

$^{70}\text{Ge}(\text{p},\text{d}\gamma)$ 1978TeZY

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

1978TeZY: E=17 MeV; measured $E\gamma$, $I\gamma$, and $\gamma\gamma$ coincidences.

 ^{69}Ge Levels

E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]	E(level) [†]	J ^π [‡]
0	5/2 ⁻	862.16 8	7/2 ⁻	1350.66 11	11/2 ⁺	1610.73 11	5/2 ⁻
86.775 25	1/2 ⁻	933.35 6	5/2 ⁻	1407.56 11	13/2 ⁺	1613.33 10	7/2 ⁻
232.72 3	3/2 ⁻	994.82 11	1/2 ⁻	1414.77 21	5/2 ⁻	2018.7 10	13/2 ⁺
373.97 3	3/2 ⁻	1159.94 10	3/2 ⁻	1466.1 10	9/2 ⁺	2119.6 10	11/2 ⁺
398.05 5	9/2 ⁺	1195.86 7	5/2 ⁻	1478.23 20	7/2 ⁻	2483.6 10	15/2 ⁺
812.31 6	5/2 ⁺	1306.7 2	3/2 ⁻	1591.11 12	7/2 ⁺	2755.6 10	17/2 ⁺

[†] From least squares fit to $E\gamma$ data.

[‡] From Adopted Levels.

 $\gamma(^{69}\text{Ge})$

E_γ [†]	I_γ [‡]	$E_i(\text{level})$	J_i^π	E_f	J_f^π
86.79 3	28.3 8	86.775	1/2 ⁻	0	5/2 ⁻
141.22 4	1.0 2	373.97	3/2 ⁻	232.72	3/2 ⁻
145.92 5	11.4 3	232.72	3/2 ⁻	86.775	1/2 ⁻
232.69 5	23.6 8	232.72	3/2 ⁻	0	5/2 ⁻
287.19 5	3.4 4	373.97	3/2 ⁻	86.775	1/2 ⁻
374.01 5	9.8 2	373.97	3/2 ⁻	0	5/2 ⁻
398.04 5	100 1	398.05	9/2 ⁺	0	5/2 ⁻
414.2 1	4.7 1	812.31	5/2 ⁺	398.05	9/2 ⁺
438.4 1	5.3 2	812.31	5/2 ⁺	373.97	3/2 ⁻
559.3 1	4.3 2	933.35	5/2 ⁻	373.97	3/2 ⁻
^x 620.6 1	2.5 2				
629.5 [#] 1	2.1 2	862.16	7/2 ⁻	232.72	3/2 ⁻
668 ^{#@} 1		2018.7	13/2 ⁺	1350.66	11/2 ⁺
712 ^{#@} 1		2119.6	11/2 ⁺	1407.56	13/2 ⁺
762.1 1	3.8 ^a	994.82	1/2 ⁻	232.72	3/2 ⁻
778.8 [#] 1	3.3 2	1591.11	7/2 ⁺	812.31	5/2 ⁺
812.3 1	22.1 4	812.31	5/2 ⁺	0	5/2 ⁻
821.9 1	5.3 2	1195.86	5/2 ⁻	373.97	3/2 ⁻
846.8 1	8.4 ^a	933.35	5/2 ⁻	86.775	1/2 ⁻
862.1 1	18.0 4	862.16	7/2 ⁻	0	5/2 ⁻
933.2 1	5.0 2	933.35	5/2 ⁻	0	5/2 ⁻
952.6 [#] 1	7.8 2	1350.66	11/2 ⁺	398.05	9/2 ⁺
962.6 3	3.1 2	1195.86	5/2 ⁻	232.72	3/2 ⁻
1009.5 [#] 1	6.3 2	1407.56	13/2 ⁺	398.05	9/2 ⁺
1040.8 [@] 2		1414.77	5/2 ⁻	373.97	3/2 ⁻
1068.01 ^{&}		1466.1	9/2 ⁺	398.05	9/2 ⁺
1073.4 3	1.3 2	1159.94	3/2 ⁻	86.775	1/2 ⁻
1076 ^{#@} 1		2483.6	15/2 ⁺	1407.56	13/2 ⁺
1104.5 [@] 10		1478.23	7/2 ⁻	373.97	3/2 ⁻
1159.9 1	6.7 ^a	1159.94	3/2 ⁻	0	5/2 ⁻

Continued on next page (footnotes at end of table)

$^{70}\text{Ge}(\text{p,d}\gamma)$ **1978TeZY (continued)** $\gamma(^{69}\text{Ge})$ (continued)

$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π	$E_\gamma^\dagger$	$I_\gamma^\ddagger$	$E_i(\text{level})$	J_i^π	E_f	J_f^π
1195.9 1	1.2 2	1195.86	5/2 ⁻	0	5/2 ⁻	1380.6 @ 1		1613.33	7/2 ⁻	232.72	3/2 ⁻
1306.7 2	<2	1306.7	3/2 ⁻	0	5/2 ⁻	1478.2 2	2.4 3	1478.23	7/2 ⁻	0	5/2 ⁻
1348 # @ 1		2755.6	17/2 ⁺	1407.56	13/2 ⁺	1610.6 5	1.8 3	1610.73	5/2 ⁻	0	5/2 ⁻
^x 1368.5 # 1	14.0 4					1613.3 3	1.8 3	1613.33	7/2 ⁻	0	5/2 ⁻
1378.0 @ 1		1610.73	5/2 ⁻	232.72	3/2 ⁻	^x 1779.0 # 5	8.8 6				

[†] Values given are authors' weighted averages from ^{69}As ε decay and the $^{70}\text{Ge}(\text{p,d}\gamma)$ reaction, unless otherwise noted.

