^{59}Co(α,t) 1971Ma52,1987Pe03,1989Pe06

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli	NDS 114, 1849 (2013)	31-Dec-2012

$J^\pi(^{59}Co)=7/2^-$.

Eα=29 MeV. Measured $\sigma(\theta)$, θ(c.m.)≈15° to 60°. ΔE-E telescope, surface barrier detectors, FWHM= 100 keV (1971Ma52).

Eα= 80.9 MeV. FWHM= 90 keV. $\sigma(\theta)$, DWBA analysis of 8^- states from 7° to 30° (1987Pe03,1989Pe06).

For discussion of energy spectra of emitted p, d, and t, see 1975Du14.

Others: 1967Ar05, 1977To10, 1978Le08.

Data for E(level) below 7.5 MeV are from 1971Ma52, above 7.5 MeV all data are from 1987Pe03 and 1989Pe06.

^{60}Ni Levels

E(level)	J^π[†]	Γ[‡]	L[#]	C^2S'[#]	Comments
0.0			3	0.59	
1.33×10^3 *4*			1+3	0.11+0.22	
2.16×10^3 *4*			1	0.11	
2.52×10^3 *4*			3	0.07	
3.14×10^3 *4*			1	0.13	
3.38×10^3 *10*					
3.68×10^3 *4*			1	0.72	
4.01×10^3 *4*			(4,3)	0.21,0.34	
4.34×10^3 *4*			3	0.21	
4.47×10^3 *4*			1	0.92	
4.81×10^3 *4*			1	0.30	
5.01×10^3 *10*			(3)	0.59	
5.12×10^3 *10*			(3)	0.69	
5.48×10^3 *10*					
5.89×10^3 *15*					
6.21×10^3 *15*					
6.50×10^3 *10*			(4)		
6.75×10^3 *15*			(4)	0.83	
7.01×10^3 *15*			(4)		
7550 *8*	8^-	36 keV	4		T=2, S=0.200, C^2S=0.160.
8445 *11*	8^-	33 keV	4		T=2, S=0.017, C^2S=0.014.
8994 *10*	8^-	79 keV	4		T=2, S=0.040, C^2S=0.034.
9208 *10*	8^-	127 keV	4		Γ: Doublet, lower member of the doublet identified with 8^-, T=2. T=2, S=0.076, C^2S=0.063.
12305 *20*	8^-	56 keV	4		T=3, S=0.081, C^2S=0.014.
12515 *16*	8^-	103 keV	4		T=3, S=0.180, C^2S=0.031.
13883 *16*	8^-	70 keV	4		T=3, S=0.410, C^2S=0.069.
14817 *10*	8^-	64 keV	4		T=3, S=0.270, C^2S=0.045.
15483 *19*	8^-	68 keV	4		T=3, S=0.090, C^2S=0.015.
16110 *23*	8^-	87 keV	4		T=3, S=0.100, C^2S=0.017.

[†] From (e,e′) data.

[‡] From subtracting in quadrature the instrumental resolution of 90 keV from the observed peak widths (1987Pe03).

[#] From comparison with DWBA. Normalization constant N=36.1, so that C^2S' for the g.s. is equal to that obtained from a (^{3}He,d) reaction (1971Ma52).