Coulomb excitation 1979Bo16,1981Gu07,1991Li03

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 192,1 (2023)	1-Aug-2023

1979Bo16:E(α)=11-15 MeV, E(^{16}O)=56 MeV, Winther-deBoer analysis, γ yield from natural Hg relative to ^{198}Hg.
1981Gu07: 95.7% ^{200}Hg, 5 MeV/Amu ^{208}Pb beam; γ-^{208}Pb coin. Ge(Li) and avalanche detectors, $\gamma(\theta)$; Winther-deBoer analysis.
1991Li03: E(^{12}C)=54,55 MeV, 88.9% ^{200}Hg; mag spect.
Others: 1995Br34, 1980Sp05, 1974Do01, 1970Ka09.

^{200}Hg Levels

E(level)†	Jπ‡	$T_{1/2}$#	Comments
0.0	0+	stable	
367.943 *10*	2+	46.4 ps *4*	B(E2)↑=0.853 *7* (1980Sp05) Q=+1.10 *10* μ=+0.65 *5* B(E2)↑: Others: 0.853 *15* in 1979Bo16, 0.95 *11* in 1970Ka09 and 0.855 in 1981Gu07. Q: Weighted average of +1.07 *19* in 1980Sp05 and +1.11 *11* in 1979Bo16. μ: From g=+0.326 *26* in 1995Br34. Others: g=0.40 *7* (1974Do01, but value revised in 1986Ko02), g=0.31 *8* (1970Ka09, but value revised in 1986Ko02), g=0.29 *6* in 1986Ko02, normalized to g(2+)=0.52 in ^{198}Hg.
947.239 *18*	4+	3.21 ps *14*	B(E2)↑=0.477 *21* μ=+1.02 *17* B(E2)↑: Weighted average of 0.466 *47* (1979Bo16) and 0.479 *23* (1981Gu07). μ: From g=+0.254 *43* in 1995Br34.
1029.351 *19*	0+		
1254.102 *18*	2+	3.5 ps *7*	B(E2)↑=0.0080 *15* (1979Bo16) B(E2)↑(2+ to 2+)=0.015 *3* (1979Bo16).
1573.667 *23*	2+		
1706.73 *9*	6+	0.70 ps *6*	B(E2)↑=0.46 *4* (1981Gu07)
1851.48 *10*	5−		
1962.62 *11*	7−		
2610.42 *10*	3−	25.1 ps *24*	B(E3)↑=0.41 *4* (1991Li03)
2680.1 *3*	8+	0.19 ps *4*	B(E2)↑=0.38 *8* (1981Gu07)

† From a least-squares fit to Eγ.
‡ From Adopted Levels.
# From B(E2)↑,B(E3)↑ and the corresponding branching ratios.

γ(^{200}Hg)

E_i(level)	J^π_i	Eγ†	Iγ†	E_f	J^π_f	Mult.†	α‡	Comments
367.943	2+	367.942 *10*	100	0.0	0+	E2	0.0594 *8*	α(K)=0.0388 *5*; α(L)=0.01553 *22*; α(M)=0.00389 *5* α(N)=0.000970 *14*; α(O)=0.0001694 *24*; α(P)=5.08×10^{-6} *7*
947.239	4+	579.300 *17*	100	367.943	2+	E2	0.01905 *27*	α(K)=0.01424 *20*; α(L)=0.00365 *5*; α(M)=0.000888 *12* α(N)=0.0002217 *31*; α(O)=3.99×10^{-5} *6*; α(P)=1.891×10^{-6} *26*
1029.351	0+	661.36 *3*	100	367.943	2+	E2	0.01416 *20*	α(K)=0.01085 *15*; α(L)=0.002524 *35*; α(M)=0.000609 *9* α(N)=0.0001520 *21*; α(O)=2.76×10^{-5} *4*; α(P)=1.439×10^{-6} *20*
1254.102	2+	224.750 *6*	0.37 *4*	1029.351	0+	E2	0.264 *4*	α(K)=0.1276 *18*; α(L)=0.1021 *14*;

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Coulomb excitation 1979Bo16,1981Gu07,1991Li03 (continued)

