User Tools for Cycle 1
Phase I: Proposal Preparation and Submission

R. Y. Shuping

(Space Science Inst./USRA-SOFIA)

DCS Development Lead

DCS Development Team:

Lan Lin, Li Sun, Kaori Nishikida, Miguel Charcos-Llorens, & Robert Perez (*USRA-SOFIA*)

Sean Colgan (*NASA-SOFIA*), Robert Krzaczek (*RIT*)

Sr. Science Advisor: William Vacca (*USRA-SOFIA*)

Phase I: Proposal Preparation and Submission

- During Phase I, GI prepares proposal and submits electronically to SSMOC for review using the ***SOFIA Proposal Tool (SPT)***
- Proposal Contents:
  - Cover Info: Investigators, abstract, timing constraints, TAC Queue (US/DE)
  - List of Proposed Observations: Position, instrument/config, filters/gratings, integration time, total duration, etc…
  - Scientific/Technical Justification: attached PDF file
- GI will receive a confirmation email when proposal is uploaded to SSMOC
- Proposals can be *re*-submitted any number of times before the deadline, but no previous versions are saved at the SSC.

Phase I Tools

SOFIA Instruments Time Estimator (SITE): web-based tool that provides sensitivity estimates (S/N, integration times for given source flux).

- https://dcs.sofia.usra.edu/proposalDevelopment/SITE/index.jsp
- Fiducial on-source sensitivities for each filter scaled by filter and atmospheric transmission for given water vapor.
- *FORCAST & FLITECAM Imaging only*

SOFIA Proposal Tool (SPT): stand-alone JAVA application for preparing and submitting all proposal materials.

- based on APT, developed at STScI for HST.
- https://dcs.sofia.usra.edu/proposalDevelopment/installSPT/index.jsp

Visibility Tool (VT): web-based tool that plots visibility/heading plots given source position, aircraft location, and date/time.

- Informational only – output from VT not required as part of proposal submission. But useful in determining schedule constraints.
- https://dcs.sofia.usra.edu/observationPlanning/visibilityTool.jsp

New for Cycle 1

- DCS now supports separate TAC queues for US and German time allocations, including separate deadlines.
  - Same version of SPT used in *both* cases.
- SPT now displays default overheads for each instrument and observing mode; with user override if desired.
- NAIF-ID support for solar system objects
- Improved error reporting and messages.

New version of SPT for Cycle 1 available with Call for Proposals.

