

Table 15.17 from (1986AJ01): Energy levels of ^{15}O ^a

E_x in ^{15}O (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
0	$\frac{1}{2}^-; \frac{1}{2}$	$\tau_{1/2} = 122.24 \pm 0.16$ sec	β^+	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30
5.183 \pm 1	$\frac{1}{2}^+$	$\tau_m = 8.2 \pm 1.0$ fsec	γ	2, 6, 9, 11, 16, 17, 22, 23, 25, 26, 27
5.2409 \pm 0.3	$\frac{5}{2}^+$	3.25 \pm 0.30 psec g = +0.248 \pm 0.026	γ	2, 5, 6, 9, 11, 16, 17, 21, 22, 23, 25, 26, 27
6.1763 \pm 1.7	$\frac{3}{2}^-$	< 2.5 fsec	γ	6, 9, 11, 16, 17, 21, 22, 23, 24, 25, 26, 27, 29
6.7931 \pm 1.7	$\frac{3}{2}^+$	< 28 fsec	γ	2, 6, 9, 11, 16, 17, 22, 27
6.8594 \pm 0.9	$\frac{5}{2}^+$	16.0 \pm 2.5 fsec	γ	2, 5, 6, 9, 11, 16, 17, 19, 22, 23, 27
7.2759 \pm 0.6	$\frac{7}{2}^+$	0.70 \pm 0.15 psec	γ	5, 6, 7, 8, 9, 10, 16, 17, 19, 22, 25, 27
7.5564 \pm 0.5	$\frac{1}{2}^+$	$\Gamma = 1.2 \pm 0.2$ keV	γ, p	9, 11, 16, 17, 22, 25, 27
8.2839 \pm 0.6	$\frac{3}{2}^+$	3.6 \pm 0.7	γ, p	6, 9, 11, 16, 17, 27
8.743 \pm 6	$\frac{1}{2}^+$	32	γ, p	9, 11, 27
8.922 \pm 2	$\frac{5}{2}^+$	3.3 \pm 0.3	γ, p	5, 6, 11, 13, 25, 27
8.922 \pm 2	$\frac{1}{2}^+$	7.5	γ, p	6, 11, 13, 25, 27
8.9821 \pm 1.7	$(\frac{1}{2})^-$	3.9 \pm 0.4	γ, p	6, 9, 11, 27
9.488 \pm 3	$\frac{5}{2}^-$	10.1 \pm 0.5	γ, p	6, 9, 11, 27
9.527 \pm 17	$(\frac{3}{2})^+$	280 \pm 25	γ, p	9, 11, 13, 27
9.609 \pm 2	$\frac{3}{2}^-$	8.8 \pm 0.5	γ, p	6, 9, 11, 21, 27
9.662 \pm 3	$(\frac{7}{2}, \frac{9}{2})^-$	2 \pm 1	p	6, 9, 13, 27
10.29 ^b	$(\frac{5}{2})^-$	3 \pm 1	p	6, 9, 13, 27
10.30 ^b	$\frac{5}{2}^+$	11 \pm 2	p	6, 9, 13, 27
10.461 \pm 5	$(\frac{9}{2})^+$	< 2	γ, p	6, 11, 27
10.48	$(\frac{3}{2})^-$	25 \pm 5	γ, p	7, 9, 11, 13, 26
(10.506)	$(\frac{3}{2})^+$	140 \pm 40	γ, p	11, 13

