^{48}Ca(^{18}O,p3nγ) 1978Wa09

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Alan L. Nichols, Balraj Singh, Jagdish K. Tuli	NDS 113, 973 (2012)	15-Apr-2012

1978Wa09: E=25-55 MeV. Measured Eγ, Iγ, $\gamma\gamma$, $\gamma(\theta)$, lifetimes by DSAM and RDM.

^{62}Co Levels

E(level)[†]	J$^\pi$[#]	$T_{1/2}$	Comments
22 *5*	(5$^+$)	13.91 min *5*	E(level),J$^\pi$,$T_{1/2}$: from Adopted Levels.
609.71 *14*	(5$^+$)		
1216.30 *15*	(6)		
1543.22 *19*	(7)	1.32[‡] ps *28*	
2309.7 *9*	(8)	<0.28[‡] ps	

[†] Matching of energy levels populated in this reaction with those in (^{3}He,t) and (d,α) suggests that the observed γ cascade feeds the 22-keV isomer, rather than the g.s. The level energies are obtained from a least-squares fit to Eγ data, keeping the 22-keV level energy fixed.

[‡] From DSAM (1978Wa09).

[#] From $\gamma(\theta)$ based on J(22)=5. The J -> J -> J+1 -> (J+2) -> [J+3] sequence would persist, where J is the spin of the lowest level populated. The side-feeding intensity pattern favors J+1 to J for the upper three γ transitions.

γ(^{62}Co)

E$_\gamma$	I$_\gamma$[†]	E$_i$(level)	J$_i^\pi$	E$_f$	J$_f^\pi$	Mult.[‡]	Comments
326.92 *12*	69	1543.22	(7)	1216.30	(6)	D	A_2=−0.59 *4*
587.71 *14*	46	609.71	(5$^+$)	22	(5$^+$)	D	A_2=−0.63 *7*
606.44 *15*	28	1216.30	(6)	609.71	(5$^+$)	D	A_2=−0.9 *4*
766.5 *9*	≈40	2309.7	(8)	1543.22	(7)		
1194.45 *18*	83	1216.30	(6)	22	(5$^+$)	D	A_2=−0.34 *6* I$_\gamma$: also Iγ(1194)/Iγ(606)=75 *4*/25 *4*, this ratio used in Adopted Gammas.

[†] Relative Iγ corrected for angular distributions. Beam energy is not stated but was probably 45 MeV.

[‡] From $\gamma(\theta)$, quadrupole admixture is possible.

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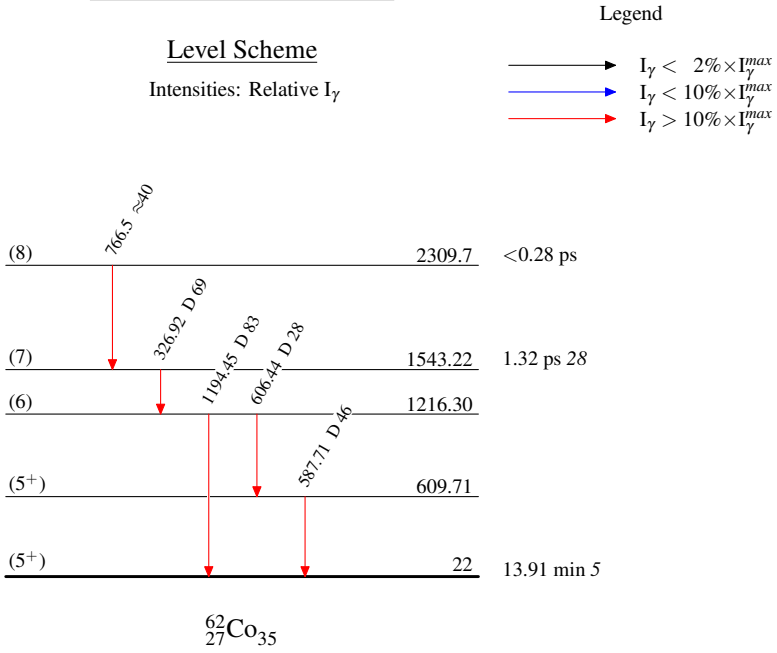
Level Scheme

Intensities: Relative I_γ



$^{62}_{27}Co_{35}$