

⁵⁷Fe(¹²C,pnγ) 1979Zo01

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

E=32-44 MeV; measured E_γ, I_γ, γγ coincidences, γ(θ), γ excitation functions, and linear polarization.

⁶⁷Ga Levels

E(level) [†]	J ^π [‡]	Comments
0.0	3/2 ⁻	
359.110 19	5/2 ⁻	
1202.27 4	7/2 ⁻	
1519.15 4	9/2 ⁻	
2073.74 4	9/2 ⁺	
2862.43 11	11/2 ⁺	J ^π : 11/2 ⁺ from γ(θ) and polarization.
3031.76 6	13/2 ⁺	
3160.61 11		
3577.94 7	15/2 ⁺	J ^π : 15/2 ⁺ from γ(θ) and polarization.
3855.98 8	17/2 ⁺	J ^π : 17/2 ⁺ from γ(θ) and polarization.
4198.57 9	(17/2 ⁺)	J ^π : (17/2 ⁺) from γ(θ) and polarization.
4290.48 8	19/2 ⁺	J ^π : 19/2 ⁺ from γ(θ) and polarization.
5225.7 4	(23/2 ⁺)	J ^π : (23/2 ⁺) from γ(θ) and polarization.
5491.63 10	(21/2 ⁺)	J ^π : (21/2 ⁺) from γ(θ) and polarization.
6380.18 13	(25/2 ⁺)	J ^π : (25/2 ⁺) from γ(θ) and polarization.
6589.5 5	(27/2 ⁺)	J ^π : (27/2 ⁺) from γ(θ) and polarization.
7618.2 10		

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

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

γ(⁶⁷Ga)

E _γ	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [#]	δ [#]	Comments
342.58 9	2.7 [‡] 7	4198.57	(17/2 ⁺)	3855.98	17/2 ⁺			
359.11 2	64.8 10	359.110	5/2 ⁻	0.0	3/2 ⁻	M1+E2	-0.08 1	
546.18 2	19.3 3	3577.94	15/2 ⁺	3031.76	13/2 ⁺	M1+E2	-0.23 2	
554.59 2	24.6 4	2073.74	9/2 ⁺	1519.15	9/2 ⁻	E1(+M2)	-0.00 2	
712.53 4	16.8 6	4290.48	19/2 ⁺	3577.94	15/2 ⁺	E2(+M3)	+0.003 15	
715.5 4	2.03 3	3577.94	15/2 ⁺	2862.43	11/2 ⁺			
824.20 4	21.5 5	3855.98	17/2 ⁺	3031.76	13/2 ⁺	E2(+M3)	-0.005 10	
843.16 4	10.0 7	1202.27	7/2 ⁻	359.110	5/2 ⁻	M1+E2	-3.08 18	
871.47 2	34.2 6	2073.74	9/2 ⁺	1202.27	7/2 ⁻	E1(+M2)	-0.00 2	
888.54 8	5.8 4	6380.18	(25/2 ⁺)	5491.63	(21/2 ⁺)	(E2(+M3))	+0.010 15	
935.2 4	13.6 [‡] 10	5225.7	(23/2 ⁺)	4290.48	19/2 ⁺			E _γ : doublet obscured by 935γ in ⁶⁶ Ga.
958.01 5	58.2 9	3031.76	13/2 ⁺	2073.74	9/2 ⁺	E2(+M3)	-0.00 1	
1160.03 6	43.3 7	1519.15	9/2 ⁻	359.110	5/2 ⁻	E2(+M3)	-0.00 4	
1166.83 7	4.8 2	4198.57	(17/2 ⁺)	3031.76	13/2 ⁺	(E2(+M3))	+0.00 3	
1202.25 5	35.2 7	1202.27	7/2 ⁻	0.0	3/2 ⁻	E2(+M3)	-0.00 2	
1238 1		7618.2		6380.18	(25/2 ⁺)			
1293.07 8	4.3 5	5491.63	(21/2 ⁺)	4198.57	(17/2 ⁺)			
1343.26 10	5.0 4	2862.43	11/2 ⁺	1519.15	9/2 ⁻	E1(+M2)	+0.01 2	
1363.8 2	2.1 4	6589.5	(27/2 ⁺)	5225.7	(23/2 ⁺)	(E2(+M3))	+0.03 4	

Continued on next page (footnotes at end of table)

${}^{57}\text{Fe}({}^{12}\text{C},\text{pn}\gamma)$ 1979Zo01 (continued) $\gamma({}^{67}\text{Ga})$ (continued)

E_γ	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.#	$\delta^\#$
1635.57 12	2.3 4	5491.63	(21/2 ⁺)	3855.98	17/2 ⁺	(E2(+M3))	-0.004 20
1641.44 10	5.8 3	3160.61		1519.15	9/2 ⁻		

[†] Relative intensity corrected for angular distribution and normalized to $I_\gamma(359)+I_\gamma(1202)=100$.

