

Table 14.11 from (1976AJ04): Energy levels of  $^{14}\text{N}$  <sup>a</sup>

$E_x$ in $^{14}\text{N}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
g.s.	$1^+; 0$	stable		1, 6, 7, 9, 10, 18, 19, 20, 21, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 57, 59, 60, 61, 63, 64, 65, 66, 67, 68, 70, 71, 72
$2.31287 \pm 0.07$	$0^+; 1$	$\tau_m = 87 \pm 6$ fsec	$\gamma$	1, 9, 10, 18, 19, 21, 26, 32, 33, 34, 35, 38, 39, 41, 42, 43, 44, 47, 56, 57, 59, 60, 61, 64, 65, 66
$3.9478 \pm 0.4$	$1^+; 0$	$4.5 \pm 0.4$ fsec	$\gamma$	1, 6, 7, 9, 10, 18, 19, 20, 21, 26, 32, 33, 34, 35, 38, 39, 42, 43, 44, 45, 47, 48, 57, 59, 61, 64, 65, 66
$4.9150 \pm 1.3$	$0^-; 0$	$7.6 \pm 1.4$ fsec	$\gamma$	1, 6, 7, 18, 19, 20, 21, 32, 33, 34, 39, 41, 42, 43, 44, 45, 47, 48, 57, 59, 65
$5.10587 \pm 0.18$	$2^-; 0$	$(12.4 \pm 1.4)$ psec	$\gamma$	6, 7, 18, 19, 20, 21, 26, 32, 33, 34, 39, 42, 43, 44, 45, 47, 48, 57, 59, 61, 64, 65
$5.6896 \pm 1.1$	$1^-; 0$	$10.0 \pm 2.0$ fsec	$\gamma$	6, 7, 18, 19, 20, 21, 32, 33, 39, 42, 43, 44, 45, 47, 48, 57, 59, 65
$5.8324 \pm 1.4$	$3^-; 0$	$18 \pm 2$ psec	$\gamma$	6, 7, 11, 18, 19, 20, 21, 24, 32, 33, 39, 42, 43, 44, 45, 47, 48, 57, 59, 61, 65
$6.2035 \pm 0.6$	$1^+; 0$	$124 \pm 15$ fsec	$\gamma$	1, 6, 7, 18, 19, 20, 21, 26, 32, 33, 39, 44, 45, 47, 48, 57, 59, 65
$6.4444 \pm 1.1$	$3^+; 0$	$627 \pm 33$ fsec	$\gamma$	1, 6, 7, 18, 19, 20, 21, 32, 33, 39, 43, 44, 45, 48, 57, 59, 65
$7.0279 \pm 1.4$	$2^+; 0$	$5.4 \pm 0.5$ fsec	$\gamma$	6, 7, 18, 19, 20, 21, 32, 33, 39, 41, 43, 44, 45, 47, 48, 57, 59, 64, 65
$7.9666 \pm 0.6$	$2^-; 0$	$\Gamma = (2.5 \pm 0.7) \times 10^{-3}$	$\gamma, p$	6, 7, 18, 19, 20, 21, 26, 32, 33, 44, 48, 57, 59, 65

