

2021 December 16

To: Dr. Margaret Meixner, Director SOFIA Science Mission Operations
Re: SOFIA Science Users Group (SUG) Meeting #19 – Report

The SOFIA Science Users Group (SUG) held its 19th meeting virtually on Monday, December 6, 2021. The primary discussion topics between SUG members and members of the SOFIA Science Mission Operations (SMO), led by Drs. Margaret Meixner (SMO Director), Bernhard Schulz (SMO Co-Director), Naseem Rangwala (SOFIA Project Scientist), William Reach (Associate SMO Director), and several other members of the SMO, are captured in the meeting agenda.

The agenda, together with additional charts and documents presented at the SUG meeting are available at: <https://www.sofia.usra.edu/science/sofia-overview/advisory-groups/sofia-users-group-sug>. The SUG appreciates that the SMO made presentations, and other materials available to the SUG members prior to the meeting.

- The SUG applauds the efforts by the SMO and NASA to maintain SOFIA flight opportunities in the continued COVID-19 environment. In particular, the new flight cadence, with contingency flights, and the consolidation of the airplane maintenance to a single annual period seem to be working well.
- The SUG lauds the SMO for implementing an upgraded SMO portal, maintaining and expanding the community interaction, upgrades to the archive, and the second Call for Proposals, all under an arduous COVID-19 environment.

Below are highlights and recommendations based on the SMO staff presentations and conversations, which were consensus items derived from the SUG's impressions and discussions. These are not necessarily in rank order, but thematically grouped. We have itemized each highlight for clarity and to enable specific reference to recommendations and actions in future discussions.

[SUG19 – 1] DECADAL SURVEY COMMENTS AND THE SENIOR REVIEW PROPOSAL

The SUG finds SMO's progress on the Senior Review proposal encouraging, and welcomes the forward-focused messaging, and science-driven approach. In particular, the SUG supports addressing the Decadal survey comments with arguments based on merit.

The SUG encourages a lean forward messaging that emphasizes SOFIA's stewardship of the Decadal survey's science vision, and how SOFIA supports the Decadal Survey's science goals for the next decade. The SUG emphasizes the importance of broadcasting SOFIA's science goals, progress, and relevance to the general science community in a visible and positive manner. The SUG recommends that the SMO utilizes professional public relation resources in drafting a positive and forward-looking messaging, aimed at the science community at large.

[SUG19 – 2] DATA REDUCTION PIPELINES

The SUG was delighted with the Python pipeline development, and their availability to the user community together with tutorials. The SUG looks forward to the HAWC+ and EXES Python pipelines becoming available to the user community as soon as practically possible.

[SUG19 – 3] CYCLE 10 CALL FOR PROPOSALS

The SUG is pleased that GREAT is offered in the Cycle 10 Call for Proposal, and hopes that the science return can be maximized during its availability. The SUG welcomes the Multi-Cycle Target Monitoring proposal opportunity. The SUG raised the issue of users being able to check for duplicates with targets in previous cycle's DDT proposals. The SUG was impressed with the quick turn-around of the recent Flash Call for HAWC+ observations.

The SUG welcomes and endorses the plan for a 'SN Team' as a steering committee advising the SMO on the readiness for local supernovae. The SUG looks forward to a report on the community response to this initiative, and encourages a more detailed definition of the steering committee once the community response is known.

The SUG is pleased to see that the dual anonymous review is becoming a standard for the SOFIA proposal process.

The SUG acknowledges the benefits of keeping a Call for Proposal for Archival Data separate from the regular call, and notes that by selecting the release date opportunistically, the number of proposals may be maximized.

[SUG19 – 4] SOUTHERN HEMISPHERE DEPLOYMENTS

The SUG is happy to see the schedule for deployment to the southern hemisphere, with one long

deployment, and two short-term ‘suitcase’ deployments being implemented for the coming cycle. The SUG is also happy to see the instrument rotation schedule for southern deployments included in the CfP. For better visibility, it could also be listed more prominently on the SOFIA portal.

The SUG welcomes the use of Santiago, Chile as a base for one of the suitcase deployments. The SUG believes that the Santiago suitcase deployment could be an excellent opportunity to engage the Chilean community, as well as the Chilean-based US and European communities. The SUG recognizes that the workload of the deployed team is substantial, and therefore suggests that the SMO explores the possibility of having a workshop organized locally, in conjunction with the suitcase deployment, focused on SOFIA and FIR astronomy. The SUG sees this as an excellent opportunity to connect with the local scientists, and expand the SOFIA user base.

