



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

Update on TAC Processes

Laura Watkins & Molly Peeples
on behalf of the Science Policies Group
Hubble STUC Meeting, May 2022



Outline

- Hybrid Review:
 - What and Why?
 - How is it going?
 - Grading and ranking.

- Expert reviews for Large Proposals

- Update on Mid-Cycles



Hybrid Review: What and Why?



What is Hybrid Review?

- Old model:
 - 8 subject areas
 - Multiple mirror panels per area depending on proposal load for science topic.
 - Typically ~14-16 panels total.
 - 1 Chair and 8 panelists per panel.
 - All Chairs, +3 At-Large members, +1 TAC chair form the Executive Committee
 - Panels review Small GOs, Medium GOs, SNAPs, ARs; EC reviews Large & Treasury
- Before the meeting, panelists read and grade subset (~2/3) proposals in their own time.
- Then panelists convene for a meeting to discuss the proposals.
- Pre-covid, these meetings were held in Baltimore in person over 1 week.
- First 2.5 days for subject panels, later 2.5 days for EC.



What is Hybrid Review?

- Hybrid model:
 - 8 subject areas
 - 2 panels per subject area, 1 Discussion and 1 External (except Solar System = Discussion only)
 - 15 panels total
 - Discussion Panels (8):
 - 1 Chair, 1 Vice Chair, and N panelists per panel – N chosen to balance proposal load across panels ~40-45 proposals per panelists in prelim phase.
 - Chairs, Vice Chairs, +3 At-Large members, +1 TAC chair form the Executive Committee
 - **Proceeds like old model.**
 - External Panels (7):
 - N panelists, to give loads ~15 proposals per panelist.
 - Panelists read, grade and comment in their own time.
 - No discussion meeting.
 - **Lower work load, asynchronous.**



Why Hybrid Review?

- HST only → HST & JWST
 - 2x panels, 2x panelists, 2x work for STScI, 2x work for community
 - **Need to reduce workload.**
- Discussion meetings:
 - Synchronous
 - Distant places prohibitive: travel costs (in person), timezones (virtual).
 - High time commitment and workload. (Lots of proposals, 2.5-day meeting + travel.)
 - **Globally limited, workload prohibitive especially for caregivers.**
- External:
 - Asynchronous
 - Broader participation and representation of global HST community.
 - Lower time commitment and workload.
 - **Geographically more inclusive, flexible schedule.**

Not covid!



