

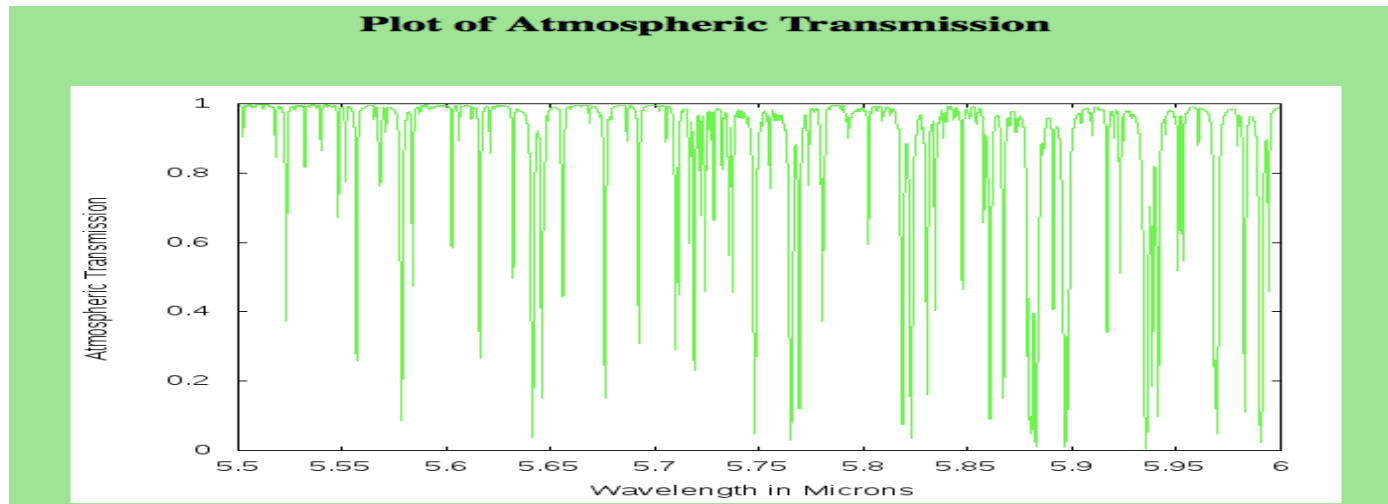


SOFIA Observation Tools

Adwin Boogert

SOFIA/USRA, Support Scientist

[thanks to Ravi Sankrit, SOFIA User Support Lead]



10 May 2016

SOFIA Observers Workshop Tucson: Tools



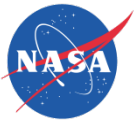
1



Contents



1. Generating the Science Ideas
2. The Two Phase Process
3. Checking existing and planned observations: **GTO list and Archive**
4. Feasibility Analysis:
 - Exposure times: **SITE**
 - Atmospheric Transmission: **ATRAN**
 - Visibility Tool: **VT**
5. Proposal Preparation and Submission: **SPT**
6. Detailed Observation Preparation: **SSPOT**



1. Generating the Science Ideas



Resources available on our Science webpages:

- Links to publications:
<https://www.sofia.usra.edu/Science/meetings-and-publications/sofia-publications>
- SOFIA Community Teletalks archive:
<https://www.sofia.usra.edu/Science/meetings-and-publications/events> (select past teletalks)
- Workshops, Splinter Sessions presentations:
<https://www.sofia.usra.edu/Science/meetings-and-publications/events> (left column)
- The Science Vision document:
<https://www.sofia.usra.edu/sites/default/files/SofiaScienceVision051809-1.pdf>
- Instrument flyers, accessible from each page at:
<https://www.sofia.usra.edu/Science/instruments>



2. Two-Phase Process



Phase I:

- proposals contain scientific justification and feasibility analysis
- SPT submission tools requires minimal technical parameters
- proposals undergo technical and scientific review

Phase II :

- Each successful proposal is assigned a support scientist, who helps the PI prepare the detailed observing set-up for each of the targets, using the SSPOT tool.
- Submission consists primarily of a set of “Astronomical Observation Requests” (AORs) that are planned and implemented.

This workshop focuses on the Phase I proposal preparation!





