

Table 16.20 from (1986AJ04): 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^j	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^j	0.26	
9.59	$1^-; 0$		0	^d					
9.84	$2^+; 0$	1	not direct	^d			2	0.025	
10.36	$4^+; 0$		3	^d			2	0.025	
10.96	$0^-; 0$	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	$2^-; 0$	2	2	0.72	1	0.07			
12.80	$0^-; 1$	0	0	0.44					
12.97	$2^-; 1$	2	2	0.40	1	0.69	1^j	0.38	
13.09	$1^-; 1$	(0)		0.58			1	0.10	
			$2(+0)$						
13.13 ^g	$3^-; 0$	(2)		0.32					
13.26	$3^-; 1$	2	2	0.46	1	0.70	1^j	0.34	
$^{16}\text{O}^*$ (MeV)	$J^\pi; T$	l^a	l^b	S^c	l^e	C^2S^e	l^f	S^f	Γ (keV)
15.20	$2^-; 0^e$				1	0.12	j		
15.41	$3^-; 0^e$				1	0.37	j		
17.14			obs.						
17.20	2^+		obs.						
17.788 ± 16^i	$4^-; 0$					0.17	j		< 50
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	Γ (keV)				
18.48	$T = 1$	(1)	0.25	j	68 ± 10 36 ± 5				
18.975 ± 10^i	$4^-; 1$	1	0.73	j					
19.206 ± 12^i	$3^-; 1^h$	1	0.50	j					
19.802 ± 16^i	$4^-; 0$	1	0.52	j					
20.41	$(2, 4)^-; 1$	1	0.21	j					

- 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 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.
- f $^{17}\text{O}(^3\text{He}, \alpha)$; $E(^3\text{He}) = 11$ MeV.
- 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.
- i $^{17}\text{O}(^3\text{He}, \alpha)$.
- j (1982KA12); $E(\overline{^3\text{He}}) = 33$ MeV.