

Table 15.3 from (1981AJ01): Energy levels of  $^{15}\text{N}$  <sup>a</sup>

$E_x$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ 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
$5.27012 \pm 0.04$	$\frac{5}{2}^+$	$\tau_m = 2.6 \pm 0.2$ psec $g = +(0.9 \pm 0.3)$	$\gamma$	4, 5, 14, 20, 22, 31, 35, 40, 41, 44, 52, 61, 65, 66, 71, 74, 75, 82, 83
$5.29880 \pm 0.04$	$\frac{1}{2}^+$	$25 \pm 7$ fsec	$\gamma$	4, 5, 12, 13, 14, 17, 18, 19, 20, 22, 30, 32, 35, 40, 41, 44, 52, 58, 61, 71, 74, 75, 82, 83
$6.32391 \pm 0.06$	$\frac{3}{2}^-$	$0.23 \pm 0.02$ fsec	$\gamma$	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
$7.15506 \pm 0.06$	$\frac{5}{2}^+$	$18 \pm 8$ fsec	$\gamma$	4, 5, 19, 20, 30, 31, 32, 40, 44, 52, 61, 65, 66, 74
$7.30109 \pm 0.17$	$\frac{3}{2}^+$	$0.25 \pm 0.10$ fsec	$\gamma$	4, 5, 18, 19, 20, 30, 32, 40, 44, 52, 58, 61, 65, 66, 74
$7.5671 \pm 1.0$	$\frac{7}{2}^+$	$12_{-6}^{+11}$ fsec	$\gamma$	3, 4, 5, 12, 13, 17, 18, 19, 20, 30, 31, 32, 33, 40, 52, 55, 61, 65, 66, 74
$8.31279 \pm 0.14$	$\frac{1}{2}^+$	$< 16$ fsec	$\gamma$	3, 4, 5, 19, 30, 32, 40, 44, 52, 58, 65, 66, 71

Table 15.3 from (1981AJ01): Energy levels of  $^{15}\text{N}$  <sup>a</sup> (continued)

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

Table 15.3 from (1981AJ01): Energy levels of  $^{15}\text{N}$  <sup>a</sup> (continued)

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

Table 15.3 from (1981AJ01): Energy levels of  $^{15}\text{N}$  <sup>a</sup> (continued)

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

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

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

Table 15.3 from (1981AJ01): Energy levels of  $^{15}\text{N}$  <sup>a</sup> (continued)

$E_x$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
21.82	$\frac{3}{2}^-; (T = \frac{3}{2})$	$\approx 600$	$\gamma, p, d$	<a href="#">24</a> , <a href="#">36</a> , <a href="#">59</a> , <a href="#">61</a>
22.92			$\gamma, p$	<a href="#">36</a>
23.8		broad	$\gamma, d$	<a href="#">24</a>
25.5		$\gamma, p$	<a href="#">36</a> , <a href="#">61</a>	
(26.8)		t	<a href="#">16</a>	
$\approx 37$		$\gamma, p$	<a href="#">36</a>	

<sup>a</sup> See also Tables [15.4](#) and [15.5](#).