



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

Community ToO Programs

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Community ToO Programs

- The JSTUC recommended in the March 2024 meeting the implementation of a working group to look into astrophysical phenomena that would benefit from having “*standing*” approved ToO programs. These phenomena would fall under:
 - Low probability, high impact events that are of significant scientific interest
 - Transient events that are of significant scientific interest and require rapid turnaround observations better suited to standing a ToO than Director’s Discretionary Time (DDT) proposals.
- STScI constituted an internal working group tasked with this study.
- For reference; regular approved ToO programs have a lifetime of 2 years (cycles), before the teams have to re-submit a GO ToO proposal to continue the project.



Community ToO Programs

- The conclusions from this study are:
 - 1- Qualifying events for Community ToO programs, should have occurrence rates of less than 1 event per 2 years (i.e. < 0.5 events / yr)
 - 2- The data collected on these events will have to be immediately public to all members of the community (i.e. no EAP)
 - 3- Given the uncertain occurrence rate of the events, and the no EAP requirement, it is hard to specify a funding model for these observations. Some options: "put aside" funding? Archival funding?
 - 4- STScI's Director would need to set in advance an estimation of how much time is allocated to Community ToO programs
 - 5- There needs to be an agreed-on mechanism to trigger such observations, i.e. who in the community sends the request to STScI? Having a stand-by TDAMM trigger committee?
 - 6- There has to be community guidance about what instrument modes to use, exposure times, etc
 - 7- The programs can be implemented in both JWST and HST, with caution about UV brightness of sources



Community ToO Programs

- Examples of events that could qualify for Community ToO Programs (preliminary list):

- Kilonova, i.e. gravitational waves' EM counterpart ($P^* < 0.4$)
- Interstellar object, e.g. Oumuamua ($P = \text{unknown}$)
- Local group Supernova ($P < 0.1$)
- Others?

- Interactions with the community for input:

- We are communicating with ACROSS (Astrophysics Cross-Observatory Science Support) program led by GSFC to coordinate mission TDAMM support
Notably defining clear criteria for triggering community ToOs
- "Transients from Space" Meeting, March 11-13, 2025 at STScI
- 4th TDAMM Workshop, September 2025, at U. of Alabama – Huntsville / USRA

Questions for JSTUC:

1- Do you approve going ahead with implementing these Community ToO programs?

2- Should we ask the community for white papers or science pitches to identify other topics? Or do we rely on the high risk/high reward category?