(HI,xnγ) 1986Hu02,1995De65

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 113, 1871 (2012)	15-Jun-2012

1986Hu02: ^{170}Er(^{24}Mg,2nγ), (^{26}Mg,4nγ); ^{184}W(^{13}C,5nγ); ^{186}W(^{13}C,^{7}nγ). E(^{24}Mg, ^{26}Mg)=120-130 MeV, Er targets enriched to 97% in ^{170}Er. E(^{13}C)=84-87 MeV, W targets enriched to 96% (^{184}W), 97% (^{186}W). Measured Eγ, Iγ (Ge, Compton-suppressed HPGe detectors, multiplicity filter), γγ coin, γ(θ) (5 angles). Used cranked shell model to interpret level structure.

1995De65: ^{184}W(^{16}O,α4nγ) E=113 MeV. Measured Eγ, γγ coin, γ(θ) (6 angles; coefficients unstated) for selected transitions.

^{192}Hg Levels

E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]	E(level)[†]	J^π[‡]
0.0[#]	0⁺	2633.0[&] 4	10⁻	4090.3[c] 5	16⁻	5316.8[b] 6	(20⁺)
422.90[#] 20	2⁺	2757.0[@] 4	11⁻	4131.0[b] 5	(16⁺)	5655.7[c] 7	22⁻
1057.7[#] 3	4⁺	2952.1[a] 5	14⁺	4217.3[d] 5	17⁻	5700.9[e] 7	22⁺
1803.2[#] 4	6⁺	3047.3[b] 5	(12⁺)	4388.2[c] 5	18⁻	5788.2[b] 7	(22⁺)
1844.1[@] 4	5⁻	3262.2[&] 5	12⁻	4389.8[a] 6	18⁺	6012.6[d] 6	23⁻
1977.1[@] 4	7⁻	3449.9[@] 5	13⁻	4588.8[d] 5	19⁻	6428.4[e] 7	24⁺
2216.5[&] 4	8⁻	3609.0[a] 5	16⁺	4742.0[b] 6	(18⁺)	6438.0[cf] 7	(24⁻)
2224.1[@] 4	9⁻	3670.2[b] 5	(14⁺)	4951.0[c] 6	20⁻	6855.4?[d] 7	(25⁻)
2447.4 4	8⁺	3726.0 5	(14⁺)	5131.0[e] 6	20⁺		
2507.6 4	10⁺	3895.2[c] 5	14⁻	5216.4[d] 6	21⁻		
2535.9[a] 5	12⁺	4010.9[d] 5	15⁻	5272.0[a] 6	(20⁺)		

[†] From least-squares fit to Eγ.
[‡] From 1986Hu02, based on γ-ray multipolarities, coincidence data and band structure (see ^{192}Hg Adopted Levels for evaluator′s assignments).
[#] Band(A): π=+,α=0 g.s. band.
[@] Band(B): π=−,α=1 2-quasineutron AE band. Involves 1/2[660] and 1/2[521] Nilsson orbitals (semidecoupled band).
[&] Band(C): π=−,α=0 2-quasineutron AF band. Involves 1/2[660] and 1/2[521] Nilsson orbitals (semidecoupled band).
[a] Band(D): π=+,α=0 2-quasineutron AB band. (aligned band involving 1/2[660] Nilsson orbital). 1986Hu02 include the 8⁺ 2472 and 10⁺ 2508 levels also in this band, but subsequent studies do not.
[b] Band(E): quasivibrational terminating band.
[c] Band(F): π=−,α=0 4-quasineutron ABCF band. Involves 1/2[660], 3/2[651], 1/2[521] Nilsson orbitals.
[d] Band(G): π=−,α=1 4-quasineutron ABCE band. Involves 1/2[660], 3/2[651], 1/2[521] Nilsson orbitals.
[e] Band(H): π=+,α=0 4-quasineutron ABCD band. Involves 1/2[660] and 3/2[651] Nilsson orbitals.
[f] Evaluator assumes that ^{6483,}Asreported by 1986Hu02, was intended to be 6438.

