Adopted Levels, Gammas

History

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

Q(β^-)=262 *7*; S(n)=8407 *7*; S(p)=11306 *9*; Q(α)=−5087 *11* 2012Wa38

^{112}Pd Levels

Cross Reference (XREF) Flags

A	^{112}Rh β^- decay (3.6 s)	D	^{110}Pd(t,p)
B	^{112}Rh β^- decay (6.76 s)	E	^{110}Pd(t,pγ)
C	^{252}Cf SF decay	F	^{208}Pb(^{18}O,Xγ)

E(level)†	J$^\pi$‡	T$_{1/2}$	XREF	Comments
0.0#	0$^+$	21.04 h *17*	ABCDEF	%β^-=100 T$_{1/2}$: Weighted average of 21.045 h +29-65 (1977Gi11), 21.12 h 8 (1974Ro18), 20.12 h 6 (1971Ba28), 21.0 h 5 (1959Gi66) and 21.02 h 2 (1957Me49).
348.66# *13*	2$^+$	84 ps *14*	ABCDEF	XREF: D(351). J$^\pi$: L=2 in ^{110}Pd(t,p) (1972Ca10); 348.7γ to 0$^+$. T$_{1/2}$: from recoil-distance Doppler-shift method in ^{252}Cf SF decay (1986Ma22) Other: <1 ns from ^{252}Cf SF decay (1970Ch11); Also: T$_{1/2}$ might be overestimated according to B(E2) systematics in 2011Ki17.
736.72@ *14*	2$^+$		ABCDEF	J$^\pi$: 388.0γ E2(+M1) to 2$^+$ and 736.7γ (E2) to 0$^+$; systematics of the second 2$^+$ states; Other: (4$^+$) from L(t,p)=(4) in ^{110}Pd(t,p) (1972Ca10).
882.96# *16*	4$^+$		ABCDEF	XREF: D(882). J$^\pi$: 534.3γ E2 to 2$^+$; band member; Other: (2$^+$) from L=(2) in ^{110}Pd(t,p) (1972Ca10).
923.7 *7*	1,2$^+$		DE	XREF: D(928). J$^\pi$: 924.4γ to 2$^+$, 574.4γ to 0$^+$.
1096.27@ *16*	3$^+$		ABC EF	J$^\pi$: 359.6γ E2(+M1) to 2$^+$, 213.3γ to 4$^+$; band member.
1125.48d *21*	0$^+$		A DE	XREF: D(1123). J$^\pi$: L=0 in ^{110}Pd(t,p); 1125.3γ E0 to 0$^+$.
1139.83 *21*	(0,1,2)$^+$		A	J$^\pi$: 791.2γ E2 to 2$^+$; Direct feeding from J^π=(1$^+$) in ^{112}Rh β^- decay (3.6 s).
1362.37@ *17*	(4$^+$)		BC EF	J$^\pi$: 625.7γ to 2$^+$, 479.4γ to 4$^+$; band member.
1402.64 *17*	2$^+$		A	J$^\pi$: 519.8γ to 4$^+$, 1402.6γ to 0$^+$.
1422.68d *15*	2$^+$		AB F	J$^\pi$: 539.7γ to 4$^+$, 1422.6γ to 0$^+$; band member.
1550.47# *19*	6$^+$		BC EF	J$^\pi$: 667.3γ E2 to 4$^+$; band member.
1714.87 *17*	(3,4$^+$)		BC F	J$^\pi$: 978.2γ to 2$^+$ and 831.9γ to 4$^+$; near-yrast state populated in ^{252}Cf SF decay (1999Bu32); not observed in ^{112}Rh β^- decay (3.6 s), (1$^+$) (1999Lh01).
1747.5? *5*	(1,2$^+$)		A	J$^\pi$: 1398.8γ to 2$^+$; observation in ^{112}Rh β^- decay (3.6 s), J^π=(1$^+$).
1758.97@ *19*	(5$^+$)		BC F	J$^\pi$: 662.7γ to 3$^+$, 876.0γ to 4$^+$; no observation γ rays to 2$^+$ states; observation in ^{112}Rh β^- decay (3.76 s), J^π=(6$^+$); band member.
1774.4? *5*	(1,2$^+$)		A	J$^\pi$: 1425.7γ to 2$^+$; observation in ^{112}Rh β^- decay (3.6 s), J^π=(1$^+$).
1887.4d *3*	(4$^+$)		B F	XREF: F(1886.4). J$^\pi$: 464.7γ to 2$^+$, 791.1γ M1+E2 to 3$^+$, a tentative 1004.7γ to 4$^+$; observation in ^{112}Rh β^- decay (3.76 s), J^π=(6$^+$); band member.
1951.6 *4*	(3,4$^+$)		B	J$^\pi$: 1069.2γ to 4$^+$ and 1214.8γ to 2$^+$; not observed in ^{112}Rh β^- decay (3.6 s), (1$^+$) (1999Lh01).
2002.73@ *23*	(6$^+$)		BC EF	J$^\pi$: 640.4γ to (4$^+$); band member.
2036.47 *25*	(2$^-$,3,4$^+$)		B	J$^\pi$: 1687.8γ to 2$^+$; 158.1γ from (4)$^-$.

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Adopted Levels, Gammas (continued)

^{112}Pd Levels (continued)

E(level)[†]	Jπ[‡]	XREF	Comments
2107.4 *4*	(1,2$^+$)	A	Jπ: 1758.7γ to 2$^+$, a tentative 2106.6γ to 0$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2158.0 *4*	(3,4,5$^+$)	B	Jπ: 1061.7γ to 3$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2194.57 *17*	(4)$^-$	BC F	Jπ: 1098.6γ E1(+M2) to 3$^+$, 1311.6γ E1+M2 to 4$^+$; 435.6γ to (5$^+$).
2200.59 *18*	(5,6$^+$)	B F	XREF: F(2199.6). Jπ: 1317.6γ to 4$^+$ and 650.1γ to 6$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2269.38[&] *21*	(5$^-$)	BC F	Jπ: 1386.4γ to 4$^+$.
2318.3[#] *4*	8$^+$	C EF	Jπ: 767.8γ E2 to 6$^+$; band member.
2334.1 *4*	(5,6$^+$)	B	Jπ: 1451.1γ to 4$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2354.47 *19*	(4,5$^+$)	BC F	Jπ: 159.9γ to (4)$^-$, 1471.5γ to 4$^+$, 1258.2γ to 3$^+$. No transitions to 2$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2356.7 *7*	(1,2$^+$)	A	Jπ: 2008.1γ to 2$^+$; observation in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2395.17 *22*	(5$^+$)	B	Jπ: 1298.9γ to 3$^+$ and 1512.1γ to 4$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2430.8 *5*	(5,6$^+$)	B	Jπ: 1547.8γ to 4$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2432.5? *5*	(1,2$^+$)	A	Jπ: 2432.7γ to 0$^+$; observation in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2441.4 *3*	(5,6$^+$)	B	Jπ: 726.5γ to (3,4$^+$) and 890.9γ to 6$^+$; observation in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2466.1? *6*	(1,2$^+$)	A	Jπ: 2117.4γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2482.9[@] *5*	(7$^+$)	C F	Jπ: 724.0γ to (5$^+$); band member.
2496.87 *24*	(0$^+$,1,2)	A	Jπ: 1760.1γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2509.8 *6*	(1,2$^+$)	A	Jπ: 2161.1γ to 2$^+$, 2511.2γ to 0$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2540.5 *5*	(0$^+$,1,2)	A	Jπ: 1803.8γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2543.2 *3*	(5$^+$)	B	Jπ: 1446.9γ to 3$^+$ and 1660.3γ to 4$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2578.7[a] *4*	(6$^-$)	BC F	Jπ: 1028.3γ to 6$^+$, 309.2γ to (5$^-$). No γ transitions to 4$^+$ states; band member.
2603.9 *5*	(0$^+$,1,2)	A	Jπ: 1867.2γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2614.5[b] *8*	(6$^-$)	F	Jπ: 855γ to (5$^+$); band member.
2629.7 *6*	(5,6,7)	B	Jπ: 1079.2γ to 6$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2638.6[@] *6*	(8$^+$)	F	Jπ: 1088γ to 6$^+$; band member.
2665.5 *5*	(1,2$^+$)	A	Jπ: 2316.8γ to 2$^+$, 2664.7γ to 0$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2688.14 *24*	(0$^+$,1,2)	A	Jπ: 2339.7γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2691.2 *4*	(8$^+$)	C F	Jπ: 1140.3γ to 6$^+$.
2704.5[&] *4*	(7$^-$)	C F	Jπ: 1153.9γ to 6$^+$, 434.8γ to (5$^-$); band member.
2711.4[c] *5*	(7$^-$)	C F	Jπ: 1161.5γ to 6$^+$; band member.
2747.3 *3*	(1,2$^+$)	A	Jπ: 2746.7γ to 0$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2754.78 *17*	5$^+$	BC F	Jπ: 1204.3γ M1+E2 to 6$^+$,1658.5γ to 3$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$; Others: J=4 in ^{252}Cf SF decay (1999Bu32) and ^{208}Pb(^{18}O,Xγ) (2001Kr08).
2770.0 *7*	(0$^+$,1,2)	A	Jπ: 2421.3γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2795.8? *6*	(0$^+$,1,2)	A	Jπ: 2447.1γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2836.4 *5*	(0$^+$,1,2)	A	Jπ: 2488.2γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
2898.9[a] *4*	(8$^-$)	C F	Jπ: 320.2γ to (6$^-$); band member.
2966.60 *23*	(5,6$^+$)	BC	Jπ: 1604.2γ to (4$^+$), 1416.1γ to 6$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
2977.2? *6*	(0$^+$,1,2)	A	Jπ: 2628.6γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
3013.8 *5*	(0$^+$,1,2)	A	Jπ: 2665.0γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
3043.3 *4*	(5,6)	B	Jπ: 1493.1γ to 6$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.76 s), $J^\pi=(6^+)$.
3045.5[b] *13*	(8$^-$)	F	Jπ: 431γ to (6$^-$); band member.
3050.1[#] *6*	10$^+$	C F	Jπ: 731.9γ E2 to 8$^+$; band member.
3084.7[@] *6*	(9$^+$)	C F	Jπ: 393γ to (8$^+$), 601.9γ to (7$^+$); band member.
3137.3[&] *4*	(9$^-$)	C F	Jπ: 432.9γ to (7$^-$), 819.0γ to 8$^+$; band member.
3175.3 *11*		F	
3225.5 *6*	(0$^+$,1,2)	A	Jπ: 2876.6γ to 2$^+$; direct feeding in ^{112}Rh β$^-$ decay (3.6 s), $J^\pi=(1^+)$.
3260.9 *11*		F	
3265.2[c] *6*	(9$^-$)	C F	XREF: C(3266.0)F(3263.4). Jπ: 554.1γ to (7$^-$), 946γ to 8$^+$; band member.
3327.0[@] *7*	(10$^+$)	F	Jπ: 689γ to (8$^+$); band member.

