^{185}Hg ε decay 1982Bo27,1988Ko22,1988Pa15

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	S. -c. Wu	NDS 106, 619 (2005)	1-Nov-2005

Parent: ^{185}Hg: E=0.0; J$^{\pi}$=1/2^{-}; T$_{1/2}$=49.1 s *10*; Q(ε)=5690 *30*; %ε+%β^{+} decay=94 *1*
Parent: ^{185}Hg: E=99 *8*; J$^{\pi}$=13/2^{+}; T$_{1/2}$=21.6 s *15*; Q(ε)=5690 *30*; %ε+%β^{+} decay=46 *10*

1982Bo27: mass-separated sources of ^{185}Hg produced by ^{197}Au(p,xn). Measured Eγ, Iγ, γγ coin, E(ce), Ice. Detectors: Ge(Li), Si(Li), magnetic spectrograph. γ-ray data are from a source which contained both ^{185}Hg(49 s) and ^{185}Hg(21 s). For most γ rays the intensities could not be separated; therefore, ε populations to levels in ^{185}Au were not deduced. %ε+%β^{+}=46 *10* for ^{185}Hg(21 s) is deduced by 1982Bo27 from IT decay and decay scheme information.

1988Pa15, 1988Ko22: mass-separated sources of ^{185}Hg produced by ^{176}Hf(^{16}O,7n), E=140 MeV. Measured Eγ, Iγ, γγ coin, γ-ce coin. Detectors: Ge(Li), Si(Li). 1988Pa15 report multipolarities for a few transitions only. 1988Ko22 report no tabular data. Others: 1985Ab03, 1983Be48.

^{185}Au Levels

The systematics of the level structure in odd-mass ^{195}Au, ^{193}Au, ^{191}Au, and ^{189}Au has been extended to ^{187}Au and ^{185}Au (1988Ko22,1988Pa15). The level scheme presented here is that suggested by these authors, with most of the γ-ray data from 1982Bo27.

E(level)†‡	J$^{\pi}$#	T$_{1/2}$	Comments
0.0	5/2^{-}	4.25 min *6*	T$_{1/2}$: from Adopted Levels.
8.9 *1*	(9/2)$^{-}$	4.8 ns *4*	T$_{1/2}$: from ce-ce(t) (1983Be48).
23.6 *1*	(1/2)$^{+}$		
35.78 *5*	(3/2)$^{-}$	0.54 ns *5*	T$_{1/2}$: from ce-ce(t) (1985Ab03).
40.8 *1*	(3/2)$^{+}$	7 ns *2*	T$_{1/2}$: from ce-ce(t) (1983Be48).
107.5 *1*	(7/2)$^{-}$	0.37 ns *4*	T$_{1/2}$: from ce-ce(t) (1983Be48).
213.7 *1*	(3/2)$^{+}$		
220.1 *1*	(11/2^{-})	26 ns *2*	T$_{1/2}$: from ce-ce(t) (1983Be48).
221.3 *1*	(13/2)$^{-}$		
233.9 *1*	(5/2)$^{+}$		
258.7 *7*	(3/2,5/2)$^{-}$		
280.0 *1*	(1/2)$^{-}$		
288.5 *1*	5/2^{-}		
291.1 *2*	(5/2)$^{+}$		
301.2 *1*	(11/2)$^{-}$		
322.0 *6*	(9/2)$^{-}$		
330.3 *1*	(7/2)$^{-}$		
388.0 *1*	(3/2)$^{-}$		
429.8? *2*	3/2^{-},5/2^{-},7/2^{-}		
439.5 *2*	(7/2)$^{+}$		
490.2 *3*	(7/2)$^{-}$		
535.5 *2*	(5/2,7/2,9/2)$^{-}$		
544.0 *2*	(17/2)$^{-}$		
572.1 *2*	3/2^{-},5/2^{-},7/2^{-}		
583.0 *2*	(9/2)$^{+}$		
595.8 *2*	(1/2,3/2)$^{-}$		
616.6 *2*	(15/2)$^{-}$		
648	(13/2)$^{-}$		
659.7 *3*	$^{-}$		
681.1 *2*	(13/2^{-})		
682.3 *3*	(15/2^{-})		
712.0 *3*	(11/2^{-})		
770	(9/2^{-})		
776.5 *2*	(15/2^{-})		

Continued on next page (footnotes at end of table)

^{185}Hg ε decay 1982Bo27,1988Ko22,1988Pa15 (continued)

^{185}Au Levels (continued)

E(level)[†‡]	Jπ[#]	E(level)[†‡]	Jπ[#]	E(level)[†‡]	Jπ[#]
789.7 *3*	(11/2+)	954.8 *2*		1209.4 *3*	(17/2−)
836.3 *2*		1028.5 *2*	(13/2−)	1229.3 *3*	
838.2 *3*		1040.7 *2*	(17/2+)	1233?	(5/2−)
860.3 *2*	(13/2+)	1060.2 *2*		1298.3 *3*	
863.4 *3*	(1/2−,3/2−,5/2−)	1072.4 *3*	(3/2−)	1309.7 *2*	

† Calculated by evaluator from a least-squares fit to γ-ray energies.
‡ Populated by ^{185}Hg(50 s) and/or ^{185}Hg(28 s) ε decay.
# From Adopted Levels.

