

⁵⁷Fe(¹²C,2n γ) 1980Zo03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Huo Junde, Huang Xiaolong, J. K. Tuli		NDS 106, 159 (2005)	1-Apr-2005

E(¹²C)=36-44 MeV, E γ , I γ , $\gamma\gamma$ coincidences, $\gamma(\theta)$, excitation function, linear polarization.

⁶⁷Ge Levels

E(level) [†]	J $^{\pi}$ [‡]	Comments
0	1/2 ⁻	
17.5 10	5/2 ⁻	J $^{\pi}$: 5/2 ⁻ from $\gamma(\theta)$ and polarization if J $^{\pi}$ (752)=9/2 ⁺ .
750.9 10	9/2 ⁺	
1641.3 10	11/2 ⁺	J $^{\pi}$: 11/2 ⁺ from $\gamma(\theta)$ and polarization.
1746.6 10	13/2 ⁺	J $^{\pi}$: 13/2 ⁺ from $\gamma(\theta)$ and polarization.
2420.5 10	(13/2 ⁺)	J $^{\pi}$: (13/2 ⁺) tentatively from $\gamma(\theta)$, polarization and excitation function.
3073.4 10	(17/2 ⁺)	J $^{\pi}$: (17/2 ⁺) from $\gamma(\theta)$, polarization and excitation function.
3603.3 10	(15/2 ⁻)	J $^{\pi}$: (15/2 ⁻) from $\gamma(\theta)$ and polarization.
4312.8 10	(19/2 ⁻)	J $^{\pi}$: (19/2 ⁻) from $\gamma(\theta)$, polarization and excitation function.
4732.3 10	(21/2 ⁻)	J $^{\pi}$: (21/2 ⁻) from $\gamma(\theta)$, polarization and excitation function.
4847.3 10	(23/2 ⁻)	J $^{\pi}$: (23/2 ⁻) from $\gamma(\theta)$, polarization and excitation function.

[†] From a least-squares fit to the E γ data.

[‡] From Adopted Levels; supporting arguments from this reaction are indicated.

$\gamma(^{67}\text{Ge})$

E γ	I γ [†]	E _i (level)	J $^{\pi}$ _i	E _f	J $^{\pi}$ _f	Mult. [‡]	δ [‡]
18.2		17.5	5/2 ⁻	0	1/2 ⁻		
419.45 4	11.3 9	4732.3	(21/2 ⁻)	4312.8	(19/2 ⁻)	(M1(+E2))	+0.02 3
534.38 3	12.8 13	4847.3	(23/2 ⁻)	4312.8	(19/2 ⁻)	(E2)	
709.63 6	13.8 8	4312.8	(19/2 ⁻)	3603.3	(15/2 ⁻)	(E2)	
733.50 3	100 1	750.9	9/2 ⁺	17.5	5/2 ⁻	M2	
779.23 5	11.1 9	2420.5	(13/2 ⁺)	1641.3	11/2 ⁺	(M1+E2)	+0.5 1
890.18 12	24.3 24	1641.3	11/2 ⁺	750.9	9/2 ⁺	M1+E2	+0.50 8
995.58 3	70.7 14	1746.6	13/2 ⁺	750.9	9/2 ⁺	E2	
1239.50 9	18 2	4312.8	(19/2 ⁻)	3073.4	(17/2 ⁺)	(E1(+M2))	+0.01 4
1326.84 9	21.0 25	3073.4	(17/2 ⁺)	1746.6	13/2 ⁺	(E2)	
1856.62 9	14.5 28	3603.3	(15/2 ⁻)	1746.6	13/2 ⁺	(E1)	

[†] Relative intensities.

[‡] From adopted gammas.

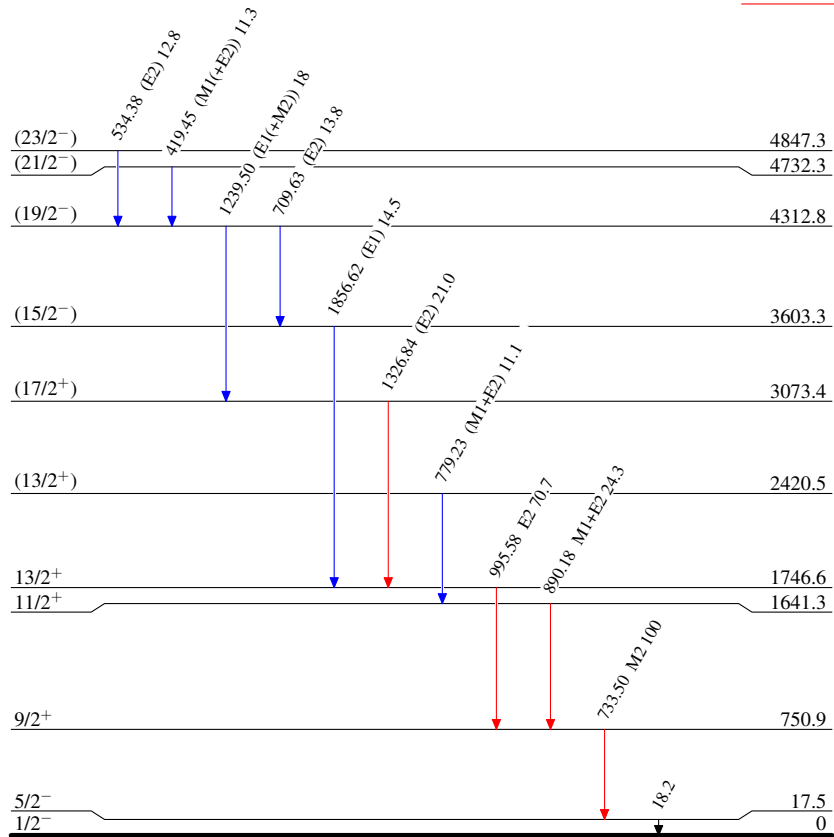
${}^{57}\text{Fe}({}^{12}\text{C}, 2n\gamma)$ 1980Zo03

Level Scheme

Intensities: Relative I_γ

Legend

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

 ${}^{67}_{32}\text{Ge}_{35}$