

Table 17.17 from (1993TI07): Resonances in $^{16}\text{O}(n, n)$ and $^{16}\text{O}(n, \alpha)$ ^a

E_n (keV)	$\Gamma_{\text{c.m.}}$ (keV)	Γ_n (keV)	Γ_α (keV)	J^π	E_x (keV)
433 ± 2 ^b	45	45		$\frac{3}{2}^-$	4551
1000 ± 2	96	96		$\frac{3}{2}^+$	5084
1140 ^c	≤ 0.1				5216
1312 ± 2	42	41.5		$\frac{3}{2}^-$	5378
1651 ± 2	3.4 ± 0.3	3.4		$\frac{7}{2}^-$	5697
1689 ± 2	≤ 1			d	5732
1833 ± 2	6.6 ± 0.7	6.6		$\frac{3}{2}^+$	5868
1908 ± 4	32 ± 3	31.5		$\frac{1}{2}^-$	5938
2351 ± 8 ⁱ	124 ± 12	124		$\frac{1}{2}^+$	6355
2889 ± 2	≤ 1			d	6861
3006 ± 2	≤ 1			d	6971
3211.70 ± 0.17	1.38 ± 0.05	1.38 ± 0.05 ^e	0.0033	$\frac{5}{2}^-$	7164.5
3250 ± 10	280 ± 30	280	0.07	$\frac{3}{2}^+$	7201
3438.38 ± 0.19	0.64 ± 0.23	0.64 ± 0.23 ^e	0.01	$\frac{5}{2}^+$	7377.7
3441.73 ± 0.14	0.96 ± 0.20	0.96 ± 0.20 ^e	0.003	$\frac{5}{2}^-$	7380.8
3630 ± 20	500 ± 50	500	0.08	$\frac{3}{2}^-$	7558
3647 ^c	≤ 0.1				7574
3767.76 ± 0.22	14.4 ± 0.3	13.0 ± 0.6 ^e	0.01	$\frac{7}{2}^-$	7687.5
4053 ± 8	90 ± 9	84	6.7	$\frac{1}{2}^+$	7956
4090 ± 50	270 ± 30	250	16	$\frac{1}{2}^-$	7991
4162 ± 8	85 ± 9	71	15	$\frac{3}{2}^+$	8058
4290 ± 20	69 ± 7	68	0.8	$\frac{1}{2}^-$	(8179)
4310 ± 10	52	48	4.0	$(\frac{3}{2}^-)$	8197
4463.41 ± 0.26	11.4 ± 0.5	8.1 ± 0.3	2.2	$\frac{1}{2}^+$	8341.7
4527.12 ± 0.07	6.17 ± 0.13	4.75 ± 0.11	0.54	$\frac{5}{2}^+$	8401.6
4594.83 ± 0.09	2.13 ± 0.11	1.18 ± 0.04	(7.6)	$\frac{7}{2}^+$	8465.3
4631.78 ± 0.12	6.89 ± 0.22	2.86 ± 0.08	1.9	$\frac{5}{2}^-$	8500.0
4829.9 ± 0.4	55.3 ± 0.6	48.9 ± 1.1	1.8	$\frac{3}{2}^-$	8686.3
5050	78	68	9.5	$\frac{3}{2}^+$	8893
5127.0 ± 1.6	26.3 ± 1.9	23.5 ± 1.9		$\frac{7}{2}^-$	8965.7
5368.90 ± 0.09	3.53 ± 0.13	2.37 ± 0.08		$\frac{5}{2}^+$	9193.2

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(continued)

E_n (keV)	$\Gamma_{c.m.}$ (keV)	Γ_n (keV)	Γ_α (keV)	J^π	E_x (keV)
5610	120	120		$\frac{3}{2}^-$	9420
5640	140			$\geq \frac{3}{2}$	9448
5919.67 ± 0.14	23.1 ± 0.3	18.0 ± 0.6		$\frac{7}{2}^+$	9711.1
5995.68 ± 0.15	11.7 ± 0.3	10.3 ± 0.3		$\frac{3}{2}^+$	9782.6
6076.08 ± 0.15	4.01 ± 0.23	3.37 ± 0.23		$(\frac{5}{2}^-)$	9858.2
6094.8 ± 1.0	16.7 ± 1.7	10.9 ± 1.2		$(\frac{1}{2}^-)$	9875.8
6404.6 ± 0.5	49.1 ± 0.8	22.3 ± 0.6		$(\frac{7}{2}^-)$	10167.1
6820.7 ± 0.6	42.5 ± 1.1	17.2 ± 0.7^e		$(\frac{7}{2}^-)$	10558.4
7199.3 ± 1.3	41.7 ± 1.4	26.4 ± 0.9^e		$(\frac{5}{2}^+)$	10914.4
7373.31 ± 0.18	2.4 ± 0.3	1.88 ± 0.12^e		$\frac{1}{2}^-^f$	11078.0
7830	190			$\geq \frac{3}{2}$	11507
8320	270			$\geq \frac{3}{2}$	11968
8740	130				12363
8848.8 ± 0.6	6.9 ± 1.1	1.27 ± 0.14^e		$\frac{3}{2}^-^f$	12465.3
9050	95				12654
9353 ± 6	6 ± 2	0.21 ± 0.14^e		$\frac{1}{2}^+^f$	12939
9414.9 ± 0.6	2.5 ± 1.0	0.40 ± 0.06^e		$\frac{5}{2}^-^f$	12997.5
10092.5 ± 2.4	9 ± 5	0.24 ± 0.09^e		$(\frac{5}{2}^+)^f$	13634.6
10130	400				13670
10725.5 ± 1.5	20.5 ± 1.6	2.07 ± 0.16^e		$(\frac{7}{2}^-)^f$	14229.6
10785 ± 3	7.5 ± 4	0.80 ± 0.16^g		j	14286
10960 ± 3	40 ± 6	13 ± 6^g			14450
11140	340			$(\geq \frac{3}{2})$	14619
11322 ± 3	36 ± 13	3.2 ± 1.0^g		$(\frac{1}{2})^h$	14790
11540	180				14995
11756 ± 3	52 ± 14	11 ± 3^g		j	15198
11936 ± 3	40 ± 6	7 ± 1^g		$(\frac{5}{2}^+)^h$	15368
12867 ± 4	21 ± 10	2 ± 0.5^g		$(\frac{9}{2}^+)^h$	16243
14136 ± 11	66 ± 20	8.0 ± 2.4^g		f	17435
14853 ± 4	43 ± 12	1.0 ± 0.3^e		$\frac{3}{2}^-$	18109

- ^a See [Tables 17.12 in \(1977AJ02\)](#) and [\(1982AJ01\)](#).
- ^b $\Gamma_{\gamma_0} = (1.80 \pm 0.35) \text{ eV}$, $\Gamma_{\gamma_1} = (1.85 \pm 0.35) \text{ eV}$ ([1992IG01](#)).
- ^c Not observed in σ_t .
- ^d Not $\frac{1}{2}^+$.
- ^e Γ_{n_0} .
- ^f $T = \frac{3}{2}$.
- ^g $(J \pm \frac{1}{2})\Gamma_{n_0}$ ([1981HI01](#)).
- ^h J^π assignment by comparison with ^{17}N states presumed to be analogs; then $T = \frac{3}{2}$ ([1981HI01](#)).
- ⁱ See also [\(1980JO1A\)](#).
- ^j $T = \frac{1}{2}$ based on evidence of excitation in $^{16}\text{O}(\gamma, n_0)$ reported in [\(1990MC06\)](#).