Table 14.19 from (1986AJ01): Levels of ^{14}N from ^{13}C(p, γ)^{14}N and ^{13}C(p, p)^{13}C [a]

$E_{\rm p}$ (MeV $\pm$ keV)	$\Gamma_{\rm c.m.}$ (keV)	$l_{\rm p}$	$\omega\Gamma_\gamma$ (eV)	J^π; T	^{14}N* (MeV)
0.4485 ± 0.5	< 0.37	2	0.022	2^-	7.9669
0.551 ± 1	30 ± 1	0	9.2	1^-; 1	8.062
1.012 ± 2	≤ 0.2	4	≈ 0.01	(4^-); 0	8.490
1.152 ± 1.4 [b]	3.8 ± 0.3	1	1.3	0^+; 1	8.620
1.320 ± 7 [b]	410 ± 20	0	12.8	0^-; 1	8.776
1.462 ± 3	16 ± 2	2	0.72	3^-; 1	8.907
1.523 ± 2	< 1		≈ 0.003	5^+; 0	8.964
1.540 ± 3	8 ± 2	1, (3)	0.13	2^+	8.980
1.7005 ± 1	< 1			3^+; 0	9.1287
1.7476 ± 0.9 [c]	135 ± 8 eV		[c]	2^+; 1	9.1724
1.980 ± 3	13 ± 3	2		3^-, 2^-	9.388
2.110 ± 3	41 ± 2	2	6.2	2^-; 1	9.509
2.319 ± 4	15 ± 3	1		1^+	9.703
2.743 [d]	12 ± 3	1	[j]	1^+, (2^+)	10.096
2.885 ± 10 [d]	80 ± 15	0, 2		$1^{(-)}$; 0	10.228
3.105 ± 7 [d,e]	33 ± 3	1	17	2^+; 1	10.432
3.20 [d]	140	0, 2		1^-	10.52
3.72 ± 30 [f]	165 ± 30				11.00
3.771 ± 5	1.2 ± 0.4		[k]	3^+	11.050
3.79	100			1^+	11.07
3.94 ± 30	220 ± 30				11.21
3.98 [d]	11	2		3^-	11.24
4.04 [d]	175	2		2^-	11.30
4.14 [d]	28	1		1^+	11.39
4.525 ± 15 [g]	115 ± 10		[l]	1^+	11.750
5.325 ± 10	48 ± 7		[m]		12.492
5.88 ± 20 [f]	120 ± 30				13.01
6.20 ± 100 [h]	1000 ± 150		[n]	(2^-); 1	13.30
6.62 ± 20 [f] [i]					13.69
16.1				2^-; 1	22.5

Table 14.19 from (1986AJ01): Levels of ^{14}N from ^{13}C(p, γ)^{14}N and ^{13}C(p, p)^{13}C [a] (continued)

$E_{\rm p}$ (MeV $\pm$ keV)	$\Gamma_{\rm c.m.}$ (keV)	$l_{\rm p}$	$\omega\Gamma_\gamma$ (eV)	J^π; T	^{14}N* (MeV)
16.7				2^-; 1	23.0

[a] See references in Tables 14.16 in (1970AJ04), 14.20 in (1976AJ04) and 14.16 in (1981AJ01).

[b] (1985FEZY). See also (1984AD04).

[c] See (1981BI17): $E_{\rm x} = 9172.5 \pm 0.3$ keV from γ-ray measurements. See also Table 14.13, $\Gamma_{\gamma_0}/\Gamma_\gamma = (79 \pm 4)\%$; Γ_{γ_0} (from reaction 41) $= 7.2 \pm 0.4$ eV; $\Gamma_{\rm c.m.}$ from ^{13}C(p, p).

[d] Reduced width for proton emission is of the order of 1% of the Wigner limit.

[e] $\Gamma_{\gamma_0} = 11.2 \pm 1.4$ eV (1983PR1B; prelim.).

[f] Weak resonance.

[g] In the $\gamma_{3.09}$ channel the peak occurs 55 keV higher: interference effects may be present.

[h] Part of the giant dipole resonance.

[i] Some broad structures appear in the γ_0, $\gamma_{3.68}$ and $\gamma_{3.85}$ yields. See also reaction 25.

[j] $(2J+1)\Gamma_\gamma = 0.5 \pm 0.2$ eV.

[k] $\Gamma_\gamma = 1.2 \pm 0.4$ keV; $\Gamma_{\rm p} = 0.5\%$ of single-particle unit. J^π based on angular distribution of γ_0. For nature of γ-decay see Table 14.13.

[l] $(2J+1)\Gamma_\gamma = (18.5 \pm 4.2)\Gamma/\Gamma_{\rm p}$ eV; if $J = 1$, $\Gamma_\gamma \geq 6$ eV.

[m] $(2J+1)\Gamma_{\gamma_0} = 2.3\Gamma/\Gamma_{\rm p}$ eV; if $\Gamma = 38$ eV is assumed.

[n] $(2J+1)\Gamma_{\gamma_0} \geq 200$ eV: thus the transition is dipole and $T = 1$. The resonance is asymmetric and it is suggested that two states are involved, one with $J^\pi = 1^-$ at $E_{\rm x} = 12.7$ and the other one with 2^- at $E_{\rm x} = 13.3$ MeV.