

$^{60}\text{Ni}(^7\text{Li},2n\gamma)$ 1980Ka08

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 202,59 (2025)	25-Feb-2025

1980Ka08: E=20 MeV ^7Li beam was produced from the EN tandem accelerator at ORNL. Target was enriched ^{70}Ni on a Ni backing. γ rays were detected with the two Ge(Li) detectors. Measured E_γ , I_γ , $\gamma(\theta)$. Deduced levels.

 ^{65}Ga Levels

E(level) ^{†‡}	J π [#]	Comments
0.0		
190.6	5/2 ⁻	
1075.2	7/2 ⁻	
1287.1	9/2 ⁻	
1326.0	(7/2 ⁻)	
1521.3	(5/2 ⁻)	
2037.3	9/2 ⁺	
2788.2	13/2 ⁻	
2813.2	11/2 ⁻	
3064.5	13/2 ⁺	
3071.6	(11/2 ⁺)	
3732.2	(13/2,15/2)	
4122.4	17/2 ⁺	
4132.4		
4330.7	(15/2 ⁺)	J π : (17/2 ⁺) in Adopted Levels.
4432.9	21/2 ⁺	J π : (17/2 ⁺) in Adopted Levels.
4546.7	(17/2,19/2)	

[†] Additional information 1.

[‡] From a least-squares fit to γ -ray energies.

[#] As given in 1980Ka08.

 $\gamma(^{65}\text{Ga})$

E_γ [†]	I_γ [†]	$E_i(\text{level})$	J π_i	E_f	J π_f	Comments
190.6	100	190.6	5/2 ⁻	0.0		$A_2=-0.166$ 12; $A_4=+0.001$ 12
310.5	1.7 3	4432.9	21/2 ⁺	4122.4	17/2 ⁺	$A_2=+0.43$ 15; $A_4=+0.04$ 16
424.3	0.5 2	4546.7	(17/2,19/2)	4122.4	17/2 ⁺	
598.4 [‡]		4330.7	(15/2 ⁺)	3732.2	(13/2,15/2)	
667.5	3.8 5	3732.2	(13/2,15/2)	3064.5	13/2 ⁺	$A_2=-0.24$ 12; $A_4=+0.09$ 14
750.0	27 2	2037.3	9/2 ⁺	1287.1	9/2 ⁻	$A_2=+0.238$ 31; $A_4=-0.036$ 34
814.5	3.4 4	4546.7	(17/2,19/2)	3732.2	(13/2,15/2)	$A_2=+0.36$ 11; $A_4=-0.05$ 11
884.5	14 2	1075.2	7/2 ⁻	190.6	5/2 ⁻	$A_2=-0.308$ 28; $A_4=+0.070$ 30
919.1	2.5 3	3732.2	(13/2,15/2)	2813.2	11/2 ⁻	$A_2=-0.11$ 15; $A_4=+0.03$ 17
944.1	10.1 6	3732.2	(13/2,15/2)	2788.2	13/2 ⁻	$A_2=-0.172$ 25; $A_4=+0.015$ 30
962.0	12 2	2037.3	9/2 ⁺	1075.2	7/2 ⁻	$A_2=-0.27$ 7; $A_4=-0.03$ 7
1027.1	22 2	3064.5	13/2 ⁺	2037.3	9/2 ⁺	$A_2=+0.35$ 9; $A_4=-0.06$ 8
1034.2 [#]		3071.6	(11/2 ⁺)	2037.3	9/2 ⁺	
1057.9	12 2	4122.4	17/2 ⁺	3064.5	13/2 ⁺	$A_2=+0.233$ 30; $A_4=-0.029$ 34
1067.9 [#]		4132.4		3064.5	13/2 ⁺	
1075.2	18 2	1075.2	7/2 ⁻	0.0		$A_2=+0.350$ 25; $A_4=-0.105$ 30
1096.3	76 5	1287.1	9/2 ⁻	190.6	5/2 ⁻	$A_2=+0.313$ 24; $A_4=-0.047$ 26
1135.4		1326.0	(7/2 ⁻)	190.6	5/2 ⁻	
1266.3	3.2 5	4330.7	(15/2 ⁺)	3064.5	13/2 ⁺	

Continued on next page (footnotes at end of table)

⁶⁰Ni(⁷Li,2n γ) **1980Ka08 (continued)**

$\gamma(^{65}\text{Ga})$ (continued)

<u>E_{γ}[†]</u>	<u>I_{γ}[†]</u>	<u>E_i(level)</u>	<u>J_i^{π}</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Comments</u>
1330.7 [‡]		1521.3	(5/2 ⁻)	190.6	5/2 ⁻	
1501.1	17 2	2788.2	13/2 ⁻	1287.1	9/2 ⁻	A ₂ =+0.39 4; A ₄ =-0.14 5
1521.3	3.5 7	1521.3	(5/2 ⁻)	0.0		A ₂ =-0.40 10; A ₄ =+0.25 9
1526.1	10 1	2813.2	11/2 ⁻	1287.1	9/2 ⁻	A ₂ =-0.26 8; A ₄ =+0.03 7
1847.0	2.3 3	2037.3	9/2 ⁺	190.6	5/2 ⁻	

[†] From 1980Ka08.

[‡] Doublet.

Weak.

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Level Scheme

Intensities: Relative I_γ

Legend

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