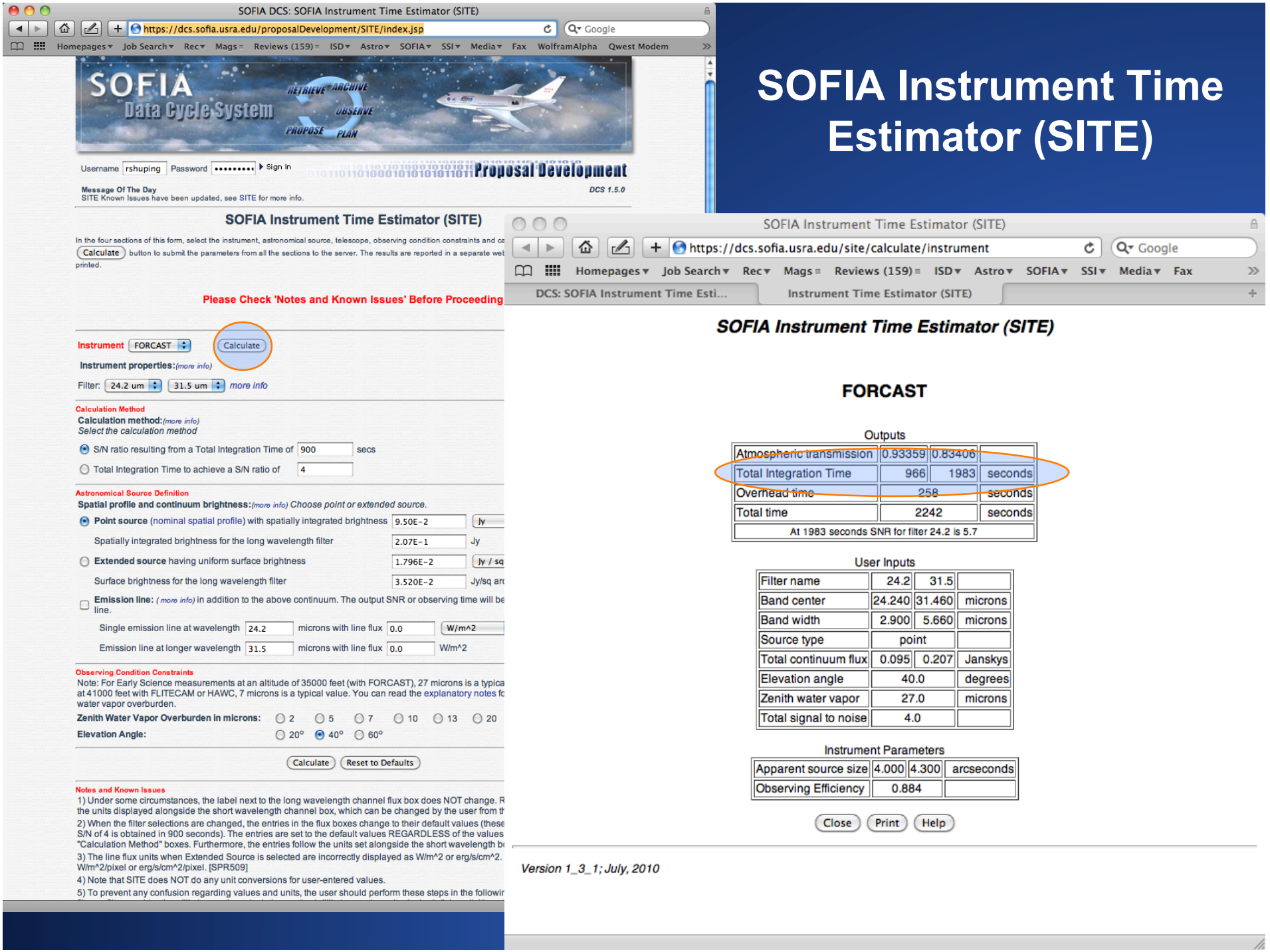
Data Cycle System Planning Database

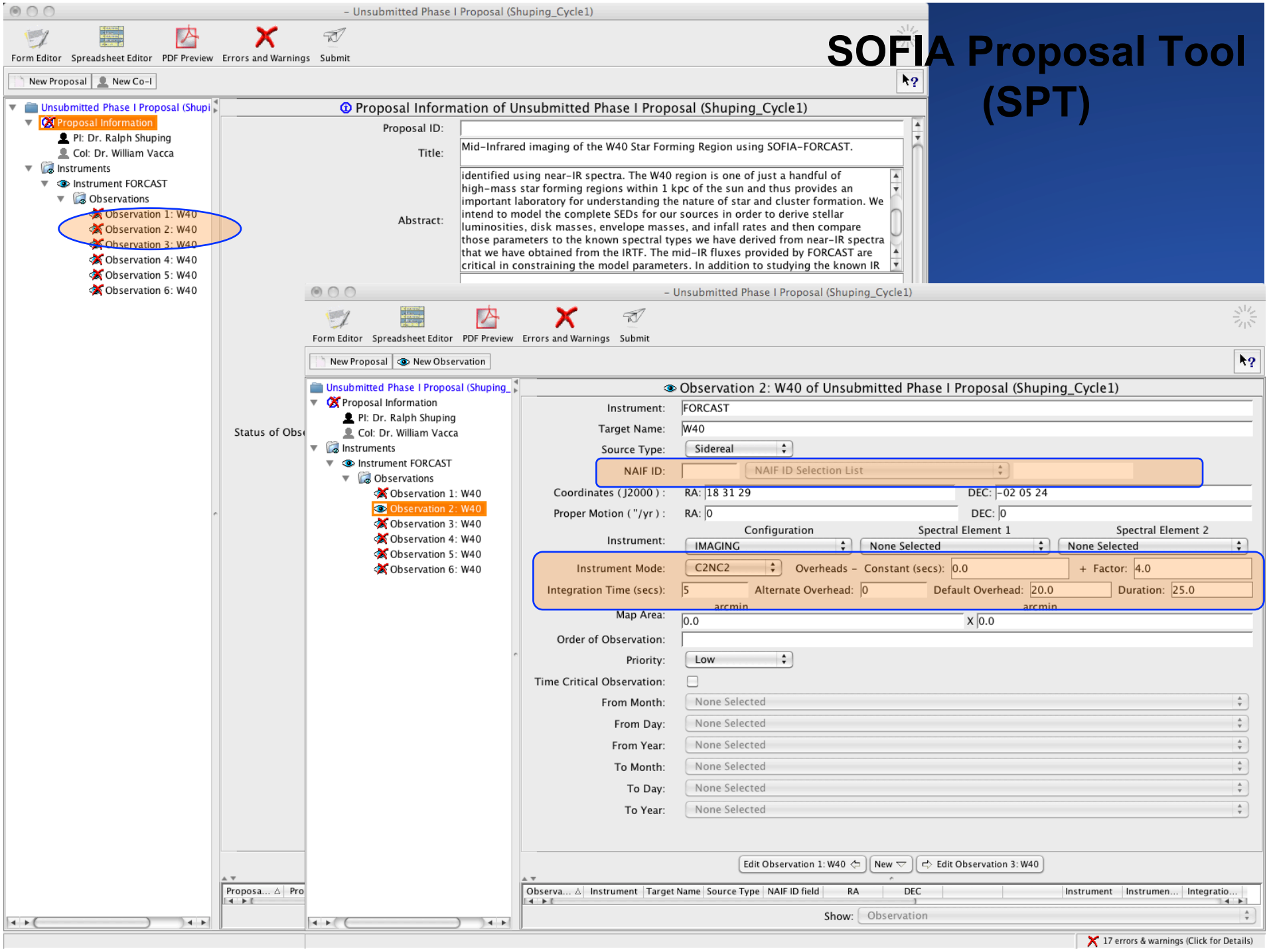
- All proposals submitted to the SSMOC are parsed and stored in the DCS Observation Planning database.
- Planning database can be accessed (by SMO staff) via web pages which provide:
  - Access controls
  - Duplicate checking (between planning DB and archive)
  - Review tracking (e.g. time awarded, TAC grade, notes, etc…)

