Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 2081 (2009)	1-Mar-2009

Q(β^-)=−2685 *5*; S(n)=7625.4 *8*; S(p)=7994 *5*; Q(α)=−2288.1 *24* 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=−2688 *17*; S(n)=7625.4 *8*; S(p)=7993 *5*; Q(α)=−2287.0 *23* 2003Au03

^{103}Pd Levels

Cross Reference (XREF) Flags

A	^{103}Ag ε decay (65.7 min)	D	^{104}Pd(d,t),(^{3}He,α)
B	^{102}Pd(d,p)	E	(HI,xnγ)
C	^{103}Rh(p,nγ)	F	^{102}Pd(n,γ)

E(level)[†]	J$^\pi$[‡]	$T_{1/2}$	XREF	Comments
0.0[#]	5/2$^+$	16.991 d *19*	ABCDE	%ε=100 $T_{1/2}$: from 1981Va11. Others: 16.961 d *16* (1975Cz03), 16.9 d *1* (1968Pa24) 18.4 d *5* (1969Gr13), 17.5 d *5* (1954Ri09), 17.0 d *4* (1953Me24). J$^\pi$: 3/2$^+$,5/2$^+$ from L(d,p),(d,t)=2; allowed ε transition in 7/2$^+$ ^{103}Ag decay with log *ft*=5.9 excludes 3/2$^+$.
118.736 *17*	3/2$^+$	0.70 ns *3*	ABC E	$T_{1/2}$: from (148γ)(119γ)(t) (1969Ha03). Others: 0.63 ns *6* $T_{1/2}$ (1972Bf01), 1.9 ns *4* (1969Ba02). J$^\pi$: 3/2$^+$,5/2$^+$ from L(d,p)=2; 5/2$^+$ eliminated by 119$\gamma(\theta)$.
243.959[@] *16*	7/2$^+$		ABCDE	J$^\pi$: 7/2$^+$,9/2$^+$ from L(d,t),(d,p)=4; 9/2$^+$ eliminated by 244$\gamma(\theta)$ and linear pol in ^{94}Zr(^{12}C,3n).
266.861 *17*	5/2$^+$		ABCDE	XREF: B(272)D(269). J$^\pi$: 3/2$^+$,5/2$^+$ from L(d,t),(d,p)=2; log *ft*=5.3 in 7/2$^+$ ^{103}Ag ε decay rules out 3/2$^+$.
498.948 *20*	(1/2$^+$)		ABCD	XREF: B(499)D(499). J$^\pi$: consistent with Iγ(M1)-branching mainly to 3/2$^+$ state and negligible ε branching; could be member of a possibly unresolved doublet observed at 500 keV with L(d,t)=(0,2) and L(d,p)=0.
504.24 *7*	(3/2)$^+$		ABCD	XREF: B(499)D(499). Could be member of the probably unresolved doublet observed at 499 keV with L(d,t)=(0,2) and L(d,p)=0. J$^\pi$: consistent with M1 γ-decays to 3/2$^+$ and 5/2$^+$ states and negligible ε branching.
531.972[&] *22*	7/2$^+$		A CDE	J$^\pi$: M1 γ to 5/2$^+$. M1+E2 γ from 9/2$^+$ and band assignment. L>3 in (d,t) 2008Ro13.
535 *5*	3/2$^+$,5/2$^+$		B D	J$^\pi$: L=2 in (d,p),(d,t).
625.637 *25*	3/2$^+$,5/2$^+$		ABC E	J$^\pi$: L(d,t),(d,p)=2.
698.746 *22*	5/2$^+$		ABCD	XREF: B(703). J$^\pi$: M1(+E2) decay to 3/2$^+$; log *ft*=7.0 excludes 1/2$^+$ and 3/2$^+$.
718.02[#] *5*	9/2$^+$		A C E	J$^\pi$: member of rotational band built on g.s.; E2 to 5/2$^+$ states and M1+E2 to 7/2$^+$ state.
727.31 *13*	1/2$^+$		ABCD	XREF: D(725). J$^\pi$: L(d,t)=(0,2) and L(d,p)=0.
784.79[a] *10*	11/2$^-$	25 ns *2*	BCDE	μ=1.05 *6* (1989Ra17,2005St24) XREF: B(787)D(778). $T_{1/2}$: from 67γ(t) pulsed beam in (p,nγ) (1975Di09). J$^\pi$: L(d,t),(d,p)=5. M2 decay to 7/2$^+$.
815 *2*	3/2$^+$,5/2$^+$		D	J$^\pi$: L(d,t)=2.
884.67 *5*	3/2$^+$,5/2$^+$		AB DE	XREF: B(880)E(883).

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Adopted Levels, Gammas (continued)

^{103}Pd Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
				Jπ: L(d,t),(d,p)=2; M1,E2 γ decays to 3/2+,5/2+ states.
900.0 *1*	9/2+		A C E	Jπ: M1(+E2) γ decay to 7/2+, E2 γ to 5/2+.
904.12[@] *20*	11/2+		C E	Jπ: member of band built on Jπ=7/2+ 243-keV state; E2 to this 7/2+ state.
913.41 *15*	3/2−,5/2−,7/2−		BC	XREF: B(915). Jπ: E1 γ to 5/2+.
1043.61 *4*	3/2+,5/2+		BCDE	XREF: B(1044)E(1037). Jπ: L=2 (d,p),(d,t) levels at 1044 keV in (d,t) and 1037 keV in (d,p) probably are the same.
1069.05 *14*	(3/2+,5/2+)		A C E	XREF: E(1067). L=2,(0) excitation at 1067 keV in (d,t)(1973RiZL); however not observed by 1980Sc23 in similar (d,t) experiments. Jπ: (M1,E2) to 5/2+.
1155.36 *10*	(3/2,5/2)+		A C	Jπ: M1(+E2) to 5/2+ gs,
1182.92 *5*	(5/2)+		A C	Jπ: 5/2+,7/2+,9/2+ from allowed ε transition from 7/2+ ^{103}Ag decay with log *ft*=5.7; 7/2+,9/2+ excluded if Jπ=1/2+ for 499- and 727-keV states.
1261.50[a] *11*	15/2−		E	Jπ: member of rotational band based on Jπ=11/2− state at 784 keV; E2 to this 11/2− state.
1273.97 *4*	(5/2)+	52 fs *+10−7*	A CD	XREF: D(1271). Jπ: D+Q γ to 5/2+, log *ft*=4.8 from 7/2+ parent. L(d,t)=2 to 1271 keV level may correspond. 1987Ja01 assign 7/2+, not compatible with L=2. $T_{1/2}$: from 1987Ja01 in (p,nγ).
1277.0 *5*	5/2+	45 fs *+10−7*	BC	$T_{1/2}$: from 1987Ja01 in (p,nγ). Jπ: M1+E2 γ's to 3/2+ and 5/2+, γ(θ) rules out 3/2.
1280 *15*	(11/2)−		D	Jπ: L(d,t)=5; 11/2− suggested by 1980Sc23 on the basis of measured C^2S.
1308.9 *4*	(9/2)+		C	Jπ: rel γ excit favors 9/2,11/2; M1,E2 decay to 5/2+ state excludes 11/2; if J=9/2 decays to 5/2+ states M1 is ruled out.
1328.94[&] *15*	11/2+		C E	Jπ: rel γ excit suggest 9/2,11/2; M1,E2 to (9/2)+ and E2 to 7/2+ state. Band member.
1386.12 *8*	(5/2)	24 fs *+7−4*	A C	$T_{1/2}$: from 1987Ja01 in (p,nγ). Jπ: D+Q γ to 5/2+, ΔJ=0 from A_4.
1527.04[#] *7*	13/2+		E	Jπ: member of cascade built on g.s.; E2 to 9/2+.
1547.11 *13*	(5/2+,7/2+)		A C	Jπ: D+Q γ to 5/2+, γ to 9/2+.
1570 *15*	3/2+,5/2+		D	Jπ: from L(d,t)=2.
1581.33 *14*	5/2+	42 fs *+10−7*	A CD	XREF: D(1570). $T_{1/2}$: from 1987Ja01 in (p,nγ). Jπ: L(d,t)=2, D+Q γ to 5/2+ and 7/2+.
1592.38 *8*	(5/2+,7/2,9/2+)	194 fs *+62−42*	A C	$T_{1/2}$: from 1987Ja01 in (p,nγ). Jπ: γ's to 5/2+ and 9/2+.
1595 *2*			B D	
1604.72 *13*	5/2	55 fs *+14−7*	A C	Jπ: D+Q γ to 5/2+ and 3/2+, γ(θ) rules out 3/2.
1641 *2*	1/2+		D	Jπ: L(d,t)=0.
1676 *2*			D	
1679.0 *4*	(7/2)	14 fs *+4−3*	C	Jπ: M1+E2 γ to 7/2+, ΔJ=0 from A_4.
1689.93 *24*	(3/2+,5/2,7/2+)		A	Jπ: γ's to (3/2)+ and 7/2+.
1750 *15*	3/2+,5/2+		DE	Jπ: L(d,t)=2.
1775.65 *14*	(5/2+)	97 fs *+17−10*	A C	$T_{1/2}$: from 1987Ja01 in (p,nγ). Jπ: D+Q γ to 7/2+.
1777.18[@] *21*	15/2+		E	Jπ: member of rotational band built on 7/2+ state. E2 to 11/2+ state.
1781.2 *7*			A	
1820 *15*	1/2+		D	Jπ: L(d,t)=0.
1833 *2*	3/2+,5/2+		B	Jπ: L(d,p)=2.

