

SOFIA Program Update

Pete Zell

SOFIA Science Project Manager
NASA Ames Research Center

SOFIA Users Group

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Key Science Progress Since April

- In July, SOFIA successfully completed the planned nine Observing Cycle-1-C flights with the GREAT instrument in the Southern Hemisphere.
 - CII map of the molecular cloud surrounding NGC3603
 - Detection of para-H₂D⁺ towards an Embedded Low-Mass Protostar
- In late September, SOFIA demonstrated the capability to observe an exoplanet transit
 - Discussed at the 2nd Kepler Conference at NASA Ames (Worden, Dunham)
- In late October, SOFIA observed Comet ISON with the FORCAST instrument at 11.1, 19.7, 31.5 microns
 - Guest Investigator Target of Opportunity proposal (PI: Diane Wooden, NASA Ames)
- SOFIA completed the release of all Level 2-3 processed archive data from Basic Science (July)

Key Technical Progress Since April

- HAWC+ 2nd Generation Instrument Upgrade Project has progressed from SRR (May), through PDR (August), and has CDR scheduled (January)
- FIFI-LS passed its pre-ship review (end of October) and EXES has defined a pre-ship review date (mid-December)
- Phase 2 observatory improvements prioritized to address science-critical capabilities only and shall not impact cycle science
- Top Priority – Mission controls and communications system (MCCS)
 - Addressing stability and system latency issues
 - Long-term improvement efforts are gaining steam
- Mirror Coating Facility (MCF):
 - Successfully completed Sample Mirror Coating Procedure, with good adhesion of aluminum to Zerodur and glass substrates.

Key Programmatic Progress Since April

- SOFIA successfully passed its Program Implementation Review (PIR) – presented to Standing Review Board
 - Results briefed to the Agency Program Management Council which granted approval to proceed to FOC
 - The SMO was given high marks for readiness for science operations
- Cycle 2 selection announcement made on November 5th with 51 investigations being awarded
- Airborne Astronomy Ambassadors (AAA) Program funded for Cycle 2
- Detailed planning for the upcoming Heavy Maintenance Visit (HMV) starting in May 2014

Key Program Challenges Since April

- The government shutdown resulted in loss of 8 FORCAST Science Flights, one FLITECAM commissioning flight, and a significant loss of operations momentum
- Still experiencing some observatory reliability issues (recent examples)
 - network switch power supply failures
 - loose insulation fasteners
- FLITECAM commissioning flights planned for November are being deferred until Cycle 2 and will slip FOC milestone into 2014
 - Reduced Cryogen hold times require additional troubleshooting

Future Work Summary

- ~~Observatory Cycle #1H with FORCAST start, November 25th~~ Near term
- Integration Opportunity #7 start, December 9th
- ~~With the observatory configuration baselined, we will~~
carefully manage remaining science capability improvement activities and demonstrate full flight rate capacity (4 flights per week)
- The Program will be evaluated for Key Decision Point E in early calendar 2014 (March)
- SOFIA will complete the full operational capability (FOC) milestone when a 4th instrument is commissioned (FLITECAM)
- Heavy Maintenance Visit starts May 27, 2014 (~5 months duration)
- The Program is currently transitioning to a single-project structure for the operations phase

Program Office Move to ARC

- Starting in FY15
 - Program Office will move to Ames Research Center from Dryden Flight Research Center
 - Building a strong science link between the SOFIA Science Center and the ARC Science Division
- Planning is underway consistent with an established Program Office Transition Criteria document signed February 2013
- Program office move plan is currently drafted and set for final delivery in March 2014



Thanksgiving

- Southern deployment (example of what is possible)
- The strength of our international partnership
- Our very capable, safety-conscious observatory staff
- Our excellent science team
- Mentors – inspiring and training the next generation
- The continuation of the Airborne Astronomy Ambassadors program
- Also, thanks to the SUG for your support and recommendations