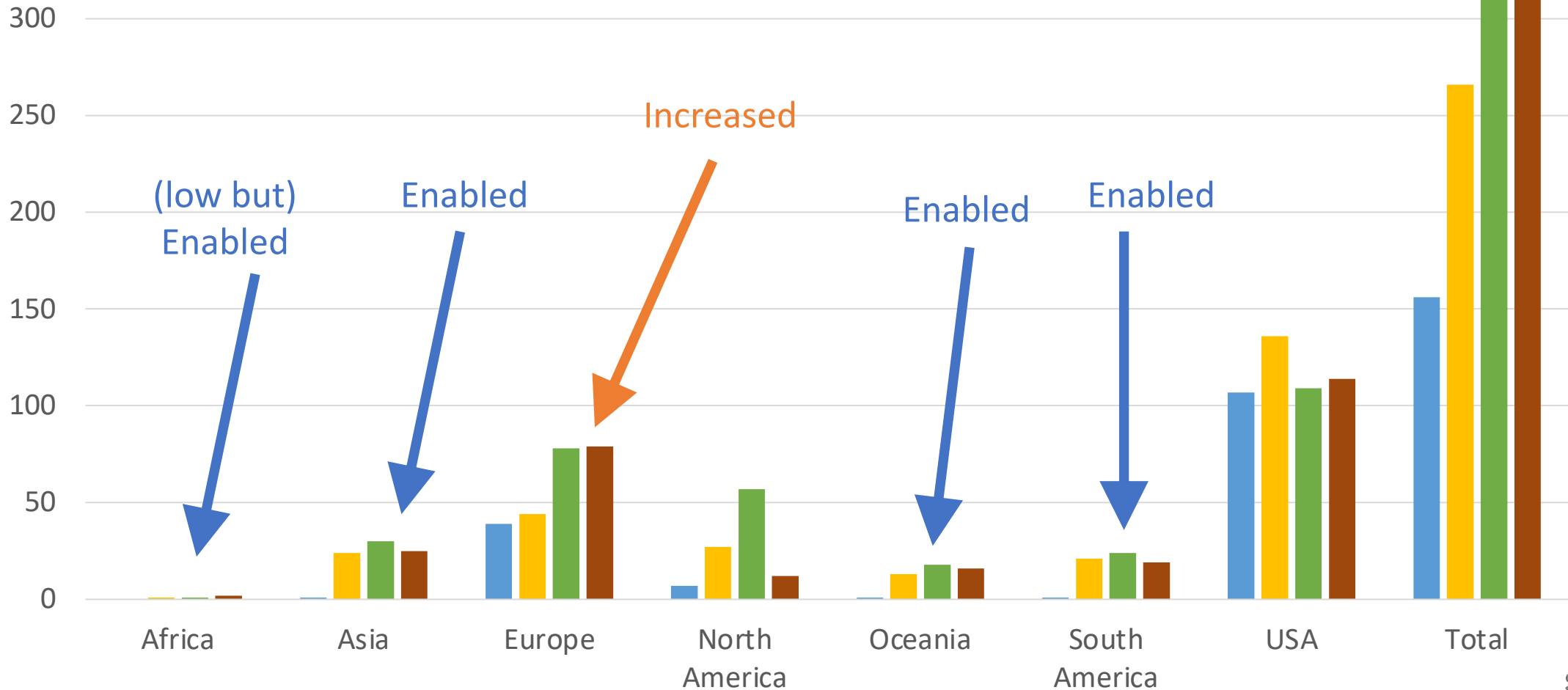
Hybrid Review: How is it going?



