^{232}Th(^{136}Xe,Xγ) 1999Co02,2000BuZY

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Khalifeh Abusaleem	NDS 116, 163 (2014)	31-Dec-2012

1999Co02: E= 833 MeV. Measured Eγ, Iγ, $\gamma\gamma\gamma$ using GAMMASPHERE array of 73 HPGe detectors.
2000BuZY: Reports the results of the same work in 1999Co02.

^{228}Ra Levels

E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ	E(level)†	Jπ
0.0‡	0^+	655.9# *13*	5^-	1330.9‡ *11*	12^+	2535.8‡ *13*	(18^+)
63.8‡ *10*	2^+	674.1‡ *11*	8^+	1639.2# *11*	13^-	2776.4# *13*	(19^-)
204.6‡ *10*	4^+	829.9# *12*	7^-	1709.8‡ *12*	14^+	2971.9‡ *14*	(20^+)
411.5‡ *10*	6^+	983.1‡ *11*	10^+	1987.5# *12*	15^-	3418.7‡ *15*	(22^+)
474.2# *15*	1^-	1054.9# *11*	9^-	2113.4‡ *12*	16^+		
537.5# *13*	3^-	1326.8 *11*		2367.8# *12*	(17^-)		

† From a least-squares fit to Eγ (evaluator).
‡ Band(A): g.s. band.
# Band(B): 0^- octupole band.

γ(^{228}Ra)

Eγ‡	Iγ†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.
63.82#		63.8	2^+	0.0	0^+	
140.8 *1*	100 *19*	204.6	4^+	63.8	2^+	E2
206.9 *1*	206 *25*	411.5	6^+	204.6	4^+	E2
225.0@ *5*		1054.9	9^-	829.9	7^-	
244.4#		655.9	5^-	411.5	6^+	
254.6 *5*	3 *2*	2367.8	(17^-)	2113.4	16^+	(E1)
262.6 *1*	180 *23*	674.1	8^+	411.5	6^+	E2
272.0 *5*	13 *5*	1326.8		1054.9	9^-	(E2)
277.5 *5*	10 *5*	1987.5	15^-	1709.8	14^+	(E1)
308.3 *5*	9 *6*	1639.2	13^-	1330.9	12^+	(E1)
309.0 *1*	130 *23*	983.1	10^+	674.1	8^+	(E2)
312.3 *5*	20 *8*	1639.2	13^-	1326.8		(E2)
332.91#		537.5	3^-	204.6	4^+	
343.6 *5*	13 *6*	1326.8		983.1	10^+	(E1)
347.8 *3*	60 *28*	1330.9	12^+	983.1	10^+	(E2)
348.3 *5*	36 *15*	1987.5	15^-	1639.2	13^-	(E2)
378.9 *5*	34 *17*	1709.8	14^+	1330.9	12^+	(E2)
380.1 *5*	10 *4*	2367.8	(17^-)	1987.5	15^-	(E2)
380.8 *5*		1054.9	9^-	674.1	8^+	
403.8 *5*	31 *7*	2113.4	16^+	1709.8	14^+	(E2)
408.6 *5*	11 *4*	2776.4	(19^-)	2367.8	(17^-)	(E2)
410.40#		474.2	1^-	63.8	2^+	
418.4 *5*	24 *6*	829.9	7^-	411.5	6^+	E1
422.4 *5*	10 *2*	2535.8	(18^+)	2113.4	16^+	(E2)
436.1 *5*	5 *3*	2971.9	(20^+)	2535.8	(18^+)	(E2)
446.8 *5*	4 *2*	3418.7	(22^+)	2971.9	(20^+)	(E2)

Continued on next page (footnotes at end of table)

^{232}Th(^{136}Xe,Xγ) 1999Co02,2000BuZY (continued)

γ(^{228}Ra) (continued)

E_γ ‡	E_i(level)	J_i^π	E_f	J_f^π
451.20#	655.9	5^-	204.6	4^+
473.7#	537.5	3^-	63.8	2^+

