

Adopted Levels, Gammas

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Shaofei Zhu	NDS 182, 2 (2022).	1-Apr-2022

$Q(\beta^-)=921\ 20$; $S(n)=5834\ 19$; $S(p)=8391\ 20$; $Q(\alpha)=3333\ 17$ [2021Wa16](#)
 $S(2n)=10500\ 14$, $S(2p)=15253\ 16$ ([2021Wa16](#)).

 ^{236}Th LevelsCross Reference (XREF) Flags

A $^{238}\text{U}(^{18}\text{O}, ^{20}\text{Ne}\gamma)$

$E(\text{level})^\dagger$	$J^\pi^\ddagger$	$T_{1/2}$	XREF	Comments
0 [#]	0 ⁺	37.5 min 2	A	$\% \beta^- = 100$ $T_{1/2}$: weighted average of 37.5 min 15 (1973Or06), 37.5 min 2 (1984Mi02), and 36 min 3 (1973Ka10). $\% \beta^-$: only β decay has been observed. Calculated $T_{1/2}(\alpha) > 10^{20}$ s (2019Mo01).
48.4 [#] 3	(2 ⁺)		A	
160.0 [#] 6	(4 ⁺)		A	
329.4 [#] 7	(6 ⁺)		A	
553.4 [#] 7	(8 ⁺)		A	
826.1 [#] 9	(10 ⁺)		A	

[†] From E_γ .

[‡] Proposed with the assumption of being members of ground state band with E2 γ transitions, not experimentally determined ([2007Is09](#)).

[#] Band(A): Ground-state band.

 $\gamma(^{236}\text{Th})$

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π	Mult.	$\alpha^\dagger$	Comments
48.4	(2 ⁺)	(48.4 3)	100	0	0 ⁺	[E2]	360 13	E_γ : derived from rotational band properties with Harris expansion: moment of inertia vs. rotational frequency (2007Is09).
160.0	(4 ⁺)	111.6 5	100	48.4	(2 ⁺)	[E2]	6.99	
329.4	(6 ⁺)	169.4 3	100	160.0	(4 ⁺)	[E2]	1.235	
553.4	(8 ⁺)	224.0 3	100	329.4	(6 ⁺)	[E2]	0.439	
826.1	(10 ⁺)	272.7 5	100	553.4	(8 ⁺)	[E2]	0.228	

[†] Total theoretical internal conversion coefficients, calculated using the BrIcc code ([2008Ki07](#)) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

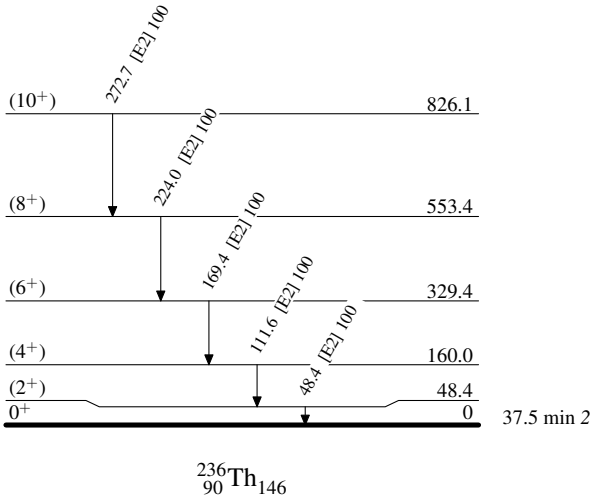
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Legend

Level Scheme

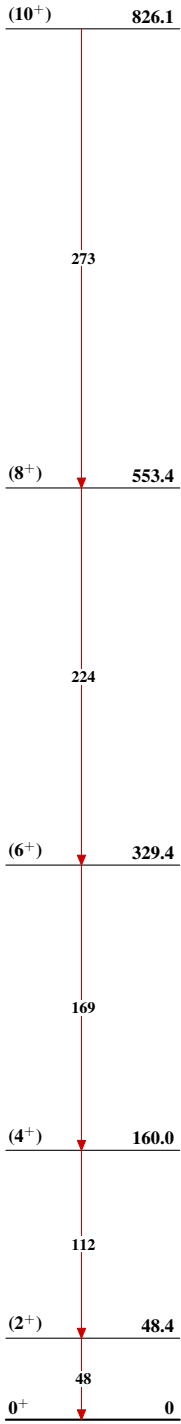
Intensities: Relative photon branching from each level

-----► γ Decay (Uncertain)



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Band(A): Ground-state
band



$^{236}_{90}\text{Th}_{146}$