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$E_x$ in $^{14}\text{N}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
$8.062 \pm 1.0$	$1^-; 1$	$30 \pm 1$	$\gamma, p$	18, 19, 26, 27, 32, 41, 44, 57, 59
$8.4877 \pm 1.2$	$4^-; 0$	$27 \times 10^{-6}$	$\gamma, p$	6, 7, 18, 19, 20, 21, 26, 32, 33, 44, 65
$8.618 \pm 2$	$0^+; 1$	$7 \pm 1$	$\gamma, p$	18, 19, 26, 27, 32, 33, 44, 57, 59, 65
$8.79 \pm 50$	$0^-; 1$	$\approx 460$	$\gamma, p$	26, 27
$8.9091 \pm 1.6$	$3^-; 1$	$19.7 \pm 1.9$	$\gamma, p$	19, 26, 27, 32, 33, 42, 44, 57, 59
$8.9612 \pm 1.3$	$5^+; 0$	$7 \times 10^{-6}$	$\gamma, p$	11, 19, 20, 21, 23, 24, 26, 52, 57
$8.979 \pm 3$	$2^+; (0)$	$8 \pm 2$	$\gamma, p$	6, 19, 26, 27, 32, 57
$9.1241 \pm 1.5$	$3^+$			6, 19
$9.129 \pm 1.0$	$2^-; 0$	$< 1$	$\gamma, p$	26, 32
$9.1708 \pm 1.6$	$2^+; 1$	$0.074 \pm 0.008$	$\gamma, p$	19, 21, 26, 32, 41, 42, 44, 57, 59, 64
$9.3860 \pm 1.4$	$2^-, 3^-; 0$	$15.6 \pm 2.0$	$\gamma, p$	6, 19, 20, 21, 26, 27, 32, 44, 57, 59, 65
$9.509 \pm 3$	$2^-; 1$	$41 \pm 2$	$\gamma, p$	19, 26, 27, 32, 44, 57, 59, 65
$9.703 \pm 4$	$1^+; 0$	$15 \pm 3$	p	6, 19, 20, 21, 27, 32, 44, 57, 59, 65
$10.063 \pm 15$	$3^+, \geq 4$	$< 10$	p	19, 57
$10.101 \pm 15$	$2^+, 1^+; 0$	5	$\gamma, p$	6, 19, 20, 21, 26, 27, 44, 57, 65
$10.228 \pm 10$	$1^{(-)}; 0$	$80 \pm 15$	$\gamma, p$	19, 26, 27, 57, 65
$10.434 \pm 6$	$2^+; 1$	$33 \pm 3$	$\gamma, p$	6, 19, 26, 27, 39, 42, 57, 59, 64, 65
(10.54)	(1)	(140)	p	19, 27
$10.811 \pm 7$	$5^+; 0$	$(0.39 \pm 0.16) \times 10^{-3}$	$\gamma, p$	19, 20, 21, 26, 57, 65
$11.00 \pm 30$		$165 \pm 30$	$\gamma, p$	26, 42
$11.050 \pm 5$	$(2, 3)^+$	$\leq 2$	$\gamma, p$	6, 19, 26, 42, 57
11.07	$1^+; 0$	100	n, p, d	6, 13, 20, 21, 26, 28, 64, 65
$11.24 \pm 20$	; 1	$220 \pm 30$	$\gamma, p, d$	13, 19, 24, 26, 44, 45, 47, 57, 65

Table 14.11 from (1976AJ04): Energy levels of  $^{14}\text{N}$  <sup>a</sup> (continued)

