

⁶⁹Ga(p,p'γ) 1978Pa08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 115, 1 (2014)	31-Jul-2013

Target J^π=3/2⁻.

1978Pa08: E=3.0-5.1 MeV; measured E_γ, I_γ, γ(θ), γ yields, and T_{1/2} by DSA.

⁶⁹Ga Levels

E(level) [†]	J ^π [‡]	T _{1/2} [#]	Comments
0	3/2 ⁻		
318.71 3	1/2 ⁻	<97 ps	
574.17 3	5/2 ⁻		J ^π : 5/2 from γ(θ).
872.14 3	3/2 ⁻	0.250 ps 21	J ^π : 1/2 or 3/2 from γ(θ); 3/2 or 5/2 from γ yields.
1028.53 9	1/2 ⁻	1.2 ps 10	J ^π : 1/2 or 3/2 from γ(θ); γ yields consistent with J=1/2 only.
1106.81 8	5/2 ⁻	0.222 ps 21	J ^π : 5/2 from γ(θ).
1336.62 8	7/2 ⁻	0.90 ps 21	J ^π : 7/2 from γ(θ).
1488.06 18	7/2 ⁻		J ^π : 7/2 from γ(θ).
1525.92 22	3/2 ⁻		

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

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

[#] From DSA.

γ(⁶⁹Ga)

E _γ	I _γ [†]	E _i (level)	J _i ^π	E _f	J _f ^π	Mult. [‡]	δ [@]	Comments
318.71 3	100	318.71	1/2 ⁻	0	3/2 ⁻	(M1+E2)		
454.4 ^a	≤3	1028.53	1/2 ⁻	574.17	5/2 ⁻			
553.38 15	4.9	872.14	3/2 ⁻	318.71	1/2 ⁻			
574.17 3	99.8 ^{&}	574.17	5/2 ⁻	0	3/2 ⁻	(M1+E2)	-0.06 3	
709.80 10	70.0	1028.53	1/2 ⁻	318.71	1/2 ⁻	(M1)		
872.14 3	94.9	872.14	3/2 ⁻	0	3/2 ⁻	M1+E2 [#]	-0.13 4	
913.9 3	42.0	1488.06	7/2 ⁻	574.17	5/2 ⁻	(M1+E2)	-2.54 10	E _γ : Authors' value of 931.87 30 is a misprint.
1028.54 13	30.0	1028.53	1/2 ⁻	0	3/2 ⁻	(M1+E2)		
1106.80 8	96.4 ^{&}	1106.81	5/2 ⁻	0	3/2 ⁻	M1+E2 [#]	+0.41 5	
1207.2 3	37.0	1525.92	3/2 ⁻	318.71	1/2 ⁻			
1336.61 8	93.9 ^{&}	1336.62	7/2 ⁻	0	3/2 ⁻	E2(+M3) [#]	+0.02 3	
1488.03 21	58.0	1488.06	7/2 ⁻	0	3/2 ⁻	(E2+(M3))	+0.00 3	
1525.8 3	63.0	1525.92	3/2 ⁻	0	3/2 ⁻			

[†] Branching ratios are given as quoted in 1978Pa08, uncertainties not given. Weak branches not observed in this work have been taken into account.

[‡] From γ(θ) and assigned J^π values, unless indicated otherwise.

[#] From γ(θ) and RUL.

[@] From γ(θ). T_{1/2}'s have been used to reject alternative δ's.

[&] Branching quoted is taken from ⁶⁹Ge ε decay (1969Zo01).

^a Placement of transition in the level scheme is uncertain.

$^{69}\text{Ga}(p,p'\gamma)$ 1978Pa08

Legend

Level Scheme

Intensities: Type not specified

- $I_\gamma < 2\% \times I_\gamma^{\text{max}}$
- $I_\gamma < 10\% \times I_\gamma^{\text{max}}$
- $I_\gamma > 10\% \times I_\gamma^{\text{max}}$
- - - - - γ Decay (Uncertain)

