^{60}Ni(^{16}O,n2pγ) 1987De11

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh and Jun Chen	NDS 158, 1 (2019)	16-May-2019

1987De11: E=60 MeV. Measured Eγ, Iγ, lifetimes by recoil-distance Doppler-shift method (RDM).
1987He21: measured γ, (ce)γ-coin.

^{73}Se Levels

E(level)[†]	J$^\pi$[‡]	T$_{1/2}$[#]	Comments
0.0	9/2$^+$		
25.71[&] *4*	3/2$^-$	39.8 min *17*	T$_{1/2}$: from Adopted Levels.
26.4[@]	5/2		J$^\pi$: (3/2$^-$) in Adopted Levels.
151[&]	5/2$^-$	222 ps *33*	
192[@]	7/2$^+$		J$^\pi$: 5/2$^+$ in Adopted Levels.
506[&]	7/2$^-$	4.7 ps *5*	
805[&]	9/2$^-$	2.50 ps *14*	
971	13/2$^+$	0.90 ps *7*	
1180[&]	11/2$^-$	1.52 ps *14*	
1553[&]	13/2$^-$	1.18 ps *21*	
2003[&]	15/2$^-$	≤1.4 ps	
2015	17/2$^+$	≤0.5 ps	

[†] From least-squares fit to Eγ data, assuming Δ(Eγ)=1 keV for γ rays from levels above 150 keV.
[‡] From 1987De11, based on the level scheme proposed in 1976Ze05.
[#] From RDM (1987De11).
[@] From 1987He21.
[&] Band(A): 3/2$^-$ band.

γ(^{73}Se)

E$_\gamma$[†]	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.	α[#]	Comments
(0.6)		26.4	5/2	25.71	3/2$^-$			The decay through 0.6-keV transition is not established. It is only implied from the lack of observation of a 26.4γ to g.s. from Iγ(26.4)/Iγ(166.2)<0.018; and no conversion electrons seen in coin with 166.2γ (1987He21).
(25.71 *4*)		25.71	3/2$^-$	0.0	9/2$^+$	E3	5250 *90*	E$_\gamma$,Mult.: from Adopted Gammas.
126	100 *4*	151	5/2$^-$	25.71	3/2$^-$			
166.2[‡]		192	7/2$^+$	26.4	5/2			
192.6[‡]		192	7/2$^+$	0.0	9/2$^+$			
300	34.7 *14*	805	9/2$^-$	506	7/2$^-$			
355	51.0 *20*	506	7/2$^-$	151	5/2$^-$			
373	12.0 *10*	1553	13/2$^-$	1180	11/2$^-$			
375	26.6 *13*	1180	11/2$^-$	805	9/2$^-$			
480	13.6 *9*	506	7/2$^-$	25.71	3/2$^-$			
654	47.0 *20*	805	9/2$^-$	151	5/2$^-$			
674	30.1 *20*	1180	11/2$^-$	506	7/2$^-$			
748	34.0 *20*	1553	13/2$^-$	805	9/2$^-$			
823	26 *3*	2003	15/2$^-$	1180	11/2$^-$			

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^{60}Ni(^{16}O,n2pγ) 1987De11 (continued)

γ(^{73}Se) (continued)

E_γ [†]	I_γ [†]	E_i(level)	J_i^π	E_f	J_f^π
971	11.6 *5*	971	13/2$^+$	0.0	9/2$^+$
1044	5.4 *3*	2015	17/2$^+$	971	13/2$^+$

[†] From 1987De11, unless otherwise noted.
[‡] From 1987He21.
[#] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

