

Table 15.16 from (1991AJ01): 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	$\frac{1}{2}^-; \frac{1}{2}$	$\tau_{1/2} = 122.24 \pm 0.16$ s	β^+	1, 3, 4, 5, 6, 7, 8, 9, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28
5.183 ± 1	$\frac{1}{2}^+$	$\tau_m = 8.2 \pm 1.0$ fs	γ	5, 7, 9, 14, 15, 19, 20, 23, 24, 25
5.2409 ± 0.3	$\frac{5}{2}^+$	3.25 ± 0.30 ps	γ	4, 5, 6, 7, 9, 14, 15, 18, 19, 20, 23, 24, 25, 27
6.1763 ± 1.7	$\frac{3}{2}^-$	$g = +0.248 \pm 0.026$ < 2.5 fs	γ	5, 7, 9, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 27
6.7931 ± 1.7	$\frac{3}{2}^+$	< 28 fs	γ	5, 7, 9, 14, 15, 19, 25
6.8594 ± 0.9	$\frac{5}{2}^+$	16.0 ± 2.5 fs	γ	4, 5, 7, 9, 14, 15, 19, 20, 25, 27
7.2759 ± 0.6	$\frac{7}{2}^+$	0.70 ± 0.15 ps	γ	4, 5, 6, 7, 8, 14, 15, 18, 19, 23, 25, 27
7.5565 ± 0.4	$\frac{1}{2}^+$	$\Gamma = 0.99 \pm 0.10$ keV	γ, p	7, 9, 14, 15, 18, 19, 23, 25
8.2840 ± 0.5	$\frac{3}{2}^+$	3.6 ± 0.7	γ, p	5, 7, 9, 14, 15, 25
8.743 ± 6	$\frac{1}{2}^+$	32	γ, p	7, 9, 25
8.922 ± 2	$\frac{5}{2}^+$	3.3 ± 0.3	γ, p	4, 5, 7, 9, 23, 25
8.922 ± 2	$\frac{1}{2}^+$	7.5	γ, p	4, 7, 9, 23, 25
8.9821 ± 1.7	$(\frac{1}{2})^-$	3.9 ± 0.4	γ, p	5, 7, 9, 25
9.484 ± 8	$(\frac{3}{2})^+$	≈ 200	γ, p	9, 25
9.488 ± 3	$\frac{5}{2}^-$	10.1 ± 0.5	γ, p	5, 7, 9, 25
9.609 ± 2	$\frac{3}{2}^-$	8.8 ± 0.5	γ, p	4, 5, 7, 9, 25
9.662 ± 3	$(\frac{7}{2}, \frac{9}{2})^-$	2 ± 1	p	4, 5, 7, 11, 25
10.29^b	$(\frac{5}{2})^-$	3 ± 1	p	5, 7, 11, 25
10.30^b	$\frac{5}{2}^+$	11 ± 2	p	5, 7, 11, 25

Table 15.16 from (1991AJ01): 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
10.461 \pm 5	$(\frac{9}{2}^+)$	< 2	γ, p	4, 5, 6, 7, 9, 25
10.48	$(\frac{3}{2}^-)$	25 \pm 5	γ, p	4, 7, 9, 11, 24
(10.506)	$(\frac{3}{2}^+)$	140 \pm 40	γ, p	9, 11
10.917 \pm 12	$\frac{7}{2}^+$	90	p	11, 25
10.938 \pm 3	$\frac{1}{2}^+$	99 \pm 5	γ, p	9, 11, 25
11.025 \pm 3	$\frac{1}{2}^-$	25 \pm 2	γ, p	9, 11, 25
11.151 \pm 7		< 10	p	5, 11, 25
11.218 \pm 3	$\frac{3}{2}^+$	40 \pm 4	γ, p	9, 11, 25
11.565 \pm 15		< 10	p	5, 11, 25
11.569 \pm 15	$\frac{5}{2}^-$	20 \pm 15	γ, p	5, 9, 11
11.616 \pm 15	$(\frac{3}{2}, \frac{1}{2})^-$	80 \pm 50	γ, p	9, 11
11.719 \pm 8		< 10	p	4, 5, 11, 25
11.748 \pm 3	$\frac{5}{2}^+$	99 \pm 5	γ, p	9, 11
11.846 \pm 3	$\frac{5}{2}^-$	65 \pm 3	γ, p	9, 11
11.980 \pm 10	$\frac{5}{2}^-$	20 \pm 5	p	5, 11, 25
12.129 \pm 15	$\frac{5}{2}^+$	200 \pm 50	p	11
12.222 \pm 20		100 \pm 50	p	11
12.255 \pm 13	$\frac{5}{2}^+; \frac{3}{2}$	135 \pm 15	p	27
12.295 \pm 10				5
12.471 \pm 3	$\frac{5}{2}^-, (\frac{3}{2}^-)$	77 \pm 4	p	11
12.60 \pm 10				5
12.80		\approx 250	γ, p	9
12.835 \pm 3		16 \pm 1	p	4, 5, 6, 11
13.008 \pm 3		215 \pm 3	p	11
13.025 \pm 3		40 \pm 30	p, (^3He)	3, 11
13.45	$(\frac{1}{2}, \frac{3}{2})^+$	\approx 1000	$\gamma, \text{p}, (\alpha)$	9, 11, 13
(13.49)	$(\frac{3}{2}^+)$		(p)	11
13.60	$\frac{5}{2}^+$		p, α	13
13.70	$\frac{3}{2}^-$		p	11
13.79	$\frac{3}{2}^-$		n, p, $^3\text{He}, \alpha$	3, 11, 13