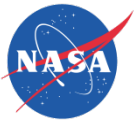
2. Two-Phase Process: Webpage



[https://
www.sofia.usra
.edu/Science/
proposing-and-
observing/
proposal-calls/
cycle-5/cycle-5-
phase-i](https://www.sofia.usra.edu/Science/proposing-and-observing/proposal-calls/cycle-5/cycle-5-phase-i)

The screenshot shows the SOFIA Science Center website. The header includes the SOFIA logo and the text 'SOFIA Science Center Stratospheric Observatory for Infrared Astronomy'. Navigation links for 'Home' and 'For Researchers' are present. A secondary navigation bar contains 'SOFIA Overview', 'Proposing and Observing', 'Instruments', 'Meetings and Publications', and 'Announcements'. The main content area is titled 'Proposing and Observing' and features a sidebar with a tree view: 'Proposing and Observing' > 'Proposal Calls' > 'Cycle 5' > 'Cycle 5, Phase I'. The main text area shows a breadcrumb trail: 'Home » For Researchers » Proposing and Observing » Proposal Calls » Cycle 5 » Cycle 5, Phase I'. Below this, there are links for 'Download the SOFIA Cycle 5 Call for Proposals Document (version 1, April 29, 2016)' and 'SOFIA Observer's Handbook for Cycle 5'. The 'Instruments' section lists EXES, FIFI-LS, FLITECAM, FORCAST, FPI+, GREAT, and HAWC+. The 'Reserved Observations Catalogs (ROCs)' section explains that summary tables are included as appendices in the Call for Proposals. The 'Duplication Checking' section advises proposers to search the SOFIA Science Archive and the AOR Search page for approved Cycle 4 observations to check for potential duplications.





3. Checking Existing and Planned Observations



Reserved observations in Call for Proposals document:
https://www.sofia.usra.edu/sites/default/files/SOFIA_Cy5_CfP.pdf

Appendix A1 - GREAT Cycle 5 Reserved Observations Catalog (ROC)

| Science | Object Name | RA (2000) | DEC (2000) | ν_1 | ν_2 | ν_3 | area arcmin | Time [hr] |
|----------------------|-------------|--------------|---------------|-----------|---------|---------|----------------|--------------|
| | | | | [THz] | | | | |
| PP disks | HD100546 | 11:33:25.4 | -70:11:41.2 | all lines | | | 0.3 | 0.5 |
| | HD50138 | 06:51:33.4 | -06:57:59.5 | all lines | | | 0.3 | 0.5 |
| | HD97048 | 11:08:03.3 | -77:39:17.4 | all lines | | | 0.3 | 0.5 |
| Star formation cores | SgrB2(M)(N) | 17:47:20.4 | -28:23:07.0 | #1 | #2 | OI | 2 | 2.0 |
| | NGC2023 | 05:41:38.4 | -02:15:32.5 | | | OI | 3 | 1.0 |
| | NGC2024 | 05:41:45.2 | -01:55:45.0 | | | OI | 2 | 1.0 |
| | Orion-KL | 05:35:15.1 | -05:22:26.6 | #1 | #2 | OI | 2 | 1.5 |
| | IRAS16172 | 16:21:02.0 | -50:35:09.0 | CO | CO/CII | OI | 5 | 0.7 |
| | IRAS16177 | 16:21:31.0 | -50:25:48.0 | CO | CO/CII | OI | 5 | 0.7 |
| | NGC6334I | 17:20:53.3 | -35:47:01.5 | #1 | #2 | OI | 5 | 3.0 |
| | W33A | 18:14:39.4 | -17:52:00.0 | | | OI | 1 | 0.3 |
| | G29.96 | 18:46:03.8 | -02:39:22.0 | #1 | #2 | OI | 1 | 0.3 |
| | G31.41 | 18:47:34.3 | -01:12:46.0 | #1 | #2 | OI | 1 | 0.3 |
| G48.66 | 19:21:49.6 | +13:49:31.2 | CO | CO/CII | OI | 2 | 1.0 | |
| W51D | 19:23:43.8 | +14:30:26.0 | | | OI | 2 | 0.6 | |
| W58N | 19:59:59.9 | +33:25:45 | CO | CO/CII | OI | 5 | 1.0 | |





3. Checking Existing and Planned Observations: AORs



<https://dcs.sofia.usra.edu>

Welcome to the SOFIA Data Cycle System!

| User Support | Proposal Development | Observation Planning | Data Archive & Retrieval |
|---|---|---|---|
|  |  |  |  |
| About DCS | Download SPT | Download SSPOT | Search Science Archive |
| Register With DCS | Search Proposals | Search Observing Plans | Search Mission Data Archive |
| DCS Help Resources | SOFIA Instrument Time Estimator | Search AORs | Search Missions |
| | ATRAN | Visibility Tool | SOFIA Publications |



3. Checking Existing and Planned Observations: AORs



AOR Search

Get AORs for matching criteria [?](#)

Cycle Number

Primary Investigator
First Name
Last Name *New!*

Instrument
Name Spectral1 Spectral2/Slit Mode

Target Type

Target

Spatial Area
RA (hh:mm:ss) Dec (deg:mm:ss) Search Radius (arcsec) Equinox

Results Per Page:

... or by Plan ID* *New!*

Plan ID

* If Plan ID is given, other criteria will be ignored.

