Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 111, 717 (2010)	1-Dec-2009

Q(β^-)=2711 *8*; S(n)=7477 *16*; S(p)=12892 *11*; Q(α)=−6628 *12* 2012Wa38
Note: Current evaluation has used the following Q record.
Q(β^-)=2.61×10^3 *3*; S(n)=7.61×10^3 *8*; S(p)=1.301×10^4 *10*; Q(α)=−6.87×10^3 *9* 2003Au03,2009AuZZ
See 1977Sa26, 1970Ch11, 1990DuZW for E(level) syst of g.s. bands in lighter even palladium isotopes.

^{116}Pd Levels

Cross Reference (XREF) Flags

- A ^{116}Rh β^- decay (0.68 s)
- B ^{116}Rh β^- decay (0.57 s)
- C ^{252}Cf SF decay
- D ^{238}U(α,Fγ)

E(level)	J$^\pi$ †	T$_{1/2}$	XREF	Comments
0‡	0$^+$	11.8 s *4*	ABCD	%β^-=100 T$_{1/2}$: weighted average of 13.6 s *12* (1970Ar19), 12.5 s *6* (1975BrYN), 11.1 s *8* (1986RoZN), 11.5 s *4* (1990Fo07).
340.26‡ *8*	2$^+$	0.11 ns *3*	ABCD	J$^\pi$: from E2 γ to g.s.. T$_{1/2}$: from 1974JaZN, following ^{252}Cf SF decay.
737.84[a] *8*	(2)$^+$		ABC	J$^\pi$: Logft=5.6 from 1$^+$ and (398γ)(340γ)(θ) consistent with 2+(M1+E2) 2$^+$ (E2) 0$^+$ (1999Bu32).
877.58‡ *12*	4$^+$		BCD	J$^\pi$: E2 γ to 2$^+$ and g.s. band.
1066.21[a] *10*	(3$^+$)		BC	J$^\pi$: γ's to 2$^+$ and syst.
1109.76 *22*	(0$^+$)		A	
1373.01[a] *13*	(4$^+$)		C	
1532.3# *5*	(4$^-$)		C	
1558.97‡ *14*	6$^+$		BCD	J$^\pi$: member of g.s. rotational band from systematics of adjacent Rh isotopes.
1694.87 *15*	(3$^-$,4$^+$)		B	J$^\pi$: log *ft*=5.8 from J=(6$^-$).
1718.21[a] *14*	(5$^+$)		BC	J$^\pi$: log *ft*=5.9 from J=(6$^-$).
1732.9 *3*	(0$^+$)		A	
1809.88 *12*	(4$^-$)		B	
1982.40@ *13*	(5$^-$)		BC	
2005.7 *4*			A	
2074.1 *4*	(2$^+$)		A	
2101.0[a] *4*	(6$^+$)		BC	
2275.63# *17*	(6$^-$)		BC	
2315.57 *16*			B	
2333.1 *5*			B	
2343.2‡ *3*	8$^+$		BCD	
2432.72 *24*			B	
2435.50@ *18*	(7$^-$)		BC	
2448.53 *13*			B	
2491.6[a] *4*	(7$^+$)		BC	
2603.25 *23*			B	
2617.2 *4*			B	
2654.3& *5*	(7$^-$)		BC	
2718.01 *21*			B	
2812.5 *5*			B	

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Adopted Levels, Gammas (continued)

^{116}Pd Levels (continued)

