

$^{232}\text{Th}(^{136}\text{Xe},\text{X}\gamma)$ **1999Co02**

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. Morse	NDS 197,259 (2024).	26-Sep-2023

E=833 MeV. Measured E_γ , I_γ , $\gamma\gamma\gamma$ using GAMMASPHERE array of 73 HPGe detectors.

^{230}Th Levels

E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π	E(level) [†]	J ^π
0.0 [‡]	0 ⁺	879.6 [‡] 4	10 ⁺	1947.4 [#] 7	15 ⁻	3125.6 [#] 11	21 ⁻
53.20 [‡] 2	2 ⁺	1065.5 [#] 5	9 ⁻	1969.7 [‡] 8	16 ⁺	3324.2 [‡] 12	22 ⁺
174.00 [‡] 20	4 ⁺	1206.9 [‡] 6	12 ⁺	2310.8 [#] 8	17 ⁻	3572.5? [#] 12	(23 ⁻)
356.5 [‡] 3	6 ⁺	1322.2 [#] 5	11 ⁻	2396.5 [‡] 9	18 ⁺	3819.2? [‡] 15	(24 ⁺)
593.9 [‡] 3	8 ⁺	1572.0 [‡] 7	14 ⁺	2704.0 [#] 9	19 ⁻		
852.4 [#] 5	7 ⁻	1616.2 [#] 6	13 ⁻	2848.8 [‡] 11	20 ⁺		

[†] Deduced by evaluator from a least-squares fit to γ -ray energies.

[‡] Band(A): g.s. rotational band.

[#] Band(B): octupole vibrational band.

$\gamma(^{230}\text{Th})$

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
53.20 [†] 2	53.20	2 ⁺	0.0	0 ⁺	375.5 5	1947.4	15 ⁻	1572.0	14 ⁺
120.8 2	174.00	4 ⁺	53.20	2 ⁺	393.2 5	2704.0	19 ⁻	2310.8	17 ⁻
182.5 2	356.5	6 ⁺	174.00	4 ⁺	397.7 5	1969.7	16 ⁺	1572.0	14 ⁺
213.0 5	1065.5	9 ⁻	852.4	7 ⁻	409.8 5	1616.2	13 ⁻	1206.9	12 ⁺
237.4 2	593.9	8 ⁺	356.5	6 ⁺	421.6 5	3125.6	21 ⁻	2704.0	19 ⁻
256.6 5	1322.2	11 ⁻	1065.5	9 ⁻	426.8 5	2396.5	18 ⁺	1969.7	16 ⁺
285.7 2	879.6	10 ⁺	593.9	8 ⁺	442.2 5	1322.2	11 ⁻	879.6	10 ⁺
293.4 5	1616.2	13 ⁻	1322.2	11 ⁻	446.9 [‡] 5	3572.5?	(23 ⁻)	3125.6	21 ⁻
327.9 5	1206.9	12 ⁺	879.6	10 ⁺	452.3 5	2848.8	20 ⁺	2396.5	18 ⁺
331.0 5	1947.4	15 ⁻	1616.2	13 ⁻	471.6 5	1065.5	9 ⁻	593.9	8 ⁺
341 [‡] 1	2310.8	17 ⁻	1969.7	16 ⁺	475.4 5	3324.2	22 ⁺	2848.8	20 ⁺
363.4 5	2310.8	17 ⁻	1947.4	15 ⁻	495 [‡] 1	3819.2?	(24 ⁺)	3324.2	22 ⁺
365.3 5	1572.0	14 ⁺	1206.9	12 ⁺	495.8 5	852.4	7 ⁻	356.5	6 ⁺

