

Table 17.7 from (1986AJ04): Energy levels of ^{17}O

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
0	$\frac{5}{2}^+; \frac{1}{2}$		stable	1, 2, 5, 6, 7, 10, 11, 13, 14, 16, 17, 18, 19, 23, 24, 25, 26, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54
0.87081 ± 0.12	$\frac{1}{2}^+$	$\tau_m = 258.6 \pm 2.6$ psec	γ	1, 2, 5, 6, 7, 8, 10, 11, 13, 14, 16, 17, 18, 19, 23, 24, 25, 26, 31, 32, 33, 34, 35, 37, 39, 40, 42, 44, 47, 48, 49, 51, 52, 53
3.05536 ± 0.16	$\frac{1}{2}^-$	$\tau_m = 120_{-60}^{+80}$ fsec	γ	5, 6, 7, 10, 11, 16, 18, 19, 23, 25, 26, 31, 32, 33, 34, 35, 37, 39, 47, 48, 52
3.841 ± 3	$\frac{5}{2}^-$	$\tau_m \leq 25$ fsec	γ	5, 6, 7, 10, 11, 12, 16, 18, 19, 23, 24, 32, 33, 37, 38, 47, 48, 52
4.552 ± 2	$\frac{3}{2}^-$	$\Gamma = 40 \pm 5$	γ, n	5, 7, 10, 11, 16, 18, 19, 23, 24, 27, 32, 33, 35, 36, 37, 38, 47, 48, 52
5.085 ± 2	$\frac{3}{2}^+$	96 ± 5	γ, n	2, 6, 7, 10, 11, 18, 19, 23, 27, 32, 35, 36, 37, 47, 48
5.218	$(\frac{9}{2}^-)$	< 0.1	γ, n	6, 7, 10, 11, 12, 18, 19, 23, 24, 25, 27, 32, 37, 38, 47, 52
5.378 ± 2	$\frac{3}{2}^-$	28 ± 7	γ, n	7, 18, 19, 23, 27, 32, 33, 35, 36, 37, 47, 48, 52

Table 17.7 from (1986AJ04): Energy levels of ^{17}O (continued)

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
5.697 ± 2	$\frac{7}{2}^-$	3.4 ± 0.3	γ, n	2, 6, 10, 11, 16, 18, 19, 23, 24, 27, 32, 36, 37, 38, 48
5.733 ± 2		< 1	n	2, 5, 6, 10, 11, 16, 18, 19, 27, 32, 52
5.868 ± 2	$\frac{3}{2}^+$	6.6 ± 0.7	n	6, 7, 10, 11, 18, 19, 23, 27, 32, 52
5.939 ± 4	$\frac{1}{2}^-$	32 ± 3	γ, n	5, 6, 10, 11, 18, 19, 23, 27, 32, 35, 37, 48, 52
6.356 ± 8	$\frac{1}{2}^+$	124 ± 12	γ, n	5, 7, 16, 18, 23, 27, 36, 37
6.862 ± 2		< 1	γ, n	5, 6, 7, 10, 11, 18, 19, 23, 27, 32, 37, 48, 52
6.972 ± 2		< 1	γ, n	6, 7, 10, 11, 18, 19, 23, 27, 37, 52
7.1657 ± 0.8	$\frac{5}{2}^-$	1.38 ± 0.05	n, α	5, 6, 7, 9, 10, 11, 18, 23, 27, 30
7.202 ± 10	$\frac{3}{2}^+$	280 ± 30	n, α	10, 11, 18, 27, 30
7.3792 ± 1.0	$\frac{5}{2}^+$	0.64 ± 0.23	γ, n, α	5, 6, 7, 9, 10, 11, 23, 24, 27, 30, 37, 48, 52
7.3822 ± 1.0	$\frac{5}{2}^-$	0.96 ± 0.20	γ, n, α	5, 7, 9, 10, 11, 18, 24, 27, 30, 36, 37, 48, 52
7.559 ± 20	$\frac{3}{2}^-$	500 ± 50	n, α	27, 30, 32
7.576 ± 2	$(\frac{7}{2}^-)$	< 0.1	γ, n, α	5, 6, 9, 10, 11, 18, 23, 27, 37
7.6882 ± 0.9	$\frac{7}{2}^-$	14.4 ± 0.3	γ, n, α	5, 6, 9, 10, 11, 23, 27, 30, 36
7.757 ± 9	$\frac{11}{2}^-$		γ	16, 23, 24, 25, 37, 38
7.956 ± 6	$\frac{1}{2}^+$	90 ± 9	n, α	9, 23, 27, 30

Table 17.7 from (1986AJ04): Energy levels of ^{17}O (continued)

