/2}^{-1}$. J^{π}: from σ and form factor in (e,e′).
6444.4 *2*	3^-		D F L	configuration=$\nu 3d_{5/2}\nu 3p_{1/2}^{-1}$ + $\nu 2g_{7/2}\nu 3p_{1/2}^{-1}$. J^{π}: L(d,p)=2+4. A confirming argument is L(p,p′)=3.
6448.40 *14*	(13^-)@		D J	
6452.0 *5*			B D	
6462.7 *4*	$-$		D F I	configuration=$\pi 1h_{9/2}\pi 2d_{5/2}^{-1}$. J^{π}: L(d,^{3}He)=2.
6472.6 *15*			D	
6482.0 *15*	2^-		D G	J^{π}: from σ and form factor in (e,e′). B(M2)≈8 from (e,e′).
6486.5 *2*	1^-	0.78 fs *+37−23*	AB DEF L	configuration=$\nu 4s_{1/2}\nu 3p_{1/2}^{-1}$ + $\nu 3d_{3/2}\nu 3p_{1/2}^{-1}$. J^{π}: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). A confirming argument is L(d,p)=0+2. $T_{1/2}$: from (γ,γ').
6505.6 *22*	1	≤1.0 fs	DE	J^{π}: from $\gamma(\theta)$ in (γ,γ'). $T_{1/2}$: from (γ,γ').
6512.8 *6*	1	≤4.2 fs	DE g	J^{π}: from $\gamma(\theta)$ in (γ,γ'). $T_{1/2}$: from (γ,γ').

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^{208}Pb Levels (continued)

E(level)[†]	J^π[‡]	$T_{1/2}$[#]	XREF	Comments
6529.0[c] *15*	–		a D g I	configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J^π: L(d,^{3}He)=2.
6531.7[c] *15*			a D	
6541.6 *6*			B D	
6545.2 *11*			A	
6551.93 *16*	1^-,2,3^-		A L	J^π: γ's to 0^+ and 3^-.
6561.0 *15*			D	
6573.2 *15*			D F	
6579.0			D	
6588 *10*	2^-		G	E(level): this level may correspond to one of the adjacent levels seen in (p,p′) or (d,p). J^π: from σ and form factor in (e,e′). B(M2)≈3 from (e,e′).
6589.0 *15*			D F	
6609.2 *15*			D	
6617.0 *3*	3^-		AB D FG I L	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$ + $\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$. J^π: from σ and form factor in (e,e′).
6631.5 *6*			B D	
6655.3 *15*			D F	
6657.8 *5*	4^+		AB D G L	J^π: L(p,p′)=4.
6682.46 *14*	(5^-)		A D F L	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? J^π: probable configuration for L(d,p)=(5). γ to 3^- rules out 6^-.
6687.8 *7*	5^-		B D L	XREF: L(6692.0). J^π: L(p,p′)=5.
6699.60 *23*	(3^-)[d]		AB D Fg	J^π: γ's to 2^- and 5^-. Excited in (α,α') so level probably has natural parity. From σ and form factor in (e,e′) one has J^π=1^-,(2^-,3^-) for a level at 6701 *9*.
6708.9 *15*	[d]		D g	
6719.8 *5*	1^-	0.052 fs *+6−12*	AB DEF L	XREF: L(6718.4). E(level),J^π: J^π=1^- from $\gamma(\theta)$ and γ(pol) for Eγ=6719.7 *5*. L=(1) in (p,p′) for E=6719.7 *7*. E(d,p)=6720.8 *15*. Although the energy agreement is not good, E(p,p′γ)=6718.5 *3* with J determined as 1 from $\gamma(\theta)$, and Eγ=6716.3 *4* in (d,pγ) and E(α,α')=6717 *2* probably correspond to the same 1^- level. $T_{1/2}$: from (γ,γ').
6728 *2*			D	
6734.4 *11*			D FG	
6739.6 *7*			D L	XREF: L(6740.1).
6743.42 *16*	14^-		D G J	configuration=$\nu 1j_{15/2}\nu 1i^{-1}_{13/2}$. J^π: from σ and form factor in (e,e′).
6756.4 *7*			D g	
6766.6 *10*			A D Fg	
6773.4 *15*	1,2,3^-		A D Fg	XREF: D(6777.0)F(6774.7). J^π: γ to 0^+.

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^{208}Pb Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
6789.1 *6*	$(2^-,3^+)$		A D FG	J^{π}: $J^{\pi}=3^+$ or, less likely, 2^-, from σ and form factor in (e,e′).
6794.1 *15*			D	
6800.8 *20*			D F L	J^{π}: γ to 5^-.
6820.0 *4*	$(2^-,3^-)$		A D F	J^{π}: γ′s to 1^- and 4^-.
6825.6 *7*			D F	
6831.5 *15*	(8^-)		D G	configuration=$\nu 1j_{15/2}\nu 1i^{-1}_{13/2}$. J^{π}: from σ and form factor in (e,e′) for E=6833.
6845.7 *6*	(8^+)		D	J^{π}: L(p,p′)=(8).
6861.4[e] *6*	9^-[e]		D G	configuration=$\pi 1i_{13/2}\pi 1h^{-1}_{11/2}$. J^{π}: from σ and form factor in (e,e′).
6868.0[e] *6*	10^-[e]		D G	J^{π}: from σ and form factor in (e,e′).
6877.7 *5*			D F	
6879 *6*	7^-		G	configuration=$\pi 1i_{13/2}\pi 1h^{-1}_{11/2}$. J^{π}: from σ and form factor in (e,e′).
6884 *6*	10^-		G	configuration=$\pi 1i_{13/2}\pi 1h^{-1}_{11/2}$. J^{π}: from σ and form factor in (e,e′).
6897.3 *4*			A D	E(level): from (d,pγ). Other:6897.2 *6* from (p,p′).
6913 *4*	2^+	≤0.85 fs	E	J^{π}: J=2 from $\gamma(\theta)$. B(M2)(W.u.)>82 rules out $J^{\pi}=2^-$. $T_{1/2}$: from (γ,γ′).
6917.5 *6*			D	
6920.7 *8*			A	
6929.6 *5*	2^-		A D FG	B(M2)↑≈20 configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. E(level): from (d,p$\gamma$). Others:6929.1 *6* from (p,p′)and 6927.5 *6* from (d,p). J^{π}: from σ and form factor in (e,e′γ). A confirming argument is L(d,p)=2 with both $d_{3/2}$ and $d_{5/2}$ configurations.
6939.9 *15*	3^-		D	J^{π}: L(p,p′)=3.
6947 *2*			D	
6969.3 *5*	2^-		A D FG	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{5/2}\nu 3p^{-1}_{1/2}$. E(level): from (d,p$\gamma$). Others:6969.5 *6* from (p,p′) and 1968.9 *6* from (d,p). J^{π}: L(d,p)=2 with both $d_{3/2}$ and $d_{5/2}$ configurations. Note that L(p,p′)=(1).
6980 *40*	$1,2^+$	≈1.8 fs	E	J^{π}: seen in (γ,γ′). $T_{1/2}$: from (γ,γ′).
6988.7 *15*			D g	
6995.1 *15*			D g	
7000	(9^+)		G	J^{π}: from σ and form factor in (e,e′).
7001.0 *4*			A D F	J^{π}: γ to 5^-.
7020.2 *6*	1^-		FG	configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J^{π}: L(d,p)=0+2.
7020.2 *4*	(3^-)		A D	J^{π}: L(p,p′)=(3). γ′s to 4^+ and 4^-.
7034 *2*			D	

Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
7057.9 *15*			D	
7061 *5*	12^-		D G	configuration=$\pi 1i_{13/2}\pi 1h^{-1}_{11/2}$. J^{π}: from σ and form factor in (e,e′). A confirming argument is from 1990Fu07 in (p,p′) based on comparison of $\sigma(\theta)$ with DWBA calculations for the indicated pure particle-hole configuration, and agreement of excitation energy with the calculated value. The J^{π} and configuration agree with the earlier (p,p′) work of 1980Ba46.
7063.53 *20*	1^-	0.025 fs *+1−3*	AB DEFG L	XREF: L(7062.1). configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$. J^{π}: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). $T_{1/2}$: from (γ,γ').
7083.2 *3*	1^-	0.050 fs *4*	A DEF L	configuration=$\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J^{π}: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). $T_{1/2}$: from (γ,γ').
7086 *6*	12^-		G	configuration=$\pi 1i_{13/2}\pi 1h^{-1}_{11/2}$. J^{π}: from σ and form factor in (e,e′).
7095.6 *3*			D	
7108 *10*	$(1^-,3^-)$		G	J^{π}: from σ and form factor in (e,e′). $J^{\pi}=1^-$ is most probable, but 3^- cannot Be ruled out.
7117.0 *3*	(3^-)		D F	J^{π}: L(p,p′)=(3).
7137.3 *4*	$3^-,4^-$		A D F	configuration=$\nu 2g_{7/2}\nu 3p^{-1}_{1/2}$. J^{π}: L(d,p)=4 for g7/2 allows 3^- or 4^-.
7143 *10*	$(3^+,2^-)$		G	J^{π}: from σ and form factor in (e,e′). $J^{\pi}=3^+$ is the authors′ preferred value, but 2^- cannot Be ruled out.
7146.1 *15*	$(5^-,6^-)$		D F	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? J^{π}: probable configuration for L(d,p)=(5).
7157 *2*			D	
7167 *2*			D F	
7177.0 *3*	1	≤0.57 fs	DE	J^{π}: from $\gamma(\theta)$ in (γ,γ'). $T_{1/2}$: from (γ,γ').
7191.6 *15*			D	
7196.6 *10*			Ab D Fg	J^{π}: γ to 3^-.
7206.9 *5*	1	≤0.51 fs	Ab E g	J^{π}: from $\gamma(\theta)$ in (γ,γ'). $T_{1/2}$: from (γ,γ').
7218.6 *14*			A D F	
7232.2 *15*			D F	
7240 *2*	1^-	≤0.24 fs	A D F	E(level): the data are inconsistent. The values are 7238.7 *6* (d,pγ), 7239.6 *15* (d,p), 7241.4 *1* (p,p′γ), 7237.9 *15* (p,p′) and 7243 *3* (γ,γ'). The evaluator assumes that all these reactions are exciting the same level. configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J^{π}: L(d,p)=0+2. $T_{1/2}$: from (γ,γ').
7255.3 *15*			D FG	

^{208}Pb Levels (continued)

E(level)†	J$^{\pi}$‡	T$_{1/2}$#	XREF	Comments
7264.4 *10*			A g	J$^{\pi}$: γ to 5$^-$.
7265.9 *15*	2$^+$		D g	J$^{\pi}$: L(p,p′)=2.
7278.68 *20*	1$^+$	0.585 fs *15*	DEFg	J$^{\pi}$: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). T$_{1/2}$: from (γ,γ').
7280			B	E(level): this level is excited in (α,α') and thus is probably distinct from the 7278.68 level which has unnatural parity.
7291.4 *23*			D F	
7301.2 *17*			D F	
7311 *2*			F	
7313 *4*	(2$^-$,3$^+$)		G	J$^{\pi}$: from σ and form factor in (e,e′). 3$^+$ is the authors′ preferred value; however, 2$^-$ cannot Be ruled out.
7315.4 *20*	2$^+$		A D L	J$^{\pi}$: L(p,p′)=2.
7332.4 *8*	1$^-$	0.016 fs *+2−4*	A DEF	XREF: D(7326.5)F(7329.2). J$^{\pi}$: from $\gamma(\theta)$ and γ(pol) in (γ,γ'). T$_{1/2}$: from (γ,γ').
7334.8 *15*	3$^-$		D	J$^{\pi}$: L(p,p′)=3.
7335.4 *15*	(5$^-$,6$^-$)		F	E(level): L is tentative, so this may Be the same as the 7334.8 level. configuration=$\nu2h_{11/2}\nu3p_{1/2}^{-1}$? J$^{\pi}$: probable configuration for L(d,p)=(5).
7346 *3*			D G	
7360^f *50*	2$^+$		D	XREF: Others: AE J$^{\pi}$: L(p,p′)=2. Γ=400 keV *50*. %EWSR=6.5 *10*.
7360.1 *15*	(5$^-$,6$^-$)		D F	configuration=$\nu2h_{11/2}\nu3p_{1/2}^{-1}$? J$^{\pi}$: probable configuration for L(d,p)=(5).
7370.92 *5*	2$^+$		NOP	
7371.6 *17*			D F	
7378.01 *5*	2$^+$		NOP	
7380.17 *5*			N	
7382 *9*	(4$^+$)		D	J$^{\pi}$: L(p,p′)=(4).
7383.96 *6*	2$^+$		OP	
7384.55 *5*	1$^+$		N P	
7389.0 *10*	3$^-$		A D G	J$^{\pi}$: J^{π}=3$^-$ or 1$^-$ from σ and form factor in (e,e′). 3$^-$ is the authors′ preferred value, but 1$^-$ cannot Be ruled out. γ to 4$^-$ rules out the 1$^-$ alternative.
7397.12 *6*	(2)$^+$		NO	
7398.21 *3*	1		OP	
7399.4 *11*	4$^+$		BCD F	J$^{\pi}$: L=4 in (α,α') and (d,d′).
7400.68 *6*	2$^+$		O	
7405.41 *6*	1$^+$		NOP	
7408.5^f *11*			D F	
7408.94 *5*	1$^-$		NOP	

$^{208}_{82}$Pb$_{126}$-18

^{208}Pb Levels (continued)

E(level)†	J$^{\pi}$‡	T$_{1/2}$#	XREF	Comments
7415 *3*	1^-	≤0.17 fs	E G	J$^{\pi}$: J=1 from $\gamma(\theta)$ in (γ,γ'). J^{π}=1^- or possibly 3^- from σ and form factor in (e,e′). T$_{1/2}$: from (γ,γ').
7416.04 *7*	2^+		OP	
7420.9 *11*			D F	
7428.9 *11*			D F	E(level): possibly the same level as that seen at 7430.38 in resonance work.
7430.38 *7*	2^+		O	
7435.34 *9*			O	
7435.90 *5*	2^+		NO	
7440.53 *5*	1^+		NO	
7449.4 *12*	(5^-,6^-)		D F	configuration=$\nu 2h_{11/2}\nu 3p^{-1}_{1/2}$? J$^{\pi}$: probable configuration for L(d,p)=(5).
7449.55 *5*	0^+		N	
7450.45 *5*	2^+		NO	
7455.19 *5*	2^+		NO	
7459 *2*	2^-		D FG	J$^{\pi}$: from σ and form factor in (e,e′). B(M2)≈11 from (e,e′).
7465.79 *5*	1^+		NOP	
7465.79 *6*	2^+		NO	
7468.6 *6*	1^-		D F	E(level): possibly the same level as that seen at 7469.18 in resonance work. configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L(d,p)=0+2.
7469.18 *6*	1^-		NOP	
7470.94 *6*	0^+		N	
7479.38 *6*	(2^+)		NO	
7482 *10*	(1^-,3^-)		G	J$^{\pi}$: from σ and form factor in (e,e′). The authors′ preferred assignment is 3^-, but 1^- cannot Be ruled out.
7482.49 *6*	1^+		NOP	
7491	2^+		D	E(level): possibly the same level as that seen at 7494.92 in resonance work. J$^{\pi}$: L(p,p′)=2.
7494.92 *8*	2^+		NOP	
7495.17 *8*	1^+		NO	
7497.47 *6*	1^+		NOP	
7499.41 *7*	$1^{(+)}$		NO	
7502.47 *7*	0^+		N	
7503.70 *7*	(2^+)		NO	
7505.0 *3*	1^-		D F	configuration=$\nu 4s_{1/2}\nu 3p^{-1}_{1/2}$ + $\nu 3d_{3/2}\nu 3p^{-1}_{1/2}$. J$^{\pi}$: L(d,p)=0+2.
7506.89 *7*	2^+		NO	
7508.12 *15*	(2^+)		O	
7509 *4*	2^-		G	J$^{\pi}$: from σ and form factor in (e,e′). B(M2)≈10 from (e,e′).

$^{208}_{82}$Pb$_{126}$-19

^{208}Pb Levels (continued)

E(level)†	J$^{\pi}$‡	$T_{1/2}$#	L	XREF	Comments
7512.58 7	1^+			NO	
7515.38 7	(1^+)			NO	
7516.29 7	(1^+)			N	
7517	3^-			D	J$^{\pi}$: L(p,p′)=3.
7517 2	$0^-,1^-$			F	J$^{\pi}$: L(d,p)=0.
7520.90 7	2^+			NO	
7522.89 7	1^+			NO	
7523.84 7	$(0^+,1^+)$			N P	
7526.01 10	2^+			NO	
7528.79 17				J	
7535.57 7	1^+			NO	
7537.60 18	(2^+)			O	
7538.18 7	2^+			NO	
7546.02 10	1^+			NO	
7546.24 11	0^+			N	
7547.98 10	1^+			NO	
7548.18 7	2^+			NO	
7548.49 11	1^-			NOP	
7548.6 6	1^-	≤0.35 fs		DEFG	configuration=$\nu 4s_{1/2}\nu 3p_{1/2}^{-1}$ + $\nu 3d_{3/2}\nu 3p_{1/2}^{-1}$. E(level): possibly the same level as that seen at 7548.49 in resonance work. J$^{\pi}$: L(d,p)=0+2. Confirming arguments are J=1 from $\gamma(\theta)$ in (γ,γ'), and $J^{\pi}=1^-$ or possibly 2^- or 3^+ from σ and form factor in (e,e′). $T_{1/2}$: from (γ,γ').
7549.09 11	(0^+)			N	
7553.29 10	(0^+)		(1)	N	E(level): possible multiplet.
7563.94 11	(2^+)			NO	
7566.43 10	(0^+)			N	
7567.89 11	$(^+)$			N	
7568.00 8				N	
7573^f 7				D	
7574.49 10	0^+			N	
7576.31 10	2^-			N	
7577.41 11	1^+			NO	
7578.62 11	$(2)^-$			N	
7580.71 11				N	
7585.27 10	1^+			NO	
7586.85 23	(1)			O	
7587.04 10	2^+			NO	
7590.79 10	$(2)^+$			NO	
7594^f 7				D	
7595.26 11	0^-			N	

$^{208}_{82}$Pb$_{126}$-20

^{208}Pb Levels (continued)

E(level)†	Jπ‡	$T_{1/2}$#	XREF	Comments
7596.53 *10*	1^+		NO	
7598.07 *11*			N	
7600.01 *11*	(1^+)		NO	
7607.38 *11*	2^+		NO	
7610.21 *11*	$(1)^+$		N	
7610.64 *11*	(2^+)		NO	
7616.16 *10*	2^+		NOP	
7616.55 *11*	1^+		NO	
7621.09 *10*	3^-		N	
7623.07 *26*	1^-		NOP	
7627.20 *11*			N	
7628.77 *16*	$(1)^+$		NO	
7631 *4*	1^-	≤0.57 fs	E G	Jπ: J=1 from $\gamma(\theta)$ in (γ,γ'). $J^\pi=1^-$ or possibly 2^- or 3^- from σ and form factor in (e,e′). $T_{1/2}$: from (γ,γ').
7632.03 *10*	1^+		NO	
7636.02 *21*	(2^+)		NO	
7636.4 *3*	2^+		O	
7640.01 *11*	(2^+)		NO	
7642.98 *21*	(0^+)		N	
7644.5 *2*			N	
7650.2			P	
7651.18 *11*	1^+		NO	
7651.52 *10*	$(2)^+$		N	
7653.93 *11*	(1^+)		NO	
7655.3 *3*	(2^+)		O	
7656 *8*	(10^+)		D G	Jπ: L(p,p′)=(10).
7656.66 *11*	0^+		N	
7662.91 *11*	$1^{(+)}$		NO	
7664.41 *10*	1^+		NOP	
7666.32 *11*	(1^+)		NO	
7667.81 *11*	(0^+)		N	
7670.83 *11*			N	
7672.51 *11*	(1^+)		NO	
7676.35 *11*	$(2)^-$		N	
7676.59 *10*	(1^-)		N	
7680.18 *11*			N	
7680.44 *11*	1^+		NO	
7683.31 *11*	1^-		NOP	
7683.7 *2*	(0^+)		N	
7685.4 *5*	$1,2^+$		DE	Jπ: excited in (γ,γ').
7685.89 *11*	2^-		N	
7689.63 *11*	2^+		NO	