γ(^{192}Hg)

Eγ[†]	Iγ[‡]	Ei(level)	J^π_i	Ef	J^π_f	Mult.[#]	Comments
(28.4[b] 3)		2535.9	12⁺	2507.6	10⁺		
(60.1[b] 3)		2507.6	10⁺	2447.4	8⁺		
126.9 3	1.7	4217.3	17⁻	4090.3	16⁻	D	A_2=−0.32 8, A_4=−0.11 14 (1986Hu02).
[x]130.0[&] 3	1.0[a]					Q	A_2=+0.67 15, A_4=−0.12 19 (1986Hu02). Mult.: from γ(θ) in 1995De65.
133.0 2	12	1977.1	7⁻	1844.1	5⁻	Q	A_2=+0.30 4, A_4=−0.15 5 (1986Hu02).
[x]139.3 3	2.0					D	A_2=−0.19 10, A_4=+0.22 14 (1986Hu02).

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(HI,xnγ) 1986Hu02,1995De65 (continued)

γ(^{192}Hg) (continued)

E_γ[†]	I_γ[‡]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[#]	Comments
[x]144.5 3	0.8						A_2=+0.18 11, A_4=−0.09 15 (1986Hu02).
[x]151.4 3	0.7						A_2=−0.45 20 (1986Hu02).
173.9 2	28	1977.1	7^-	1803.2	6^+	D	A_2=−0.19 3, A_4=−0.02 4 (1986Hu02). Mult.: from γ(θ) in 1995De65.
[x]179.9 3	1.1						
195.1 2	12	4090.3	16^-	3895.2	14^-	Q	A_2=+0.43 3, A_4=−0.09 4 (1986Hu02).
200.7 3	1.4	4588.8	19^-	4388.2	18^-	D	A_2=−0.49 11 (1986Hu02). Mult.: from γ(θ) (1995De65).
[x]202.9[&] 3	[@]						
206.5 3	5.2	4217.3	17^-	4010.9	15^-	Q	A_2=+0.24 8, A_4=−0.11 11 (1986Hu02).
[x]235.2 3	2.0						
[x]236.6 3	1.2						
239.4 2	10	2216.5	8^-	1977.1	7^-	D	A_2=−0.50 10, A_4=−0.05 13 (1986Hu02). Mult.: from γ(θ) in 1995De65.
[x]243.4 3	2.1					D	A_2=−0.28 21, A_4=+0.15 24 (1986Hu02).
247.0 2	36	2224.1	9^-	1977.1	7^-	Q	A_2=+0.29 3, A_4=−0.14 4 (1986Hu02).
[x]276.4 3	3					D	A_2=−0.32 19, A_4=+0.0 3 (1986Hu02).
283.5 2	21	2507.6	10^+	2224.1	9^-	D	A_2=−0.19 3, A_4=−0.03 4 (1986Hu02).
[x]290.0 3	1.1						A_2=−0.63 20 (1986Hu02).
297.9 2	14	4388.2	18^-	4090.3	16^-	Q	A_2=+0.30 4, A_4=−0.11 5 (1986Hu02).
[x]333.7 3	2.5						
[x]336.7 3	3						A_2=+0.61 22 (1986Hu02).
[x]343.3[&] 3	[@]						
371.5 2	17	4588.8	19^-	4217.3	17^-	Q	A_2=+0.23 4, A_4=−0.11 5 (1986Hu02).