Development Overview

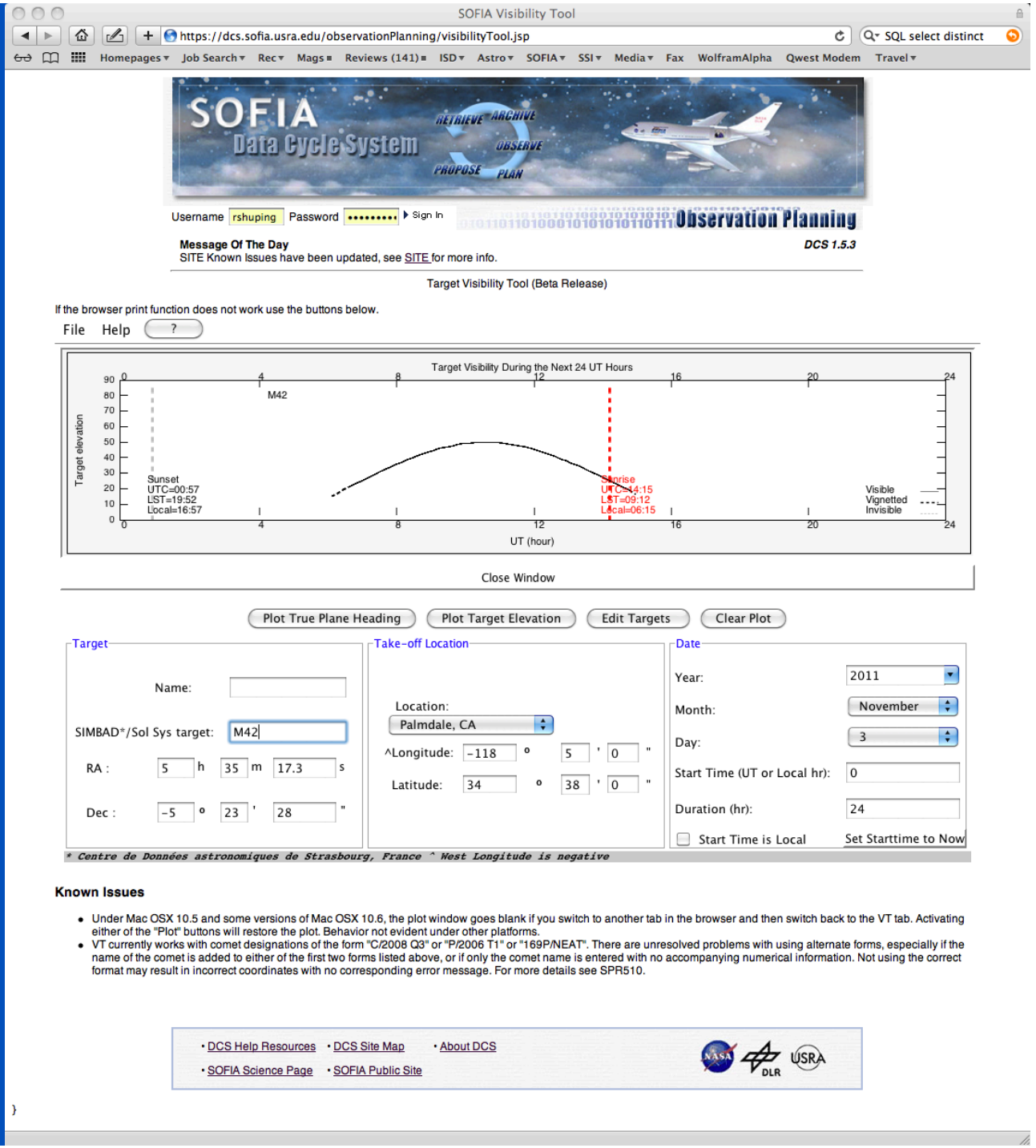
- Development for SPT/SITE/VT and proposal submission system is basically complete (all requirements met).
  - Upgrades still required for new SIs/modes or updates to existing SIs/modes.
  - *Exception: spectroscopy support for SITE (see below)*
- Issues filed as Software Problem Reports (SPRs) and assigned to upcoming releases based on operational needs and resource constraints.
- Personnel (FTE):
  - Sean Colgan (NASA): SPT/VT/SITE (<1.0 on-going)
  - Lan Lin (USRA), R. Krzazcek (RIT): Proposal submission system (~0.5 each, as needed)
  - Li Sun (USRA): Planning database infrastructure/applications: (~1.0, as needed)