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Adopted Levels, Gammas (continued)

^{103}Pd Levels (continued)

E(level)[†]	Jπ[‡]	$T_{1/2}$	XREF	Comments
1886 *2*			B	
1900 *15*	1/2⁻,3/2⁻		DE	Jπ: L(d,t)=1.
1953.5 *3*	(5/2)	48 fs *+10−7*	ABCD	XREF: B(1947)D(1960). Jπ: D+Q γ to 5/2⁺, γ(θ) restricts J to 5/2.
1964.32 *14*	7/2	73 fs *+17−14*	A CD	Jπ: D+Q γ to 5/2⁺, γ(θ) restricts J to 7/2 but L=2 in (d,t).
1974.91[a] *16*	19/2⁻		E	Jπ: member of rotational band based on J^π=11/2⁻ state at 784 keV; E2 to 15/2⁻ state.
2100 *15*	1/2⁻,3/2⁻		D	Jπ: L(d,t)=1.
2178[&]	15/2⁺		E	Jπ: 849 γ to 11/2⁺ state. Band member.
2180 *15*	1/2⁻,3/2⁻		DE	Jπ: L(d,t)=1.
2233.6 *5*	(5/2⁺)	21 fs *+5−4*	A C	Jπ: D+Q γ to 5/2⁺ and 7/2⁺, γ(θ) restricts J to 5/2.
2275.42 *24*	7/2⁺,9/2⁺		A CD	XREF: D(2280). Jπ: L(d,t)=4. In disagreement with J^π=5/2⁺ from (p,nγ).
2343.13 *24*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.5 from 7/2⁺.
2408.30 *20*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.3 from 7/2⁺.
2417.6 *4*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.8 from 7/2⁺.
2446.5 *4*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.5 from 7/2⁺.
2464.7 *10*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.9 from 7/2⁺.
2468[#]	17/2⁺		E	
2486.5 *8*	7/2⁺,9/2⁺		A D	XREF: D(2480). Jπ: probably identical with L(d,t)=4 excitation at 2480 keV. If so, consistent with log *ft*=5.9 in ^{103}Ag ε decay from 7/2⁺.
2511.5 *8*	5/2⁺,7/2⁺,9/2⁺		A	Jπ: log *ft*=5.5 from 7/2⁺.
2600 *15*	7/2⁺,9/2⁺		DE	Jπ: L(d,t)=4.
2601[c]	(15/2⁺)		E	
2660 *15*	7/2⁺,9/2⁺		D	Jπ: L(d,t)=4.
2760 *15*	1/2⁻,3/2⁻		D	Jπ: L(d,t)=1.
2764.38[@] *23*	19/2⁺		E	Jπ: member of rotational band built on 243-keV J^π=7/2⁺ state. E2 to 15/2⁺ state.
2822.01[a] *19*	23/2⁻		E	Jπ: member of rotational band based on J^π=11/2⁻ state at 784 keV; E2 to 19/2⁻ state.
2834[b]	(17/2)⁺		E	Jπ: M1′s to 15/2⁺ and probable band member.J^π=15/2⁺ not excluded.
2880 *15*	1/2⁻,3/2⁻		D	Jπ: L(d,t)=1.
2924			E	
3020.38 *17*	(21/2)⁺		E	Jπ: M1+E2 to 19/2⁺. (21/2)⁺ and (23/2)⁺ cannot be excluded.
3071[c]	(19/2⁺)		E	
3382[b]	(21/2)⁺		E	
3714[c]	(23/2⁺)		E	
3792.10[a] *19*	27/2⁻		E	Jπ: member of rotational band based on J^π=11/2⁻ state at 784 keV; E2 to 23/2⁻ state.
4056	25/2⁺		E	
4160[b]	(25/2)⁺		E	
4587[c]	(27/2⁺)		E	
4886.4[a] *3*	31/2⁻		E	Jπ: member of rotational band based on J^π=11/2⁻ state at 784 keV; consistent with 1094γ(θ).
5025[b]	(29/2)⁺		E	
5458[c]	(31/2⁺)		E	
5983[b]	(33/2)⁺		E	
6048.3[a] *4*	35/2⁻		E	
6452[c]	(35/2⁺)		E	
7056[b]	(37/2)⁺		E	
7316[a]	39/2⁻		E	

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Adopted Levels, Gammas (continued)

^{103}Pd Levels (continued)

E(level)†	Jπ‡	XREF	Comments
7593[c]	(39/2+)	E	
8212[b]	(41/2)+	E	
8668[a]	43/2−	E	
8831[c]	(43/2+)	E	
9442[b]	(45/2)+	E	
10119[a]	47/2−	E	
10190[c]	(47/2+)	E	
10741[b]	(49/2)+	E	
11638[a]	51/2−	E	
11643[c]	(51/2+)	E	
12208[b]	(53/2)+	E	
13240[c]	(55/2+)	E	
13798[b]	(57/2)+	E	
14932[c]	(59/2+)	E	
15487[b]	(61/2)+	E	
17357[b]	(65/2)+	E	E(level): band terminating state (1999Ny01).
0+x		E	
453+x[d]	(53/2)	E	Jπ: for a detailed discussion on J^π assignments for the different band members see 1999Ny01. No convincing evidence given by 1993Je02 and 1999Ny01 that this band is a superdeformed band.
1912+x[d]	(57/2)	E	
2045+x		E	
3439+x[d]	(61/2)	E	
5003+x[d]	(65/2)	E	
6662+x[d]	(69/2)	E	
8449+x[d]	(73/2)	E	
10359+x[d]	(77/2)	E	
12377+x[d]	(81/2)	E	
14636+x[d]	(85/2)	E	E(level): band terminating state (1999Ny01).

† Calculated using a least-squares procedure using adopted gammas.
‡ Unless noted otherwise, J^π assignments based on A_{22}, A_{44}, γ linear pol and proposed band structure in (HI,xnγ).
# Band(A): ΔJ=2 band on 5/2+ g.s. (1999Ny01).
@ Band(B): ΔJ=2 band on 243 keV, 7/2+ level (1999Ny01).
& Band(C): ΔJ=2 band on 531 keV, 7/2+ level (1999Ny01).
[a] Band(D): ΔJ=2 band on 785 keV, 11/2− level (1999Ny01).
[b] Band(E): ΔJ=2 band on 2834 keV, 17/2+ level (1999Ny01).
[c] Band(F): ΔJ=2 band on 2601 keV, 15/2+ level (1999Ny01).
[d] Band(G): ΔJ=2 band on (53/2) level (1999Ny01). The evaluator does not find any convincing evidence in the 1993Je02 and 1999Ny01 papers for this band is a superdeformed band.