$\gamma(^{200}Hg)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.†	δ†	α‡	Comments
									α(M)=0.0263 *4* α(N)=0.00653 *9*; α(O)=0.001109 *16*; α(P)=1.603×10^{-5} *22*
1254.102	2$^+$	306.863 *11*	0.24 *2*	947.239	4$^+$	E2		0.0996 *14*	α(K)=0.0597 *8*; α(L)=0.0300 *4*; α(M)=0.00760 *11* α(N)=0.001892 *26*; α(O)=0.000327 *5*; α(P)=7.70×10^{-6} *11*
		886.20 *4*	100 *8*	367.943	2$^+$	E2+M1	−1.79 *17*	0.0108 *5*	α(K)=0.0087 *4*; α(L)=0.00158 *6*; α(M)=0.000370 *15* α(N)=9.3×10^{-5} *4*; α(O)=1.73×10^{-5} *7*; α(P)=1.18×10^{-6} *6*
		1254.14 *10*	45 *4*	0.0	0$^+$	E2		0.00391 *5*	α(K)=0.00318 *4*; α(L)=0.000552 *8*; α(M)=0.0001290 *18* α(N)=3.23×10^{-5} *5*; α(O)=6.02×10^{-6} *8*; α(P)=4.15×10^{-7} *6*; α(IPF)=9.75×10^{-6} *14*
1573.667	2$^+$	319.566 *15*	0.20 *3*	1254.102	2$^+$	(M1+E2)		0.20 *11*	α(K)=0.15 *10*; α(L)=0.034 *8*; α(M)=0.0081 *16* α(N)=0.0020 *4*; α(O)=0.00037 *9*; α(P)=2.1×10^{-5} *14*
		544.21 *7*	0.24 *5*	1029.351	0$^+$	[E2]		0.02201 *31*	α(K)=0.01625 *23*; α(L)=0.00438 *6*; α(M)=0.001070 *15* α(N)=0.000267 *4*; α(O)=4.79×10^{-5} *7*; α(P)=2.156×10^{-6} *30*
		626.52 *10*	0.32 *10*	947.239	4$^+$	[E2]		0.01596 *22*	α(K)=0.01211 *17*; α(L)=0.00293 *4*; α(M)=0.000708 *10* α(N)=0.0001769 *25*; α(O)=3.20×10^{-5} *4*; α(P)=1.607×10^{-6} *23*
		1205.75 *7*	100 *10*	367.943	2$^+$	M1+E2	+0.252 *19*	0.00917 *14*	α(K)=0.00758 *11*; α(L)=0.001217 *18*; α(M)=0.000282 *4* α(N)=7.06×10^{-5} *10*; α(O)=1.338×10^{-5} *20*; α(P)=1.040×10^{-6} *16*; α(IPF)=7.43×10^{-6} *11*
		1573.6 *10*	0.17 *9*	0.0	0$^+$	[E2]		0.00264 *4*	α(K)=0.002105 *30*; α(L)=0.000346 *5*; α(M)=8.03×10^{-5} *11* α(N)=2.009×10^{-5} *28*; α(O)=3.77×10^{-6} *5*; α(P)=2.73×10^{-7} *4*; α(IPF)=8.93×10^{-5} *13*

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Coulomb excitation 1979Bo16,1981Gu07,1991Li03 (continued)

$\gamma(^{200}Hg)$ (continued)

E_i(level)	J_i^π	E_γ†	I_γ†	E_f	J_f^π	Mult.†	α‡	Comments
1706.73	6^+	759.50 *10*	100	947.239	4^+	E2	0.01053 *15*	α(K)=0.00823 *12*; α(L)=0.001757 *25*; α(M)=0.000420 *6* α(N)=0.0001050 *15*; α(O)=1.920×10^{-5} *27*; α(P)=1.089×10^{-6} *15*
1851.48	5^-	904.23 *12*	100	947.239	4^+	E1	0.00277 *4*	α(K)=0.002316 *32*; α(L)=0.000349 *5*; α(M)=8.00×10^{-5} *11* α(N)=1.997×10^{-5} *28*; α(O)=3.75×10^{-6} *5*; α(P)=2.80×10^{-7} *4*
1962.62	7^-	111.12 *12*	2.6 *8*	1851.48	5^-	E2	3.58 *5*	α(K)=0.560 *8*; α(L)=2.257 *34*; α(M)=0.590 *9* α(N)=0.1463 *22*; α(O)=0.0243 *4*; α(P)=8.93×10^{-5} *13*
		255.87 *8*	100 *8*	1706.73	6^+	E1	0.0405 *6*	α(K)=0.0333 *5*; α(L)=0.00558 *8*; α(M)=0.001295 *18* α(N)=0.000322 *5*; α(O)=5.89×10^{-5} *8*; α(P)=3.68×10^{-6} *5*
2610.42	3^-	2610.4 *1*	100	0.0	0^+	(E3)	2.24×10^{-3} *3*	α(K)=0.001539 *22*; α(L)=0.000256 *4*; α(M)=5.95×10^{-5} *8* α(N)=1.490×10^{-5} *21*; α(O)=2.81×10^{-6} *4*; α(P)=2.076×10^{-7} *29*; α(IPF)=0.000371 *5*
2680.1	8^+	716.8 *5*	18 *6*	1962.62	7^-	[E1]	0.00430 *6*	α(K)=0.00358 *5*; α(L)=0.000548 *8*; α(M)=0.0001260 *18* α(N)=3.14×10^{-5} *4*; α(O)=5.89×10^{-6} *8*; α(P)=4.29×10^{-7} *6*
		973.6 *3*	100 *14*	1706.73	6^+	E2	0.00636 *9*	α(K)=0.00510 *7*; α(L)=0.000965 *14*; α(M)=0.0002278 *32* α(N)=5.70×10^{-5} *8*; α(O)=1.053×10^{-5} *15*; α(P)=6.71×10^{-7} *9*

† From adopted gammas.
‡ Additional information 1.