γ(^{185}Au)

E_γ [d]	I_γ [†]	E_i(level)	J^π_i	E_f	J^π_f	Mult. [a]	δ [a]	α [f]	Comments
8.9		8.9	(9/2)$^-$	0.0	5/2$^-$	(E2)			E_γ: from ce data, magnetic spectrometer (1983Be48,1987KiZV). Mult.: reported by 1987KiZV from ce data.
17.17 *3*		40.8	(3/2)$^+$	23.6	(1/2)$^+$	M1+E2	0.13 +*5*−*9*	6.6×10^2 *37*	I(γ+ce)=525 *175* from ΣIce (1982Bo27). δ: from ce(M1):ce(M2):ce(M3) exp=52 *22*:17:18 (1982Bo27). Placement in level scheme based on 193γ-105γ coin (1988Ko22).
23.6 *1*	≈0.06	23.6	(1/2)$^+$	0.0	5/2$^-$	M2		1.45×10^4	α(L)= 1.06×10^4; α(M)= 2884 I(γ+ce)=900 from ΣIce (1982Bo27). I_γ: from I(γ+ce) and α. Mult.: from ce(L1):ce(L2):ce(L3):ce(M1):ce(M2):ce(M3) exp=460:23:260:110:13:78 (1982Bo27).
35.75 *5*	≈4.9	35.78	(3/2)$^-$	0.0	5/2$^-$	M1+E2	0.50	155	α(L)= 116; α(M)= 29.3 I(γ+ce)=770 from ΣIce (1982Bo27). I_γ: from I(γ+ce) and α. δ: from ce(L1):ce(L2):ce(L3):ce(M1):ce(M2):ce(M3) exp=100:230:250:18:50:70 (1982Bo27). δ=0.31 (1985Ab03). Placement in levels scheme based on 36γ-253γ, and 253γ-283γ coin (1988Ko22).
^{x}97.4 *1*	1.6 *5*								
98.5 *1*	8.4 *25*	107.5	(7/2)$^-$	8.9	(9/2)$^-$	M1		7.88	α(K)= 6.46; α(L)= 1.08; α(M)= 0.252; α(N+..)= 0.0802 Mult.: from α(K)exp=6.7 (1982Bo27).
107.4 *1*	4.0 *12*	107.5	(7/2)$^-$	0.0	5/2$^-$	M1+E2	1.2	4.84	α(K)= 2.44; α(L)= 1.80; α(M)= 0.459; α(N+..)= 0.144 δ: from α(K)exp=2 (1982Bo27).
107.8 *1*	6 *2*	388.0	(3/2)$^-$	280.0	(1/2)$^-$	M1+E2	0.58	5.52	α(K)= 3.89; α(L)= 1.24; α(M)= 0.304; α(N+..)= 0.0960 δ: from α(K)exp=4.5 (1982Bo27).
^{x}119.1 *2*	0.7 *2*					(M1+E2)		3.6 *10*	α(K)= 2.1 *16*; α(L)= 1.1 *6*; α(M)= 0.27 *14*; α(N+..)= 0.09 *4* Mult.: from α(K)exp≈3 (1982Bo27).
124.1 *2*	3[#] *1*	659.7	$^-$	535.5	(5/2,7/2,9/2)$^-$	M1+E2	0.65	3.51	α(K)= 2.49; α(L)= 0.770; α(M)= 0.189; α(N+..)= 0.0596 δ: from α(K)exp=2.2 (1982Bo27).
^{x}125.1 *2*	2.4[#] *7*					M1+E2	0.65	3.42	α(K)= 2.44; α(L)= 0.748; α(M)= 0.183; α(N+..)= 0.0579 δ: from α(K)exp=2.2 (1982Bo27).
129.1 *1*	13.1[#] *13*	388.0	(3/2)$^-$	258.7	(3/2,5/2)$^-$	M1+E2	0.65	3.11	α(K)= 2.23; α(L)= 0.666; α(M)= 0.163; α(N+..)= 0.0514

γ(^{185}Au) (continued)