Adopted Levels, Gammas (continued)

γ(^{103}Pd)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	α[@]	Comments
118.736	3/2+	118.72 *2*	100	0.0	5/2+	M1+E2	+0.090 *15*	0.239 *4*	B(M1)(W.u.)=0.015 *8*; B(E2)(W.u.)=11.5 *5*
243.959	7/2+	125.16 *4*	2.0 *2*	118.736	3/2+				
		243.95 *4*	100 *5*	0.0	5/2+	M1+E2	−0.085 *15*	0.0339 *5*	δ: from 1975Ki13 via 244γ linear pol. Other: −0.10 *5* (1974Gr07) via γ(θ), −0.12 *4* (1987Ja01).
266.861	5/2+	148.19 *2*	100.0 *18*	118.736	3/2+	M1		0.1275 *18*	δ=0.00 *5* from 148γ(θ).
		266.83 *4*	52 *2*	0.0	5/2+	M1+E2	−0.14 *6*	0.0272 *15*	
498.948	(1/2+)	380.15 *2*	100 *4*	118.736	3/2+	(M1)		0.01090 *16*	
		499.08 *3*	11 *1*	0.0	5/2+				
504.24	(3/2)+	237.3 *2*	13.4 *8*	266.861	5/2+	M1		0.0362 *6*	α(K)exp=0.027 *7*
		385.6 *1*	100 *5*	118.736	3/2+	M1,E2			α(K)exp=0.01 *1*
		504.2 *1*	35.9 *15*	0.0	5/2+	M1(+E2)	0.03 *3*		α(K)exp=0.0057 *7*
531.972	7/2+	265.21 *3*	11 *3*	266.861	5/2+	M1		0.0274	δ=0.00 *10* from 265γ(θ) (1974Gr07).
		288.05 *5*	7 *1*	243.959	7/2+	M1+E2	−0.17 *10*	0.0223 *6*	δ: from 1974Gr07.
		531.86 *5*	100 *10*	0.0	5/2+	M1+E2	−0.7 *2*		δ: from 532γ linear pol (1975Ki13). Other: −0.7 *3* γ(θ) (1974Gr07), −0.65 *20* (1987Ja01).
625.637	3/2+,5/2+	358.75 *4*	5 *1*	266.861	5/2+				
		625.65 *3*	100 *6*	0.0	5/2+	M1,E2			α(K)exp=0.0031 *3* α(K)(M1)=0.0029; α(K)(E2)=0.0028.
698.746	5/2+	166.95 *6*	4 *1*	531.972	7/2+				
		431.86 *3*	14 *1*	266.861	5/2+	M1,E2			α(K)exp=0.077 *18* α(K)(M1)=0.0070; α(K)(E2)=0.0080.
		455.4 *6*	≈7	243.959	7/2+				
		580.13 *4*	100 *4*	118.736	3/2+	M1(+E2)			α(K)exp=0.0037 *9* δ: +0.07 *7* or +2.6 *+5−3*.
		698.68 *4*	20 *2*	0.0	5/2+	D(+Q)			δ: −0.5<δ<+4.8.
718.02	9/2+	186.15 *10*	15 *2*	531.972	7/2+	M1+E2	−0.12 *6*	0.0700 *18*	α(K)exp=0.058 *11* δ: from 1974Gr07 in (HI,xnγ).
		451.1 *1*	7 *1*	266.861	5/2+	E2			α(K)exp=0.0075 *14*
		473.9 *1*	13.1 *8*	243.959	7/2+	M1+E2			α(K)exp=0.0074 *13* δ: −1.4 *2* or −0.50 *20* (1974Gr07).
		717.6 *3*	100 *3*	0.0	5/2+	E2			
727.31	1/2+	608.60 *14*	100 *14*	118.736	3/2+	M1,E2			α(K)exp=0.0033 *9* α(K)(M1)=0.0031; α(K)(E2)=0.00299.
		727.4 *2*	21 *5*	0.0	5/2+				
784.79	11/2−	66.95 *15*	100 *12*	718.02	9/2+	(E1)		0.480 *8*	α(L)exp<0.07 B(E1)(W.u.)=2.4×10^{-5} *5*
		541.0 *1*	27 *5*	243.959	7/2+	M2		0.01450 *21*	B(M2)(W.u.)=0.16 *3* α(K)exp=0.0135 *40* Mult.: from 541γ linear pol (1975Ki13) and α(K)exp=0.0135 (1975Di09) (p,nγ).
884.67	3/2+,5/2+	186.15 *8*	10.0 *8*	698.746	5/2+	M1		0.0688 *10*	
		380.5 *3*	32 *2*	504.24	(3/2)+				

$^{103}_{46}Pd_{57}$-5

Adopted Levels, Gammas (continued)

γ(^{103}Pd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	α[@]	Comments
884.67	3/2$^+$,5/2$^+$	766.2 *2*	54 *6*	118.736	3/2$^+$	(M1+E2)			α(K)exp=0.0024 *6* δ: −0.22 *8* or −3.6 *3*.
		884.7 *3*	100 *5*	0.0	5/2$^+$	E2(+M1)			α(K)exp=0.0012 *2* δ: −0.56 *17* or ∞.
900.0	9/2$^+$	201.3 *2*	9.1 *7*	698.746	5/2$^+$				
		368.0 *3*	0.8 *2*	531.972	7/2$^+$	(M1)		0.0118 *17*	α(K)exp=0.016 *4*
		633.35 *15*	30 *4*	266.861	5/2$^+$	E2			α(K)exp=0.0036 *9*
		656.2 *2*	24 *4*	243.959	7/2$^+$	M1+E2	−1.8 *2*		α(K)exp≈0.002
		899.9 *2*	100 *14*	0.0	5/2$^+$	E2			α(K)exp=0.0014 *3*
904.12	11/2$^+$	186.0 *10*	7 *7*	718.02	9/2$^+$				
		660.13 *5*	100 *15*	243.959	7/2$^+$	E2			α(K)exp=0.0029 *5*
913.41	3/2$^-$,5/2$^-$,7/2$^-$	646.7 *3*	48 *3*	266.861	5/2$^+$	E1			α(K)exp=0.011 *3*
		669.6 *3*	30 *3*	243.959	7/2$^+$	(E1)			α(K)exp≈0.0017
		913.5 *3*	100 *7*	0.0	5/2$^+$	E1			α(K)exp=0.00055 *10*
1043.61	3/2$^+$,5/2$^+$	776.7 *1*	14 *1*	266.861	5/2$^+$				
		799.6 *1*	29 *3*	243.959	7/2$^+$				
		1043.62 *4*	100 *4*	0.0	5/2$^+$	M1+E2			δ: −0.16 *9* or +3.8 *9*.
1069.05	(3/2$^+$,5/2$^+$)	802.16 *18*	100 *10*	266.861	5/2$^+$	(M1,E2)			α(K)exp=0.0015 α(K)(M1)=0.0016; α(K)(E2)=0.0016.
		950.3 *4*	13.2 *9*	118.736	3/2$^+$				
1155.36	(3/2,5/2)$^+$	888.53 *8*	62 *5*	266.861	5/2$^+$	M1,E2			α(K)exp=0.00094 *35* α(K)(M1)=0.0013; α(K)(E2)=0.00115.
		911.7[&] *2*	80 *20*	243.959	7/2$^+$				
		1155.4 *4*	100 *10*	0.0	5/2$^+$	M1+E2	−1.5 *3*		α(K)exp≈0.0006 δ: From ^{103}Rh(p,nγ). α(K)(M1)=0.00084; α(K)(E2)=0.00074.
1182.92	(5/2)$^+$	298.43 *6*	10.1 *6*	884.67	3/2$^+$,5/2$^+$				
		456.0 *8*	≈3	727.31	1/2$^+$				
		484.10 *20*	12.8 *17*	698.746	5/2$^+$				
		651.0 *6*	7.3 *17*	531.972	7/2$^+$				
		678.8 *4*	3.4 *6*	504.24	(3/2)$^+$				
		683.80 *20*	5.6 *17*	498.948	(1/2$^+$)				
		938.86 *5*	41.3 *22*	243.959	7/2$^+$	D+Q	+1.6 *9*		
		1064.08 *10*	46.9 *17*	118.736	3/2$^+$				
		1182.72 *6*	100 *5*	0.0	5/2$^+$	D+Q			α(K)exp≈0.0005 δ: −0.20 *7* or +2.2 *7*.
1261.50	15/2$^-$	476.70 *5*	100	784.79	11/2$^-$	E2			α(K)exp=0.0068 *15*
1273.97	(5/2)$^+$	389.20 *30*	1.09 *27*	884.67	3/2$^+$,5/2$^+$				
		546.7 *4*	0.45 *9*	727.31	1/2$^+$				
		575.33 *10*	8.1 *4*	698.746	5/2$^+$				
		742.11 *8*	27.2 *7*	531.972	7/2$^+$				
		775.0 *6*	0.82 *27*	498.948	(1/2$^+$)				
		1007.08 *8*	34.6 *11*	266.861	5/2$^+$				

$^{103}_{46}Pd_{57}$-6

Adopted Levels, Gammas (continued)