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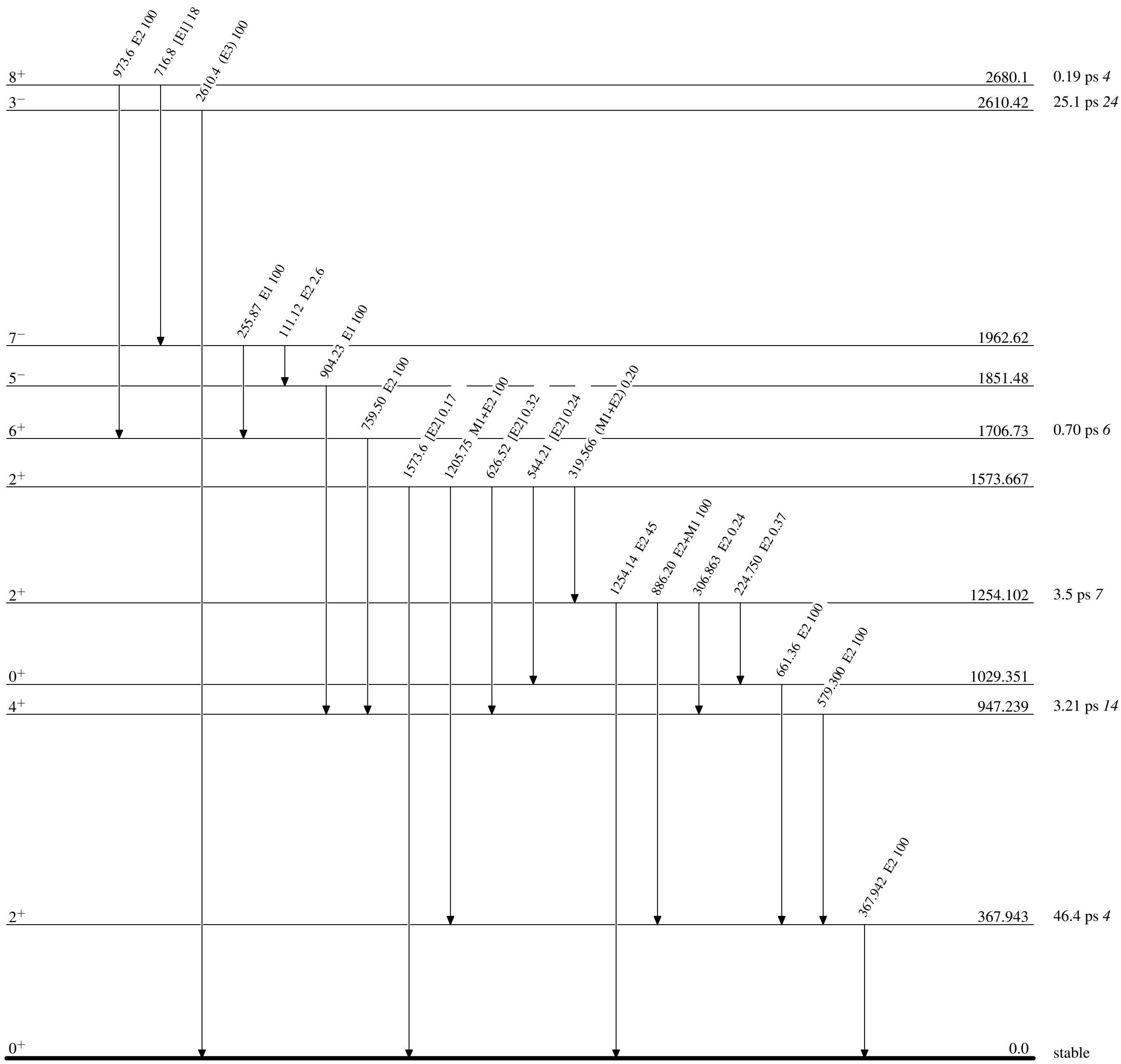
Level Scheme

Intensities: Relative photon branching from each level



$^{200}_{80}Hg_{120}$