Eγ[d]	Iγ[†]	Ei(level)	$J^π_i$	Ef	$J^π_f$	Mult.[a]	δ[a]	α[f]	Comments
									δ: from α(K)exp=2; ce(K):ce(L1):ce(L2):ce(L3) exp=26:4.5: <0.7: <0.7 (1982Bo27).
[x]130.6 *2*	0.7 *2*					M1		3.51	α(K)= 2.88; α(L)= 0.483; α(M)= 0.112; α(N+..)= 0.0356 Mult.: from α(K)exp=3.5 (1982Bo27).
143[&]		583.0	(9/2)$^+$	439.5	(7/2)$^+$				
[x]146.4 *2*	2.0 *7*					M1		2.54	α(K)= 2.09; α(L)= 0.348; α(M)= 0.0807; α(N+..)= 0.0256 Mult.: from α(K)exp=2.2 (1982Bo27).
[x]152.8 *2*	3.0 *9*					M1(+E2)	1.0	1.62	α(K)= 1.09; α(L)= 0.404; α(M)= 0.1000; α(N+..)= 0.0314 Mult.: from α(K)exp=1; ce(K):ce(L1)+ce(L2) exp=3:2 (1982Bo27).
[x]164.9 *2*	2.4 *7*								
[x]165.8 *2*	2.7 *8*								
178.5 *1*	4.5 *5*	838.2		659.7	$^-$				
180.5 *2*		1040.7	(17/2$^+$)	860.3	(13/2$^+$)	E2		0.543	α(K)= 0.220; α(L)= 0.241; α(M)= 0.0619; α(N+..)= 0.0193 Mult.: from (HI,xnγ) (1979De03).
181.0 *1*	8.6[#] *9*	288.5	5/2$^-$	107.5	(7/2)$^-$				
190.1 *1*	49[#] *5*	213.7	(3/2)$^+$	23.6	(1/2)$^+$	M1(+E2)	0.5 *+3−5*	1.06 *23*	α(K)= 0.84 *24*; α(L)= 0.17 *5*; α(M)= 0.042 *12*; α(N+..)= 0.0130 *10* Mult.: from α(K)exp=0.85 (1982Bo27).
193.0 *1*	42 *4*	233.9	(5/2)$^+$	40.8	(3/2)$^+$	M1+E2	1.0	0.795	α(K)= 0.570; α(L)= 0.170; α(M)= 0.0416; α(N+..)= 0.0130 δ: from α(K)exp=0.58; ce(K):ce(L1)+ce(L2):ce(L3) exp=24:3.5:0.6 (1982Bo27).
193.7 *1*	13.5 *14*	301.2	(11/2)$^-$	107.5	(7/2)$^-$	E2		0.424	α(K)= 0.185; α(L)= 0.178; α(M)= 0.0457; α(N+..)= 0.0142 Mult.: from α(K)exp=0.15; ce(K)/ce(L1)+ce(L2) exp=3.3 (1982Bo27).
199.1		490.2	(7/2)$^-$	291.1	(5/2)$^+$	E1			From 1988Ko22.
205.2 *2*	8.4 *8*	535.5	(5/2,7/2,9/2)$^-$	330.3	(7/2)$^-$	M1(+E2)[b]			Mult.: from α(K)exp=1.3; ce(K)/ce(L1)+ce(L2) exp=6.9 (1982Bo27). Theoretical α(K)(M1)=0.806.
205.7 *2*	6.4 *6*	439.5	(7/2)$^+$	233.9	(5/2)$^+$	M1+E2			Mult.: from γce (1988Ko22). (E2) from α(K)exp=0.18 (1982Bo27).
210.4 *1*	12.4 *12*	233.9	(5/2)$^+$	23.6	(1/2)$^+$	(E2)		0.319	α(K)= 0.151; α(L)= 0.126; α(M)= 0.0322; α(N+..)= 0.01001 Mult.: from α(K)exp≈0.17 (1982Bo27).
211.2 *1*	47[@] *5*	220.1	(11/2$^-$)	8.9	(9/2)$^-$	M1		0.905	α(K)= 0.744; α(L)= 0.124; α(M)= 0.0286; α(N+..)= 0.00900 Mult.: from α(K)exp=0.63; ce(K)/ce(L1)+ce(L2) exp=3.8 (1982Bo27).