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Adopted Levels, Gammas (continued)

^{112}Pd Levels (continued)

E(level)[†]	J$^{\pi}$[‡]	XREF	Comments
3337.9? *9*	(0$^+$,1,2)	A	J$^{\pi}$: 2989.2γ to 2$^+$; direct feeding in ^{112}Rh β^- decay (3.6 s), J^{π}=(1$^+$).
3447.2[a] *6*	(10$^-$)	C F	J$^{\pi}$: 548.0γ to (8$^-$); band member.
3597.9[#] *8*	(12$^+$)	C F	J$^{\pi}$: 547.8γ to 10$^+$; band member.
3625.7[@] *12*	(11$^+$)	F	J$^{\pi}$: 541γ to (9$^+$); band member.
3654.5[b] *16*	(10$^-$)	F	J$^{\pi}$: 609γ to (8$^-$); band member.
3744.7[&] *6*	(11$^-$)	C F	J$^{\pi}$: 297γ to (10$^-$), 607.7γ to (9$^-$); band member.
3759.6 *5*	(5,6$^+$)	B	J$^{\pi}$: 2208.9γ to 6$^+$, 2397.6γ to (4$^+$); direct feeding in ^{112}Rh β^- decay (3.76 s), J^{π}=(6$^+$).
3772.0 *8*	(5,6$^+$)	B	J$^{\pi}$: 2409.6γ to (4$^+$); direct feeding in ^{112}Rh β^- decay (3.76 s), J^{π}=(6$^+$).
3794.3 *9*	(5,6$^+$)	B	J$^{\pi}$: 2911.3γ to 4$^+$; direct feeding in ^{112}Rh β^- decay (3.76 s), J^{π}=(6$^+$).
3940.3 *9*	(5,6$^+$)	B	J$^{\pi}$: 3057.3γ to 4$^+$; direct feeding in ^{112}Rh β^- decay (3.76 s), J^{π}=(6$^+$).
3951.2[c] *12*	(11$^-$)	F	J$^{\pi}$: 686γ to (9$^-$); band member.
4046.3 *15*		F	
4086.3 *15*		F	
4117.0[a] *9*	(12$^-$)	F	J$^{\pi}$: 373γ to (11$^-$), 669γ to (10$^-$); band member.
4321.9[#] *9*	(14$^+$)	C F	J$^{\pi}$: 724.0γ to (12$^+$); band member.
4327.7[@] *16*	(13$^+$)	F	J$^{\pi}$: 702γ to (11$^+$); band member.
4391.5[b] *19*	(12$^-$)	F	J$^{\pi}$: 737γ to (10$^-$); band member.
4477.7[&] *12*	(13$^-$)	F	J$^{\pi}$: 733γ to (11$^-$); band member.
4748.2[c] *16*	(13$^-$)	F	J$^{\pi}$: 797γ to (11$^-$); band member.
4931.3 *18*		F	
5221.9[#] *14*	(16$^+$)	F	J$^{\pi}$: 900γ to (14$^+$); band member.

[†] From a least squares fit to γ ray energies.
[‡] Based on the band structure, unless otherwise noted.
[#] Band(A): Member of ΔJ=2 ground-state band.
[@] Band(B): Member of the quasi-gamma band.
[&] Band(C): Member of ΔJ=2 band built on the (5$^-$) state; configuration=$\nu h_{11/2}\otimes(g_{7/2},d_{5/2})$, α=1.
[a] Band(c): Member of ΔJ=2 band built on the (6$^-$) state; configuration=$\nu h_{11/2}\otimes(g_{7/2},d_{5/2})$, α=0.
[b] Band(D): Member of ΔJ=2 band built on the (6$^-$) state; configuration=$\nu h_{11/2}\otimes(s_{1/2},d_{3/2})$, α=0.
[c] Band(d): Member of ΔJ=2 band built on the (7$^-$) state; configuration=$\nu h_{11/2}\otimes(s_{1/2},d_{3/2})$, α=1.
[d] Band(E): Probable member of ΔJ=2 intruder band (1999Lh01).

Adopted Levels, Gammas (continued)

γ(^{112}Pd)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ[†b]	α[a]	Comments
348.66	2$^+$	348.7 *2*	100	0.0	0$^+$	(E2)		0.0181	B(E2)(W.u.)=40 *7* α(K)=0.01552 *22*; α(L)=0.00210 *3*; α(M)=0.000396 *6* α(N)=6.53×10^{-5} *10*
736.72	2$^+$	388.0 *2*	100 *7*	348.66	2$^+$	E2(+M1)	−4.7 *+17−35*	0.01276 *23*	α(K)=0.01099 *20*; α(L)=0.00145 *3*; α(M)=0.000274 *6* α(N)=4.52×10^{-5} *10* Mult.: A_2=0.08 *4*; A_4=0.28 *5*, gated on 388.0γ and 348.8γ in ^{252}Cf SF decay (1999Bu32); A_{22}=0.089 *34* gated on 348.7γ and 388.0γ in 1999Lh01.
		736.7 *2*	31 *4*	0.0	0$^+$	(E2)		0.00209	α(K)=0.00182 *3*; α(L)=0.000220 *3*; α(M)=4.13×10^{-5} *6* α(N)=6.92×10^{-6} *10* Mult.: A_{22}=−0.208 *41* gated on 359.6γ and 736.7γ in 1999Lh01.
882.96	4$^+$	534.3 *2*	100	348.66	2$^+$	E2		0.00494	α(K)=0.00428 *6*; α(L)=0.000539 *8*; α(M)=0.0001014 *15* α(N)=1.688×10^{-5} *24* Mult.: A_2=0.14 *2*; A_4=−0.01 *2*, gated on 534.3γ and 348.8γ in ^{252}Cf SF (1999Bu32); A_{22}=0.105 *34* gated on 348.7γ and 534.3γ in 1999Lh01.
923.7	1,2$^+$	574.4[‡]	100[‡]	348.66	2$^+$				
		924.4[‡]	19[‡]	0.0	0$^+$				
1096.27	3$^+$	213.3 *2*	3.6 *6*	882.96	4$^+$				
		359.6 *2*	100 *8*	736.72	2$^+$	M1+E2		0.01252	α(K)=0.01093 *16*; α(L)=0.001298 *19*; α(M)=0.000244 *4* α(N)=4.11×10^{-5} *6* Mult.: A_2=−0.16 *7*; A_4=−0.06 *8*, gated on 359.4γ and 736.8γ in ^{252}Cf SF (1999Bu32); A_{22}=0.041 *35* gated on 348.7γ and 359.6γ in 1999Lh01.
		747.6 *2*	79 *8*	348.66	2$^+$	E2(+M1)	−1.65 *10*	0.00205	α(K)=0.00179 *3*; α(L)=0.000214 *3*; α(M)=4.02×10^{-5} *6* α(N)=6.75×10^{-6} *10* Mult.: A_{22}=−0.485 *47* gated on 348.7γ and 747.6γ in 1999Lh01.
1125.48	0$^+$	386.2		736.72	2$^+$				E_γ: from ^{110}Pd(t,pγ).
		776.9 *2*	100	348.66	2$^+$	E2		0.00183	α(K)=0.001593 *23*; α(L)=0.000192 *3*; α(M)=3.60×10^{-5} *5* α(N)=6.03×10^{-6} *9* Mult.: A_{22}=0.493 *66* gated on 348.7γ and 776.9 in ^{112}Rh β$^-$ decay (1999Lh01).
		1125.3		0.0	0$^+$	E0			E_γ: from ^{110}Pd(t,pγ). Mult.: from I(E0,K)/I(tot)>58×10^6 (1987Es01) and I(ce(K) 1125)/Iγ(777γ)=1.26×10^{-4} in 110Pd(t,pγ) (1987Es01,1986HeZT).
1139.83	(0,1,2)$^+$	402.8[&] *4*	31[&] *7*	736.72	2$^+$				

