Coulomb excitation

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Huang Xiaolong and Kang Mengxiao	NDS 133, 221 (2016)	1-Dec-2015

^{198}Hg(x,x′γ):
X=p; E=4.5 MeV (1956Ba45).
X=α; E=13-16 MeV (1979Bo16).
X=α; E=14.1-18 MeV (1977Es02).
X=^{12}C; E=43-54 MeV (1977Es02).
X=^{16}O; E=56-60 MeV (1979Bo16).
X=^{16}O; E=60-80 MeV (1977Es02).
X=^{16}O; E=63 MeV (1984Fe08).
X=^{32}S; E=100 MeV (1986Ko02).
X=^{58}Ni; E=230 MeV (1984Fe08).
X=^{136}Xe; E=550 MeV (1984Fe08).
X=^{208}Pb; E=1 GeV (1981Gu07).
Others: 1956Da40, 1970Ka09.

^{198}Hg Levels

E(level)†	J$^\pi$‡	$T_{1/2}$#	Comments
0.0	0^+		
411.6 *8*	2^+	23.15 ps *28*	B(E2)=0.990 *12* (adopted in 2001Ra27). g=0.52 *10* (1986Ko02), 0.368 *34* (1990Ba40). Q: 0.82 *12* or 0.66 *12* (1977Es02); 0.80 *18* or 0.66 *18* (1979Bo16); 1.13 *34* (1956Ba45); 0.84 *12* or 0.68 *12* (1984Fe08).
1047.8 *8*	4^+	7.2 ps *3*	B(E2)(412-1048)=0.537 *20*. B(E2): From weighted average of 0.533 *23* (1979Bo16), and 0.553 *43* (1981Gu07).
1087.2 *8*	2^+	40.4 ps *5*	B(E2)(412-1087)=0.070 *5*. B(E2): From average of 0.065 *7*, 0.079 *8* (1979Bo16), and 0.062 *12* (1981Gu07).
1815.1 *13*	6^+	3.4 ps *3*	B(E2)(1048-1815)=0.452 *53* (1981Gu07).
2337.1 *14*	8^+	79 ps *43*	B(E2)(1815-2337)=0.13 *7* (1981Gu07).
2756?	(8^+)	1.8 ps *5*	B(E2)(1815-2756)=0.30 *8* (1981Gu07).

† From level scheme and Eγ′s by using least-squares fit to Eγ values.
‡ From $\gamma(\theta)$ and multiple Coulomb excitation (1981Gu07).
# From B(E2).

$\gamma(^{198}Hg)$

E$_\gamma$†	I$_\gamma$‡	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
411.8	100	411.6	2^+	0.0	0^+	B(E2)↓=0.198 (1981Gu07)
522.0 *5*	0.8 *4*	2337.1	8^+	1815.1	6^+	B(E2)↓=0.10 *5* (1981Gu07)
636.2 *2*	45.6 *20*	1047.8	4^+	411.6	2^+	B(E2)=0.307 *24* (1981Gu07), 0.296 *13* (1979Bo16).
675.6 *4*	4.4 *5*	1087.2	2^+	411.6	2^+	B(E2)=0.062 *12* (1981Gu07), 0.065 *7* or 0.079 *8* (1979Bo16).
x704.5 *5*	1.6 *3*					
767.3	11.4 *8*	1815.1	6^+	1047.8	4^+	B(E2)↓=0.313 *37* (1981Gu07)
940.4# *5*	1.1 *3*	2756?	(8^+)	1815.1	6^+	B(E2)↓=0.23 *6* (1981Gu07)
1087		1087.2	2^+	0.0	0^+	B(E2)=0.0025 *1* or 0.0030 *1* (1979Bo16). E$_\gamma$: From 1979Bo16.

† From 1981Gu07.

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Coulomb excitation (continued)

$\gamma(^{198}Hg)$ (continued)

‡ Relative Iγ for E(^{208}Pb)=1 GeV. Values normalized to Iγ(411.8γ)=100 (1981Gu07).
# Placement of transition in the level scheme is uncertain.
x γ ray not placed in level scheme.

Coulomb excitation

Level Scheme

Intensities: Relative I_γ