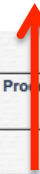




3. Checking Existing and Planned Observations: AORs



data available



Save As CSV File

| AORID | Target | RA(J2000) | Dec(J2000) | NAIF_ID | Instrument | InstConfig | Spectral1 | Spectral2 | Slit | Wavelength | Wavelength2 | Freq1 | Freq2 | ObsMode | Exposure | Processing | LastArchived (UTC) | MissionIDs | QAComments |
|-----------|---------------|-------------|--------------|---------|------------|--------------|-----------|-----------|---------|------------|-------------|----------|-----------|--------------|----------|--|--|--------------------|------------|
| 04_0089_4 | CRL 2591-1 | 20:29:24.87 | +40:11:19.41 | | EXES | HIGH_MED | EXE_ELON | EXE_ECHL | EXE_S24 | 5.296 | | | | NOD_ON_SLIT | 02:05:00 | | | | |
| 04_0120_4 | AFGL 2591 | 20:29:24.87 | +40:11:19.41 | | EXES | HIGH_MED | EXE_ELON | EXE_ECHL | EXE_S19 | 5.72 | | | | NOD_OFF_SLIT | 00:18:00 | LEVEL_1 LEVEL_2 LEVEL_3 | 2016-04-18 2016-04-27 2016-04-27 | 2016-03-24_EX_F291 | |
| 04_0120_5 | AFGL 2591 | 20:29:24.87 | +40:11:19.41 | | EXES | HIGH_MED | EXE_ELON | EXE_ECHL | EXE_S19 | 6.73 | | | | NOD_OFF_SLIT | 00:28:40 | LEVEL_0 LEVEL_1 LEVEL_2 LEVEL_3 | 2016-04-18 2016-04-18 2016-04-27 2016-04-27 | 2016-03-24_EX_F291 | |
| 04_0141_1 | AFGL 2591-con | 20:29:24.6 | +40:11:19.8 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_2 | AFGL 2591-R1 | 20:29:25.5 | +40:11:19.1 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_3 | AFGL 2591-R2 | 20:29:24.9 | +40:11:11.6 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_4 | AFGL 2591-R3 | 20:29:24.0 | +40:11:9.6 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_5 | AFGL 2591-B1 | 20:29:24.4 | +40:11:27.9 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_6 | AFGL 2591-B2 | 20:29:25.3 | +40:11:27.2 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |
| 04_0141_7 | AFGL 2591-B3 | 20:29:23.8 | +40:11:17.7 | | GREAT | DUAL-CHANNEL | GRE_H | GRE_L2 | | | | 4744.777 | 1837.8168 | BSW | 00:00:53 | | | | |



3. Checking Existing Observations: Science Archive



<https://dcs.sofia.usra.edu>

Welcome to the SOFIA Data Cycle System!

| User Support | Proposal Development | Observation Planning | Data Archive & Retrieval |
|---|---|---|---|
|  |  |  |  |
| About DCS | Download SPT | Download SSPOT | Search Science Archive |
| Register With DCS | Search Proposals | Search Observing Plans | Search Mission Data Archive |
| DCS Help Resources | SOFIA Instrument Time Estimator | Search AORs | Search Missions |
| | ATRAN | Visibility Tool | SOFIA Publications |



3. Checking Existing Observations: Science Archive



Science Archive Search

Get Observations For Matching Criteria ?

| | | | | | |
|-------------------|---------------------|-----------------------|---------------------------|------------------------------|---------------|
| Instrument: | Name: ALL | Detector Channel: ALL | Config: ALL | SpectEI1/SpectEI2: ALL | |
| Frequency Range: | From (GHz): | To (GHz): | (GREAT Only) | | |
| Processing State: | LEVEL_1 | | | | |
| Target: | AFGL 2591 | SIMBAD Position | NED Position | | |
| Spatial Search: | Radius: 60 (arcsec) | OR | RA(hh:mm:ss): 20:29:24.87 | Dec(deg:mm:ss): +40:11:19.41 | Equinox: 2000 |
| | | Galactic: | Longitude: | Latitude: | |

Advanced Search ➔

Result Per Page: 50 Downloadable Only Result Organized By: Data File ? ObsPlan AOR ?

