Cycle 11 Proposal Submission Statistics

Joint ALMA Observatory
May 16, 2024
## Number of submitted proposals and time requested

<table>
<thead>
<tr>
<th></th>
<th>Number of proposals</th>
<th>12-m</th>
<th>7-m</th>
<th>Total Power</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All proposals</strong></td>
<td>1712</td>
<td>31,610</td>
<td>12,995</td>
<td>8928</td>
</tr>
<tr>
<td><strong>ACA standalone</strong></td>
<td>87</td>
<td>-</td>
<td>4770</td>
<td>2437</td>
</tr>
<tr>
<td><strong>Large Programs</strong></td>
<td>42</td>
<td>4713</td>
<td>2152</td>
<td>1337</td>
</tr>
</tbody>
</table>
## Time requested by region

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Chile</th>
<th>East Asia</th>
<th>Europe</th>
<th>North America</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>12-m Array time (hours)</strong></td>
<td>31,610</td>
<td>2346</td>
<td>6647</td>
<td>11,946</td>
<td>9752</td>
<td>919</td>
</tr>
<tr>
<td><strong>Offered</strong></td>
<td>4300</td>
<td>430</td>
<td>968</td>
<td>1451</td>
<td>1451</td>
<td>see note</td>
</tr>
<tr>
<td><strong>Subscription</strong></td>
<td>7.4</td>
<td>5.5</td>
<td>6.9</td>
<td>8.2</td>
<td>6.7</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>7-m Array time (hours)</strong></td>
<td>12,995</td>
<td>1160</td>
<td>3261</td>
<td>4912</td>
<td>3503</td>
<td>158</td>
</tr>
<tr>
<td><strong>Total Power Array time (hours)</strong></td>
<td>8928</td>
<td>564</td>
<td>3136</td>
<td>2489</td>
<td>2585</td>
<td>154</td>
</tr>
</tbody>
</table>

Note: All regions contribute observing time for proposals from PIs who are not affiliated with any of the ALMA regions.
**Joint Proposals**

<table>
<thead>
<tr>
<th>Partner Observatory</th>
<th>Number of proposals*</th>
<th>Time requested on Partner Observatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>JWST</td>
<td>50</td>
<td>312 h</td>
</tr>
<tr>
<td>VLA</td>
<td>14</td>
<td>136 h</td>
</tr>
<tr>
<td>VLT</td>
<td>5</td>
<td>20 h</td>
</tr>
</tbody>
</table>

*67 Joint Proposals submitted in Cycle 11, as 2 proposals requested time on 2 or more partner observatories.
Requested 12-m Array Time per Proposal*

*Excluding Large Programs
Requested 12-m Array Time by Science Category*

*Excluding Large Programs
Percentage of proposals by region* and category: all arrays

* Percentages by region correspond to the regional affiliation of the Principal Investigator (PI) and co-PIs.
Number of proposals by region, category, and band: 12-m Array

- Results are for the 1625 proposals requesting the 12-m Array.
- Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: 12-m Array

**Region**

- Chile: 7.4%
- East Asia: 21.0%
- Europe: 37.8%
- North America: 30.9%
- Other: 2.9%

**Science category**

- Cosmology & galactic nuclei: 27.6%
- Galaxies: 23.2%
- Star formation & ISM: 23.3%
- Disks & solar system: 21.3%
- Stars: 4.6%

**Band**

- Receiver band: 1 2 3 4 5 6 7 8 9 10
  - Band 1: 7.4%
  - Band 2: 15.2%
  - Band 3: 6.4%
  - Band 4: 4.3%
  - Band 5: 30.9%
  - Band 6: 26.3%
  - Band 8: 5.3%
  - Band 9: 3.1%
  - Band 10: 1.2%
Number of proposals by region, category, and band: 7-m Array

Results are for the 354 proposals requesting the 7-m Array.
Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: 7-m Array

**Region**
- Chile: 8.9%
- East Asia: 25.1%
- Europe: 37.8%
- North America: 27.0%
- Other: 1.2%

**Science category**
- Cosmology & galactic nuclei: 10.3%
- Galaxies & ISM: 39.3%
- Star formation & ISM: 42.7%
- Disks & solar system: 4.7%
- Stars: 3.0%

**Band**
- Receiver band
  - Band 1: 7.6%
  - Band 3: 20.1%
  - Band 4: 5.0%
  - Band 5: 2.3%
  - Band 6: 43.4%
  - Band 7: 8.6%
  - Band 8: 5.7%
  - Band 9: 4.9%
  - Band 10: 2.4%
Results are for the 129 proposals requesting the Total Power Array.
Percentages by receiver band sum to greater than 100% since some proposals request more than one receiver band.
Requested time by region, category, and band: Total Power Array

**Region**
- Chile: 6.3%
- East Asia: 35.1%
- Europe: 27.9%
- North America: 29.0%
- Other: 1.7%

**Science category**
- Cosmology: 0%
- Galaxies: 37.0%
- Star formation: 61.8%
- ISM: 0.5%
- Disks: 0.7%
- Solar system: Stars