$^{208}_{82}Pb_{126}$-21

Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	$J^{\pi\ddagger}$	$T_{1/2}$$^{\#}$	XREF	Comments
7696.02 *11*	3^-		N	
7696.5 *3*	1^-		N	
7698.68 *10*	$(2)^+$		NO	
7700^{f} *10*			G	
7701.87 *10*	1^+		NO	
7702.80 *10*	$(2)^+$		N	
7706.62 *11*			N	
7712.68 *10*	(2^+)		N	
7715.95 *11*			N	
7721.52 *11*	2^-		N	
7722.6 *24*	1	≤0.62 fs	DE	J^{π}: from $\gamma(\theta)$ in (γ,γ'). $T_{1/2}$: from (γ,γ').
7725.92 *11*	2^+		N	
7734.87 *11*	2^+		N	
7736.17 *11*	1^+		NO	
7738.94 *11*	(0^+)		N	
7740^{f} *10*			N	
7743.03 *11*	(0^+)		N	
7743.09 *12*			N	
7744.65 *11*	2^+		NO	
7745.33 *11*	(1^+)		NO	
7748.55 *11*	2^+		NO	
7749.60 *11*	(0^+)		N	
7751.92 *21*	(1^+)		NO	
7757.55 *13*			N	
7761.1 *2*	2^+		g NO	
7762.1 *2*	$(0)^+$		N	
7767.5 *2*	2^+		g NO	
7768.3 *2*	2^+		g NO	
7771.6 *2*	0^+		N	
7777.09 *14*			N	
7777.9 *2*	$(2)^+$		NO	
7780.8 *1*	3^-		N	
7785.78 *14*	(2^+)		NO	
7786.4 *2*	2^+		NO	
7790.0 *2*	1^+		NO	
7790.8 *2*			N	
7791.56 *14*			N	
7792.9 *2*	1^+		NO	
7794.2 *2*	2^-		N	
7795.9 *2*	$(2)^+$		N	

Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)[†]	J^{π}[‡]	$T_{1/2}$[#]	XREF	Comments
7798.23 *14*			N	
7802.1 *2*	0^+		N	
7803.40 *14*			N	
7807 *6*	$(1^-,2^+,3^-)$		G	J^{π}: from σ and form factor in (e,e′). The authors′ preferred assignment is 3^-; however, 1^- and 2^+ cannot Be ruled out.
7808.13 *14*			N	
7808.76 *14*			N	
7811.13 *14*			N	
7812.0 *2*	2^+		NO	
7812.9 *2*	1^-		N	
7817.75 *15*	2^+		NO	
7818.21 *15*			N	
7823.15 *15*			N	
7825 *8*	(10^-)		D	configuration=$\nu 1i_{11/2}\nu 2h_{9/2}^{-1}$. J^{π}: from a comparison of $\sigma(\theta)$with DWBA calculations for the indicated pure particle-hole configuration, and agreement of the excitation energy with the calculated value (1990Fu07).
7828.3 *2*	3^-		N	
7829.5 *2*	1^-		N	
7830.04 *15*			N	
7830.61 *15*			N	
7831.9 *2*	$(1)^+$		N	
7832.5 *2*			N	
7837.1 *2*	$(2)^-$		N	
7838.1 *2*	3^-		N	
7839.9 *2*			N	
7840.9 *2*			N	
7844.5 *2*			N	
7845[f] *10*	2^+		D G	XREF: Others: AE XREF: D(7840). J^{π}: L(p,p′)=2. Γ=400 keV *50* from (p,p′). %EWSR=4.2 *6* from (p,p′).
7846.8 *2*			N	
7852			P	
7858			P	
7869			P	
7872 *6*	$(1^-,2)$		G	J^{π}: from σ and form factor in (e,e′). The authors preferred assignment is 2^+; however, 1^- and 2^- cannot Be ruled out.
7901.9 *6*	2^+		O	
7904.3 *6*	2^+		O	
7907.2 *6*	1^-		OP	
7913 *3*	$1^{(-)}$	≤0.48 fs	DE	XREF: D(7920). J^{π}: J=1 from $\gamma(\theta)$ in (γ,γ'). L(p,p′)=(1).

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Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	J^{π}‡	XREF	Comments
			$T_{1/2}$: from (γ,γ').
7913.8 *6*	2^+	OP	
7918		P	
7924 *3*	2^-	G	J^{π}: from σ and form factor in (e,e′). B(M2)≈20 in (e,e′).
7961 *3*	$(1^-,3^-)$	G	J^{π}: from σ and form factor in (e,e′). The authors preferred assignment is 3^-; however, 1^- cannot Be ruled out.
7965		P	
7967.5 *2*	3^-	N	
7968.5 *2*	0^+	N	
7970.0 *2*	$(2)^+$	N	
7971.2 *2*	1^-	N P	
7974.04 *19*	(15^-)@	J	
7974.2 *2*	1^+	N	
7977.7 *2*	2^-	N	
7978.8 *2*	$(0^+,1^+,2^+)$	N	
7980.9 *2*	1^-	NOP	
7981.7 *2*	$(1,2)^+$	N	
7982.6 *2*	$(1,2)^+$	N	
7987.3 *2*	2^-	N	
8001		P	
8008 *3*	2^-	D G	J^{π}: from σ and form factor in (e,e′). B(M2)≈11 in (e,e′).
8008.2 *7*	2^+	OP	
8018	1^-	P	
8026.95 *17*	(14^-)@	J	
8051.1 *7*	2^+	O	
8065		P	
8071.9 *7*	2^+	N	
8092		P	
8102	1^-	P	
8109.1 *8*	2^+	O	
8110 *50*	4^+	BCD	XREF: B(8100)C(8100). J^{π}: L=4 in (α,α'), (d,d′) and (p,p′). Γ=400 keV *50* in (p,p′). %EWSR=3.0 *15* in (p,p′), 2.5 in (α,α').
8144.5 *8*	2^+	OP	
8166 *8*	3^-	D	J^{π}: L(p,p′)=3.
8167.0 *8*	2^+	O	
8185		P	
8202		P	
8206		P	

From ENSDF

$^{208}_{82}Pb_{126}$-24

^{208}Pb Levels (continued)

E(level)[†]	J^{π}[‡]	XREF	Comments
8212	1^-	P	
8219.9 *9*	1	OP	
8220[f]	(1^-)	D	J^{π}: L(p,p′)=(1).
8252		P	
8264		P	
8264.38 *23*		J	J^{π}: γ to (14^-).
8274	1^-	P	
8293		P	
8310		P	
8319	1^-	P	
8338		P	
8343		P	
8350 *50*	3^-	D	J^{π}: L(p,p′)=3. Γ=400 keV *50*. %EWSR=4.0 *12*.
8350.79 *19*	(15^-)[@]	J	
8358		P	
8365	1^-	P	
8369 *8*	12^+	D	configuration=$\nu 1j_{15/2}\nu 2h^{-1}_{9/2}$. J^{π}: from a comparison of $\sigma(\theta)$with DWBA calculations for the indicated pure particle-hole configuration, and agreement of the excitation energy with the calculated value (1990Fu07).
8400[f]		G	
8470	3^-	D	J^{π}: L(p,p′)=3.
8493 *20*		V	E(level): possibly corresponds to the 8470 level.
8520 *20*		V	
8562.94 *24*	(16^-)[@]	J	
8620	2^+	D	J^{π}: L(p,p′)=2.
8723.50 *23*		J	J^{π}: γ to 14^-.
8750	2^+	D	J^{π}: L(p,p′)=2.
8812.70 *23*	$(14^-,15,16^-)$	J	J^{π}: γ′s to (14^-) and (16^-).
8860 *50*	2^+	D g	J^{π}: L(p,p′)=2. Γ=400 keV *50* in (p,p′). %EWSR=5.0 *8* in (p,p′).
8950	2^+	D g	J^{π}: L(p,p′)=2.
9061.2 *3*	(17^+)[@]	J	
9103.1 *3*		J	J^{π}: γ to (17^+).
9180	3^-	D	J^{π}: L(p,p′)=3.
9340 *50*	2^+	D	J^{π}: L(p,p′)=2. Γ=400 keV *50*. %EWSR=5.0 *8*.
9380	3^-	DE	XREF: E(9400). J^{π}: L(p,p′)=3.
9394.4 *4*		J	J^{π}: γ to 9103 which has a γ to (17^+).
9520	2^+	D G	XREF: G(9600).

$^{208}_{82}$Pb$_{126}$-25

Adopted Levels, Gammas (continued)

^{208}Pb Levels (continued)

E(level)†	J^π‡	XREF	Comments
			J^π: L(p,p′)=2.
10070 *30*	(1,2)	E G	XREF: E(10040). J^π: from $\gamma(\theta)$ in (γ,γ') dipole excitation is dominant, but an L=2 contribution as large as 25% cannot Be excluded.
10136.8 *5*		J	J^π: high spin, above the (17^+) 9061 level.
10196.1 *11*		J	J^π: high spin, above the (17^+) 9061 level.
10342.0 *11*		J	J^π: high spin, above the (17^+) 9061 level.
10357.4 *11*		J	J^π: high spin, above the (17^+) 9061 level.
10372.2 *11*		J	J^π: high spin, above the (17^+) 9061 level.
10552.4 *15*		J	J^π: high spin, above the (17^+) 9061 level.
10600 *40*	(1,2)	CDE G	J^π: L=2 in (d,d′) and (p,p′); however, $\gamma(\theta)$ in (γ,γ') shows a dominant dipole contribution, but an L=2 contribution as large as 20% cannot Be ruled out.
10.9×10^3 *3*	2^+	BCD	XREF: Others: AE configuration:isoscalar giant quadrupole resonance. J^π: L=2 in (α,α'), (d,d′), and (p,p′). E(level): from (α,α'). Others:10500 *200* (d,d′), 10600 *200* (p,p′), Γ=3.0 *3* MeV, %EWSR=100 *13* (2004Yo02). See (α,α') for other values and a discussion of possible higher L components. Γ=2.0 MeV *2* in (p,p′).
11270	(1,2)	E	J^π: $\gamma(\theta)$ gives a dominant dipole contribution, but an L=2 contribution as large as 25% cannot Be ruled out.
11361.0 *15*		J	J^π: high spin, above the (17^+) 9061 level.
11450	(1,2)	E	J^π: $\gamma(\theta)$ gives a dominant dipole contribution, but an L=2 contribution as large as 15% cannot Be ruled out. Γ<70 keV.
11.60×10^3 *10*		E	Γ=2.1 MeV if E1. %EWSR=11.
11958.1 *17*		J	J^π: high spin, above the (17^+) 9061 level.
12250	4^+	B D	XREF: B(12500)D(12000). J^π: L=4 in (α,α') and (p,p′). Γ=2.4 MeV *2* in (p,p′), 3.6 MeV in (α,α'). %EWSR=10 *3* in (p,p′) and 14 in (α,α').
12949.6 *17*		J	J^π: high spin, above the (17^+) 9061 level.
13.5×10^3 *1*	1^-	B DE G P	E(level): weighted average of 13300 *300* (2004Yo02 in (α,α')), 13500 *100* in (γ,γ'), and 13600 *200* (e,e′). Others: 13000 *100* (2004Uc01 in (α,α')), 13600 (p,p′), and 13420 (γ,n). configuration: low-energy component of the isoscalar giant dipole resonance (see (α,α')). J^π: from σ and form factor in (e,e′). Confirming arguments are L=1 in (α,α') and (p,p′), and J=1 from $\gamma(\theta)$ in (γ,γ'). Γ=7.7 *5* MeV (2004Yo02 in (α,α')), 4.05 MeV (1970Ve03 in (γ,n)) and 3.7 MeV in (γ,γ').
13675.0 *20*		J	J^π: high spin, above the (17^+) 9061 level.
13.96×10^3 *20*	0^+	BCD G	E(level): from 2004Yo02 in (α,α'). See (α,α') for other values ranging from 13000 to 13900. E=13500 *300* in (d,d′), 13900 in (p,p′), and 14000 in (e,e′). configuration: isoscalar giant monopole resonance. L=0 is dominant; however, other components are required. See (α,α') for a discussion. From observation of a g.s. γ branch in $(\alpha,\alpha'\gamma)$, 1989Po01 determine that not more than 12% *4* of the observed singles resonance σ can Be due to isovector dipole

^{208}Pb Levels (continued)

E(level)†	Jπ‡	S	XREF	Comments
				excitation. Strong feeding of the 13/2$^+$ level in ^{207}Pb from their (α,α'n) work, 1984Ey01 conclude that there must Be an L=6 component. This is corroborated by the (^{17}O,^{17}O′n) work of 1989Br03. J$^\pi$: L=0 in (α,α'), (d,d′), and (p,p′). See comment on configuration. Γ=2.88 MeV *20* (2004Yo02 in (α,α')). See (α,α') for other values. %EWSR=99 *15* (2004Yo02 in (α,α')). See (α,α') for other values.
16000	6$^+$		B	J$^\pi$: L(α,α')=6. Γ=2.9 MeV, %EWSR=15.
19.6×10^3 *5*	3$^-$		B D Q	E(level): from 2004Yo02 in (α,α'). E=20500 *1000* in (^{3}He,^{3}He′). See (α,α') for other values. configuration: high-energy giant octupole resonance (2004Yo02, 1997Da11). Γ=7.4 MeV *6* (2004Yo02 in (α,α')). Others: 78 *15* in (^{3}He,^{3}He′). See also (α,α') for more values. %EWSR=70 *14* (2004Yo02 in (α,α')). See (α,α') for other values.
22.1×10^3 *3*	1$^-$		B Q	J$^\pi$: L(α,α')=1. configuration: high-energy component of the isoscalar giant dipole resonance (2004Yo02 and other references in (α,α')). E≈21500 reported by 1983SeZX in inelastic pion scattering (see (x,x′)). They report that the forward angle strength is consistent with an isoscalar dipole resonance, but not with a quadrupole or octupole resonance. E(level): from 2004Hu04 in (α,α'). See (α,α') for other values. Γ=3.8 MeV *8* (2004Hu04 in (α,α')). See (α,α') for other values. EWSR=158 *43* (2004Hu04 in (α,α')). See (α,α') for other values. From α-proton and α-neutron coincidence work, 2004Hu04 determine branching for direct proton decay to the 2s1/2 + 2d3/2 states and 1h11/2 + 2d5/2 final states in ^{207}Tl of 2.3% *11* and 1.2% *7*, respectively. The value for direct neutron decay to final states in ^{207}Pb with excitation energies from O to 6 MeV is 23% *5*.
23.94×10^3 *20*		120 *40*	N T	Γ=190 keV *40*, (2J+1)Γ_{n0}/Γ=0.6 *2*. Data are from 1980Be52 in (n,X) who suggest that the resonance is the IAR of a possible 1$^-$ level in ^{208}Tl predicted at ≈1500 by 1970Do03. See also (γ,p),(e,e′p) where E=24400 and the same interpretation is given.
24.48×10^3 *20*		120 *40*	N T	Γ=190 keV *40*, (2J+1)Γ_{n0}/Γ=0.6 *2*. Data are from 1980Be52 in (n,X) who suggest that the resonance is the IAR of a possible 1$^-$ level in ^{208}Tl predicted at ≈2000 by 1970Do03. See also (γ,p),(e,e′p) where E=25000 and the same interpretation is given.
26.9×10^3 *2*	2$^+$		B	J$^\pi$: L(α,α')=2. Γ=6.0 *13* MeV (2004Hu04, 2003Hu13 in (α,α')). configuration: suggested as an overtone of the isoscalar giant quadrupole resonance (2004Hu04, 2003Hu13).
27200			T	Interpreted by 1975Sh12, 1975Sh13 as the IAR of a possible 2$^+$ level in ^{208}Tl predicted at ≈2800 by 1970Do03.

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^{208}Pb Levels (continued)

† From a least-squares fit to the adopted Eγ values. For levels with no observed deexciting gammas, the energies are weighted averages of values from all reactions. For levels above the neutron separation energy, the energies from the resonance data in (n,γ) E=resonance, (n,X), and (γ,n), have been calculated using S(n)=7367.87 *5*. In addition to the levels shown, a level at 9300 has been reported in ^{204}Hg(^{16}O,^{12}C). Levels in (t,p) are reported up to 8520; however, the resolution and the quoted uncertainties are such that it is not possible to make a unique correspondence with the Adopted Levels above 5000, except for the 0^+ level at 5241, and for the two highest levels at 8493 *20* and 8520 *20* which are not reported in other reactions. The same holds for the (p,t) reaction, which reports levels up to 6726, and the (t,α) reaction for levels above 4200.

‡ Assignments for levels above S(n), except where the argument is explicitly given, are from ^{207}Pb(n,X) based on transmission measurements, from ^{207}Pb(n,γ) E=resonance based on $\Gamma_{\gamma 0}/\Gamma$, or from ^{208}Pb(γ,n) based on neutron polarization measurements. See the source datasets for details. For some levels, where a single deexciting transition is known, this fact is stated in a J^π comment even though the resulting J^π range is too large to Be useful in the J^π field.

\# From (n,n′γ), except where noted otherwise.

@ Based on γ decay pattern, available shell-model states, and shell-model calculations involving two-particle two-hole excitations using semi-empirical effective interactions (2004Br19, 2001Wr02, 1993Sc08).

& In the ^{207}Pb(d,pγ),^{209}Bi(t,$\alpha\gamma$) dataset, based on data from (t,$\alpha\gamma$), two levels are proposed at around 5380, one at 5380.6 *8* deexciting via a 2766.1 *8* transition, and one at 5383.7 *11* deexciting via a 1387.8 *10* transition. In (n,n′γ) a single level is proposed deexciting via 1387.37 *3* and 2768.31 *5* transitions, giving E(level)=5382.81 *3* and 5382.83 *5*, respectively. There are two levels at about this energy in (d,^{3}He), so the evaluator adopts the two-level proposal from the (t,$\alpha\gamma$) work. The discrepancy in the energy of the 2766γ should Be noted, and it is of course possible that the (n,n′γ) 2768γ is a different transition and that the 5380.6 level is not populated in (n,n′γ).