[SUG19 – 5] SOFIA ARCHIVE

The SUG is pleased that the number of papers based on SOFIA archival data has significantly increased.

The SUG encourages the SMO to maintain a discussion with IRSA about ways the SOFIA archival data can be identified, selected, and downloaded, including object type.

The SUG encourages the SMO to explore means of extracting additional metrics regarding the archive and its usage, such as publication by instrument and publication by target and/or target type.

The SUG is pleased with how the SOFIA archival data are given visibility on the SOFIA portal. In particular the presentation of selected highlights of the data archive.

[SUG19 – 6] COMMUNITY ENGAGEMENT

The SUG is happy to see the increased community engagement activities. This has resulted in an enhanced visibility of SOFIA and its results. The last year saw an impressive number of events, and high attendance. The E-newsletter reaches a wide audience.

The SUG finds the plans for activities in the coming year encouraging, and looks forward to seeing more events like the talk series done in collaboration with the ALMA project, and possibly with the JWST community. The SUG recommends that future activities, even in a non-COVID environment, will continue to allow virtual participation, as hybrid events in order to increase attendance.

The SUG finds the engagement on social media encouraging. A twitter feed on the main portal can be used to convey messaging to the general community, and a blog post to communicate milestones and scientific results. The SUG recommends that the impact of the different social media outlets be monitored and evaluated as a mean to refine the messaging channels.

[SUG19 – 7] SOFIA PORTAL AND HELPDESK

The SUG is impressed with the new and updated SOFIA website/portal design, and its connection to the DSC and IRSA sites.

The SUG recognizes the importance for the general community to have easy access to published SOFIA papers and applauds the new listings and easy access. There are two lists: one on the SOFIA portal, and one in DCS. These cover different time periods, and contain different types of data. The SUG recommends that the complementarity of this be highlighted on the SOFIA portal to minimize confusion.

The SUG is pleased to see the pending flight schedules, and the execution time frame for particular programs, posted on the SOFIA portal.

The SUG supports annual surveys to understand the needs of the community, and as feedback on the products produced by the SMO (Call for Proposals, Cookbooks, tutorials, etc).

[SUG19 – 8] PUBLICATION METRICS

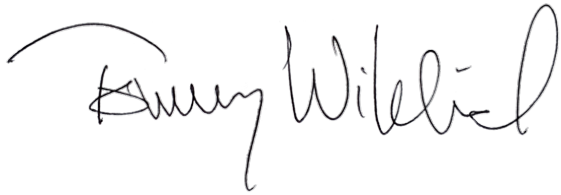
The SUG finds the rate of increase of published SOFIA papers encouraging, as well as the number of SOFIA users. The SUG recommends that the definitions and metrics used by the SMO regarding published papers, and user community, be such that they are directly comparable to those at other facilities, such as for HST, Chandra, Herschel, etc.

The SUG suggests that the SMO explore alternative metrics that reflects ‘observatory efficiency’, i.e. number of papers published per telescope hour on sky, or similar types of measures. This allows a normalization of facility-dependent boundary conditions.

[SUG19 – 9] SPD-41 EXCLUSIVE USER PERIOD

The SUG concurs that a proprietary period of 6 months for SOFIA data is appropriate. This applies to the date from which data are ingested in the archive. The SUG emphasized that the PIs need to be informed in a timely manner when this occurs. The SUG also discussed the release time scales for Legacy Programs. Currently the data become available as they are ingested in the archive, but it was unclear what time scales applies to promised deliverables under SPD-41. The SUG recommends that the SMO work with the Legacy teams on defining, and meeting release dates. The SMO also recommends that the release of Legacy deliverables are publicly announced on the SMO information channels.

Respectfully,

A handwritten signature in black ink, reading "Tommy Wiklind". The signature is written in a cursive style with a large, sweeping initial "T" and a long, horizontal flourish extending to the right.

Dr. Tommy G. Wiklind
SUG Chair (on behalf of the Committee)
Research Professor, Catholic University of America
Washington, DC 20064
wiklind@cua.edu