$E_x$ in $^{14}\text{N}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
11.24	(3 <sup>-</sup> )	$\approx 20$	n, p	27, 28, 57
11.29	2 <sup>-</sup> ; 0	180	n, p, d	13, 14, 21, 27, 28, 57
11.357 $\pm$ 15	1 <sup>+</sup> ; 0	30	$\gamma$ , n, p, d	13, 14, 19, 20, 21, 27, 28, 57, 65
11.5136 $\pm$ 1.5	2 <sup>+</sup> , 3 <sup>+</sup>	7.0 $\pm$ 0.5	p, d	13, 14, 19, 21, 57, 65
11.68 $\pm$ 20	1 <sup>-</sup> , 2 <sup>-</sup>	150 $\pm$ 20	n, p, d	13, 19, 57
11.741 $\pm$ 6	1 <sup>-</sup> , 2 <sup>-</sup>	40 $\pm$ 9	( $\gamma$ , n), p, d	13, 19, 26, 27, 28, 57
11.761 $\pm$ 6	3 <sup>-</sup> , 4 <sup>-</sup>	78 $\pm$ 6	( $\gamma$ , n), p, d	13, 19, 26, 27, 28, 57
11.807 $\pm$ 7	(2 <sup>-</sup> )	119 $\pm$ 9	n, p, d	13, 14, 19
11.874 $\pm$ 6	(2 <sup>-</sup> )	101 $\pm$ 9	p, d	13, 19, 28
12.20 $\pm$ 20	1 <sup>-</sup> , 2 <sup>-</sup>	300 $\pm$ 30	n, p, d	13, 21, 28, 57
(12.29 $\pm$ 15)				19
12.408 $\pm$ 3	(3 <sup>+</sup> )	37 $\pm$ 4	n, p, d	13, 14, 19, 21
12.418 $\pm$ 3	(4 <sup>-</sup> )	41 $\pm$ 4	p, d	3, 4, 13, 19
(12.47 $\pm$ 5)		$\approx 20$	p, $\alpha$	3
12.497 $\pm$ 4		35 $\pm$ 10	$\gamma$ , n, p, d, $\alpha$	3, 13, 19, 26, 39, 57, 64
12.594 $\pm$ 3	3 <sup>+</sup>	48 $\pm$ 2	n, p, d, $\alpha$	3, 13, 14, 19, 21, 28, 57
12.688 $\pm$ 4	3 <sup>-</sup>	22 $\pm$ 4	n, p, d, $\alpha$	2, 3, 4, 5, 13, 14, 19, 20, 21, 28
(12.708 $\pm$ 9)		43 $\pm$ 15	p, d	13
12.792 $\pm$ 4	4 <sup>+</sup>	18 $\pm$ 3	p, d, $\alpha$	3, 4, 5, 11, 13, 14, 19, 23, 44, 45, 47, 57
(12.813 $\pm$ 5)		37 $\pm$ 6	p, d	13
12.819 $\pm$ 4	4 <sup>-</sup>	8 $\pm$ 3	n, p, d, $\alpha$	3, 4, 13, 14, 57
12.857 $\pm$ 6		78 $\pm$ 10	n, p, d	13, 28
12.923 $\pm$ 5	(4 <sup>+</sup> )	25 $\pm$ 3	p, d, $\alpha$	3, 4, 13, 14, 19
13.03 $\pm$ 15		$\approx 100$	$\gamma$ , p	20, 26
13.166 $\pm$ 5	(1 <sup>+</sup> )	15 $\pm$ 5	n, p, d, $\alpha$	2, 3, 4, 5, 13, 14, 19, 57
13.192 $\pm$ 10	3 <sup>+</sup>	65 $\pm$ 10	$\alpha$	5, 9, 57
13.243 $\pm$ 10	2 <sup>-</sup>	92 $\pm$ 5	n, p, $\alpha$	2, 3, 28, 57
13.30 $\pm$ 40	(2 <sup>-</sup> ); 1	1000 $\pm$ 150	$\gamma$ , p	26
13.656 $\pm$ 5	(2 <sup>+</sup> , 3 <sup>+</sup> )	$\approx 90$	n, p, d, $\alpha$	2, 3, 5, 13
13.714 $\pm$ 5	2, 3 <sup>+</sup>	105 $\pm$ 25	n, p, d, $\alpha$	2, 3, 4, 28, 57