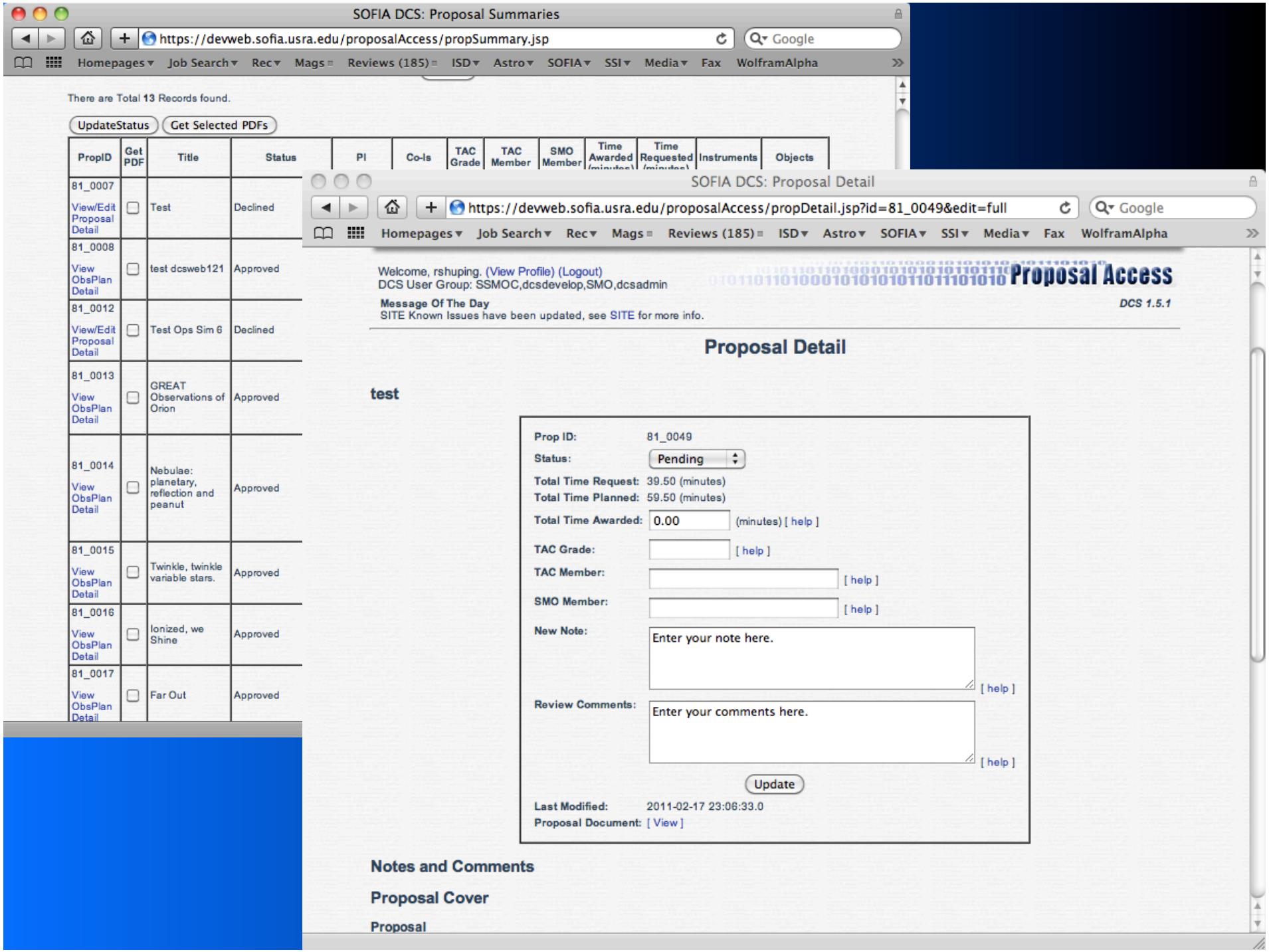
SOFIA Instrument Time Estimator (SITE)




