

Table 15.4 from (1986AJ01): 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, 12, 14, 15, 16, 17, 19, 20, 21, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71
5.27015 ± 0.02	$\frac{5}{2}^+$	$\tau_m = 2.58 \pm 0.14$ psec $g = +(0.94 \pm 0.07)$	γ	3, 4, 13, 17, 18, 20, 25, 26, 29, 32, 33, 35, 39, 47, 48, 51, 52, 58, 62, 63, 68, 69, 70
5.29880 ± 0.02	$\frac{1}{2}^+$	25 ± 7 fsec	γ	3, 4, 10, 11, 13, 17, 19, 20, 25, 26, 27, 29, 32, 33, 35, 39, 44, 47, 51, 52, 58, 62, 63, 69, 70
6.32389 ± 0.02	$\frac{3}{2}^-$	0.211 ± 0.012 fsec	γ	2, 3, 4, 10, 11, 14, 17, 19, 20, 25, 27, 29, 32, 33, 35, 39, 46, 47, 48, 51, 52, 58, 59, 61, 62, 63, 64, 66, 70
7.1551 ± 0.02	$\frac{5}{2}^+$	18 ± 8 fsec	γ	3, 4, 17, 18, 19, 20, 25, 26, 27, 32, 33, 35, 39, 42, 47, 51, 52, 62
7.30086 ± 0.02	$\frac{3}{2}^+$	0.61 ± 0.05 fsec	γ	3, 4, 17, 19, 20, 25, 26, 27, 32, 33, 35, 39, 44, 46, 47, 51, 52, 62

Table 15.4 from (1986AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
7.5671 ± 1.0	$\frac{7}{2}^+$	12_{-6}^{+11} fsec	γ	2, 3, 4, 10, 11, 17, 18, 19, 20, 25, 26, 27, 28, 32, 39, 42, 47, 48, 51, 52, 62
8.31260 ± 0.02	$\frac{1}{2}^+$	1.7 ± 1.1 fsec	γ	2, 3, 4, 19, 25, 26, 27, 32, 35, 39, 44, 46, 51, 52, 58
8.5714 ± 1.0	$\frac{3}{2}^+$	0.7 ± 0.7 fsec	γ	2, 3, 4, 10, 11, 17, 18, 19, 25, 26, 27, 32, 35, 39, 44, 46, 51, 52
9.0500 ± 0.7	$\frac{1}{2}^+$	0.50 ± 0.08 fsec	γ	3, 4, 25, 26, 32, 35, 39, 44, 46, 47, 58
9.15214 ± 0.06	$\frac{3}{2}^-$	1.40 ± 0.36 fsec	γ	3, 4, 10, 11, 25, 26, 32, 35, 39, 46, 47, 51, 52
9.15500 ± 0.04	$\frac{5}{2}^+$	7_{-3}^{+6} fsec	γ	3, 4, 19, 25, 32, 35, 39, 46
9.225 ± 3	$\frac{1}{2}^-$	< 130 fsec	γ	25, 27, 32, 39, 58
9.7575 ± 3.0	$\frac{5}{2}^-$	2.6 ± 0.9 fsec	γ	25, 35, 39, 46, 47
9.829 ± 3	$\frac{7}{2}^-$	17 ± 7 fsec	γ	3, 4, 10, 11, 18, 19, 20, 25, 27, 28, 32, 39, 51, 52
9.928 ± 4	$\frac{3}{2}^-$	0.31 ± 0.05 fsec	γ	19, 25, 32, 35, 39, 46, 62
10.070 ± 3	$\frac{3}{2}^+$	0.100 ± 0.006 fsec	γ	19, 25, 26, 27, 39, 46, 51, 52
10.4497 ± 0.3	$\frac{5}{2}^-$	$\Gamma < 0.5$ keV	γ, p	4, 10, 11, 20, 25, 30, 39
10.5333 ± 0.5	$\frac{5}{2}^+$		γ, p	4, 10, 11, 19, 25, 26, 30, 32, 39
10.6932 ± 0.3	$\frac{9}{2}^+$	$\tau_m = 18 \pm 9$ fsec	γ, p	4, 11, 17, 30, 48
10.7019 ± 0.3	$\frac{3}{2}^-$	$\Gamma = 0.2$ keV	γ, p	10, 11, 18, 19, 25, 27, 30, 39, 51, 62