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	α[a]	Comments
1139.83	(0,1,2)$^+$	791.2& *2*	100& *14*	348.66	2$^+$	E2	1.75×10^{-3}	α(K)=0.001523 *22*; α(L)=0.000183 *3*; α(M)=3.44×10^{-5} *5* α(N)=5.76×10^{-6} *8* Mult.: A_{22}=0.34 *8* in ^{112}Rh β^- decay (3.6 s) (1999Lh01).
1362.37	(4$^+$)	479.4 *2*	25 *4*	882.96	4$^+$			
		625.7 *2*	100 *9*	736.72	2$^+$			
		1013.9[c] *4*	4.7 *25*	348.66	2$^+$			
1402.64	2$^+$	519.8& *5*	9.3& *23*	882.96	4$^+$			
		665.8& *5*	30& *12*	736.72	2$^+$			
		1054.0& *2*	100& *14*	348.66	2$^+$			
		1402.6& *3*	67& *9*	0.0	0$^+$			
1422.68	2$^+$	297.1& *4*	14& *3*	1125.48	0$^+$			
		326.6& *3*	28& *6*	1096.27	3$^+$			
		539.7& *3*	25& *6*	882.96	4$^+$			
		686.0& *2*	100& *11*	736.72	2$^+$			
		1074.0& *2*	56& *11*	348.66	2$^+$			
		1422.6& *3*	81& *17*	0.0	0$^+$			
1550.47	6$^+$	667.5 *2*	100	882.96	4$^+$	E2	0.00269	α(K)=0.00234 *4*; α(L)=0.000286 *4*; α(M)=5.38×10^{-5} *8* α(N)=8.99×10^{-6} *13* Mult.: A_2=0.13 *2*; A_4=−0.03 *3*, gated on 667.3γ and 534.3 in ^{252}Cf SF (1999Bu32); A_{22}=0.097 *45* gated on 348.7γ and 667.5γ in ^{112}Rh β^- decay (6.76 s) (1999Lh01).
1714.87	(3,4$^+$)	618.6 *2*	100 *11*	1096.27	3$^+$			
		831.9 *2*	26 *5*	882.96	4$^+$			
		978.2 *5*	53 *5*	736.72	2$^+$			
		1366.2[c] *4*	11 *5*	348.66	2$^+$			
1747.5?	(1,2$^+$)	1398.8&[c] *4*	100&	348.66	2$^+$			
1758.97	(5$^+$)	396.6[c] *4*	5.2 *17*	1362.37	(4$^+$)			
		662.7 *2*	100 *10*	1096.27	3$^+$			
		876.0 *4*	3.5 *17*	882.96	4$^+$			
1774.4?	(1,2$^+$)	1425.7&[c] *4*	100&	348.66	2$^+$			
1887.4	(4$^+$)	464.7 *4*	50 *17*	1422.68	2$^+$			
		791.1 *3*	100 *33*	1096.27	3$^+$	M1+E2	0.00191	α(K)=0.001669 *24*; α(L)=0.000194 *3*; α(M)=3.63×10^{-5} *5* α(N)=6.13×10^{-6} *9* Mult.: A_{22}=0.339 *77* gated on 348.7γ and 791.1γ in ^{112}Rh β^- decay (6.76 s) (1999Lh01).
		1004.7[c] *5*	23 *10*	882.96	4$^+$			
1951.6	(3,4$^+$)	855.1 *5*	80 *20*	1096.27	3$^+$			
		1069.2 *6*	42 *10*	882.96	4$^+$			
		1214.8 *5*	100 *40*	736.72	2$^+$			

$^{112}_{46}Pd_{66}$-5

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	δ[†b]	α[a]	Comments
2002.73	(6$^+$)	453.8[‡c]	45[‡]	1550.47	6$^+$				
		640.4 *2*	100	1362.37	(4$^+$)				
2036.47	(2$^-$,3,4$^+$)	1687.8 *5*	100	348.66	2$^+$				
2107.4	(1,2$^+$)	1758.7[& *3*]	100[& *21*]	348.66	2$^+$				
		2106.6[&c *5*]	19[& *5*]	0.0	0$^+$				
2158.0	(3,4,5$^+$)	1061.7 *3*	100	1096.27	3$^+$				
2194.57	(4)$^-$	158.1 *2*	0.18 *6*	2036.47	(2$^-$,3,4$^+$)				
		435.6 *2*	0.8 *2*	1758.97	(5$^+$)				
		479.7 *2*	3.4 *4*	1714.87	(3,4$^+$)				
		832.2 *2*	0.28 *6*	1362.37	(4$^+$)				
		1098.3 *2*	100 *10*	1096.27	3$^+$	E1(+M2)	−0.43 *32*	0.0006 *4*	α(K)=0.0006 *4*; α(L)=7.E−5 *4*; α(M)=1.2×10^{-5} *8* α(N)=2.1×10^{-6} *13* Mult.: A_2=0.07 *5*; A_4=0.03 *6*, gated on 1098.6γ and 359.4γ in ^{252}Cf SF (1999Bu32); A_{22}=0.014 *40* gated on 359.6γ and 1098.3γ in ^{112}Rh β$^-$ decay (6.76 s) (1999Lh01).
		1311.6 *2*	17.2 *22*	882.96	4$^+$	E1+M2	−0.43 *32*	0.00053 *21*	α(K)=0.00038 *20*; α(L)=4.4×10^{-5} *24*; α(M)=8.E−6 *5* α(N)=1.4×10^{-6} *8*; α(IPF)=8.8×10^{-5} *20* Mult.: A_{22}=0.169 *52* gated on 348.7γ and 1311.6γ in ^{112}Rh β$^-$ decay (6.76 s) (1999Lh01).
		1457.9[c *2*]	0.4 *4*	736.72	2$^+$				
		1845.9 *5*	1.0 *4*	348.66	2$^+$				
2200.59	(5,6$^+$)	441.3[c *4*]	25 *13*	1758.97	(5$^+$)				
		485.7 *2*	100 *13*	1714.87	(3,4$^+$)				
		650.1 *2*	50 *13*	1550.47	6$^+$				
		838.2 *2*	100 *25*	1362.37	(4$^+$)				
		1317.6 *3*	63 *25*	882.96	4$^+$				
2269.38	(5$^-$)	1386.4 *2*	100	882.96	4$^+$				
2318.3	8$^+$	767.8[# *3*]	100[#]	1550.47	6$^+$	E2		0.00188	α(K)=0.001639 *23*; α(L)=0.000198 *3*; α(M)=3.71×10^{-5} *6* α(N)=6.22×10^{-6} *9* Mult.: A_2=0.16 *5*; A_4=−0.01 *6*, gated on 767.8γ and 667.3γ in 252Cf SF (1999Bu32).
2334.1	(5,6$^+$)	1451.1 *3*	100	882.96	4$^+$				
2354.47	(4,5$^+$)	159.9 *3*	7.4 *18*	2194.57	(4)$^-$				
		993.3[c *6*]	2.1 *9*	1362.37	(4$^+$)				
		1258.2 *2*	29 *6*	1096.27	3$^+$				
		1471.5 *2*	100 *15*	882.96	4$^+$	M1		5.57×10^{-4}	α(K)=0.000433 *6*; α(L)=4.95×10^{-5} *7*; α(M)=9.27×10^{-6} *13* α(N)=1.566×10^{-6} *22*; α(IPF)=6.31×10^{-5} *9*

$^{112}_{46}Pd_{66}$-6

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Comments
						Mult.: A_{22}=0.188 *65* gated on 348.7γ and 1471.5γ in 1999Lh01; δ:−0.017 in 1999Lh01.
2356.7	(1,2$^+$)	2008.1&c *6*	100&	348.66	2$^+$	
2395.17	(5$^+$)	1298.9 *3*	100 *17*	1096.27	3$^+$	
		1512.1 *5*	83 *17*	882.96	4$^+$	
2430.8	(5,6$^+$)	1547.8 *4*	100	882.96	4$^+$	
2432.5?	(1,2$^+$)	2083.4c *7*	100	348.66	2$^+$	
		2432.7c *6*	100	0.0	0$^+$	
2441.4	(5,6$^+$)	726.5 *3*	100 *25*	1714.87	(3,4$^+$)	
		890.9 *3*	58 *13*	1550.47	6$^+$	
2466.1?	(1,2$^+$)	2117.4&c *5*	100&	348.66	2$^+$	
2482.9	(7$^+$)	724.0# *5*	100#	1758.97	(5$^+$)	
2496.87	(0$^+$,1,2)	1074.3& *3*	54& *13*	1422.68	2$^+$	
		1094.2& *4*	50& *17*	1402.64	2$^+$	
		1760.1& *4*	100& *17*	736.72	2$^+$	
		2147.7& *7*	25& *13*	348.66	2$^+$	
2509.8	(1,2$^+$)	2161.1& *5*	100& *33*	348.66	2$^+$	
		2511.2&c *7*	25& *8*	0.0	0$^+$	
2540.5	(0$^+$,1,2)	1803.8& *4*	100&	736.72	2$^+$	
2543.2	(5$^+$)	1446.9 *3*	100 *15*	1096.27	3$^+$	
		1660.3 *5*	38 *8*	882.96	4$^+$	
2578.7	(6$^-$)	309.2 *5*		2269.38	(5$^-$)	E_γ: From ^{252}Cf SF decay.
		1028.3 *4*	100	1550.47	6$^+$	
2603.9	(0$^+$,1,2)	1867.2& *4*	100&	736.72	2$^+$	
2614.5	(6$^-$)	855@ *1*	100@	1758.97	(5$^+$)	
2629.7	(5,6,7)	1079.2 *5*	100	1550.47	6$^+$	
2638.6	(8$^+$)	636@ *1*	@	2002.73	(6$^+$)	
		1088@ *1*	@	1550.47	6$^+$	
2665.5	(1,2$^+$)	2316.8& *4*	100& *25*	348.66	2$^+$	
		2664.7&c	69& *50*	0.0	0$^+$	
2688.14	(0$^+$,1,2)	1265.5& *4*	31& *9*	1422.68	2$^+$	
		1285.2& *5*	28& *9*	1402.64	2$^+$	
		1951.3& *4*	41& *9*	736.72	2$^+$	
		2339.7& *4*	100& *16*	348.66	2$^+$	
2691.2	(8$^+$)	688.5# *5*	100#	2002.73	(6$^+$)	
		1140.3 *5*		1550.47	6$^+$	E_γ: from ^{252}Cf SF decay.
2704.5	(7$^-$)	434.8c *5*		2269.38	(5$^-$)	E_γ: from ^{252}Cf SF decay.
		1153.9# *5*	100#	1550.47	6$^+$	
2711.4	(7$^-$)	1161.5# *5*	100#	1550.47	6$^+$	

