

¹⁴⁸Nd(⁶Li,3nγ) 1977F109

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 110, 1 (2009)	20-Nov-2008

1977F109 (also 1977F1ZP): E=26-34 MeV. Measured γ, γγ, γ(θ), γγ(t) and excitation functions.

¹⁵¹Eu Levels

E(level)	J ^π †	Comments
0.0	5/2 ⁺	
21.542 3	7/2 ⁺	
196.2 1	11/2 ⁻	
502.3 4	15/2 ⁻	
611.4 1	13/2 ⁻	From 'Adopted Levels'.
957.5 5	19/2 ⁻	
1040.9 3	17/2 ⁻	
1503.5 6	(23/2) ⁻	
1564.1 5	21/2 ⁻	
2118.5 6	(27/2) ⁻	

† From 'Adopted Levels'.

γ(¹⁵¹Eu)

E _γ	I _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.†	Comments
21.542 3		21.542	7/2 ⁺	0.0	5/2 ⁺		E _γ : from 'adopted gammas'.
174.7 1		196.2	11/2 ⁻	21.542	7/2 ⁺		E _γ : from 'adopted gammas'.
306.1 3	100.0 10	502.3	15/2 ⁻	196.2	11/2 ⁻	Q	A ₂ =+0.256 25, A ₄ =-0.07 3.
429.5 3	16.0 5	1040.9	17/2 ⁻	611.4	13/2 ⁻	(Q)	Deexcitation from a 932 level (1977F109) incorrect.
455.2 3	52.5 9	957.5	19/2 ⁻	502.3	15/2 ⁻	Q	A ₂ =+0.22 8, A ₄ =-0.01 9.
523.2 3	13.8 6	1564.1	21/2 ⁻	1040.9	17/2 ⁻	(Q)	A ₂ =+0.29 4, A ₄ =-0.12 5.
546.0 3	32.6 7	1503.5	(23/2) ⁻	957.5	19/2 ⁻	Q	Deexcitation from a 1455 level (1977F109) incorrect.
615.0 3	11.5 7	2118.5	(27/2) ⁻	1503.5	(23/2) ⁻	(Q)	A ₂ =+0.30 9, A ₄ =+0.02 10.
							A ₂ =+0.30 5, A ₄ =-0.11 6.
							A ₂ =+0.15 14, A ₄ =-0.09 16.

† From γ(θ) data. The mult=Q indicates ΔJ=2, stretched quadrupole (most likely E2).

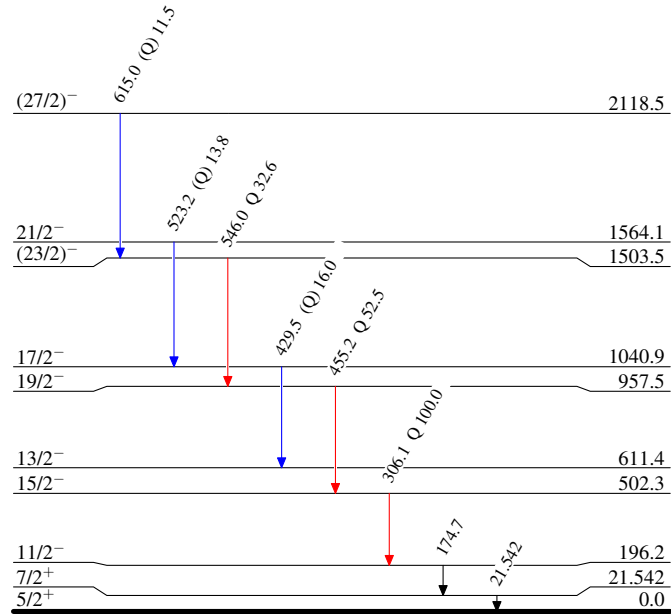
$^{148}\text{Nd}(^6\text{Li},3n\gamma)$ 1977F109

Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{151}_{63}\text{Eu}_{88}$