Table 17.13 from (1986AJ04): Transition probabilites and ground state radiative widths from ^{17}O(e, e) [a]

E_x (MeV)	J^{π} [b]	Mult.	Γ_{γ_0}(Cλ) (eV)	B(C$\lambda\uparrow$) ($e^2\cdot$fm$^{2\lambda}$)	Mult.	Γ_{γ_0}(Mλ) (eV)	B(M$\lambda\uparrow$) ($e^2\cdot$fm$^{2\lambda}$)
0.87	$\frac{1}{2}^+$	C2					
3.06	$\frac{1}{2}^-$	C3	$(8.7\pm1.7)\times10^{-8}$	31 ± 6			
3.84	$\frac{5}{2}^-$	C3	$(7.1\pm0.3)\times10^{-7}$	153 ± 6	M2	$(4.6\pm1.8)\times10^{-3}$	$(5\pm2)\times10^{-2}$
4.55	$\frac{3}{2}^-$	C3	$(2.2\pm0.2)\times10^{-6}$	98 ± 8	M2	$(1.8\pm0.7)\times10^{-2}$	$(5.4\pm2.1)\times10^{-2}$
5.09	$\frac{3}{2}^+$	C2	$(1.0\pm0.3)\times10^{-2}$	2.5 ± 0.7			
5.22	$(\frac{9}{2}^-)$	C3	$(8.5\pm0.3)\times10^{-6}$	360 ± 11	M2	$<1\times10^{-2}$	$<4\times10^{-2}$
5.38	$\frac{3}{2}^-$	C3	$(3.3\pm0.9)\times10^{-6}$	45 ± 12	M2	$(4.5\pm2.2)\times10^{-2}$	$(6\pm3)\times10^{-2}$
5.70	$\frac{7}{2}^-$	C3	$(1.5\pm0.2)\times10^{-5}$	270 ± 32	M2	0.15 ± 0.10	0.3 ± 0.2
5.94	$\frac{1}{2}^-$	C3	$(5.0\pm2.9)\times10^{-6}$	17 ± 10			
6.36	$\frac{1}{2}^+$	C2	$(5.3\pm3.3)\times10^{-2}$	2.1 ± 1.3			
6.86 [d]	$(\frac{1}{2}^-)$	C3	$(1.2\pm0.3)\times10^{-4}$	147 ± 34			
6.97 [d]	$(\frac{5}{2}^+)$	C2	$(2.5\pm1.3)\times10^{-2}$	1.9 ± 1.0			
				5.5 ± 1.0			
7.38 [c] (unresolved with next)	$\frac{5}{2}^+$	CO, or C2	$(6.3\pm1.8)\times10^{-2}$	3.6 ± 1.0			
7.38 [c]	$\frac{5}{2}^-$	C3	$(2.1\pm1.7)\times10^{-5}$	47 ± 38			
7.58 [e]	$\frac{7}{2}^-$	C1	26 ± 7	$(7.8\pm2.0)\times10^{-2}$			
		C3	$(4.3\pm1.0)\times10^{-5}$	109 ± 26			
7.76	$(\frac{11}{2}^-)$	C3	$(1.16\pm0.05)\times10^{-4}$	369 ± 15			
8.35 [c] (unresolved 8.35–8.90)	$\frac{1}{2}^+$	CO, or C2		7.6 ± 1.4			
8.40 [c]	$\frac{5}{2}^+$			8.3 ± 2.6			
8.47 [c,e]	$\frac{7}{2}^+$						
8.50 [c]	$\frac{5}{2}^-$						
8.90 [f]	$\frac{7}{2}^-,\ \frac{9}{2}^-$						
9.15 [f]					M2		
11.08 [g]	$\frac{1}{2}^-$ [h]				M2		$(6.7\pm2.1)\times10^{-2}$
12.47 [g]	$\frac{3}{2}^-$ [h]				M2		$(7\pm3)\times10^{-2}$ [i]
13.00 [g]	$\frac{5}{2}^-$ [h]				M2		$(7\pm3)\times10^{-2}$ [i]
14.23 [g]	$(\frac{7}{2})^-$ [h]				M2		$(51\pm8)\times10^{-2}$