$^{112}_{46}Pd_{66}$-7

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	Mult.	α [a]	Comments
2747.3	(1,2$^+$)	1344.8& *3*	25& *6*	1402.64	2$^+$			
		1607.3& *4*	19& *4*	1139.83	(0,1,2)$^+$			
		2398.7& *5*	100& *13*	348.66	2$^+$			
		2746.6&c *5*	21& *4*	0.0	0$^+$			
2754.78	5$^+$	359.6 *2*	0.48 *16*	2395.17	(5$^+$)			
		400.3 *2*	6.6 *8*	2354.47	(4,5$^+$)			
		485.4 *2*	1.9 *3*	2269.38	(5$^-$)			
		554.2 *2*	1.61 *16*	2200.59	(5,6$^+$)			
		560.2 *2*	100 *10*	2194.57	(4)$^-$	D		Mult.: A_2=0.14 *3*; A_4=−0.02 *4*, gated on 560.5γ and 1098.6γ in ^{252}Cf SF (1999Bu32).
		802.9c *4*	0.32 *16*	1951.6	(3,4$^+$)			
		995.8 *2*	3.7 *5*	1758.97	(5$^+$)			
		1039.9 *2*	1.9 *3*	1714.87	(3,4$^+$)			
		1204.3 *2*	4.3 *7*	1550.47	6$^+$	M1+E2	7.60×10^{-4}	α(K)=0.000661 *10*; α(L)=7.59×10^{-5} *11*; α(M)=1.420×10^{-5} *20* α(N)=2.40×10^{-6} *4*; α(IPF)=6.58×10^{-6} *10* Mult.: A_{22}=0.078 *73* gated on 348.7γ and 1204.3γ in ^{112}Rh β^- decay (6.76 s) (1999Lh01).
		1392.4 *3*	0.81 *16*	1362.37	(4$^+$)			
		1658.5 *3*	5.5 *8*	1096.27	3$^+$	(E2)	4.98×10^{-4}	α(K)=0.000309 *5*; α(L)=3.54×10^{-5} *5*; α(M)=6.63×10^{-6} *10* α(N)=1.118×10^{-6} *16*; α(IPF)=0.0001457 *21* Mult.: A_{22}=−0.105 *89* gated on 359.6γ and 1658.5γ in 1999Lh01 would suggest D, but the level scheme requires ΔJ=2.
		1871.8 *4*	3.7 *7*	882.96	4$^+$			
2770.0	(0$^+$,1,2)	2421.3& *6*	100&	348.66	2$^+$			
2795.8?	(0$^+$,1,2)	2447.1&c *6*	100&	348.66	2$^+$			
2836.4	(0$^+$,1,2)	1413.5& *5*	100& *27*	1422.68	2$^+$			
		2488.2& *7*	64& *27*	348.66	2$^+$			
2898.9	(8$^-$)	188@ *1*	@	2711.4	(7$^-$)			
		194@ *1*	@	2704.5	(7$^-$)			
		284@ *1*	@	2614.5	(6$^-$)			
		320.2# *5*	100#	2578.7	(6$^-$)			
		416@ *1*	@	2482.9	(7$^+$)			
2966.60	(5,6$^+$)	963.9 *2*	86 *14*	2002.73	(6$^+$)			
		1416.1 *2*	100 *14*	1550.47	6$^+$			
		1604.2 *5*	43 *14*	1362.37	(4$^+$)			
2977.2?	(0$^+$,1,2)	2628.6&c *5*	100&	348.66	2$^+$			
3013.8	(0$^+$,1,2)	1611.2& *5*	48& *11*	1402.64	2$^+$			
		2665.0& *7*	100& *19*	348.66	2$^+$			
3043.3	(5,6)	842.4 *5*	100 *33*	2200.59	(5,6$^+$)			

$^{112}_{46}Pd_{66}$-8

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ[†]	I_γ[†]	E_f	J_f^π	Mult.	α[a]	Comments
3043.3	(5,6)	1493.1 *4*	100 *33*	1550.47	6^+			
3045.5	(8^-)	431[@] *1*	100[@]	2614.5	(6^-)			
3050.1	10^+	411[@] *1*	[@]	2638.6	(8^+)			
		731.9[#] *5*	100[#]	2318.3	8^+	E2	0.00212	α(K)=0.00185 *3*; α(L)=0.000224 *4*; α(M)=4.20×10^{-5} *6* α(N)=7.04×10^{-6} *10* Mult.: A_2=0.14 *5*; A_4=0.02 *5*, gated on 731.9γ and 767.8γ in 252Cf SF (1999Bu32).
3084.7	(9^+)	393 *1*		2691.2	(8^+)			E_γ: From ^{208}Pb(^{18}O,Xγ).
		601.9 *5*		2482.9	(7^+)			E_γ: From ^{252}Cf SF decay.
3137.3	(9^-)	239[@] *1*	[@]	2898.9	(8^-)			
		426[@] *1*	[@]	2711.4	(7^-)			
		432.9[#] *5*	100[#]	2704.5	(7^-)			
		819.0[#] *5*	39[#]	2318.3	8^+			
3175.3		857[@] *1*	100[@]	2318.3	8^+			
3225.5	$(0^+,1,2)$	1823.1[&] *8*	56[&] *31*	1402.64	2^+			
		2876.6[&] *7*	100[&] *31*	348.66	2^+			
3260.9		778[@] *1*	[@]	2482.9	(7^+)			
3265.2	(9^-)	554.1 *5*		2711.4	(7^-)			E_γ: from ^{252}Cf SF decay.
		560[@] *1*	[@]	2704.5	(7^-)			
		946[@] *1*	[@]	2318.3	8^+			
3327.0	(10^+)	635[@] *1*	[@]	2691.2	(8^+)			
		689[@] *1*	[@]	2638.6	(8^+)			
		1009[@] *1*	[@]	2318.3	8^+			
3337.9?	$(0^+,1,2)$	2989.2[&c] *9*	100[&]	348.66	2^+			
3447.2	(10^-)	310[@] *1*	[@]	3137.3	(9^-)			
		548.0[#] *5*	[#]	2898.9	(8^-)			
3597.9	(12^+)	547.8[#] *5*	100[#]	3050.1	10^+			
3625.7	(11^+)	541[@] *1*	100[@]	3084.7	(9^+)			
3654.5	(10^-)	609[@] *1*	100[@]	3045.5	(8^-)			
3744.7	(11^-)	297[@] *1*	[@]	3447.2	(10^-)			
		607.7[#] *5*	100[#]	3137.3	(9^-)			
3759.6	$(5,6^+)$	2208.9 *5*	100 *33*	1550.47	6^+			
		2397.6 *8*	50 *17*	1362.37	(4^+)			
3772.0	$(5,6^+)$	2409.6 *7*	100	1362.37	(4^+)			
3794.3	$(5,6^+)$	2911.3 *8*	100	882.96	4^+			
3940.3	$(5,6^+)$	3057.3 *8*	100	882.96	4^+			
3951.2	(11^-)	686[@] *1*	100[@]	3265.2	(9^-)			

$^{112}_{46}Pd_{66}$-9

Adopted Levels, Gammas (continued)

γ(^{112}Pd) (continued)

E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π	E_i(level)	J_i^π	E_γ †	I_γ †	E_f	J_f^π
4046.3		871@ *1*	100@	3175.3		4391.5	(12$^-$)	737@ *1*	100@	3654.5	(10$^-$)
4086.3		911@ *1*	100@	3175.3		4477.7	(13$^-$)	733@ *1*	100@	3744.7	(11$^-$)
4117.0	(12$^-$)	373@ *1*	@	3744.7	(11$^-$)	4748.2	(13$^-$)	797@ *1*	100@	3951.2	(11$^-$)
		669@ *1*	@	3447.2	(10$^-$)	4931.3		885@ *1*	100@	4046.3	
4321.9	(14$^+$)	724.0# *5*	100#	3597.9	(12$^+$)	5221.9	(16$^+$)	900@ *1*	100@	4321.9	(14$^+$)
4327.7	(13$^+$)	702@ *1*	100@	3625.7	(11$^+$)						