[x]394.9 3	1.7						A_2=+0.09 10 (1986Hu02).
405.0 3	2.1	4131.0	(16^+)	3726.0	(14^+)	Q	A_2=+0.28 10, A_4=−0.05 13 (1986Hu02).
408.8 3	6	2633.0	10^-	2224.1	9^-		A_2=+0.21 10 (1986Hu02).
416.3 2	35	2952.1	14^+	2535.9	12^+		A_2=+0.33 2, A_4=−0.11 3 for doublet (1986Hu02); consistent with stretched Q.
416.5 2	16	2633.0	10^-	2216.5	8^-		A_2=+0.33 2, A_4=−0.11 3 for doublet (1986Hu02); consistent with stretched Q.
422.9 2	100	422.90	2^+	0.0	0^+	Q	A_2=+0.24 2, A_4=−0.13 3 (1986Hu02).
[x]440.3[&] 3	1.4[a]						
445.2 3	0.8	3895.2	14^-	3449.9	13^-		
[x]448.0 3	0.8						
460.9 3	8	4131.0	(16^+)	3670.2	(14^+)	Q	A_2=+0.39 5, A_4=−0.15 7 (1986Hu02).
471.4 3	3	5788.2	(22^+)	5316.8	(20^+)		A_2=+0.25 15 (1986Hu02).
[x]500.9[&] 3	[@]						
505.2 3	1.1	3262.2	12^-	2757.0	11^-		A_2=+0.15 17 (1986Hu02).
511.3[&] 3	[@]	3047.3	(12^+)	2535.9	12^+		
521.9 3	2.4	4131.0	(16^+)	3609.0	16^+		
533.0 2	15	2757.0	11^-	2224.1	9^-	Q	A_2=+0.37 5, A_4=−0.16 6 (1986Hu02).
539.7 3	6	3047.3	(12^+)	2507.6	10^+	Q	A_2=+0.32 5, A_4=−0.14 7 (1986Hu02).
561.0 2	10	4010.9	15^-	3449.9	13^-	Q	A_2=+0.37 7, A_4=−0.11 9 (1986Hu02).
562.8 3	6	4951.0	20^-	4388.2	18^-	Q	A_2=+0.33 8, A_4=−0.19 11 (1986Hu02).
569.9 2	3	5700.9	22^+	5131.0	20^+	Q	A_2=+0.43 13, A_4=−0.10 14 (1986Hu02).
574.8 3	9	5316.8	(20^+)	4742.0	(18^+)	Q	A_2=+0.33 5, A_4=−0.12 6 (1986Hu02).
[x]582.7[&] 3	[@]						
611.0 2	12	4742.0	(18^+)	4131.0	(16^+)		A_2=+0.20 15 (1986Hu02).
622.7[&] 3	8[a]	3670.2	(14^+)	3047.3	(12^+)	Q	A_2=+0.23 8, A_4=−0.21 11 (1986Hu02).
627.6 2	13	5216.4	21^-	4588.8	19^-		A_2=+0.13 16, A_4=−0.25 19 (1986Hu02).
629.2[&] 2	29[a]	3262.2	12^-	2633.0	10^-	Q	A_2=+0.36 7, A_4=−0.15 9 (1986Hu02).
633.0 2	21	3895.2	14^-	3262.2	12^-	Q	A_2=+0.35 6, A_4=−0.13 7 (1986Hu02).
634.8 2	97	1057.7	4^+	422.90	2^+	Q	A_2=+0.25 2, A_4=−0.10 3 (1986Hu02).

