Welcome

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Objectives of the Workshop

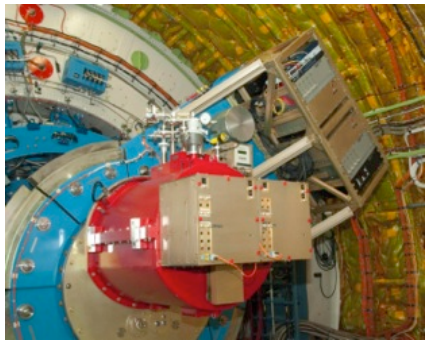
- Introduction to SOFIA
- Airborne Observing
- SOFIA Instrumentation and Capabilities
- Cycle 4 Call for Proposals
- Science Highlights

SOFIA
Stratospheric Observatory for Infrared Astronomy

- Collaboration between NASA and DLR
- Highly modified 747-SP aircraft with a 2.7-m telescope
- Flies up to 13.7 km (45,000 feet), above 99% of the water vapor in the atmosphere
- Suite of infrared imagers and spectrometers
- Provides access to the infrared to the worldwide astronomical community

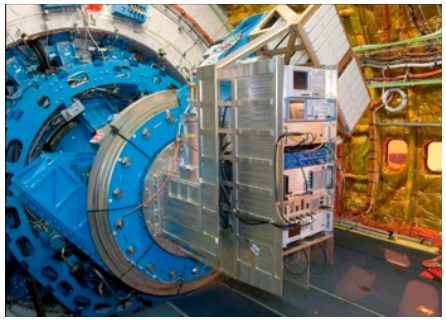
SOFIA Science and Operations Centers

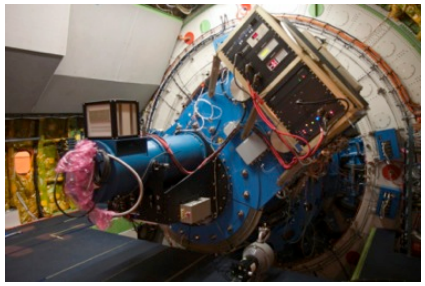
SOFIA Instruments for Cycle 4



FORCAST
Mid-IR Camera

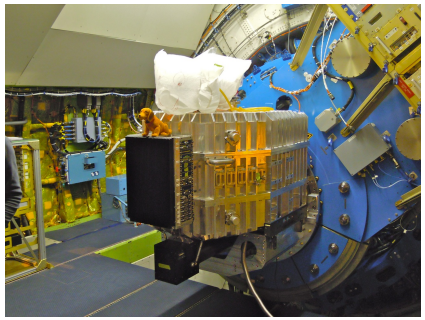
GREAT
Heterodyne spectrometer





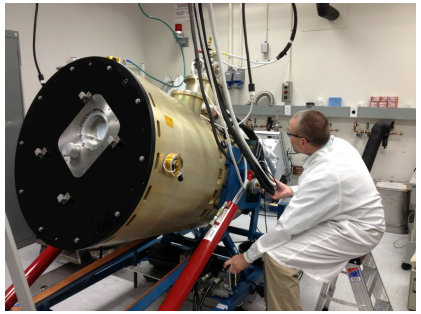
FLITECAM
Near IR Camera
HIPO
Occultation Photometer
FLIPO
(co-mounted on SOFIA)