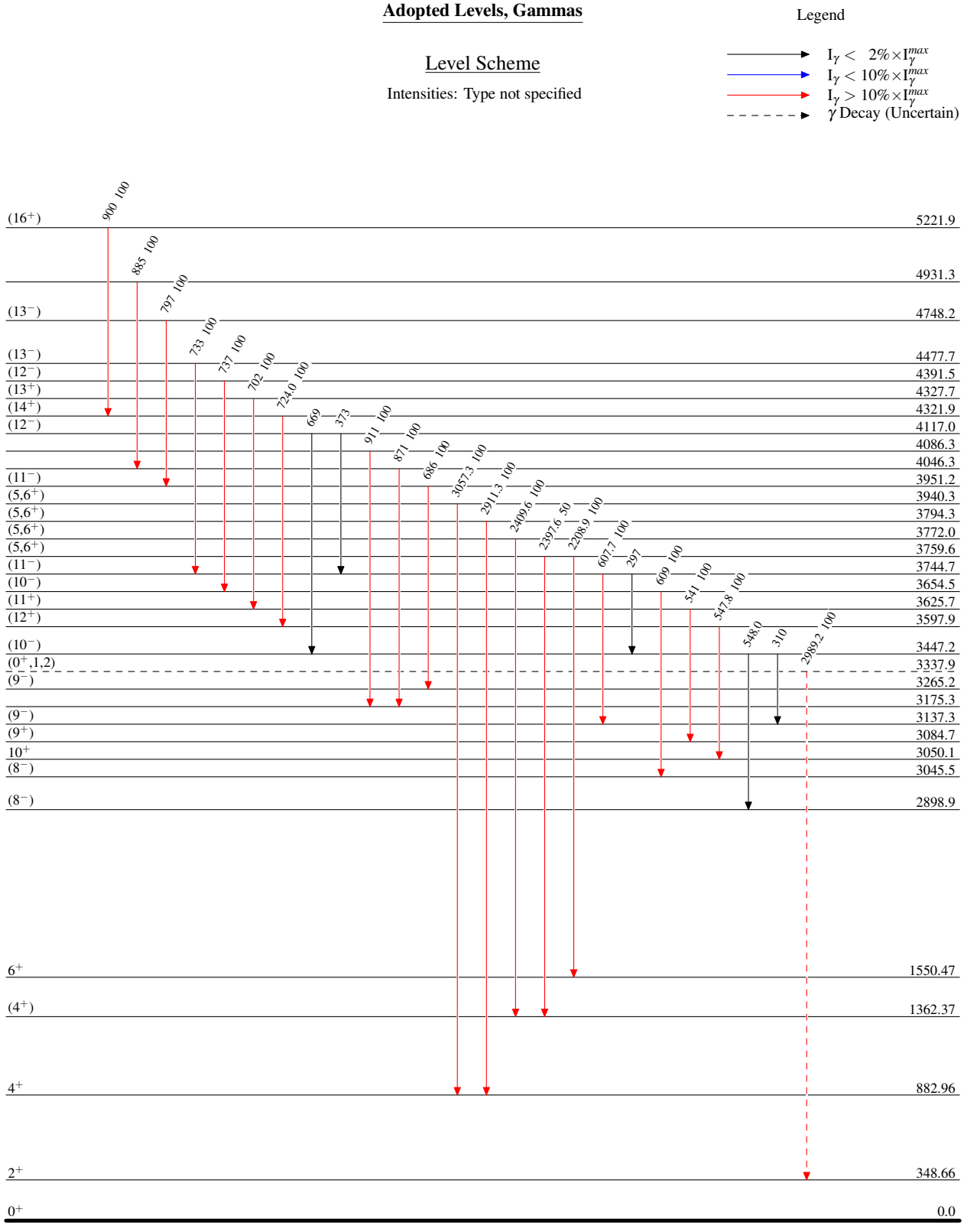
† From ^{112}Rh β^- decay (6.76 s), unless otherwise noted.
‡ From ^{110}Pd(t,pγ).
# From ^{252}Cf SF decay.
@ From ^{208}Pb(^{18}O,Xγ).
& From ^{112}Rh β^- decay (3.6 s).
[a] Additional information 1.
[b] If no value given it was assumed δ=0.00 for E2/M1, δ=1.00 for E3/M2 and δ=0.10 for the other multipolarities.
[c] Placement of transition in the level scheme is uncertain.

$^{112}_{46}Pd_{66}$-10

Adopted Levels, Gammas

Level Scheme

Intensities: Type not specified



$^{112}_{46}Pd_{66}$

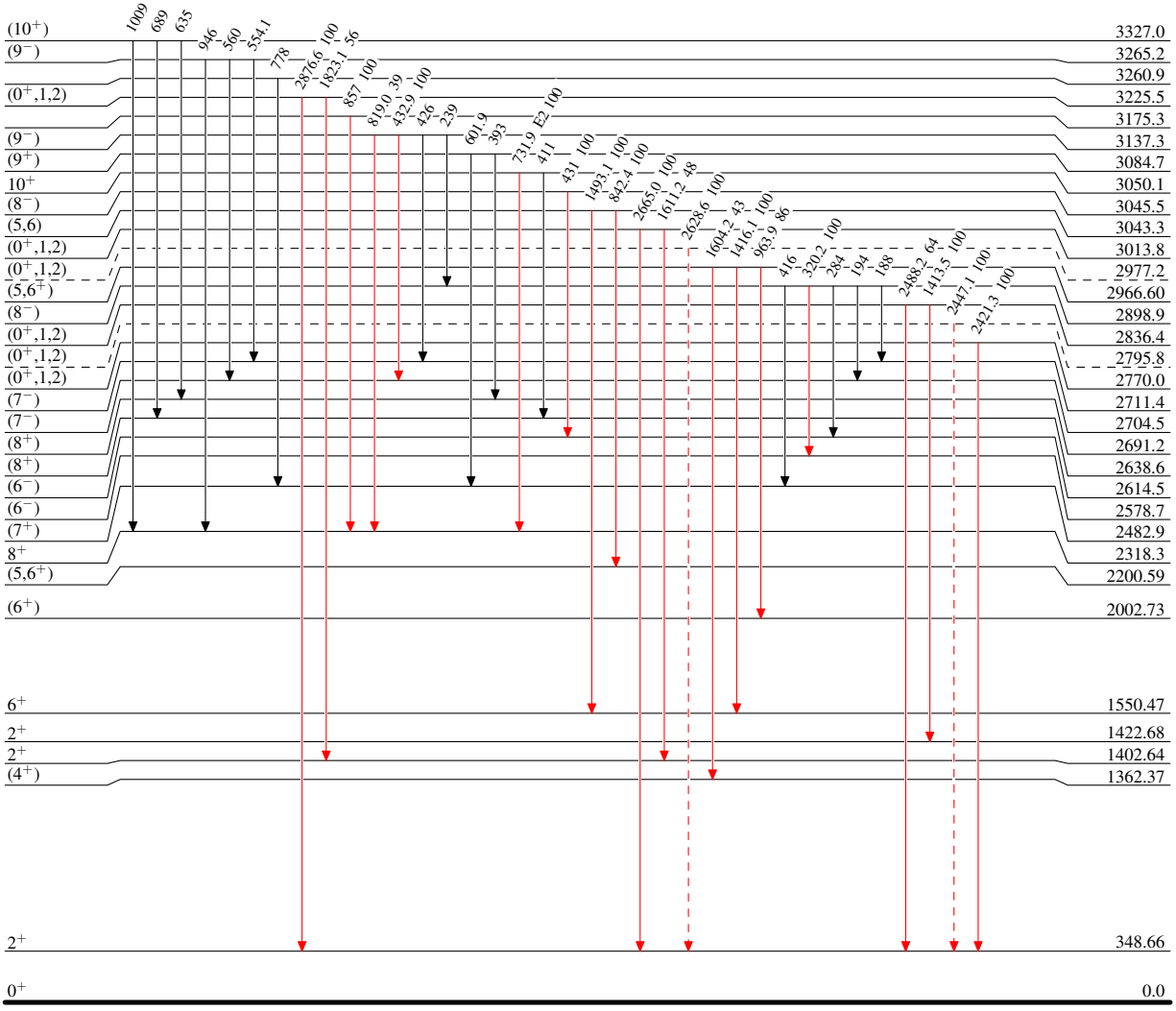
Adopted Levels, Gammas

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)

