^{238}U(^{12}C,xγ) 2005Ve09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh	NDS 181, 1 (2022)	9-Mar-2022

2005Ve09: E=90 MeV. Measured Eγ, Iγ, γγ using Euroball III and IV arrays of 15 seven-element 'Clusters', 26 four-element 'Clovers' and 30 tapered single-crystal Ge detectors, all detectors were Compton-suppressed.

^{147}Nd Levels

E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡	E(level)†	Jπ‡
0.0@	5/2−#	1114.7& 6	(15/2+)	2710.9& 8	(27/2+)	4493.1a 9	(37/2+)
49.9 3	7/2−#	1189.5@ 6	(17/2−)	3195.1a 8	(29/2+)	5206.7a 9	(41/2+)
189.8@ 5	(9/2−)#	1498.6& 6	(19/2+)	3504.1& 8	(31/2+)		
595.7@ 6	(13/2−)	2029.7& 7	(23/2+)	3806.9a 8	(33/2+)		

† From least-squares fit to Eγ's by evaluator.
‡ Based on similar level schemes for N=87 isotones (^{149}Sm, ^{151}Gd), except where noted.
# Adopted by 2005Ve09 from 1992De38 (same as Adopted Values in his evaluation).
@ Band(A): Band based on 5/2−. Configuration=$\nu f_{7/2}^{-3}$ for 5/2− and 7/2− states. Above 9/2−, configuration=$\nu h_{9/2}$ coupled to quadrupole modes.
& Band(B): Band based on (15/2+). Configuration=$\nu h_{9/2}$ coupled to octupole modes as suggested by interband E1 transitions.
a Band(C): Band based on (29/2+). Possible configuration=$\nu f_{7/2}\nu h_{9/2}\nu i_{13/2}$.

γ(^{147}Nd)

Eγ	Ei(level)	Jiπ	Ef	Jfπ	Comments
(49.9†)	49.9	7/2−	0.0	5/2−	Eγ: not observed due to large conversion coefficient.
139.9†	189.8	(9/2−)	49.9	7/2−	
302.9	3806.9	(33/2+)	3504.1	(31/2+)	
309.2	1498.6	(19/2+)	1189.5	(17/2−)	
383.9	1498.6	(19/2+)	1114.7	(15/2+)	
405.9	595.7	(13/2−)	189.8	(9/2−)	
484.1	3195.1	(29/2+)	2710.9	(27/2+)	
518.9	1114.7	(15/2+)	595.7	(13/2−)	
531.1	2029.7	(23/2+)	1498.6	(19/2+)	
593.8	1189.5	(17/2−)	595.7	(13/2−)	
611.8	3806.9	(33/2+)	3195.1	(29/2+)	
681.2	2710.9	(27/2+)	2029.7	(23/2+)	
686.2	4493.1	(37/2+)	3806.9	(33/2+)	
713.6	5206.7	(41/2+)	4493.1	(37/2+)	
793.2	3504.1	(31/2+)	2710.9	(27/2+)	

† Adopted by 2005Ve09 from 1992De38 (also nominal values, are same as Adopted Gammas in this evaluation).

Legend

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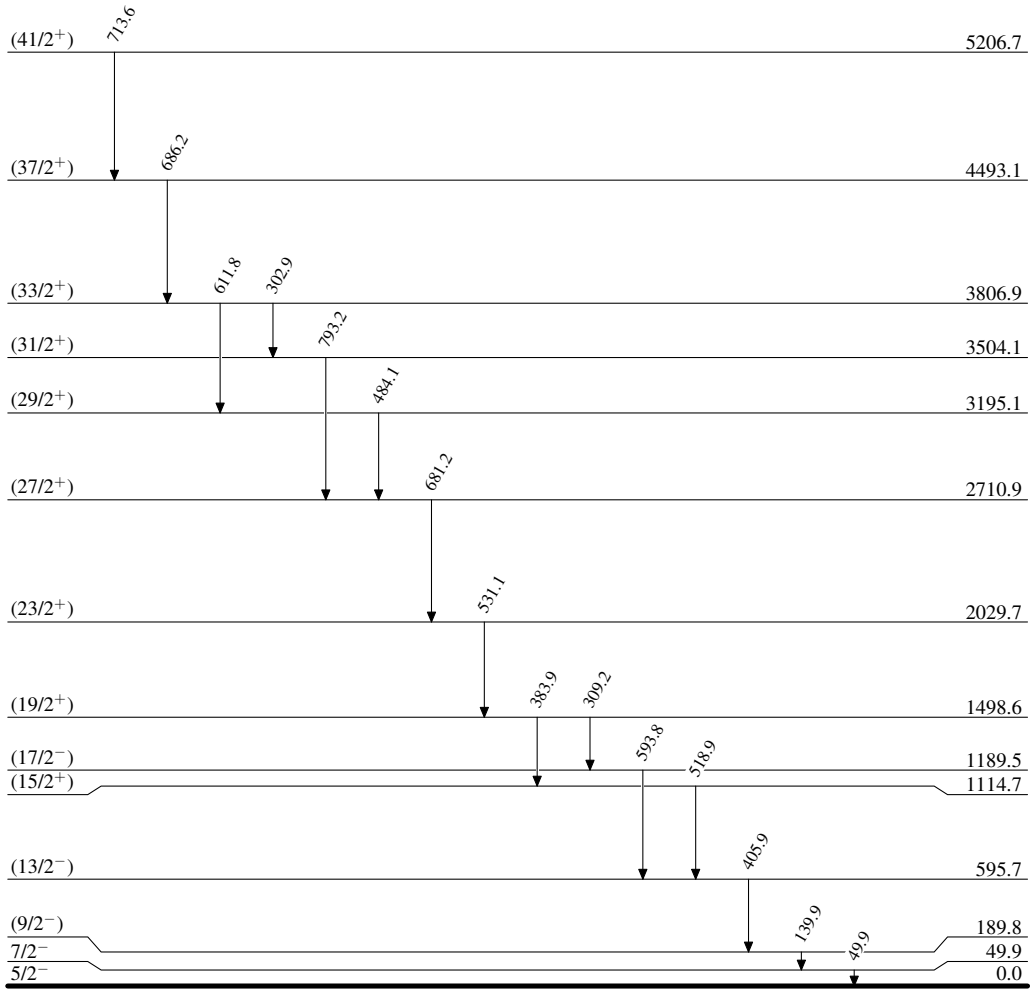
Level Scheme