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(HI,xnγ) 1986Hu02,1995De65 (continued)

γ(^{192}Hg) (continued)

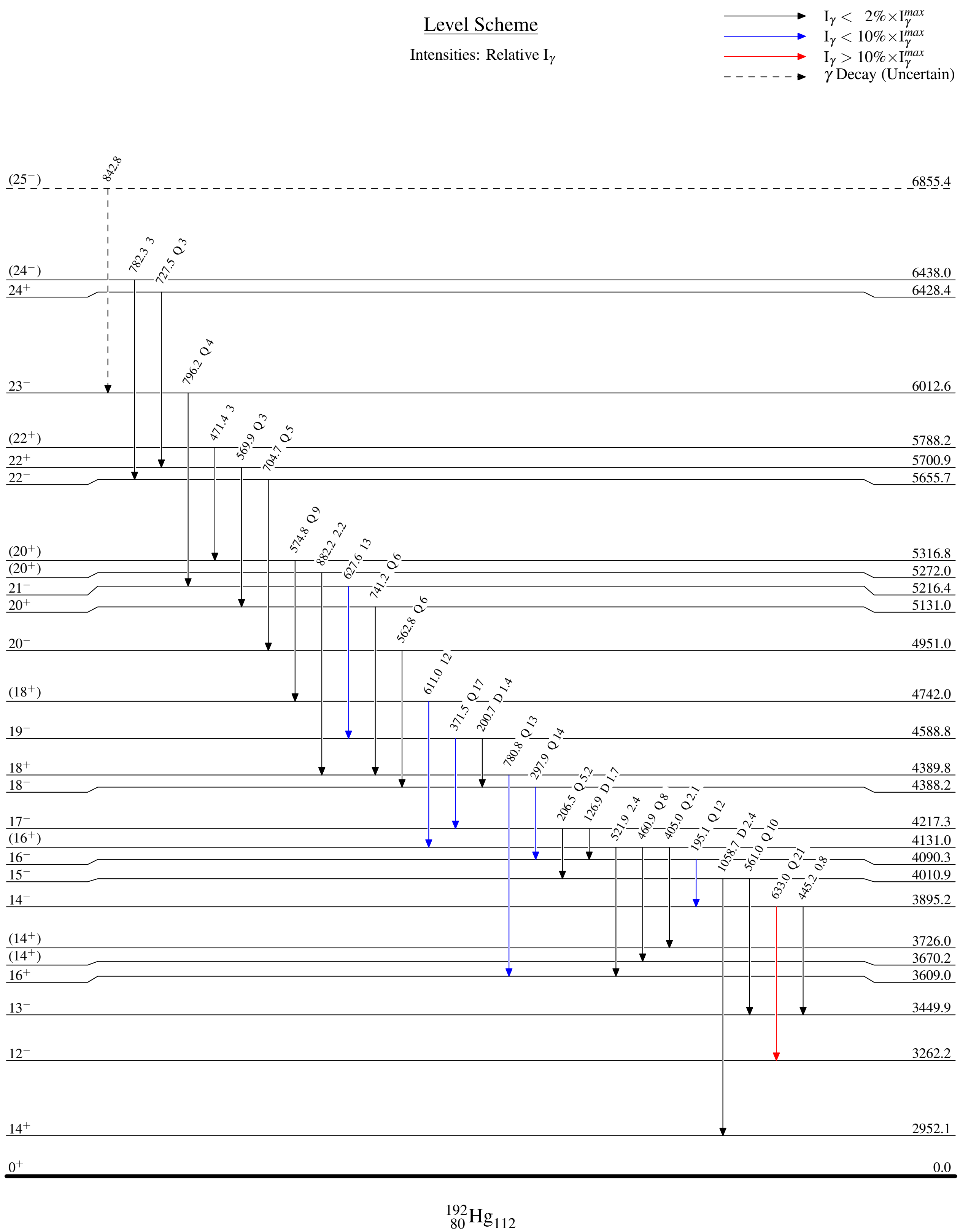
E_γ[†]	I_γ[‡]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[#]	Comments
644.2 *2*	28	2447.4	8+	1803.2	6+	Q	A_2=+0.27 *2*, A_4=−0.13 *3* (1986Hu02).
656.8 *2*	19	3609.0	16+	2952.1	14+	Q	A_2=+0.32 *2*, A_4=−0.14 *3* (1986Hu02).
678.7 *3*	5	3726.0	(14+)	3047.3	(12+)	(Q)	A_2=+0.29 *7* (1986Hu02).
[x]686.4 *3*	2.0					D	A_2=−0.22 *16* (1986Hu02).
692.9 *2*	16	3449.9	13−	2757.0	11−	Q	A_2=+0.28 *5*, A_4=−0.09 *7* (1986Hu02).
704.7 *3*	5	5655.7	22−	4951.0	20−	Q	A_2=+0.21 *6*, A_4=−0.11 *8* (1986Hu02).
718.4 *3*	5	3670.2	(14+)	2952.1	14+		A_2=+0.12 *10* (1986Hu02).
[x]723.4 *3*	2.0						A_2=+0.57 *20* (1986Hu02).
727.5 *3*	3	6428.4	24+	5700.9	22+	Q	A_2=+0.22 *11*, A_4=−0.09 *13* (1986Hu02).
741.2 *3*	6	5131.0	20+	4389.8	18+	Q	A_2=+0.41 *5*, A_4=−0.16 *7* (1986Hu02).
745.5 *2*	62	1803.2	6+	1057.7	4+	Q	A_2=+0.24 *2*, A_4=−0.12 *3* (1986Hu02).