γ(^{185}Au) (continued)

E_γ[d]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[f]	Comments
212.5 *1*	55[@] *5*	221.3	(13/2)$^-$	8.9	(9/2)$^-$	E2		0.309	α(K)= 0.147; α(L)= 0.121; α(M)= 0.0309; α(N+..)= 0.00960 Mult.: from α(K)exp=0.16; ce(K)/ce(L1)+ce(L2) exp ≈1.5 (1982Bo27).
222.8[h] *1*	94.3[h#] *6*	258.7	(3/2,5/2)$^-$	35.78	(3/2)$^-$	M1+E2	0.58	0.650	α(K)= 0.513; α(L)= 0.105; α(M)= 0.0248; α(N+..)= 0.00777 I_γ: from Iγ(222.8γ doublet)=100 and Iγ(222.8γ from 330 level)=5.7 *6* (1988Pa15). δ: from α(K)exp=0.51; ce(K):ce(L1):ce(L2):ce(L3) exp=51:7.7:2:1.4 (1982Bo27).
222.8[h] *1*	5.7[h‡] *6*	330.3	(7/2)$^-$	107.5	(7/2)$^-$	M1+E2[‡]			I_γ: $\gamma\gamma$ and γce measurements involving the 222.8γ from the 330 level give Iγ(222.8γ)=7.1 *15* (from Iγ(222.8γ)/Iγ(193.7γ)=0.53 *10*) and Iγ(222.8γ)=5.5 *6* (from Iγ(222.8γ)/Iγ(321.4γ)/Iγ(330.2γ)=100/161 *16*/224 *22*) (1988Pa15). Iγ(222.8γ)=5.7 *6* is a weighted average of these values. Mult.: from α(K)exp=0.51 *+18−19* (1988Pa15).
[x]239.6 *2*	8.4[#] *8*					M1		0.638	α(K)= 0.524; α(L)= 0.0870; α(M)= 0.0201; α(N+..)= 0.00630 Mult.: from α(K)exp=0.6 (1982Bo27).
[x]243.1 *2*	≈9					M1+E2			Mult.: from α(K)exp≈0.3 (1982Bo27).
243.6 *2*	≈4	860.3	(13/2$^+$)	616.6	(15/2)$^-$				
244.2 *1*	42 *4*	280.0	(1/2)$^-$	35.78	(3/2)$^-$	M1		0.605	α(K)= 0.497; α(L)= 0.0826; α(M)= 0.0191; α(N+..)= 0.00598 Mult.: from α(K)exp=0.47 (1982Bo27).
250.3 *2*	37[#] *4*	291.1	(5/2)$^+$	40.8	(3/2)$^+$	M1		0.565	α(K)= 0.465; α(L)= 0.0771; α(M)= 0.0178; α(N+..)= 0.00558 Mult.: from α(K)exp=0.47; ce(K)/ce(L) exp=6.8 (1982Bo27).
[x]252.7 *1*	7.0[#] *7*					M1+E2	0.58	0.456	α(K)= 0.363; α(L)= 0.0712; α(M)= 0.0168; α(N+..)= 0.00525 Mult.: from α(K)exp=0.38; ce(K):ce(L) exp=2.6:0.8 (1982Bo27).
258.7 *1*	92[#] *9*	258.7	(3/2,5/2)$^-$	0.0	5/2$^-$	M1		0.516	α(K)= 0.425; α(L)= 0.0703; α(M)= 0.0163; α(N+..)= 0.00509 Mult.: from α(K)exp=0.43 (1982Bo27).
264.6		1040.7	(17/2$^+$)	776.5	(15/2$^-$)	D			E_γ,Mult.: from 1986La08; $\gamma(\theta)$. Level scheme requires E1.
267.6[i] *2*	5.4 *5*	863.4	(1/2$^-$,3/2$^-$,5/2$^-$)	595.8	(1/2,3/2)$^-$	M1+E2			Mult.: from α(K)exp≈0.24 (1982Bo27).
270.1 *2*	9.8[#] *10*	490.2	(7/2)$^-$	220.1	(11/2$^-$)	E2		0.142	α(K)= 0.0811; α(L)= 0.0461; α(M)= 0.0116; α(N+..)= 0.00362 Mult.: E1 or E2 from α(K)exp=0.06 (1982Bo27). E2 from γce (1988Ko22).
[x]276.6 *2*	2.7 *3*					M1		0.430	α(K)= 0.354; α(L)= 0.0585; α(M)= 0.0135; α(N+..)=

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γ(^{185}Au) (continued)