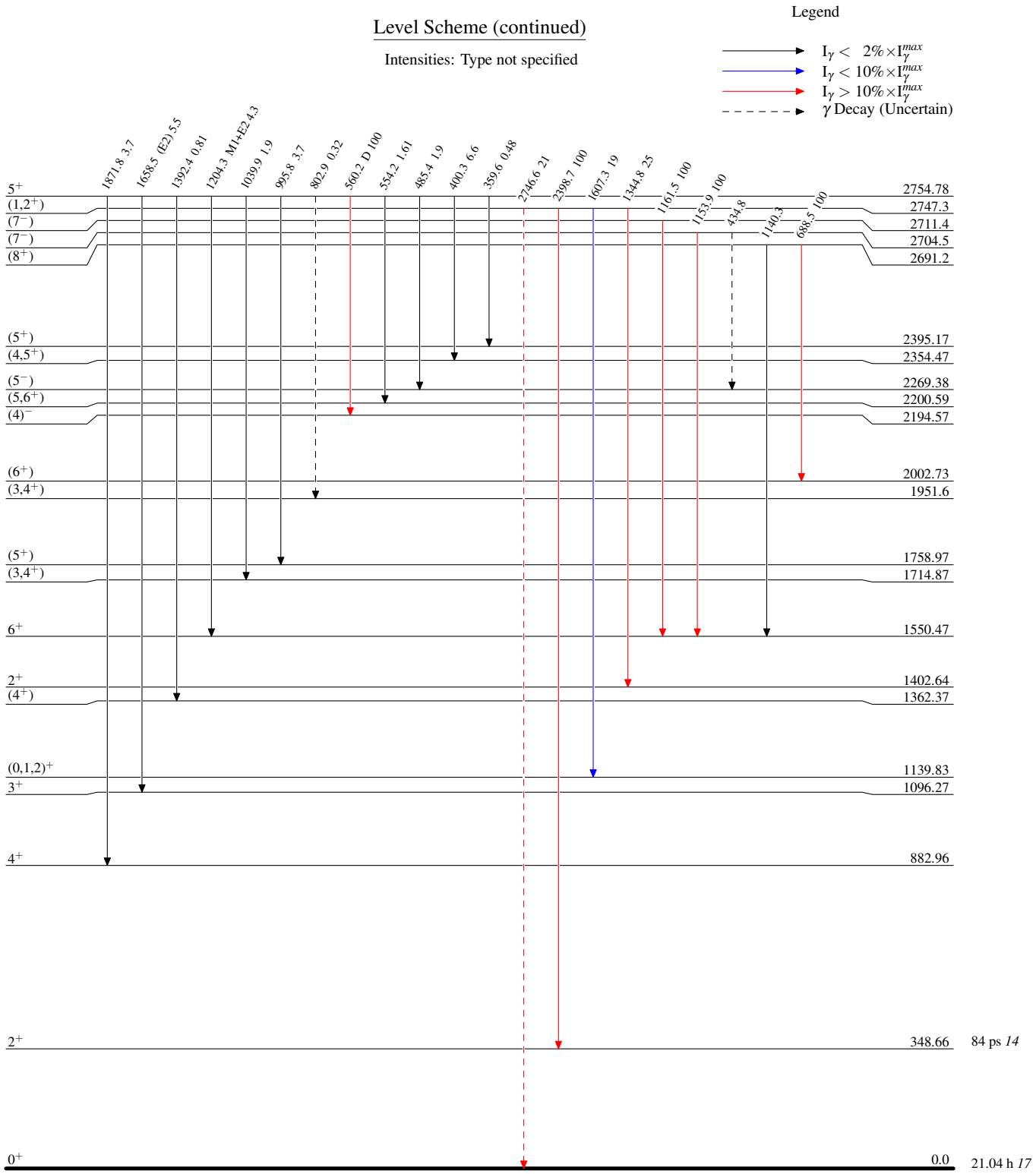


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

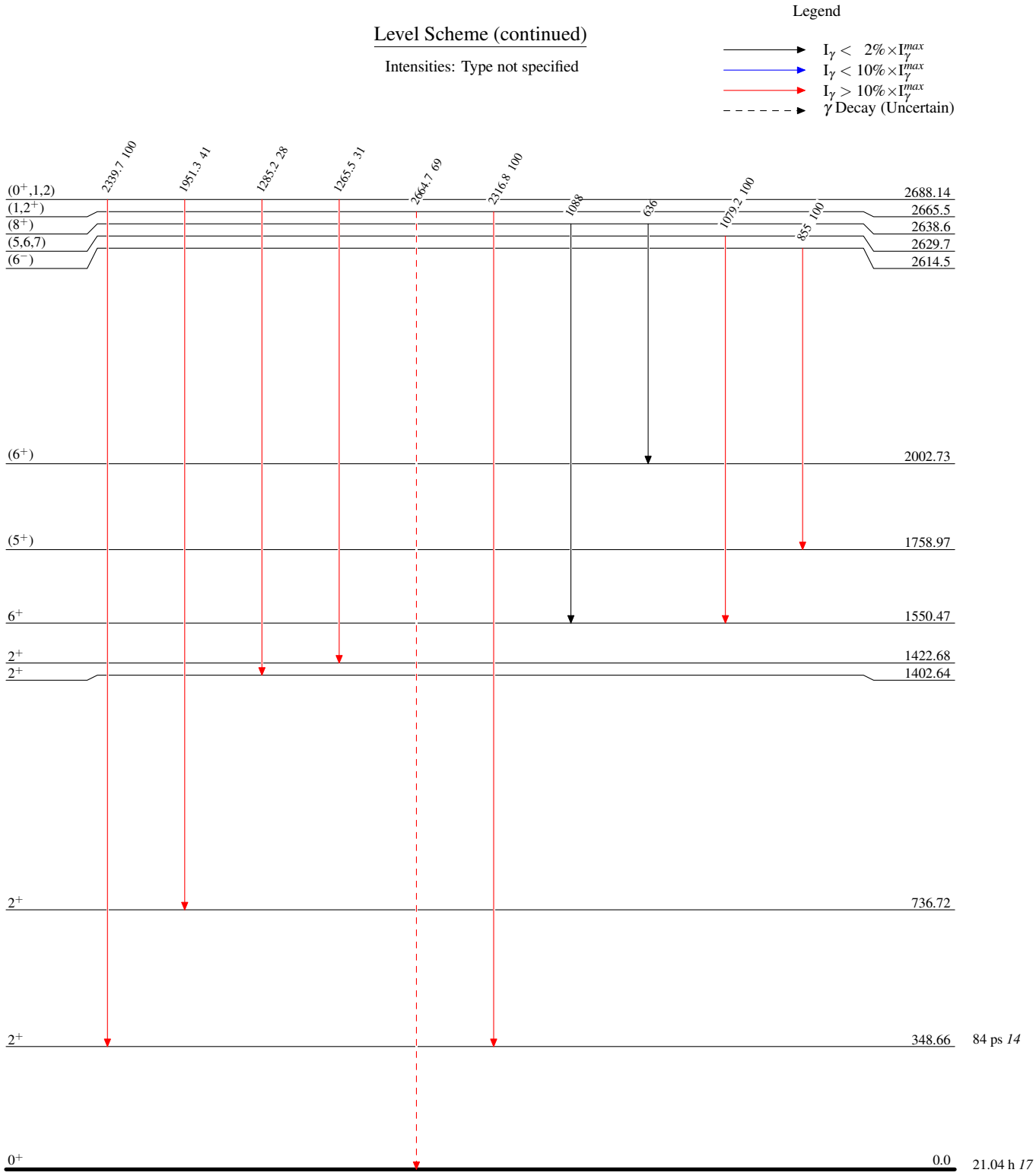


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

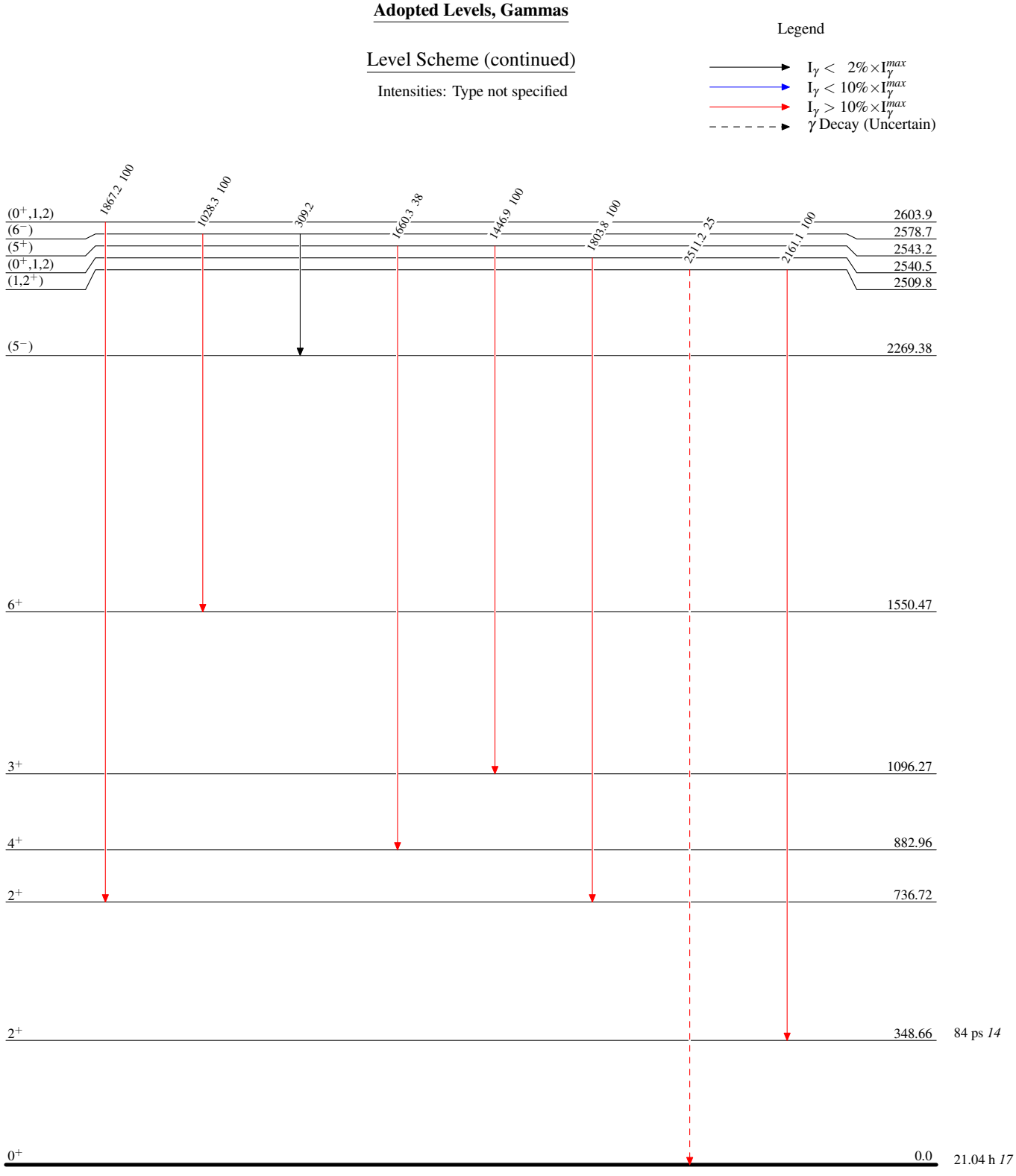


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