E(level)	J$^{\pi}$[†]	XREF	E(level)	J$^{\pi}$[†]	XREF	E(level)	J$^{\pi}$[†]	XREF
2825.0[#] *4*	(8$^-$)	C	3491.6[#] *7*	(10$^-$)	C	4504.8[a] *9*	(13$^+$,12$^-$)	C
2840.4[a] *9*	(8$^+$)	C	3630.4[@] *5*	(11$^-$)	C	5242.9[‡] *9*	16$^+$	CD
2868.96 *17*		B	3682.6[‡] *6*	12$^+$	CD	6093.8[‡]	18$^+$	D
2970.4[@] *4*	(9$^-$)	C	3697.3[&] *9*	(11$^-$)	C	6917.2[‡]	20$^+$	D
3067.4[&] *7*	(9$^-$)	C	3805.3[a] *7*	(11$^+$,10$^-$)	C	7818.8[‡]	22$^+$	D
3091.0[‡] *5*	10$^+$	CD	4393.2[‡] *7*	14$^+$	CD			
3255.0[a] *6*	(9$^+$,8$^-$)	C	4415.9[@] *6*	(13$^-$)	C			

[†] J$^{\pi}$ without comments are based on band assignments.
[‡] Band(A): g.s. Band.
[#] Band(B): band based on 4$^-$.
[@] Band(C): band based on 5$^-$.
[&] Band(D): band based on (7$^-$).
[a] Band(E): γ band.

γ(^{116}Pd)

E$_i$(level)	J$_i^{\pi}$	E$_{\gamma}$[‡]	I$_{\gamma}$	E$_f$	J$_f^{\pi}$	Mult.[†]	Comments
340.26	2$^+$	340.3 *1*	100	0	0$^+$	E2	B(E2)(W.u.)=34 *10*
737.84	(2)$^+$	397.7 *1*	100 *16*	340.26	2$^+$	(M1+E2)	
		737.8 *1*	70 *12*	0	0$^+$		
877.58	4$^+$	537.3 *1*	100	340.26	2$^+$	E2	
1066.21	(3$^+$)	328.4 *1*	58 *13*	737.84	(2)$^+$		
		725.9 *1*	100 *40*	340.26	2$^+$	(M1+E2)	
1109.76	(0$^+$)	769.5 *2*	100	340.26	2$^+$		
1373.01	(4$^+$)	495.5 *2*	27	877.58	4$^+$		
		635.3 *2*	100	737.84	(2)$^+$	[E2]	
1532.3	(4$^-$)	466.1 *5*	100	1066.21	(3$^+$)	[E1]	
1558.97	6$^+$	681.4 *1*	100	877.58	4$^+$	E2	
1694.87	(3$^-$,4$^+$)	628.9 *2*	100 *7*	1066.21	(3$^+$)		
		957.0 *2*	56 *5*	737.84	(2)$^+$		
1718.21	(5$^+$)	652.0 *1*	100	1066.21	(3$^+$)	[E2]	
1732.9	(0$^+$)	995.4 *5*	89 *5*	737.84	(2)$^+$		
		1392.5 *3*	100 *14*	340.26	2$^+$		
1809.88	(4$^-$)	437.1 *2*	4.7 *8*	1373.01	(4$^+$)		
		743.6 *1*	100 *7*	1066.21	(3$^+$)		
1982.40	(5$^-$)	172.4 *2*	4.8 *9*	1809.88	(4$^-$)		
		609.4 *2*	13.2 *9*	1373.01	(4$^+$)		
		1104.7 *2*	100 *7*	877.58	4$^+$	[E1]	
2005.7		1665.4 *4*	100	340.26	2$^+$		
2074.1	(2$^+$)	1336.2 *4*	100	737.84	(2)$^+$		
2101.0	(6$^+$)	728.0 *3*	100	1373.01	(4$^+$)		
2275.63	(6$^-$)	293.2 *3*	85 *5*	1982.40	(5$^-$)		
		465.8 *2*	100 *15*	1809.88	(4$^-$)		
		557.4 *2*	64 *5*	1718.21	(5$^+$)		
2315.57		620.9 *2*	100 *6*	1694.87	(3$^-$,4$^+$)		
		942.5 *2*	17.1 *12*	1373.01	(4$^+$)		
		1437.7 *6*	12 *4*	877.58	4$^+$		
2333.1		1455.5 *4*	100	877.58	4$^+$		
2343.2	8$^+$	784.4 *3*	100	1558.97	6$^+$		