^{a} There is a single level at 5491 proposed in (d,pγ), (n,n′γ), and (p,p′γ); however, the branchings are not consistent. Iγ(1571γ)/Iγ(2293γ) in (d,pγ) and (n,n′γ) agree, but Iγ(1107γ)/Iγ(2293γ) and Iγ(1781γ)/Iγ(2293γ) are both a factor of 4-5 higher in (d,pγ) than in (n,n′γ), and only the 2293γ is reported in (p,p′γ). The branchings from all three reactions can Be reconciled if two levels are proposed. The evaluator has thus proposed a doublet with transitions divided as shown in adopted gammas. For the 5491.53 level one has Iγ(1571γ)/Iγ(2293γ)=0.38 *4* in (n,n′γ) and 0.48 *+19−14* in (d,pγ). For the 5490.34 level one has Iγ(1107γ):Iγ(1529γ):Iγ(1781γ)=100 *12*:85 *9*:94 *9* in (n,n′γ), and 100 *16*:91 *16*:84 *18* in (d,pγ). The 1193, 1283, and 1365γ′s are multiplets in (n,n′γ) and the intensity of each of these transitions can Be divided such that the branchings for each placement are consistent with the (d,pγ) results. Both levels deexcite to levels with J^π=5$^-$ and 6$^-$, suggesting J^π=4$^-$, 5, 6, or 7$^-$. In addition to the γ reactions, the (d,p) reaction reports E=5491.9 *6* with a $\gamma_{7/2}$ transfer, giving J^π=4$^-$ for one or both levels, the 3$^-$ alternative being ruled out by the γ decay modes. In (d,^{3}He) a level at 5487 *2* is reported, with L=2. The authors state that the strength requires J^π=6$^-$ given J^π=7$^-$ for their 5541 *2* level. A 5490 *2* level is reported in (α,α′) so there must also Be a natural parity level in the region of E=5490.

^{b} J^π=3$^-$ from σ and form factor in (e,e′) for E=6343 *10*.

^{c} In (d,pγ) there is a level with E=6534 *5* deexciting via a single transition with Eγ=3920 *5* to a 3$^-$ level.

^{d} J^π=1$^-$ or, less likely, 2$^-$ or 3$^-$ for a peak at 6701 *9* in (e,e′).

^{e} Levels with E=6861.4 *6* and 6868.0 *6* are reported in (p,p′) with no spectroscopic information, and levels with E=6859, J^π=9$^-$ and 6865, J^π=10$^-$ are reported in (e,e′). The evaluator assigns two levels; however, it is possible that the two reactions are exciting different levels.

^{f} This level may correspond to one or more of the close-lying levels determined in the higher-resolution resonance work.

^{g} From 2006He21 in (p,p′) from a study of excitations via IAR in ^{209}Bi. The assignments are based on a comparison of the experimental $\sigma(\theta)$ values and cross-sections with calculations based on the schematic shell model. The cross-sections are averaged values for the members of the $\nu 1i_{11/2}\nu 2f^{-1}_{5/2}$ multiplet and for members of the $\nu 1i_{11/2}\nu 3p^{-1}_{3/2}$ multiplet. The same arguments hold for the 5686, 5695 and 5835 levels which have configuration=$\nu 2g_{9/2}\nu 2f^{-1}_{7/2}$. Additional arguments are given.

^{h} From a comparison of the branchings in (n,n′γ) and (d,pγ), the evaluator proposes two levels at 5074. The 5074.803 is seen in (n,n′γ) and the 5075.78 in (n,n′γ) and (d,pγ). The (d,p) level at 5074.8 *4* presumably corresponds to the (d,pγ) level. The (p,p′) level at 5074.7 *5* could correspond to either or both members of the

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doublet. 2006He21 determine J^{π}=5^{-} with configuration=$\nu 1i_{11/2}\nu 3p^{-1}_{3/2}$ for the (p,p′) level. See the comment on, for example, the 5080 level, for the J^{π} assignment.

[i] L(d,^{3}He)=5 for E=5191 *5* gives configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ for the 5193.4 and 5195.37 levels. L(d,^{3}He)=5 for E=5210 *5* gives configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ for the 5213.007 and 5216.214 levels. A comparison of the spectroscopic factor for these (d,^{3}He) peaks with those for the resolved (t,$\alpha\gamma$) peaks shows that in each case both levels are being populated in (d,^{3}He). From the observed γ decay modes and the spectroscopic factors in (t,$\alpha\gamma$), 1997Sc21 assign the J^{π} values as shown. The evaluator adopts these assignments.

[j] L(d,^{3}He)=5 for E=5084 *2* gives configuration=$\pi 1h_{9/2}\pi 1h^{-1}_{11/2}$ for the 5085.47 and/or 5087.9 levels.

[k] L(p,p′)=3, with E=5321 *4*, suggesting J^{π}=3^{-} for the 5317.041, 5317.2, or 5326.7 levels. L(d,^{3}He)=5 for 5314 *3* gives π=+ for one or both members of the 5317 doublet. In the (d,pγ),(t,$\alpha\gamma$) work, the 5317.041 level is seen only in (t,$\alpha\gamma$) and the 5317.2 level only in (d,pγ). The evaluator assumes that the (t,$\alpha\gamma$) and (d,^{3}He) works are populating the same level, thus π=+ for the 5317.041 level. The 5326.7 level resonates strongly at the $\nu 1j_{15/2}$ resonance in (p,p′) and thus has π=+, given the available negative parity neutron hole states. This leaves the 5317.7 level as the possible candidate for J^{π}=3^{-}.

[l] L(d,^{3}He)=2 and thus configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$ for E=5581 *6*.

[m] L(d,^{3}He)=2 and thus configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$ for E=5665 *5*.

[n] L(d,^{3}He)=2 and thus configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$ for E=5680 *6*.

[o] L(d,^{3}He)=2 and thus configuration=$\pi 1h_{9/2}\pi 2d^{-1}_{5/2}$ for E=6249 *7*.

[p] E(p,p′γ)=6394.5 *30* deexciting via Eγ=2432.8 *30*, and E(e,e′)=6403 *10* with J^{π}=3^{-}, established by σ and form factor, could correspond to either the 6389.6 *5* or 6397.1 *15* levels.

[q] A level at 5481 is proposed in (n,n′γ) deexciting via a 1356γ and a 2867γ. The 2867γ is seen in (d,pγ) but the 1356γ is not reported. The 1356γ is seen in (p,p′γ) but the 2867γ is not reported. It is possible that there are two levels, one seen in (n,n′γ) and (p,p′γ), and the other in (n,n′γ) and (d,pγ).

Adopted Levels, Gammas (continued)

$\gamma(^{208}$Pb)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.#	δ#	α@	Comments
2614.522	3^-	2614.511 *10*		0	0^+	E3		0.00247	B(E3)(W.u.)=33.8 *6* α: value shown is made up of α=0.00210 and α(IPF)=0.00037.
3197.711	5^-	583.187 *2*		2614.522	3^-	E2		0.0205	B(E2)(W.u.)=0.382 *20* Mult.: from $\gamma\gamma(\theta)$ in β^- decay and $T_{1/2}$.
3475.078	4^-	277.371 *5*	50.8 *8*	3197.711	5^-	M1+E2	+0.017 *11*	0.533	B(M1)(W.u.)=0.07 *+22−3*; B(E2)(W.u.)=0.10 *+35−10* E_γ: from $E\gamma(860\gamma)=E\gamma(277\gamma)+E\gamma(583\gamma)$, with recoil corrections taken into account. Mult.: from β^- decay. δ: weighted average of +0.008 *11* from β^- decay, and +0.052 *45* and +0.038 *20* from (n,n′γ) +0.038 *20* (1990Go33) in (n,n′γ).
		860.557 *4*	100	2614.522	3^-	M1+E2	+0.014 *8*	0.0264	B(M1)(W.u.)=0.005 *+33−2*; B(E2)(W.u.)=0.0005 *+15−4* Mult.: from β^- decay. δ: from β^- decay. Others: −0.021 *21* (2005YaZW) and +0.015 *18* (1990Go33) in (n,n′γ).
3708.451	5^-	233.33 *6*	1.36 *9*	3475.078	4^-	M1+E2	≈0.6	≈0.70	Mult.,δ: from β^- decay.
		510.74 *5*	100.0 *13*	3197.711	5^-	M1+E2	−0.052 *45*	0.1027 *16*	Mult.,δ: from β^- decay. See discussion in β^- decay of the alternate δ solution of ≈−0.6.
		1093.95 *24*	1.75 *13*	2614.522	3^-	[E2]			δ: δ(O/Q)=−0.01 *13*.
3919.966	6^-	211.51 *2*	82 *5*	3708.451	5^-	M1(+E2)	+0.04 *+7−6*	1.126 *16*	B(M1)(W.u.)<1.0; B(E2)(W.u.)<94 Mult.: from β^- decay.
		722.252 *8*	100	3197.711	5^-	M1+E2	+0.31 *7*	0.0390 *12*	B(M1)(W.u.)<0.029; B(E2)(W.u.)<2.5 Mult.: from β^- decay. δ: from β^- decay. Other:+0.61 *+7−6* and +0.65 *9* from (n,n′γ).
3946.578	4^-	238.22 *3*	25.3 *18*	3708.451	5^-	[M1+E2]	−0.06 *6*		B(M1)(W.u.)<0.61; B(E2)(W.u.)<40 δ: from 1990Go33 in (n,n′γ). Other: +0.05 *14* (2005YaZW) in (n,n′γ).
		471.498 *14*	26.3 *19*	3475.078	4^-	[M1+E2]		0.125 *2*	δ: −0.06 *+17−14* or +0.9 *+3−12*.
		748.845 *12*	100 *7*	3197.711	5^-	[M1+E2]	+0.072 *25*	0.0377 *1*	B(M1)(W.u.)<0.077; B(E2)(W.u.)<0.42
3961.162	5^-	252.755 *12*	38.3 *22*	3708.451	5^-	M1+E2	−0.35 *10*	0.633 *27*	Mult.: from β^- decay.
		485.95 *15*	2.5 *3*	3475.078	4^-				
		763.429 *9*	100 *3*	3197.711	5^-	M1+E2	−0.12 *5*	0.0356 *6*	Mult.: from β^- decay. δ: weighted average of −0.01 *6* and −0.16 *+9−8* from β^- decay, and −0.13 *7* and −0.21 *+5−6* from (n,n′γ).
3995.438	4^-	797.741 *10*	29.7 *12*	3197.711	5^-	[M1+E2]	+0.34 *5*	0.0299 *5*	B(M1)(W.u.)<0.013; B(E2)(W.u.)<1.0 δ: the large solution is +4.4 *9*, an unlikely alternative.
		1380.889 *12*	100	2614.522	3^-	[M1(+E2)]	+0.000 *+31−21*	0.0079	B(M1)(W.u.)<0.0092 δ: the large solution is −6.7 *+8−12*, an unlikely alternative. Other: +0.057 *16* (1990Go33).
4037.443	7^-	117.53 *13*	11 *3*	3919.966	6^-	[M1,E2]		4.6 *13*	

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$\gamma(^{208}Pb)$ (continued)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.[#]	δ[#]	α[@]	Comments
4037.443	7⁻	839.734 *9*	100	3197.711	5⁻	[E2]		0.0094	B(E2)(W.u.)<17 Mult.: δ(M3/E2)=+0.010 *+21−31*.
4051.134	3⁻	576.057 *13*	17.2 *17*	3475.078	4⁻				
		1436.602 *12*	100	2614.522	3⁻	[M1+E2]			δ: +1.7 *+3−2* or −0.12 *+7−6*. Other: −0.05 *5* (1990Go33).
4085.52	2⁺	1471.5 *4*	0.46 *15*	2614.522	3⁻	[E1]		0.00143	B(E1)(W.u.)=0.00035 *12*
		4085.47 *4*	100	0	0⁺	[E2]		0.00165	B(E2)(W.u.)=8.4 *5*
4125.347	5⁻	164.34 *20*	4.9 *7*	3961.162	5⁻	[M1,E2]		1.6 *7*	
		179.5 *6*	0.92 *26*	3946.578	4⁻	[M1,E2]		1.2 *6*	
		416.79 *6*	5.0 *9*	3708.451	5⁻	[M1+E2]	+0.1 *+8−4*	0.15 *3*	B(M1)(W.u.)<0.025; B(E2)(W.u.)<7.2
		650.207 *14*	25.3 *13*	3475.078	4⁻	[M1+E2]		0.035 *20*	δ: −0.05 *3* or −5.5 *+8−12*. Other: −0.04 *4* or −6.0 *+18−11* (1990Go33).
		927.650 *8*	100.0 *25*	3197.711	5⁻	[M1+E2]		0.018 *3*	δ: −0.15 *5* or +0.90 *+10−14*. Other: −0.06 *6* or +0.90 *13* (1990Go33).
4180.414	5⁻	705.33 *2*	10.7 *20*	3475.078	4⁻	[M1+E2]			δ: −0.04 *7* or −6.3 *+16−37*.
		982.709 *10*	100	3197.711	5⁻	[M1+E2]			δ: −0.13 *+6−5* or +0.86 *+14−13*. Other: +0.15 *15* (1990Go33).
4206.277	6⁻	497.90 *4*	20.6 *24*	3708.451	5⁻	[M1+E2]			δ: +0.03 *10* or −9 *+4−85*.
		1008.558 *10*	100	3197.711	5⁻	[M1+E2]			δ: +0.18 *+2−1* or +8.6 *+14−7*. Other: +0.195 *15* (1990Go33).
4229.590	2⁻	1615.068 *15*	100	2614.522	3⁻	[M1+E2]	+0.18 *+9−10*	0.00536 *8*	B(M1)(W.u.)=0.0125 *12*; B(E2)(W.u.)=0.05 *6* Mult.: the large solution is <−11, >+10, an unlikely alternative. Other: +0.04 *3* or −7.8 *+29−16* (1990Go33).
		4229.49 *9*	21.4 *21*	0	0⁺	M2		0.00235	B(M2)(W.u.)=0.34 *5* Mult.: from (d,pγ).
4254.795	3⁻	779.2[&] *4*	5.50 *6*	3475.078	4⁻				
		1640.267 *15*	100	2614.522	3⁻	[M1+E2]			δ: −0.21 *+5−6* or +2.2 *+4−3*. Other: −0.11 *5* (1990Go33).
4261.871	4⁻	553.414 *8*	49 *4*	3708.451	5⁻	[M1+E2]			δ: +0.03 *4* or −15 *+5−32*. Other: +0.02 *6* (1990Go33).
		786.79[&]	58 *2*	3475.078	4⁻	[M1+E2]			δ: −0.17 *8* or +1.3 *+3−2*. Eγ: rounded-off value from the level energies. The level energy difference gives Eγ=786.791 *17* (recoil corrected). The value of 786.891 *10* given in the source dataset, and placed from this level, may Be a misprint.
		1064.15 *2*	4.4 *6*	3197.711	5⁻	[M1+E2]			δ: −0.40 *+10−14* or −1.9 *+5−4*. Other: +0.02 *3* (1990Go33).
		1647.38 *2*	100 *4*	2614.522	3⁻	[M1+E2]			δ: +0.021 *+21−31* or −7.2 *+13−14*.
4296.560	5⁻	171.00 *20*	5.3 *14*	4125.347	5⁻	[M1,E2]		1.4 *6*	
		588.096 *6*	100 *3*	3708.451	5⁻	[M1+E2]	−0.18 *+9−8*	0.0694 *19*	B(M1)(W.u.)=0.268 *9*; B(E2)(W.u.)=9 *9* δ: other: −0.02 *18* or +0.8 *+3−6* (1990Go33).
		821.540 *13*	63 *3*	3475.078	4⁻	[M1+E2]		0.020 *10*	δ: −0.10 *4* or −4.2 *7*. Other: −0.11 *4* (1990Go33).
		1098.85 *4*	10.8 *21*	3197.711	5⁻	[M1,E2]		0.010 *4*	
4323.946	4⁺	362.81 *7*	14.8 *12*	3961.162	5⁻	[E1]		0.0191	B(E1)(W.u.)=4.2×10⁻⁵ *+8−7*
		848.88 *4*	2.42 *4*	3475.078	4⁻	[E1]		0.00338	B(E1)(W.u.)=5.4×10⁻⁷ *+9−8*
		1126.236 *13*	100 *3*	3197.711	5⁻	[E1+M2]	+0.042 *21*	0.02077 *6*	B(E1)(W.u.)=9.558×10⁻⁶ *17*; B(M2)(W.u.)=0.06 *6* δ: other: +0.003 *18* (1990Go33).

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Adopted Levels, Gammas (continued)

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.#	δ#	α@	Comments
4323.946	4^+	1709.6 *2*	0.51 *8*	2614.522	3^-	[E2]		0.00258	B(E2)(W.u.)=0.00019 *+5−4*
		4324.3 *4*	0.31 *4*	0	0^+	[E4]		0.00121	B(E4)(W.u.)=18 *1*
4358.670	4^-	178.5 *5*	2.1 *11*	4180.414	5^-				
		362.8 *5*	2.8 *7*	3995.438	4^-				
		883.605 *9*	100 *5*	3475.078	4^-	[M1+E2]			δ: −0.22 *+6−7* or +1.4 *+3−2*.
		1160.90 *2*	38 *3*	3197.711	5^-	[M1+E2]			δ: +0.19 *+6−5* or +10 *+13−3*. Other: +0.30 *10* or +5.2 *+46−20* (1990Go33).
		1744.12 *2*	15.5 *13*	2614.522	3^-	[M1+E2]			δ: +0.04 *+7−6* or −9 *+3−10*.
4383.285	6^-	176.8 *5*	0.85 *25*	4206.277	6^-				
		257.7 *5*	0.67 *25*	4125.347	5^-				
		463.30 *10*	4.1 *7*	3919.966	6^-	[M1+E2]	−0.69 *+15−19*		B(M1)(W.u.)<0.0096; B(E2)(W.u.)<8.5
		1185.571 *13*	100 *11*	3197.711	5^-	[M1+E2]			δ: +0.031 *+22−10* or −15 *+4−8*. Other: +0.063 *24* (1990Go33).
4423.647	6^+	715.23 *2*	8.6 *11*	3708.451	5^-	[E1+M2]			δ: −0.05 *7*.
		1225.916 *13*	100	3197.711	5^-	[E1+M2]			δ: −0.010 *+20−11*. Other: +0.030 *17* (1990Go33).
4480.746	6^-	771.6 *4*	8.7 *18*	3708.451	5^-	[M1+E2]			δ: +0.22 *+7−6* or +5.2 *+34−14*.
		1283.031 *12*	100	3197.711	5^-	[M1+E2]			δ: +0.031 *+11−21* or −19 *+6−12*. Other: +0.05 *3* (1990Go33).
4610.748	8^+	573.41 *8*	3.1 *6*	4037.443	7^-	[E1+M2]	+0.15 *+30−26*	0.024 *17*	B(E1)(W.u.)=9.3×10^{-9} *25*; B(M2)(W.u.)=0.003 *+12−3*
		1413.026 *13*	100	3197.711	5^-	[E3]		0.00728	B(E3)(W.u.)=12.6 *20*
4680.266	7^-	473.98 *5*	40 *11*	4206.277	6^-	[M1+E2]			δ: +0.27 *+10−9* or +5.2 *+43−19*.
		760.30 *2*	100	3919.966	6^-	[M1+E2]			δ: +0.19 *+4−3* or +5.2 *+15−12*.
4698.323	3^-	436.41 *10*	7.9 *13*	4261.871	4^-	[M1,E2]		0.10 *6*	
		443.57 *8*	41.2 *20*	4254.795	3^-	[M1+E2]	−0.13 *+16−14*	0.146 *4*	B(M1)(W.u.)=0.297 *13*; B(E2)(W.u.)=9 *+22−9*
		468.76 *7*	10.0 *9*	4229.590	2^-	[M1,E2]		0.08 *4*	
		612.88 *15*	1.7 *5*	4085.52	2^+	[E1]		0.00632	B(E1)(W.u.)=4.1×10^{-5} *+15−18*
		647.25 *9*	4.3 *9*	4051.134	3^-	[M1,E2]		0.036 *20*	
		702.86 *14*	4.1 *6*	3995.438	4^-	[M1,E2]		0.029 *15*	
		1223.27 *2*	100 *5*	3475.078	4^-	[M1+E2]		0.008 *3*	δ: +0.07 *+7−6* or <−8.6, >+47. Other: 0.00 *9* (1990Go33).
		1500.49 *3*	38 *4*	3197.711	5^-	[E2]		0.00316	B(E2)(W.u.)=1.1 *+3−4*
		2083.90 *4*	27 *3*	2614.522	3^-	[M1,E2]		0.0026 *6*	
		4697.88 *14*	4.4 *6*	0	0^+	[E3]		0.00174	B(E3)(W.u.)=1.2 *+3−5*
4708.727	5^-	412.17 *4*	21 *5*	4296.560	5^-	[M1,E2]		0.12 *7*	
		714.0 *10*	12 *6*	3995.438	4^-	[M1,E2]		0.028 *15*	
		748.3 *5*	67 *8*	3961.162	5^-	[M1,E2]		0.025 *13*	
		1000.51 *12*	100 *7*	3708.451	5^-	[M1+E2]	−0.19 *+7−8*	0.0175 *3*	B(M1)(W.u.)=0.0332 *9*; B(E2)(W.u.)=0.4 *3*
		1511.00 *2*	60 *4*	3197.711	5^-	[M1+E2]		0.0048 *16*	δ: −0.32 *+10−11* or +1.2 *+4−2*.
4711.817	4^-	1236.79 *4*	29 *4*	3475.078	4^-	[M1+E2]			δ: −0.41 *15* or −1.9 *+11−6*.
		2097.27 *2*	100	2614.522	3^-	[M1+E2]			δ: +0.11 *+3−4* or −23 *+10−71*.
4761.956	6^-	555.63 *6*	15 *4*	4206.277	6^-				
		636.57 *3*	25 *5*	4125.347	5^-				
		1564.29 *3*	100 *9*	3197.711	5^-				
4841.60	1^-	4841.46 *12*		0	0^+	[E1]			B(E1)(W.u.)=0.021 *3* I_γ: $\Gamma_{\gamma 0}/\Gamma$=0.85 +139 from (γ,γ').