γ(^{103}Pd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	Comments
1273.97	(5/2)$^+$	1029.97 *8*	13.9 *5*	243.959	7/2$^+$			
		1155.27 *10*	32.6 *7*	118.736	3/2$^+$			
		1273.83 *8*	100 *4*	0.0	5/2$^+$	(M1+E2)	−0.25 *5*	B(M1)(W.u.)=0.088 *18*; B(E2)(W.u.)=3.0 *13*
1277.0	5/2$^+$	1158.2 *5*	100 *11*	118.736	3/2$^+$	M1+E2		α(K)exp=0.00060 *16* δ: +0.29 *2* or +1.5 *4*. α(K)(M1)=0.00072; α(K)(E2)=0.00064.
		1277.1 *10*	43 *4*	0.0	5/2$^+$	(M1+E2)	+0.5 *1*	B(M1)(W.u.)=0.057 *21*; B(E2)(W.u.)=8 *4*
1308.9	(9/2)$^+$	610.8 *6*	92 *22*	698.746	5/2$^+$	M1,E2		α(K)exp=0.0023 *7* Mult.: M1 excluded if J^π initial and final levels are correct. α(K)(M1)=0.0030; α(K)(E2)=0.0030.
		776.0 *10*	76 *14*	531.972	7/2$^+$			
		1064.6 *6*	100 *16*	243.959	7/2$^+$	M1,E2		α(K)exp=0.00087 *24* α(K)(M1)=0.00087; α(K)(E2)=0.00076.
1328.94	11/2$^+$	429.1 *3*	64 *13*	900.0	9/2$^+$	M1,E2		α(K)exp=0.008 *2* α(K)(M1)=0.0071; α(K)(E2)=0.0082.
		611.40 *30*	50	718.02	9/2$^+$			
		797.40 *27*	100 *13*	531.972	7/2$^+$	E2		α(K)exp≈0.002 Mult.: from (HI,xnγ).
1386.12	(5/2)	1119.6 *3*	25 *4*	266.861	5/2$^+$			
		1142.2 *2*	30.6 *17*	243.959	7/2$^+$			
		1267.9 *6*	33 *8*	118.736	3/2$^+$			I_γ: taken from ^{103}Ag ε decay. In disagreement with Iγ=97 *10* from ^{103}Rh(p,nγ).
		1386.07 *8*	100 *5*	0.0	5/2$^+$	D+Q	+1.23 *20*	
1527.04	13/2$^+$	198.00 *30*	25 *5*	1328.94	11/2$^+$			
		623		904.12	11/2$^+$			
		809.33 *5*	100 *14*	718.02	9/2$^+$	E2		E_γ: if uncertainty is correct no final level within 0.22 keV.
1547.11	(5/2$^+$,7/2$^+$)	828.9 *6*	33 *8*	718.02	9/2$^+$			
		1042.89 *16*	62 *5*	504.24	(3/2)$^+$			
		1280.34 *19*	100 *12*	266.861	5/2$^+$			
		1303.14 *17*	33 *3*	243.959	7/2$^+$			
		1428.28 *18*	25 *4*	118.736	3/2$^+$			
		1547.1 *2*	84 *6*	0.0	5/2$^+$	D+Q	−0.10 *3*	
1581.33	5/2$^+$	1337.4 *2*	100 *8*	243.959	7/2$^+$	D+Q	+0.98 *25*	
		1581.3 *2*	52 *5*	0.0	5/2$^+$	D+Q	+0.8 *5*	
1592.38	(5/2$^+$,7/2,9/2$^+$)	874.29 *10*	69 *6*	718.02	9/2$^+$			
		1325.52 *10*	100 *4*	266.861	5/2$^+$			
		1592.4 *3*	17.1 *17*	0.0	5/2$^+$			
1604.72	5/2	1072.77 *17*	68 *8*	531.972	7/2$^+$			
		1486.10 *14*	52 *4*	118.736	3/2$^+$	D(+Q)		δ: +0.03 *10* or +2.8 *10*.
		1604.70 *16*	100 *67*	0.0	5/2$^+$	D(+Q)		δ: 0.00 *4* or 1.7 *2*.
1679.0	(7/2)	961.5 *5*	28 *3*	718.02	9/2$^+$			
		1147.5 *5*	100 *7*	531.972	7/2$^+$	D+Q	−1.5 *3*	
1689.93	(3/2$^+$,5/2,7/2$^+$)	1158.2 *8*	59 *20*	531.972	7/2$^+$			

$^{103}_{46}Pd_{57}$-7

Adopted Levels, Gammas (continued)

γ(^{103}Pd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	Comments
1689.93	(3/2$^+$,5/2,7/2$^+$)	1185.0 *8*	79 *39*	504.24	(3/2)$^+$			
		1423.2 *4*	100 *13*	266.861	5/2$^+$			
		1445.9 *4*	66 *13*	243.959	7/2$^+$			
		1690.0 *6*	67 *7*	0.0	5/2$^+$			
1775.65	(5/2$^+$)	1076.8 *2*	10 *2*	698.746	5/2$^+$			
		1272.4 *2*	100 *30*	504.24	(3/2)$^+$			No final level within 0.74 keV.
		1775.7 *2*	54 *3*	0.0	5/2$^+$	D+Q	−1.6 *2*	
1777.18	15/2$^+$	873.05 *5*	100	904.12	11/2$^+$	E2		
1781.2		1514.4 *8*	50 *9*	266.861	5/2$^+$			
		1537.0 *10*	100 *43*	243.959	7/2$^+$			
1953.5	(5/2)	1953.5 *3*	100	0.0	5/2$^+$	D+Q	+4.7 *12*	δ: From ^{103}Rh(p,nγ).
1964.32	7/2	1079.5 *2*	71 *7*	884.67	3/2$^+$,5/2$^+$			
		1845.7 *2*	100 *7*	118.736	3/2$^+$	(E2)		B(E2)(W.u.)=0.020 *15*
		1964.4 *5*	51 *3*	0.0	5/2$^+$	D+Q	+0.21 *5*	
1974.91	19/2$^-$	714.00 *5*	100	1261.50	15/2$^-$	E2		E_γ: if uncertainty is correct no final level within 0.36 keV.
2178	15/2$^+$	849	100	1328.94	11/2$^+$			
2233.6	(5/2$^+$)	1702.0 *8*	100 *4*	531.972	7/2$^+$	D+Q		δ: +0.65 *13* or +3.2 *8*.
		2233.6 *3*	79 *5*	0.0	5/2$^+$	D+Q	−0.73 *18*	
2275.42	7/2$^+$,9/2$^+$	694.3 *6*	39 *3*	1581.33	5/2$^+$			
		1557.6 *5*	28 *3*	718.02	9/2$^+$			
		1743.6 *5*	62 *5*	531.972	7/2$^+$			
		2156.9 *5*	72 *11*	118.736	3/2$^+$			
		2275.5 *5*	100 *6*	0.0	5/2$^+$			
2343.13	5/2$^+$,7/2$^+$,9/2$^+$	1811.1 *5*	51 *7*	531.972	7/2$^+$			
		1839.0 *3*	100 *10*	504.24	(3/2)$^+$			
		2099.0 *6*	41 *8*	243.959	7/2$^+$			
		2342.3 *10*	41 *16*	0.0	5/2$^+$			
2408.30	5/2$^+$,7/2$^+$,9/2$^+$	1709.7 *4*	65 *7*	698.746	5/2$^+$			
		2141.6 *4*	100 *9*	266.861	5/2$^+$			
		2164.6 *6*	43 *9*	243.959	7/2$^+$			
		2408.0 *3*	39 *5*	0.0	5/2$^+$			
2417.6	5/2$^+$,7/2$^+$,9/2$^+$	2298.7 *4*	100 *14*	118.736	3/2$^+$			
		2417.8 *6*	21 *7*	0.0	5/2$^+$			
2446.5	5/2$^+$,7/2$^+$,9/2$^+$	1747.6 *8*	100 *40*	698.746	5/2$^+$			
		2179.6 *7*	60 *20*	266.861	5/2$^+$			
		2446.5 *5*	70 *12*	0.0	5/2$^+$			
2464.7	5/2$^+$,7/2$^+$,9/2$^+$	2345.9 *10*	100	118.736	3/2$^+$			
2468	17/2$^+$	941	100	1527.04	13/2$^+$			
2486.5	7/2$^+$,9/2$^+$	2242.5 *8*	100	243.959	7/2$^+$			
2511.5	5/2$^+$,7/2$^+$,9/2$^+$	2267.5 *8*	100	243.959	7/2$^+$			
2601	(15/2$^+$)	1074		1527.04	13/2$^+$			
2764.38	19/2$^+$	987.20 *10*	100	1777.18	15/2$^+$	E2		
2822.01	23/2$^-$	847.10 *10*	100	1974.91	19/2$^-$	E2		

