

Table 15.12 from (1976AJ04): Resonances in $^{14}\text{C} + \text{p}^{\text{a}}$

E_{p} (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	Γ_{n} (keV)	Γ_{p} (keV)	Γ_{α} (keV)	Γ_{γ} (eV)	J^{π}	E_{x} (MeV \pm keV)	Refs.
0.261 \pm 0.6	< 0.5		(0.08 \pm 0.01) $\times 10^{-6}$		> 21 meV	$\frac{1}{2}^{-}$	10.4497 \pm 0.3 ^f	A, (1975BE23, 1976BE1B)
0.352 \pm 1					(3.4 \pm 0.4) $\times 10^{-2}$ b	$\frac{1}{2}^{+}$	10.5333 \pm 0.5 ^f	A, (1975BE23, 1976BE1B)
0.519 \pm 1			(0.49 \pm 0.10) $\times 10^{-3}$		> 40 meV	$\frac{1}{2}^{+}$	10.6932 \pm 0.3 ^f	(1975BE23, 1976BE1B)
0.527 \pm 1			0.2		0.37 \pm 0.07	$\frac{1}{2}^{-}$	10.7019 \pm 0.3 ^f	A, (1976BE1B)
0.634 \pm 1			(0.22 \pm 0.10) $\times 10^{-3}$		0.27 \pm 0.14	(+)	10.804 \pm 2 ^f	A, (1975BE23, 1976BE1B)
1.162 \pm 2	7.9 \pm 3	2.3	5.6	< 0.3	0.29	$\frac{1}{2}^{-}$	11.291	A
1.3188 \pm 0.5	41.4 \pm 1.1	34.6 \pm 0.9	6.8 \pm 0.5	< 0.3	4.2 \pm 0.7	$\frac{1}{2}^{+}$	11.4375	A
1.509 \pm 4	404.9 \pm 6.3	4.0 \pm 0.2	400.9 \pm 6.3	< 0.3	19.2 \pm 0.4	$\frac{1}{2}^{+}$; $T = \frac{3}{2}$	11.615	A, (1971KU01, 1975HA39)
1.688 \pm 3	37	36.5	0.5	< 0.3		$\frac{1}{2}^{+}$	11.782	A
1.788 \pm 3	24.5	24.5	0.03	< 0.3		$\frac{1}{2}^{-}$; ($\frac{1}{2}^{+}$)	11.875	A
1.884 \pm 3	21.5	21.2	0.3	< 0.3		$\frac{1}{2}^{+}$	11.965	A
2.025 \pm 4	14 \pm 5	12.0	1.7	0.6		$\frac{1}{2}^{+}$	12.096	A
2.077 \pm 3	47 \pm 7	30.2	16.6	2.2		$\frac{1}{2}^{-}$	12.145	A
2.272 \pm 4	22	21.7	0.3	< 0.3		(+)	12.327	A
2.450 \pm 4	44 \pm 3	28	0.3	5.5		$\frac{1}{2}^{+}$; $T = \frac{1}{2}$	12.493	A, (1971YO03)
2.482 \pm 8	58 \pm 4				4.6 \pm 0.7	$\frac{1}{2}^{+}$; $T = \frac{3}{2}$	12.522	A, (1971KU01, 1971YO03, 1975HA39)
2.908 \pm 4	70	25	9.0	15		$\frac{1}{2}^{+}$	12.920	A, (1972RA03, 1974WE06)
2.93 \pm 10	81	n.r.	0.5	80		$\frac{1}{2}^{+}$	12.940	(1972RA03)
3.19	5.5					$\frac{1}{2}^{-}$	13.18	A
3.38 \pm 10	24	6	6.0	12		$\frac{1}{2}^{-}$	13.360	A, (1972RA03, 1974WE06)
3.42 \pm 10	57	20.6	35	5.5	3.0 \pm 0.9	$\frac{1}{2}^{+}$ d	13.390	A, (1970RA22, 1972RA03, 1974WE06, 1975HA39, 1976KU01)
3.57 \pm 10	124	\approx 75	8.0	\approx 40		$\frac{1}{2}^{-}$	13.537	(1972RA03, 1974WE06)
3.65 \pm 10	88	\approx 16	12.0	\approx 60		$\frac{1}{2}^{+}$	13.612	(1972RA03, 1974WE06)