$^{208}_{82}Pb_{126}$-32

Adopted Levels, Gammas (continued)

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.[#]	δ[#]	α[@]	Comments
4860.78	8^+	250.00 *9*	100	4610.748	8^+				
		823.28 *11*	34 *6*	4037.443	7^-				
4867.91	7^+	257.06 *5*	100 *15*	4610.748	8^+				
		386.7 *3*	26 *13*	4480.746	6^-	[M1+E2]			δ: +0.13 *+5−6* or +11 *+20−4*.
		444.15 *10*	73 *15*	4423.647	6^+				
		484.6 *3*	14 *5*	4383.285	6^-				
		830.55 *4*	38 *6*	4037.443	7^-	[M1+E2]			δ: −0.40 *+36−29* or +1.0 *5*.
4868.35	0^+	782.83 *2*		4085.52	2^+				
		4870 *3*		0	0^+	E0			Mult.: from (p,p′γ).
4895.23	10^+	34.4	0.041 *14*	4860.78	8^+	[E2]		1003	B(E2)(W.u.)=0.08 *3* E_γ: not observed. Eγ is rounded-off from the level energies. See (x,x′γ) for a discussion of this transition.
		284.49 *5*	100 *8*	4610.748	8^+	[E2]		0.136	B(E2)(W.u.)=0.0047 *8*
		857.71 *10*	20 *4*	4037.443	7^-	[E3]		0.0223	B(E3)(W.u.)=0.32 *8*
4911.343	4	964.56 *6*	11.7 *17*	3946.578	4^-				
		1713.62 *4*	32.8 *24*	3197.711	5^-	[M1+E2]			δ: −0.29 *+10−5* or −2.7 *+6−10*.
		2296.83 *2*	100 *5*	2614.522	3^-	[M1+E2]			δ: −0.08 *+4−5* or −4.7 *+9−12*.
4937.19	3^-	2322.65 *3*	100	2614.522	3^-	[M1+E2]			δ: −0.2 *1* or +2.1 *+7−6*. Other: +0.3 *+10−3* (1990Go33).
		4937.19[&] *4*	7 *1*	0	0^+	[E3]			B(E3)(W.u.)=25 *+6−25* E_γ: from the level energies. Reported only in (p,p′γ) where the energies for the two transitions from this level are given as 2320.6 *2* and 4934.7 *1*.
4953.302	3^-	2338.765 *14*		2614.522	3^-	[M1+E2]			δ: −0.13 *11* or +2.0 *+7−5* (1990Go33).
4962.428	$4^{(-)},5^{(+)}$	638.48 *2*	43 *8*	4323.946	4^+				
		1764.71 *3*	100	3197.711	5^-	[M1+E2]	+0.78 *+22−32*		B(M1)(W.u.)<0.0048; B(E2)(W.u.)<0.37
4973.918	3^-	275.72 *24*	1.4 *6*	4698.323	3^-	[M1,E2]		0.34 *20*	
		615.7 *5*	1.6 *5*	4358.670	4^-	[M1,E2]		0.041 *22*	
		712.13 *25*	2.9 *6*	4261.871	4^-	[M1,E2]		0.028 *15*	
		719.19 *4*	17.0 *10*	4254.795	3^-	[M1,E2]		0.028 *14*	
		1265.0 *6*	3.2 *11*	3708.451	5^-	[E2]		0.00427	B(E2)(W.u.)=0.19 *7*
		1499.10 *10*	18.0 *10*	3475.078	4^-	[M1,E2]		0.0048 *17*	
		1776.10 *5*	98 *3*	3197.711	5^-	[E2]		0.00244	B(E2)(W.u.)=1.05 *14*
		2359.39 *2*	100 *4*	2614.522	3^-	[M1+E2]		0.0022 *5*	δ: −0.13 *+10−8* or +1.8 *+5−4*.
		4974.1 *6*	1.1 *4*	0	0^+	[E3]		0.00060	B(E3)(W.u.)=0.17 *7*
5010.43	9^+	399.60 *17*		4610.748	8^+				
5037.536	3^-	808.04 *6*	4.8 *9*	4229.590	2^-				
		986.39 *7*	4.0 *5*	4051.134	3^-				
		1562.32 *10*	7.5 *5*	3475.078	4^-				

γ(^{208}Pb) (continued)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.#	δ#	α@	Comments
5037.536	3⁻	2422.997 *15*	100 *4*	2614.522	3⁻	[M1+E2]			δ: +0.9 *+20−3* or +1.8 *+10−12*.
		5037.4 *7*	1.20 *15*	0	0⁺	[E3]			B(E3)(W.u.)=0.65 *10*
5069.31	10⁺	174.13 *9*		4895.23	10⁺	M1(+E2)	<0.6	1.78 *17*	
5074.81		868.53 *6*	57 *7*	4206.277	6⁻				E_γ: from the level energies.
		894.45 *3*	79 *11*	4180.414	5⁻				
		1113.57 *3*	100 *14*	3961.162	5⁻				
5075.78		1367.0 *10*		3708.451	5⁻				
5079.912	6⁻	873.635 *15*	100	4206.277	6⁻				
		1882.09 *10*	14.7 *22*	3197.711	5⁻				
5085.470	7⁻	702.1 *10*	13 *5*	4383.285	6⁻				
		879.19 *2*	100	4206.277	6⁻	[M1+E2]			δ: +0.03 *+4−3* or −19 *+9−75*.
5092.99	8⁺	232.2 *3*	7.6 *18*	4860.78	8⁺				
		482.24 *2*	100	4610.748	8⁺				
5127.356	2⁻,3⁻	1652.18 *17*	6.6 *8*	3475.078	4⁻				
		2512.818 *12*	100 *4*	2614.522	3⁻	[M1+E2]	+1.3 *+9−6*		B(M1)(W.u.)=0.007 *7*; B(E2)(W.u.)=0.7 *4*
		5127.5 *2*	7.5 *8*	0	0⁺	[M2,E3]			I_γ: from (d,pγ). Note, however, that Iγ/Iγ(2513γ)=0.177 *13* in (n,n′γ) and 0.14 *1* in (d,pγ). B(M2)(W.u.)=0.26 *3* if J^π=2⁻, and B(E3)(W.u.)=5.2 *6* if J^π=3⁻.
5162.05	9⁺	151.50 *20*	47 *5*	5010.43	9⁺				
		266.70 *20*	17 *3*	4895.23	10⁺				
		301.25 *10*	22 *3*	4860.78	8⁺				
		551.32 *5*	100 *8*	4610.748	8⁺				
5193.428	5⁺	769.78 *2*	100 *13*	4423.647	6⁺				
		869.43 *20*	96 *10*	4323.946	4⁺				
		1995.5& *5*	29.2 *23*	3197.711	5⁻				
5195.054	3⁻,4⁻	1199.62 *2*	100	3995.438	4⁻				
		2580.41 *7*	42 *5*	2614.522	3⁻				
5195.37	7⁺	327.44 *20*	18.7 *22*	4867.91	7⁺				
		334.5 *4*	2.6 *9*	4860.78	8⁺				
		584.62 *15*	36 *6*	4610.748	8⁺				
		715.0 *6*	2.20 *22*	4480.746	6⁻				
		771.73 *20*	100 *14*	4423.647	6⁺				
		1275.5 *5*	7.5 *31*	3919.966	6⁻				
5213.007	6⁺	789.358 *15*	100	4423.647	6⁺				
		2015.5 *5*	65 *8*	3197.711	5⁻	[E1]			B(E1)(W.u.)=0.00012 *+3−4*
5213.98	(5⁻)	1252.98 *4*	28.2 *26*	3961.162	5⁻				
		1505.43 *3*	26.9 *26*	3708.451	5⁻				
		2016.14& *3*	100 *7*	3197.711	5⁻				E_γ: from the level energies. The transition is a multiplet in the cource dataset.
5216.214	4⁺	892.25 *2*	31 *4*	4323.946	4⁺				

From ENSDF

$\gamma(^{208}$Pb) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.#	δ#	$I_{(\gamma+ce)}$	Comments
5216.214	4^+	2601.69 *2*	100	2614.522	3^-	[E1+M2]	+0.095 *+45−43*		B(E1)(W.u.)=0.00026 *3*; B(M2)(W.u.)=1.6 *15*
5235.37	(11^+)	340.16 *10*		4895.23	10^+				
5239.3	4^-	2625.2 *5*		2614.522	3^-				
5241.1	0^+	2626.6 *3*		2614.522	3^-	[E3]		<400	B(E3)(W.u.)<635 $I_{(\gamma+ce)}$: I(γ+ce)/I(γ+ce)(5241 E0 transition)<4 from (p,p′γ) (2005Or02).
		5241 *3*		0	0^+	E0		100	Mult.: from (p,p′γ).
5245.246	3^-	307.80 *20*	1.4 *5*	4937.19	3^-				
		921.5 *2*	1.9 *4*	4323.946	4^+	[E1]			B(E1)(W.u.)=0.00025 *9*
		1193.9 *4*	1.9 *6*	4051.134	3^-				
		1770.20 *8*	6.7 *5*	3475.078	4^-	[M1+E2]			δ: +0.04 *17* or <−4.2, >11.
		2630.71 *2*	100.0 *25*	2614.522	3^-	[M1+E2]			δ: −0.19 *8* or +2.1 *5*.
		5245.0 *7*	1.0 *2*	0	0^+	[E3]			B(E3)(W.u.)=2.3 *8*
5254.12		178.34 *10*	19 *6*	5075.78					
		1779.04 *15*	100	3475.078	4^-				
5276.418	4^-	1070.13 *3*	18.4 *23*	4206.277	6^-	[E2]			E_γ: from the level energies. The measured value from (n,n′γ) is 1069.72 *4*. Not included in the least-squares fit.
		1567.97 *4*	43 *5*	3708.451	5^-				
		2078.64 *3*	100 *7*	3197.711	5^-				
		2662.02 *5*	15.0 *9*	2614.522	3^-				
5280.47	0^-	438.83 *5*	27.6 *15*	4841.60	1^-				
		1050.90 *4*	100	4229.590	2^-				
5286.484	$2,3^-$	2671.942 *13*	100	2614.522	3^-	[D+Q]	+0.05 *+8−3*		
		5287.1 *3*	21 *3*	0	0^+				
5291.90	1^-	5291.74 *13*		0	0^+	[E1]			B(E1)(W.u.)=0.021 *5* I_γ: $\Gamma_{\gamma0}/\Gamma$=0.78 *+22−11* from (γ,γ').
5317.041	$(3)^+$	993.105 *12*	100	4323.946	4^+				
		2702.42 *3*	23 *3*	2614.522	3^-				
5317.2		2119.5 *6*		3197.711	5^-				
5339.46	8^+	478.59 *11*	‡	4860.78	8^+				
		728.78 *6*	‡	4610.748	8^+				
		1301.74 *14*	‡	4037.443	7^-	[E1]			
5347.270	3^-	1295.8 *5*	18 *7*	4051.134	3^-				
		2732.729 *15*	100	2614.522	3^-	[M1+E2]			δ: +0.11 *8* or +1.0 *2*.
5380.6	$^-$	2766.1 *8*		2614.522	3^-				
5382.82	$3^+,4^+,5^+$	1387.37 *3*		3995.438	4^-	[E1]			B(E1)(W.u.)=0.0020 *3*
5384.59	3^-	1155.00 *2*	60 *6*	4229.590	2^-				
		1333.48 *22*	31 *6*	4051.134	3^-				
		2770.45 *20*	100 *4*	2614.522	3^-	[D+Q]			δ: −0.20 *+15−21* or −2.6 *+10−18*.
		5384.37 *12*	16.9 *11*	0	0^+	[E3]			B(E3)(W.u.)=3.8

$^{208}_{82}$Pb$_{126}$-35

γ(^{208}Pb) (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.#	δ#	Comments
5481.87	5^-	1356.49 *4*	83 *9*	4125.347	5^-			E_γ: not reported in (d,pγ).
		2867.35 *3*	100	2614.522	3^-	[E2+M3]	+0.042 *+53−32*	B(E2)(W.u.)=0.24 *4*; B(M3)(W.u.)=4.E+2 *+10−4*
5490.34	(4^-,6^-)	1107.0 *5*	83† *13*	4383.285	6^-			
		1193.52 *20*	59† *9*	4296.560	5^-			
		1283.5 *10*	35† *7*	4206.277	6^-			
		1365.0 *5*	100† *13*	4125.347	5^-			
		1529.0 *5*	75† *13*	3961.162	5^-			
		1781.5 *5*	69† *15*	3708.451	5^-			
5491.53	(4^-,6^-)	1571.49 *4*	38 *4*	3919.966	6^-			I_γ: from (n,n′γ). Iγ/Iγ(2294γ)=0.48 *+19−14* in (d,pγ). The 1572γ is not reported in (p,p′γ).
		2293.85 *3*	100	3197.711	5^-	[M1+E2]		δ: +0.16 *+6−5* or >+10, <−94.
5511.78	1^-	5511.70 *14*		0	0^+	[E1]		B(E1)(W.u.)=0.058 *+4−3* I_γ: $\Gamma_{\gamma 0}/\Gamma$=0.98 *+2−4* from (γ,γ').
5516.714	3^-	2902.17 *2*		2614.522	3^-	[M1+E2]	−0.94 *+15−16*	B(M1)(W.u.)=0.0117 *19*; B(E2)(W.u.)=0.43 *8*
5536.58	10^+	467.30 *20*	23 *7*	5069.31	10^+			
		641.3 *3*	100	4895.23	10^+			
5543.01	7^-	457.45 *20*	29 *3*	5085.470	7^-			
		1062.9 *5*	16.2 *25*	4480.746	6^-			
		1119.1 *10*	7 *3*	4423.647	6^+			
		1159.6 *3*	100 *8*	4383.285	6^-			
		1336.5 *5*	43 *5*	4206.277	6^-			
		1505.9 *5*	25 *4*	4037.443	7^-			
		1623.2 *5*	14 *4*	3919.966	6^-			
5545.46	(5^-)	1248.5 *5*	16 *3*	4296.560	5^-			
		1283.48 *10*	44 *9*	4261.871	4^-			
		1420.3 *5*	38 *8*	4125.347	5^-			
		1584.35 *10*	25 *9*	3961.162	5^-			
		1599.1 *5*	38 *6*	3946.578	4^-			
		1837.06 *4*	100 *12*	3708.451	5^-			
		2347.51 *9*	74 *15*	3197.711	5^-			
5548.113	2^-	2933.57 *2*	100	2614.522	3^-			
		5547.6 *3*	2.6 *4*	0	0^+	[M2]		B(M2)(W.u.)=0.051 *9*
5561.31	2^+	2946.79 *5*	100	2614.522	3^-	[M1+E2]	+0.23 *+23−17*	B(M1)(W.u.)=0.0158 *24*; B(E2)(W.u.)=0.03 *+7−3*
		5560.8 *2*	36 *3*	0	0^+	[E2]		B(E2)(W.u.)=0.0101 *14*
5563.73	3^-	2366.3 *3*	57 *7*	3197.711	5^-	[E2]		B(E2)(W.u.)=0.86 *+18−21*
		2949.18 *4*	100	2614.522	3^-			
5565.2	(4^+)	2089.7 *5*		3475.078	4^-			
5599.48	0^-	757.93 *7*	41 *3*	4841.60	1^-			
		1369.83 *7*	100	4229.590	2^-			
5639.55	1^-	3024.96 *9*	10.3 *9*	2614.522	3^-			