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
7.99 \pm 50	$\frac{1}{2}^-$	270 \pm 30	n, α	27, 30
8.070 \pm 10	$\frac{3}{2}^+$	85 \pm 9	n, α	9, 23, 27, 30
8.200 \pm 7	$\frac{3}{2}^-$	60	γ , n, α	9, 16, 23, 27, 30, 36, 48
8.3424 \pm 0.9	$\frac{1}{2}^+$	11.4 \pm 0.5	γ , n, α	9, 23, 27, 30, 37
8.4023 \pm 0.8	$\frac{5}{2}^+$	6.17 \pm 0.13	γ , n, α	6, 9, 10, 11, 23, 27, 30, 37
8.4660 \pm 0.8	$\frac{7}{2}^+$	2.13 \pm 0.11	(γ), n, α	5, 6, 9, 10, 11, 23, 27, 30, 37, 48
8.5007 \pm 0.8	$\frac{5}{2}^-$	6.89 \pm 0.22	γ , n, α	6, 9, 10, 11, 23, 27, 30, 36, 37
8.6870 \pm 1.0	$\frac{3}{2}^-$	55.3 \pm 0.6	γ , n, α	9, 23, 27, 30, 36, 48
8.885 \pm 14 ^b	$\frac{7}{2}^-, \frac{9}{2}^-$	6	γ	37
8.897 \pm 8	$\frac{3}{2}^+$	101 \pm 3	n, α	6, 9, 10, 11, 23, 24, 27, 30, 37
8.9672 \pm 1.7	$\frac{7}{2}^-$	26 \pm 2	γ , n, α	6, 9, 10, 11, 23, 27, 30, 36, 37
9.147 \pm 4	$\frac{1}{2}^-$	4 \pm 3	γ , n, α	6, 8, 9, 10, 11, 48
9.15 \pm 20	$\frac{9}{2}^-$		γ	23, 24, 25, 37
9.18	$\frac{7}{2}^-$	3	α	9, 10, 11
9.1939 \pm 0.8	$\frac{5}{2}^+$	3.53 \pm 0.13	n, α	9, 10, 11, 27
9.42	$\frac{3}{2}^-$	120	n	27
9.492 \pm 4	$\frac{5}{2}^-$	15 \pm 1	n, α	5, 9, 11, 23, 27, 48
9.7119 \pm 0.9	$\frac{7}{2}^+$	23.1 \pm 0.3	n, α	9, 11, 16, 23, 27
9.7833 \pm 0.9	$\frac{3}{2}^+$	11.7 \pm 0.3	n, α	9, 11, 27
9.8589 \pm 0.9	($\frac{5}{2}^-$)	4.01 \pm 0.23	n, α	9, 11, 23, 27
9.8765 \pm 1.3	($\frac{1}{2}^-$)	16.7 \pm 1.7	n, α	9, 11, 23, 27
9.976 \pm 20	$\frac{5}{2}^+$	\approx 80	n, α	9
10.045 \pm 20		\approx 100	n, α	9
10.1678 \pm 1.0	$\frac{7}{2}^-$	49.1 \pm 0.8	n, α	9, 27

Table 17.7 from (1986AJ04): Energy levels of ^{17}O (continued)

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
10.336 \pm 15	$\frac{5}{2}^+, \frac{7}{2}^-$	150	n, α	9, 23
10.423 \pm 3		14 \pm 3	n, α	9, 16
10.49	$\frac{5}{2}^+, \frac{7}{2}^-$	75 \pm 30	n, α	9
10.5591 \pm 1.0	$(\frac{7}{2}^-)$	42.5 \pm 1.1	n, α	9, 12, 23, 27, 28
10.777 \pm 3	$\frac{1}{2}^+, \frac{7}{2}^-$	74 \pm 3	n, α	9, 11, 19, 23, 28
10.9129 \pm 2.8	$(\frac{5}{2}^+)$	41.7 \pm 1.4	n, α	9, 23, 27, 28
11.036 \pm 3	$T = \frac{1}{2}$	31 \pm 3	n, α	9, 23
11.0787 \pm 0.9 ^a	$\frac{1}{2}^-; \frac{3}{2}$	2.4 \pm 0.3	γ , n, α	8, 9, 23, 27, 37, 48, 49
11.238		80 \pm 3	n, α	5, 9, 16
11.51	$\geq \frac{3}{2}$	190	n	27, 28
11.622		65 \pm 2	n, α	9
11.750 \pm 10		40 \pm 25	γ , n, α	9, 37
11.815 \pm 15		12 \pm 3	n, α	9, 16
12.005 \pm 15	$\geq \frac{3}{2}$	270	γ , n, α	9, 16, 19, 27, 28, 37
12.11 \pm 20		150 \pm 50	n, α	9, 12, 28
12.22 \pm 20		\leq 20	γ	37
12.274 \pm 15		100 \pm 30	n, α	9, 16
12.38 \pm 20			n, α	9, 27
12.420 \pm 15			n, α	9
12.4660 \pm 1.0	$\frac{3}{2}^-; \frac{3}{2}$	6.9 \pm 1.1	γ , n, α	9, 27, 28, 37, 48, 49
12.595 \pm 15		75 \pm 30	n, α	9
12.669 \pm 15		\approx 5	γ , n, α	9, 27, 28, 37
12.81 \pm 25			n, α	9
12.93 \pm 20		\geq 150	n, α	9
12.944 \pm 5	$\frac{1}{2}^+; \frac{3}{2}$	6 \pm 2	n, α	9, 27, 28, 48, 49
12.9982 \pm 1.0	$\frac{5}{2}^-; \frac{3}{2}$	2.5 \pm 1.0	γ , n, α	9, 27, 37, 49
13.076 \pm 15		16 \pm 4	n, α	9
13.484 \pm 15		\approx 120	n, α	9