780.8 *2*	13	4389.8	18+	3609.0	16+	Q	A_2=+0.32 *7*, A_4=−0.10 *8* (1986Hu02).
782.3[&] *3*	3[a]	6438.0	(24−)	5655.7	22−		
786.4 *2*	37	1844.1	5−	1057.7	4+	D	A_2=−0.26 *2*, A_4=−0.01 *3* (1986Hu02).
796.2 *3*	4	6012.6	23−	5216.4	21−	Q	A_2=+0.34 *6*, A_4=−0.04 *8* (1986Hu02).
[x]823.3 *3*	4					Q	A_2=+0.26 *10*, A_4=−0.16 *16* (1986Hu02).
[x]829.8 *3*	1.0					D	A_2=−0.49 *20* (1986Hu02).
[x]838.9[&] *3*	2.4[a]					D	A_2=−0.35 *20* (1986Hu02).
842.8[&c] *3*	[@]	6855.4?	(25−)	6012.6	23−		
[x]846.9[&] *3*	[@]						
882.2 *3*	2.2	5272.0	(20+)	4389.8	18+		
[x]887.8 *3*	1.8					D	A_2=−0.57 *20* (1986Hu02).
[x]954.4 *3*	5						A_2=+0.14 *15*, A_4=−0.20 *18* (1986Hu02).
[x]969.5 *3*	1.5						A_2=−0.3 *4* (1986Hu02).
[x]979.5 *3*	2.1					D	A_2=−0.33 *10* (1986Hu02).
[x]987.6 *3*	5						A_2=−0.07 *7*, A_4=−0.08 *10* (1986Hu02).
[x]996.6 *3*	1.2					D	A_2=−0.35 *18* (1986Hu02).
1058.7 *3*	2.4	4010.9	15−	2952.1	14+	D	A_2=−0.49 *23*, A_4=+0.0 *3* (1986Hu02).