E_γ[d]	I_γ[†]	E_i(level)	J_i^π	E_f	J_f^π	Mult.[a]	δ[a]	α[f]	Comments
									0.00422 Mult.: from α(K)exp≈0.4 (1982Bo27).
280		770	(9/2⁻)	490.2	(7/2)⁻				From 1988Ko22.
280.1[i] *2*	9 *1*	280.0	(1/2)⁻	0.0	5/2⁻	(E2)		0.127	α(K)= 0.0741; α(L)= 0.040; α(M)= 0.01008; α(N+..)= 0.00314 Mult.: from α(K)exp≈0.07 (1982Bo27).
283.4 *2*	8.2[#] *8*	572.1	3/2⁻,5/2⁻,7/2⁻	288.5	5/2⁻	M1(+E2)			Mult.: from α(K)exp=0.3 (1982Bo27).
288.7 *2*	19.8[#] *20*	288.5	5/2⁻	0.0	5/2⁻	E0+(M1)		≈0.4[e]	Mult.: from γce (1988Ko22). α(K)exp≈0.4 (1982Bo27).
292[&]		583.0	(9/2)⁺	291.1	(5/2)⁺				
292.4 *2*	34[@] *4*	301.2	(11/2)⁻	8.9	(9/2)⁻	M1+E2	1.5	0.191	α(K)= 0.140; α(L)= 0.0390; α(M)= 0.00948; α(N+..)= 0.00295 δ: from α(K)exp=0.15 (1982Bo27).
302.9 *2*	3.3 *3*	838.2		535.5	(5/2,7/2,9/2)⁻				
ˣ309.0 *2*	2.2 *2*								
313.2	10 *1*	322.0	(9/2)⁻	8.9	(9/2)⁻	E0+M1[b]			Mult.: from α(K)exp(313 doublet)=0.58 *+35−15*, γce (1988Pa15).
313.2	10 *1*	595.8	(1/2,3/2)⁻	280.0	(1/2)⁻	M1(+E2)[b]			Mult.: from α(K)exp(doublet)=0.58 *+35−15*, γce (1988Pa15).
315.3 *2*	9.7[@] *10*	616.6	(15/2)⁻	301.2	(11/2)⁻	E2		0.0894	α(K)= 0.0554; α(L)= 0.0256; α(M)= 0.00641; α(N+..)= 0.00199 Mult.: from (HI,xnγ) (1979De03). α(K)exp=0.06.
321.4 *2*	7.0[‡] *7*	330.3	(7/2)⁻	8.9	(9/2)⁻	M1+E2[‡]			Mult.: from α(K)exp=0.17 *+6−8* (1988Pa15).
322[&]		322.0	(9/2)⁻	0.0	5/2⁻	E2			Mult.: from γce (1988Pa15).
322.7 *2*	10.2 *10*	544.0	(17/2)⁻	221.3	(13/2)⁻	E2		0.0835	α(K)= 0.0523; α(L)= 0.0235; α(M)= 0.00588; α(N+..)= 0.00183 Mult.: from (HI,xnγ) (1979De03). α(K)exp=0.04.
ˣ325.2 *2*	10.9[@] *11*					M1		0.277	α(K)= 0.228; α(L)= 0.0375; α(M)= 0.00867; α(N+..)= 0.00270 Mult.: from α(K)exp=0.27 (1982Bo27).
326		648	(13/2)⁻	322.0	(9/2)⁻	E2			From 1988Pa15.
330.2 *2*	14.2[#] *14*	330.3	(7/2)⁻	0.0	5/2⁻	M1+E2			Iγ=14.2 *14* (1982Bo27). Mult.: from α(K)exp=0.19 *+6−7* (1988Pa15).
ˣ331.7 *2*	≈2.1								
ˣ336.7 *2*	30[#] *3*					M1		0.252	α(K)= 0.208; α(L)= 0.0342; α(M)= 0.00789; α(N+..)= 0.00246 Mult.: from α(K)exp=0.21 (1982Bo27).
ˣ340.2 *2*	2.5 *3*					E1		0.0202	α(K)= 0.0167; α(L)= 0.00269; α(M)= 0.000617; α(N+..)= 0.000189 Mult.: from α(K)exp≈0.02 (1982Bo27).
ˣ345.2 *2*	0.50 *5*								
347.5 *2*	12.2[#] *12*	1028.5	(13/2⁻)	681.1	(13/2⁻)	(E0+M1)		0.21[e]	Mult.: from γce (1988Pa15). M1 from α(K)exp=0.21 (1982Bo27).

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γ(^{185}Au) (continued)