γ Decay (Uncertain)



$^{147}_{60}Nd_{87}$

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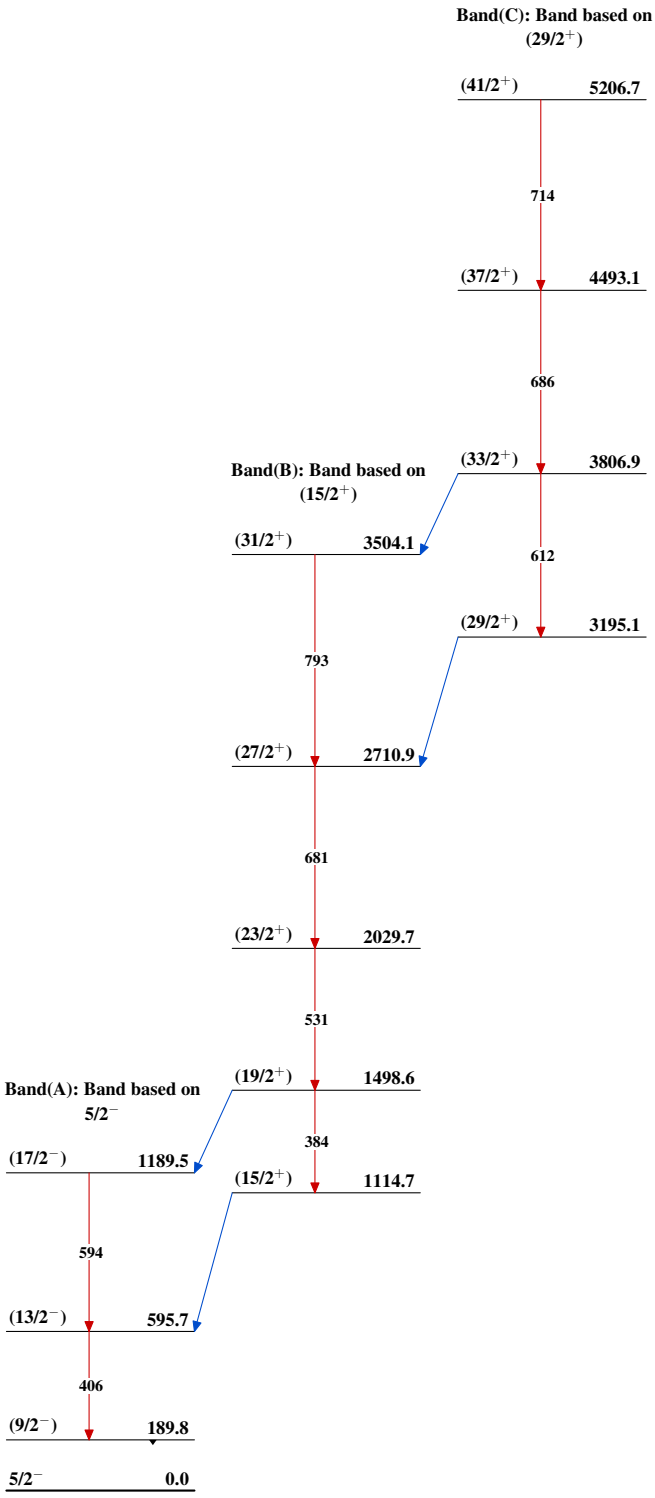

$^{147}_{60}Nd_{87}$