Table 19.16 from (1983AJ01): Resonances in $^{18}\text{O}(p, \gamma)^{19}\text{F}$

<table>
<thead>
<tr>
<th>$E_p$ (keV)</th>
<th>$\Gamma_{\text{lab}}$ (keV)</th>
<th>$\omega_\gamma$ (eV)</th>
<th>$J^\pi$</th>
<th>$E_x$ (MeV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>151 ± 2</td>
<td>≤ 0.3</td>
<td>(1.0 ± 0.1) × 10^{-3}</td>
<td>$\frac{1}{2}^+$</td>
<td>8.136 $^e$</td>
</tr>
<tr>
<td>216 ± 1</td>
<td>≤ 1</td>
<td>&gt; 0.8 × 10^{-5}</td>
<td>$\leq \frac{7}{2}$</td>
<td>8.198</td>
</tr>
<tr>
<td>274 ± 3</td>
<td>≤ 1.5</td>
<td>(3.7 ± 0.5) × 10^{-5}</td>
<td>$\frac{5}{2}^+$</td>
<td>8.253</td>
</tr>
<tr>
<td>334 ± 2</td>
<td>≤ 1</td>
<td>(0.95 ± 0.08) × 10^{-3}</td>
<td>$\frac{3}{2}^+$</td>
<td>8.310 $^f$</td>
</tr>
<tr>
<td>622 ± 2</td>
<td>≤ 0.5</td>
<td>(10 ± 2) × 10^{-3}</td>
<td>$\frac{5}{2}^+$</td>
<td>8.582</td>
</tr>
<tr>
<td>629.6 ± 0.3</td>
<td>2.0 ± 0.3</td>
<td>0.10 ± 0.02</td>
<td>$\frac{3}{2}^-$</td>
<td>8.5896 $^g$</td>
</tr>
<tr>
<td>≈ 680</td>
<td></td>
<td>1.4 ± 0.2</td>
<td></td>
<td>8.637</td>
</tr>
<tr>
<td>841 ± 2</td>
<td>48 ± 2</td>
<td></td>
<td>$\frac{1}{2}^+$ $^b$</td>
<td>8.790 $^h$</td>
</tr>
<tr>
<td>977 ± 2</td>
<td>10 ± 2</td>
<td>(1.5 ± 0.2) × 10^{-2}</td>
<td>$\frac{3}{2}^-$</td>
<td>8.919</td>
</tr>
<tr>
<td>1166.5 ± 0.4</td>
<td></td>
<td>0.31 ± 0.10</td>
<td>$\frac{3}{2}^-$</td>
<td>9.0980 $^i$</td>
</tr>
<tr>
<td>1398 ± 2</td>
<td>3.6 ± 0.8</td>
<td>0.08 ± 0.01</td>
<td>$\frac{3}{2}^-$</td>
<td>9.317</td>
</tr>
<tr>
<td>1630 ± 2 $^c$</td>
<td>7 ± 2</td>
<td>0.025 ± 0.005</td>
<td>$\frac{5}{2}^+$</td>
<td>9.537</td>
</tr>
<tr>
<td>1660 ± 3</td>
<td>27 ± 3</td>
<td>0.041 ± 0.010</td>
<td>$\frac{3}{2}^-$</td>
<td>9.565</td>
</tr>
<tr>
<td>1670 ± 4</td>
<td>70 ± 3</td>
<td>0.06 ± 0.01</td>
<td>$\frac{3}{2}^-$</td>
<td>9.575</td>
</tr>
<tr>
<td>1684 ± 4</td>
<td>8 ± 2</td>
<td>0.025 ± 0.004</td>
<td>$\frac{3}{2}^-$</td>
<td>9.588</td>
</tr>
<tr>
<td>1768 ± 1.4</td>
<td>3.8 ± 0.4</td>
<td>1.2 ± 0.2</td>
<td>$\frac{3}{2}^+$</td>
<td>9.668</td>
</tr>
<tr>
<td>1928.4 ± 0.6 $^d$</td>
<td>0.3 ± 0.05</td>
<td>2.8 ± 0.7</td>
<td>$\frac{1}{2}^+$</td>
<td>9.819</td>
</tr>
<tr>
<td>1986 ± 2</td>
<td>&lt; 1.5</td>
<td>0.13 ± 0.04</td>
<td>$\frac{11}{2}^-$</td>
<td>9.874</td>
</tr>
<tr>
<td>1996 ± 4</td>
<td>26 ± 2</td>
<td>0.14 ± 0.05</td>
<td>$\frac{1}{2}^+$</td>
<td>9.883</td>
</tr>
<tr>
<td>2263.0 ± 0.7</td>
<td>5.0 ± 1.0</td>
<td></td>
<td>$\frac{3}{2}^-$</td>
<td>10.136</td>
</tr>
<tr>
<td>&gt; 2300 $^d$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Mostly from (1980WI17). For earlier references see Table 19.15 in (1978AJ03). See also Tables 19.7 and 19.15.

$^b$ Supported by direct capture into this state with a $\sin^2 \theta$ distribution of the d.c. $\gamma$-rays and by interference patterns near the resonance (1980WI17).

$^c$ Decays partly (see Table 19.7) via a state at 8015 ± 2 keV with $J^\pi = \frac{5}{2}^+$ (1980WI17).

$^d$ See Table 19.15 in (1978AJ03).

$^e$ $\Gamma_p = 0.17$ eV, $\Gamma_\alpha = 220$ eV, $\Gamma_\gamma = 1.3$ eV: see (1980WI17) for this footnote and the ones below.

$^f$ $\Gamma_\gamma = 0.71 ± 0.17$ eV, $\Gamma_p = 0.019 ± 0.009$ eV, $\Gamma_\alpha = 46 ± 19$ eV, $\Gamma_{\text{total}} = 47 ± 19$ eV.

$^g$ $\Gamma_\gamma = 0.85 ± 0.17$ eV, $\Gamma_p = 224 ± 43$ eV, $\Gamma_\alpha = 3410 ± 1220$ eV.

$^h$ The strength of the transition to $^{19}\text{F}^*(7.262)$ [see Table 19.7] limits $J$ to $\frac{1}{2}$ or $\frac{3}{2}$ for that state.

$^i$ The angular distribution of the $\gamma$-ray from this state to $^{19}\text{F}^*(5.62)$ and branching ratio arguments lead to $J = \frac{5}{2}$ for that state.