[‡] From $\gamma\gamma$ coincidence data; not corrected for angular distribution.

[#] From adopted gammas.

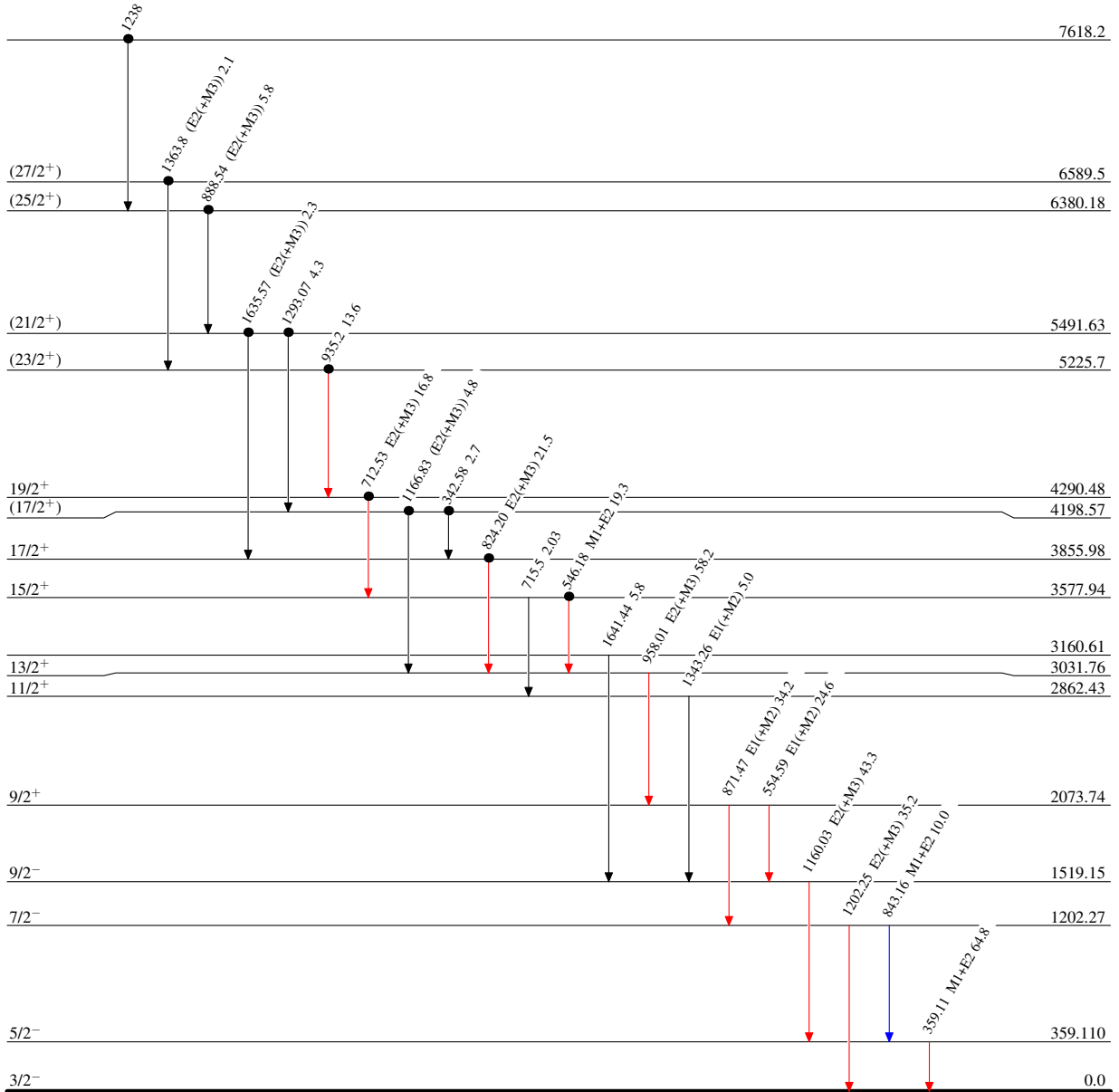
$^{57}\text{Fe}(^{12}\text{C},\text{pn}\gamma)$ 1979Zo01

Legend

Level Scheme

Intensities: Relative intensity corrected for angular distribution and normalized to $I_{\gamma}(359)+I_{\gamma}(1202)=100$ to $I_{\gamma}(359)+I_{\gamma}(1202)=100$

- \longrightarrow $I_{\gamma} < 2\% \times I_{\gamma}^{\text{max}}$
- \longrightarrow $I_{\gamma} < 10\% \times I_{\gamma}^{\text{max}}$
- \bullet Coincidence

 $^{67}_{31}\text{Ga}_{36}$