Result Setting: Optional Fields In Data File Table

| | | | | | |
|--|--|---|--|---|---|
| <input checked="" type="checkbox"/> PlanID | <input checked="" type="checkbox"/> PI | <input checked="" type="checkbox"/> AORID | <input checked="" type="checkbox"/> Obs Type | <input checked="" type="checkbox"/> Exposure Time | <input checked="" type="checkbox"/> Obs Start/End |
| <input checked="" type="checkbox"/> Product Type | <input type="checkbox"/> Observer | <input type="checkbox"/> Ingest Date | <input type="checkbox"/> Source | | |

Submit Reset





3. Checking Existing Observations: Science Archive



Page 1 of 3 (1 - 50 of 114) Results Organized By Data File

Get Selected Data In Current Page Get Downloadable Data In All Pages There is a 30GB download limit.

| <input type="checkbox"/> | ObservationID ▲▼ | MissionID ▲▼ | PlanID ▲▼ | PI | AORID ▲▼ | Instrument ▲▼ | Detector Channel ▲▼ | Config ▲▼ | Frequency (GHz) ▲▼ | SpectE11 ▲▼ | SpectE12 ▲▼ | Slit ▲▼ | Target ▲▼ | ObsType ▲▼ | Processing ▲▼ | ProductType ▲▼ | RAJ2000 ▲▼ Longitude (Galactic) (Ecliptic) | DecJ2000 ▲▼ Latitude (Galactic) (Ecliptic) | Exposure (Sec) ▲▼ | ObsStart (UTC) ▲▼ | ObsEnd (UTC) ▲▼ | Release (UTC) ▲▼ |
|--------------------------|-------------------------|--------------------|--------------|----------------|-------------|------------------|------------------------|--------------|-----------------------|----------------|----------------|------------|--------------|---------------|------------------|-------------------|--|--|----------------------|----------------------------|----------------------------|--------------------------|
| <input type="checkbox"/> | 2016-03-24_EX_F29140060 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_1 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2136 | FLAT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 128.0 | 2016-03-24 09:30:09.859 | 2016-03-24 09:32:37.593 | 2016-04-18 16:21:17.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140059 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_4 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | OBJECT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 192.0 | 2016-03-24 09:14:52.343 | 2016-03-24 09:21:58.89 | 2017-04-18 16:21:13.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140058 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_4 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | OBJECT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 128.0 | 2016-03-24 09:08:29.843 | 2016-03-24 09:14:17.78 | 2017-04-18 16:21:17.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140057 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_4 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | OBJECT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 128.0 | 2016-03-24 09:02:15.39 | 2016-03-24 09:07:54.203 | 2017-04-18 16:21:20.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140056 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_4 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | OBJECT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 128.0 | 2016-03-24 08:55:59.39 | 2016-03-24 09:01:36.656 | 2017-04-18 16:21:18.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140055 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_4 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | FLAT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 128.0 | 2016-03-24 08:52:54.468 | 2016-03-24 08:55:24.75 | 2016-04-18 16:21:18.0 |
| <input type="checkbox"/> | 2016-03-24_EX_F29140054 | 2016-03-24_EX_F291 | 04_0120 | Indriolo, Nick | 04_0120_5 | EXES | | HIGH_MED | | EXE_ELON | EXE_ECHL | EXE_S19 | AFGL 2591 | OBJECT | LEVEL_1 | | 20:29:24.87 78.887(G) 327.048(E) | +40:11:19.41 0.709(G) 56.471(E) | 192.0 | 2016-03-24 08:42:51.312 | 2016-03-24 08:51:16.656 | 2017-04-18 16:21:16.0 |

To get more detailed information about data in the archive:

- data may have to be downloaded.
- if not public, or in doubt, contact the SOFIA helpdesk at sofia_help@sofia.usra.edu





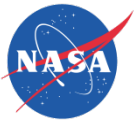
4. Feasibility Analysis: Exposure Times (SITE)



<https://dcs.sofia.usra.edu>

Welcome to the SOFIA Data Cycle System!

| User Support | Proposal Development | Observation Planning | Data Archive & Retrieval |
|---|---|---|---|
|  |  |  |  |
| About DCS | Download SPT | Download SSPOT | Search Science Archive |
| Register With DCS | Search Proposals | Search Observing Plans | Search Mission Data Archive |
| DCS Help Resources | SOFIA Instrument Time Estimator | Search AORs | Search Missions |
| | ATRAN | Visibility Tool | SOFIA Publications |



4. Feasibility Analysis: Atmospheric Transmission (ATRAN)



Submit Form Clear Form

Input Parameters

Give the **Observatory Altitude** (in feet; < 60000 ft):

Choose the closest value of the **Observatory Latitude**:

Give the desired **Water Vapor Overburden** (in microns; 0 if unknown):

Choose the **Number of Atmospheric Layers** (usually 2):

Give the **Zenith Angle** of Observations (between 0 and 90 deg):

