

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	F. G. Kondev	NDS 196,342 (2024)	1-Sep-2023

$Q(\beta^-)=2992\ 23$; $S(n)=6024\ 24$; $S(p)=7900\ 60$; $Q(\alpha)=-1070\ \text{syst}$ [2021Wa16](#)

$\Delta Q(\alpha)=200\ (\text{syst}, \text{2021Wa16})$.

$S(2n)=13260\ 40$, $S(2p)=17360\ 200\ (\text{syst})$ ([2021Wa16](#)).

 ^{202}Au LevelsCross Reference (XREF) Flags

A $^9\text{Be}(^{208}\text{Pb}, X\gamma)$
B $^{204}\text{Hg}(d, \alpha)$

E(level) [†]	J^π [@]	$T_{1/2}$	XREF	Comments
0	(1 ⁻)	28.4 s 12	B	$\% \beta^- = 100$ J^π : Predominant β^- decay branches to 0 ⁺ states in ^{202}Hg (1984Cr01 , 1972Pa06); $d\sigma/d\Omega(\theta)$ DWBA analysis in 2003WiZW suggests $J^\pi=(1^-)$, but $A_y(\theta)$ in the same work is consistent with $J^\pi=0^-$; systematics of structures in neighboring odd-odd Au nuclei suggest $J^\pi=1^-$ or 2^- . $T_{1/2}$: Weighted average of 28.8 s 19 (440 γ (t), 1984Cr01), 30 s 3 (440 γ (t), 1967Wa23), 27 s 2 (β (t), 1972Bu05) and 29 s 3 (440 γ (t), 1972Pa06 , 1972Pa38). Others: ≈ 25 s (1952Bu80). configuration: $\pi(d_{3/2}^{-1}) \otimes \nu(f_{5/2}^{-1})$. The assignment is tentative. E(level): It is not clearly established if this is the ground state or an isomer.
0+x			A	
84 $\frac{3}{2}^+$ 1			B	
166 $\frac{3}{2}^+$ 1			B	
220 $\frac{3}{2}^+$ 1			B	
387 1	3 ⁻		B	
414.2+x [#] 5			A	
430 1	2 ⁻		B	
498 1	0 ⁻		B	
552.0+x [#] 7		13.1 ns 5	A	$T_{1/2}$: From 414 γ (t) in 2011St21 .
554 1	2 ⁻		B	
635 1	5 ⁺		B	
1084 1	4 ⁻		B	

[†] From [2003WiZW](#), unless otherwise stated. Uncertainty estimated by the evaluator, based on similar measurements in [2004Wi08](#).

[‡] From [2003WiZW](#).

[#] From E_γ in [2011St21](#).

[@] From $d\sigma/d\Omega(\theta)$ DWBA analysis and $A_y(\theta)$ in [2003WiZW](#), unless otherwise stated.

 $\gamma(^{202}\text{Au})$

$E_i(\text{level})$	E_γ	I_γ	E_f
414.2+x	414.2 5	100	0+x
552.0+x	137.8 5	100	414.2+x

Adopted Levels, Gammas

Level Scheme

Intensities: Relative photon branching from each level

