

Table 20.24 from (1978AJ03):  
States of  $^{20}\text{Ne}$  from  $^{16}\text{O}(^6\text{Li}, \text{d})$ ,  $^{16}\text{O}(^7\text{Li}, \text{t})$  and  $^{16}\text{O}(^{12}\text{C}, ^8\text{Be})$

$E_x$ (MeV $\pm$ keV)			$\Gamma_{\text{c.m.}}$ (keV)	$\Gamma_{\alpha_0}/\Gamma^g$	$J^\pi$	$K^\pi$
$(^6\text{Li}, \text{d})^a$	$(^7\text{Li}, \text{t})^b$	$(^{12}\text{C}, ^8\text{Be})^g$				
0	0				$0^+{}^c$	$0_1^+$
1.63	1.63				$2^+{}^c$	$0_1^+$
4.25	4.25				$4^+{}^c$	$0_1^+$
4.97					$2^-$	$2^-$
5.62					$3^-$	$2^-$
5.78	5.78				$1^-{}^d$	$0^-$
6.72						
7.00					$4^-$	$2^-$
7.17	7.17	7.17			$3^-{}^d$	$0^-$
7.42						
8.45						
8.78	8.78	8.78			$6^+$	$0_1^+$
$10.3 \pm 100$	10.26	10.26	$145 \pm 40$	1	$5^-$	$0^-$
$10.7 \pm 100$					$4^+$	
11.95	11.95	11.95		$0.85 \pm 0.15$	$8^+$	$0_1^+$
12.15						
$12.6 \pm 100$	$12.591 \pm 10$	12.59	$110 \pm 40$	$0.80 \pm 0.10$	$6^+$	$0^+{}^e$
13.9	$13.904 \pm 20$		$\approx 100$		$6^+$	
14.3	$14.310 \pm 20$		$< 100$		$6^+$	
$15.35 \pm 100$	$15.336 \pm 15$	15.34	$380 \pm 60$	$0.90 \pm 0.10$	$7^-$	$0^-{}^e$
$15.9 \pm 100$			$< 250$		$7^-$	
$16.7 \pm 100$	$16.63 \pm 20$	16.63	$190 \pm 40$	$0.90 \pm 0.10$	$7^-$	
$17.35 \pm 100$	$17.30 \pm 20$	17.30	$220 \pm 40$	$0.40 \pm 0.10$	$8^+$	
$18.7 \pm 100$					$7^-$	
$19.4 \pm 100$			400		$7^-$	
$19.9 \pm 100$			400		$7^-$	
	$20.67 \pm 40$					
$20.8 \pm 100$					$7^- (6^+)$	

Table 20.24 from (1978AJ03):  
States of  $^{20}\text{Ne}$  from  $^{16}\text{O}(^6\text{Li}, \text{d})$ ,  $^{16}\text{O}(^7\text{Li}, \text{t})$  and  $^{16}\text{O}(^{12}\text{C}, ^8\text{Be})$  (continued)

$E_x$ (MeV $\pm$ keV)			$\Gamma_{\text{c.m.}}$ (keV)	$\Gamma_{\alpha_0}/\Gamma^g$	$J^\pi$	$K^\pi$
$(^6\text{Li}, \text{d})^a$	$(^7\text{Li}, \text{t})^b$	$(^{12}\text{C}, ^8\text{Be})^g$				
	$21.08 \pm 30$	21.08	$100 \pm 50$	$0.65 \pm 0.15$	$9^-$	
$21.3 \pm 100$			300		$8^+$	
$21.8 \pm 100$			300		$8^+$	
$22.3 \pm 100$			300		$8^+$	
	$22.87 \pm 40$	22.87	$225 \pm 40$	$0.90 \pm 0.10$	$9^-$	
$23.5 \pm 100$	$23.70 \pm 30^f$		$\leq 200$		$9^- (8^+)$	
	$24.21 \pm 25^f$		$\approx 500$			
	$25.10 \pm 50^f$		$\lesssim 200$			
	$25.67 \pm 50^f$		$\approx 500$			
$27.1 \pm 100$					$(9^-)$	
$28.1 \pm 100$					$(10^+)$	

<sup>a</sup> Levels with energy uncertainties shown are from (1975AR20, 1975AR25, 1976AR04:  $E(^6\text{Li}) = 35.3$  to 45 MeV). The other states have been reported by other groups: see text.

<sup>b</sup> (1976CO23).  $E(^7\text{Li}) = 38$  MeV and P.D. Parker (private communication).

<sup>c</sup> Relative  $\alpha$ -cluster spectroscopic factors for  $^{20}\text{Ne}^*(0, 1.63, 4.25)$  are 1.00, 0.81, 0.36 (FRDWBA), 1.00, 1.00, 0.75 (FRCCBA) (1976CO23).

<sup>d</sup> Spectroscopic factors are 0.30 and 0.15 for  $^{20}\text{Ne}^*(5.78, 7.17)$  (FRDWBA) (1976CO23).

<sup>e</sup> (1974PA16).

<sup>f</sup>  $E(^7\text{Li}) = 60$  MeV (P.D. Parker, private communication).

<sup>g</sup> (1977SA1X, 1977SA2A, 1977SA2F, 1977SA2G) and P.D. Parker (private communication):  $E(^{12}\text{C}) = 78$  MeV.