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$E_x$ in $^{14}\text{N}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
13.71 $\pm$ 30	1 <sup>+</sup> ; 1	180 $\pm$ 20	$\gamma$ , n, p, $\alpha$	2, 3, 5, 13, 14, 26, 28, 39, 57, 59
13.72 $\pm$ 20		110	p, $\alpha$	3
14.04 $\pm$ 30		100	n, p, d, $\alpha$	2, 3, 13, 14, 28
14.16 $\pm$ 30		230	n, p, d, $\alpha$	2, 3, 13, 14
14.25 $\pm$ 50	3 <sup>+</sup>	420 $\pm$ 100	p, $\alpha$	3, 5
14.30 $\pm$ 20		150	p, d, $\alpha$	3, 13, 14
14.56 $\pm$ 20		100	n, p, $\alpha$	2, 3
14.59 $\pm$ 30		50	n, p, $\alpha$	2, 3
14.66 $\pm$ 10	2 <sup>-</sup>	100 $\pm$ 20	$\alpha$	5
14.73 $\pm$ 30		125	n, p, $\alpha$	2, 3
14.86 $\pm$ 30		140	n, p, d, $\alpha$	2, 3, 13, 14, 16, 19, 28
14.92 $\pm$ 25		43 $\pm$ 8	n, p, $\alpha$	2, 3, 19, 28
15.015 $\pm$ 15		$\approx$ 60	n, d, $\alpha$	2, 14, 20, 28
15.24 $\pm$ 20		100	p, d, $\alpha$	3, 13, 14, 23
15.43 $\pm$ 20		100	n, p, d, $\alpha$	2, 3, 13, 16, 20
15.7 $\pm$ 150		350	n, p, d, $\alpha$	13, 14, 16, 19, 20, 28
16.21 $\pm$ 20		125	n, p, $\alpha$	2, 3, 20, 23, 28
16.40 $\pm$ 20		150	p, $\alpha$	3, 16, 20, 23
16.8	4 <sup>+</sup> ; 0 + 1	$\approx$ 300	d, $\alpha$	16
16.91 $\pm$ 20	(5 <sup>-</sup> ); 0 + 1	$\approx$ 100	p, d, $\alpha$	3, 16
17.17 $\pm$ 20	4 <sup>+</sup> ; 0 + 1	$\approx$ 300	n, p, d, $\alpha$	3, 13, 14, 16, 19, 20, 23, 28
17.7				20, 23
18.1	(1 <sup>-</sup> , 2 <sup>+</sup> ); 0 + 1	( $\approx$ 300)	d, $\alpha$	16
18.1	4 <sup>+</sup> ; 0 + 1	$\approx$ 600	d, $\alpha$	16, 28
18.2	3 <sup>-</sup> ; 0 + 1	( $\approx$ 400)	d, $\alpha$	16
18.4	3 <sup>-</sup> ; 0 + 1	( $\approx$ 300)	d, $\alpha$	16
18.50	5 <sup>-</sup> ; 0 + 1	$\approx$ 60	d, $\alpha$	16
18.8	4 <sup>+</sup> ; 0 + 1	( $\approx$ 400)	d, $\alpha$	16
20.1	1 <sup>-</sup> ; 0 + 1	( $\approx$ 500)	d, $\alpha$	16
20.6		500 $\pm$ 100	$\gamma$ , d	12
20.8	5 <sup>-</sup> ; 0 + 1	$\approx$ 600	d, $\alpha$	16

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$E_x$ in $^{14}\text{N}$ (MeV $\pm$ keV)	$J^\pi; T$	$\tau_m$ or $\Gamma_{c.m.}$ (keV)	Decay	Reactions
20.8	$(3^-, 4^+); 0 + 1$	$(\approx 500)$	$d, \alpha$	16
21.3	$4^+; 0 + 1$	$(\approx 1 \text{ MeV})$	$d, \alpha$	16
21.5	$3^-; 0 + 1$	$(\approx 500)$	$d, \alpha$	16, 44
21.7	$5^-; 0 + 1$	$\approx 200$	$d, \alpha$	16
21.8		650	$\gamma, ^3\text{He}$	8
$22.5 \pm 100$	$5^-; 0 + 1$	$610 \pm 100$	$d, \alpha$	16
22.5	$(2^-); 1$		$\gamma, p$	26
23.0	$(0, 1, 2)^-; 1$	$\approx 3 \text{ MeV}$	$\gamma, n$	40
23.0	$2^-; 1$		$\gamma, p$	26
$23.3 \pm 100$	$5^-; 0 + 1$	$500 \pm 100$	$d, \alpha$	16
24.0		$\approx 1000$	$n, ^3\text{He}, \alpha$	8

<sup>a</sup> See also [Table 14.7 in \(1970AJ04\)](#) and [Tables 14.12 and 14.13 here](#).