Table 15.4 from (1986AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
10.804 \pm 2	$\frac{3}{2}^+$	$< 1 \times 10^{-3}$	γ, p	3, 4, 10, 19, 20, 25, 30, 31, 47
11.235 \pm 5	$\geq \frac{3}{2}$	3.3	n	17, 32, 36
11.2928 \pm 0.7	$\frac{1}{2}^-$	8 \pm 3	γ, n, p	17, 30, 31, 32, 36, 51
11.4376 \pm 0.7	$\frac{1}{2}^+$	41.4 \pm 1.1	γ, n, p, α	6, 10, 19, 26, 30, 31, 32, 36, 37
11.615 \pm 4	$\frac{1}{2}^+; T = \frac{3}{2}$	405 \pm 6	γ, n, p	30, 31
11.778 \pm 5	$\frac{3}{2}^+$	40	n, p, α	6, 31, 36, 37
11.876 \pm 3	$\frac{3}{2}^-$	25	γ, n, p, α	6, 31, 36, 37, 47
11.942 \pm 6	$\frac{9}{2}^-$	≤ 3.0	n, α	4, 6, 17, 18, 19, 26, 27, 28, 36
11.965 \pm 3	$\frac{1}{2}^-$	17	n, p	4, 10, 31, 36, 37
12.095 \pm 3	$\frac{5}{2}^+$	14 \pm 5	n, p, α	6, 7, 26, 31, 32, 36, 37
12.145 \pm 3	$\frac{3}{2}^-$	41 \pm 5	n, p, α	6, 7, 10, 31, 36, 37
12.327 \pm 4	$\frac{5}{2}^{(+)}$	22	n, p	18, 19, 26, 31, 36, 37
12.493 \pm 4	$\frac{5}{2}^+; \frac{1}{2}$	40 \pm 5	n, p, α	6, 7, 26, 31, 36, 37
12.522 \pm 8	$\frac{5}{2}^+; \frac{3}{2}$	58 \pm 4	γ, p	30, 47
12.551 \pm 10	$\frac{9}{2}^+$			4, 17, 18, 19, 26, 48
12.920 \pm 4	$\frac{3}{2}^-$	56 \pm 11	n, p, α	6, 7, 9, 19, 20, 31, 36, 37
12.940 \pm 10	$\frac{5}{2}^+$	81	p, α	7, 9, 31
13.004 \pm 10	$\frac{11}{2}^-$			4, 10, 11, 13, 17, 19, 26, 27, 28
13.149 \pm 10		7 \pm 3	n, p, α	6, 7, 20, 37
13.174 \pm 7	$(\frac{9}{2})$	7 \pm 3	n, p, α	4, 6, 7, 11, 17, 18, 19, 31, 36, 37
13.362 \pm 8	$\frac{3}{2}^-$	16 \pm 8	n, p, α	6, 7, 9, 31, 37
13.390 \pm 10	$\frac{3}{2}^+$	56	γ, n, p, α	7, 9, 30, 31, 37
13.537 \pm 10	$\frac{3}{2}^-$	85 \pm 30	n, p, α	6, 9, 31

Table 15.4 from (1986AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
13.608 \pm 7	$\frac{5}{2}^{(+)}$	18 \pm 4	n, p, α	6, 7, 19, 31, 36, 37
(13.612 \pm 10)	$(\frac{1}{2}^+)$	90	α	9
13.713 \pm 10		26 \pm 8	n, p, α	6, 31, 37
13.84 \pm 30	$\frac{3}{2}^+$	75	n, p, α	4, 6, 9, 26, 36, 37
13.9	$\frac{1}{2}^+$	930	γ , p	30, 31
13.99 \pm 30	$\frac{5}{2}^+$	98 \pm 10	n, p, α	6, 31
14.090 \pm 7	$(\frac{9}{2}^+, \frac{7}{2}^+)$	22 \pm 6	n, p, α	4, 6, 10, 19, 26, 36, 37, 48
14.10 \pm 30	$\frac{3}{2}^+$	\approx 100	n, α	4, 6, 9
14.162 \pm 10	$\frac{3}{2}^{(+)}$	27 \pm 6	n, α	4, 6, 36, 37
14.24 \pm 40	$\frac{5}{2}^+$	150	α	9, 10
14.38 \pm 40	$\frac{7}{2}^+$	100	α	9
14.4		\approx 1900	n, p, α	36, 37
14.55 \pm 20		200 \pm 50	n, (p), α	6
14.647 \pm 10		33 \pm 6	n, p, α	6, 36, 37
14.71		750	γ , p	30
14.720 \pm 10	$\frac{5}{2}^-$	110 \pm 50	γ , n, (p), α	6, 10, 19, 47
14.86 \pm 20		48 \pm 11	n, α	6, 9, 19
14.920 \pm 10		12 \pm 3	n, α	6, 10, 37
15.025 \pm 10		13 \pm 3	n, α	6, 19
15.09 \pm 20		80 \pm 25	n, α	6, 9, 36, 37, 51
15.288 \pm 10		26 \pm 6	n, α	6, 9
15.373 \pm 10	$\frac{13}{2}^+$			4, 10, 11, 17, 18, 19, 20
15.38 \pm 20		75 \pm 25	n, t, α	6, 9, 15
15.43 \pm 20		\approx 100	n, (α)	6, 9
15.45		750	γ , p	30
15.53 \pm 20		\approx 35	n, α	6, 10, 11, 37
15.60 \pm 20		95 \pm 25	n, α	6
15.782 \pm 10			p, t, α	15, 19, 20
15.93 \pm 20		35 \pm 5	n, t, α	6, 15, 18

