

Table 15.12 from (1981AJ01): Resonances in  $^{14}\text{C} + \text{p}$  <sup>a</sup>

$E_p$ (MeV $\pm$ keV)	$\Gamma_{\text{c.m.}}$ (keV)	$\Gamma_n$ (keV)	$\Gamma_p$ (keV)	$\Gamma_\alpha$ (keV)	$\Gamma_\gamma$ (eV)	$J^\pi$	$E_x$ (MeV $\pm$ keV)	Refs.
0.261 $\pm$ 0.6	< 0.5		(0.08 $\pm$ 0.01) $\times 10^{-6}$		> 21 meV		10.4497 $\pm$ 0.3 <sup>f</sup>	A, (1975BE23, 1976BE1B)
0.352 $\pm$ 1					(3.4 $\pm$ 0.4) $\times 10^{-2}$ <sup>b</sup>		10.5333 $\pm$ 0.5 <sup>f</sup>	A, (1975BE23, 1976BE1B)
0.519 $\pm$ 1			(0.49 $\pm$ 0.10) $\times 10^{-6}$		> 40 meV		10.6932 $\pm$ 0.3 <sup>f</sup>	(1975BE23, 1976BE1B)
0.527 $\pm$ 1			0.2		0.37 $\pm$ 0.07		10.7019 $\pm$ 0.3 <sup>f</sup>	A, (1976BE1B)
0.634 $\pm$ 1			(0.22 $\pm$ 0.10) $\times 10^{-3}$		0.27 $\pm$ 0.14		10.804 $\pm$ 2 <sup>f</sup>	A, (1975BE23, 1976BE1B)
1.162 $\pm$ 2	7.9 $\pm$ 3	2.3	5.6	< 0.3	0.29 <sup>g</sup>		11.291	A, (1977NI03)
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 <sup>g</sup>		11.4376	A, (1977NI03)
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 <sup>g,h</sup>	$\frac{1}{2}^+$ ; $T = \frac{3}{2}$	11.615	A, (1975HA39, 1977NI03)
1.688 $\pm$ 3	37	36.5	0.5	< 0.3			11.782	A, (1977NI03)
1.788 $\pm$ 3	24.5	24.5	0.03	< 0.3		$\frac{3}{2}^-$ ; ( $\frac{5}{2}^-$ )	11.875	A, (1977NI03)
1.884 $\pm$ 3	21.5	21.2	0.3	< 0.3			11.965	A, (1977NI03)
2.025 $\pm$ 4	14 $\pm$ 5	12.0	1.7	0.6			12.096	A, (1977NI03)
2.077 $\pm$ 3	47 $\pm$ 7	30.2	16.6	2.2			12.145	A, (1977NI03)
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			12.493	A, (1977NI03)
2.482 $\pm$ 8	58 $\pm$ 4				4.6 $\pm$ 0.7	$\frac{1}{2}^+$ ; $T = \frac{3}{2}$	12.523	A, (1975HA39, 1977NI03)
2.908 $\pm$ 4	70	25	9.0	15			12.920	A, (1974WE06, 1977NI03)
2.93 $\pm$ 10	81	n.r.	0.5	80			12.940	A
3.19	5.5	r					13.18	A
3.38 $\pm$ 10	24	6	6.0	12			13.360	A, (1974WE06)
3.421 $\pm$ 10	57	20.6	35	5.5	3.0 $\pm$ 0.9		13.390	A, (1974WE06, 1975HA39, 1976KU01)
3.57 $\pm$ 10	124	$\approx$ 75	8.0	$\approx$ 40			13.537	A, (1974WE06)
3.65 $\pm$ 10	88	$\approx$ 16	12.0	$\approx$ 60			13.612	A, (1974WE06)
3.71		r					13.67	A
4.0	930		500		r		13.9	(1974WE06, 1975HA39)
4.1 $\pm$ 100	98 $\pm$ 10		25	r			14.0	(1974WE06, 1975WE09)
4.2 $\pm$ 100				r			14.1	(1975WE09)
4.6 $\pm$ 150	74 $\pm$ 7		20	r	(r)		14.5	(1974WE06, 1975WE09)
4.8	149 $\pm$ 18		39	r	(r)		14.7	(1972WE07, 1974WE06, 1975WE09)
4.83	750				r		14.71	(1975HA39)
5.08	158 $\pm$ 19		20		r		14.95	(1974WE06, 1975WE09, 1976WE07)
5.16 $\pm$ 130	28 $\pm$ 3		9.0	r			15.0	(1974WE06, 1975WE09)
5.54 $\pm$ 130	39 $\pm$ 5		12	r	(r)		15.4	(1972WE07, 1974WE06, 1975WE09)
5.62	750				r		15.45	(1975HA39)
6.4 $\pm$ 150	130 $\pm$ 14		19	r			16.2	(1974WE06, 1975WE09)