Give the desired **Wavelength Range** (min and max in microns; min > 0.85): -

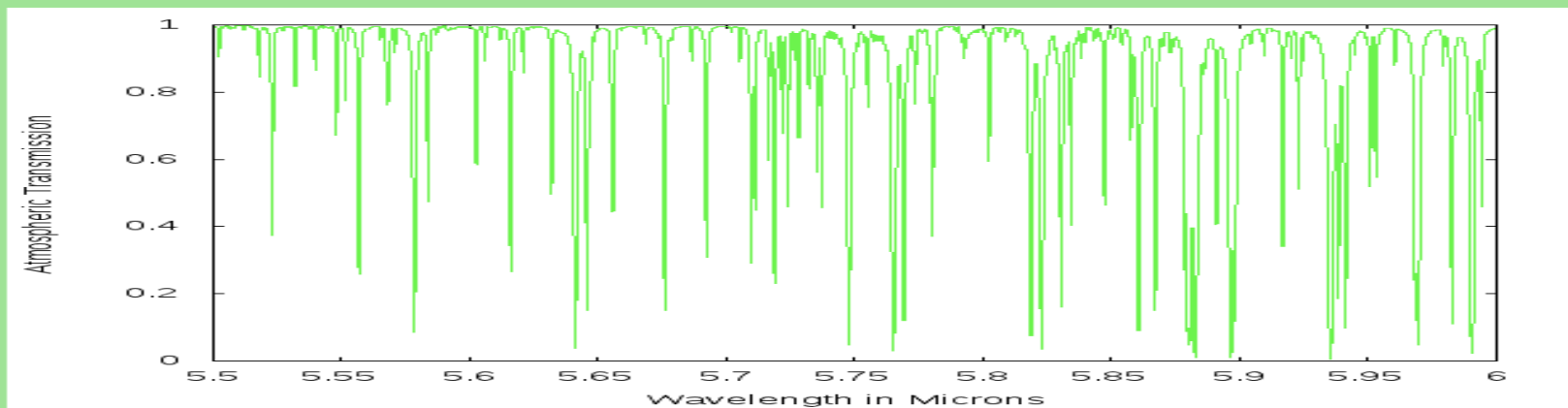
Give the **Resolution R** for Smoothing (0 = No Smoothing):

Comments for the plot :

Checking atmospheric transmission essential:

- Can observations be done from the ground?
- Feasible from the stratosphere?
- Velocity shift needed?

Plot of Atmospheric Transmission

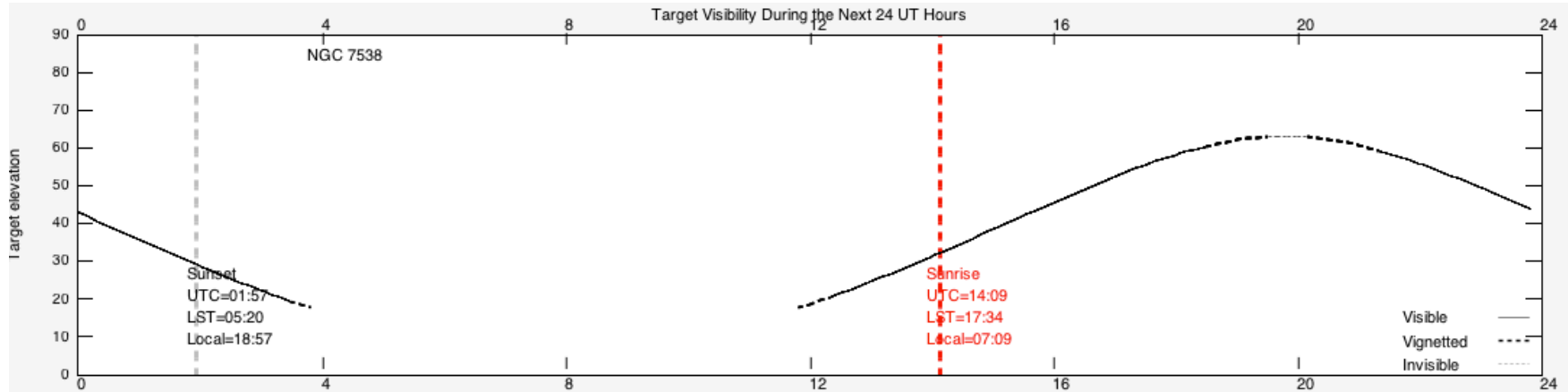




4. Feasibility Analysis: VT



Is NGC 7538 visible, i.e., between elevations 25-65 degrees on March 11 from Palmdale?