$^{103}_{46}Pd_{57}$-8

Adopted Levels, Gammas (continued)

γ(^{103}Pd) (continued)

E_i(level)	J_i^π	E_γ[#]	I_γ[#]	E_f	J_f^π	Mult.[†]	δ[‡]	Comments
2834	$(17/2)^+$	233		2601	$(15/2^+)$			
		366		2468	$17/2^+$			
		656		2178	$15/2^+$	M1		
		1057		1777.18	$15/2^+$	M1		
		1307		1527.04	$13/2^+$			
		1573		1261.50	$15/2^-$			
2924		323		2601	$(15/2^+)$			
		456		2468	$17/2^+$			
		1147		1777.18	$15/2^+$			
3020.38	$(21/2)^+$	96		2924				
		256.2 *1*		2764.38	$19/2^+$	M1+E2	−0.03 *2*	δ: other: −0.12 *13* from 256γ linear pol (1975Ki13).
		552		2468	$17/2^+$			
3071	$(19/2^+)$	147		2924				
		237		2834	$(17/2)^+$	M1		
		470		2601	$(15/2^+)$	E2		
3382	$(21/2)^+$	311		3071	$(19/2^+)$	M1		
		362		3020.38	$(21/2)^+$			
		458		2924				
		548		2834	$(17/2)^+$	E2		
		1407		1974.91	$19/2^-$	E1		
3714	$(23/2^+)$	332		3382	$(21/2)^+$	M1		
		643		3071	$(19/2^+)$	E2		
		694		3020.38	$(21/2)^+$			
		791		2924				
3792.10	$27/2^-$	970.09 *5*	100	2822.01	$23/2^-$	E2		
4056	$25/2^+$	1036		3020.38	$(21/2)^+$			
4160	$(25/2)^+$	446		3714	$(23/2^+)$	M1		
		778		3382	$(21/2)^+$	E2		
		1338		2822.01	$23/2^-$	E1		
4587	$(27/2^+)$	427		4160	$(25/2)^+$	M1		
		531		4056	$25/2^+$			
		873		3714	$(23/2^+)$	E2		
4886.4	$31/2^-$	1094.3 *2*	100	3792.10	$27/2^-$	E2		
5025	$(29/2)^+$	438		4587	$(27/2^+)$	M1		
		865		4160	$(25/2)^+$	E2		
		968		4056	$25/2^+$			
		1232		3792.10	$27/2^-$	E1		
5458	$(31/2^+)$	433		5025	$(29/2)^+$	M1		
		871		4587	$(27/2^+)$	(E2)		
5983	$(33/2)^+$	959		5025	$(29/2)^+$	E2		
		1097		4886.4	$31/2^-$	E1		
6048.3	$35/2^-$	1161.90 *20*	100	4886.4	$31/2^-$	E2		
6452	$(35/2^+)$	994		5458	$(31/2^+)$			

$^{103}_{46}Pd_{57}$-9

Adopted Levels, Gammas (continued)

γ(^{103}Pd) (continued)

E_i(level)	J_i^π	E_γ [#]	E_f	J_f^π	Mult. [†]	E_i(level)	J_i^π	E_γ [#]	E_f	J_f^π	Mult. [†]
7056	$(37/2)^+$	1007	6048.3	$35/2^-$	E1	13798	$(57/2)^+$	1590	12208	$(53/2)^+$	E2
		1072	5983	$(33/2)^+$	E2	14932	$(59/2^+)$	1692	13240	$(55/2^+)$	E2
7316	$39/2^-$	1267	6048.3	$35/2^-$		15487	$(61/2)^+$	1689	13798	$(57/2)^+$	E2
7593	$(39/2^+)$	1141	6452	$(35/2^+)$		17357	$(65/2)^+$	1870	15487	$(61/2)^+$	E2
8212	$(41/2)^+$	1156	7056	$(37/2)^+$	E2	1912+x	(57/2)	1459	453+x	(53/2)	E2
8668	$43/2^-$	1352	7316	$39/2^-$				1912	0+x		
8831	$(43/2^+)$	1238	7593	$(39/2^+)$		3439+x	(61/2)	1394	2045+x		
9442	$(45/2)^+$	1230	8212	$(41/2)^+$	E2			1527	1912+x	(57/2)	E2
10119	$47/2^-$	1451	8668	$43/2^-$		5003+x	(65/2)	1564	3439+x	(61/2)	E2
10190	$(47/2^+)$	1359	8831	$(43/2^+)$		6662+x	(69/2)	1659	5003+x	(65/2)	E2
10741	$(49/2)^+$	1299	9442	$(45/2)^+$	E2	8449+x	(73/2)	1787	6662+x	(69/2)	E2
11638	$51/2^-$	1519	10119	$47/2^-$		10359+x	(77/2)	1910	8449+x	(73/2)	E2
11643	$(51/2^+)$	1453	10190	$(47/2^+)$		12377+x	(81/2)	2018	10359+x	(77/2)	E2
12208	$(53/2)^+$	1467	10741	$(49/2)^+$	E2	14636+x	(85/2)	2259	12377+x	(81/2)	E2
13240	$(55/2^+)$	1597	11643	$(51/2^+)$							

[†] Based on α(K)exp and A_2 coef from $\gamma(\theta)$ in (p,nγ) and on γ linear pol and or A_2,A_4 coef from $\gamma(\theta)$ in (HI,xnγ). Stretched intraband quadrupole transitions assumed to be E2.

[‡] Weighted average of (p,nγ), (HI,xnγ), decay if available.

[#] Weighted average of (p,nγ), (HI,xnγ), decay if data are available and have comparable precision. If not, most precise value taken.

[@] 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.