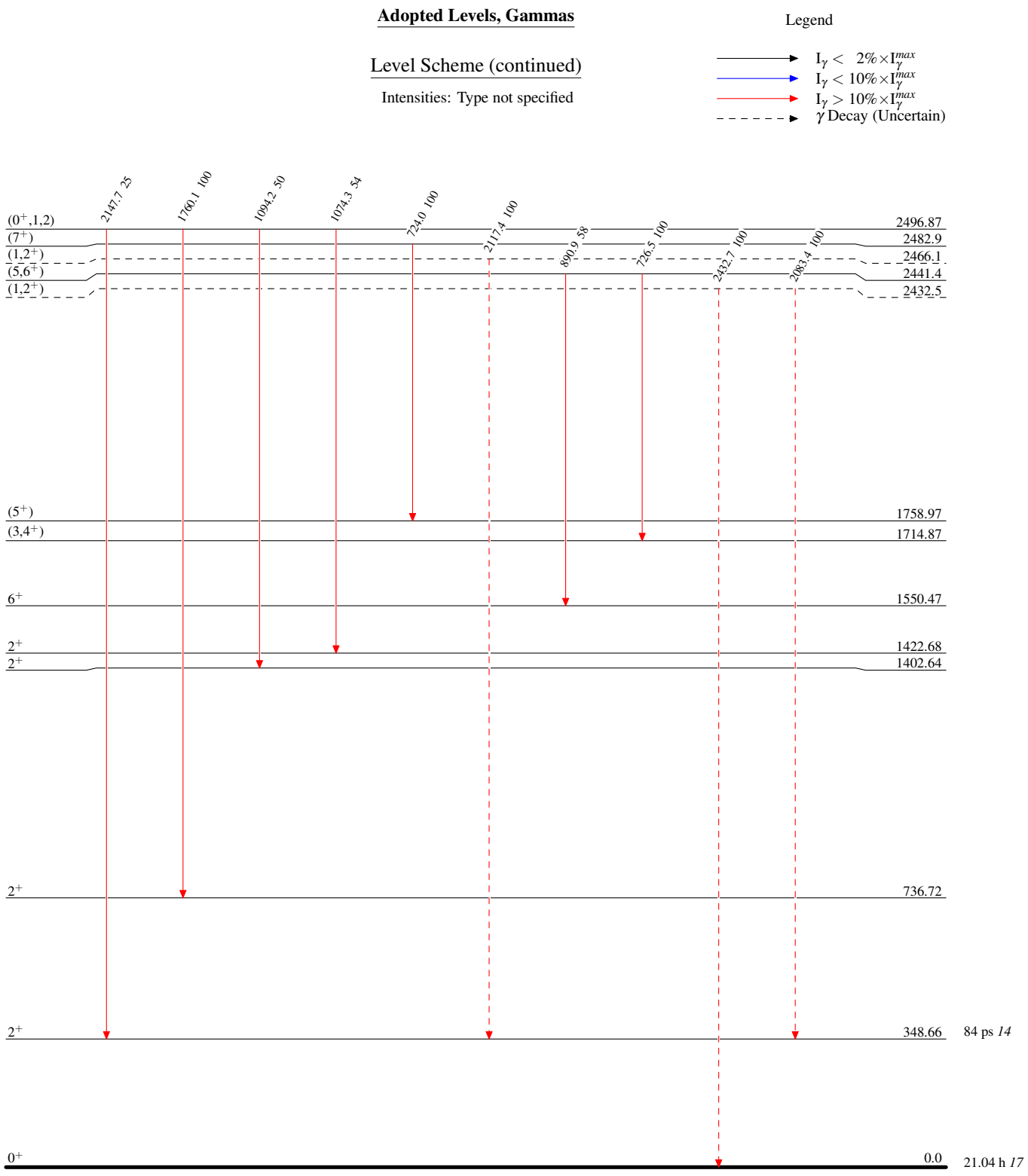


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

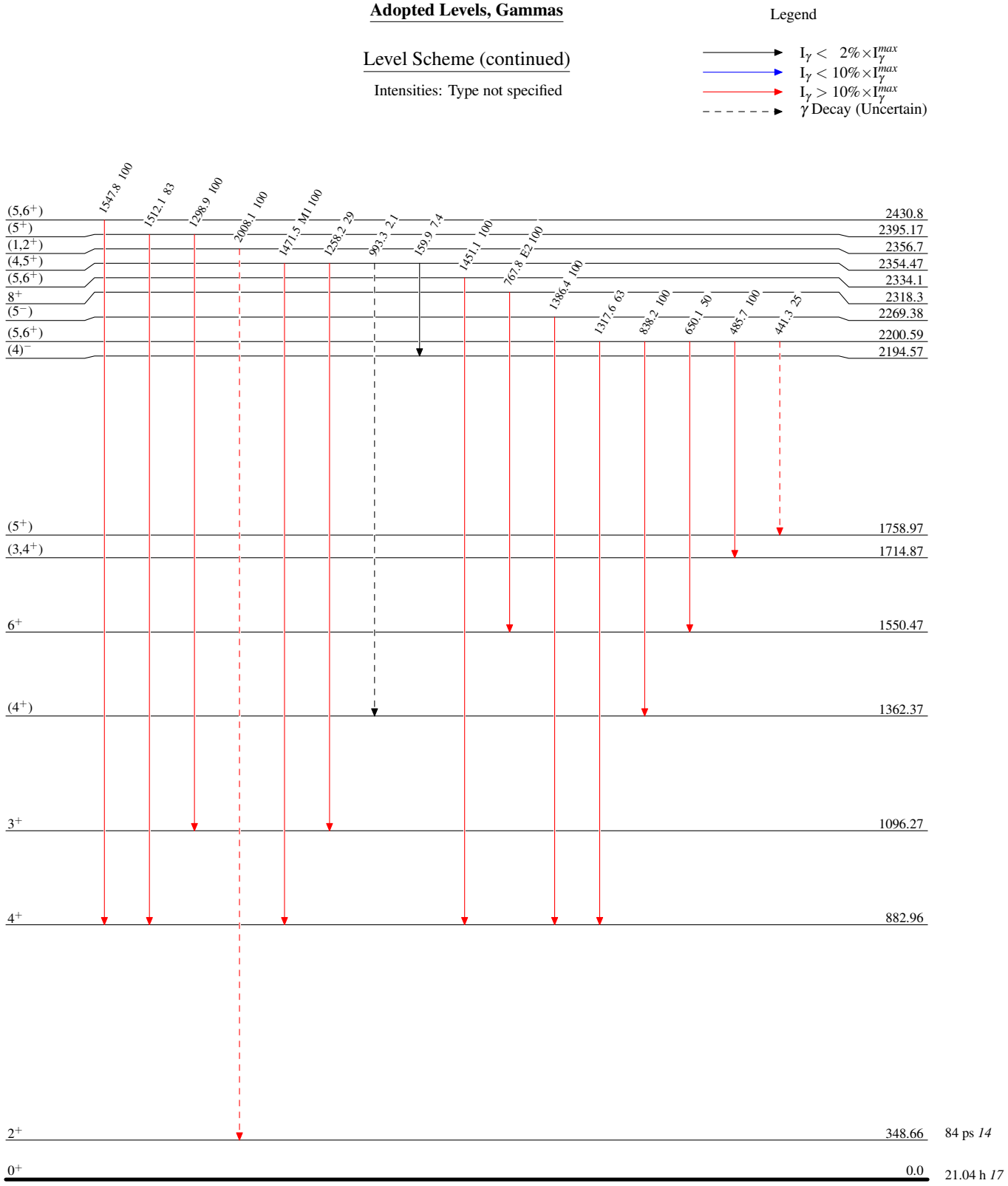


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

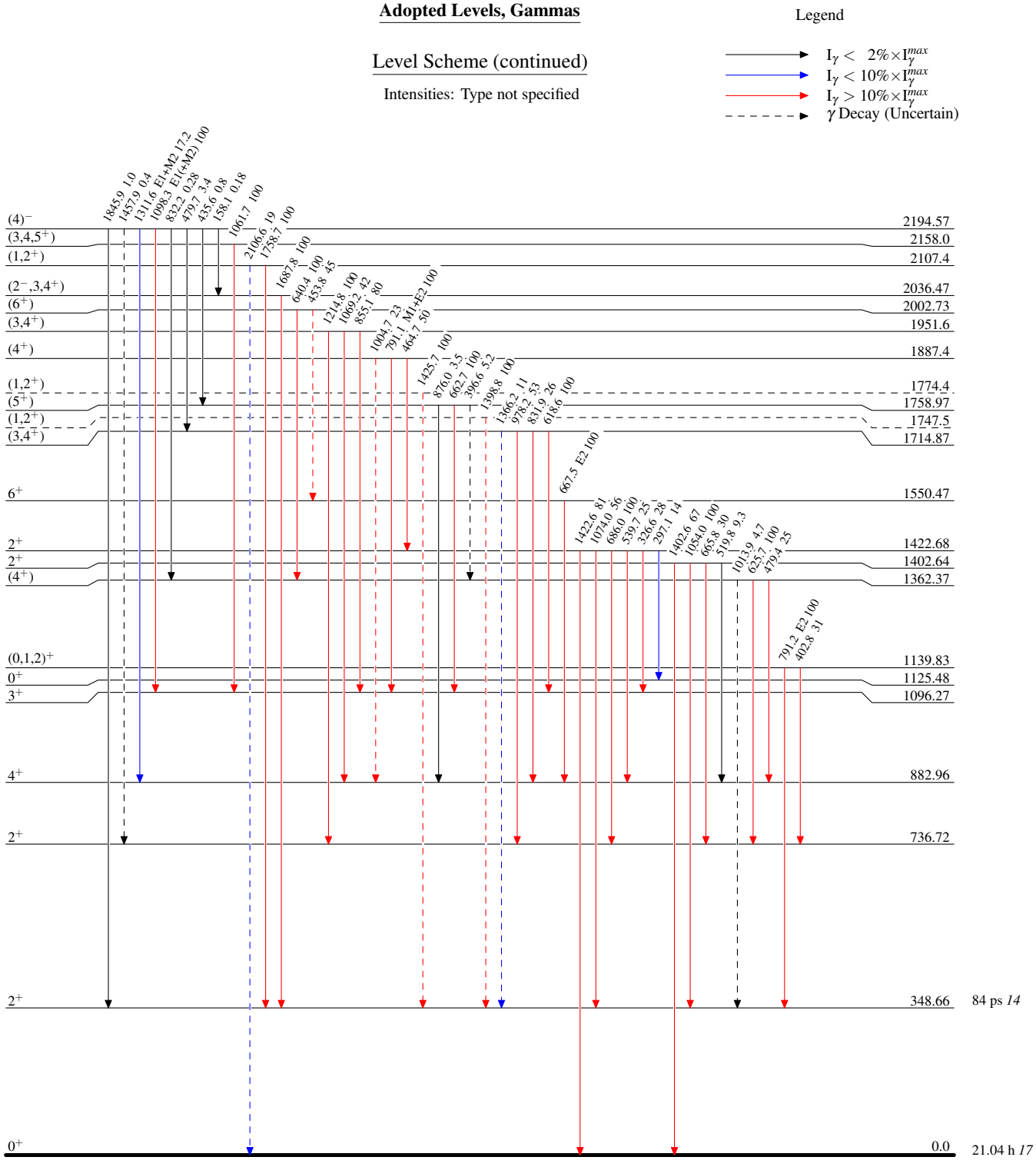


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

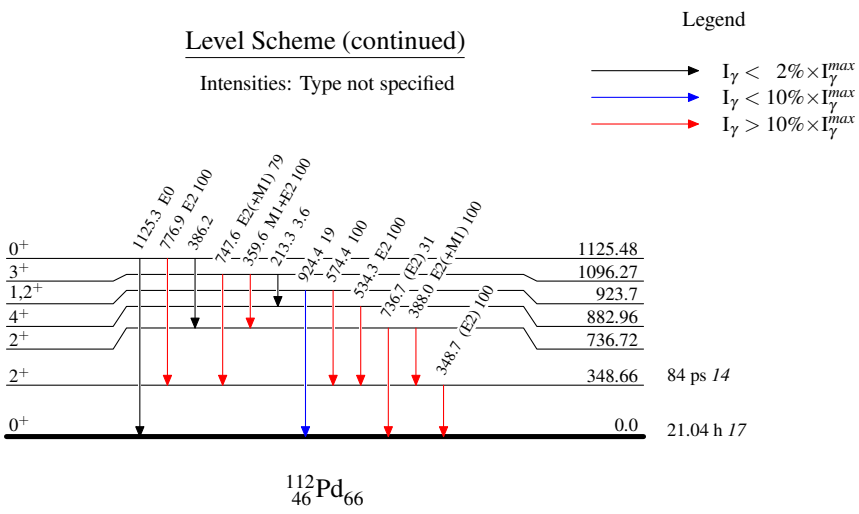