E_γ[d]	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[a]	α[f]	Comments
349.0 *2*	17.6[#] *18*	583.0	(9/2)$^+$	233.9	(5/2)$^+$	E2	0.0668	α(K)= 0.0433; α(L)= 0.0177; α(M)= 0.00440; α(N+..)= 0.00137 Mult.: from α(K)exp=0.054 (1982Bo27).
350.2 *2*	4.8[#] *5*	789.7	(11/2$^+$)	439.5	(7/2)$^+$	(E2)	0.0661	α(K)= 0.0430; α(L)= 0.0175; α(M)= 0.00435; α(N+..)= 0.00135 Mult.: from α(K)exp≈0.06 (1982Bo27).
352.0		388.0	(3/2)$^-$	35.78	(3/2)$^-$			E_γ: from 1988Ko22.
^{x}361.6 *2*	3.3 *3*							
^{x}365.1 *2*	1.6 *2*							
^{x}366.9 *2*	8.8[@] *9*					(E2)	0.0581	α(K)= 0.0384; α(L)= 0.0148; α(M)= 0.00368; α(N+..)= 0.00114 Mult.: E1 or E2 from α(K)exp<0.03 (1982Bo27).
369.0 *2*	1.8 *2*	1229.3		860.3	(13/2$^+$)			
^{x}371.6 *2*	3.0 *3*							
^{x}376.5 *2*	1.6 *2*							
^{x}377.5 *2*	3.3 *3*							
^{x}382.9 *2*	1.6 *2*							
^{x}384.8 *2*	2.0 *2*							
388.3 *2*	2.8 *3*	388.0	(3/2)$^-$	0.0	5/2$^-$	M1		Mult.: from γce (1988Ko22).
^{x}389.5 *2*	2.2 *2*							
^{x}391.8 *2*	2.7 *3*							
395.2 *2*	4.1 *4*	616.6	(15/2)$^-$	221.3	(13/2)$^-$	E2(+M1)		Mult.: from α(K)exp≈0.04 (1982Bo27).
398.7 *2*	13.3 *13*	439.5	(7/2)$^+$	40.8	(3/2)$^+$	E2	0.0464	α(K)= 0.0317; α(L)= 0.0111; α(M)= 0.00275; α(N+..)= 0.000855 Mult.: from α(K)exp≈0.03 (1982Bo27). γ ce coin (1988Ko22).
^{x}401.8 *2*	3.5 *4*							
^{x}403.4 *2*	3.1 *3*							
^{x}412.6 *2*	1.7 *2*							
^{x}414.8 *2*	1.7 *2*							
^{x}416.2 *2*	10.5 *10*							
^{x}417.9 *2*	3.0 *3*							
^{x}421.8 *2*	1.8 *2*							
424.1 *2*	3.5 *4*	1040.7	(17/2$^+$)	616.6	(15/2)$^-$	D		
426.6	1.8 *2*	648	(13/2)$^-$	221.3	(13/2)$^-$	E0+M1[b]		Mult.: from α(K)exp=0.33 +*3*−*9*, γce (1988Pa15).
429.8[i] *2*	10.0 *10*	429.8?	3/2$^-$,5/2$^-$,7/2$^-$	0.0	5/2$^-$	E2+M1		Mult.: from α(K)exp≈0.04 (1982Bo27).
^{x}433.2 *2*	3.7 *4*							
438.0 *3*	2.3 *2*	1298.3		860.3	(13/2$^+$)			
^{x}449.0 *2*	2.1 *2*							
^{x}451.9 *2*	5.6 *6*					M1	0.115	α(K)= 0.0945; α(L)= 0.0155; α(M)= 0.00357; α(N+..)= 0.00112 Mult.: from α(K)exp≈0.11 (1982Bo27).
^{x}455.5 *2*	1.6 *2*							
^{x}459.5 *2*	1.6 *2*							
461.0 *2*	17.1[@] *17*	681.1	(13/2$^-$)	220.1	(11/2$^-$)	M1+E2		Mult.: from α(K)exp=0.04 (1982Bo27).

γ(^{185}Au) (continued)

