Scientific Productivity

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Status of Guest Observer Projects

Each project dispositioned into one of these categories:

- **Published**: refereed journal article using data
- **Ongoing**: will be combined with upcoming observations
- **In preparation**: GO working on draft/plans to write
- **Incomplete**: less than half of proposed observations complete, or GO indicates cannot publish subset
- **Unpublishable**: GO or SMO believe scientific results will never be obtainable with the acquired data
Status of Guest Observer Projects

Cycles 1-5, DDT
Analysis of Incompleteness

• REPORTED LAST SUG:
  • Cycle 5 plagued by incomplete programs
  • Cycle 6, mitigation: Accept Priority 1+2 programs up to 75% of available time

• NEW ANALYSIS
  • 69% “Do if Time” programs, accepted as fillers, are incomplete
  • 40 proposals that were “incomplete” were completed in later Cycles
    • Resubmission of proposals is normal procedure for Priority>1
  • Removing fillers, for Cy1-5, 131/348=38% of GO proposals completed
  • Adding back those that were completed later, 49% completed
  • Some “incomplete” (<80% of awarded time) are published
  • Some ToOs are not triggered
  • SMO will continue to work on improving completion percentage, but the situation is not as dire as reported in SUG13 (31% completion for Cycle 5)
Cycle 6 Program Completion nears 75% goal

Goal=52.5, Achieved=52
## Rates by Science Instrument

<table>
<thead>
<tr>
<th>SI</th>
<th>#Papers</th>
<th>#Cites</th>
<th>GI+GTO hours</th>
<th>Hours/Paper per</th>
<th>Poisson Unc</th>
<th>Pub Rate Rank</th>
<th>Cites/hr</th>
<th>Cite Rate Rank</th>
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<tbody>
<tr>
<td>FORCAST</td>
<td>47</td>
<td>498.25</td>
<td>663.2</td>
<td>14.1</td>
<td>2.1</td>
<td>2</td>
<td>0.75</td>
<td>1</td>
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<tr>
<td>GREAT</td>
<td>63.75</td>
<td>601</td>
<td>814.3</td>
<td>12.8</td>
<td>1.6</td>
<td>1</td>
<td>0.74</td>
<td>2</td>
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<tr>
<td>HIPO</td>
<td>2.3</td>
<td>25.3</td>
<td>20.9*</td>
<td>16.7</td>
<td>11.0</td>
<td>3</td>
<td>0.66</td>
<td>3</td>
</tr>
<tr>
<td>FLITECAM</td>
<td>2</td>
<td>15</td>
<td>68.7*</td>
<td>43.1</td>
<td>30.5</td>
<td>5</td>
<td>0.17</td>
<td>4</td>
</tr>
<tr>
<td>FIFI-LS</td>
<td>5.75</td>
<td>32.25</td>
<td>337.7</td>
<td>58.7</td>
<td>24.5</td>
<td>8</td>
<td>0.10</td>
<td>5</td>
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<tr>
<td>EXES</td>
<td>11</td>
<td>17</td>
<td>214.2</td>
<td>19.5</td>
<td>5.9</td>
<td>4</td>
<td>0.08</td>
<td>6</td>
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<tr>
<td>FPI_PLUS</td>
<td>0.2</td>
<td>0.2</td>
<td>2.1*</td>
<td>50.7</td>
<td>113</td>
<td>7</td>
<td>0.02</td>
<td>7.5</td>
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<tr>
<td>HAWC_PLUS</td>
<td>5</td>
<td>5</td>
<td>247.1</td>
<td>49.4</td>
<td>22.1</td>
<td>6</td>
<td>0.02</td>
<td>7.5</td>
</tr>
</tbody>
</table>

For hours/paper, also add tax for occultations ~ 17.5 hr HIPO+FLITECAM, 8 hr FPI+.
SI Maturity leads to Productivity

![Graph showing the relationship between SI maturity and productivity. The x-axis represents the first light year, and the y-axis represents hours per paper. The graph includes data points for various projects such as FLITECAM, HIPO, FIFI-LS, EXES, FORCAST, and HAWC+. The trend line indicates an increase in productivity over time, with labels for underproductive years.]
What fraction of SOFIA data is being published?
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Interpretation:

• Older data have more time to get published
  • 2.5 yr based on Hubble, Chandra other publication rate studies
  • expect “wave” with crest ~2.5 Cycles back

• Cycle 3: 24 projects status “in preparation”
  • Those programs had 84 hr observed
  • Adding: would make Cycle 3 70% published
Archival Research

• SOFIA is increasing impetus for archival research
• SOFIA is now in the Infrared Science Archive: irsa.ipac.caltech.edu
  • Currently serves Cycles 2-5 for GREAT, FORCAST, FIFI-LS
  • By end of 2019, will have all Cycles, all science instruments
• Future development of IRSA for SOFIA
  • Spectroscopic exploratory analysis tools
  • Curated SOFIA software “container”
• Process for identifying IRSA enhancements
  • IRSA Users Panel
  • SOFIA science outreach group
  • Direct communication with SOFIA guest observers