

$^{57}\text{Fe}(\alpha, p\gamma)$ 1978Ta03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 114, 1849 (2013)	31-Dec-2012

$E\alpha=13$ MeV. Measured $p\gamma(\theta)$, $E\gamma$, $I\gamma$. Five angles between 0° and 90° . Enriched target (93.6%), surface barrier and Ge(Li) detectors. FWHM \approx 75 keV (1978Ta03).

 ^{60}Co Levels

E(level)	J^π [†]	$T_{1/2}$	Comments
0.0	5 ⁺		
58.1 7	2 ⁺	10.467 min 6	$T_{1/2}$: from Adopted Levels.
277.1 3	4 ⁺		
287.9 7	3 ⁺		
435.6 4	5 ⁺		
505.8 8	3 ⁺		
542.1 8	2 ⁺		
613.4 8	3 ⁺		
738.0 8	1 ⁺		
785.5 6	4 ⁺		
1005.1 8	4		E(level): possible doublet.
1209.4 10	5 ⁺		
1218.3 7	4		

[†] From Adopted Levels.

 $\gamma(^{60}\text{Co})$

E_γ	I_γ [†]	E_i (level)	J_i^π	E_f	J_f^π	Mult. [‡]	Comments
158.8 4	23.2 15	435.6	5 ⁺	277.1 4 ⁺	4 ⁺	D+Q	δ : + 0.06 4 or - 4.8 +9-13.
196.1 5	11.8 9	738.0	1 ⁺	542.1 2 ⁺	2 ⁺		
229.9 3	100	287.9	3 ⁺	58.1 2 ⁺	2 ⁺	D+Q	δ : + 0.04 +4-5 or - 3.7 +12-7.
254.4 4	28.7 17	542.1	2 ⁺	287.9 3 ⁺	3 ⁺	D+Q	δ : + 0.02 12 or - 6 +2-6.
277.2 3	91 5	277.1	4 ⁺	0.0 5 ⁺	5 ⁺	D+Q	δ : + 0.02 6 or \leq -12.
392.1 5	14.0 8	1005.1	4	613.4 3 ⁺	3 ⁺	D+Q	δ : + 0.08 6 or - 4.8 +11-21.
435.4 4	19.6 19	435.6	5 ⁺	0.0 5 ⁺	5 ⁺	D+Q	δ : + 0.5 +4-3 or - 0.1 3.
447.5 4	42 3	505.8	3 ⁺	58.1 2 ⁺	2 ⁺	D+Q	δ : + 0.06 7 or - 4.3 +10-18.
483.7 5	21.9 22	542.1	2 ⁺	58.1 2 ⁺	2 ⁺	D+Q	δ : -0.3 < δ < +6.5.
497.8 5	19.6 16	785.5	4 ⁺	287.9 3 ⁺	3 ⁺	D+Q	δ : - 0.08 9 or - 2.4 +5-6.
555.7 5	33.3 14	613.4	3 ⁺	58.1 2 ⁺	2 ⁺	D+Q	δ : - 0.03 6 or - 2.8 +4-7.
679.7 6	18 3	738.0	1 ⁺	58.1 2 ⁺	2 ⁺		
711.5 10	5.8 9	1218.3	4	505.8 3 ⁺	3 ⁺		
716.0 11	5.0 8	1005.1	4	287.9 3 ⁺	3 ⁺		
727.8 14	5.0 12	1005.1	4	277.1 4 ⁺	4 ⁺		
785.0 7	27 4	785.5	4 ⁺	0.0 5 ⁺	5 ⁺		
932.3 9	13 5	1209.4	5 ⁺	277.1 4 ⁺	4 ⁺		
946.6 8	21 5	1005.1	4	58.1 2 ⁺	2 ⁺		
1219.0 8	33 3	1218.3	4	0.0 5 ⁺	5 ⁺		

[†] Relative I_γ .

[‡] From $\gamma(\theta)$.

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Level Scheme

Intensities: Relative I_γ

Legend

- $I_\gamma < 2\% \times I_\gamma^{max}$
- $I_\gamma < 10\% \times I_\gamma^{max}$
- $I_\gamma > 10\% \times I_\gamma^{max}$