FIFI-LS
Integral Field Spectrometer



EXES
Mid-IR Spectrometer

HAWC+
Far-Infrared Poloarimeter



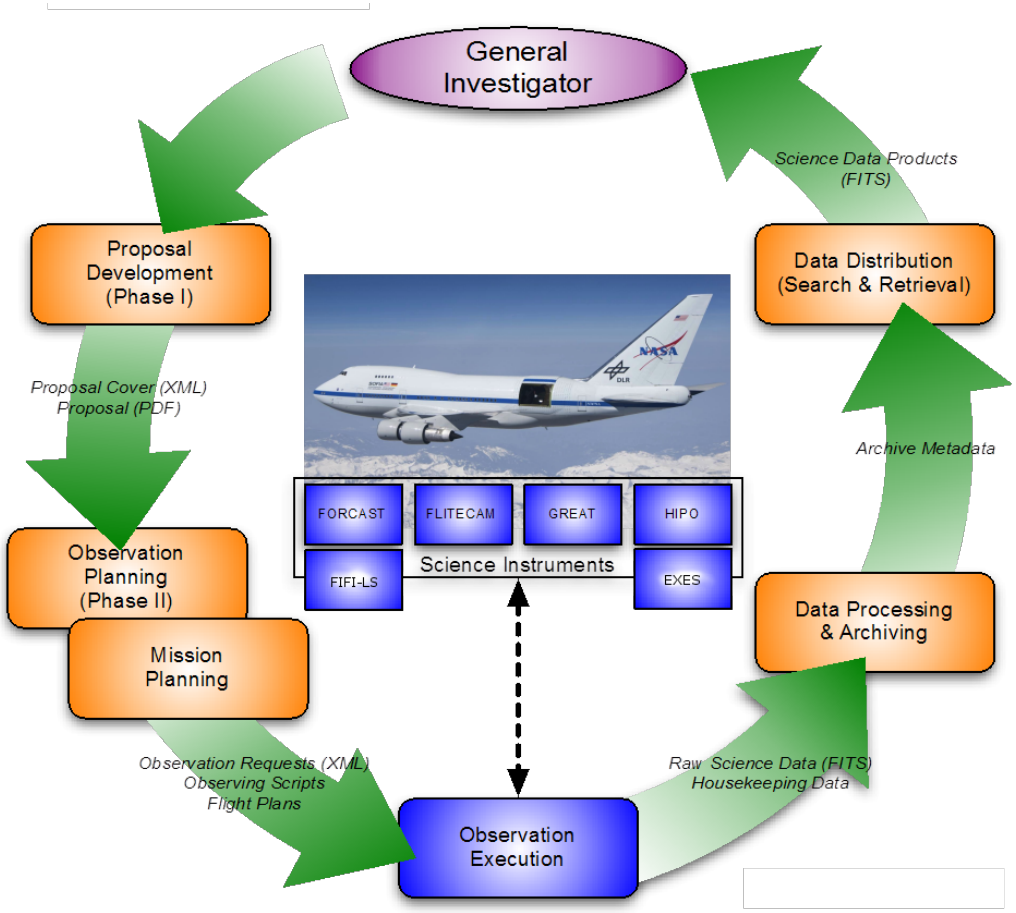
Focal Plane Imager available with all other instruments

SOFIA Instruments for Cycle 4

Science Instrument	Type*	Developing Institution	Principal Investigator	Instrument Description
FORCAST	FSI	Cornell University	Herter	Simultaneous Dual Channel Imaging and Grism Spectroscopy (5-25 μm and 25-40 μm)
upGREAT	PSI	Max Planck Institute, Bonn	Güsten	High Resolution ($R > 10^6$) Heterodyne Spectrometer (1.6-1.9 THz; 2.4-2.7 THz; 4.7 THz)
HIPO	SSI	Lowell Observatory	Dunham	Visible Light High-Speed Camera (0.3-1.1 μm)
FLITECAM	FSI	UCLA	McLean	Near Infrared Imaging and Grism Spectroscopy, (1-5.5 μm); Can be used in combination with HIPO
FIFI-LS	PSI → FSI	University of Stuttgart	Krabbe	Dual Channel Integral Field Grating Spectrometer (42-110 μm; 100-210 μm)
EXES	PSI	UC Davis	Richter	High Resolution ($R > 10^5$) Echelle Spectrometer (5-28 μm)
HAWC → HAWC+	FSI	University of Chicago → JPL	Harper → Dowell	High-Angular Resolution Wide-Band Camera with 4 Channels (50 μm, 100 μm, 160 μm, 200 μm)

Life Cycle of a SOFIA Observation

- Issuing Call for Proposals
- User Support
- Selection of Investigators
- Observation Planning
- Observations
- Data Reduction
- Archive



Project Update

- SOFIA was declared a "Fully Operational Mission" in February 2014
- We continued to operate the observatory through the 2014 despite fiscal roller-coaster
- We proceeded with a Heavy Maintenance as required every 5 or 6 years
- We are back in the NASA's budget for Fiscal Years 2016-2020
- A Senior Review of the Program has been mandated to take place in 2016
- We are conducting Cycle 3 observations and preparing to go to New Zealand in less than a month
- The Cycle 4 Call for Proposals has been released

Cycle 4 Call for Proposals

- Released on May 1, 2015
- 8 Instruments will be available
  - FORCAST
  - GREAT and upGREAT
  - FLITECAM
  - FIFI-LS
  - EXES
  - HIPO
  - Focal Plane Imager+
  - HAWC+
- More the 500 Hours will be available to the worldwide astronomical community
- Pilot program in large-scale (~100 hour) programs
- Funding for General Investigators has been increased >3X

Let’s go get the science!


http://www.sofia.usra.edu