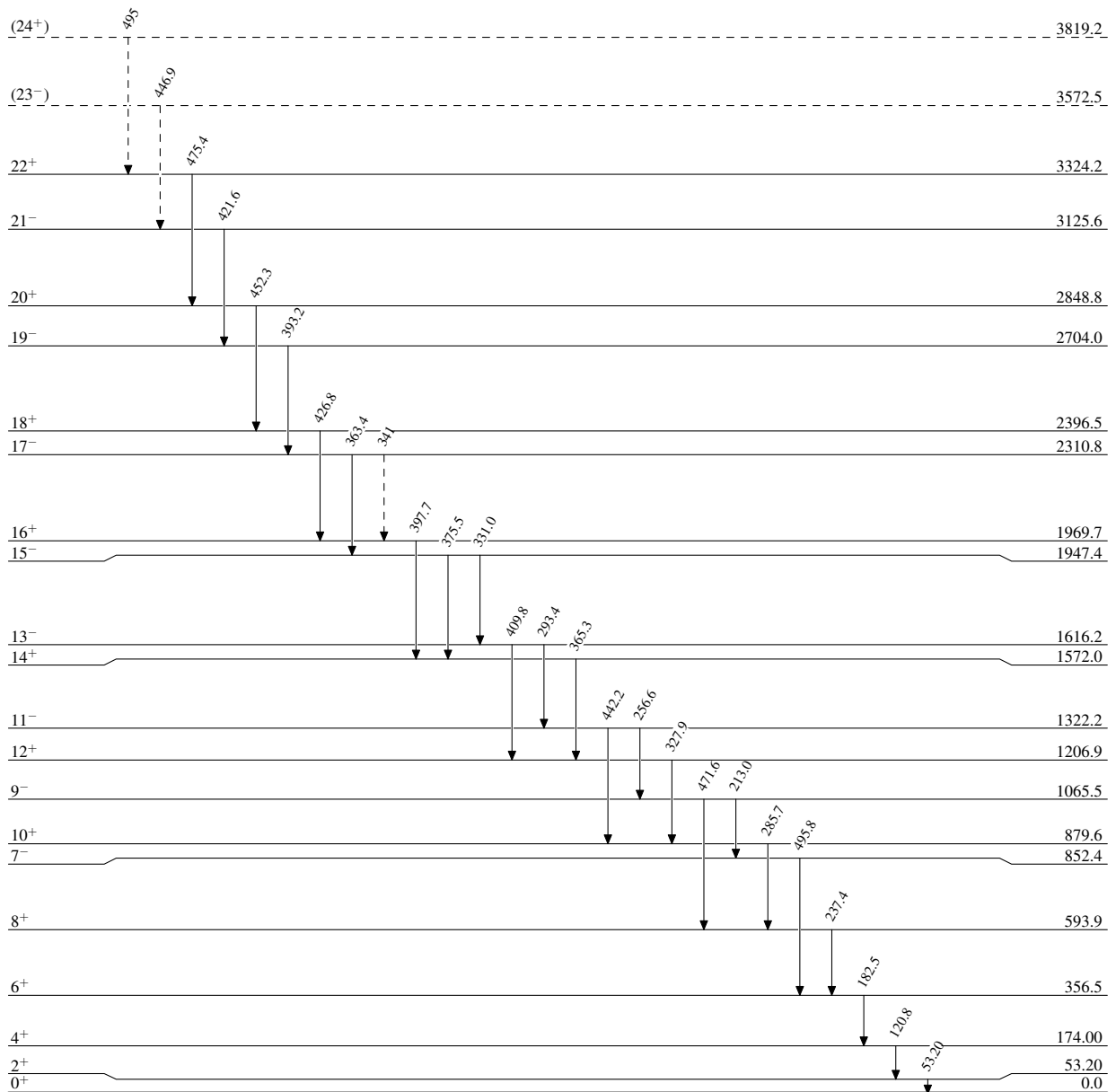
[†] From Adopted Gammas.

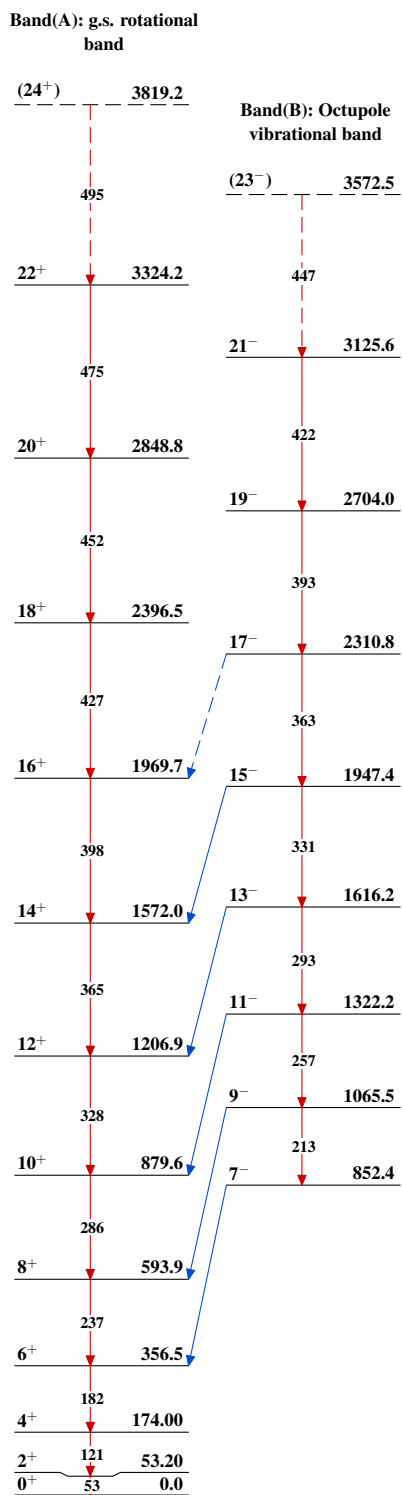
[‡] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

-----▶ γ Decay (Uncertain) $^{230}\text{Th}_{140}$

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