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas

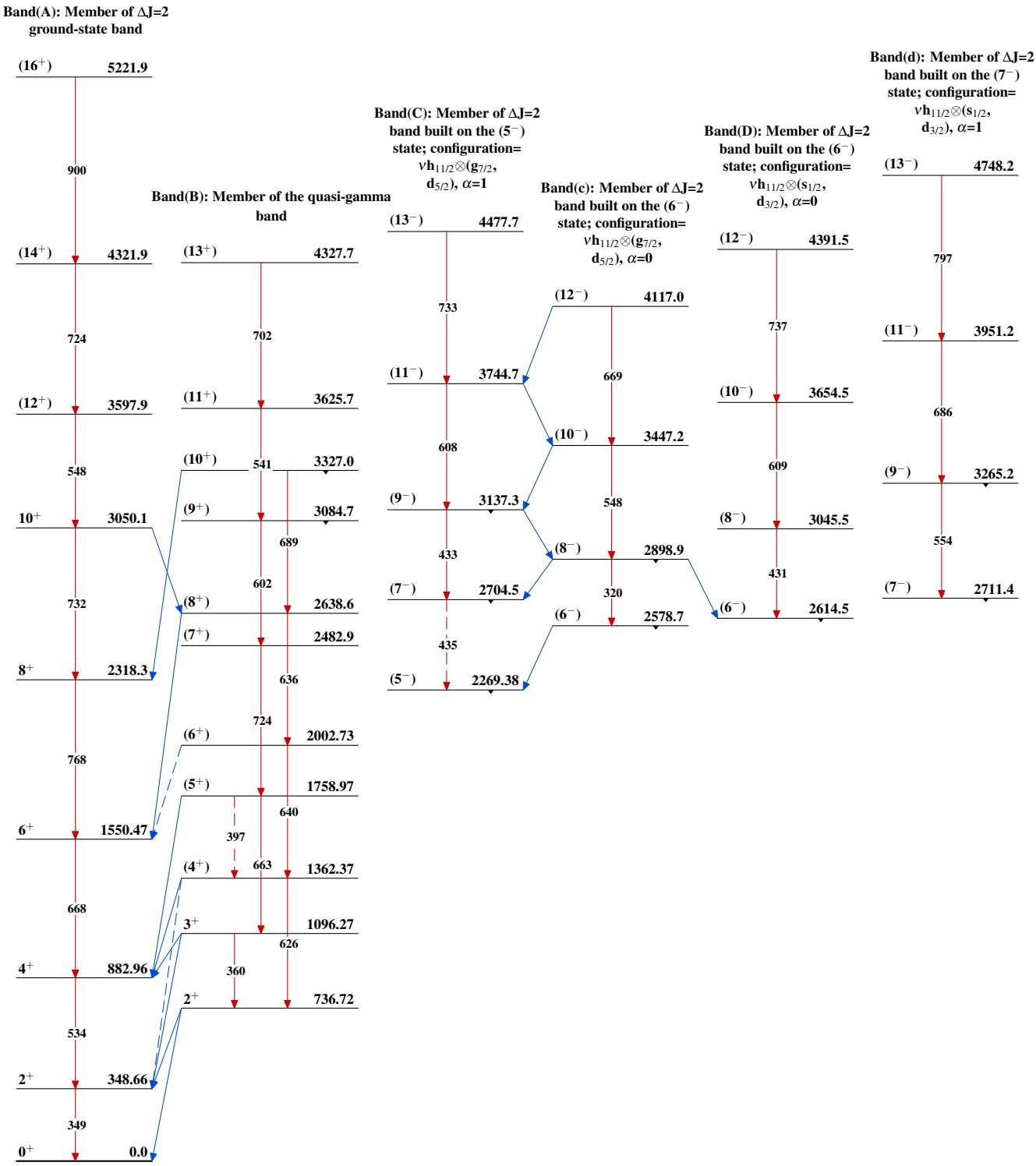
Level Scheme (continued)

Intensities: Type not specified

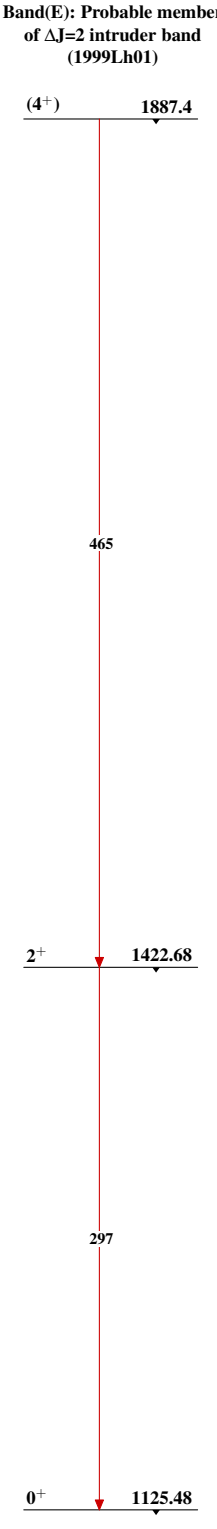


$^{112}_{46}Pd_{66}$

Adopted Levels, Gammas



Adopted Levels, Gammas (continued)



$^{112}_{46}Pd_{66}$