

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
0	$\frac{1}{2}^-; \frac{1}{2}$	—	stable	2, 3, 4, 5, 6, 15, 16, 17, 19, 20, 21, 22, 23, 24, 30, 31, 32, 33, 34, 35, 36, 40, 41, 42, 43, 44, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84
5.27012 ± 0.04	$\frac{5}{2}^+$	$\tau_m = 2.6 \pm 0.2$ psec $g = +(0.9 \pm 0.3)$	γ	4, 5, 14, 20, 22, 31, 35, 40, 41, 44, 52, 61, 65, 66, 71, 74, 75, 82, 83
5.29880 ± 0.04	$\frac{1}{2}^+$	25 ± 7 fsec	γ	4, 5, 12, 13, 14, 17, 18, 19, 20, 22, 30, 32, 35, 40, 41, 44, 52, 58, 61, 71, 74, 75, 82, 83
6.32391 ± 0.06	$\frac{3}{2}^-$	0.23 ± 0.02 fsec	γ	3, 4, 5, 12, 13, 15, 17, 18, 19, 20, 30, 31, 32, 35, 40, 41, 44, 52, 60, 61, 65, 66, 71, 73, 74, 75, 76, 78, 83
7.15506 ± 0.06	$\frac{5}{2}^+$	18 ± 8 fsec	γ	4, 5, 19, 20, 30, 31, 32, 40, 44, 52, 61, 65, 66, 74
7.30109 ± 0.17	$\frac{3}{2}^+$	0.25 ± 0.10 fsec	γ	4, 5, 18, 19, 20, 30, 32, 40, 44, 52, 58, 61, 65, 66, 74
7.5671 ± 1.0	$\frac{7}{2}^+$	12_{-6}^{+11} fsec	γ	3, 4, 5, 12, 13, 17, 18, 19, 20, 30, 31, 32, 33, 40, 52, 55, 61, 65, 66, 74
8.31279 ± 0.14	$\frac{1}{2}^+$	< 16 fsec	γ	3, 4, 5, 19, 30, 32, 40, 44, 52, 58, 65, 66, 71

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
8.5714 ± 1.0	$\frac{3}{2}^+$	11 ± 7 fsec	γ	3, 4, 5, 12, 13, 17, 18, 19, 30, 31, 32, 40, 52, 58, 65, 66
9.0500 ± 0.7	$\frac{1}{2}^+$	< 2 fsec	γ	4, 5, 30, 40, 44, 52, 58, 71
9.15161 ± 0.23	$\frac{3}{2}^-$	< 40 fsec	γ	4, 5, 12, 13, 17, 18, 19, 30, 32, 40, 44, 52, 61, 65, 66
9.15492 ± 0.07	$\frac{5}{2}^+$	7_{-3}^{+6} fsec	γ	4, 5, 17, 18, 19, 30, 32, 40, 44, 52, 65, 66
9.225 ± 3	$\frac{1}{2}^-$	< 130 fsec	γ	30, 32, 40, 52, 71
9.760 ± 5	$\frac{5}{2}^-$	12 fsec	γ	14, 30, 44, 52, 61
9.829 ± 3	$\frac{7}{2}^-$	17 ± 7 fsec	γ	4, 5, 12, 13, 18, 19, 20, 30, 31, 32, 33, 40, 52, 65, 66
9.928 ± 4	$\frac{3}{2}^-$	< 10 fsec	γ	19, 30, 40, 44, 52, 74
10.070 ± 3	$\frac{3}{2}^+$	0.16 ± 0.05 fsec	γ	19, 30, 32, 52, 60, 65, 66
10.4497 ± 0.3	$\frac{5}{2}^-$	$\Gamma < 0.5$ keV	γ, p	5, 12, 13, 20, 30, 31, 36, 40, 52
10.5333 ± 0.5	$\frac{5}{2}^+$		γ, p	5, 13, 17, 18, 19, 31, 32, 36, 37
10.6932 ± 0.3	$\frac{9}{2}^+$	$\tau_m = 18 \pm 9$ fsec	γ, p	5, 13, 17, 18, 19, 31, 32, 36, 37
10.7019 ± 0.3	$\frac{3}{2}^-$	$\Gamma = 0.2$ keV	γ, p	12, 13, 30, 31, 32, 36, 37, 52, 65, 74
10.804 ± 2	$\frac{3}{2}^+$	$< 1 \times 10^{-3}$	γ, p	4, 5, 12, 13, 19, 20, 30, 36, 52, 61
11.235 ± 5	$\geq \frac{3}{2}$	3.3	n	40, 45
11.2929 ± 0.8	$\frac{1}{2}^-$	8 ± 3	$\gamma, \text{n}, \text{p}$	36, 37, 38, 40, 45, 65
11.4376 ± 0.7	$\frac{1}{2}^+$	41.4 ± 1.1	$\gamma, \text{n}, \text{p}, \alpha$	7, 12, 13, 19, 36, 37, 38, 40, 45, 46
11.615 ± 4	$\frac{1}{2}^+; T = \frac{3}{2}$	405 ± 6	$\gamma, \text{n}, \text{p}$	36, 37, 38
11.778 ± 5	$\frac{3}{2}^+$	40	n, p, α	7, 37, 38, 45, 46

