

Table 15.9 from (1976AJ04): States of  $^{15}\text{N}$   
 from  $^{12}\text{C}(\alpha, \text{p})^{15}\text{N}$ ,  $^{12}\text{C}(^6\text{Li}, ^3\text{He})^{15}\text{N}$  and  $^{12}\text{C}(^7\text{Li}, \alpha)^{15}\text{N}$

$E_x$ (MeV $\pm$ keV)			$L^a$	$J\pi^a$
(1975FA07) <sup>a</sup>	(1975BI06) <sup>b</sup>	(1973TS02) <sup>c</sup>		
0		0	1	$\frac{1}{2}^-$
5.27 + 5.30	5.27 $\pm$ 60	5.295 $\pm$ 10 <sup>c</sup> 6.332 $\pm$ 10 7.163 $\pm$ 10	2 + 0	
	7.24 $\pm$ 60	7.310 $\pm$ 10		
7.57	7.61 $\pm$ 60	7.566 $\pm$ 10 8.320 $\pm$ 10	4	$\frac{7}{2}^+$
8.58	8.59 $\pm$ 60	8.580 $\pm$ 10 <sup>c</sup>	2	$\frac{3}{2}^+$
9.15 + 9.16	9.17 $\pm$ 60 9.84 $\pm$ 60	9.163 $\pm$ 10 <sup>c</sup> 9.828 $\pm$ 10 <sup>c</sup> 9.932 $\pm$ 10 10.072 $\pm$ 10 10.524 $\pm$ 10	1 + 2	
10.70	10.73 $\pm$ 60	10.700 $\pm$ 10 <sup>c</sup> 10.808 $\pm$ 10 11.430 $\pm$ 10	4	$\frac{9}{2}^+$
	12.05 $\pm$ 60 12.36 $\pm$ 60 12.64 $\pm$ 60	11.951 $\pm$ 10 12.320 $\pm$ 10 <sup>c</sup> 12.559 $\pm$ 10 <sup>c,d</sup> 12.923 $\pm$ 10		
13.01		13.004 $\pm$ 10 <sup>c,e</sup>	5	$(\frac{11}{2}^-)$
13.19	13.15 $\pm$ 60	13.173 $\pm$ 10 <sup>c,e</sup> 13.614 $\pm$ 10 14.087 $\pm$ 10 14.720 $\pm$ 10 15.021 $\pm$ 10	2	
15.40	15.49 $\pm$ 60	15.373 $\pm$ 10 <sup>e</sup> 15.782 $\pm$ 10	6	$\frac{13}{2}^+$

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$E_x$ (MeV $\pm$ keV)			$L^a$	$J\pi^a$
(1975FA07) <sup>a</sup>	(1975BI06) <sup>b</sup>	(1973TS02) <sup>c</sup>		
	15.88 $\pm$ 60	16.026 $\pm$ 10		
	16.18 $\pm$ 60	16.190 $\pm$ 10		
	16.41 $\pm$ 60			
	16.74 $\pm$ 60			
	18.02 $\pm$ 60			
	19.77 $\pm$ 60			

<sup>a</sup>  $E_\alpha = 96.8$  MeV.  $E_x$  are nominal.

<sup>b</sup>  $E(^6\text{Li}) = 60.1$  MeV: angular distributions measured for states with  $E_x < 16.2$  MeV.

<sup>c</sup>  $E(^7\text{Li}) = 35$  MeV: angular distributions have been measured for the states labeled by this footnote.

<sup>d</sup> (1973TS02) suggest that this state is not the  $T = \frac{3}{2}$  state at 12.52 MeV. (1976HAZR and private communication) report a state at  $12.57 \pm 0.02$  MeV with  $J \leq \frac{7}{2}$ .

<sup>e</sup> See also (1976HAZR and private communication).