3.71 ^c						$\frac{1}{2}^{-}$	13.67	A
4.0 ^c	930		500			$\frac{1}{2}^{+}$	13.9	(1974WE06, 1975HA39)
4.1 \pm 100	98 \pm 10		25	r		$\frac{1}{2}^{+}$	14.0	(1974WE06, 1975WE09)
4.2 \pm 100				r		$\frac{1}{2}^{-}$; ($\frac{1}{2}^{+}$)	14.1	(1975WE09)
4.6 \pm 150	74 \pm 7		20	r	(r)	$\frac{1}{2}^{-}$	14.5	(1974WE06, 1975WE09)
4.8	149 \pm 18		39	r	(r)	$\frac{1}{2}^{+}$	14.7	(1972WE07, 1974WE06, 1975WE09)
4.83	750				r	$\frac{1}{2}^{-}$	14.71	(1975HA39)
5.08	158 \pm 19		20			$\frac{1}{2}^{+}$	14.95	(1974WE06, 1975WE09)
5.16 \pm 130	28 \pm 3		9.0	r		$\frac{1}{2}^{+}$	15.0	(1974WE06, 1975WE09)
5.54 \pm 130	39 \pm 5		12	r	(r)	$\frac{1}{2}^{-}$	15.4	(1972WE07, 1974WE06, 1975WE09)
5.62	750				r	$\frac{1}{2}^{-}$	15.45	(1975HA39)
6.4 \pm 150	130 \pm 14		19	r		$\frac{1}{2}^{+}$	16.2	(1974WE06, 1975WE09)
6.70	560				r	$\frac{1}{2}^{-}$	16.46	(1975HA39)
6.85 \pm 180	100 \pm 50			r		$\frac{1}{2}^{+}$	16.6	(1975WE09)
6.925	90 \pm 10			r		$\frac{1}{2}^{+}$; $\frac{1}{2}^{-}$	16.67	(1975HA39)
7.18 \pm 180	110 \pm 50			r		$\frac{1}{2}^{+}$	16.9	(1975WE09)
\approx 9						$\frac{1}{2}^{-}$; $\frac{1}{2}^{+}$; $\frac{1}{2}^{-}$	19	(1973WE04, 1974WE01)
10.0	sharp		(1000)			$\frac{1}{2}^{+}$; ($T = \frac{3}{2}$)	19.5 ^e	(1973WE04, 1974WE01, 1974WE07, 1975HA39)
11.0	sharp					$\frac{1}{2}^{+}$	20.5	(1973WE04, 1974WE01, 1975HA39)
12.35						$\frac{1}{2}^{-}$	21.72	(1975HA39)
13.65						$\frac{1}{2}^{-}$	22.94	(1975HA39)
16.4						$\frac{1}{2}^{-}$	25.5 ^e	(1975HA39)
\approx 29						($T = \frac{3}{2}$)	\approx 37	(1975HA39)

A: see references listed for this state in [Table 15.11 of \(1970AJ04\)](#).

r = resonant.

n.r. = non-resonant.

^a See also [Tables 15.5 in \(1959AJ76\)](#) and [15.11 in \(1970AJ04\)](#).

^b $\omega\gamma$ (in eV) ([1969SI04](#)).

^c See also ([1972RA1C](#)).

^d ([1970RA22](#), [1972RA03](#)) suggest that this state has $T = \frac{3}{2}$; however, no analog state has been observed in ^{15}C (see, e.g., [Fig. 13: Isobar Diagram](#)). See also ([1971KU1B](#), [1972WE07](#), [1975HA39](#)).

^e Not observed in $^{14}\text{N}(p, \gamma)^{15}\text{O}$ ([1975HA39](#)).

^f E_x measured directly ([1976BE1B](#)) and R.P. Beukens, private communication).