

$^{232}\text{Th}(^{18}\text{O}, ^{16}\text{O}\gamma)$ 1989Ge01

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 108, 681 (2007)	1-Jun-2006

$E(^{18}\text{O})=90$ MeV (1989Ge01).

γ -ray data were taken by 1989Ge01 at $\theta=55^\circ, 57^\circ, 63^\circ, 115^\circ$, and 116° .

Particle- γ , γ - γ , and particle- γ angular correlation measurements were taken by 1989Ge01.

 ^{234}Th Levels

E(level) [†]	J^π [‡]
0.0 [#]	0 ⁺
49.55 [#] 6	2 ⁺
163.0 [#] 1	4 ⁺
336.5 [#] 4	6 ⁺
564.8 [#] 4	8 ⁺
843.0 [#] 5	10 ⁺
1160.2 [#] 7	(12 ⁺)

[†] Adopted energies.

[‡] Assignments made by 1989Ge01 were based on E_γ , I_γ and particle- γ angular correlation measurements. The J^π 's for 2⁺ and 4⁺ were adopted from (t,p) work of 1973Ba72, and from α decay work of 1960Be25.

[#] Band(A): g.s. band.

 $\gamma(^{234}\text{Th})$

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult. [#]	α [@]	Comments
(49.55 6)		49.55	2 ⁺	0.0	0 ⁺			E_γ : from ^{238}U α decay. This transition was not observed by 1989Ge01.
114.5		163.0	4 ⁺	49.55	2 ⁺			Transition was obscured by 112.8 γ of ^{232}Th (1989Ge01). $E_\gamma=113.3$ 4 was measured in ^{234}Ac β^- decay and $E_\gamma=113.5$ 1 in ^{238}U α decay.
173.5 3	100	336.5	6 ⁺	163.0	4 ⁺	Q	1.149	
228.3 2	44 4	564.8	8 ⁺	336.5	6 ⁺	Q	0.419	
278.2 2	10 1	843.0	10 ⁺	564.8	8 ⁺	Q	0.2174	
317.2 4	2 1	1160.2	(12 ⁺)	843.0	10 ⁺			

[†] From 1989Ge01.

[‡] Relative photon intensity, measured by 1989Ge01. I_γ 's were normalized to 100 at 173.5 γ .

[#] Deduced by 1989Ge01 from particle- γ angular correlation measurements.

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

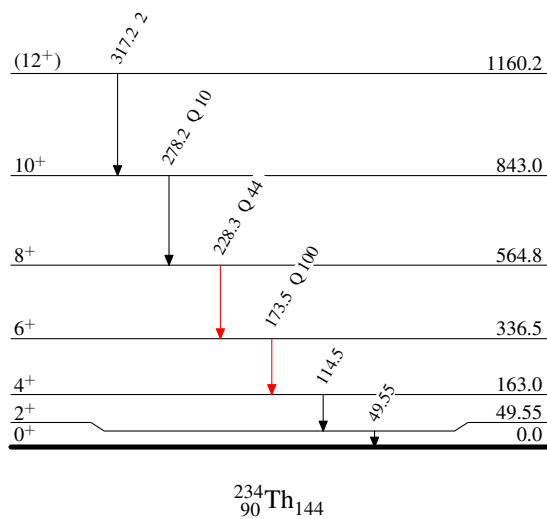
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Legend

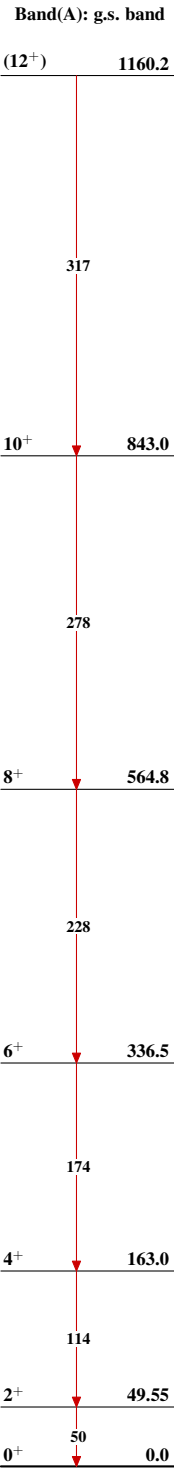
Level Scheme

 Intensities: Relative I_γ

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$
- - - - - γ Decay (Uncertain)



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$^{234}_{90}\text{Th}_{144}$