

$^{59}\text{Co}(\alpha,\alpha')$ 1990Ba23,1965Br24,1976Yo02

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia		NDS 151, 1 (2018)	1-Apr-2018

Others: 1965Ta06, 1964Ku07, 1961Br33.

1965Br24: $E\alpha=43$ MeV; measured $\sigma(\theta)$, $\theta=14^\circ-50^\circ$ in steps of 2° ; solid state detectors, resolution=280 keV (see also 1961Br33).

1976Yo02: $E\alpha=96, 115$ MeV; measured α spectrum in vicinity of GQR.

1990Ba23: $E\alpha=25$ MeV; FWHM=150-250 keV, $\theta(\text{lab})=20^\circ-172.5^\circ$ in 2.5° steps; measured $\sigma(\theta)$; coupled channels analysis; deduced β_J assuming $f_{7/2}$ proton coupled to quadrupole phonon in ^{58}Fe or ^{60}Ni .

 ^{59}Co Levels

E(level) [†]	J ^π #	Γ	L [@]	Comments
0.0 [‡]	7/2 ⁻			
1190 [‡]	9/2 ⁻		2	E(level): 1230 30 in 1965Br24.
1460 [‡]	11/2 ⁻			
1940? 50				Not included in Adopted Levels.
2180 50				
3.1×10 ³ 2			3	
3850 50				
4620 50				
5.30×10 ³ 15				E(level): Energy spread overlaps more than 3 Adopted Levels – not referenced.
16.3×10 ³ 5		5.6 MeV 4		J ^π : GQR. E(level),Γ: from 1976Yo02.

[†] From 1965Br24, except as noted. 1965Br24 report that no peak is due to a single resolved level.

[‡] From 1990Ba23; interpreted by authors as member of K=7/2 rotational band. 1190- and 1460-keV peaks may include contribution from adopted level immediately above and immediately below.

From coupled channels analysis (1990Ba23).

@ From 1965Br24 and 1961Br33, and from 1964Ku07.