$^{103}_{46}Pd_{57}$-10

Adopted Levels, Gammas

Level Scheme

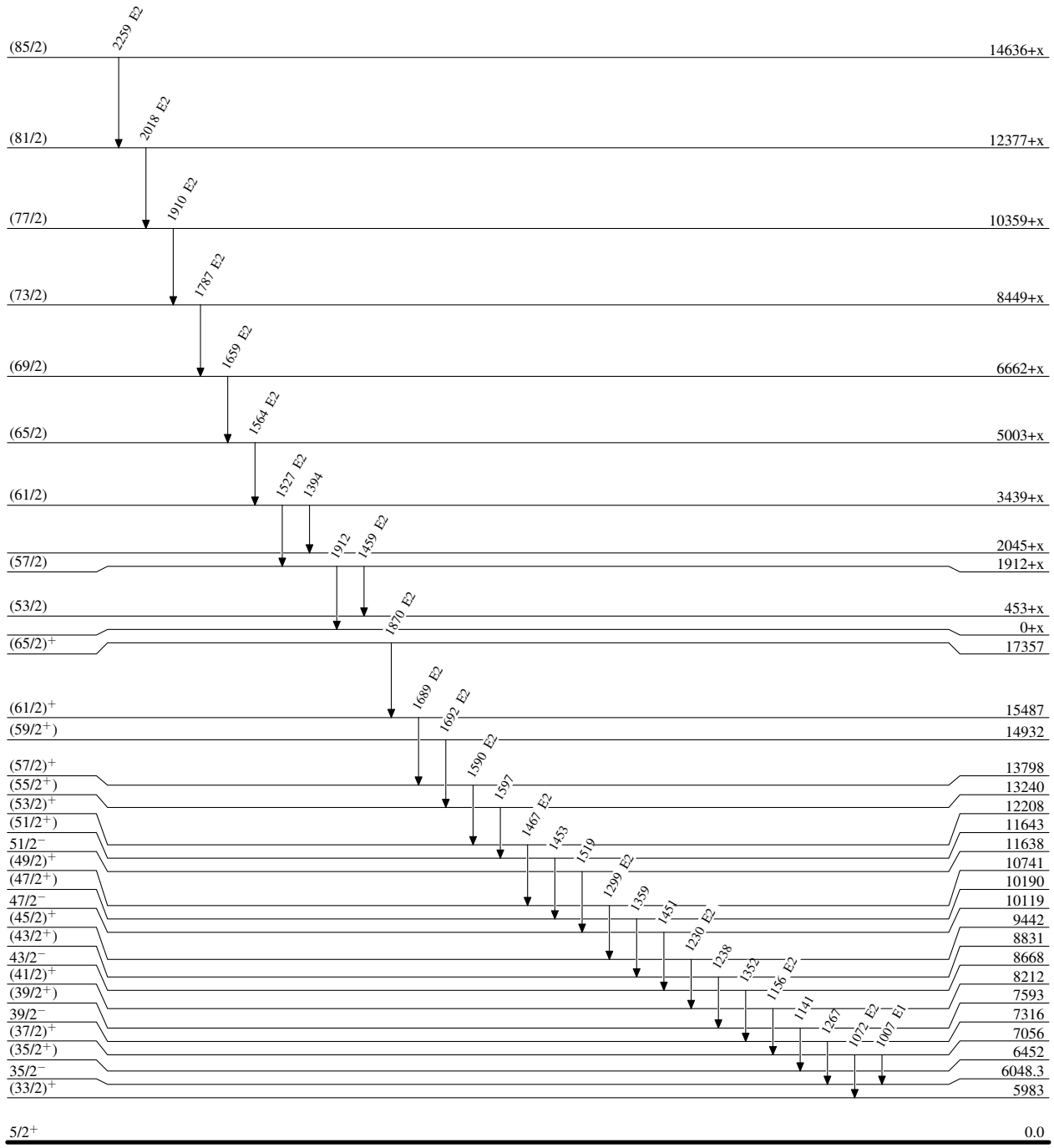
Intensities: Type not specified

Legend

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

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

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

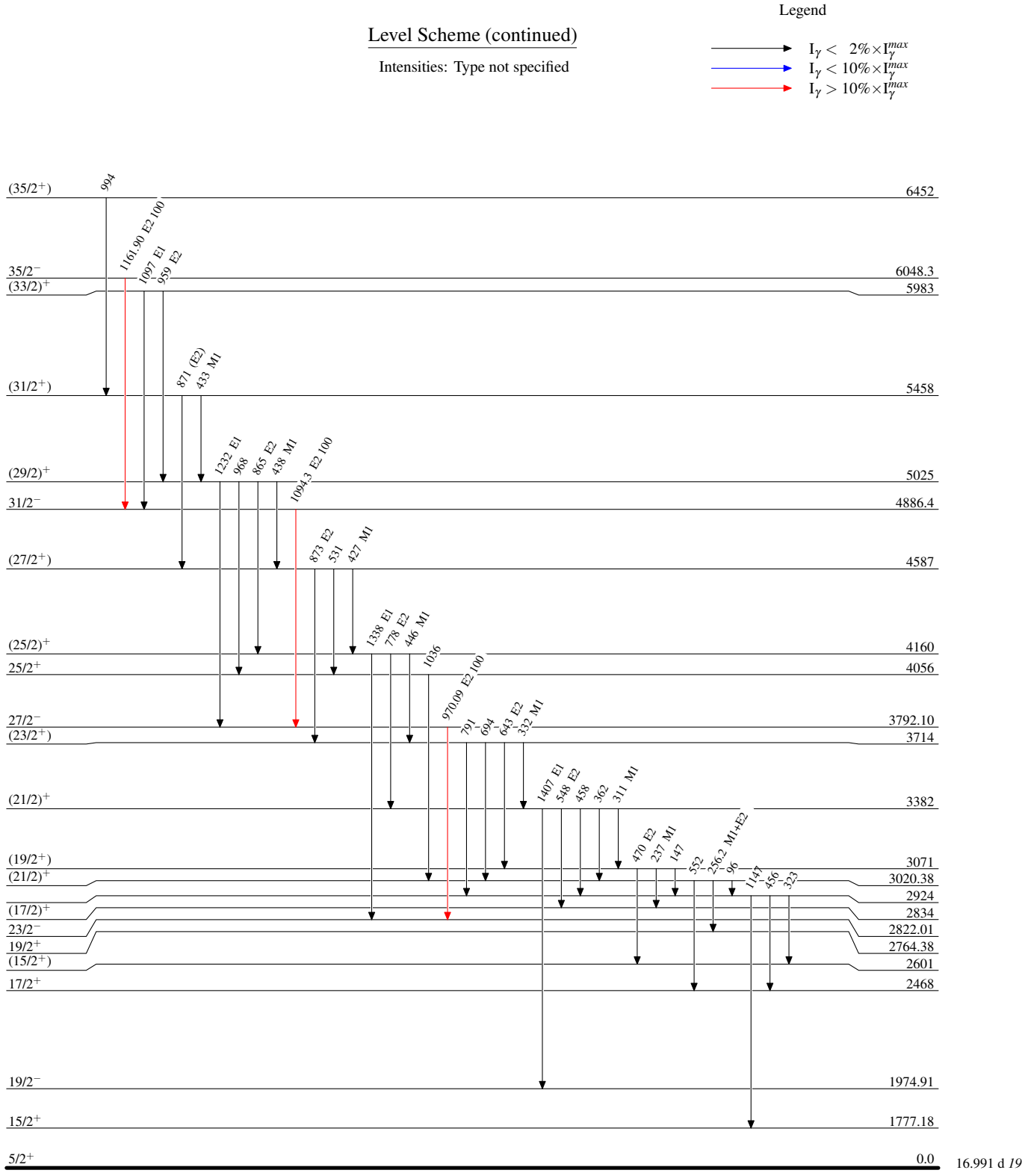