E_γ[d]	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f	Mult.[a]	α[f]	Comments
462.2 *2*	8.7[@] *9*	682.3	(15/2⁻)	220.1	(11/2⁻)	E2	0.0317	α(K)= 0.0226; α(L)= 0.00683; α(M)= 0.00168; α(N+..)= 0.000521 Mult.: from α(K)exp=0.02 (1982Bo27).
[x]464.3 *2*	3.1 *3*							
[x]473.6 *2*	8.4 *8*							
[x]480.0 *2*	13.2 *13*							
491.9 *2*	3.8 *4*	712.0	(11/2⁻)	220.1	(11/2⁻)	E0+M1[b]	0.21[e] *6*	Mult.: from α(K)exp=0.21 *6*, γce (1988Pa15).
[x]524.6 *2*	1.4 *1*							
527.1 *2*	1.5 *1*	1209.4	(17/2⁻)	682.3	(15/2⁻)			
[x]536.1[i] *2*	11.7 *12*							
[x]542.3[i] *22*	0.80 *8*							
[x]545.2[i] *2*	5.4 *5*							
550		770	(9/2⁻)	220.1	(11/2⁻)			Placed in level scheme by 1988Ko22.
[x]550.8 *2*	6.8 *7*							
555.2 *2*	5.9 *6*	776.5	(15/2⁻)	221.3	(13/2)⁻			
558.9 *2*	16.2 *16*	860.3	(13/2⁺)	301.2	(11/2)⁻			
[x]561.1 *2*	1.5 *1*							
[x]564.3 *2*	1.1 *1*							
572.2[gi] *2*	3.0[g] *3*	572.1	3/2⁻,5/2⁻,7/2⁻	0.0	5/2⁻			
572.2[gi] *2*	3.0[g] *3*	595.8	(1/2,3/2)⁻	23.6	(1/2)⁺			
[x]576.9 *2*	2.0 *2*							
[x]578.8 *2*	2.7 *3*							
[x]580.5 *2*	5.6 *6*							
582.2 *2*	5.2 *5*	1072.4	(3/2⁻)	490.2	(7/2)⁻			
[x]588.6 *2*	1.4 *1*							
[x]593.5 *2*	11.4 *11*							
[x]600.0 *2*	3.6 *4*							
[x]604.6 *2*	1.6 *2*							
[x]605.7 *2*	3.6 *4*							
[x]612.8 *2*	3.0 *3*							
[x]614.3 *2*	4.7 *5*							
[x]622.5 *2*	4.0 *4*							
[x]631.0 *2*	2.0 *2*							
639.2 *2*	3.1 *3*	860.3	(13/2⁺)	221.3	(13/2)⁻			
653.6 *2*	1.1 *1*	954.8		301.2	(11/2)⁻			
674.7 *2*	4.3 *4*	954.8		280.0	(1/2)⁻			
[x]682.5[i] *2*	1.0 *1*							
743[&i]		1233?	(5/2⁻)	490.2	(7/2)⁻			
[x]746.7 *2*	2.1 *2*							
[x]750.0 *2*	2.3 *2*							
[x]756.7 *2*	2.4 *2*							
[x]770.0 *2*	5.4 *5*							
[x]772.9[i] *2*	2.2 *2*							

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γ(^{185}Au) (continued)

E_γ[d]	I_γ[†]	E_i(level)	J^π_i	E_f	J^π_f
[x]776.1 2	2.0 2				
[x]777.9 2	6.2 6				
[x]790.6 2	2.4 2				
[x]804.5 2	5.7[c] 6				
808.4[i] 2	1.2 1	1028.5	(13/2$^-$)	220.1	(11/2$^-$)
[x]821.1[i] 2	0.50 5				
827.3[i] 2	1.6[c] 2	836.3		8.9	(9/2)$^-$
[x]831.3 2	7.4 7				
836.3 2	6.4 6	836.3		0.0	5/2$^-$
[x]840.2 2	8.7 9				
[x]867.9 2	4.9 5				
[x]871.6 2	2.2 2				
[x]875.5 2	3.4 3				
[x]898.2 2	5.9 6				
[x]918.9 2	3.9 4				

E_γ[d]	I_γ[†]	E_i(level)	E_f	J^π_f
[x]957.3 2	2.0 2			
[x]992.4 2	7.5 8			
[x]997.1 2	2.9 3			
[x]1000.8[i] 2	1.8 2			
[x]1007.2 2	2.0 2			
[x]1014.4 2	2.2 2			
[x]1027.2 2	4.2 4			
1036.6[i] 2	3.1 3	1060.2	23.6	(1/2)$^+$
[x]1055.6 2	2.4 2			
[x]1114.5 2	2.0 2			
[x]1164.7 2	2.5 3			
[x]1250.2[i] 2	2.2 2			
[x]1258.4 2	2.5 3			
1286.1[i] 2	3.4 3	1309.7	23.6	(1/2)$^+$

[†] From a mixed ^{185}Hg(49 s)-^{185}Hg(21 s) source.

[‡] Iγ in coincidence with 205γ. Multipolarity determined from Iγ and Ice measured in coincidence with 205γ (1988Pa15). The possibility of an E0 component, previously suggested by 1987ZgZZ and 1987PaZR, has been discarded by 1988Pa15 who determine more reliable experimental conversion coefficients. See 1989Ki06 for measurements of low-energy conversion electrons (no tabular data reported).

[#] Based on the decay scheme, the main feeding is from ^{185}Hg ε decay (49 s).

[@] Based on the decay scheme, the main feeding is from ^{185}Hg ε decay (21 s).

[&] From level energy difference (1988Ko22,1988Pa15).

[a] Derived by 1982Bo27 from experimental α and ce subshell ratios, unless otherwise specified. Uncertainties on Ice and normalization between Ice and Iγ, were not given by the authors.

[b] This transition has α(K)exp>α(K)(M1, theory). 1982Bo27 interpret it as an anomalous M1 transition. 1988Pa15, however, describe this transition as an M1 with an E0 component. The decay scheme of 1988Pa15 and 1988Ko22 supports this interpretation, and is consistent with the level structure systematics in other odd-A Au isotopes. 1987ZgZZ and 1987PaZR also support this interpretation, which is a clear signature of shape coexisting bands in ^{185}Au.