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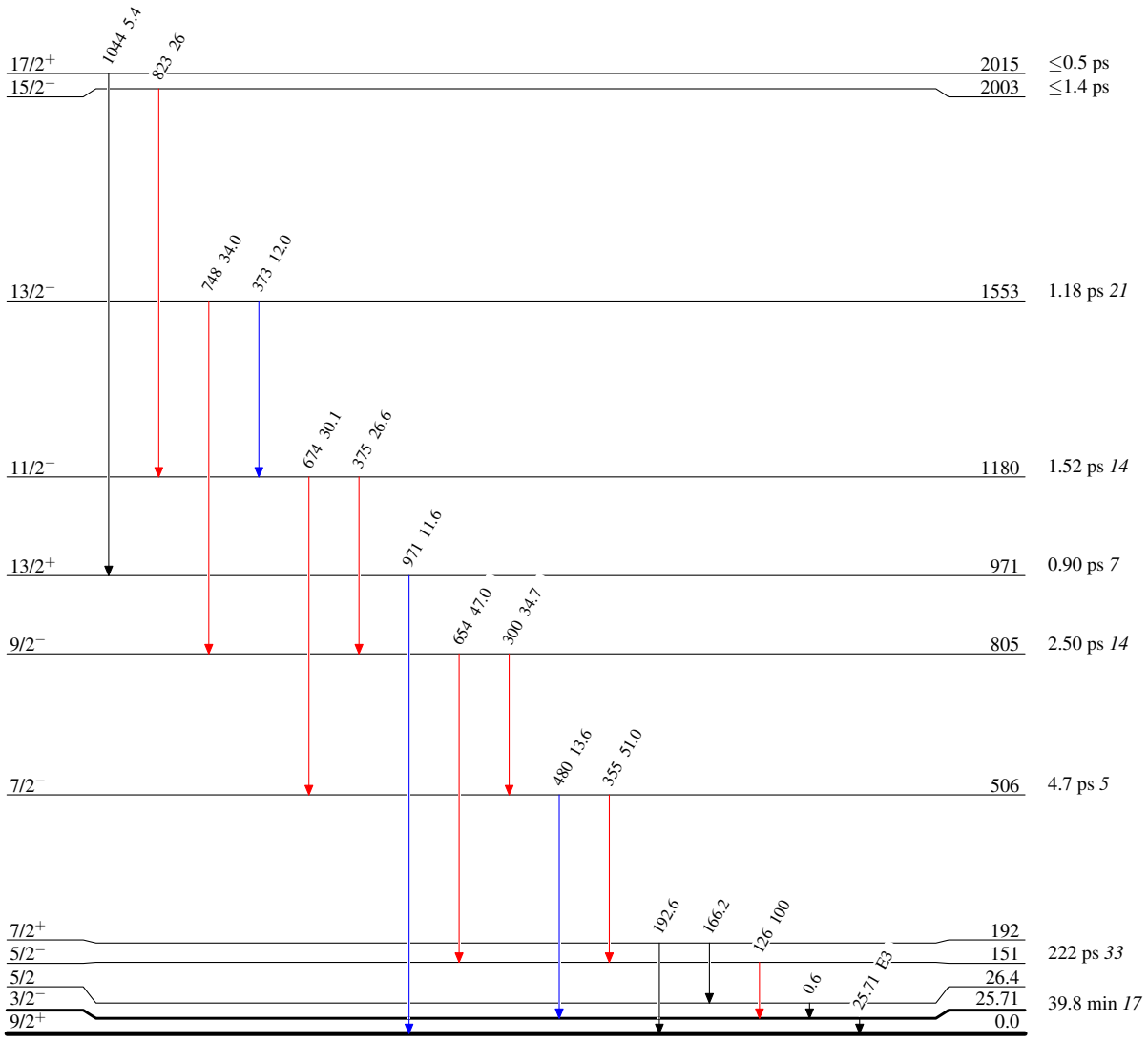
Level Scheme

Intensities: Relative I_γ

Legend

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



$^{73}_{34}Se_{39}$

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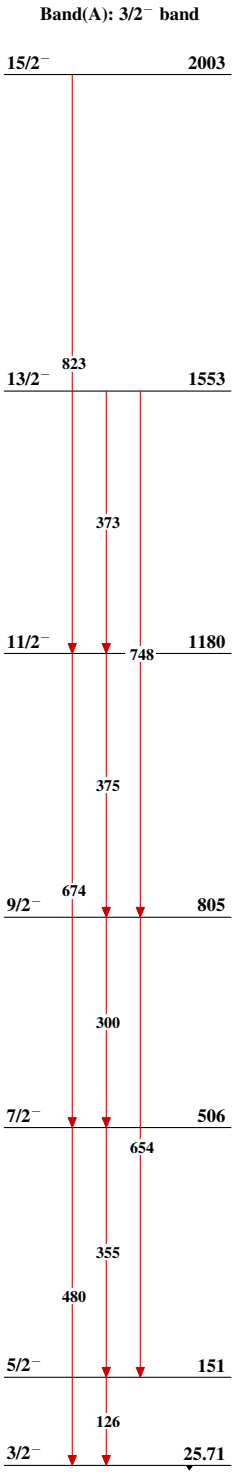

$^{73}_{34}Se_{39}$