

Table 13.12 from (1991AJ01): Electromagnetic transitions in ^{13}C from $^{13}\text{C}(e, e')^{13}\text{C}$ ^a

E_x (MeV)	J^π	Mult.	Γ_{γ_0} (eV)	$\Gamma_{\gamma_0}/\Gamma_w$ (W.u.)
3.09	$\frac{1}{2}^+$	C1	0.52	0.047 ± 0.010 ^a
3.68	$\frac{3}{2}^-$	M1	0.36 ± 0.05 ^c	0.34
		C2	$(3.6 \pm 0.4) \times 10^{-3}$ ^c	3.5
3.85	$\frac{5}{2}^+$	C3	6×10^{-8}	1.3 ± 0.2 ^a
6.86	$\frac{5}{2}^+$	M2	$(6.9 \pm 3.6) \times 10^{-5}$ ^c	0.055
		C3	3×10^{-7}	0.10 ± 0.06 ^a
7.55 ^b	$\frac{5}{2}^-$	C2	0.115 ± 0.006 ^c	3.2
8.86 ^d	$\frac{1}{2}^-$	C0	2.1 ± 0.4 ^{c, e}	
		M1	3.4 ± 0.5 ^c	0.23
9.50 ^f	$\frac{9}{2}^+$	M4		
9.90	$\frac{3}{2}^-$	M1	0.32 ± 0.05 ^c	0.016
		C2	$(6.3 \pm 2.1) \times 10^{-3}$ ^c	0.045
11.08	$\frac{1}{2}^-$	C0	2.6 ± 0.3 ^{c, e}	
		M1	1.0 ± 0.2 ^c	0.036
11.85 ^g	$\frac{7}{2}^+$	C3		
11.95 ^g	$(\frac{5}{2}^+)$	C3		
15.11	$\frac{3}{2}^-$	M1	22.7 ± 2.6 ^c	0.31
		C2	^h	
16.08 ⁱ	$(\frac{7}{2}^+)$	M4		
21.47 ⁱ	$\frac{9}{2}^+$	M4		

^a (1989MI01) [see for form factors up to multipolarity three]. Table V in (1989MI01) shows $B(C\lambda, \uparrow)$. $B(C1, \downarrow)$ and $B(C3, \downarrow)$ are given here with errors double the statistical errors given in (1989MI01) [see also footnote ^g]. I am greatly indebted to Dr. D.J. Millener for this table, which he prepared. For the earlier work see Tables 13.15 in (1981AJ01) and 13.12 in (1986AJ01) [see also footnotes ^{d, e}].

^b The dominant 7.55 MeV $\frac{5}{2}^-$ level is not resolved from the much weaker 7.49 and 7.69 MeV levels [see (1989MI01)].

^c (1969WI22, 1970WI04).

^d $\Gamma = 190 \pm 35$ keV.

^e Monopole matrix element in fm^2 .

^f For form factors see (1986HI06, 1987HI09).

^g Unresolved doublet, $B(C3, \uparrow) \simeq 27.5$ W.u. [see (1989MI01)].

^h The low q (e, e') data give a C2 transition strength of 0.5 W.u. (1969WI22, 1970WI04). However, data points near the peak of the C2 form factor (1989MI01) suggest that $B(C2, \downarrow)$ is about a factor of two smaller, consistent with 0.28 ± 0.10 W.u. for the analog transition in ^{13}N (see Table 13.6).

ⁱ Probably unresolved [see (1986HI06) for discussion and for form factors].