Table 15.12 from (1981AJ01): Resonances in  $^{14}\text{C} + \text{p}$  <sup>a</sup> (continued)

$E_{\text{p}}$ (MeV $\pm$ keV)	$\Gamma_{\text{c.m.}}$ (keV)	$\Gamma_{\text{n}}$ (keV)	$\Gamma_{\text{p}}$ (keV)	$\Gamma_{\alpha}$ (keV)	$\Gamma_{\gamma}$ (eV)	$J^{\pi}$	$E_{\text{x}}$ (MeV $\pm$ keV)	Refs.
6.70	560				r		16.46	(1975HA39)
6.925	$90 \pm 10$			r	r	$(\frac{3}{2}^{+}; \frac{1}{2})^{\text{c}}$	16.67	(1975HA39, 1975WE09, 1976WE07)
$7.18 \pm 180$	$110 \pm 50$			r		$\frac{5}{2}^{+}$	16.9	(1975WE09)
$\approx 9$					r	$\frac{1}{2}^{+}; \frac{1}{2}$	19	(1973WE04, 1974WE01)
10.0	sharp		(1000)		r	$\frac{3}{2}^{+}; (T = \frac{3}{2})$	19.5 <sup>e</sup>	(1973WE04, 1974WE01, 1974WE07, 1975HA39, 1976SN01, 1976WE07)
11.0	sharp				r	$\frac{3}{2}^{+}$	20.5	(1973WE04, 1974WE01, 1975HA39, 1976SN01, 1976WE07)
12.35					r		21.72	(1975HA39, 1976WE07)
13.65					r		22.94	(1975HA39, 1976SN01)
16.4					r	$(T = \frac{3}{2})$	25.5 <sup>e</sup>	(1975HA39, 1976SN01)
$\approx 29$					r		$\approx 37$	(1975HA39)

A: see references listed for this state in Table 15.11 of (1970AJ04) and Table 15.12 of (1976AJ04).

N

r = resonant.

n.r. = non-resonant.

<sup>a</sup> See also Tables 15.5 in (1959AJ76) and 15.11 in (1970AJ04).

<sup>b</sup>  $\omega_{\gamma}$  (in eV) (1969SI04).

<sup>c</sup> See, however, (1976WE11).

<sup>d</sup> (1970RA22, 1972RA03) suggest that this state has  $T = \frac{3}{2}$ : however, no analog state has been observed in  $^{15}\text{C}$  (see, e.g., Fig. 13).

<sup>e</sup> Not observed in  $^{14}\text{N}(\text{p}, \gamma)^{15}\text{O}$  (1975HA39).

<sup>f</sup>  $E_{\text{x}}$  measured directly ((1976BE1B) and R.P. Beukens, private communication).

<sup>g</sup>  $\Gamma_{\gamma_0}$ . I am indebted to P.M. Endt for this correction.

<sup>h</sup> See also (1971KU01).