

Table 16.5 from (1993TI07): Energy Levels of ^{16}N

E_x (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
0	$2^-; 1$	$\tau_{1/2} = 7.13 \pm 0.02$ sec	β^-	1, 2, 4, 5, 7, 9, 11, 12, 16, 19, 20, 21, 22, 23, 24, 25, 27, 28
0.12042 ± 0.12	0^-	$\tau_m = 7.58 \pm 0.09$ μsec	γ, β^-	1, 2, 4, 5, 7, 9, 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28
0.29822 ± 0.08	3^-	$\left\{ \begin{array}{l} 131.7 \pm 1.9 \text{ psec} \\ g = 0.532 \pm 0.0200 \end{array} \right.$	γ	2, 4, 5, 7, 9, 10, 11, 16, 19, 20, 21, 22, 23, 24, 25, 27, 28
0.39727 ± 0.10	1^-	$\left\{ \begin{array}{l} \tau_m = 5.63 \pm 0.05 \text{ psec} \\ g = -1.83 \pm 0.130 \end{array} \right.$	γ	2, 4, 5, 7, 9, 11, 16, 18, 19, 20, 21, 22, 27, 28
3.3528 ± 2.6	$(1^+)^c$	$\Gamma = 15 \pm 5$	n	5, 7, 9, 11, 13, 14, 15, 16, 17, 22, 25, 27
3.5227 ± 2.6	2^+	3	n	5, 7, 9, 11, 13, 16, 22, 25, 27
3.9627 ± 2.6	3^+	≤ 2	n	5, 7, 9, 10, 11, 13, 16, 22, 25, 27
4.3204 ± 2.7	1^+	20 ± 5	n	5, 9, 11, 13, 14, 15, 16, 17
4.3914 ± 2.7	1^-	82 ± 20	n	5, 7, 9, 11, 13, 16
4.76 ± 50	1^-	250 ± 50	n	11, 13, 16
4.7828 ± 2.7	2^+	59 ± 8	n	5, 7, 9, 11, 13, 16
5.0537 ± 2.7	2^-	19 ± 6	n	5, 9, 11, 13, 16
5.129 ± 7	$\geq 2^a$	$\leq 7 \pm 4$	n	5, 7, 9, 11, 13, 16, 25
5.150 ± 7	$(3^-); 1^{a,d}$	$\leq 7 \pm 4$	n	5, 7, 9, 11, 13, 16, 25
5.2301 ± 2.6	3^+	≤ 4	n	5, 9, 11, 13, 16, 27
5.25 ± 70	2^-	320 ± 80	n	11, 16
5.318 ± 3	$(0^-, 1^+)$	(260)	n	5, 13
5.5216 ± 2.5	3^+	$\leq 7 \pm 4$	n	5, 7, 9, 11, 13, 16, 22, 24, 27
5.7317 ± 2.5	$(5^+)^e$	$\leq 7 \pm 4$	n	5, 7, 9, 10, 11, 13, 15, 16, 22, 24, 27
6.003 ± 3	1^-	270 ± 30	n	5, 11, 13, 27

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E_x (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
6.1707 \pm 2.4	4 ⁻ ; 1	$\leq 7 \pm 4$	n	5, 7, 9, 11, 16, 20, 22, 24, 27
6.3739 \pm 2.8	(3 ⁻ ; 1)	30 \pm 6	n	5, 7, 11, 13, 16, 22, 27
6.426 \pm 7		300 \pm 30		11, 16
6.5054 \pm 2.8	1 ⁺	34 \pm 6	(n)	5, 11, 13, 16, 24, 27
6.6085 \pm 2.8	(4)	$\leq 7 \pm 4$		5, 7, 11, 16, 27
6.845 \pm 4		$\leq 7 \pm 4$		7, 9, 11, 16, 27
(6.84)	≥ 2	> 140	n	13
7.02 \pm 20	1 ⁺	22 \pm 5	n	11, 13, 16, 27
7.134 \pm 7		$\leq 7 \pm 4$		9, 11, 16, 27
7.250 \pm 7	≥ 2	17 \pm 5	n	7, 11, 13, 16, 27
7.572 \pm 4	$\geq 3^{\text{b}}$	$\leq 7 \pm 4$	n	7, 9, 10, 11, 13, 16, 27
7.637 \pm 4	(3, 4, 5) ^{+ b}	$\leq 7 \pm 4$		7, 9, 10, 11, 16, 27
7.674 \pm 4	(b)	$\leq 7 \pm 4$	n	7, 9, 11, 13, 16, 24, 27
7.877 \pm 9	≥ 4	100 \pm 15	n	7, 11, 13, 16, 20, 27
8.048 \pm 9		85 \pm 15	n	11, 13, 27
8.199 \pm 5	(3, 2) ⁺	28 \pm 8		9, 11, 27
8.282 \pm 8		24 \pm 8		11, 27
8.365 \pm 8	≥ 1	18 \pm 8	n	7, 11, 13, 27
8.49 \pm 30	≥ 1	≤ 50	n	13, 27
8.72	≥ 1	40	n	13
8.819 \pm 15		≤ 50	n	7, 13, 27
9.035 \pm 15		≤ 50		27
9.16 \pm 30	≥ 2	100	n	13, 27
9.34 \pm 30		≤ 50	n	13, 27
9.459 \pm 15	≥ 2	100	n	7, 13, 24, 27
9.760 \pm 10	$T = 1$	15 \pm 8		7, 9, 27
9.813 \pm 10	$T = 1$			9
9.928 \pm 7	0 ⁺ ; $T = 2$	< 12		9, 26
10.055 \pm 15	≥ 3	30	n	7, 13, 27
10.37 \pm 40	≥ 2	165	n	7, 13

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E_x (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
10.71	≥ 2	120	n	13
11.16 \pm 40				7
11.49	≥ 3		n	13
11.61	≥ 3	220	n, d	8, 13
11.701 \pm 7	$2^+; 2$	< 12		9
11.75 \pm 40		< 50		7
(11.92)		390	n,d	8
(12.09)			n	13
12.39 \pm 60		290	n, p, d	7, 8
12.57 \pm 60		180	n, p, d	7, 8
12.88		155	n, p, d	8, 13
(12.97)		175	n, d	8
13.11 \pm 60			n, (d)	7, 8, 13
13.83			n	13
14.1	$(7^+; 2)^f$			
14.36 \pm 50	$(3)^+$	180	d	7, 8

^a See also [Table 16.6](#).

^b See also [Table 16.7](#).

^c May be a doublet. See ([1985BLZZ](#)) and see [Table 16.15](#).

^d Probably the analog of $^{16}\text{O}^*(18.029)$, D.J. Millener, private communication.

^e May be a 2^- , 5^+ doublet – the analogs of ^{16}O states at $E_x = 18.454$ and 18.640 MeV, $J^\pi = (2^-)$ and 5^+ , respectively (D.J. Millener, private communication).

^f ([1987AZZZ](#)) and D.J. Millener, private communication.