SOFIA Proposal Tool (SPT)
- Unsubmitted Phase I Proposal (Shuping_Cycle1)
Form Editor
Spreadsheet Editor
PDF Preview
Errors and Warnings
Submit
New Proposal
New Co-I
Unsubmitted Phase I Proposal (Shupi
Proposal Information
PI: Dr. Ralph Shuping
Col: Dr. William Vacca
Instruments
Instrument FORCAST
Observations
Observation 1: W40
Observation 2: W40
Observation 3: W40
Observation 4: W40
Observation 5: W40
Observation 6: W40
Proposal Information of Unsubmitted Phase I Proposal (Shuping_Cycle1)
Proposal ID:
Title:
Mid-Infrared imaging of the W40 Star Forming Region using SOFIA-FORCAST.
Abstract:
identified using near-IR spectra. The W40 region is one of just a handful of high-mass star forming regions within 1 kpc of the sun and thus provides an important laboratory for understanding the nature of star and cluster formation. We intend to model the complete SEDs for our sources in order to derive stellar luminosities, disk masses, envelope masses, and infall rates and then compare those parameters to the known spectral types we have derived from near-IR spectra that we have obtained from the IRTF. The mid-IR fluxes provided by FORCAST are critical in constraining the model parameters. In addition to studying the known IR
- Unsubmitted Phase I Proposal (Shuping_Cycle1)
Form Editor
Spreadsheet Editor
PDF Preview
Errors and Warnings
Submit
New Proposal
New Observation
Unsubmitted Phase I Proposal (Shuping_
Proposal Information
PI: Dr. Ralph Shuping
Col: Dr. William Vacca
Instruments
Instrument FORCAST
Observations
Observation 1: W40
Observation 2: W40
Observation 3: W40
Observation 4: W40
Observation 5: W40
Observation 6: W40
Observation 2: W40 of Unsubmitted Phase I Proposal (Shuping_Cycle1)
Instrument: FORCAST
Target Name: W40
Source Type: Sidereal
NAIF ID:
NAIF ID Selection List
Coordinates (J2000) : RA: 18 31 29 DEC: -02 05 24
Proper Motion ("/yr) : RA: 0 DEC: 0
Configuration
Spectral Element 1
Spectral Element 2
Instrument: IMAGING None Selected None Selected
Instrument Mode: C2NC2 Overheads - Constant (secs): 0.0 + Factor: 4.0
Integration Time (secs): 5 Alternate Overhead: 0 Default Overhead: 20.0 Duration: 25.0
arcmin
arcmin
Map Area: 0.0 X 0.0
Order of Observation:
Priority: Low
Time Critical Observation:
From Month: None Selected
From Day: None Selected
From Year: None Selected
To Month: None Selected
To Day: None Selected
To Year: None Selected
Edit Observation 1: W40
New
Edit Observation 3: W40
Observa... Instrument Target Name Source Type NAIF ID field RA DEC Instrument Instrumen... Integratio...
Show: Observation
17 errors & warnings (Click for Details)

SOFIA Target Visibility Tool (VT)




SOFIA DCS: Proposal Summaries
https://devweb.sofia.usra.edu/proposalAccess/propSummary.jsp
Google
Homepages Job Search Rec Mags Reviews (185) ISD Astro SOFIA SSI Media Fax WolframAlpha
There are Total 13 Records found.
UpdateStatus
Get Selected PDFs
PropID
Get PDF
Title
Status
PI
Co-Is
TAC Grade
TAC Member
SMO Member
Time Awarded
Time Requested
Instruments
Objects
81_0007 View/Edit Proposal Detail
Test
Declined
81_0008 View ObsPlan Detail
test dcsweb121
Approved
81_0012 View/Edit Proposal Detail
Test Ops Sim 6
Declined
81_0013 View ObsPlan Detail
GREAT Observations of Orion
Approved
81_0014 View ObsPlan Detail
Nebulae: planetary, reflection and peanut
Approved
81_0015 View ObsPlan Detail
Twinkle, twinkle variable stars.
Approved
81_0016 View ObsPlan Detail
Ionized, we Shine
Approved
81_0017 View ObsPlan Detail
Far Out
Approved
SOFIA DCS: Proposal Detail
https://devweb.sofia.usra.edu/proposalAccess/propDetail.jsp?id=81_0049&edit=full
Google
Homepages Job Search Rec Mags Reviews (185) ISD Astro SOFIA SSI Media Fax WolframAlpha
Welcome, rshuping. (View Profile) (Logout)
DCS User Group: SSMOC,dcsdevelop,SMO,dcsadmin
Proposal Access
DCS 1.5.1
Message Of The Day
SITE Known Issues have been updated, see SITE for more info.
Proposal Detail
test
Prop ID: 81_0049
Status: Pending
Total Time Request: 39.50 (minutes)
Total Time Planned: 59.50 (minutes)
Total Time Awarded: 0.00 (minutes) [help]
TAC Grade: [help]
TAC Member: [help]
SMO Member: [help]
New Note: Enter your note here. [help]
Review Comments: Enter your comments here. [help]
Update
Last Modified: 2011-02-17 23:06:33.0
Proposal Document: [View]
Notes and Comments
Proposal Cover
Proposal

