

$^{61}\text{Ni}(\text{p},\text{p}'\gamma)$ 1975SeZB

Type	History		
	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	ENSDF	20-Jan-2020

No changes made since the 2015 update.

1975SeZB: E(p)=6.0 MeV. Measured $E\gamma$, $I\gamma$, semi, Compton suppression, enriched target (24.7% and 85.4%).

Other: 1974BrYF.

 ^{61}Ni Levels

<u>E(level)[†]</u>	<u>$J^{\pi\ddagger}$</u>	<u>E(level)[†]</u>	<u>$J^{\pi\ddagger}$</u>	<u>E(level)[†]</u>	<u>$J^{\pi\ddagger}$</u>	<u>E(level)[†]</u>	<u>$J^{\pi\ddagger}$</u>
0.0	3/2 ⁻	656.1 5	1/2 ⁻	1099.4 7	3/2 ⁻	1456.3 7	7/2 ⁻
67.1 5	5/2 ⁻	908.9 8	5/2 ⁻	1131.7 8	5/2 ⁻	1609.9 8	5/2 ⁻
283.3 7	1/2 ⁻	1014.3 6	7/2 ⁻	1185.2 7	3/2 ⁻	1729.9 6	3/2 ⁻

[†] From level scheme and $E\gamma$ data using least-squares fit, assuming 1 keV uncertainty in $E\gamma$ values.

[‡] From Adopted Levels.

 $\gamma(^{61}\text{Ni})$

<u>$E\gamma$</u>	<u>$I\gamma$</u>	<u>$E_i(\text{level})$</u>	<u>J_i^{π}</u>	<u>E_f</u>	<u>J_f^{π}</u>	<u>Mult.</u>	<u>Comments</u>
67.11	258	67.1	5/2 ⁻	0.0	3/2 ⁻		
283.7	100	283.3	1/2 ⁻	0.0	3/2 ⁻		
357.9 [†]	2	1014.3	7/2 ⁻	656.1	1/2 ⁻	[M3]	$E\gamma$: this γ , implied as M3 from ΔJ^{π} is not confirmed in any other γ -ray study where this level is populated. Evaluators consider it questionable, as B(M3)(W.u.) is unacceptably large, and do not include in the Adopted dataset.
372.9	7.2	656.1	1/2 ⁻	283.3	1/2 ⁻		
441.8	6	1456.3	7/2 ⁻	1014.3	7/2 ⁻		
529.4	5.1	1185.2	3/2 ⁻	656.1	1/2 ⁻		
545	3.5	1729.9	3/2 ⁻	1185.2	3/2 ⁻		
588.6	6.6	656.1	1/2 ⁻	67.1	5/2 ⁻		
656.0	57.5	656.1	1/2 ⁻	0.0	3/2 ⁻		
816.3	20	1099.4	3/2 ⁻	283.3	1/2 ⁻		
842.0	14	908.9	5/2 ⁻	67.1	5/2 ⁻		
908.7	61	908.9	5/2 ⁻	0.0	3/2 ⁻		
947.7	45	1014.3	7/2 ⁻	67.1	5/2 ⁻		
1014	32	1014.3	7/2 ⁻	0.0	3/2 ⁻		
1032	4.3	1099.4	3/2 ⁻	67.1	5/2 ⁻		
1064.5	13	1131.7	5/2 ⁻	67.1	5/2 ⁻		
1073.5	9	1729.9	3/2 ⁻	656.1	1/2 ⁻		
1099.4	18.6	1099.4	3/2 ⁻	0.0	3/2 ⁻		
1131.8	42.5	1131.7	5/2 ⁻	0.0	3/2 ⁻		
1185.2	51	1185.2	3/2 ⁻	0.0	3/2 ⁻		
1389	19	1456.3	7/2 ⁻	67.1	5/2 ⁻		
1456.6	71	1456.3	7/2 ⁻	0.0	3/2 ⁻		
1542.8	16	1609.9	5/2 ⁻	67.1	5/2 ⁻		
1609.9	16	1609.9	5/2 ⁻	0.0	3/2 ⁻		
1662.8	12	1729.9	3/2 ⁻	67.1	5/2 ⁻		
1729.9	15	1729.9	3/2 ⁻	0.0	3/2 ⁻		

[†] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

Intensities: Relative I_γ

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