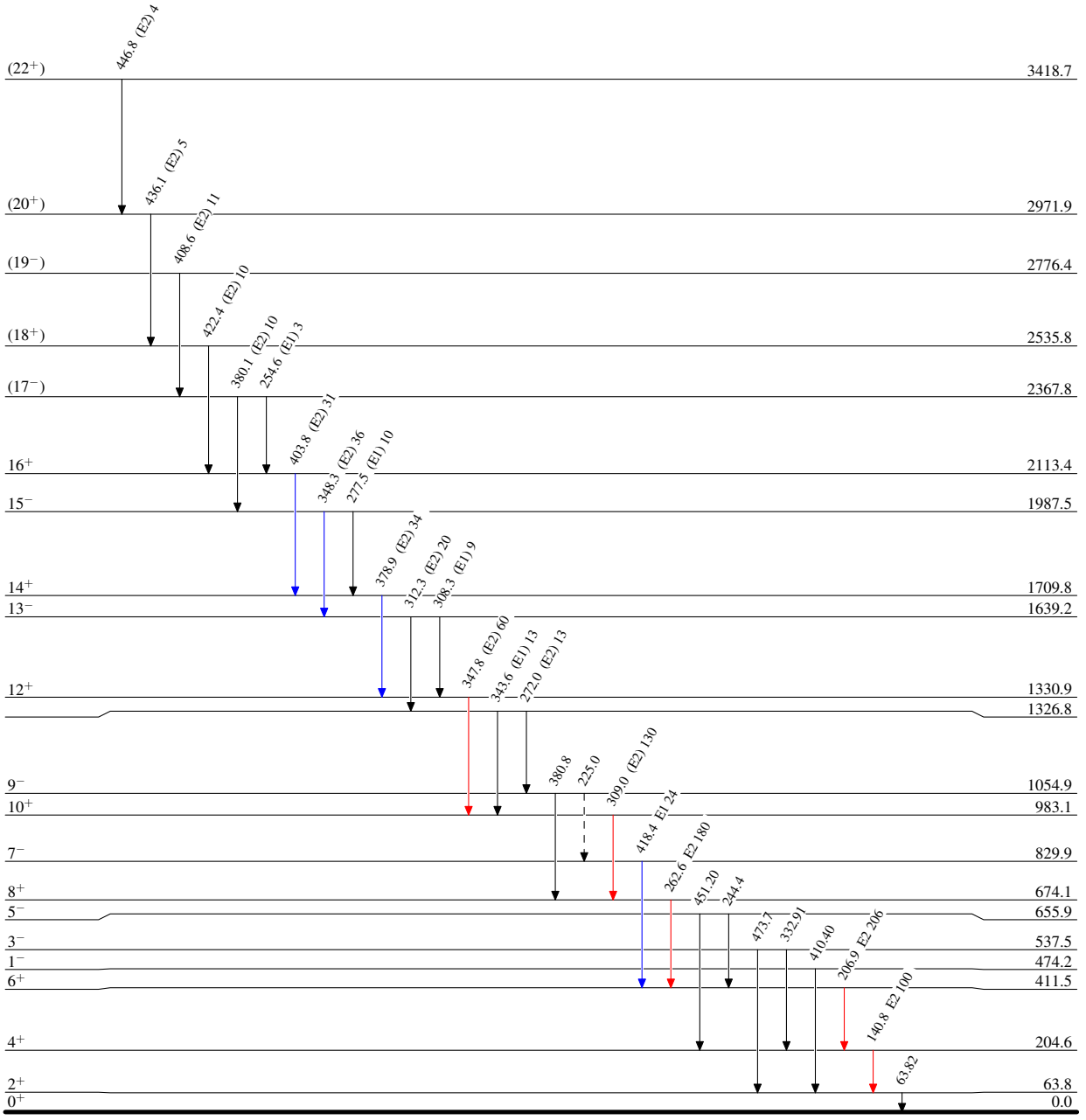
† Normalized to 100 for Eγ=140.8 keV (4^+ to 2^+, g.s. band).
‡ Uncertainty based on typical values of GAMMASPHERE: 0.1 keV for Iγ> 100, 0.3 keV for Iγ =50-100, and 0.5 keV for Iγ <50 (evaluator).
# From adopted gammas in 1982Ru04.
@ Placement of transition in the level scheme is uncertain.

^{232}Th(^{136}Xe,Xγ) 1999Co02,2000BuZY

Level Scheme

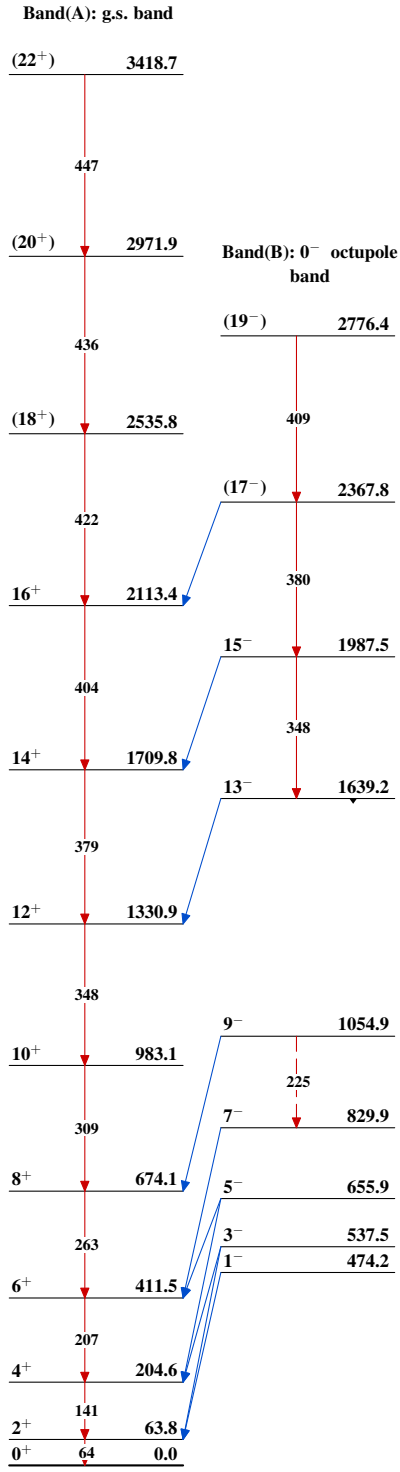
Intensities: Relative I_γ

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



$^{228}_{88}Ra_{140}$

^{232}Th(^{136}Xe,Xγ) 1999Co02,2000BuZY



$^{228}_{88}Ra_{140}$