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Adopted Levels, Gammas (continued)

$\gamma(^{116}Pd)$ (continued)

E_i(level)	J_i^π	E_γ[‡]	I_γ	E_f	J_f^π	Mult.[†]
2432.72		714.5 *2*	100	1718.21	(5^+)	
2435.50	(7^-)	453.0 *2*	40	1982.40	(5^-)	
		876.5 *2*	100	1558.97	6^+	E1
2448.53		466.1 *1*	66 *6*	1982.40	(5^-)	
		638.7 *1*	100 *7*	1809.88	(4^-)	
		889.5 *4*	3.1 *10*	1558.97	6^+	
2491.6	(7^+)	773.4 *3*	100	1718.21	(5^+)	E2
2603.25		287.7 *2*	100 *6*	2315.57		
		1044.2 *4*	34 *9*	1558.97	6^+	
2617.2		899.0 *3*	100	1718.21	(5^+)	
2654.3	(7^-)	1095.3 *4*	100	1558.97	6^+	
2718.01		269.5 *2*	100 *7*	2448.53		
		1159.0 *3*	93 *7*	1558.97	6^+	
2812.5		1253.5 *4*	100	1558.97	6^+	
2825.0	(8^-)	389.4 *5*		2435.50	(7^-)	
		549.5 *5*	100	2275.63	(6^-)	
2840.4	(8^+)	739.0[§] *5*	100	2101.0	(6^+)	
2868.96		420.5 *2*	50 *5*	2448.53		
		553.5 *2*	100 *5*	2315.57		
		886.5 *3*	30 *5*	1982.40	(5^-)	
		1058.7 *3*	65 *20*	1809.88	(4^-)	
2970.4	(9^-)	534.5 *4*	100	2435.50	(7^-)	
		627.4 *4*	44	2343.2	8^+	
3067.4	(9^-)	413.1 *5*	100	2654.3	(7^-)	
3091.0	10^+	748.0 *4*	100	2343.2	8^+	E2
3255.0	$(9^+,8^-)$	763.4 *4*	100	2491.6	(7^+)	
3491.6	(10^-)	666.6 *5*	100	2825.0	(8^-)	
3630.4	(11^-)	539.6 *4*	26	3091.0	10^+	
		659.9 *4*	100	2970.4	(9^-)	
3682.6	12^+	591.6 *4*	100	3091.0	10^+	
3697.3	(11^-)	629.1[§] *5*	100	3067.4	(9^-)	
3805.3	$(11^+,10^-)$	550.3 *4*	100	3255.0	$(9^+,8^-)$	
4393.2	14^+	710.6 *4*	100	3682.6	12^+	
4415.9	(13^-)	785.5 *4*	100	3630.4	(11^-)	
4504.8	$(13^+,12^-)$	699.5 *5*	100	3805.3	$(11^+,10^-)$	
5242.9	16^+	849.7 *4*	100	4393.2	14^+	
6093.8	18^+	849.4 *4*	100	5242.9	16^+	
6917.2	20^+	823.4 *4*	100	6093.8	18^+	
7818.8	22^+	901.6 *4*	100	6917.2	20^+	

[†] From ^{116}Rh β^- decay and $\gamma\gamma$(t) in ^{252}Cf SF Decay.
[‡] From ^{116}Rh β^- decay.
[§] Placement of transition in the level scheme is uncertain.