Plot True Plane Heading | Plot Target Elevation | Plot SI Orientation | Export Target Visibility | Edit Targets | Reset Values | Clear Plot

Target

Target Name:

Catalog/Database:

RA/GalLong/EclLong:

Dec/GalLat/EclLat:

Galactic Coords Ecliptic Coords

Take-off Location

Location:

Longitude:

Latitude:

Date

Year:

Month:

Day:

Start Time (UT or Local, hr):

Duration (hr):

Start Time is Local/Std

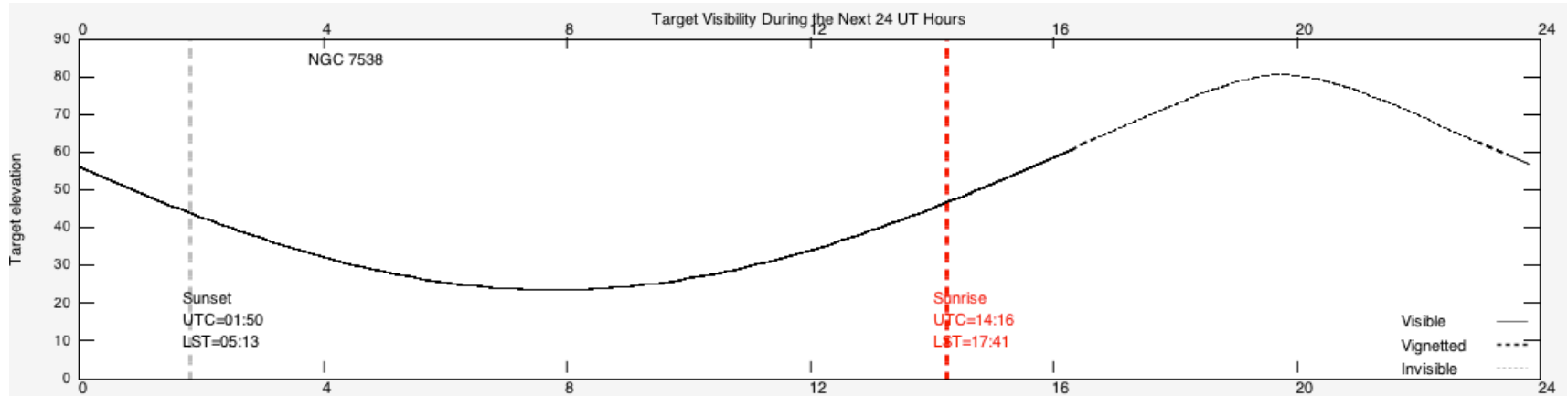




4. Feasibility Analysis: VT



How about from Canada (say, latitude 52 degrees)?



Plot True Plane Heading | Plot Target Elevation | Plot SI Orientation | Export Target Visibility | Edit Targets | Reset Values | Clear Plot

Target
 Target Name: NGC 7538
 Catalog/Database: SIMBAD
 RA/GalLong/EclLong: 23 13 37.2
 Dec/GalLat/EclLat: 61 30 0.0
 Galactic Coords Ecliptic Coords
 Get Coordinates & Add to Target List

Take-off Location
 Location: Other
 Longitude: -118 5 0
 Latitude: 52 0 0.0

Date
 Year: 2017
 Month: March
 Day: 11
 Start Time (UT or Local, hr): 0.0
 Duration (hr): 24.0
 Start Time is Local/Std Set Start Time to Now





4. Feasibility Analysis: VT



Note: requests specific instrument orientations not supported

The screenshot shows the SOFIA Observers Workshop interface. At the top, there are several buttons: 'Plot True Plane Heading', 'Plot Target Elevation', 'Plot SI Orientation' (circled in red), 'Export Target Visibility', 'Edit Targets', 'Reset Values', and 'Clear Plot'. Below these buttons are three main sections: 'Target', 'Take-off Location', and 'Date'. The 'Target' section includes fields for 'Target Name' (NGC 7538), 'Catalog/Database' (SIMBAD), 'RA/GalLong/EclLong' (23 13 37.2), and 'Dec/GalLat/EclLat' (61 30 0.0). The 'Take-off Location' section includes a 'Location' dropdown (Other), '^Longitude' (-118 5 0), and 'Latitude' (52 0 0.0). The 'Date' section includes 'Year' (2017), 'Month' (March), 'Day' (11), 'Start Time (UT or Local, hr)' (0.0), 'Duration (hr)' (24.0), and a checkbox for 'Start Time is Local/Std' with a 'Set Start Time to Now' button.

Hence, specific slit position angles on the sky cannot be requested for EXES, FORCAST and FLITECAM



5. Proposal Preparation and Submission: **SPT**



Phase I proposals must be prepared and submitted using the SOFIA Proposal Tool (SPT).

SPT is based on the Astronomer's Proposal Tool (APT) developed and used for Hubble Space Telescope proposals.

