

Cycle 8 Call for Proposals Future Challenges

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Cycle 8

4/25/2020 – 4/25/2021

Cycle 8 Timeline

- Release of Calls for Proposals 31 May 2019
- Call for Proposals Update on Website 20 Jul 2019
- Proposals Due 6 Sep 2019 21:00 PDT
7 Sep 2019 04:00 UTC
- Announcement of Selections Dec 2019
- Cycle 8 begin 25 Apr 2020
end 24 Apr 2021

Calls for Proposals on the SOFIA SMO website:

<https://www.sofia.usra.edu/science/proposing-and-observing/proposal-calls>

New in Cycle 8: Archival Research Program included in the Legacy Program Call

Instruments Offered in Cycle 8

Instrument	Description	Coverage
EXES (Echelon-Cross- Echelle Spectrograph)	High Resolution ($R > 10^5$) Echelle Spectrometer	5 – 28 μm
FIFI-LS (Field Imaging Far-Infrared Line Spectrometer)	Dual Channel Integral Field Grating Spectrometer	51 – 120 μm 115 – 203 μm
FORCAST (Faint Object infraRed CAmera for the SOFIA Telescope)	Mid-IR Dual Channel Imaging Grism Spectroscopy	5 – 25 μm 25 – 40 μm
FPI+ (Focal Plane Imager Plus)	Visible light high speed camera	360 – 1100 nm
GREAT, upGREAT (German REceiver for Astronomy at Terahertz frequencies)	High resolution ($R > 10^6$) heterodyne spectrometer; multi-pixel spectrometer	0.49-0.635 THz 0.890-1.100 THz 1.24-1.39, 1.43-1.5 THz 1.83 – 2.006 THz 2.49-2.59 THz 4.74 THz
HAWC+ (High-resolution Airborne Wideband Camera-Plus)	Far-Infrared camera and polarimeter	Five bands at 53, 63*, 89, 154, & 214 μm

Challenges

- Future SOFIA Instrumentation
- Converting the SOFIA program into separate projects

Future SOFIA Instrumentation

- HIRMES currently behind schedule and over cost
 - Final decision on HIRMES fate will be made by NASA HQ
 - HIRMES not offered in Cycle 8, may be available for DDT
 - HIRMES Science Team is developing a focused Legacy Program
- NGSi no longer on the table
- SMO is currently considering instrument upgrade options
- DSI/DLR are considering telescope and guiding camera upgrades
 - Replace M3 dichroic to allow optical/NIR version of FPI+ camera
 - Upgraded versions of FFI & WFI to allow full frame auto-tracking
 - Active mass damping (ADM) to reduce telescope jitter
 - Shack-Hartmann wavefront sensor addition

Changes in the Structure of the SOFIA Program

Direction given to NASA-Ames and NASA Armstrong to implement SOMER recommendations

SOMER Recommendations affecting Science

- Transition SOFIA aircraft operations away from an integrated astrophysics program into an existing independent aircraft management model – such as SMD’s Airborne Science Program (ASP) – in order to leverage aircraft operations expertise.
- Reduce flight profiles to 8 hour flights, improving safety posture, dispatch rate, scheduling flexibility and increasing the percentage of aircraft time at high-value altitudes.
- Schedule 6 flights per week, which would directly correlate to an increased number of total flights per year.
- Adjust aircrew mission briefing, pre-flight, and post-flight duty periods to shorten the overall crew duty day, improving crew turn-around times and maximizing maintenance touch-time.
- Manage the number of instrument changes to allow for more aggressive aircraft scheduling.