[c] Mixed with a γ ray from ^{181}Os ε decay.

[d] From 1982Bo27, unless otherwise specified.

[e] Experimental α(K).

[f] 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.

[g] Multiply placed with undivided intensity.

[h] Multiply placed with intensity suitably divided.

[i] Placement of transition in the level scheme is uncertain.

[x] γ ray not placed in level scheme.

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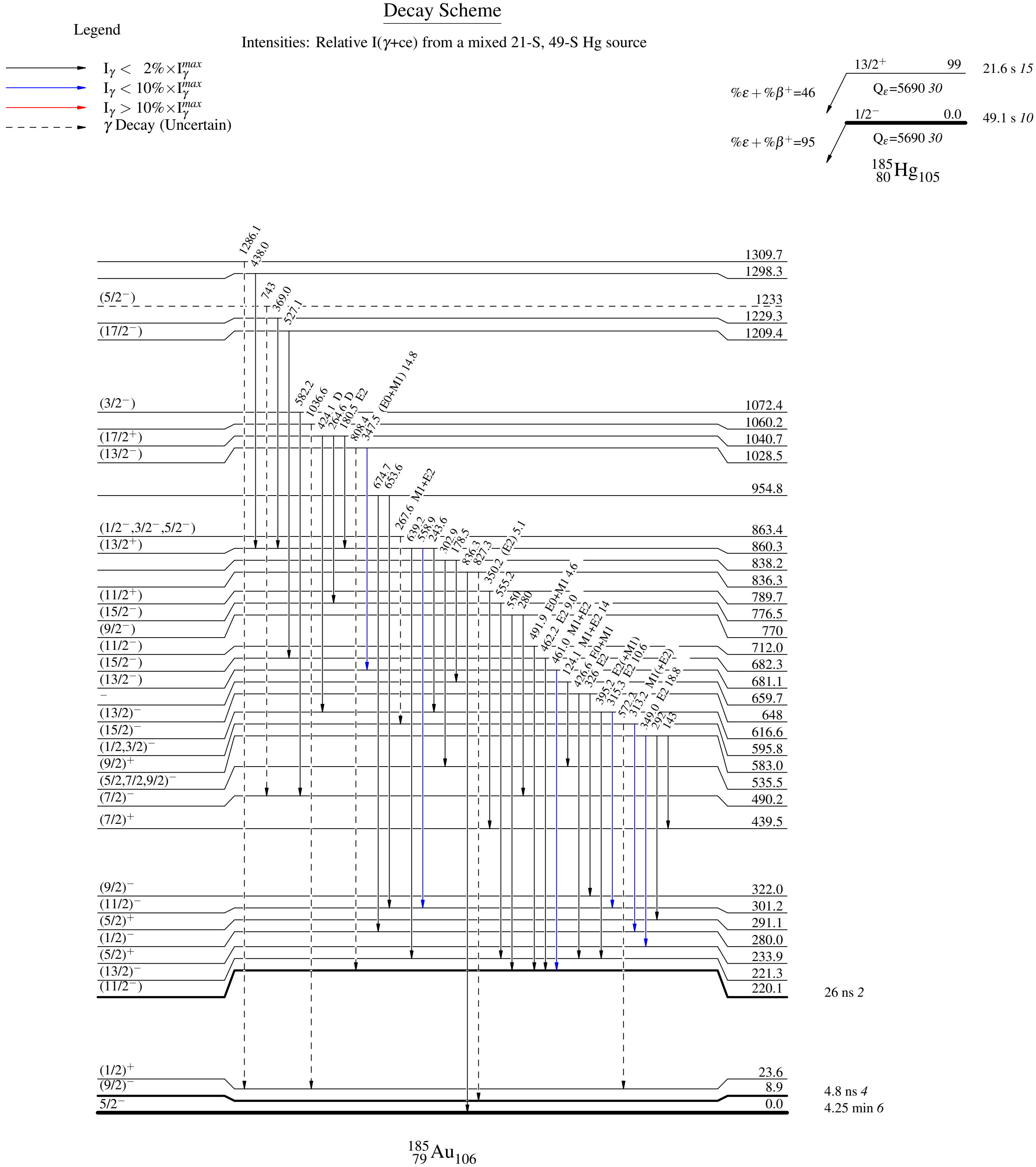
^{185}Hg ε decay 1982Bo27,1988Ko22,1988Pa15

Decay Scheme

Intensities: Relative I(γ+ce) from a mixed 21-S, 49-S Hg source



^{185}Hg ε decay 1982Bo27,1988Ko22,1988Pa15

Decay Scheme (continued)

Legend

Intensities: Relative I(γ+ce) from a mixed 21-S, 49-S Hg source
@ Multiply placed: intensity suitably divided