**Band**
- Receiver band: 1: 0.3%
- 3: 2.6%
- 4: 51.4%
- 5: 0.3%
- 6: 10.2%
- 7: 3.6%
- 8: 0.0%
Percentage of Large Programs by region* and category: all arrays

* Percentages by region correspond to the regional affiliation of the Principal Investigator (PI) and co-PIs.
Requested time for Large Programs: 12-m Array

- **Region**:
  - Chile: 10.0%
  - East Asia: 18.4%
  - Europe: 41.2%
  - North America: 29.6%
  - Other: 0.8%

- **Science category**:
  - Cosmology & galactic nuclei: 39.8%
  - Galaxies & Star formation: 27.7%
  - Disks & ISM: 15.4%
  - Solar system: 15.4%
  - Stars: 1.6%

- **Band**:
  - Receiver band 1: 22.3%
  - Receiver band 3: 9.5%
  - Receiver band 4: 5.6%
  - Receiver band 5: 36.6%
  - Receiver band 6: 23.1%
  - Receiver band 7: 2.7%
  - Receiver band 8: 0%
  - Receiver band 9: 0.1%
Requested time for Large Programs: 7-m Array

**Region**
- Chile: 11.6%
- East Asia: 18.0%
- Europe: 37.6%
- North America: 32.9%
- Other: 0%

**Science category**
- Cosmology & galactic nuclei: 14.0%
- Galaxies & Star formation: 44.1%
- Disks & ISM: 41.9%
- Stars & solar system: 0%
- Other: 0%

**Band**
- Band 1: 0%
- Band 3: 21.5%
- Band 4: 0%
- Band 5: 0%
- Band 6: 0%
- Band 7: 0%
- Band 8: 0%
- Band 9: 8.7%
- Band 10: 8.7%
Requested time for Large Programs: Total Power Array

**Region**
- Chile: 17.0%
- East Asia: 19.5%
- Europe: 40.4%
- North America: 23.1%
- Other: 0%

**Science category**
- Cosmology & galactic nuclei: 0%
- Galaxies & ISM: 21.0%
- Star formation & Disks & solar system: 79.0%
- Stars: 0%

**Band**
- Receiver band: 1, 3, 4, 5, 6, 7, 8
- Percentage: 0%, 0%, 0%, 0%, 34.0%, 62.5%, 3.5%, 0%
Number of submitted proposals by Cycle

- Cycle 0: 919
- Cycle 1: 1131
- Cycle 2: 1381
- Cycle 3: 1578
- Cycle 4: 1571
- Cycle 5: 1661
- Cycle 6: 1836
- Cycle 7: 1773
- Cycle 8: 1735
- Cycle 9: 1769
- Cycle 10: 1679
- Cycle 11: 1712
Number of submitted Large Programs by Cycle

- Cycle 4: 27 proposals
- Cycle 5: 22 proposals
- Cycle 6: 18 proposals
- Cycle 7: 14 proposals
- Cycle 8: 40 proposals
- Cycle 9: 40 proposals
- Cycle 10: 44 proposals
- Cycle 11: 42 proposals
Distribution of time requests on 12-m Array by Cycle

- Each box plot shows:
  - median (horizontal line)
  - 25-75% distribution (box)
  - 5-95% distribution (whiskers)

- Large Programs and standalone ACA proposals are excluded.
• Continued increase in the amount of requested time on the 12-m Array

• Decrease in the amount of requested time on the 7-m and Total Power Arrays
  - number of proposals is roughly the same in previous cycles (see next slide)
  - main cause is reduced number of proposals request very large amounts of time
Number of 7-m and Total Power Proposals by Cycle

**7-m Array**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Number of Proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>226</td>
</tr>
<tr>
<td>3</td>
<td>246</td>
</tr>
<tr>
<td>4</td>
<td>315</td>
</tr>
<tr>
<td>5</td>
<td>347</td>
</tr>
<tr>
<td>6</td>
<td>407</td>
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<tr>
<td>7</td>
<td>310</td>
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<tr>
<td>8</td>
<td>354</td>
</tr>
<tr>
<td>9</td>
<td>359</td>
</tr>
<tr>
<td>10</td>
<td>350</td>
</tr>
<tr>
<td>11</td>
<td>354</td>
</tr>
</tbody>
</table>

**Total Power Array**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Number of Proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>195</td>
</tr>
<tr>
<td>3</td>
<td>143</td>
</tr>
<tr>
<td>4</td>
<td>137</td>
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<tr>
<td>5</td>
<td>153</td>
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<td>6</td>
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<td>7</td>
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<td>8</td>
<td>142</td>
</tr>
<tr>
<td>9</td>
<td>159</td>
</tr>
<tr>
<td>10</td>
<td>138</td>
</tr>
<tr>
<td>11</td>
<td>129</td>
</tr>
</tbody>
</table>
Oversubscription rate on 12-m Array by Cycle