Basic Science Proposal Submission

- **First real-world use of SPT/SITE and proposal submission system**:
  - *Overall, system worked as designed*
  - 165 submission/resubmission transactions with 9 errors.
- Total Proposals Received: 60
- Submission loads were modest and well within our system stress test benchmarks:
  - Last 24 hours: 90 proposals submitted.
    - 24 hour system stress test: >1000 proposals submitted.
  - Peak submission rate: 1 proposal/min (not sustained)
    - System stress test: 120 proposals in 2 minutes.
- Issues and Lessons Learned:
  - One lost proposal – situation understood, documented.
  - 22 Software Problem Reports (bugs) filed (SPT/SITE/VT).
  - 2 procedural issues identified.

Issues with SPT/SITE/VT

- SITE Issues:
  - Clean up input flux handling (SPR 509)
  - Synchronize units in SITE and SPT (SPR 629)
- VT Issues:
  - Fix/update astronomical name resolution (SPRs 510, 721, 722)
  - User interface clean-up (SPRs 217, 442)
- SPT Issues:
  - Improve error/status messages (SPRs 536, 633)
  - Fix support for GREAT frequencies (SPR 549)
  - Issues with cover info data (SPRs 380, 533)
  - UI Issues (SPRs 520, 538, 551)
  - Improve PDF handling (SPR 543, 592)
  - Synchronize units with SITE (SPR 630)

SI Configurations to be offered for Cycle 1:

FORCAST Imaging (SUP)
FORCAST Grisms (Shared Risk)
GREAT Low (SUP)
GRAT Medium (Shared Risk)
FLITECAM Imaging (SUP)
FLITECAM Grisms (Shared Risk)
HIPO (SSI)

SPT/SITE Support for Cycle 1

- Do we support all Cycle 1 SIs in SPT?
  - Yes, not hard and streamlines proposal preparation/review.
  - Only issue would be accuracy of overheads for Shared Risk SIs and HIPO.
- Do we support all Cycle 1 SIs in SITE?
  - Yes for SUP SIs
  - Not clear that we will have good sensitivity numbers for Shared Risk SIs. Could provide expected sensitivities via static look-up-tables/plots on SOFIA website.
  - What about HIPO?

Updates to SPT and Proposal Submission System

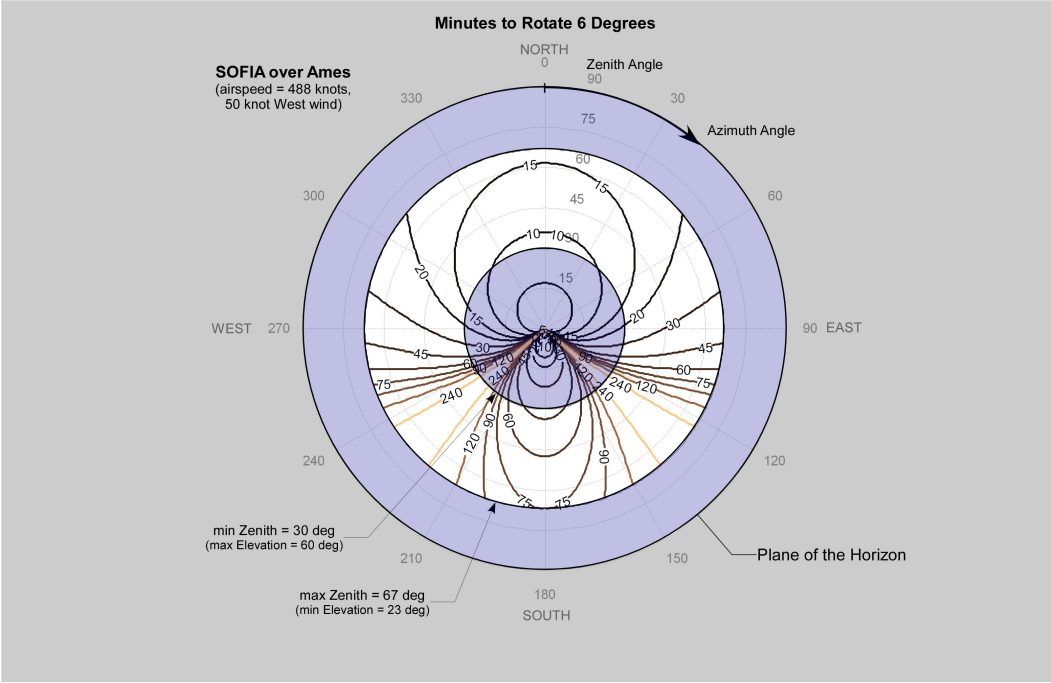
- Need specification of SI configurations and modes to be offered (Documented in SI-DCS ICDs) from Cycle 1 SI teams ASAP:
  - Filters/grisms available
  - Overheads for each observing mode
- Need to update SPT and proposal submission system to support new configurations and modes.