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
11.876 \pm 3	$\frac{3}{2}^-$	25	γ, n, p, α	7, 30, 37, 38, 45, 46, 61
11.942 \pm 6	$\frac{9}{2}^-$	≤ 3.0	n, α	5, 7, 18, 19, 30, 31, 32, 33, 45, 65
11.965 \pm 3	$\frac{1}{2}^-$	17	n, p	5, 12, 13, 37, 38, 45, 46
12.095 \pm 3	$\frac{5}{2}^+$	14 \pm 5	n, p, α	7, 8, 37, 38, 39, 40, 45, 46, 50
12.145 \pm 3	$\frac{3}{2}^-$	41 \pm 5	n, p, α	7, 8, 12, 13, 37, 38, 39, 45, 46, 50
12.327 \pm 4	$\frac{5}{2}^{(+)}$	22	n, p	18, 19, 31, 37, 38, 45, 46
12.493 \pm 4	$\frac{5}{2}^+; \frac{1}{2}$	40 \pm 5	n, p, α	7, 8, 37, 38, 39, 45, 46, 50, 65
12.522 \pm 8	$\frac{5}{2}^+; \frac{3}{2}$	58 \pm 4	γ, p	36, 61
12.559 \pm 10	$(\frac{9}{2})$			5, 13, 18, 19
12.920 \pm 4	$\frac{3}{2}^-$	56 \pm 11	n, p, α	7, 8, 11, 19, 20, 37, 38, 39, 45, 46, 50
12.940 \pm 10	$\frac{5}{2}^+$	81	p, α	8, 11, 37, 39
13.004 \pm 10	$\frac{11}{2}^-$			5, 12, 13, 14, 17, 19, 31, 32, 33
13.149 \pm 10		7 \pm 3	n, p, α	7, 8, 20, 50
13.174 \pm 7	$(\frac{9}{2})$	7 \pm 3	n, p, α	5, 7, 8, 13, 17, 18, 19, 38, 45, 50
13.362 \pm 8	$\frac{3}{2}^-$	16 \pm 8	n, p, α	7, 8, 11, 37, 38, 39, 50
13.390 \pm 10	$\frac{3}{2}^+$	56	γ, n, p, α	8, 11, 36, 37, 38, 39, 46
13.537 \pm 10	$\frac{3}{2}^-$	85 \pm 30	n, p, α	7, 11, 37, 38, 39
13.608 \pm 7	$\frac{5}{2}^{(+)}$	18 \pm 4	n, p, α	7, 8, 19, 37, 38, 39, 45, 46, 50
(13.612 \pm 10)	$(\frac{1}{2}^+)$	90	α	11
13.713 \pm 10		26 \pm 8	n, p, α	7, 46, 50
13.84 \pm 30	$\frac{3}{2}^+$	75	n, p, α	5, 7, 11, 13, 45, 46, 50