Table 15.16 from (1991AJ01): 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
13.87		≈ 150	γ, p	9
14.03 \pm 40	$(\frac{1}{2}^-, \frac{3}{2}^-)$	160 \pm 20	n, p, ^3He	3
14.17	$\frac{5}{2}^-$		p, α	13
14.27 \pm 10	$\frac{1}{2}^+$	340 \pm 30	n, p, $^3\text{He}, \alpha$	3, 4, 5, 10, 11, 12, 13
14.34	$\frac{5}{2}^+$	(240)	p, (^3He), α	3, 13
14.465 \pm 10	$\frac{3}{2}^+, \frac{5}{2}^+$	100 \pm 10	n, p, $^3\text{He}, \alpha$	3, 10, 11, 13
14.70 \pm 40		170 \pm 35	n, p, ^3He	3, 10
14.95 \pm 40		400 \pm 25	n, p, $^3\text{He}, \alpha$	3, 10, 11, 12, 13
15.05 \pm 10	$((\frac{13}{2}^+))$			4, 5, 6
15.1	$(\frac{1}{2}, \frac{3}{2})^+$	≈ 1000	γ, p	9
15.45 \pm 30		70 \pm 20	p, $^3\text{He}, \alpha$	3
15.54 \pm 10			(p, $^3\text{He}, \alpha$)	3, 5
15.60 \pm 10			(p, $^3\text{He}, \alpha$)	3, 5
15.65 \pm 10				4, 5
15.80 \pm 10			n, ^3He	3, 5
15.90 \pm 15	$\frac{1}{2}^-, \frac{3}{2}^-$	350	$^3\text{He}, \alpha$	3
16.05 \pm 20		≈ 185	n, p, $^3\text{He}, \alpha$	3, 10, 11, 13
16.10 \pm 20			(n), $^3\text{He}, \alpha$	3
16.21 \pm 20		≈ 140	(n), p, $^3\text{He}, \alpha$	3, 11, 12, 13
16.43 \pm 75	$\frac{1}{2}^+$	560 \pm 100	n, $^3\text{He}, \alpha$	3, 10, 12
16.75 \pm 50			n, ^3He	3, 25
17.05 \pm 60	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	700 \pm 70	$\gamma, \text{p}, ^3\text{He}$	3, 9, 11, 13
17.46 \pm 20				5
17.51 \pm 20	$\frac{1}{2}^-, \frac{3}{2}^-$	640 \pm 120	$\gamma, \text{n}, ^3\text{He}, \alpha$	3, 5
17.99 \pm 50	$\frac{1}{2}^-, \frac{3}{2}^-$	200	^3He	3
18.23 \pm 50			n, p, ^3He	3
18.67 \pm 60	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	520 \pm 110	$\gamma, ^3\text{He}$	3, 9
19.03 \pm 50		1120 \pm 300	$\gamma, \text{n}, ^3\text{He}$	3, 23
19.57 \pm 80	$(\frac{1}{2}, \frac{3}{2})^+; \frac{1}{2}$	780 \pm 270	$\gamma, ^3\text{He}$	3

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E_x in ^{15}O (MeV \pm keV)	$J^\pi; T$	τ or $\Gamma_{\text{c.m.}}$ (keV)	Decay	Reactions
19.91 \pm 50			n, ^3He	3
20.42 \pm 70	$(\frac{3}{2}, \frac{1}{2})^+; \frac{1}{2}$	970 \pm 240	γ , p, ^3He	3, 9
21.56 \pm 70	$(\frac{3}{2}, \frac{1}{2})^+; \frac{1}{2}$	730 \pm 120	γ , p, ^3He	3, 9, 23
23.8 \pm 0.1		\lesssim 500	γ , ^3He	3
(26.0)	$(\frac{13}{2}^-)$	\approx 600	^3He	3
(28.0)	$(\frac{9}{2}^-, \frac{11}{2}^-)$	\approx 2500	^3He	3
(29.0)		\approx 2500	^3He	3

^aSee also [Table 15.17](#).

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