$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

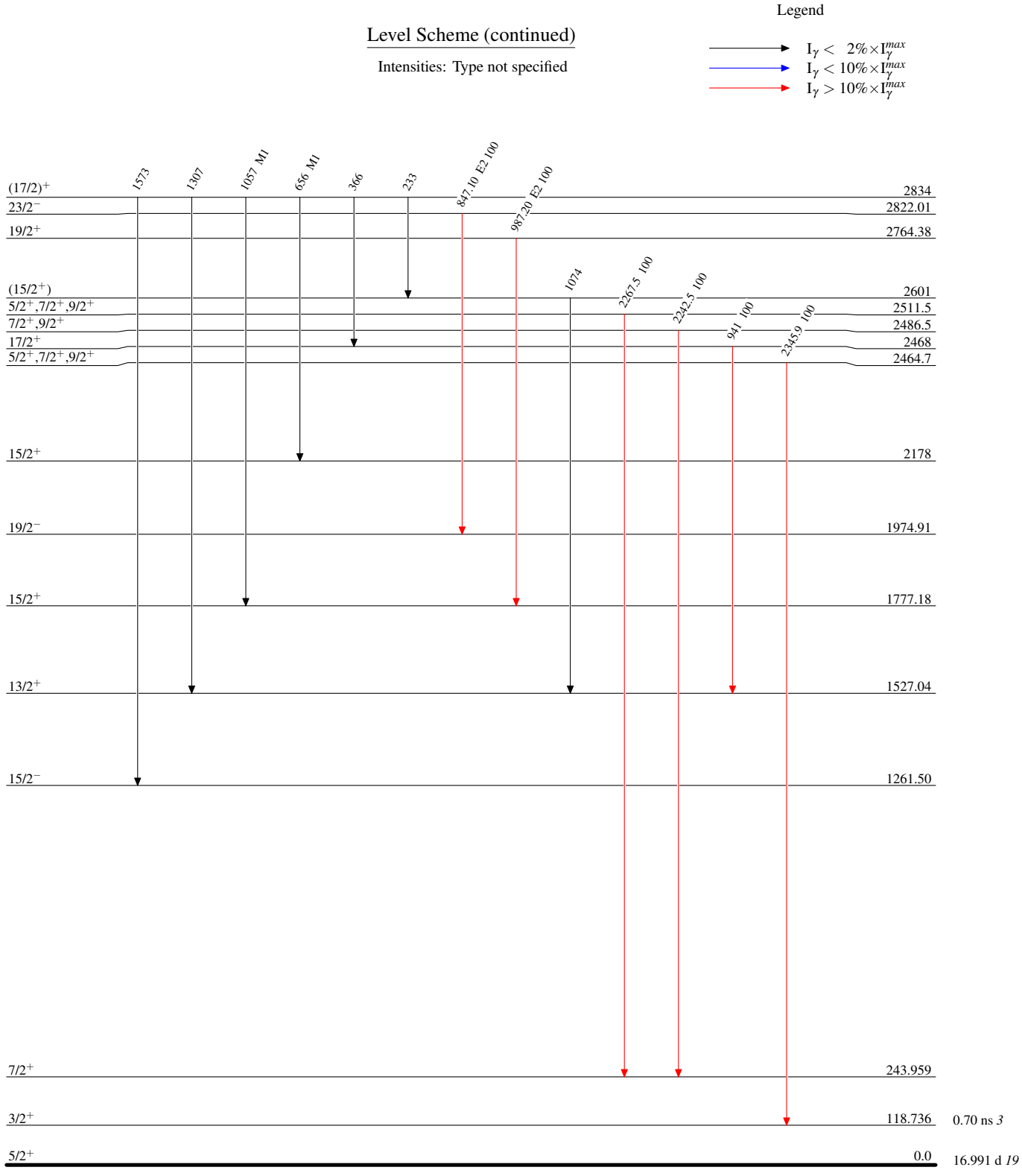


$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

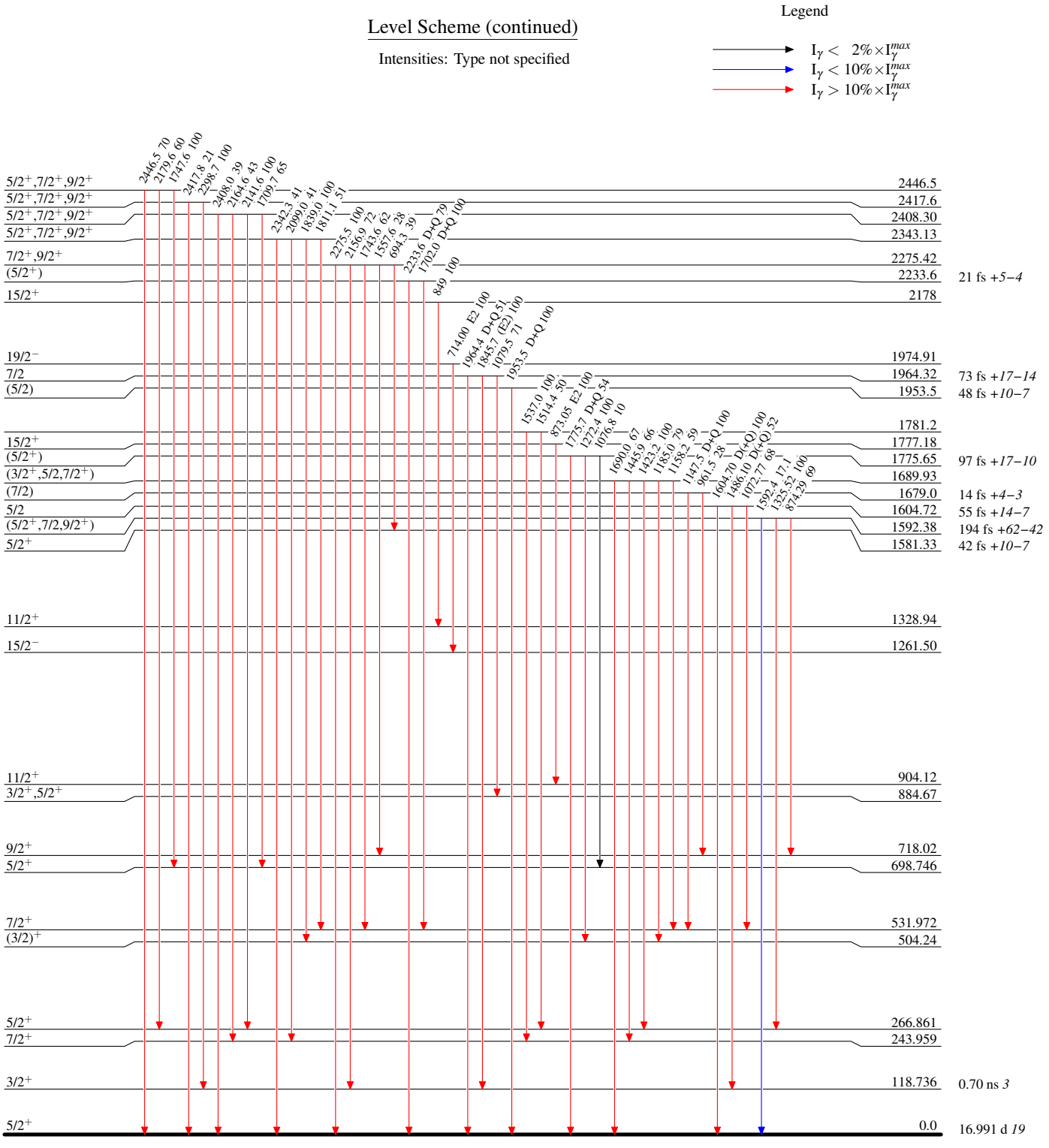


$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

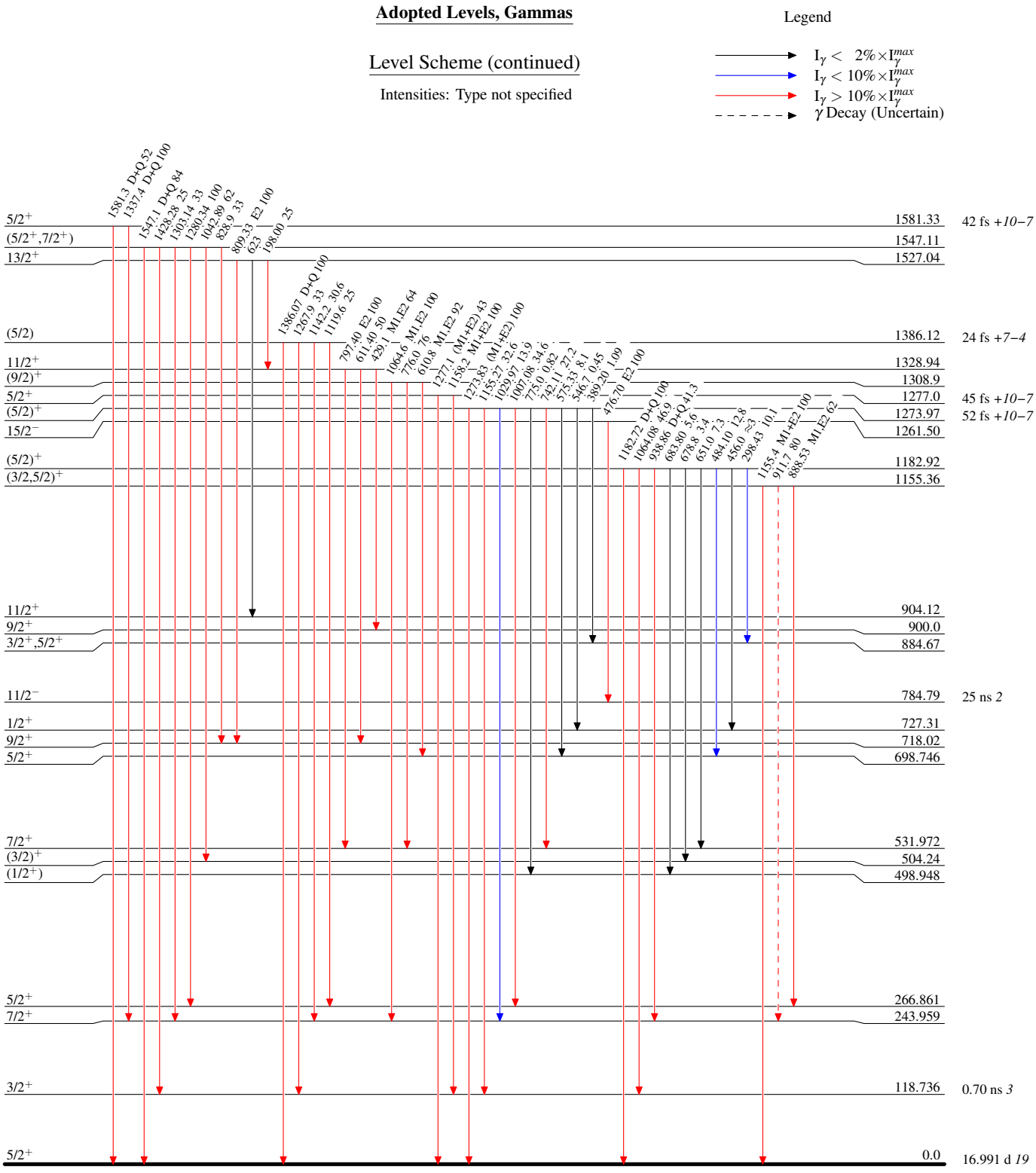


$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas

Level Scheme (continued)

