

^{208}Hg β^- decay 2003Zh06,2003Zh19

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin	NDS 108,1583 (2007)	1-Jun-2007

Parent: ^{208}Hg : $E=0$; $J^\pi=0^+$; $T_{1/2}=41$ min $+5-4$; $Q(\beta^-)=3650$ SY; $\% \beta^-$ decay=100.0

^{208}Hg - $Q(\beta^-)$: The uncertainty in the systematic $Q(\beta^-)$ value is 300.

The references 2003Zh06 and 2003Zh19 contain the same data.

 ^{208}Tl Levels

E(level)	J^π	E(level)	J^π	E(level)	E(level)
0	5^+	473.5	(4^+)	760	1652
40.0	4^+	493	$(3)^+$	803	1728
328	5^+	617		1362	

 $\gamma(^{208}\text{Tl})$

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π
40.0	38	40.0	4^+	0	5^+	365.8	36	1728		1362	
43.0	31	803		760		433.5	39	473.5	(4^+)	40.0	4^+
142.0	38	760		617		453.0	50	493	$(3)^+$	40.0	4^+
143.6	20	617		473.5	(4^+)	473.5	44	473.5	(4^+)	0	5^+
145.0	27	473.5	(4^+)	328	5^+	493.0	32	493	$(3)^+$	0	5^+
164.0	24	493	$(3)^+$	328	5^+	559.1	26	1362		803	
266.9	68	760		493	$(3)^+$	602.2	34	1362		760	
285.4	35	760		473.5	(4^+)	849.2	23	1652		803	
288.1	26	328	5^+	40.0	4^+	892.3	100	1652		760	
288.8	12	617		328	5^+	925.0	<12	1728		803	
290.0	25	1652		1362		968.0	63	1728		760	
310.4	20	803		493	$(3)^+$	1159.0	23	1652		493	$(3)^+$
328.0	14	328	5^+	0	5^+	1235.0	51	1728		493	$(3)^+$

† The I_γ values given by the authors lead to branchings that are inconsistent with those from ^{212}Bi α decay. For the 328 level, one gets $I_\gamma(328\gamma)/I_\gamma(288\gamma)=0.54$ compared with 0.372 in α decay. For the 473 level, one gets $I_\gamma(145\gamma):I_\gamma(433\gamma):I_\gamma(473\gamma)=61:89:100$, compared with <4.3:34 7:100 7 in α decay. For the 493 level, one gets $I_\gamma(164\gamma):I_\gamma(453\gamma):I_\gamma(493\gamma)=48:100:64$ compared with not seen:100:<1 in α decay.

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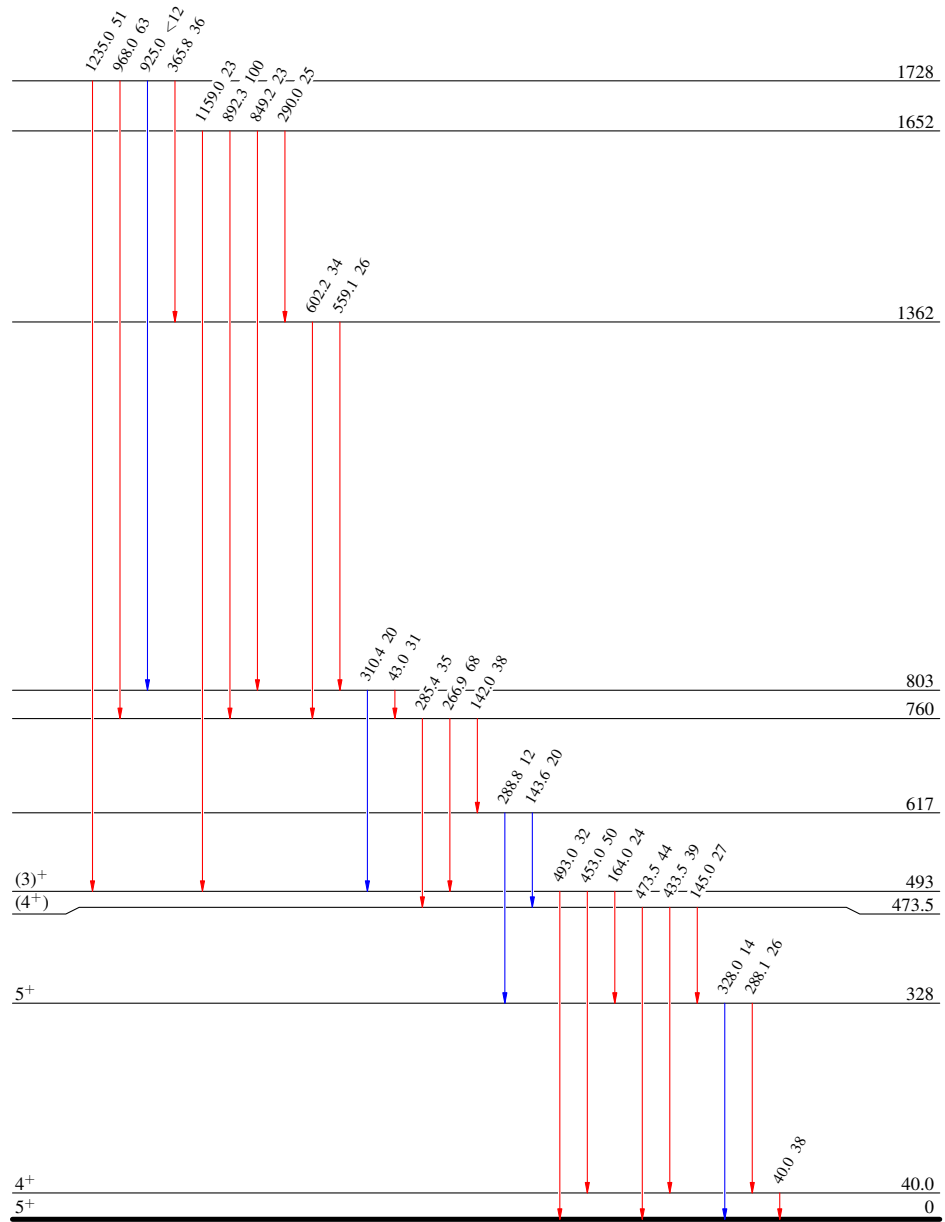
Decay Scheme

Intensities: Type not specified

Legend

0^+ 0 41 min $+5-4$
 $Q_{\beta^-} = 3650$ SY
 $^{208}\text{Hg}_{128}$ $\% \beta^- = 100$

- \longrightarrow $I_{\gamma} < 2\% \times I_{\gamma}^{max}$
- \longrightarrow $I_{\gamma} < 10\% \times I_{\gamma}^{max}$
- \longrightarrow $I_{\gamma} > 10\% \times I_{\gamma}^{max}$



$^{208}\text{Tl}_{127}^{-2}$