Table 14.20 from (1976AJ04): Levels of ^{14}N from ^{13}C(p, γ)^{14}N and ^{13}C(p, p)^{13}C [a]

E_p (MeV $\pm$ keV)	$\Gamma_{c.m.}$ (keV)	l_p	$\omega\Gamma_\gamma$ (eV)	$J^\pi; T$	^{14}N* (MeV)	Refs.
0.4485 ± 0.5	< 0.37	2	0.022	2^-	7.9669	A
0.551 ± 1	30 ± 1	0	9.2	$1^-; 1$	8.062	A, (1972RE10)
1.012 ± 2	≤ 0.2	4	≈ 0.01	$(4^-); 0$	8.490	A
1.150 ± 2	7 ± 1	1	1.3	$0^+; 1$	8.618	A, (1971BI03)
1.34 ± 50	≈ 460	0	12.8	$0^-; 1$	8.79	A
1.462 ± 3	16 ± 2	2	0.72	$3^-; 1$	8.907	A
1.523 ± 2	< 1		≈ 0.003	$5^+; 0$	8.964	A
1.540 ± 3	8 ± 2	1, (3)	0.13	2^+	8.980	A
1.701 ± 1	< 1	2	≈ 0.03	$(2^-; 0)$ [j]	9.129	A
1.7476 ± 0.9	0.07 ± 0.05		14.8	$2^+; 1$	9.1725	A
1.980 ± 3	13 ± 3	2	[c]	$3^-, 2^-$	9.388	A, (1975NO1F)
2.110 ± 3	41 ± 2	2	6.2	$2^-; 1$	9.509	A
2.319 ± 4	15 ± 3	1		1^+	9.703	A
2.743 [b]	5	1	[d]	$1^+, (2^+)$	10.096	A
2.885 ± 10 [b]	80 ± 15	0, 2		$1(^-); 0$	10.228	A
3.105 ± 7 [b]	33 ± 3	1	17	$2^+; 1$	10.432	A, (1971RI13)
3.20 [b]	140	0, 2		1^-	10.52	(1961KA04)
3.515 ± 6			[e]		10.812	(1975NO1F)
3.72 ± 30 [f]	165 ± 30				11.00	(1971RI13)
3.771 ± 5	≤ 2		[k]	$(2, 3)^+$	11.050	(1971RI13)
3.79	100			1^+	11.07	A
3.94 ± 30 [g]	220 ± 30				11.21	(1971RI13)
3.98 [b]	11	2		3^-	11.24	(1961KA04)
4.04 [b]	175	2		2^-	11.30	A
4.14 [b]	28	1		1^+	11.39	A
4.525 ± 15 [h]	115 ± 10		[l]	1^+	11.750	A, (1971RI13)
5.325 ± 10	48 ± 7		[m]		12.492	(1971RI13) [p]
5.88 ± 20 [f]	120 ± 30				13.01	(1971RI13)

Table 14.20 from (1976AJ04): Levels of ^{14}N from ^{13}C(p, γ)^{14}N and ^{13}C(p, p)^{13}C [a] (continued)

E_p (MeV ± keV)	$\Gamma_{c.m.}$ (keV)	l_p	$\omega\Gamma_\gamma$ (eV)	$J^\pi; T$	^{14}N* (MeV)	Refs.
6.20 ± 100 [i]	1000 ± 150		[n]	(2^-); 1	13.30	(1971RI13)
6.62 ± 20 [f]					13.69	(1971RI13)
[o]						
16.1				2^-; 1	22.5	(1971RI13)
16.7				2^-; 1	23.0	(1971RI13)
					[q]	

A: See references for this state quoted in Table 14.16 in (1970AJ04).

[a] See also Table 14.12.

[b] Reduced width for proton emission is of the order of 1% of the Wigner limit (1961KA04).

[c] Gamma decays predominantly to ^{14}N*(5.11, 5.83, 8.9) (≈ 5 meV each) (1975NO1F).

[d] $(2J+1)\Gamma_\gamma = 0.5 \pm 0.2$ eV, $\Gamma = 12 \pm 3$ eV (1960RO23).

[e] Observed transitions 10.81 → 6.44 → g.s.: $\Gamma_\gamma = 15.8 \pm 5.9$ meV (1975NO1F). See also Tables 14.12 and 14.24.

[f] Weak resonance.

[g] See also Table 14.16 in (1970AJ04).

[h] In the $\gamma_{3.09}$ channel the leak occurs 55 keV higher (1971RI13); interference effects may be present.

[i] Part of the giant dipole resonance.

[j] See, however, (1975FO01) in reaction 6.

[k] $(2J+1)\Gamma_{\gamma_0} = (1.2 \pm 0.3)\ \Gamma/\Gamma_p$ eV (1971RI13).

[l] $(2J+1)\Gamma_\gamma = (18.5 \pm 4.2)\ \Gamma/\Gamma_p$ eV; if $J = 1$, $\Gamma_\gamma \geq 6$ eV (1971RI13).

[m] $(2J+1)\Gamma_{\gamma_0} = 2.3\ \Gamma/\Gamma_p$ eV; if $\Gamma = 38$ eV is assumed (1971RI13).

[n] $(2J+1)\Gamma_{\gamma_0} \geq 200$ eV (1971RI13): thus the transition is dipole and $T = 1$. The resonance is asymmetric and it is suggested that two states are invloved, one with $J^\pi = 1^-$ at $E_x = 12.7$ and the other one with 2^- at $E_x = 13.3$ MeV.

[o] Some broad structure is evident in the γ_0, $\gamma_{3.68}$ and $\gamma_{3.85}$ yields (1971RI13).

[p] See also (1974GM01).

[q] Two $T = 2$ states reported by (1971RI13) are not confirmed by (1975PA18).