† From 1986Hu02; uncertainties are 0.2-0.3 keV, depending on Iγ (evaluator assumed 0.2 keV for Iγ≥10, and 0.3 keV for Iγ<10).
‡ From 1986Hu02; arbitrary units, relative to Iγ(422.9)=100. Authors do not specify reaction or bombarding energy. Uncertainties range from 5% to 30%.
# From γ(θ) (1986Hu02), except as noted; stretched Q transitions (large positive A_2 and small negative A_4) were interpreted by 1986Hu02 as stretched E2 (placed gammas only).
@ Intensity determination not possible (1986Hu02).
& Complex peak (wider than normal) (1986Hu02).
a Estimate from coincidence data (1986Hu02).
b From Adopted Gammas.
c Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

(HI,xnγ) 1986Hu02,1995De65

Level Scheme

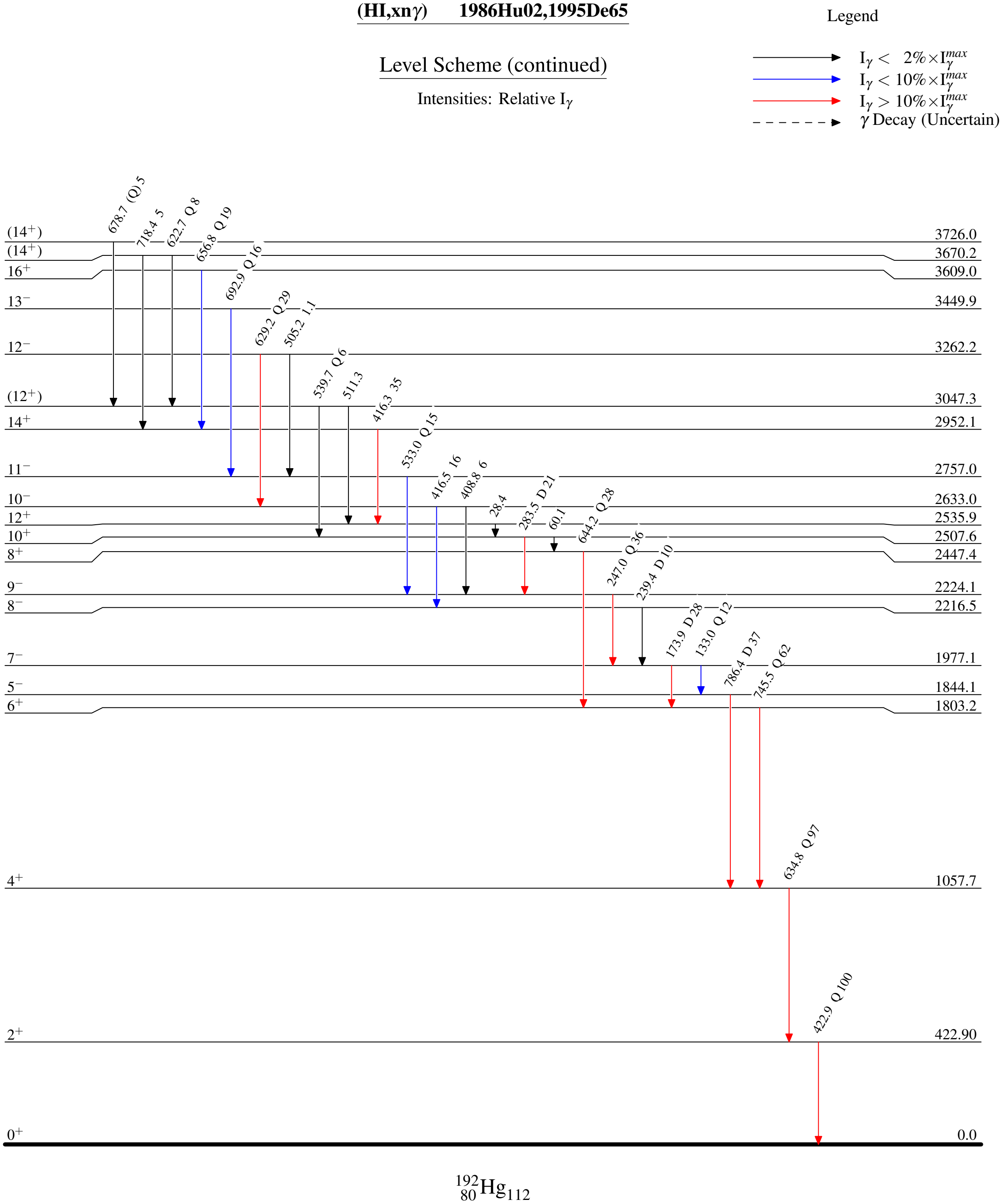
Intensities: Relative I_γ



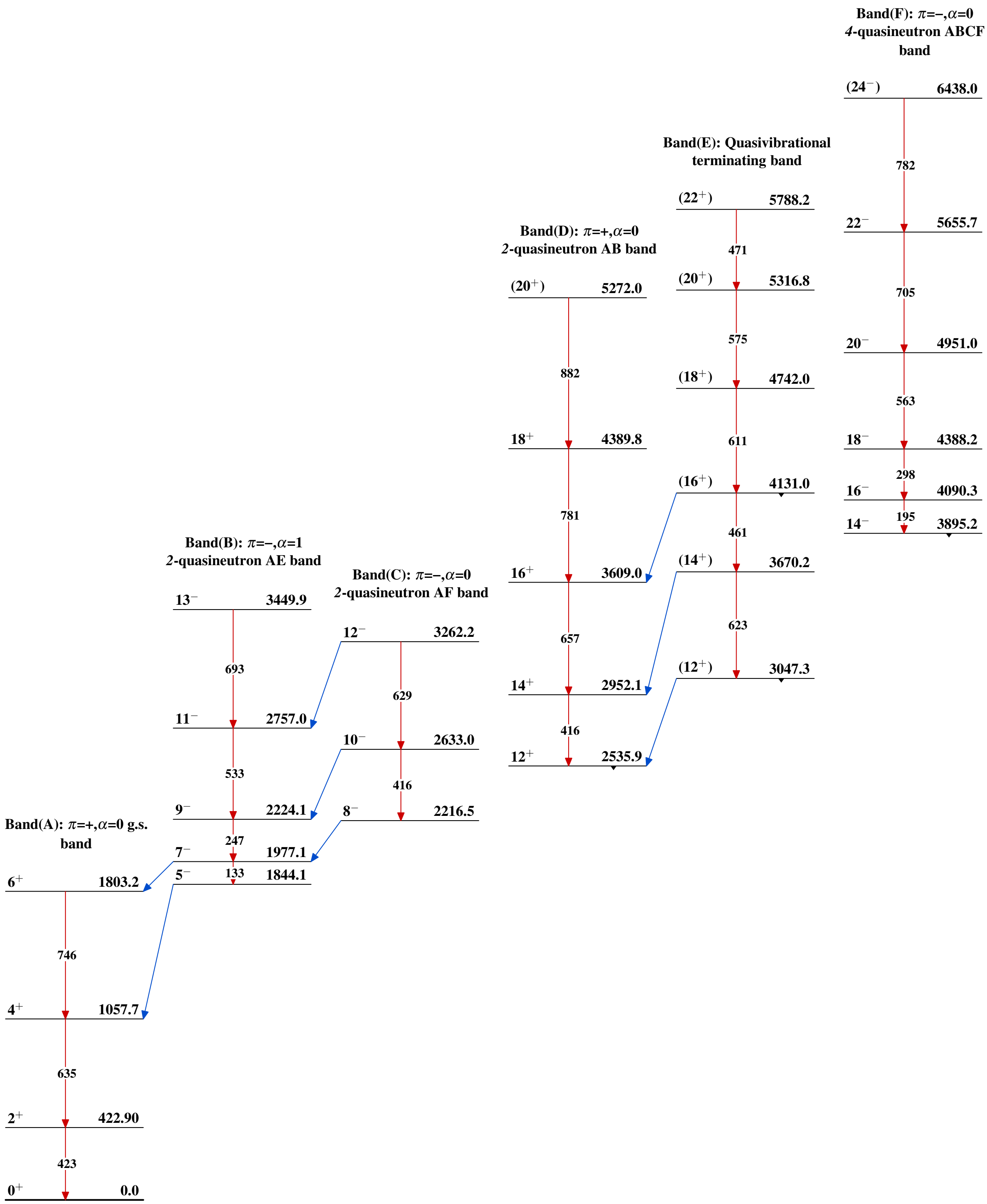
(HI,xnγ) 1986Hu02,1995De65

Level Scheme (continued)

Intensities: Relative I_γ

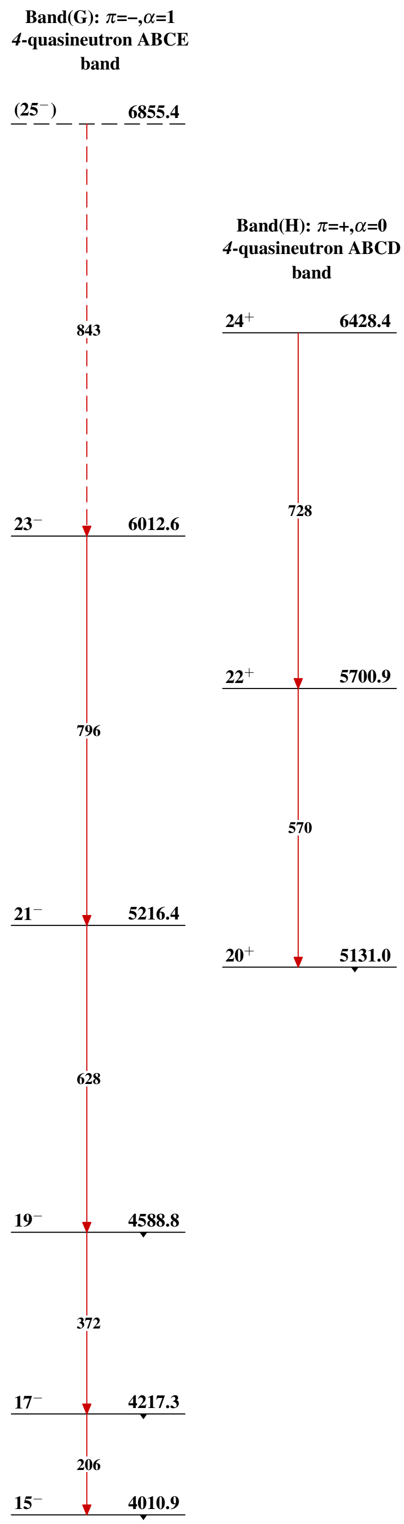


(HI,xnγ) 1986Hu02,1995De65



$^{192}_{80}Hg_{112}$

(HI,xnγ) 1986Hu02,1995De65 (continued)



$^{192}_{80}Hg_{112}$