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
13.9	$\frac{1}{2}^+$	930	γ, p	36, 37
13.99 \pm 30	$\frac{5}{2}^+$	98 \pm 10	n, p, α	7, 13, 37, 39
14.090 \pm 7		22 \pm 6	n, p, α	5, 7, 12, 13, 19, 45, 46, 50
14.10 \pm 30	$\frac{3}{2}^+$	\approx 100	n, α	5, 7, 11, 65
14.162 \pm 10	$\frac{3}{2}^{(+)}$	27 \pm 6	n, α	5, 7, 45, 46, 50
14.24 \pm 40	$\frac{5}{2}^+$	150	α	11, 12
14.38 \pm 40	$\frac{7}{2}^+$	100	α	11
14.4		\approx 1900	n, p, α	45, 46, 50
14.55 \pm 20		200 \pm 50	n, (p), α	7, 37
14.647 \pm 10		33 \pm 6	n, p, α	7, 45, 46, 50
14.71		750	γ, p	36
14.720 \pm 10	$\frac{5}{2}^-$	110 \pm 50	$\gamma, n, (p), \alpha$	7, 12, 13, 19, 37, 39, 61
14.86 \pm 20		48 \pm 11	n, α	7, 11
14.920 \pm 10		12 \pm 3	n, α	7, 12, 50
15.025 \pm 10		13 \pm 3	n, α	7, 19
15.09 \pm 20		80 \pm 25	n, α	7, 11, 45, 50, 65
15.288 \pm 10		26 \pm 6	n, α	7, 11
15.373 \pm 10	$\frac{13}{2}^+$			5, 12, 13, 17, 18, 19, 20
15.38 \pm 20		75 \pm 25	n, t, α	7, 11, 16
15.43 \pm 20		\approx 100	n, (α)	7, 11
15.45		750	γ, p	36
15.53 \pm 20		\approx 35	n, α	7, 12, 13, 50
15.60 \pm 20		95 \pm 25	n, α	7
15.782 \pm 10			p, t, α	16, 19, 20
15.93 \pm 20		35 \pm 5	n, t, α	7, 16, 18
15.944 \pm 15		21 \pm 6	n, t, α	7, 16
16.026 \pm 10		62 \pm 12	n, p, t, α	7, 16, 19, 50
16.190 \pm 10	$\frac{3}{2}^+$	450 \pm 100	γ, n, p, t, α	12, 16, 18, 19, 37, 39
16.26 \pm 20		130 \pm 14	n, t, α	7, 11, 16, 20

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
16.32 \pm 20		≈ 30	n, p, t, α	7, 11, 16
16.35 \pm 20	$\frac{3}{2}^+$	270 \pm 30	γ , α	6
16.39 \pm 20		44 \pm 11	n, p, t, α	7, 16, 18, 50
16.46		560	γ , p, d	26, 36
16.576 \pm 15		27 \pm 15	n, α	7, 50
16.59 \pm 25	$\frac{3}{2}^-$	490	γ , n, p, t, α	16
16.677 \pm 15	$(\frac{3}{2}^+; \frac{1}{2})$	75 \pm 5	γ , n, p, d, t, α	7, 16, 18, 25, 26, 28, 36, 39, 45, 50
16.73 \pm 20	$(\frac{1}{2}^+, \frac{3}{2}^+)$	270 \pm 30	γ , n, t, α	6, 14, 16
16.85 \pm 30	$\frac{5}{2}$	110 \pm 50	t, α	16, 39
16.91		≈ 350	n, p, d, t, α	16, 25, 26, 45, 50
(17.05)			p, t	16
17.11		broad	d, α	29
17.15 \pm 50	$(\frac{1}{2}^+, \frac{3}{2}^+)$	250 \pm 60	γ , t, α	6, 16
17.23 \pm 40		≈ 175	d, t, (α)	28, 29
17.37 \pm 40		≈ 250	p, d, t, α	16, 26, 28, 29, 45, 50
17.58 \pm 40	$\frac{3}{2}^+$	450 \pm 120	γ , d, t, α	16, 28, 50
17.67 \pm 40	$\frac{3}{2}^+; T = \frac{1}{2}$	600 \pm 80	γ , n, d, α	6, 24, 25, 29
17.72 \pm 10		48 \pm 10	n, (p), d, t, α	26, 28, 29, 50
17.81		167	n, α	20, 45, 50
18.06 \pm 10		19 \pm 4	(n), d, α	18, 25, 29
18.09 \pm 20		≈ 40	(n), p, d, t	22, 26, 28
18.22		158	n, α	45, 50
18.28 \pm 30		235 \pm 60	n, p, d, α	25, 26, 29, 50
(18.76 \pm 10)				18, 30
19.05 \pm 50		≈ 700	γ , α	6
19.16	$(\frac{1}{2}^+; \frac{1}{2})$	≈ 130	n, d	25
19.5	$\frac{3}{2}^+; (\frac{3}{2})$	≈ 400	γ , p	36, 37
19.77 \pm 60				14, 18
20.5	$\frac{3}{2}^+$	≈ 400	γ , n, p, d	25, 26, 36
21.26 \pm 200		≈ 1700	γ , α	6

Table 15.3 from (1981AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
21.82	$\frac{3}{2}^-; (T = \frac{3}{2})$	≈ 600	γ, p, d	24 , 36 , 59 , 61
22.92			γ, p	36
23.8		broad	γ, d	24
25.5		γ, p	36 , 61	
(26.8)		t	16	
≈ 37		γ, p	36	

^a See also Tables [15.4](#) and [15.5](#).