

Table 19.11 from (1987AJ02): Levels of ^{19}F from $^{15}\text{N}(\alpha, p)$ and $^{15}\text{N}(\alpha, \alpha)^a$

E_α (MeV \pm keV)	Γ_{lab} (keV)	J^π	E_x (MeV \pm keV)
1.878 ± 10	4	$\frac{3}{2}^+$	5.496
2.614 ± 10	1.5	$\frac{5}{2}^+$	6.077
2.635 ± 10	5	$\frac{5}{2}^-$	6.094
2.833 ± 10	10	$\frac{1}{2}^+$	6.250
2.883 ± 10	3	$\frac{5}{2}^+$	6.289
2.944 ± 10	3	$\frac{7}{2}^+$	6.338
3.060 ± 10	360	$\frac{1}{2}^-$	6.429 ± 8
3.194 ± 10	5	$\frac{1}{2}^+$	6.535
3.229 ± 10	2	$\frac{5}{2}^+$	6.563
3.525 ± 10	3	$\frac{3}{2}^-$	6.796
3.587 ± 10	1.5	$(\frac{5}{2}, \frac{3}{2})^+$	6.845
3.648 ± 10	35	$\frac{5}{2}^-$	6.893
3.705 ± 10	3	$(\frac{9}{2}, \frac{7}{2})^-$	6.938
3.770 ± 10	64	$\frac{1}{2}^-$	6.989 ± 8
3.930 ± 10	40	$\frac{7}{2}^+$	7.116 ± 8
4.127	< 8		7.271
4.23	< 82	$\frac{7}{2}^+$	7.35
4.465^c	0.16 ± 0.05	$\frac{5}{2}^+; T = \frac{3}{2}$	7.538
4.49	< 110	$\frac{7}{2}^+$	7.56
4.53	< 50	$\frac{5}{2}^+$	7.59
4.710	< 40	$\frac{1}{2}^-$	7.731
4.780	< 8		7.787
4.93	< 260		7.90^e
(5.005)	(< 8)		(7.964)
(5.018)	(< 5)		(7.974)
5.116	< 8		8.052
5.203	< 8		8.120
5.232	< 6		8.143
5.25	< 65		8.16
5.284	< 10		8.184
5.415^c	0.90 ± 0.10	$\frac{13}{2}^-$	8.288

Table 19.11 from (1987AJ02): Levels of ^{19}F from $^{15}\text{N}(\alpha, p)$ and $^{15}\text{N}(\alpha, \alpha)$ ^a (continued)

E_α (MeV \pm keV)	Γ_{lab} (keV)	J^π	E_x (MeV \pm keV)
5.481	< 10		8.340
5.847 ^c	0.066 ± 0.024	$\frac{7}{2}^{(-)}$	8.629
6.259 ^c	3.57 ± 0.05	$\frac{11}{2}^{-}$	8.954
6.963 ^c	0.46 ± 0.05	$\frac{7}{2}^{+}$	9.509
7.216 ^c	0.12 ± 0.03	$\frac{11}{2}^{-}$	9.709
7.373 ^c	< 0.2	$(\frac{11}{2} - \frac{15}{2})$	9.833
7.430 ^c	< 0.5	$\frac{11}{2}^{-}$	9.878
7.491 ^c	0.61 ± 0.09	$\frac{9}{2}^{+}; (\frac{3}{2})$	9.926
7.695 ^c	1.15 ± 0.14	$\frac{5}{2}^{-}$	10.087
7.877 ^d	< 1	$\frac{1}{2}^{+}$	10.231 ± 4
7.977 ^d		$\frac{3}{2}^{+}$	10.308 ± 4
8.104 ^c	0.31 ± 0.11	$\frac{13}{2}^{+}$	10.410
8.179 ^d	13.8 ± 1.5		10.469 ± 4
8.205 ^d	6.0 ± 1.0		10.488 ± 4
8.220	5.4 ± 1.0	$\frac{3}{2}^{+}$	10.501 ± 4
8.245	18 ± 2		10.521 ± 4
8.277	2.5 ± 1		10.546 ± 4
8.287 ^d	5.0 ± 1.5	$\frac{3}{2}^{+}$	10.554 ± 4
8.307 ^d	3.7 ± 1		10.560 ± 4

^a For references see [Tables 19.9 in \(1978AJ03\)](#) and [19.10 in \(1983AJ01\)](#). See also footnote ^c.

^b Resonances below $E_\alpha = 5.5$ MeV are observed in (α, α_0) ; resonances above that energy are observed in $(\alpha, p\gamma)$ and $(\alpha, \alpha'\gamma)$, except those labelled (c).

^c $^{15}\text{N}(\alpha, \alpha_0)$: S.K.B. Hesmondhalgh, private communication. The total width shown is in the c.m. system and assumes $\Gamma_{\text{tot}} = \Gamma_{\alpha_0}$. I am indebted to Dr. Serena Hesmondhalgh for permission to quote this work and for a number of other useful comments.

^d Value recalculated by reviewer from E_x .

^e See, however, [reaction 29](#).