$^{208}_{82}$Pb$_{126}$-36

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.#	δ#	Comments
5639.55	1^-	5639.7 *2*	100	0	0^+	[E1]		B(E1)(W.u.)=0.008 *4*
5641.98	1,2^+	5641.9 *2*		0	0^+			
5649.01	3^-,4^-	1387.4 *10*	35 *9*	4261.871	4^-			
		1523.8 *10*	82 *14*	4125.347	5^-			
		1654.2 *5*	59 *12*	3995.438	4^-			
		2451.20 *8*	100 *15*	3197.711	5^-			
		3034.52 *9*	37 *2*	2614.522	3^-	[D+Q]		δ: −0.17 *+13−18* or −3.8 *+14−34*.
5658.51	5^-	1663.05 *5*	60 *6*	3995.438	4^-			
		2460.80 *5*	100 *6*	3197.711	5^-			
		3044.0 *2*	11.4 *16*	2614.522	3^-	[E2]		B(E2)(W.u.)=0.063 *+16−18*
5675.366	2^-,3,4	1317.0 *10*	4.9 *20*	4358.670	4^-			
		1413.0 *10*	10.0 *20*	4261.871	4^-			
		1420.0 *10*	21 *5*	4254.795	3^-			
		3060.82 *2*	100 *9*	2614.522	3^-	[D+Q]		δ: +0.06 *+11−4* or +1.1 *+3−2*.
5686.5	6^-	1561.0 *10*	99 *8*	4125.347	5^-			
		1726.0 *10*	100 *9*	3961.162	5^-			
		1767.0 *10*	100 *10*	3919.966	6^-			
5690.117	4^+	3075.57 *2*		2614.522	3^-	[E1+M2]	−0.031 *+31−21*	B(E1)(W.u.)=0.000144 *13*; B(M2)(W.u.)=0.07 *+14−7*
5694.22	7^-	1774.25 *12*	100	3919.966	6^-			
5715.53	2^+	3101.07 *10*	12.6 *11*	2614.522	3^-	[E1]		B(E1)(W.u.)=0.00022 *+9−6*
		5715.1 *2*	100	0	0^+	[E2]		B(E2)(W.u.)=0.30 *+12−8*
5721.51	7^-	1297.86 *3*		4423.647	6^+	[E1]		B(E1)(W.u.)=0.0031 *+8−11*
5737.9		1314.6 *12*		4423.647	6^+			
5749.67	(11^+)	680.6 *2*	100	5069.31	10^+			
		854.6 *2*	14 *10*	4895.23	10^+			
5777.96	2^-,3^-	1523.03 *15*	17.8 *22*	4254.795	3^-	[D+Q]	−1.3 *+6−42*	
		1726.66 *17*	16.6 *25*	4051.134	3^-			
		3163.43 *3*	100 *9*	2614.522	3^-	[D+Q]		δ: −0.38 *+7−8* or +4.4 *+23−11*.
		5777.4 *3*	5.1 *10*	0	0^+	[M2,E3]		B(M2)(W.u.)=0.32 *7*; B(E3)(W.u.)=5.1 *11*
5783.22		1399.93 *6*		4383.285	6^-			
5789.34	2^+,3^+,4^+	3174.79 *3*		2614.522	3^-			
5799.41		2324.32 *9*		3475.078	4^-			
5805.0	1	5804.9 *3*		0	0^+	[E1,M1]		
5813.27	3^-	2338.18 *26*	85 *14*	3475.078	4^-			
		3198.72 *4*	100	2614.522	3^-	[M1+E2]		δ: −0.59 *+12−14* or >+6.7, <−4.0.
5819.49	1^+,2^+	5819.4 *2*		0	0^+	[M1,E2]		
5825.3		1214.5 *5*		4610.748	8^+			
5844.49	1^+	5844.4 *2*		0	0^+			B(M1)(W.u.)=0.38 *3* from (γ,γ'), 0.186 *+76−24* from (e,e′).
5873.573	3^-	2398.48 *2*		3475.078	4^-			
5885.55	3^-	1588.5 *5*	14 *6*	4296.560	5^-	[E2]		B(E2)(W.u.)=7 *3*
		3271.00 *3*	100	2614.522	3^-			
5918.28	3^-,4,5^-	2720.57 *4*	100	3197.711	5^-			

$^{208}_{82}Pb_{126}$-37

Adopted Levels, Gammas (continued)

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.#	Comments
5918.28	$3^-,4,5^-$	3303.65 *7*	42 *3*	2614.522	3^-		
5923.67	2^-	631.3 *3*	3.7 *7*	5291.90	1^-		
		678.50 *8*	30.7 *12*	5245.246	3^-		
		796.7 *4*	3.9 *7*	5127.356	$2^-,3^-$		
		886.35 *25*	8.0 *9*	5037.536	3^-		
		949.82 *4*	100 *3*	4973.918	3^-		
		1225.41 *7*	98 *5*	4698.323	3^-		
		1668.60 *8*	26.7 *16*	4254.795	3^-		
		1694.08 *17*	10.7 *11*	4229.590	2^-		
		1872.43 *8*	52 *3*	4051.134	3^-		
		3308.99 *15*	13.5 *18*	2614.522	3^-		
		5922.6 *8*	11.1 *21*	0	0^+	[E1,M2]	B(E1)(W.u.)=2.8×10^{-7} *+19−14*; B(M2)(W.u.)=0.037 *+26−20*
5928.0	10^+	858.4 *4*	54 *21*	5069.31	10^+		
		1033.0 *4*	100	4895.23	10^+		
5946.77	1^-	5946.6 *2*		0	0^+		
5965.8		749.6 *4*		5216.214	4^+		
5968.55	4^-	1644.1 *8*	1.0 *5*	4323.946	4^+	[E1]	B(E1)(W.u.)=4×10^{-5} *+4−2*
		1762.6 *3*	3.4 *3*	4206.277	6^-	[E2]	B(E2)(W.u.)=1.5 *+7−9*
		2260.02 *8*	34.2 *21*	3708.451	5^-		
		2770.88 *8*	100 *5*	3197.711	5^-		
5973.0	2^+	1648.5 *5*	40 *17*	4323.946	4^+		
		5973.5 *8*	100	0	0^+		
5992.67	6^+	779.8 *5*	43 *18*	5213.007	6^+		
		797.4 *5*	54 *21*	5195.37	7^+		
		1511.6 *6*	66 *21*	4480.746	6^-		
		1609.3 *6*	73 *23*	4383.285	6^-		
		2795.0 *6*	100 *28*	3197.711	5^-		
6009.75	3^-	1685.7 *4*	13.7 *17*	4323.946	4^+	[E1]	B(E1)(W.u.)=0.00036 *+14−17*
		1924.19 *9*	26 *3*	4085.52	2^+	[E1]	B(E1)(W.u.)=0.00046 *+18−22*
		2534.66 *4*	100 *5*	3475.078	4^-		
6011.64		3397.09 *6*		2614.522	3^-		
6025.8		2030.4 *6*		3995.438	4^-		
6086.56	1^-	841.40 *20*	9.5 *10*	5245.246	3^-	[E2]	B(E2)(W.u.)=11 *+5−11*
		959.5 *3*	4.6 *10*	5127.356	$2^-,3^-$		
		1112.70 *6*	52 *4*	4973.918	3^-	[E2]	B(E2)(W.u.)=15 *+7−11*

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.#	Comments
6086.56	1^-	1388.19 *13*	100 *5*	4698.323	3^-	[E2]	B(E2)(W.u.)=10 +*4*−*10*
		1831.77 *7*	73 *5*	4254.795	3^-	[E2]	B(E2)(W.u.)=1.8 +*8*−*12*
		1856.73 *12*	53 *4*	4229.590	2^-		
		2035.30 *17*	100 *5*	4051.134	3^-	[E2]	B(E2)(W.u.)=1.4 +*6*−*10*
		3471.9 *2*	27 *6*	2614.522	3^-	[E2]	B(E2)(W.u.)=0.026 +*13*−*19*
		6085.4 *10*	3.2 *18*	0	0^+	[E1]	B(E1)(W.u.)=1.8×10^{-7} +*13*−*16*
6099.8		860.50 *6*	100	5239.3	4^-		
		1802.7 *5*	45 *22*	4296.560	5^-		
6100.69	12^+	351.4 *2*	20 *4*	5749.67	(11^+)		
		865.34 *20*	100	5235.37	(11^+)		
6101.1	(5^+)	2626		3475.078	4^-		
6103.5		538.0 *4*	100	5565.2	(4^+)		
		1807.6 *6*	63 *33*	4296.560	5^-		
6147.8		2672.7 *8*		3475.078	4^-		
6193.1	2^+	6193.1 *4*		0	0^+	[E2]	B(E2)(W.u.)=1.36 *11*
6242.4		3627.8 *9*		2614.522	3^-		
6255.68	2^+	3641.13 *6*		2614.522	3^-		E_γ: from (n,n′γ). Eγ=3636 *5* reported in (d,pγ).
		6255.5 *4*		0	0^+		E_γ: from (γ,γ′). Not seen in (d,pγ). Energy is above the cutoff for transitions reported in (n,n′γ).
6263.7	1^-	6263.6 *1*		0	0^+		
6274.55	3^-	757.8 *4*	19 *6*	5516.714	3^-		
		2278.3 *5*	41 *11*	3995.438	4^-		
		3660.3 *3*	100 *7*	2614.522	3^-		
6313.9	1^-	6313.8 *1*		0	0^+		
6340	1^-,2,3^-	3725 *5*		2614.522	3^-		
6354.4		2303.3 *4*		4051.134	3^-		
6361.6	1^-	6361.5 *1*		0	0^+	[E1]	B(E1)(W.u.)=0.0028 *3*
6435.57	12^-	1200.2 *2*		5235.37	(11^+)		
6444.4	3^-	6444.3 *2*		0	0^+		
6448.40	(13^-)	348.00 *15*	100	6100.69	12^+		
		1552.7 *2*	15 *4*	4895.23	10^+		
6486.5	1^-	512.98 *25*	20 *5*	5973.0	2^+	[E1]	B(E1)(W.u.)=0.26 *4*
		3871.7 *7*	21 *13*	2614.522	3^-	[E2]	B(E2)(W.u.)=1.6 *10*
		6485.9 *12*	100 *8*	0	0^+	[E1]	B(E1)(W.u.)=0.00063 *19*
6505.6	1	6505.6 *22*		0	0^+		
6512.8	1	6512.7 *6*		0	0^+		E_γ: from E(level)in (p,p′). Eγ=6515.2 *18* reported in (γ,γ′).
6545.2		3930.6 *11*		2614.522	3^-		
6551.93	1^-,2,3^-	3937.37 *16*	100	2614.522	3^-		
		6551.8 *21*	14 *1*	0	0^+		
6617.0	3^-	2436.8 *5*	51 *15*	4180.414	5^-		
		4002.8 *5*	100	2614.522	3^-		
6657.8	4^+	2478.7 *5*	34 *9*	4180.414	5^-		

$^{208}_{82}Pb_{126}$-39

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J^π_i	E_γ	I_γ	E_f	J^π_f	Mult.#	Comments
6657.8	4^+	4042.7 *2*	100	2614.522	3^-		
6682.46	(5^-)	2324.2 *5*	63 *15*	4358.670	4^-		
		2974.10 *20*	34 *7*	3708.451	5^-		
		4067.5 *8*	100 *15*	2614.522	3^-		
6687.8	5^-	2207.1 *7*		4480.746	6^-		E_γ: from the level energies. $E\gamma$=2211.0 *5* is reported in (p,p′γ) for what is probably the same level as that seen in (p,p′) at 6689.1 *15* and in (α,α') at 6687.4 *8*.
6699.60	(3^-)	1049.9 *4*	22 *6*	5649.01	$3^-,4^-$		
		2470.1 *6*	21 *7*	4229.590	2^-		
		4085.4 *3*	100 *7*	2614.522	3^-		
6719.8	1^-	6719.7 *5*		0	0^+		B(E1)(W.u.)=0.0121 *+18−11* E_γ: from (γ,γ'). Others: 6718.4 *3* (p,p′γ), 6716.2 *4* (d,pγ). I_γ: $\Gamma_{\gamma0}/\Gamma$=1.00 *+0−11* from (γ,γ').
6739.6		2381.4 *1*		4358.670	4^-		
6743.42	14^-	295.31 *25*	47 *8*	6448.40	(13^-)		
		1508.1 *2*	100	5235.37	(11^+)		
6766.6		4152.0 *10*		2614.522	3^-		
6773.4	$1,2,3^-$	6773.3 *15*		0	0^+		
6789.1	$(2^-,3^+)$	4174.5 *6*		2614.522	3^-		
6800.8		2504.2 *20*		4296.560	5^-		
6820.0	$(2^-,3^-)$	872.2 *7*	100	5946.77	1^-		
		2873.7 *4*	85 *59*	3946.578	4^-		
6897.3		2188.1 *5*	52 *16*	4708.727	5^-		
		2668.1 *5*	100	4229.590	2^-		
6913	2^+	6913 *4*		0	0^+		
6920.7		4306.1 *8*		2614.522	3^-		
6929.6	2^-	4315.0 *5*		2614.522	3^-		
6969.3	2^-	3771.6 *5*		3197.711	5^-		
6980	$1,2^+$	6980 *40*		0	0^+		I_γ: $\Gamma_{\gamma0}$=0.95 eV *10*. $\Gamma_{\gamma0}/\Gamma\approx$0.27.
7001.0		3803.3 *4*		3197.711	5^-		
7020.2	(3^-)	1052.3 *6*	38 *11*	5968.55	4^-		
		2660.3 *6*	100 *19*	4358.670	4^-		
		2696.7 *7*	44 *11*	4323.946	4^+		
		2758.6 *7*	55 *14*	4261.871	4^-		
7063.53	1^-	7063.4 *2*		0	0^+	[E1]	B(E1)(W.u.)=0.0218 *+14−20* E_γ: from (γ,γ'). Others: 7062.1 *1* (p,p′γ), 7063.4 *5* (d,pγ). Note that E(level)=7063.4 *15* in (p,p′) and 7064.1 *6* in (d,p). I_γ: $\Gamma_{\gamma0}/\Gamma$=0.98 *+2−7* from (γ,γ').
7083.2	1^-	7083.1 *3*		0	0^+	[E1]	B(E1)(W.u.)=0.0108 *9* I_γ: $\Gamma_{\gamma0}/\Gamma$=1 from (γ,γ').
7137.3	$3^-,4^-$	4522.7 *4*		2614.522	3^-		
7177.0	1	7176.9 *3*		0	0^+		E_γ: from the level energy. $E\gamma$=7176 *4* in (γ,γ').
7196.6		4582.0 *10*		2614.522	3^-		

$^{208}_{82}Pb_{126}$-40

$\gamma(^{208}Pb)$ (continued)

E_i(level)	J^π_i	E_γ	E_f	J^π_f	Mult.#	Comments
7206.9	1	7206.8 *5*	0	0^+		
7218.6		4020.8 *14*	3197.711	5^-		E_γ: from the level energies. $E\gamma$=4018 *5* in (d,pγ).
7240	1^-	7240 *2*	0	0^+		E_γ: from the level energies. See the comment on E(level).
7264.4		4066.6 *10*	3197.711	5^-		
7278.68	1^+	7278.54 *20*	0	0^+	[M1]	B(M1)(W.u.)=0.098 *3* I_γ: $\Gamma_{\gamma0}/\Gamma$=1 from (γ,γ').
7315.4	2^+	7315.3 *20*	0	0^+		
7332.4	1^-	7332.3 *8*	0	0^+	[E1]	B(E1)(W.u.)=0.031 *+5−3* I_γ: $\Gamma_{\gamma0}/\Gamma$=1.00 *+0−12* in (γ,γ').
7389.0	3^-	3913.9 *10*	3475.078	4^-		
7415	1^-	7415 *3*	0	0^+		
7528.79		1080.2 *2*	6448.40	(13^-)		
		1428.0 *2*	6100.69	12^+		
7548.6	1^-	7548.5 *6*	0	0^+		E_γ: from the level energy. $E\gamma$=7547.4 *26* in (γ,γ').
7631	1^-	7631 *4*	0	0^+		
7685.4	$1,2^+$	7685.2 *5*	0	0^+		
7722.6	1	7722.5 *24*	0	0^+		
7913	$1^{(-)}$	7913 *3*	0	0^+		
7974.04	(15^-)	445.1 *2*	7528.79			
		1230.8 *2*	6743.42	14^-		
8026.95	(14^-)	498.0 *2*	7528.79			
		1283.4 *2*	6743.42	14^-		
		1578.6 *2*	6448.40	(13^-)		
8264.38		237.5 *2*	8026.95	(14^-)		
8350.79	(15^-)	323.7 *2*	8026.95	(14^-)		
		376.8 *2*	7974.04	(15^-)		
		1607.6 *2*	6743.42	14^-		
8562.94	(16^-)	212.3 *2*	8350.79	(15^-)		
8723.50		459.2 *2*	8264.38			
		1980.0 *2*	6743.42	14^-		
8812.70	$(14^-,15,16^-)$	249.9 *2*	8562.94	(16^-)		
		785.6 *2*	8026.95	(14^-)		
9061.2	(17^+)	2317.8 *2*	6743.42	14^-		
9103.1		42	9061.2	(17^+)		
		290.4 *2*	8812.70	$(14^-,15,16^-)$		
9394.4		291.3 *2*	9103.1			
10136.8		742.4 *2*	9394.4			
10196.1		801.7	9394.4			
10342.0		947.6	9394.4			
10357.4		963.0	9394.4			
10372.2		235.4	10136.8			
10552.4		356.3	10196.1			

$^{208}_{82}Pb_{126}$-41

$\gamma(^{208}$Pb) (continued)

E_i(level)	E_γ	E_f
11361.0	1019.0	10342.0
11958.1	597.0	11361.0
12949.6	991.4	11958.1
	1588.7	11361.0
13675.0	725.4	12949.6

† From (d,pγ). See comment on the 5490 multiplet.

‡ For the 5339 level, Iγ(478γ):728γ:1301γ is reported as 63 8err; aut=J. Tuli; dat=18−Dec−2007; com=Fixed typos from pnpi rpt; 63 *8*:100 *11*:25 *11* in (d,pγ) and as 130 *29*:100 *19*:48 *9* in (n,n′γ). These data suggest that Iγ(728γ) in (d,pγ) may Be a factor of two too large. The alternative possibility is that Iγ(478γ) and Iγ(1301γ) are both a factor of two too large in (n,n′γ).

From $\gamma(\theta)$ in (n,n′γ), except where noted otherwise. Single mult assignments given in square brackets are based on the adopted J^π values. Mixed mult assignments in square brackets are based on mult=D+Q, Q+O..., from (n,n′γ) with the mult character based on the adopted J^π values.

@ 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.

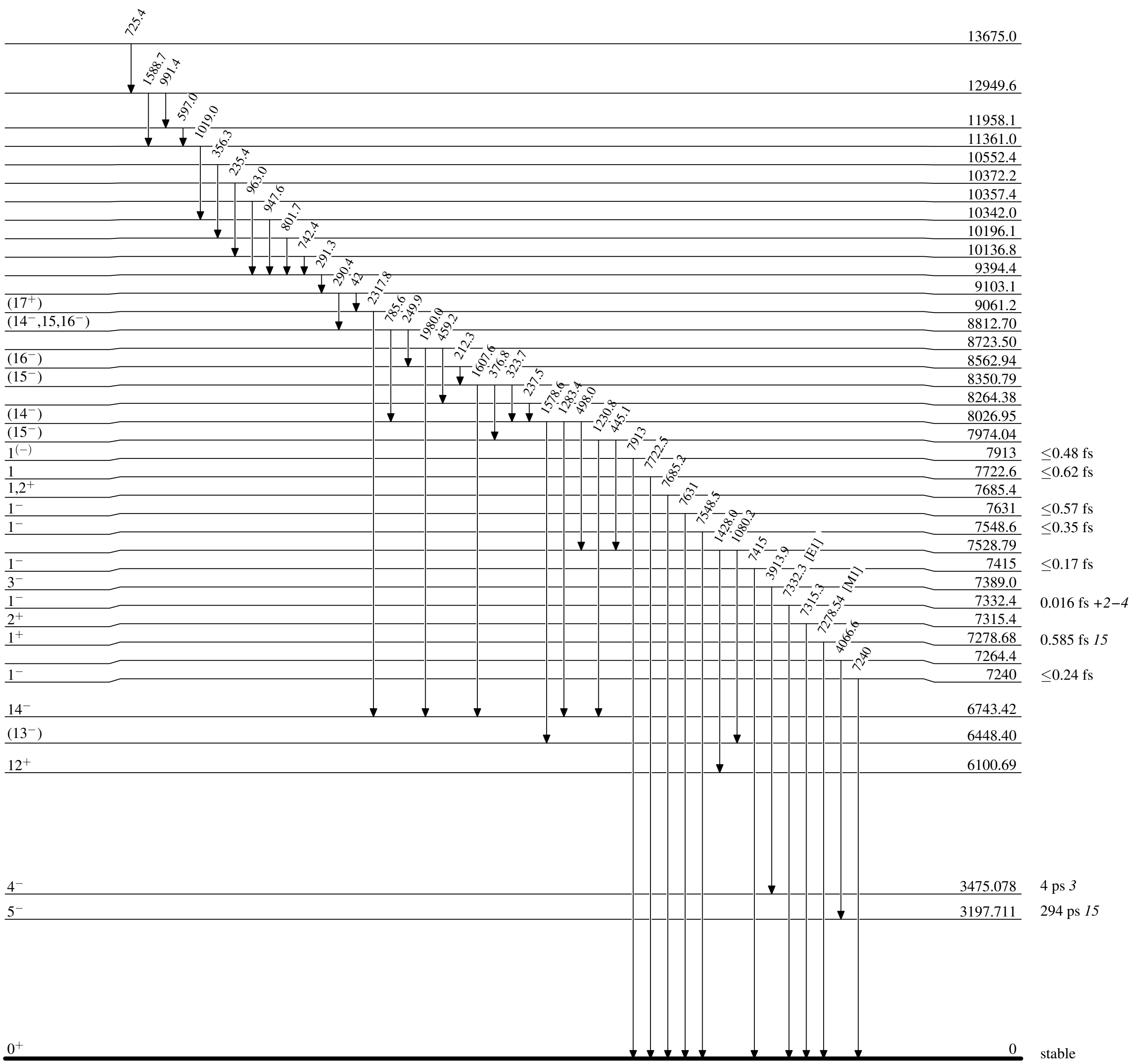
& Placement of transition in the level scheme is uncertain.