Intensities: Type not specified

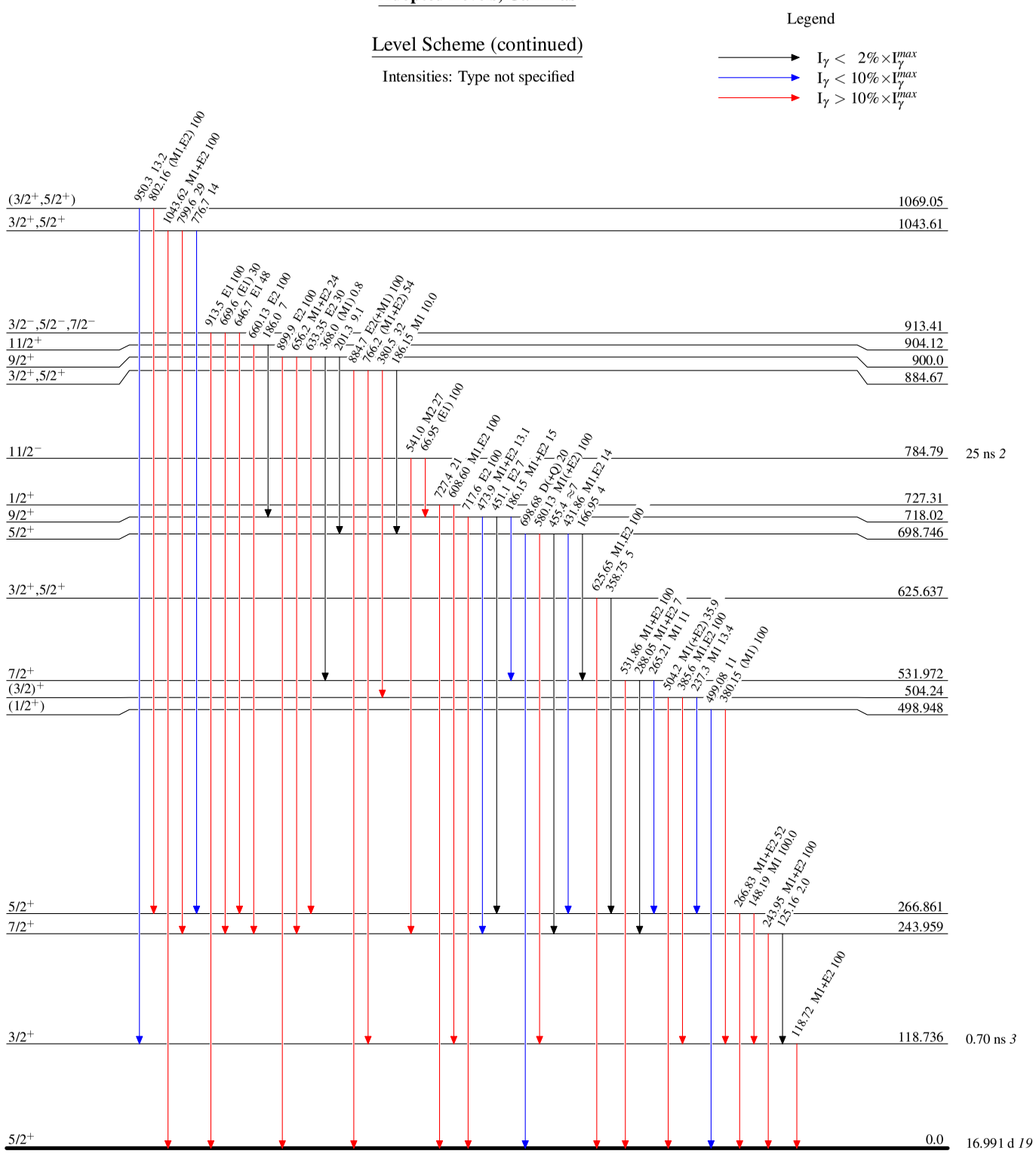


$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas

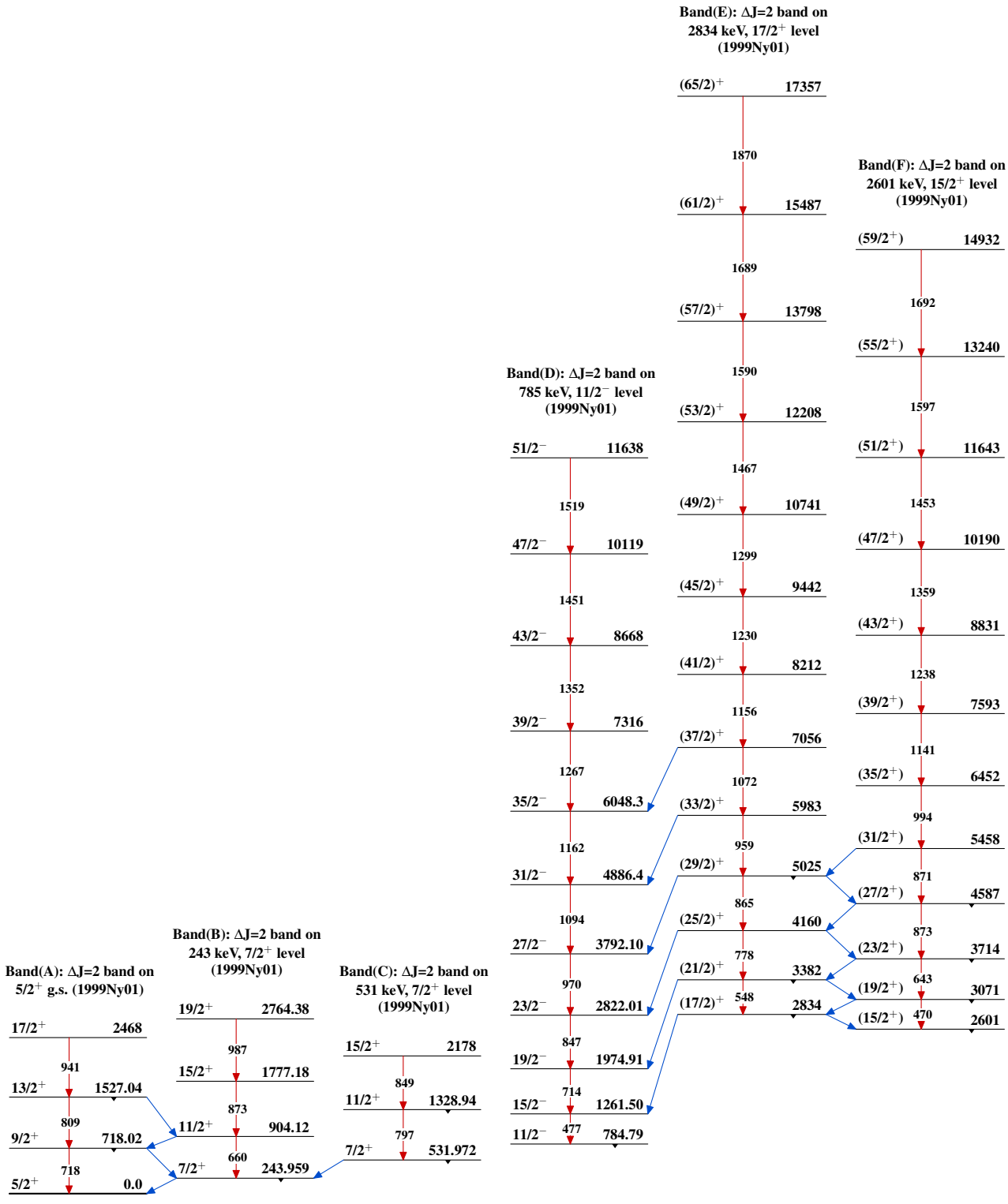
Level Scheme (continued)

Intensities: Type not specified



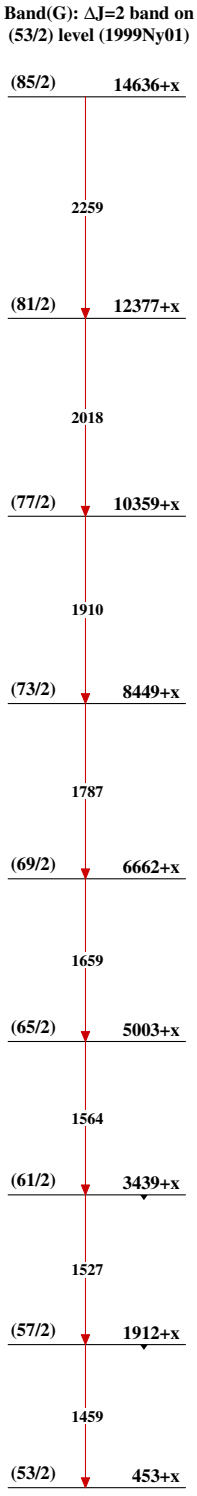
$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas



$^{103}_{46}Pd_{57}$

Adopted Levels, Gammas (continued)



$^{103}_{46}Pd_{57}$