The most recent version, SPT v3.1.0, has to be used for Cycle 5 proposals.



5. Proposal Preparation and Submission: **SPT**



- Enter title and abstract in SPT
- Prepare science and technical justification in favorite editor and upload pdf.

- Update as often as needed until deadline
- PI needs to register with 'DCS':

<https://dcs.sofia.usra.edu>





5. Proposal Preparation and Submission: SPT



Observation 1: IRC+10216 of Unsubmitted Phase I Proposal (Unsaved)

Instrument: EXES
 Target Name: IRC+10216
 Source Type: Sidereal
 NAIF ID: [NAIF ID Selection List]
 Coordinates: Galactic RA/GalLong: 9 47 57.41 DEC/GalLat: 13 16 43.56
 Proper Motion ("/yr): RA: 0 DEC: 0
 Instrument: Configuration Spectral Element 1 Spectral Element 2 Slit Wavelength (microns)
 LOW None Selected EXE_ECHL EXE_S19 12.345
 Instrument Mode: MOD_ON_SLIT Overheads - Constant (secs): 900.0 + Factor: 0.0
 Integration Time (seconds): 60 Alternate Overhead: 0 Default Overhead: 900.0 Duration: 960.0
 Map Area: [] arcmin
 Order of Observation: []
 Priority: Low
 Time Critical Observation:
 First Critical Time, From : [] To: []
 Second Critical Time, From : [] To: []

Buttons: Edit Observations, New, Edit Next

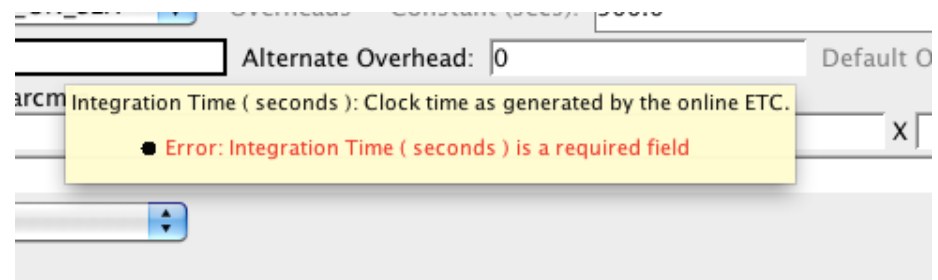
Table Headers: Observa..., Instrument, Target Name, Source Type, SIMBAD, NED, NAIF ID field, Galactic, Lambda, Beta, Proper Mo..., Instrument, Instrumen..., Integratio..., Map Area, Order of O..., Priorit

Show: Observation

SPT Example EXES.

Note "Integration Time":

- 'clock time' for EXES
- 'ON+OFF' for (up)GREAT
- 'ON' for other instruments





6. Detailed Observation Preparation: SSPOT



SSPOT not needed for proposal submission. It might be handy for map visualization, however.

FIFI-LS AOR: Instrument configuration





6. Detailed Observation Preparation: SSPOT



FIFI-LS AOR: Instrument
“mode” (chop/nod parameters)

FIFI-LS [AOR ID: _2]

Unique AOR Label: FIFI_LS-0000

Target: W51 Type: Fixed Single
290.925000, 14.509200 Equ J2000 or 19h23m42.0000s, +14d30m33.120s Equ J2000

New Target Modify Target... Target List...

Observing Condition Acquisition/Tracking

Config Mode Map

Instrument Mode Symmetric Chop

Chop Throw (arcsec) 200.000

Chop Angle Coordinate J2000

Chop Angle (deg) 60.000

Reference Position

Ref Type

By Offset

By Position

Map Ref. Pos. false

Reference Name

RA Offset (arcsec) 0.000

Dec Offset (arcsec) 0.000

Observation Est... Comments... Proposal Info...

Cancel Apply OK



6. Detailed Observation Preparation: SSPOT



FIFI-LS AOR: map parameters

The screenshot shows the 'FIFI-LS [AOR ID: _2]' window. The 'Unique AOR Label' is 'FIFI_LS-0000'. The target is 'W51 Type: Fixed Single' with coordinates '290.925000, 14.509200 Equ J2000 or 19h23m42.0000s, +14d30m33.120s Equ J2000'. The 'Map' tab is selected, showing various parameters for map acquisition.

