

Table 17.8 from (1977AJ02): Resonances in $^{13}\text{C}(\alpha, n)^{16}\text{O}$ and $^{13}\text{C}(\alpha, \alpha)^{13}\text{C}$ ^a

E_{res} (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	Γ_{α}/Γ	J^{π}	E_x (MeV)	Refs.
1.0563 \pm 1.5	1.5 \pm 0.2		$\frac{5}{2}$	7.1687	(1973BA10), A
1.3367 \pm 1.5	0.6 ^{+0.2} _{-0.1}			7.3831	(1973BA10), A
1.3406 \pm 1.5	0.8 ^{+0.3} _{-0.2}			7.3860	(1973BA10), A
1.590 \pm 2	≤ 1		$\frac{7}{2}^{-}$	7.577	(1973BA10), A
1.745 \pm 6	≤ 15		$\frac{5}{2}^{+}$	7.695	(1973BA10), A
2.083 \pm 8	75	0.03	$\frac{1}{2}^{-}$	7.954	(1973BA10, 1973BU14), A
2.250 \pm 8	110	0.05	$\frac{3}{2}^{+}$	8.081	(1973BA10, 1973BU14), A
2.407 \pm 8	70	0.11	$\frac{3}{2}^{-}$	8.201	(1973BA10, 1973BU14), A
2.604 \pm 4	9 \pm 3	0.44	$\frac{1}{2}^{+}$	8.352	(1973BA10), A
2.680 \pm 3	4 \pm 3	0.08	$\frac{5}{2}^{+}$	8.410	(1973BA10), A
2.763 \pm 3	7 \pm 3	0.97	$\frac{7}{2}^{+}$	8.474	(1973BA10), A
2.808 \pm 3	5 \pm 3	0.26	$\frac{5}{2}^{-}$	8.508	(1973BA10), A
3.059 \pm 5	50 \pm 3	0.06	$\frac{3}{2}^{-}$	8.700	(1971BA06, 1973BA10), A
(3.1)	broad		$\frac{1}{2}^{-}$	(8.7)	(1971BA06)
3.318 \pm 8	101 \pm 3	0.50	$\frac{3}{2}^{+}$	8.898	(1971BA06, 1973BA10), A
3.415 \pm 4	21 \pm 3	0.04	$\frac{7}{2}^{-}$	8.972	(1971BA06, 1973BA10), A
3.645 \pm 4	4 \pm 3	0.45	$\frac{1}{2}^{-}$	9.148	(1971BA06, 1973BA10), A
(3.69)	3	1.00	$\frac{7}{2}^{-}$	(9.18)	(1968KE02)
3.714 \pm 4	5.5 \pm 1	0.20	$\frac{5}{2}^{+}$	9.201	(1971BA06, 1973BA10), A
4.096 \pm 4	15 \pm 1	0.85	$\frac{5}{2}^{-}$	9.493	(1973BA10), A
(4.3)			$\frac{3}{2}^{-}$	(9.6)	(1971BA06)
4.394 \pm 5	16 \pm 1	0.70	$\frac{7}{2}^{+}$	9.720	(1971BA06, 1973BA10), A
4.465 \pm 15	≈ 25	0.90	$\frac{3}{2}^{+}$	9.775	(1971BA06, 1973BA10), A
4.583 \pm 5	14			9.865	(1971BA06, 1973BA10), A
4.600 \pm 15	≈ 10			9.878	(1971BA06, 1973BA10), A
4.730 \pm 20	≈ 80	0.78	$\frac{5}{2}^{+}$	9.977	(1971BA06, 1973BA10), A
4.820 \pm 20	≈ 100			10.046	(1973BA10)
(4.94)	138	0.85	$\frac{5}{2}^{+}$	(10.14)	(1968KE02)
4.993 \pm 5	45	0.15	$\frac{7}{2}^{-}$	10.178	(1971BA06, 1973BA10), A
(5.08)	122	0.60	$\frac{7}{2}^{+}$	(10.2)	A

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E_{res} (MeV \pm keV)	$\Gamma_{\text{c.m.}}$ (keV)	Γ_{α}/Γ	J^{π}	E_x (MeV)	Refs.
5.200 \pm 15	150		$\frac{5}{2}^{+}, \frac{7}{2}^{-}$	10.337	(1973BA10), A
5.321 \pm 7	14 \pm 3			10.429	(1973BA10), A
5.40	75 \pm 30		$\frac{5}{2}^{+}, \frac{7}{2}^{-}$	10.49	A
5.496 \pm 10	47 \pm 15		$\frac{7}{2}^{-}, \frac{9}{2}^{+}$	10.563	A
(5.68)	≤ 25	1.00	$(\frac{7}{2}^{+})$	(10.70)	(1968KE02)
5.771 \pm 10	80 \pm 20		$\frac{1}{2}^{+}, \frac{7}{2}^{-}$	10.773	A
5.945 \pm 10	57 \pm 15		$\frac{5}{2}$	10.906	A
6.107 \pm 10	45 \pm 10			11.030	A
6.167	5.0 \pm 1.1		$\frac{1}{2}^{-}; T = \frac{3}{2}$	11.076 \pm 0.005	(1976MC11)
6.367 \pm 10	100 \pm 30			11.229	A
6.878 \pm 10	120 \pm 30			11.619	A
7.051 \pm 10	40 \pm 25			11.752	A
7.136 \pm 15	12 \pm 3			11.817	A
7.384 \pm 15				12.006	A
7.52 \pm 20	150 \pm 50			12.11	(1963SP02)
7.736 \pm 15	100 \pm 30			12.275	A
7.88 \pm 20				12.39	(1963SP02)
7.927 \pm 15				12.421	(1963SP02)
7.975	8 \pm 2		$\frac{3}{2}^{-}; T = \frac{3}{2}$	12.458 \pm 0.005	(1976MC11)
8.156 \pm 15	75 \pm 30			12.596	(1963SP02)
8.253 \pm 15	≈ 5			12.670	(1963SP02)
8.44 \pm 25				12.81	(1963SP02)
8.59 \pm 20	$\gtrsim 150$			12.93	(1963SP02)
8.611	6 \pm 2		$\frac{1}{2}^{+}; T = \frac{3}{2}$	12.944 \pm 0.006	(1976MC11)
8.675	≤ 3		$\frac{5}{2}^{-}; T = \frac{3}{2}$	12.993 \pm 0.006	(1976MC11)
8.72 \pm 20				13.03	(1963SP02)
8.785 \pm 15	16 \pm 4			13.077	(1963SP02)
9.319 \pm 15	≈ 120			13.485	(1963SP02)
9.483 \pm 15	250 \pm 100			13.610	(1963SP02)

A: see references listed for this state in [Table 17.6 of \(1971AJ02\)](#).

^a See also [Table 17.6 in \(1971AJ02\)](#) and [Table 17.12](#) here.