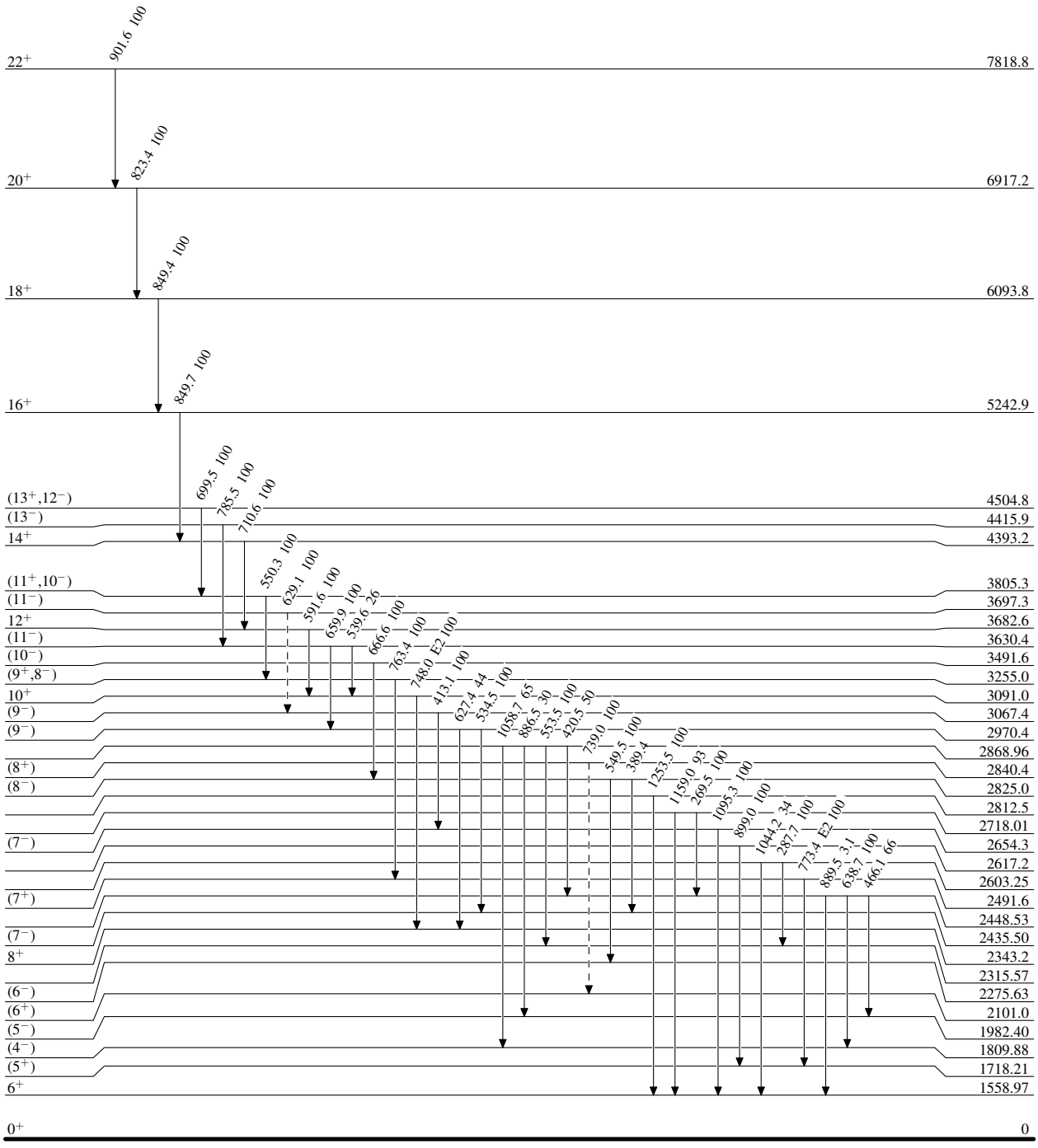
Adopted Levels, Gammas

Legend

Level Scheme

Intensities: Relative photon branching from each level

- - - - - - ► γ Decay (Uncertain)