[‡] Relative intensity, at $\theta(\gamma)=90^\circ$.

From $^{70}\text{Ge}(\text{p,d}\gamma)$ reaction.

@ Observed in coincidence measurements only.

& Placed by authors as a g.s. transition. Placement to the 398 level is established in $(\alpha, n\gamma)$ and $(\text{p}, n\gamma)$.

^a Relative intensity, partially contaminated, no uncertainty given.

^x γ ray not placed in level scheme.

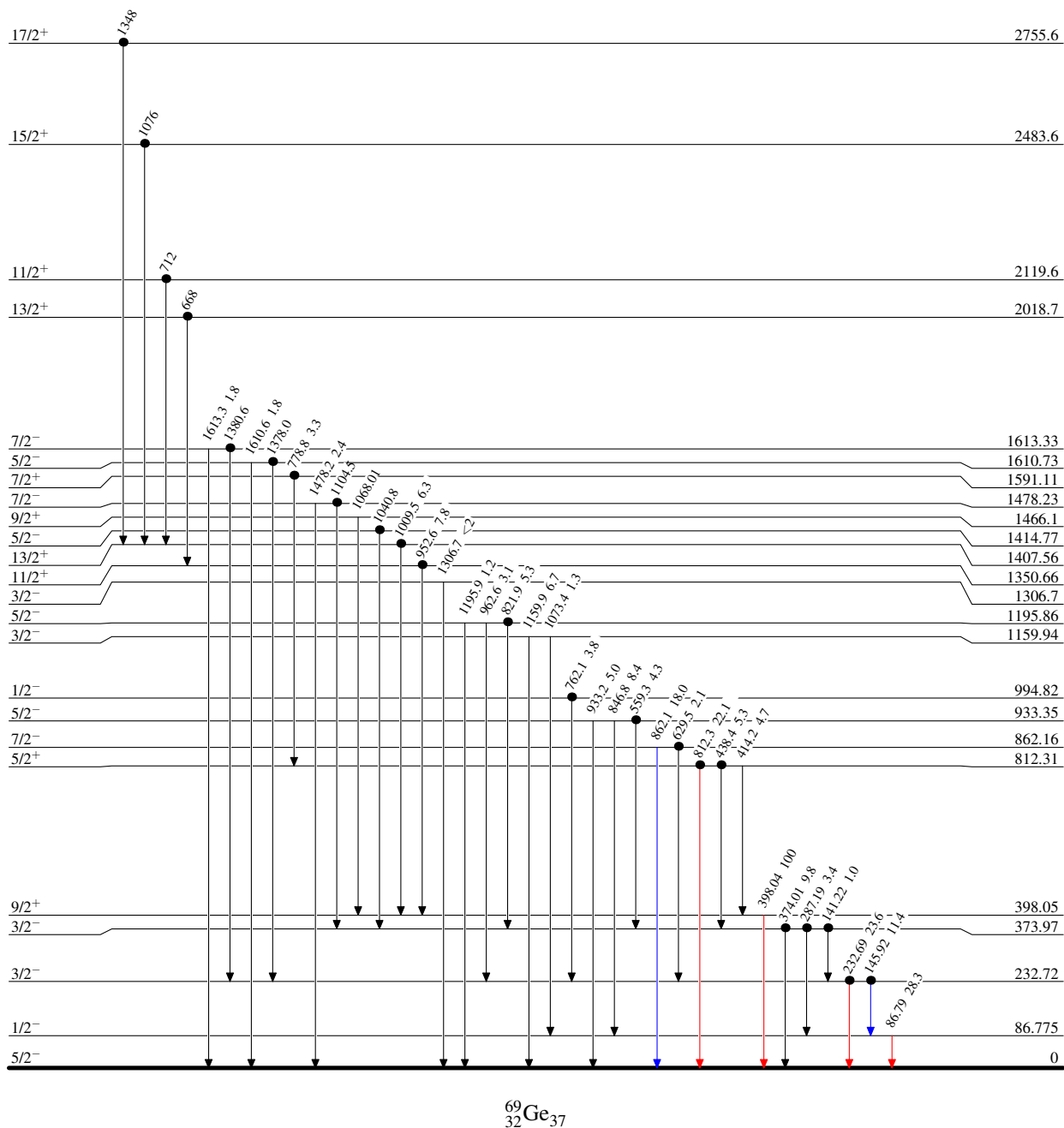
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Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{69}_{32}\text{Ge}_{37}$