

Table 16.20 from (1982AJ01): States in ^{16}O from $^{15}\text{N}(\text{d}, \text{n})$, $^{15}\text{N}(\text{}^3\text{He}, \text{d})$, $^{17}\text{O}(\text{d}, \text{t})$ and $^{17}\text{O}(\text{}^3\text{He}, \alpha)$

$^{16}\text{O}^*$ (MeV)	$J^\pi; T$	l^a	l^b	S^c	l^e	C^2S^e	l^f	S^f
0	$0^+; 0$	1	1	3.1	2	0.74	2	0.88
6.05	$0^+; 0$		1	^d			2	0.009
6.13	$3^-; 0$	2	2		1	0.46	1	0.37
6.92	$2^+; 0$	not direct	1 + 3	^d	obs.		(2 + 0)	0.022
7.12	$1^-; 0$	0	0 + 2		1	0.04	(3 + 1)	0.007
8.87	$2^-; 0$	2	2	0.72	1	0.33	1	0.26
9.63	$1^-; 0$		0	^d				
9.85	$2^+; 0$	1	not direct	^d			2	0.025
10.35	$4^+; 0$		3	^d			2	0.025
10.95	$0^-; 0$	0	0	0.76			(3 + 1)	0.008
11.08	$3^+; 0$	3	3	0.18			2	0.044 or 0.086
11.26	$0^+; 0$		broad					
12.44	$1^-; 0$	0	0	0.40				
12.53	$2^-; 0^j$	2	2	0.72	1	0.07		
12.80	$0^-; 1$	0	0	0.44				
12.97	$2^-; 1^j$	2	2	0.40	1	0.69	1	0.38
13.10	$1^-; 1$	(0)		0.58			1	0.10
			2(+0)					
13.13 ^g	$3^-; 0$	(2)		0.32				
13.25	$3^-; 1$	2	2	0.46	1	0.70	1	0.34
15.22	$2^-; 0^e$				1	0.12		
15.42	$3^-; 0^e$				1	0.37		
17.14			obs.					
17.20	2^+		obs.					
17.788 ± 16^i	$4^-; 0$					0.17		
18.033 ± 10^i	$3^+; 1^h$				(1)	0.12		
$^{16}\text{O}^*$ (MeV \pm keV)	$J^\pi; T$	l^e	C^2S^e	l^f	S^f	Γ^j (keV)		
18.48	$T = 1$	(1)	0.25					
18.975 ± 10^i	$4^-; 1$	1	0.73					
19.206 ± 12^i	$3^-; 1^h$	1	0.50			68 ± 10		
19.802 ± 16^i	$4^-; 0$	1	0.52			36 ± 5		
20.45	$(2, 4)^-; 1$	1	0.21					

^a $^{15}\text{N}(\text{d}, \text{n})$; $E_{\text{d}} = 4.8$ to 6 MeV; see (1977AJ02) for references.

^b $^{15}\text{N}(^3\text{He}, \text{d})$; $E(^3\text{He}) = 11, 16.0$ and 24.0 MeV; see (1977AJ02).

^c “Best” values as discussed by (1972BO49) [from (d, n) and $(^3\text{He}, \text{d})$ data]. See Table 16.22 in (1977AJ02) for a more complete display.

^d Very small value of S : see (1977AJ02).

^e $^{17}\text{O}(\text{d}, \text{t})$; $E_{\text{d}} = 52$ MeV (1978MA16). See also (1981MA1E); $E_{\text{d}} = 52$ MeV).

^f $^{17}\text{O}(^3\text{He}, \alpha)$; $E(^3\text{He}) = 11$ MeV (1971BO02).

^g $\Gamma = 128$ keV.

^h I am indebted to Prof. H.T. Richards for an illuminating discussion of the evidence for the parameters of this state. See also (1981MA1E).

ⁱ (1980BR1H): $^{17}\text{O}(^3\text{He}, \alpha)$. $\Gamma < 50$ keV for $^{16}\text{O}^*(17.79)$.

^j See text (1977WA11).