Cycle 1 Status & Plans

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Cycle 1 Call for Proposals

- Coordinated US and German proposal processes
- Original plan was to have Cycle 1 span Aug 2012 to Aug 2013
- Schedule of observations slipped due to readiness of aircraft systems
- TAC results were announced in August 2012
  - The announcement came after first system-level Line Operations
- Additional issues pushed start of Cycle 1 to April 2013

- Accepted proposals were listed at the last SUG and abstracts are available at the SOFIA website
US Queue Distribution of Proposals

- **US**: 71%
- **International**: 20%
- **US SOFIA Staff**: 9%

By Proposals
Cycle 1 Selected Targets
Four 1\textsuperscript{st} Generation Instruments Available for Cycle 01

FORCAST
Mid-IR Camera

GREAT
Heterodyne spectrometer

FLITECAM
Near IR Camera

HIPO
Occultation Photometer

FLIPO
(co-mounted on SOFIA)
Cycle 1 Plans

- To maintain the full year of visibility for the selected investigations, we extended Cycle 1 to December 2013
  - About 200 Hours of US + 40 Hours of German time awarded
  - Full complement of awarded time is being scheduled

- Cycle 1 interleaved with commissioning of GREAT, FORCAST, FLITECAM, & HIPO in 2013
  - GREAT will feature the first availability of 2.5 THz band
  - New capabilities include grism spectroscopy for both FORCAST and FLITECAM

- First observations began in April 2013
- Future observing cycles to adopt the January to December window.
Commissioning Calendar

• Observatory Activities – *January-March 2013*
  – FPI+ Installation and checkout
  – Systems software development
  – Verification & Validation flights
• FORCAST Part 1 Commissioning – *March – April 2013*
• GREAT Commissioning – April 2013
• FLITECAM/HIPO Commissioning – April – May 2013
• FORCAST Part 2 Commissioning – May- June 2013
• FLITECAM Part 2 Commissioning – September - Oct 2013
Cycle 1 Observing Campaigns

- **OC1-A (GREAT)**
  - December 2012
  - Cancelled and observations moved to later campaigns
- **OC1-B (FORCAST)**
  - June 2013
  - 6 flights planned
- **OC1-C (GREAT) – Deployment to New Zealand**
  - July 2013
  - 9 flights planned
- **OC1-D (FORCAST)**
  - September 2013
  - 7 flights planned
- **OC1-E (FLITECAM)**
  - October 2013
  - 4 flights planned
- **OC1-F (FORCAST)**
  - October 2013
  - 8 flights planned
- **OC1-G (GREAT)**
  - October-November 2013
  - 8 flights planned
Integrated Master Schedule Overview

### Observing Cycles

<table>
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<tr>
<th>OC</th>
<th>Flights</th>
<th>R. Hrs.</th>
<th>CfP</th>
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<td>1</td>
<td>43</td>
<td>306.2</td>
<td>186.0</td>
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<td>2</td>
<td>47</td>
<td>334.6</td>
<td>205.8</td>
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<tr>
<td>3</td>
<td>109</td>
<td>776.1</td>
<td>513.0</td>
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Science hour estimates were calculated based on maximum possible flights at 89% reliability.

### Cycle 1
- **Starts**: April 11, 2013
- **Ends**: May 26, 2013

### Cycle 2
- **CfP**: October 10, 2013
- **Proposals Due**: April 1, 2014
- **Proposals Selected**: May 15, 2014
- **Starts**: July 12, 2014
- **Ends**: August 4, 2014

### Cycle 3
- **CfP**: April 1, 2015
- **Proposals Due**: May 15, 2015
- **Proposals Selected**: June 29, 2015
- **Starts**: July 9, 2015
- **Ends**: August 24, 2015

### Cycle 4
- **Proposals Due**: November 14, 2015
- **Proposals Selected**: December 21, 2015

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**Deployment**

<table>
<thead>
<tr>
<th>Cycle 1</th>
<th>Cycle 2</th>
<th>Cycle 3</th>
<th>Cycle 4</th>
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<td>Start</td>
<td>Proposals Due</td>
<td>Start</td>
<td>Proposals Due</td>
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<tr>
<td>End</td>
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**Ref. A**

**Notes:**
- RSSO
- MCCS Phase 3
- Exoplanet Obs
- Cycle 1 Cycles
- Cycle 2 Cycles
- Cycle 3 Cycles
- Cycle 4 Cycles

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**Abbreviations:**

- V&V: Verification and Validation
- ACf: Activation
- OBS: Observations
- LO: Launch
- V&V: Verification and Validation
- FORCAST: FORCAST
- GREAT: GREAT
- FLIPO: FLIPO
- FLIPE: FLIPE
- OBS: Observations
- MCCS: Mission Critical Capture System
Special Observations

• Exoplanet opportunities
  - Out of a number of highly ranked exoplanet transit investigations, two were selected for demonstration observations during FLIPO commissioning in May 2013
  - Proposal 01_0099 “Characterizing Transiting Exoplanets Using FLITECAM: An Exploratory Program” ; PI: Avi M Mandell
  - Proposal 01_0155 “Do starspots inflate the exoplanet CoRoT-2b?” ; PI: Klaus Huber

• Pluto Occultation
  - We had been planning an observation of an occultation event on May 4, 2013
  - Analysis of the March 23 appulse of Pluto and the occulted star gave a much better prediction of the shadow track
  - The prediction moved the track far enough south that there was no feasible SOFIA flight plan without an international deployment
  - We have decided to cancel the observation
Target of Opportunity Observations

- Two requests for activation of Target of Opportunity Observations have been submitted
  - Proposal 01_0074 “FORCAST Observations of a ToO Bright Comet in Cycle 1” PI: Diane Wooden
    - Activated for Comet ISON C/2012 S1
    - October 2013 FORCAST window possible
  - Proposal 01_0115 “A GREAT Search for Deuterium in Comets” PI: Mike Mumma
    - Activated for Comet ISON C/2012 S1
    - November 2013 GREAT window possible

- Final acceptance of both activations will depend on two criteria
  - Comet ISON is brighter that a set V-magnitude threshold in May 2013
  - A usable non-siderial tracking mode is available on SOFIA
Cycle 1 Summary

- Community science flights will began in April 2013
- SOFIA will deploy to New Zealand in July 2013 with GREAT for 9 flights
  - M-channel observations are included
- Additional FORCAST, FLITECAM, & GREAT flights in November-December 2013
- A total of ~300 hours for science
  - 200 hours has been awarded under US Call for Proposals
  - 40 hours for Germany
  - 60 hours for Instrument Team Guaranteed Time, Calibration Time, and Director’s Time