

$^{168}\text{Er}(^{238}\text{U}, ^{238}\text{U}'\gamma)$ 2003Wu07

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Coral M. Baglin	NDS 111, 1807 (2010)	15-Jun-2010

2003Wu07: E(^{238}U , lab)=1358 MeV; ^{170}Er target with 2% ^{168}Er impurity; GAMMASPHERE detector array (100 Compton-suppressed Ge detectors with BGO shields without heavymet shields) for γ detection; highly-segmented parallel-plate avalanche detector array (CHICO) for particle detection; measured E γ , γ -particle coin; distinguished prompt γ rays from delayed ones based on absence of Doppler shift for those emitted from isomers with lifetimes exceeding the 10-15 ns target to cathode flight time.

 ^{168}Er Levels

E(level) [†]	J π [‡]	T _{1/2}	Comments
1094.0 [#]	4 ⁻	109.0 ns	E(level): rounded value from Adopted Levels. T _{1/2} , J π : from Adopted Levels.
1192.8 [#] 13	5 ⁻		
1311.2 [#] 10	6 ⁻		
1448.6 [#] 13	7 ⁻		
1605.6 [#] 13	8 ⁻		
1779.7 [#] 16	9 ⁻		
1975.4 [#] 17	10 ⁻		
2183.2 [#] 19	11 ⁻		
2418.3 [#] 19	12 ⁻		
2654.5 [#] 22	13 ⁻		
2933.6 [#] 22	14 ⁻		
3188.0 [#] 24	15 ⁻		

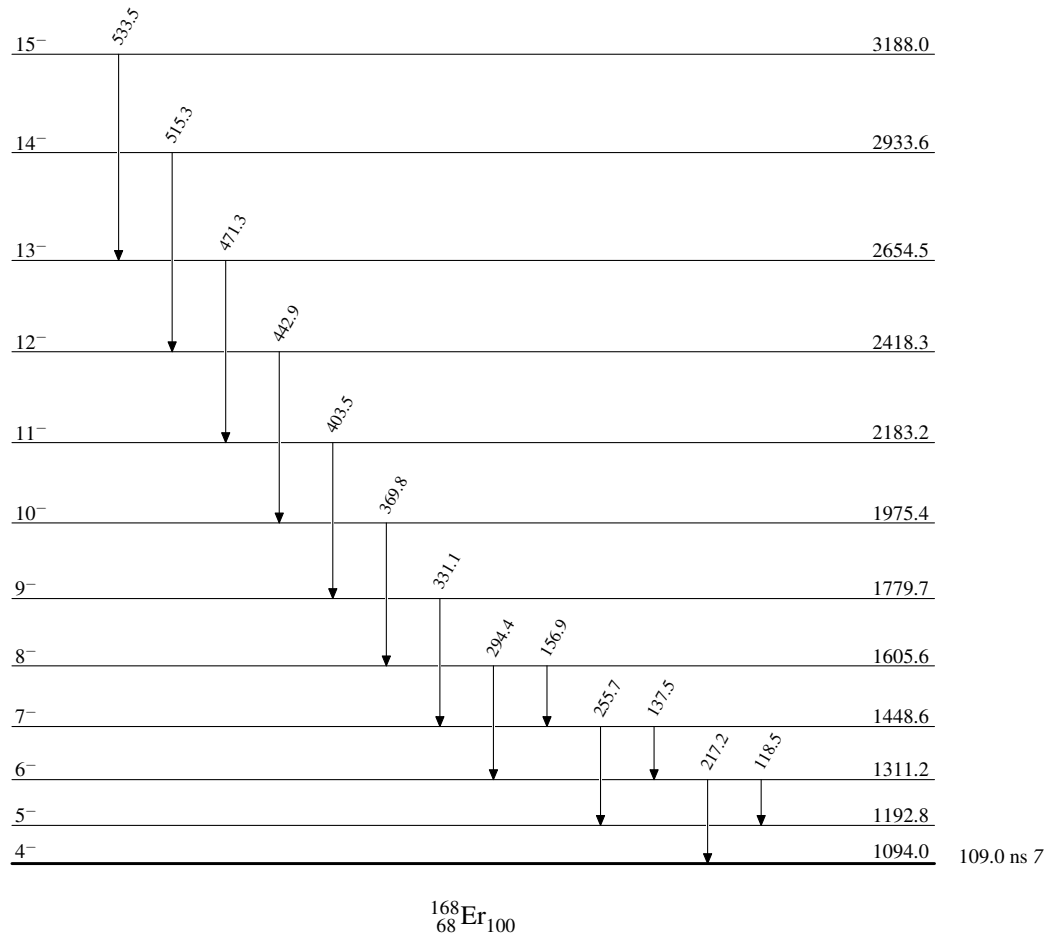
[†] From least-squares fit to E γ .