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E_x in ^{15}O (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
10.917 \pm 12	$\frac{7}{2}^+$	90	p	13, 27
10.938 \pm 3	$\frac{1}{2}^+$	99 \pm 5	γ , p	11, 13, 27
11.025 \pm 3	$\frac{1}{2}^-$	25 \pm 2	γ , p	11, 13, 27
11.151 \pm 7		< 10	p	6, 13, 27
11.218 \pm 3	$\frac{3}{2}^+$	40 \pm 4	γ , p	11, 13, 27
11.565 \pm 15		< 10	p	6, 13, 27
11.569 \pm 15	$\frac{5}{2}^-$	20 \pm 15	γ , p	6, 11, 13
11.616 \pm 15	$(\frac{3}{2}, \frac{1}{2})^-$	80 \pm 50	γ , p	11, 13
11.719 \pm 8		< 10	p	5, 6, 13, 27
11.748 \pm 3	$\frac{5}{2}^+$	99 \pm 5	γ , p	11, 13
11.846 \pm 3	$\frac{5}{2}^-$	65 \pm 3	γ , p	11, 13
11.980 \pm 10	$\frac{5}{2}^-$	20 \pm 5	p	6, 13, 27
12.129 \pm 15	$\frac{5}{2}^+$	200 \pm 50	p	13
12.222 \pm 20		100 \pm 50	p	13
12.255 \pm 13	$\frac{5}{2}^+; \frac{3}{2}$	135 \pm 15	p	29
12.295 \pm 10				6
12.471 \pm 3	$\frac{5}{2}^-, (\frac{3}{2}^-)$	77 \pm 4	p	13
12.60 \pm 10				6
12.80		\approx 250	γ , p	11
12.835 \pm 3	$(\frac{1}{2}^-)$	16 \pm 1	p	5, 6, 7, 8, 13
13.008 \pm 3		215 \pm 3	p	13
13.025 \pm 3		40 \pm 30	p, (^3He)	4, 13
13.45	$(\frac{1}{2}, \frac{3}{2})^+$	\approx 1000	γ , p, (α)	5, 11, 13, 15
(13.49)	$(\frac{3}{2}^+)$		(p)	13
13.60	$\frac{5}{2}^+$		p, α	15
13.70	$\frac{3}{2}^-$		p	5, 13
13.79	$\frac{3}{2}^-$		n, p, ^3He , α	4, 13, 15
13.87		\approx 150	γ , p	11
14.03 \pm 40	$(\frac{1}{2}^-, \frac{3}{2}^-)$	160 \pm 20	n, p, ^3He	4
14.17	$\frac{5}{2}^-$		p, α	15

Table 15.17 from (1986AJ01): Energy levels of ^{15}O ^a (continued)

E_x in ^{15}O (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
14.27 \pm 10	$\frac{1}{2}^+$	340 \pm 30	n, p, ^3He , α	4, 5, 6, 12, 13, 14, 15
14.34	$\frac{5}{2}^+$	(240)	p, (^3He), α	4, 15
14.465 \pm 10	$\frac{3}{2}^+, \frac{5}{2}^+$	100 \pm 10	n, p, ^3He , α	4
14.70 \pm 40		170 \pm 35	n, p, ^3He	4
14.95 \pm 40		400 \pm 25	n, p, ^3He , α	4
15.05 \pm 10	(($\frac{13}{2}^+$))			6, 7, 8
15.1	$(\frac{1}{2}, \frac{3}{2})^+$	\approx 1000	γ , p	11
15.45 \pm 30		70 \pm 20	p, ^3He , α	4, 6
15.54 \pm 10			(p, ^3He , α)	4, 6
15.60 \pm 10			(p, ^3He , α)	6
15.65 \pm 10				6
15.80 \pm 10			n, ^3He	4, 6
15.90 \pm 15	$\frac{1}{2}^-, \frac{3}{2}^-$	350	^3He , α	4
16.05 \pm 20		\approx 185	n, p, ^3He , α	4
16.10 \pm 20			(n) ^3He , α	4
16.21 \pm 20		\approx 140	(n), p, ^3He , α	4
16.43 \pm 75	$\frac{1}{2}^+$	560 \pm 100	^3He , α	4
16.75 \pm 50			n, ^3He	4, 27
17.05 \pm 60	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	700 \pm 70	γ , p, ^3He	4
17.46 \pm 20				6
17.51 \pm 20	$\frac{1}{2}^-, \frac{3}{2}^-$	600	n, ^3He , α	4, 6
17.99 \pm 50	$\frac{1}{2}^-, \frac{3}{2}^-$	200	^3He	4
18.23 \pm 50			n, p, ^3He	4
18.67 \pm 60	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	520 \pm 110	γ , ^3He	4
19.03 \pm 50			n, ^3He	4
19.57 \pm 80	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	780 \pm 270	γ , ^3He	4
19.91 \pm 50			n, ^3He	4
20.42 \pm 70	$(\frac{3}{2}, \frac{1}{2})^+; \frac{1}{2}$	970 \pm 240	γ , p, ^3He	4
21.56 \pm 70	$(\frac{3}{2}, \frac{1}{2})^+; \frac{1}{2}$	730 \pm 120	γ , p, ^3He	4
(26.0)	$(\frac{13}{2}^-)$	\approx 600	^3He	4

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E_x in ^{15}O (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
(28.0)	$(\frac{9}{2}^-, \frac{11}{2}^-)$	≈ 2500	^3He	4
(29.0)		≈ 2500	^3He	4

^a See also [Table 15.18](#).

^b It is possible that these two are in fact a single state: see ([1976AJ04](#)).