$^{208}_{82}$Pb$_{126}$-42

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified

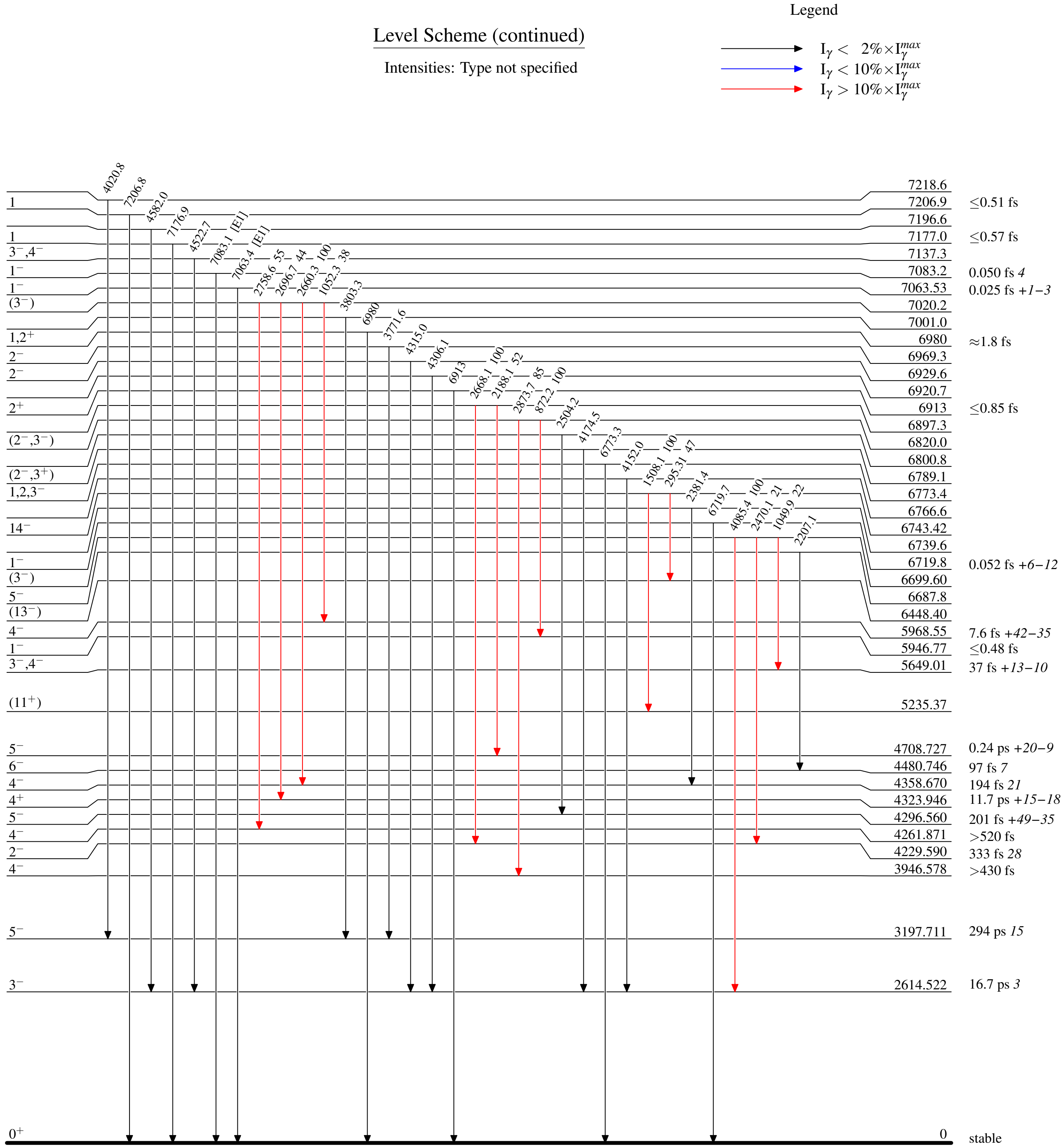


$^{208}_{82}Pb_{126}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



$^{208}_{82}Pb_{126}$

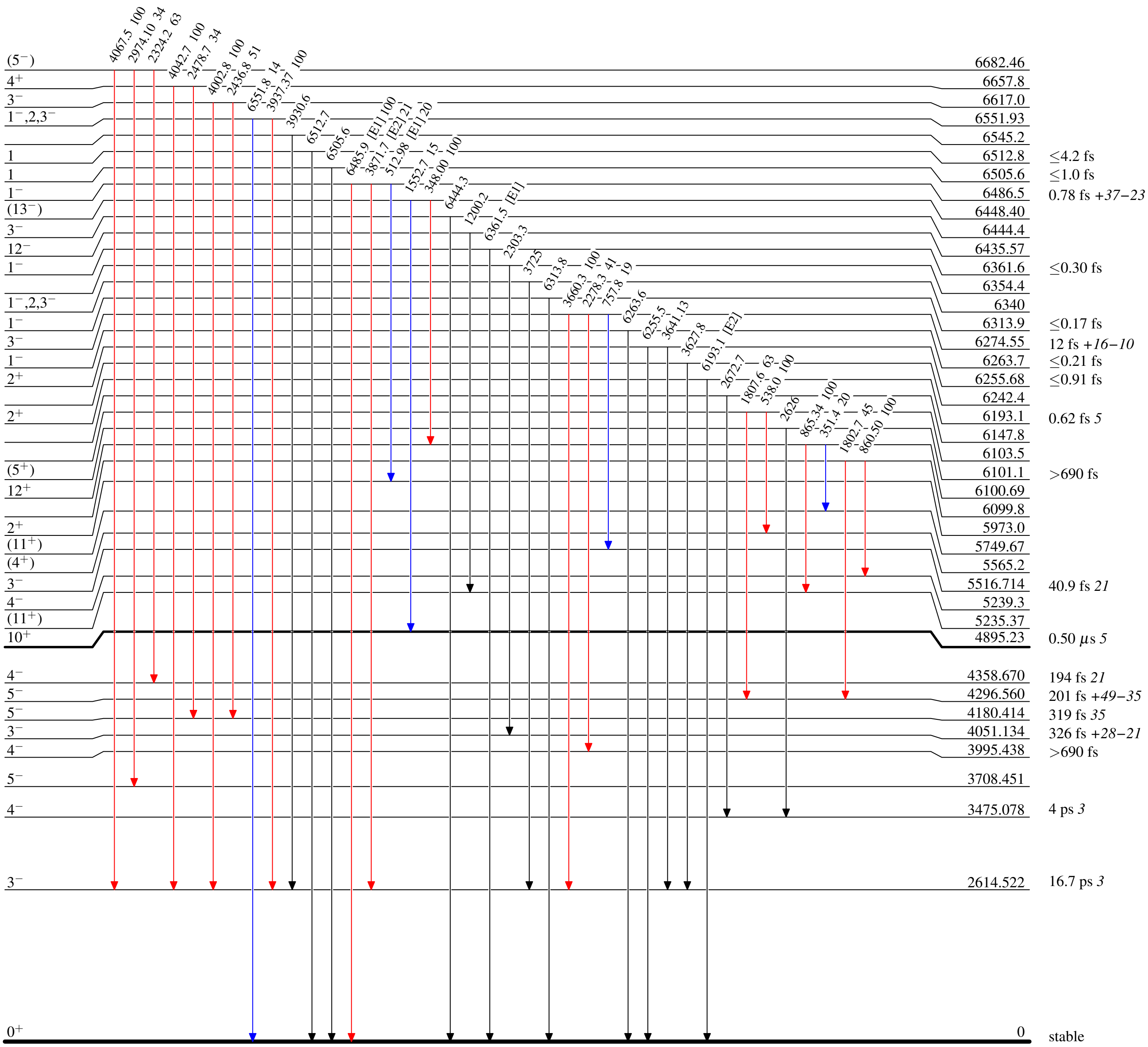
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

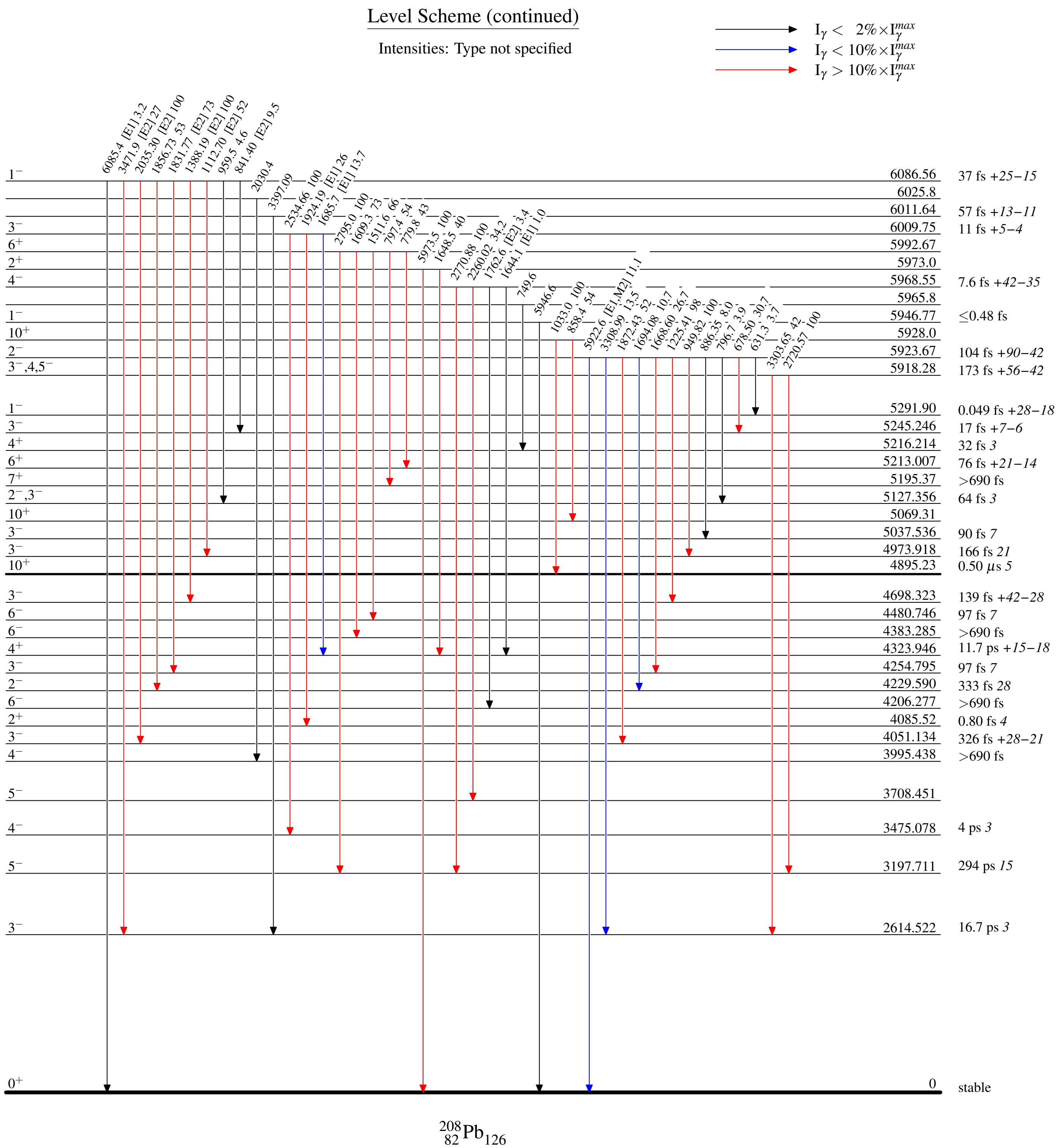
Legend

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



$^{208}_{82}Pb_{126}$

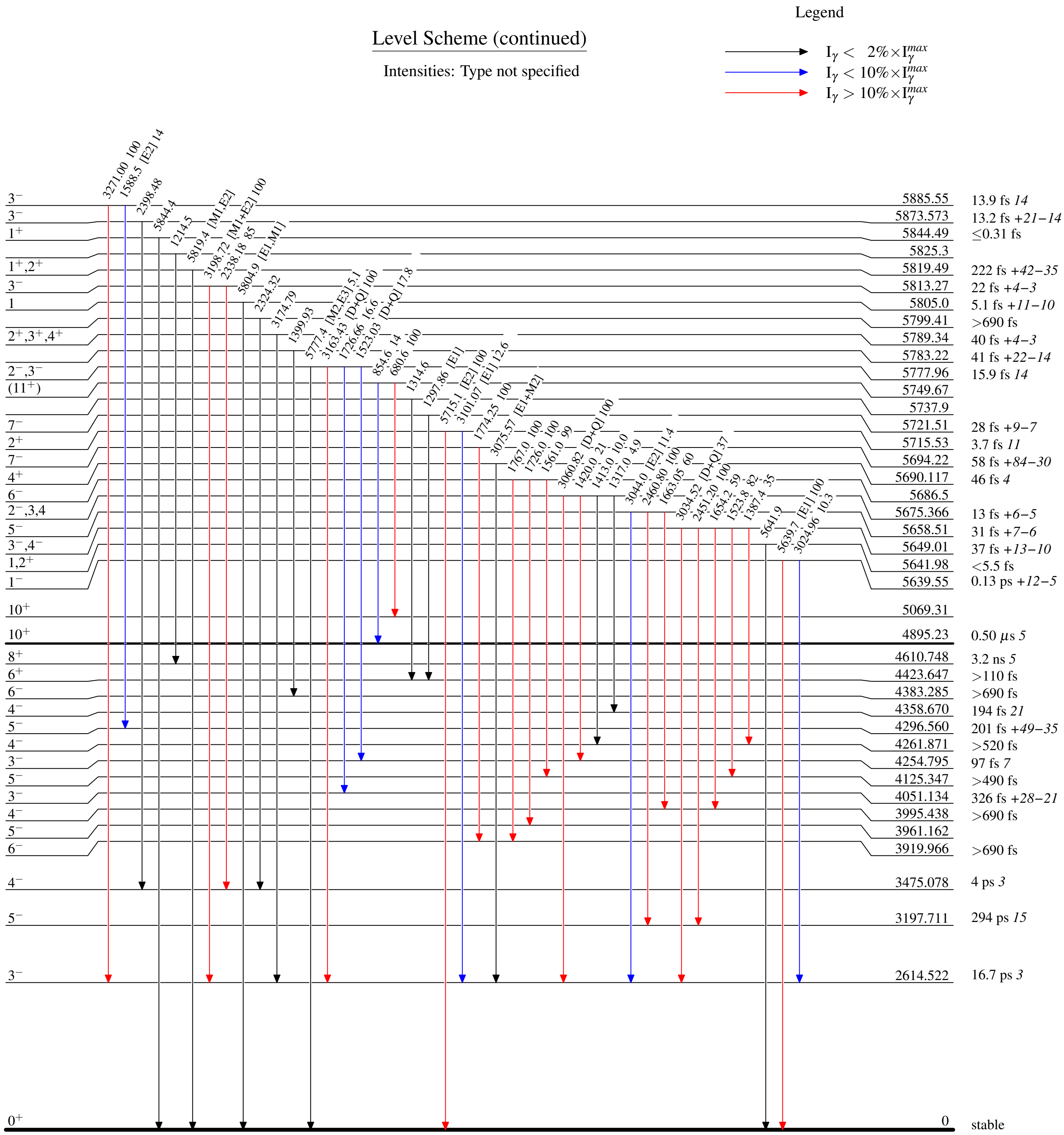
Adopted Levels, Gammas



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



$^{208}_{82}Pb_{126}$

Adopted Levels, Gammas

Level Scheme (continued)

