Table 12.23 from (1990AJ01): States of $^{12}$N from $^{10}$B(³He, n) and $^{12}$C(³He, t)

<table>
<thead>
<tr>
<th>$E_x^a$ (MeV ± keV)</th>
<th>$\Gamma_{\text{c.m.}}^a, c$ (keV)</th>
<th>$L^a$</th>
<th>$E_x^b$ (MeV ± keV)</th>
<th>$\Gamma_{\text{c.m.}}^b$ (keV)</th>
<th>$E_x^d$ (MeV ± keV)</th>
<th>$\Gamma_{\text{c.m.}}^d$ (keV)</th>
<th>$J^\pi e$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20 ± 20</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.93 ± 10</td>
<td>2−</td>
</tr>
<tr>
<td>0.960 ± 12</td>
<td>16 ± 20</td>
<td>2</td>
<td>≡ 0.964</td>
<td>&lt; 20</td>
<td>0.960</td>
<td>1.80 ± 30</td>
<td>1−</td>
</tr>
<tr>
<td>1.189 ± 12</td>
<td>140 ± 25</td>
<td>1</td>
<td>1.190 ± 20</td>
<td>80 ± 30</td>
<td>1.193 ± 10</td>
<td>220 ± 25</td>
<td>2+, 3−</td>
</tr>
<tr>
<td>(1.72 ± 0.08)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4 ± 100</td>
<td>2.415 ± 20</td>
<td>2</td>
<td>45 ± 15</td>
<td>2.445 ± 10</td>
<td>110 ± 20</td>
<td>0+</td>
<td></td>
</tr>
<tr>
<td>3.114 ± 15</td>
<td>200 ± 36</td>
<td>2</td>
<td>3.136 ± 30</td>
<td>240 ± 40</td>
<td>3.14 ± 10</td>
<td>260 ± 30</td>
<td>1+</td>
</tr>
<tr>
<td>3.533 ± 15</td>
<td>150 ± 40</td>
<td>2</td>
<td>3.55 ± 50</td>
<td>150 ± 100</td>
<td>3.57 ± 10</td>
<td>150 ± 30</td>
<td>3−</td>
</tr>
<tr>
<td>4.250 ± 30</td>
<td>290 ± 70</td>
<td>0</td>
<td>4.15 ± 80</td>
<td>650 ± 100</td>
<td>4.14 ± 10</td>
<td>300 ± 20</td>
<td>2− + 4−</td>
</tr>
<tr>
<td>5.320 ± 12</td>
<td>180 ± 20</td>
<td>0</td>
<td>5.23 ± 80</td>
<td>400 ± 80</td>
<td>5.37 ± 10</td>
<td>120 ± 50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.10 ± 80</td>
<td>300 ± 100</td>
<td>(5.60 ± 11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7.13 ± 100</td>
<td>500 ± 100</td>
<td>6.40 ± 30</td>
<td>1200 ± 300</td>
<td>(1−)</td>
</tr>
<tr>
<td>7.629 ± 20</td>
<td>200 ± 40</td>
<td>0</td>
<td>7.48 ± 100</td>
<td>180 ± 80</td>
<td>7.40 ± 50</td>
<td>1200 ± 500</td>
<td>(1−)</td>
</tr>
<tr>
<td>8.446 ± 17</td>
<td>90 ± 30</td>
<td></td>
<td>(8.86 ± 100)</td>
<td>≈ 100</td>
<td>7.70 ± 11</td>
<td>200 ± 50</td>
<td></td>
</tr>
<tr>
<td>9.035 ± 12</td>
<td>16 ± 20</td>
<td></td>
<td>9.42 ± 100</td>
<td>≈ 200</td>
<td>10.30 ± 20</td>
<td>450 ± 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9.90 ± 100</td>
<td>100 ± 50</td>
<td>11.00 ± 20</td>
<td>350 ± 100</td>
<td></td>
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</tr>
</tbody>
</table>

$^a$ $^{10}$B(³He, n)$^{12}$N: see Table 12.26 in (1975AJ02) for references.

$^b$ $^{12}$C(³He, t)$^{12}$N: see Table 12.23 in (1980AJ01) for references. See also reaction 5 here.

$^c$ Weighted means of values shown in Table 12.22 (1980AJ01).

$^d$ $^{12}$C(³He, t)$^{12}$N: (1983ST10: $E(\text{³He}) = 75$ and 81 MeV), and M.N. Harakeh, private communication. See also (1984VA17, 1985VA1A).

$^e$ DWBA calculations (1983ST10). Some of the $J^\pi$ assignments also reflect knowledge of the analog region in $^{12}$B.

$^f$ May be due to unresolved states.

$^g$ No other states observed with $E_x < 13$ MeV.

$^h$ $J^\pi = 2^+, (2^-)$, and $(0^+)$ for $^{12}$N*(0.96, 1.19, 2.42), respectively: see Table 12.23 in (1980AJ01).