



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

Community ToO Programs & LTM WG DDT

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What are Community Target of Opportunity (ToO) Programs?

- A wide range of variable and transient phenomena are expected with LIGO, PanSTARRs, and new facilities coming online, such as the Vera C. Rubin Observatory and the Nancy Grace Roman Space Telescope
- These phenomena will require detailed photometric and spectroscopic follow-up on a variety of timescales
- JWST and HST currently have the ability to follow up those phenomena via ToO programs, approved during regular proposal call cycles, and via approved Director's Discretionary Time (DDT) proposals, although with limitations:
 - ToO programs approved via regular proposal calls have an activation lifetime of 2 years (cycles), after which the program expires
 - DDT programs require review and implementation, limiting the response time
 - Telescope Allocation Committees (TACs) can be reluctant to invest time in ToO programs that target important but extremely rare phenomena
- Recognizing the limitation of existing programs, the STUC and JSTUC recommended the implementation of **Community ToO Programs**, defined as *standing* ToO programs with activation lifetime longer than 2 years. Qualifying events should have occurrence rates of less than 1 event every 2 years (< 0.5 events/yr)



Community ToO Programs Call for Suggestions

- On November 6, 2025 STScI issued a call for Community ToO Programs suggestions with JWST and HST
- Members of the community can submit their ideas via an [online form](#), that includes the following questions:

Short (1-2 paragraph) description of proposed targets and scientific rationale

Your answer

What is the expected frequency of these phenomena (events/year)?

Your answer

Short description (1-2 paragraph) of proposed Hubble and/or Webb observations, including instrument modes and scheduling requirements

Your answer

- Requirements:

- The phenomena are rare, with occurrence likelihood of less than 0.5/year
- Observations need to be scheduled on very rapid timescales (<5 days)

The Call will be open until January 31, 2026



How Community ToO Suggestions will be Selected and Other Program Details

- STScI will convene a group of experts (including members of the User Committees) to review the Suggestions and make a recommendation to the STScI Director
- Community experts will be asked to assist in designing the final programs, including specifying triggering criteria
- The data collected under these programs will be immediately public to the community (i.e. no EAP)
- No funding will be allocated to these observations



Long-Term Monitoring Working Group Status

Background:

- Last year, STScI received the recommendations of the Long-Term Monitoring (LTM) Initiative Working Group (WG) to maximize HST and JWST science return on Time-Domain observations
- The recommendations of the WG included Policy and Science
- The STScI Director decided to go ahead with Policy recommendations. For the Science recommendations, it was determined that more quantitative work was necessary



Status of the Policy Recommendations

- Following the policy recommendations, STScI established the Long-Term Monitoring (LTM) initiative in HST and JWST proposals:
 - Proposals highlight HST and JWST impact on science programs requiring regular monitoring and/or long time baselines.
 - Proposals can be identified as LTM via a checkbox in APT. This enables multi-cycle programs that span up to 5 cycles (vs. the usual 3 cycles)
 - No separate pool of time is available for LTM initiative proposals, and no additional weight is given in grading during reviews
 - Approved LTM Initiative programs are not subject to TAC review for future observations, but they are regularly monitored to ensure appropriate progress
- **HST Cycle 33:** 28 proposals submitted, of which 14 accepted (50% success rate)
- **JWST Cycle 5:** 52 proposals submitted



Status of Science Recommendations

- Following the determination that more quantitative work was needed to make a decision on the LTM WG science recommendations:
 - STScI has put together a LTM DD *Feasibility* Working Group composed of 6 member of the community
 - The Feasibility WG is charged with:
 - Investigating in detail the science recommendations of the LTM WG and quantifying the probability of observing the recommended astrophysical phenomena
 - Recommending the most efficient approach to identify high-redshift transients, quantifying the expected outcome
 - Producing a consensus recommendation on:
 - What fields to observed, including location, number of fields, and depth?
 - What JWST instruments should be used, including information on instrument modes, filters, exposure times and parallel observations, if applicable?
 - How many hours should be devoted to the program, and with what cadence and overall time baseline?



Status of Science Recommendations (cont')

- The Feasibility WG is charged with (cont'):
 - Soliciting informal community input where necessary
 - Identifying supporting observations with HST or Roman and data products for archival research
 - Presenting their findings in a report to the STScI Director and a presentation to the JSTUC.

- **The report will be due in June 2026**