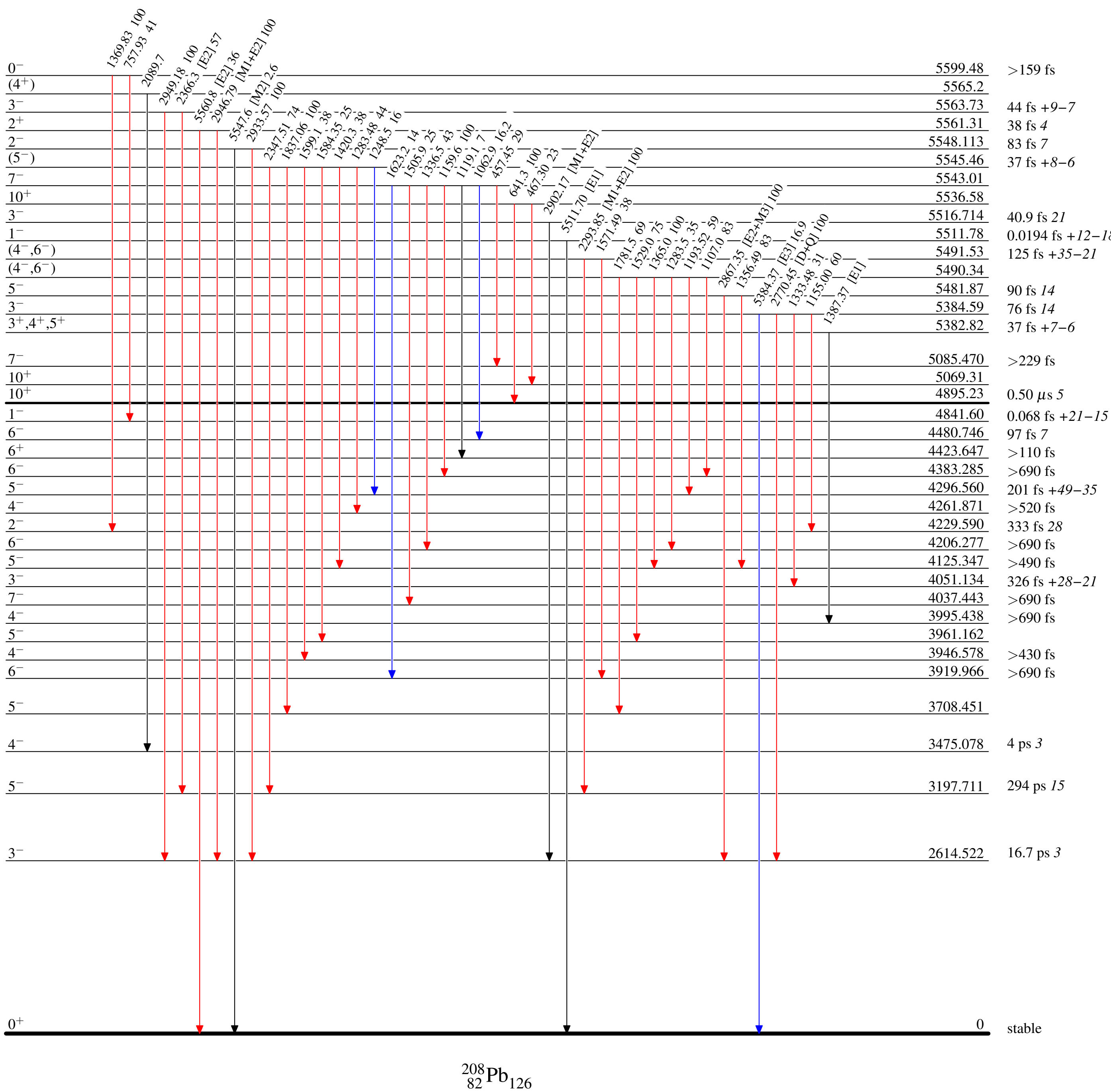
Intensities: Type not specified

Legend

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

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

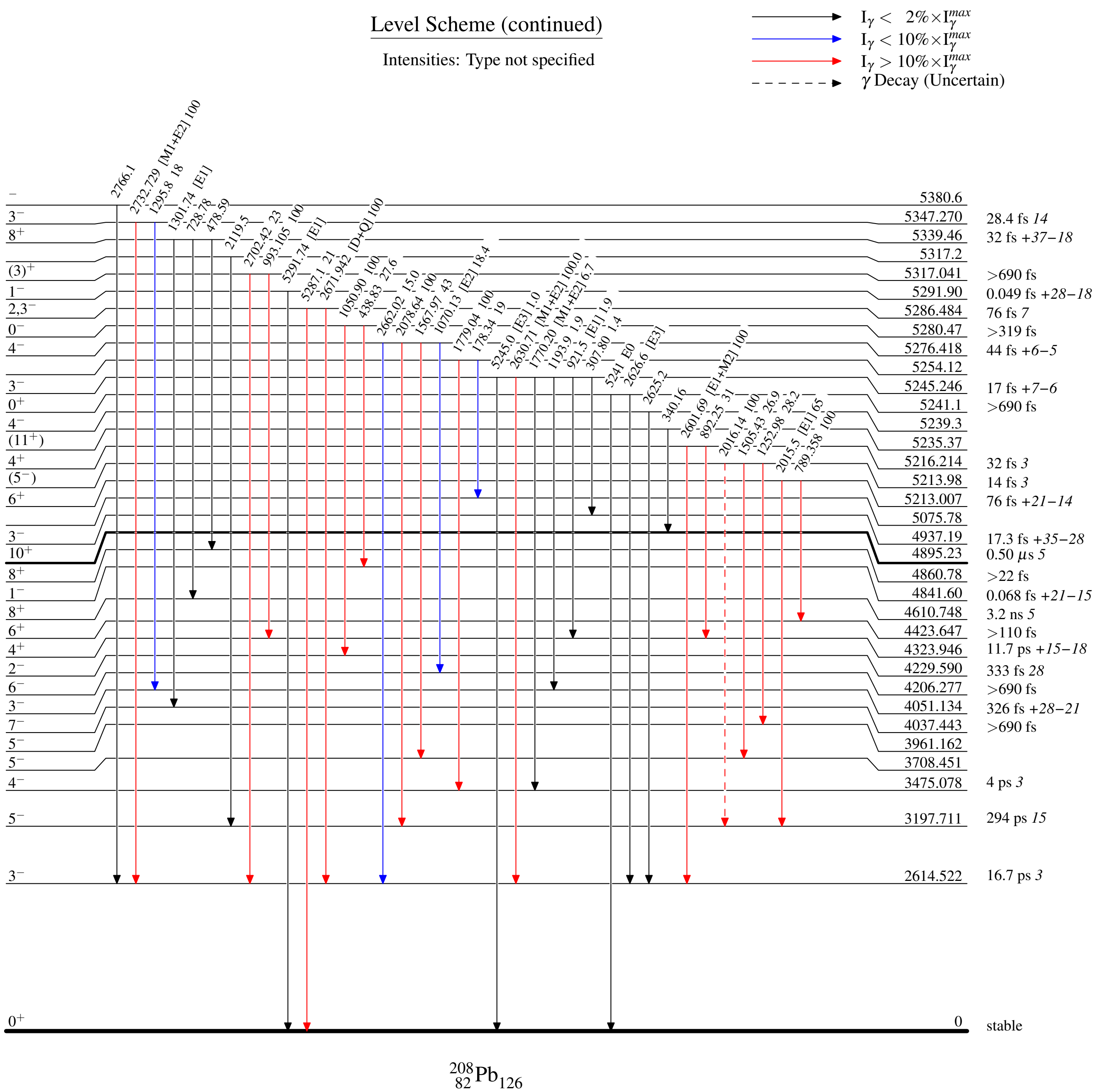
$I_\gamma > 10\% \times I_\gamma^{max}$



Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



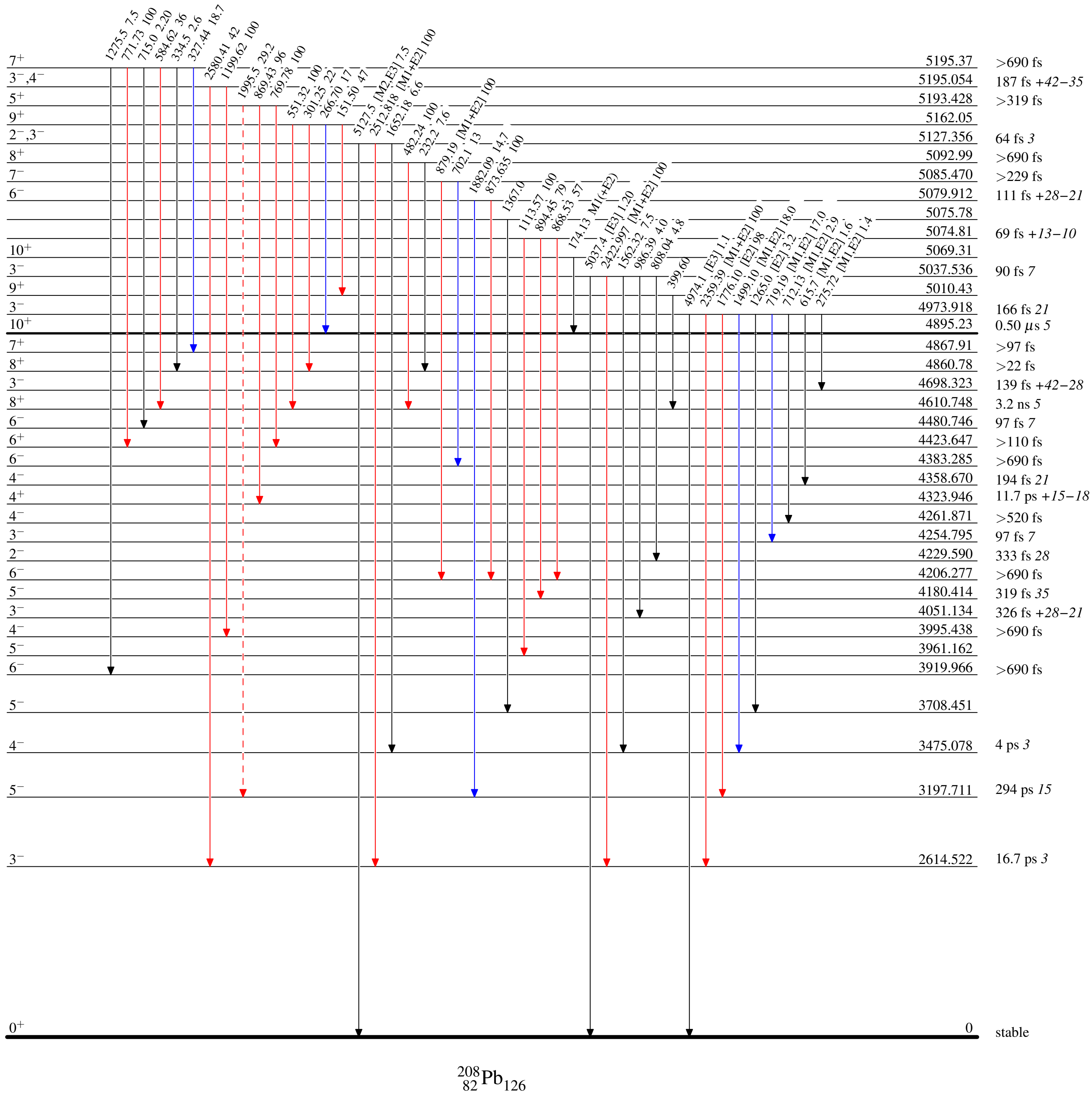
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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



$^{208}_{82}Pb_{126}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

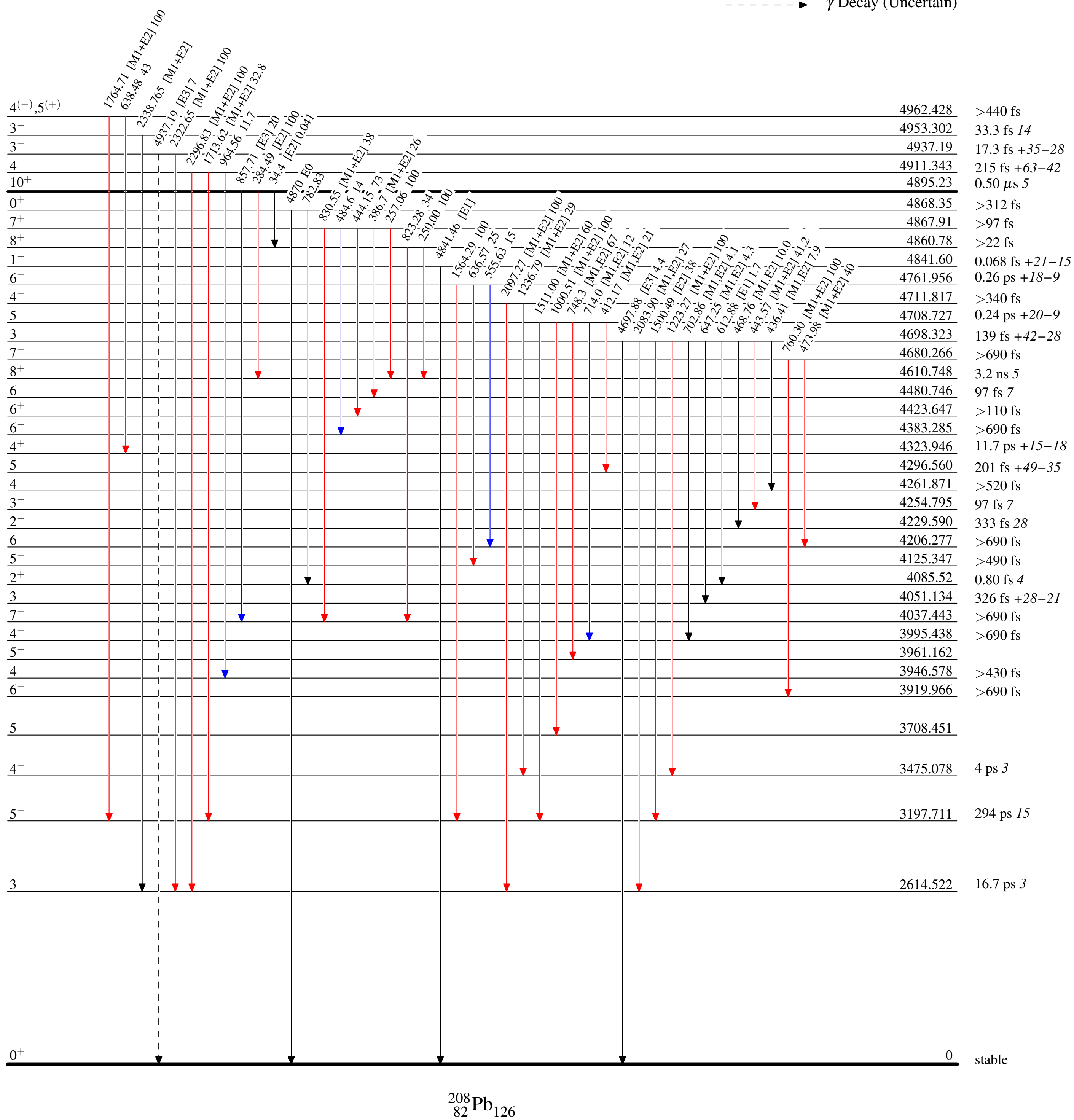
Legend

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

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

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

γ Decay (Uncertain)



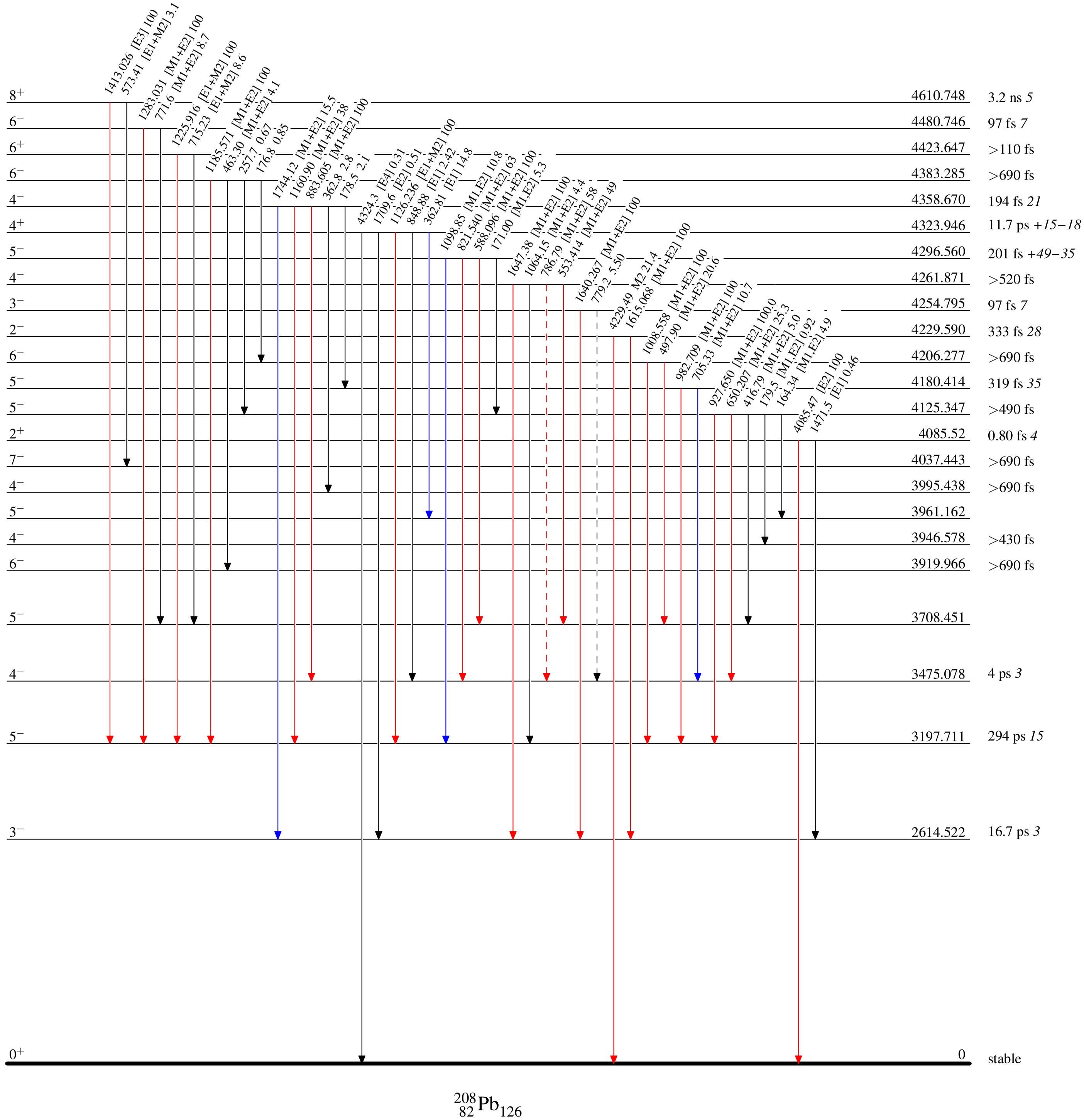
Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

Legend

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

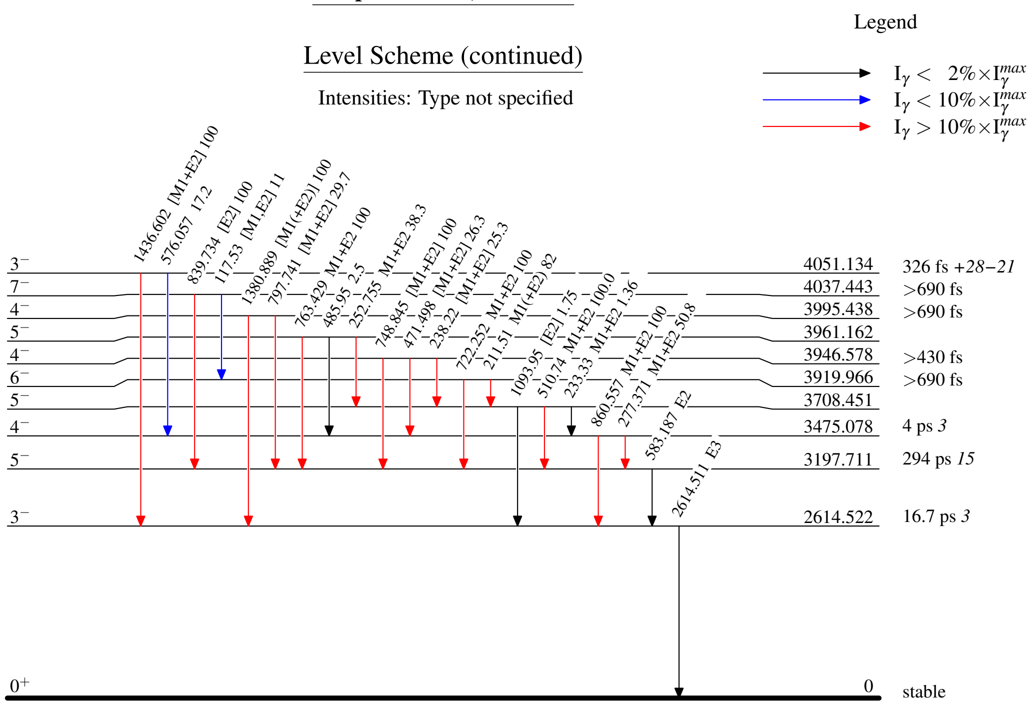


$^{208}_{82}Pb_{126}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified



$^{208}_{82}Pb_{126}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 121, 561 (2014)	31-Mar-2014

Q(β^-)=63.5 *5*; S(n)=5185.2 *13*; S(p)=8379 *8*; Q(α)=3792 *20* 2012Wa38

Other Reactions:

^{9}Be(^{238}U,X): 2009Al32 – Measured production cross section for ^{210}Pb $\sigma\approx1$ μb (estimated from authors′ Fig. 4.).

^{208}Pb(^{11}Li,^{9}Li): 1992SoZT, 1992VaZO.