Table 17.13 from (1986AJ04): Transition probabilites and ground state radiative widths from ^{17}O(e, e) [a] (continued)

E_x (MeV)	J^π [b]	Mult.	Γ_{γ_0}(Cλ) (eV)	B(C$\lambda\uparrow$) ($e^2 \cdot$ fm$^{2\lambda}$)	Mult.	Γ_{γ_0}(Mλ) (eV)	B(M$\lambda\uparrow$) ($e^2 \cdot$ fm$^{2\lambda}$)
14.75 [g]	[j]				M2		$(30 \pm 10) \times 10^{-2}$
15.10 [g]	[j]				(M1)		$(1.5 \pm 0.4) \times 10^{-3}$
15.78 ± 0.02 [k]	$(\frac{9}{2})^-; \frac{3}{2}$		≤ 30		M4		177 ± 17
16.50 ± 0.02 [k,l]			≤ 20				
17.06 ± 0.02 [k]	$(\frac{7}{2})^-; \frac{3}{2}$		≤ 20		M4		76 ± 6
18.83 ± 0.02 [k,l]			≤ 20				
19.85 ± 0.04 [k]			530 ± 150				
20.14 ± 0.02 [k]	$(\frac{13}{2})^-; \frac{1}{2}$		31 ± 5		M4		349 ± 18
20.70 ± 0.02 [k,m]	$(\frac{11}{2})^-; \frac{3}{2}$		≤ 20		M4		177 ± 10

[a] (1978KI01), except where footnote is shown. See also Table 17.14.

[b] Used to evaluate the widths.

[c] These levels were unresolved and were analyzed as a group.

[d] However (D.M. Manley, private communication) reports that ^{17}O*(6.86, 6.97) had form factors which were, respectively, characteristic of C2 and of C3 leading to $J^\pi = \frac{1}{2}^+ \rightarrow \frac{9}{2}^+[\frac{1}{2}^+$ excluded by ^{16}O(n, n) results] and $\frac{1}{2}^- \rightarrow \frac{11}{2}^-$ for these two states. The widths shown are from the work of (1978KI01) based on an analysis of unresolved states.

[e] However (D.M. Manley, private communication) reports a form factor consistent with C2 and therefore $J^\pi = \frac{7}{2}^+, \frac{9}{2}^+$ for ^{17}O*(7.58). The group to ^{17}O*(8.47) is very strong; the form factor is consistent with C2.

[f] (D.M. Manley, private communication): $E_x = 8.90 \pm 0.02$ MeV. The group corresponding to ^{17}O*(9.15) is weak at $90°$ and strong at $160°$, consistent with a large M2 strength.

[g] (1983RA27). [Comment: See, however, the density of states in this excitation region.]

[h] $T = \frac{3}{2}$.

[i] If pure M2. If pure C1, $B(\text{C1}\uparrow) = (1.0 \pm 0.4) \times 10^{-2}$ and $(0.4 \pm 0.2) \times 10^{-2}$ $e^2 \cdot$ fm^2, respectively for ^{17}O*(12.47, 13.00) (1983RA27).

[j] ^{17}O*(14.75) is suggested to have $J^\pi = \frac{9}{2}^-$ from analog states considerations. If the transition is M1 ^{17}O*(15.10) has $J^\pi = (\frac{3}{2}, \frac{5}{2}, \frac{7}{2})^+$ (1983RA27).

[k] [(1986MA48): $E_e = 180$ to 268 MeV]. The values for B(M4$\uparrow$) are based on 1513 ± 76 $e^2 \cdot$ fm^8 for ^{16}O*(18.98) [$J^\pi = 4^-$].

[l] Weakly excited.

[m] No other states are observed with $21 < E_x < 23.5$ MeV.