Table 17.7 from (1986AJ04): Energy levels of ^{17}O (continued)

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
13.58 \pm 20	$(\frac{11}{2}^-, \frac{13}{2}^-)$		(γ)	10, 11, 37
13.609 \pm 15		250 \pm 100	n, α	9
13.6353 \pm 2.5	$(\frac{5}{2})^+; \frac{3}{2}$	9 \pm 5	n, α	27, 48, 49
(13.67)		400	n	27
14.15 \pm 100	$(\frac{9}{2}^+, \frac{11}{2}^+)$	\approx 100		10
14.2303 \pm 1.7	$(\frac{7}{2})^-; \frac{3}{2}$	20.5 \pm 1.6	γ , n, α	27, 37, 49
14.286 \pm 3	$T = \frac{3}{2}$	7.5 \pm 4	n, α	27, 29
14.451 \pm 3		40 \pm 6	n, α	27
14.76 \pm 100	$(\geq \frac{3}{2})$	340	γ , n	27, 37
14.791 \pm 3	$(\frac{1}{2}^-, \frac{3}{2})$	36 \pm 13	(γ) , n, α	27, 37
15.00		180	n, d, α	22, 27
15.1 \pm 100	$(\frac{9}{2}^+, \frac{11}{2}^+)$	\approx 500		10
15.199 \pm 3	$(\frac{3}{2}; \frac{3}{2})$	52 \pm 14	γ , n, d, α	16, 22, 27, 37
15.368 \pm 3	$(\frac{5}{2}^+; \frac{3}{2})$	40 \pm 6	n, d, α	21, 27
(15.6)		\approx 300	p, d, α	20, 21, 22
15.78 \pm 20	$(\frac{9}{2}^-); \frac{3}{2}$	\leq 30	γ	37
15.95 \pm 150	$(\frac{9}{2}^+, \frac{11}{2}^+)$	\approx 700		10
16.243 \pm 4	$(\frac{9}{2}^+; \frac{3}{2})$	21 \pm 10	n, p, d, α	20, 27
16.58 \pm 10	$(\frac{1}{2}, \frac{3}{2})^-; \frac{3}{2}$	\approx 300	γ	37, 48
16.6 \pm 150	$(\frac{11}{2}^-, \frac{13}{2}^-)$			10
17.06 \pm 20	$(\frac{7}{2})^-; \frac{3}{2}$	\leq 20	γ	10, 37, 38
17.436 \pm 11	$(T = \frac{3}{2})$	66 \pm 20	n, α	27
17.92 \pm 20		98 \pm 16	γ	37
18.110 \pm 4	$\frac{3}{2}^-; \frac{3}{2}$	46 \pm 12	n, α	27, 48
18.72 \pm 20		87 \pm 33		37
19.6 \pm 150	$(\frac{13}{2}^+, \frac{15}{2}^+)$	\approx 250		10
19.82 \pm 40	$\frac{3}{2}$	550 \pm 50	γ , t	17, 37
20.14 \pm 20	$(\frac{13}{2})^-; \frac{1}{2}$	31 \pm 5	γ	37
20.2 \pm 150	$(\frac{13}{2}^+, \frac{15}{2}^+)$	\approx 250		10
20.39 \pm 50	$\frac{5}{2}, \frac{7}{2}^-$	660 \pm 70	γ , t	17

Table 17.7 from (1986AJ04): Energy levels of ^{17}O (continued)

E_x in ^{17}O (MeV \pm keV)	$J^\pi; T$	τ_m or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
20.58 \pm 50	$\frac{1}{2}$	570 \pm 80	γ, t	17
20.70 \pm 20	$(\frac{11}{2})^-; \frac{3}{2}$	≤ 20	γ	37
21.05 \pm 50	$\frac{3}{2}$	470 \pm 60	γ, t	17
21.2	$(\frac{13}{2}^+, \frac{15}{2}^+)$			10
21.7 \pm 100	$\frac{5}{2}^+$	≈ 750	$\gamma, {}^3\text{He}, \alpha$	14, 15
22.1 \pm 100	$\frac{7}{2}^-$	≈ 750	$\gamma, n, {}^3\text{He}, \alpha$	10, 14, 15
22.5 \pm 200	$\frac{3}{2}^{(-)}$	≈ 1000	$\gamma, {}^3\text{He}$	14
23		≈ 6000	γ, n	36, 37
23.0	$\frac{1}{2}^+$	≈ 400	$\gamma, {}^3\text{He}$	14, 15
23.5			$\gamma, {}^3\text{He}$	14
24.4			$\gamma, {}^3\text{He}$	14

^a See also Tables 17.11 and 17.14, and see Table 17.6 in (1977AJ02).

^b See also (1971AJ02).