^{210}Pb Levels

Cross Reference (XREF) Flags

A	^{210}Tl β^- decay (1.30 min)	E	^{208}Pb(t,pγ)	I	^{210}Pb(t,t′) E=20 MeV
B	^{214}Po α decay	F	^{208}Pb(α,^{2}He)	J	(HI,xnγ)
C	^{214}Bi $\beta^-\alpha$ decay	G	^{208}Pb(^{7}Li,αpγ) E=33 MeV		
D	^{208}Pb(t,p), (pol t,p)	H	^{210}Pb(p,p′) E=20.5 MeV		

E(level)[e]	J$^\pi$	T$_{1/2}$	XREF	Comments
0.0[†]	0$^+$	22.20 y *22*	ABCDEFGHIJ	%β^-=100; %α=1.9×10^{-6} *4* %α: Weighted average of %α=1.7×10^{-6} *3* (1962Ka27) and %α=2.7×10^{-6} *6* (1964Wo05). T$_{1/2}$: weighted average of: 22.4 y *4* (1957Me47), 23.3 y *5* (1959Pa03), 21.4 y *5* (1960Ec01), 22.9 y *7* (1963Im02), 22.0 y *5* (1964Ra12), 22.2 y *10* (1967Vo04), 22.26 y *22* (1969Ho06), and 21.8 y *3* (2002Re18). Evaluator′s recommended uncertainty (0.22 y) is from 1969Ho06. 2008ChZV recommended a value of 22.23 y *12*. Others: 1931Cu01, 1955To14, 1959Ha20. Isotope shift: 1987Za02, 1986An06, 1995Sh13.
799.7[†] *1*	2$^+$	17 ps *5*	ABCDE GHIJ	T$_{1/2}$: from B(E2)(0$^+$ to 2$^+$)=0.051 *15* (1971El03) in (t,t′). E(level): first 2$^+$ states in ^{206}Pb, ^{212}Pb occur at 803, 805 keV, respectively. J$^\pi$: 799.7γ E2 to 0$^+$.
1097.7[†] *10*	4$^+$	0.6 ns *1*	AB DE GH J	T$_{1/2}$: from β(298γ,799γ)(t) in ^{210}Tl β^- decay (1964We06). Other value: 0.9 ns *2* $\gamma\gamma$(t) (1961St20). J$^\pi$: L=4 in (t,p).
1195[†] *4*	6$^+$	49 ns *6*	A DE GH J	μ=−1.872 *90* μ: DPAD, corrected for Knight shift (1989Ra17,1983De34). T$_{1/2}$: DPAD in ^{208}Pb(t,pγ) (1983De34). Other values: 21 ns *7*, γ(t) pulsed beam (1980Sj01). J$^\pi$: L=6 in (t,p).
1278[†] *5*	8$^+$	201 ns *17*	A DEFG J	μ=−2.496 *64* μ: DPAD, corrected for Knight shift (1989Ra17,1983De34). T$_{1/2}$: DPAD in ^{208}Pb(t,pγ) (1983De34). Other values: 156 ns *15*, γ(t) pulsed beam (1980Sj01); 152 ns *13*, γ(t) pulsed beam in ^{208}Pb(^{18}O,^{16}O′γ) (1981Bo29). J$^\pi$: L=8 in (t,p).
1806[#] *5*	(10$^+$)		D F J	J$^\pi$: L=(10) in (t,p).
1870[‡] *10*	3$^-$		A D HI	J$^\pi$: L=3 in (t,p), (p,p′), (t,t′). B(E3)(0$^+$ to 3$^-$)=0.47 *11* in (t,t′) (1971El03). (t,t′) strength of split 3$^-$ states is close to strength of 3$^-$, ^{208}Pb first excited state at 2614 keV.
2003 *15*			D	
2038 *15*			D	
2118?			J	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{210}Pb Levels (continued)

E(level)[e]	J^π	XREF	Comments
2209 *13*	(2^+)	A D H	J^π: L=2 in (t,p); γ rays to 2^+,4^+ states.
2414 *12*		A D	
2454 *15*		D	
2512[a] *5*	(11^-)[f]	F J	
2518[d] *10*	(6^+)	D H	J^π: L=6 in (t,p).
2701 *15*	(4^+)	D	J^π: L=4 in (t,p).
2790 *15*		D	
2828[‡d] *10*	3^-	D HI	J^π: L=3 in (p,p′), (t,t′). B(E3)(0^+ to 3^-)=0.25 *7* in (t,t′) (1971El03). See (p,p′) for relative strengths of split 3^- collective excitations at 1870, 2828 keV.
2861 *15*		D	
2901 *15*	(5^-)	D	J^π: L=(5) in (t,p). E(level): first 5^- states in ^{206}Pb, ^{208}Pb occur at 2782, 3198 keV, respectively.
2986 *15*		D	
3070 *12*	(2^+)	A HI	J^π: L=(2) in (p,p′); γ rays to 2^+ states.
3120 *15*		D	
3150 *15*	(6^+)	D	J^π: L=(6) in (t,p).
3152[b] *5*	(13^-)[f]	F J	
3194 *10*	(4^+)	H	J^π: L=(4) in (p,p′).
3215?		J	
3223 *15*		D I	
3281 *15*		D	
3312 *15*	(8^+)	D	J^π: L=8 in (t,p).
3365 *15*		D	
3420 *15*		D F	
3460 *32*	(4^+)	A D	J^π: L=4 in (t,p); γ rays to 3^-,4^+ states.
3560 *15*		D	
3625 *19*		A D	
3657 *15*		D	
3702 *15*		D	
3755 *15*		D	
3792 *15*		D	
3829 *15*		D	
3880 *32*		A D	
4055 *15*		D	
4080[d] *10*	(2^+)	H	J^π: L=2 in (p,p′).
4105 *28*		A I	
4128[d] *10*	(2^+)	D H	J^π: L=(2) in (p,p′).
4133[c] *5*	(14^+)[f]	F J	
4185[d] *10*		D H	
4255 *15*		D	
4285[d] *10*		D H	L=(4) in (p,p′).
4390[&d] *10*	(9^-)[f]	D F H	XREF: F(4370).
4470 *15*		D	
4570 *15*		D	
4586 *15*		D	
4675 *15*		D	
4754?		J	
4949[@] *15*	(11^-)[f]	D F	XREF: F(4890).
5165		J	
5396[d] *10*		H	
5445[d] *10*		H	
5492[d] *10*		H	

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

^{210}Pb Levels (continued)

E(level)[e]	XREF
5544	J
5557	J
5599	J
5688	J
5741	J
5839	J

† Configuration=(ν $2g_{9/2}$)^2; (t,p) strength indicates appreciable configuration mixing except for J$^\pi$=6$^+$,8$^+$ states.
‡ Configuration=((ν $2g_{9/2}$) (ν $1j_{15/2}$))3$^-$ and Configuration=((208πB3$^-$) (ν $2g_{9/2}$0))3 admixed.
# Configuration=((ν $2g_{9/2}$) (ν $1i_{11/2}$))10$^+$.
@ Configuration=((ν $1j_{15/2}$)(ν $2g_{7/2}$))11$^-$.
& Configuration=((ν $1j_{15/2}$) (ν $3d_{5/2}$))9$^-$.
[a] Configuration=((ν $2g_{9/2}$) (ν $1j_{15/2}$))11$^-$.
[b] Configuration=((ν $1i_{11/2}$) (ν 1j11/2))13$^-$.
[c] Configuration=(ν $1j_{15/2}$)^{2}14$^+$.
[d] From ^{210}Pb(p,p′).
[e] Deduced by evaluator from a least-squares fit to Adopted γ-ray energies, except for levels populated only in ^{208}Pb(t,p), ^{209}Pb(pol t, p), ^{210}Pb(t,t′), ^{210}Pb(p,p′), and ^{208}Pb(α,^{2}He). ΔE=15 keV in (t,p), estimated in 1981Ha54.
[f] From L values and shell model calculations in 1993Vo02 (α,^{2}He).

γ(^{210}Pb)

E$_i$(level)	J$^\pi_i$	E$_\gamma$[@]	I$_\gamma$	E$_f$	J$^\pi_f$	Mult.[@]	α[&]	Comments
799.7	2$^+$	799.7† *1*		0.0	0$^+$	E2	0.0105	B(E2)(W.u.)=1.4 *4*
1097.7	4$^+$	298† *1*		799.7	2$^+$	E2	0.119	B(E2)(W.u.)=4.8 *9*
1195	6$^+$	97‡ *3*	100	1097.7	4$^+$	[E2]	6.71	B(E2)(W.u.)=2.1 *8* E$_\gamma$: From ^{210}Tl β^- decay.
1278	8$^+$	83‡ *3*	100	1195	6$^+$	[E2]	17.9	B(E2)(W.u.)=0.7 *3* E$_\gamma$: From ^{210}Tl β^- decay.
1806	(10$^+$)	528.0# *2*	100#	1278	8$^+$			
1870	3$^-$	1070 *10*	100	799.7	2$^+$			
2209	(2$^+$)	1110 *20*	100 *29*	1097.7	4$^+$			
		1410 *20*	71 *29*	799.7	2$^+$			
2414		1316 *13*	100	1097.7	4$^+$			
2512	(11$^-$)	1233.7# *2*	100#	1278	8$^+$			
3070	(2$^+$)	860 *30*	100 *29*	2209	(2$^+$)			
		2270 *13*	43 *29*	799.7	2$^+$			
3152	(13$^-$)	640.4# *2*	83#	2512	(11$^-$)			
		1346.0# *2*	100#	1806	(10$^+$)			
3460	(4$^+$)	1590 *30*	25 *13*	1870	3$^-$			
		2360 *30*	100 *38*	1097.7	4$^+$			
3625		1210 *20*	100 *24*	2414				
		2430 *30*	53 *18*	1195	6$^+$			
3880		2010 *30*		1870	3$^-$			
4105		480 *20*		3625				
4133	(14$^+$)	981.0# *4*	100#	3152	(13$^-$)			

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Adopted Levels, Gammas (continued)

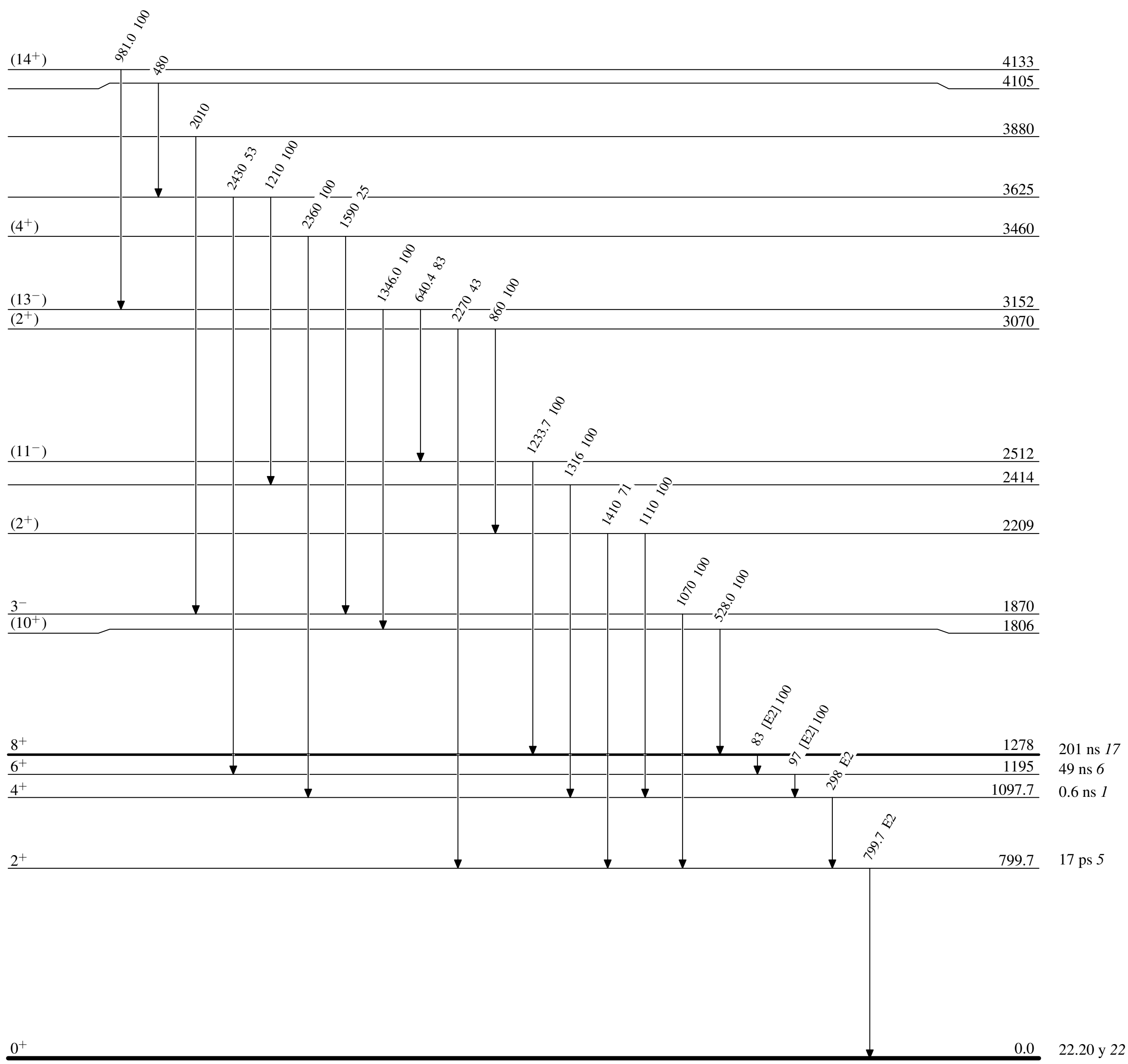
$\gamma(^{210}Pb)$ (continued)

† From ^{214}Po α decay.
‡ From ^{208}Pb(^{7}Li,αpγ).
# From (HI,xnγ), ^{238}U(^{208}Pb,xng).
@ From ^{210}Tl β^{-} decay, unless otherwise specified.
& 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.

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level



$^{210}_{82}Pb_{128}$

Adopted Levels, Gammas

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	K. Auranen and E. A. Mccutchan	NDS 168, 117 (2020)	1-Aug-2020

Q(β^-)=569.1 *18*; S(n)=5127.2 *25*; S(p)=8760 *40*; Q(α)=3290 *30* 2017Wa10
S(2n)=8963.0 *21*; S(2p)=16760 (syst) *200* (2017Wa10).
α: Additional information 1.

^{212}Pb Levels

Cross Reference (XREF) Flags

A ^{212}Tl β^- decay (30.9 s)
B ^{216}Po α decay
C ^{9}Be(^{238}U,Xγ)
D ^{210}Pb(t,p)

E(level)†	J^{π}‡	$T_{1/2}$	XREF	Comments
0.0#	0^+	10.622 h *7*	ABCD	%β^-=100 $T_{1/2}$: from 2017Ko16. Others: 10.67 h *5* (1952Bu72), 10.64 h *3* (1953Ma26), 10.643 h *12* (1955To11), and 11.0 h *6* (1995Ma90). RMS charge radius $<r^2>^{1/2}$=5.5396 fm *19* (2013An02).
804.9# *2*	(2^+)		ABCD	
1119.9# *10*	(4^+)		A CD	
1276.9# *14*	(6^+)		A CD	
1335# *10*	(8^+)	6.0 μs *8*	CD	$T_{1/2}$: from recoil-γ(t) in ^{9}Be(^{238}U,Xγ). E(level): interpreted as the maximally aligned $(g_{9/2})^2$ configuration in ^{9}Be(^{238}U,Xγ).
1820 *10*	(3^-)		D	
2249 *10*			D	
2287 *10*			D	
2488 *10*			D	
2616 *10*			D	
3067 *10*			D	
3140 *10*			D	
3174 *10*			D	
3256 *10*			D	
3285 *10*			D	
3526 *10*			D	
3716 *10*			D	
3844 *10*			D	
4093 *10*			D	

† From Eγ, assuming 1 keV uncertainty when not explicity indicated, for levels below 1.3 MeV. Above 1.3 MeV, level energies are from (t,p).
‡ From ^{210}Pb(t,p). Tentative assignments based on combined evidence of : 1) comparison of limited angular distributions to those of ^{208}Pb(t,p), 2) comparison between measured excitation energies and those in ^{210}Pb and 3) on relative transition strengths.
# Seq.(A): Ground state sequence.

Adopted Levels, Gammas (continued)

$\gamma(^{212}Pb)$

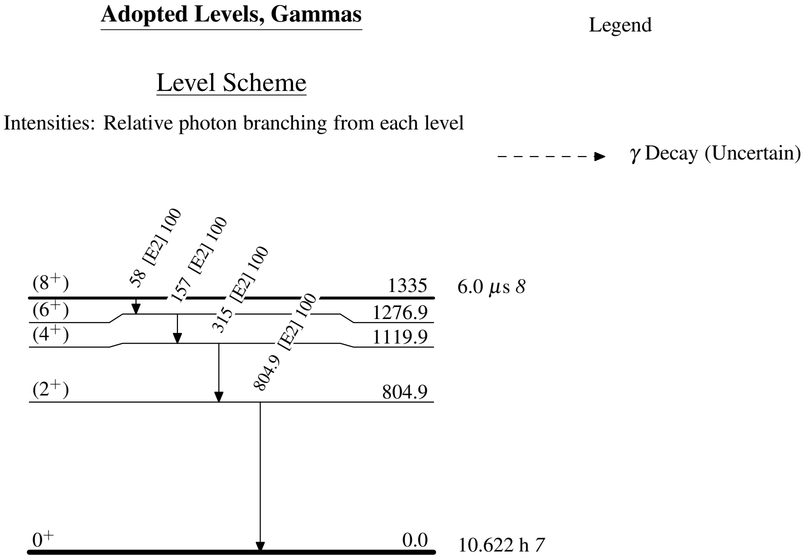
E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	α	Comments
804.9	(2^+)	804.9 *2*	100	0.0	0^+	[E2]	0.01027	E_γ,I_γ: from ^{216}Po α decay.
1119.9	(4^+)	315	100	804.9	(2^+)	[E2]	0.1001	E_γ: other: 316 in ^{9}Be(^{238}U,Xγ).
1276.9	(6^+)	157	100	1119.9	(4^+)	[E2]	1.028	E_γ: other: 158 in ^{9}Be(^{238}U,Xγ).
1335	(8^+)	(58 *10*)	100	1276.9	(6^+)	[E2]	12×10^1 *8*	B(E2)(W.u.)=0.016 *+41−10* E_γ: transition to (6^+) level not seen in γ-ray spectra, energy is from difference of 1335 and 1277 levels. α: symmetrized from 80 *+120−40*.

† From ^{212}Tl β^- decay, except where noted.

Adopted Levels, Gammas

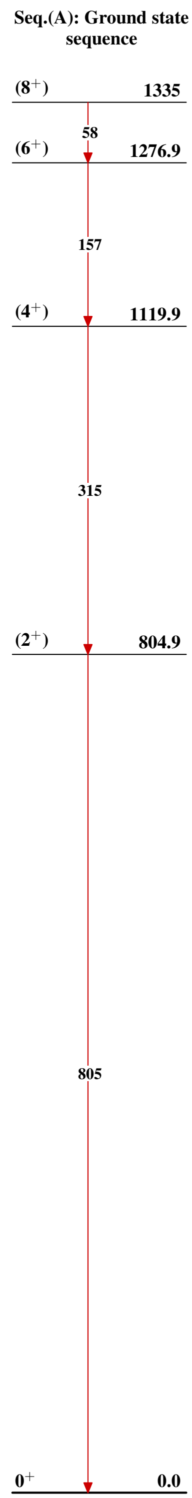
Level Scheme

Intensities: Relative photon branching from each level



$^{212}_{82}Pb_{130}$

Adopted Levels, Gammas



$^{212}_{82}Pb_{130}$