^{70}Ge(p,2nγ) 1978TeZY

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

1978TeZY: E=17-28 MeV protons incident on ^{70}Ge followed by mass separation. Measured Eγ, Iγ, $\gamma\gamma$ coincidences and $T_{1/2}$ using.
Ge(Li) detectors with 12.8 % efficiency. Other: 1976TeZW.

^{69}As Levels

E(level)†	J$^\pi$‡	$T_{1/2}$	Comments
0.0	5/2$^-$	15.2 min *2*	$T_{1/2}$: From Adopted Levels.
98.10 *20*	3/2$^-$	<2 ns	$T_{1/2}$: From delayed coincidences with respect to beam pulse.
166.9 *3*	1/2$^-$,3/2$^-$		
497.1 *11*			
760.2 *5*			
790.1 *11*	1/2$^-$,3/2$^-$		
863.7 *4*	7/2$^-$		
1306.5 *3*	9/2$^+$		
2160.5 *11*	13/2$^+$		
2211.5 *11*	11/2$^+$		

† From least-squares fit to Eγ data.
‡ From Adopted Levels.

γ(^{69}As)

Other transitions reported in 1978TeZY are probably from ^{66}Ga (1981VaZX).

Eγ	Iγ†	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Comments
68.8 *2*	9 *2*	166.9	1/2$^-$,3/2$^-$	98.10	3/2$^-$	
98.1 *2*	100 *4*	98.10	3/2$^-$	0.0	5/2$^-$	
399‡ *1*	#	497.1		98.10	3/2$^-$	
442.7 *2*	67 *4*	1306.5	9/2$^+$	863.7	7/2$^-$	
662.1 *4*	9 *4*	760.2		98.10	3/2$^-$	
692.0 *10*	9 *4*	790.1	1/2$^-$,3/2$^-$	98.10	3/2$^-$	
854‡ *1*	70@ *4*	2160.5	13/2$^+$	1306.5	9/2$^+$	
862‡ *1*	322@ *7*	863.7	7/2$^-$	0.0	5/2$^-$	
905‡ *1*	46@ *19*	2211.5	11/2$^+$	1306.5	9/2$^+$	
1306.6 *3*	69 *4*	1306.5	9/2$^+$	0.0	5/2$^-$	Iγ: From branching in adopted γ's, Iγ (1307γ) from the 1307 level is expected to be ≈ 42. The excess suggests the 2168 level, which decays via 1306γ, may be populated in this reaction.

† At E=28 MeV, $\theta(\gamma)$=90°.
‡ Contaminated line.
# Not measured due to strong contamination of γ line from ^{69}Ge.
@ Contains contribution from contaminant line.

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Level Scheme

Intensities: Relative I_γ

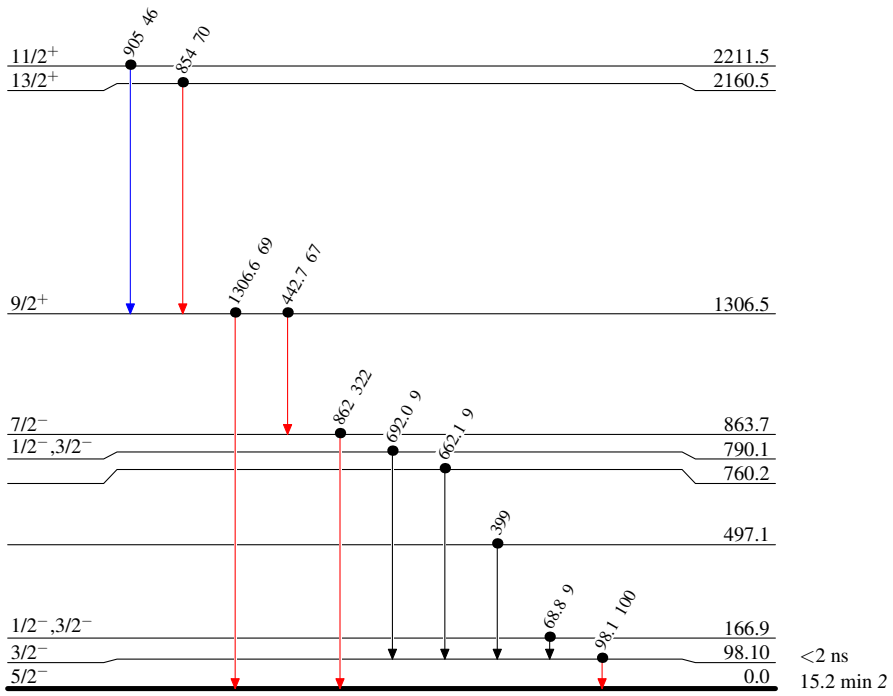
Legend

$I_\gamma < 2\% \times I_\gamma^{max}$

$I_\gamma < 10\% \times I_\gamma^{max}$

$I_\gamma > 10\% \times I_\gamma^{max}$

Coincidence



$^{69}_{33}As_{36}$