Updates to SITE/VT

- *SITE currently supports imaging modes only*. Need to provide support for spectroscopic modes as well:
  - Sensitivity as function of wavelength
  - Update to atmospheric modeling (ATRAN)
  - Slit-losses and other throughput considerations
- Need *current* (best available) sensitivity estimates/algorithms for all SI configurations/modes (documented in SI-DCS ICDs) from Cycle 1 SI teams ASAP.
- Need maximum integration time calculator for VT, based on mean time between LOS resets.

Updates to VT.

- Should consider adding maximum integration time calculation to VT (or SITE?), based on mean time between LOS rewinds – very useful for GIs observing faint objects.



DCS v2.0 Development Schedule (SITE/SPT/VT)

- July: Delta Design Review
- July - Aug: Implementation and informal test
- Sept: Test Readiness Review
- Sept: Formal Testing
- Sept. 30: Release of SITE/SPT/VT
- ***Oct: Cycle 1 Call for Proposals***

Proposed Prioritization

1. **Updates to SPT and proposal submission system to support all instruments/configs/modes for Cycle 1.**
   - Needed to ensure efficient/effective proposal handling.
2. **Update SITE with current sensitivities for all Cycle 1 SIs.**
   - Needed to ensure that GIs enter correct integration times into SPT.
3. **High priority SPRs (SPT/SITE)**
   - Issues that affect usability or clarity
4. Add spectroscopic functionality to SITE for Grisms and GREAT.
   - Spectroscopic sensitivities *could* be provided via static look-up-tables/ plots on SOFIA website (*Not Ideal*).
5. Add maximum integration time calculator to VT.
6. Low priority SPRs (SPT/SITE/VT)

Schedule Issues

- Currently not enough resources to complete all bug fixes and updates required in time for CfP.
  - SPT/SITE development lead (Sean Colgan) is part-time and also working on KOSMA translator software.
- Mitigation:
  - Add resources: Not clear we can get someone up to speed fast enough to make these updates.
  - Reduce Scope:
    - SPT changes *must* be done to ensure that we can handle submitted proposals effectively and efficiently
    - SITE changes could be scaled back, e.g. provide sensitivities only for fiducial wavelengths. *May not provide enough schedule relief.*
    - Note that SITE updates are not *strictly* required from data handling perspective; time estimates for Grism modes could be provided by some other method.

The SOFIA Data Cycle System

http://dcs.sofia.usra.edu

14 Nov. 2011: *New version of SPT for Cycle 1 available for download.*

12 Dec. 2011: *Update to SITE; DCS open for proposal submission.*

27 Jan. 2012: *Proposals Due; DCS closed*

DCS Help Resources

- https://dcstest.sofia.usra.edu/userSupport/dcsUserGuide.jsp

SOFIA Help-Desk:

- *sofia_help@sofia.usra.edu*