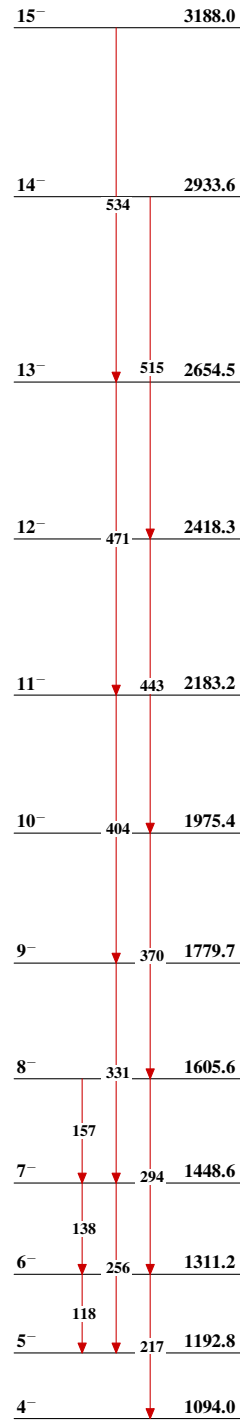
[‡] Authors' values based on observed band structure.

[#] Band(A): K π =4⁻ two-quasineutron band. Primarily (ν 7/2[633])+(ν 1/2[521]) based on magnitude of g_K-g_R deduced from In-band $\Delta J=1$ and $\Delta J=2$ transition branching ratios.

 $\gamma(^{168}\text{Er})$

E γ	E _i (level)	J π _i	E _f	J π _f	E γ	E _i (level)	J π _i	E _f	J π _f
118.5 10	1311.2	6 ⁻	1192.8	5 ⁻	369.8 10	1975.4	10 ⁻	1605.6	8 ⁻
137.5 10	1448.6	7 ⁻	1311.2	6 ⁻	403.5 10	2183.2	11 ⁻	1779.7	9 ⁻
156.9 10	1605.6	8 ⁻	1448.6	7 ⁻	442.9 10	2418.3	12 ⁻	1975.4	10 ⁻
217.2 10	1311.2	6 ⁻	1094.0	4 ⁻	471.3 10	2654.5	13 ⁻	2183.2	11 ⁻
255.7 10	1448.6	7 ⁻	1192.8	5 ⁻	515.3 10	2933.6	14 ⁻	2418.3	12 ⁻
294.4 10	1605.6	8 ⁻	1311.2	6 ⁻	533.5 10	3188.0	15 ⁻	2654.5	13 ⁻
331.1 10	1779.7	9 ⁻	1448.6	7 ⁻					

$^{168}\text{Er}(^{238}\text{U}, ^{238}\text{U}'\gamma)$ 2003Wu07Level Scheme

$^{168}\text{Er}(^{238}\text{U}, ^{238}\text{U}'\gamma)$ 2003Wu07Band(A): $K^\pi=4^-$ two-quasineutron band $^{168}_{68}\text{Er}_{100}$