Table 15.4 from (1986AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
15.944 \pm 15		21 \pm 6	n, t, α	6, 15
16.026 \pm 10		62 \pm 12	n, p, t, α	6, 9, 15, 19, 37
16.190 \pm 10	$\frac{3}{2}^+$	450 \pm 100	γ , n, p, t, α	15, 19
16.26 \pm 20	$\frac{3}{2}^+$	150 \pm 28	γ , n, t, α	5, 6, 9, 15, 18, 19, 20, 31
16.32 \pm 20		\approx 30	n, p, t, α	6, 15
16.39 \pm 20		44 \pm 11	n, p, t, α	6, 15, 18, 37
16.46		560	γ , p, d	22, 30
16.576 \pm 15		27 \pm 15	n, α	6, 37
16.59 \pm 25	$\frac{3}{2}^-$	490	γ , n, p, t, α	15
16.677 \pm 15	$\frac{1}{2}^+; \frac{1}{2}$	80 \pm 20	γ , n, p, d, t, α	5, 6, 15, 18, 21, 22, 24, 30, 31, 36, 37
16.85 \pm 30	$\frac{5}{2}$	110 \pm 50	t, α	15
16.91		\approx 350	n, p, d, t, α	15, 22, 36, 37
(17.05)			p, t	15
17.11		broad	d, α	24
17.15 \pm 50	$(\frac{1}{2}^+, \frac{3}{2}^+)$	250 \pm 60	γ , t, α	5, 15, 48
17.23 \pm 40		\approx 175	d, t, (α)	24, 28
17.37 \pm 40		\approx 250	p, d, t, α	15, 22, 24, 36, 37
17.58 \pm 40	$\frac{3}{2}^+$	450 \pm 120	γ , d, t, α	15, 24, 37
17.67 \pm 40	$\frac{3}{2}^+; \frac{1}{2}$	600 \pm 80	γ , n, d, α	5, 21, 22, 24
17.72 \pm 10		48 \pm 10	n, (p), d, t, α	19, 22, 24, 37
17.95 \pm 20		167	n, α	19, 20, 36, 37
18.06 \pm 10		19 \pm 4	(n), d, α	18, 22, 24
18.09 \pm 20		\approx 40	(n), p, d, t	22, 24
18.22		158	n, α	36, 37
18.27 \pm 20		235 \pm 60	n, p, d, α	19, 22, 24, 37
18.70 \pm 20				19, 25
18.91 \pm 150	$\frac{3}{2}^+ + \frac{1}{2}^+$	750 \pm 70	γ , α	5
19.20 \pm 35	$(\frac{1}{2}^+; \frac{1}{2})$	\approx 130	n, d	19, 22
19.5	$\frac{3}{2}^+; (\frac{3}{2})$	\approx 400	γ , p, t	15, 30, 31

Table 15.4 from (1986AJ01): Energy levels of ^{15}N ^a (continued)

E_x (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
19.72 \pm 40		^b		18, 19
20.12 \pm 50	$(T = \frac{3}{2})$			17, 48
20.5	$\frac{3}{2}^+$	≈ 400	γ, n, p, d	30
20.96 \pm 65	$\frac{3}{2}^+ + \frac{1}{2}^+$	1740 \pm 150	γ, α	5, 19
21.82		≈ 600	γ, p, d	21, 30, 45
23.19 \pm 60	$(T = \frac{3}{2})$		γ, p	30, 48
23.8		broad	γ, d	21
24.75 \pm 150		^b		19
25.5	$\frac{3}{2}^-; (T = \frac{3}{2})$		γ, p	30
(26.8)			t	15
≈ 37			γ, p	30

^a See also Tables 15.5, 15.6 and 15.13.

^b Wide or unresolved.