| Parameter | Value |
|-------------------------------------|--------|
| On source exp. time per cycle (sec) | 15.000 |
| On-source exp. time (sec) | 180 |
| Cycles | 1 |
| Min Contiguous Exp Time (sec) | 0.000 |
| FOV Angle (deg) | 0.000 |
| Map Type | Grid |
| Step Size Along Lat (arcsec) | 30.000 |
| Step Size Along Lon (arcsec) | 30.000 |
| Number of Points Along Lat | 3 |
| Number of Points Along Lon | 4 |
| Map Offset RA (arcsec) | 5.000 |
| Map Offset Dec (arcsec) | 5.000 |

| Number | Offset East/Row/Perpendicul... | Offset North/Column/Parrell (") |
|--------|--------------------------------|---------------------------------|
| 1 | -25.0 | -40.0 |
| 2 | 5.0 | 40.0 |



10 May 2016

SOFIA Observers Workshop Tucson: Tools

23

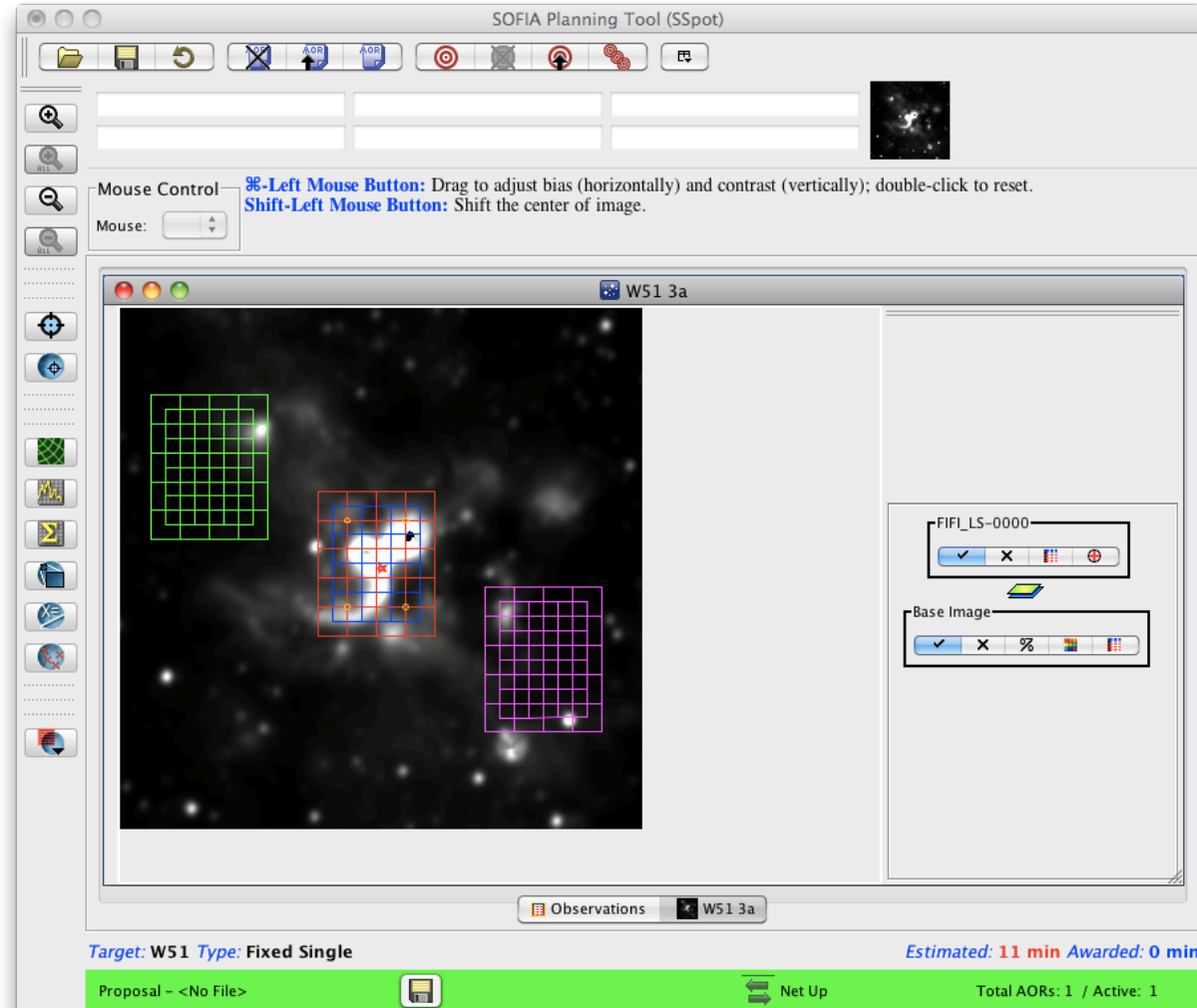




6. Detailed Observation Preparation: SSPOT



FIFI-LS: AOR Overlay



10 May 2016

SOFIA Observers Workshop Tucson: Tools

24





Backup Slides