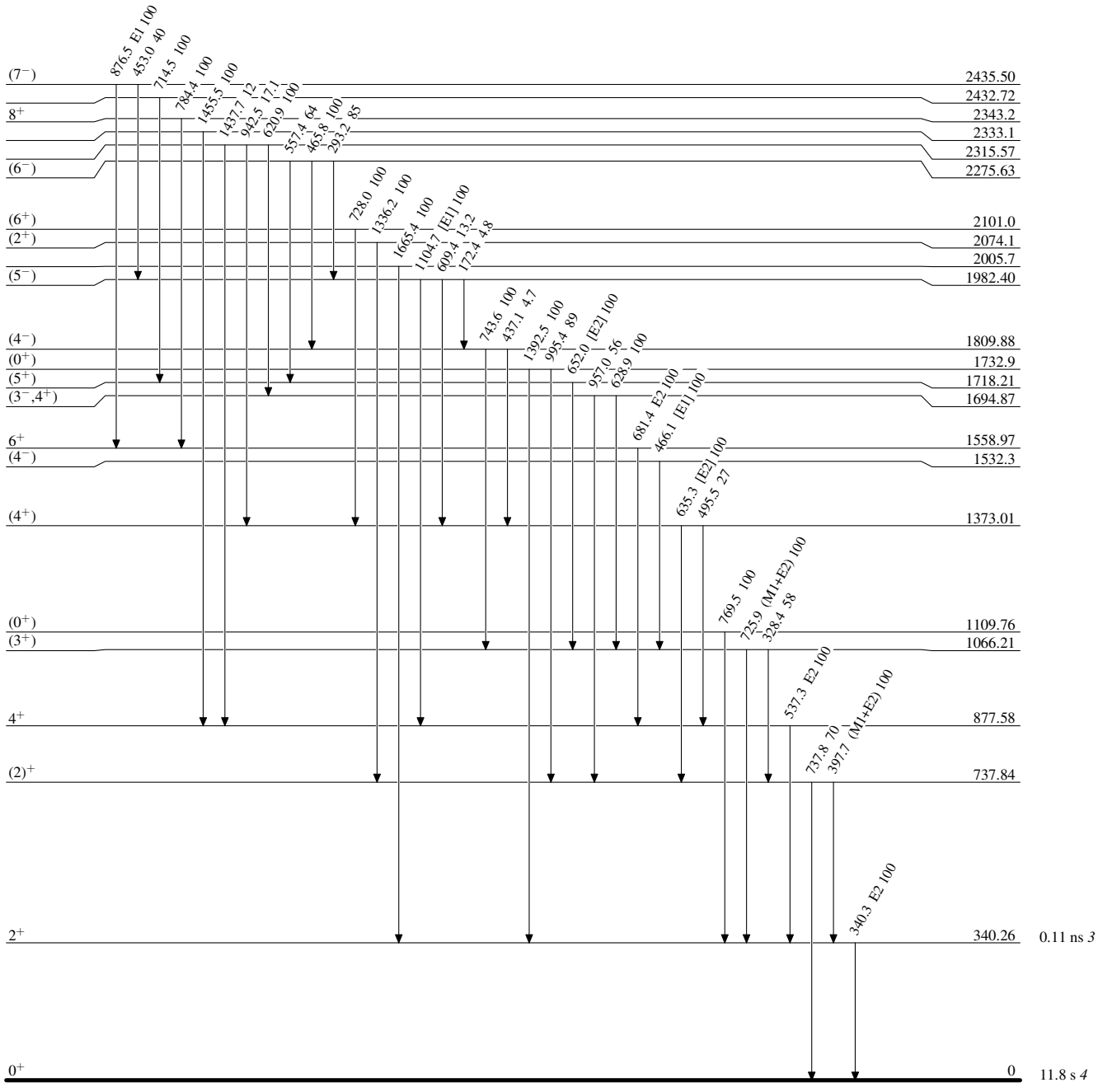


$^{116}_{46}Pd_{70}$

Adopted Levels, Gammas

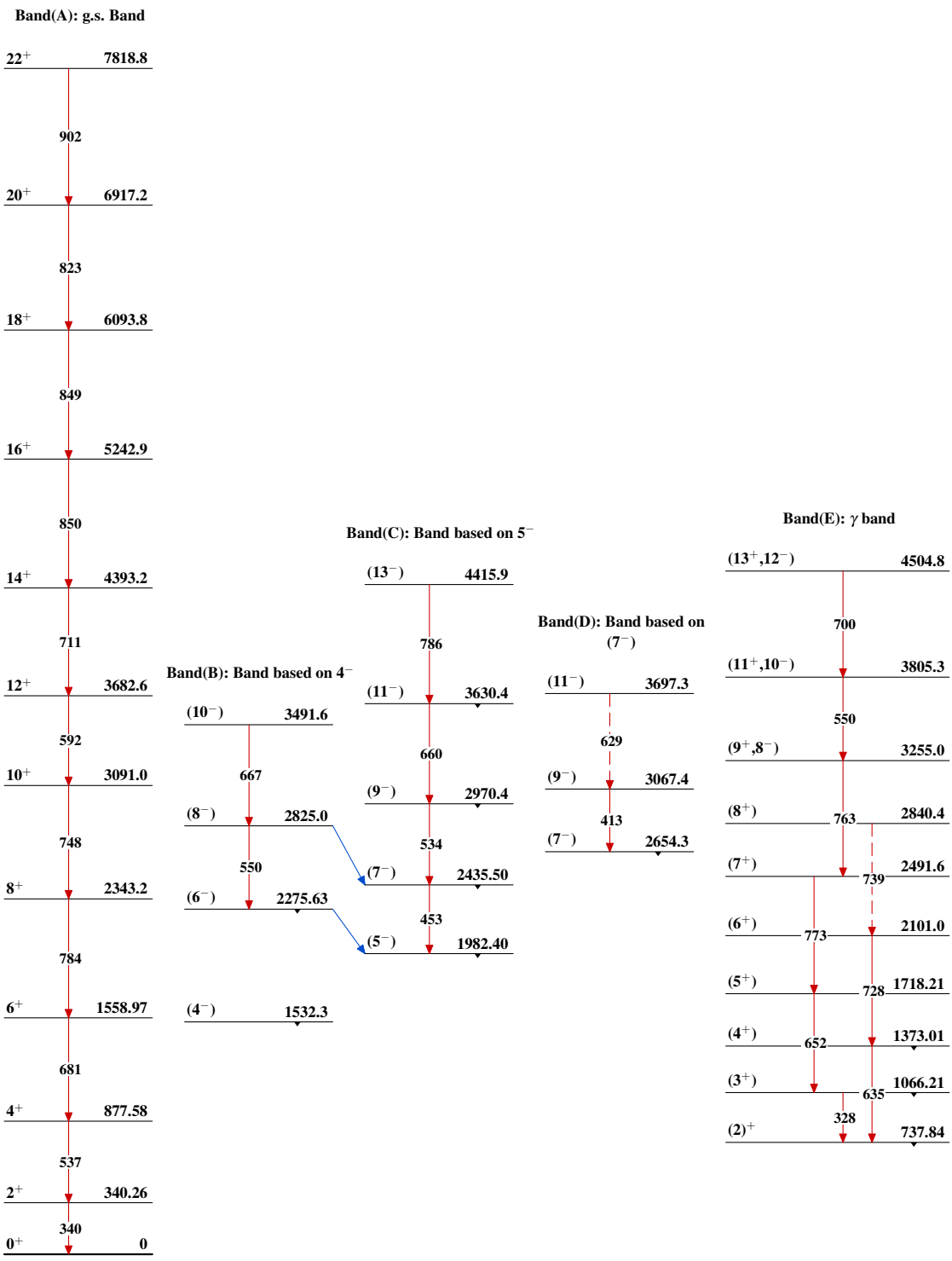
Level Scheme (continued)

Intensities: Relative photon branching from each level



$^{116}_{46}Pd_{70}$

Adopted Levels, Gammas



$^{116}_{46}Pd_{70}$