The Hybrid Approach Enables More Global Participation

Panelist Region Representation by Cycle

■ Cycle 27 Discussion ■ Cycle 28 Hybrid ■ Cycle 29 Hybrid ■ Cycle 30 Hybrid

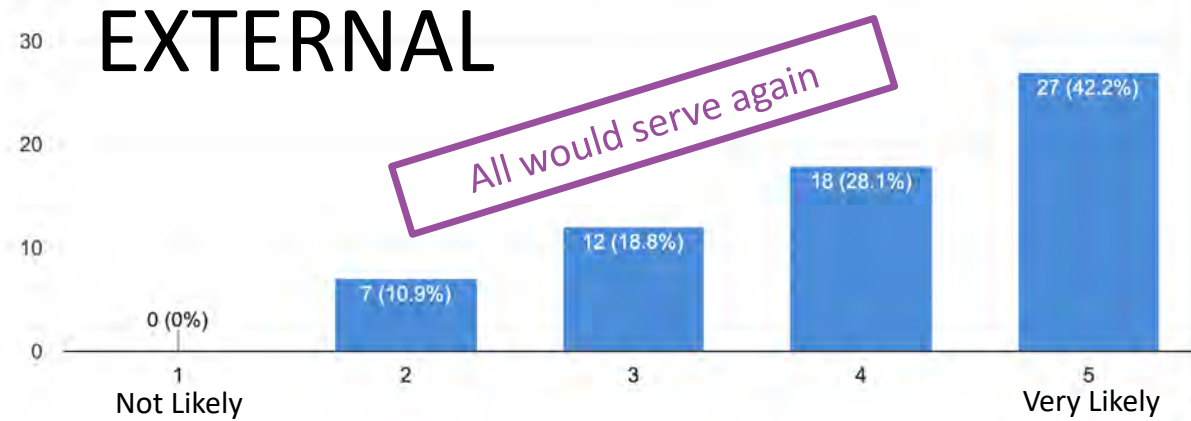




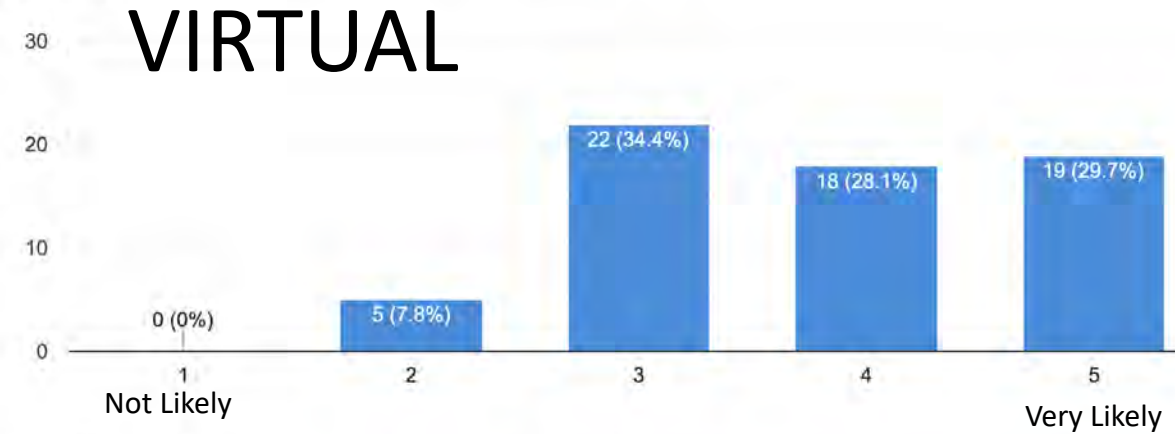
How is it going?

Survey responses from external reviewers

How likely are you to participate as an external reviewer for HST or JWST?
64 responses

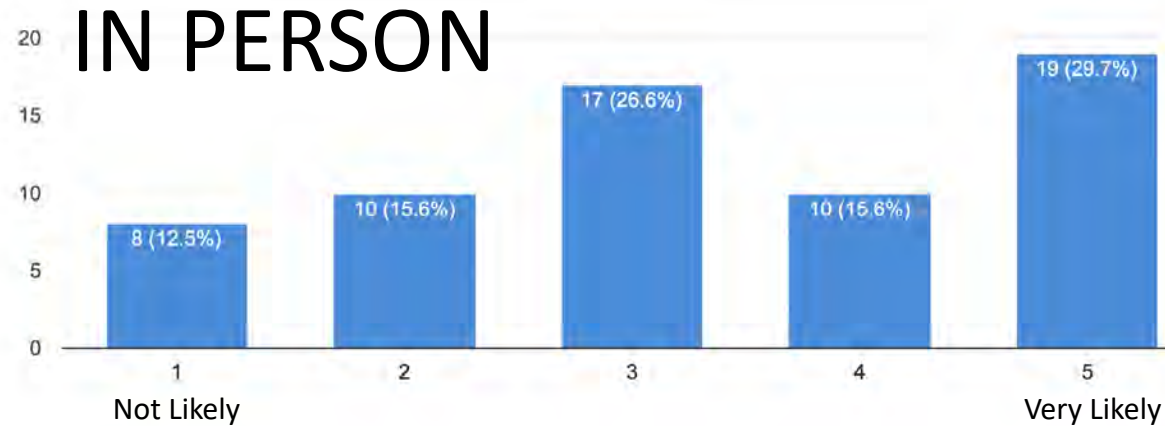


How likely are you to participate in a virtual HST or JWST review?
64 responses



External review most popular response for future service, but geography....

How likely are you to participate in an in-person HST or JWST review?
64 responses





How is it going?

- More global participation.
- Panelist survey responses mostly positive.
- Panelists workload:
 - Discussion: same or slightly lower than before, but for fewer panelists
 - External: much lower than discussion, for more panelists
 - **Ask External panelists to serve 2 years + mid-cycles.**
- Recruitment effort:
 - Discussion, usually 3x invitations as panelists, now for fewer panelists
 - External, usually 2x invitations as panelists, more panelists but only half recruited each year
 - **Overall more efficient SPG effort.**

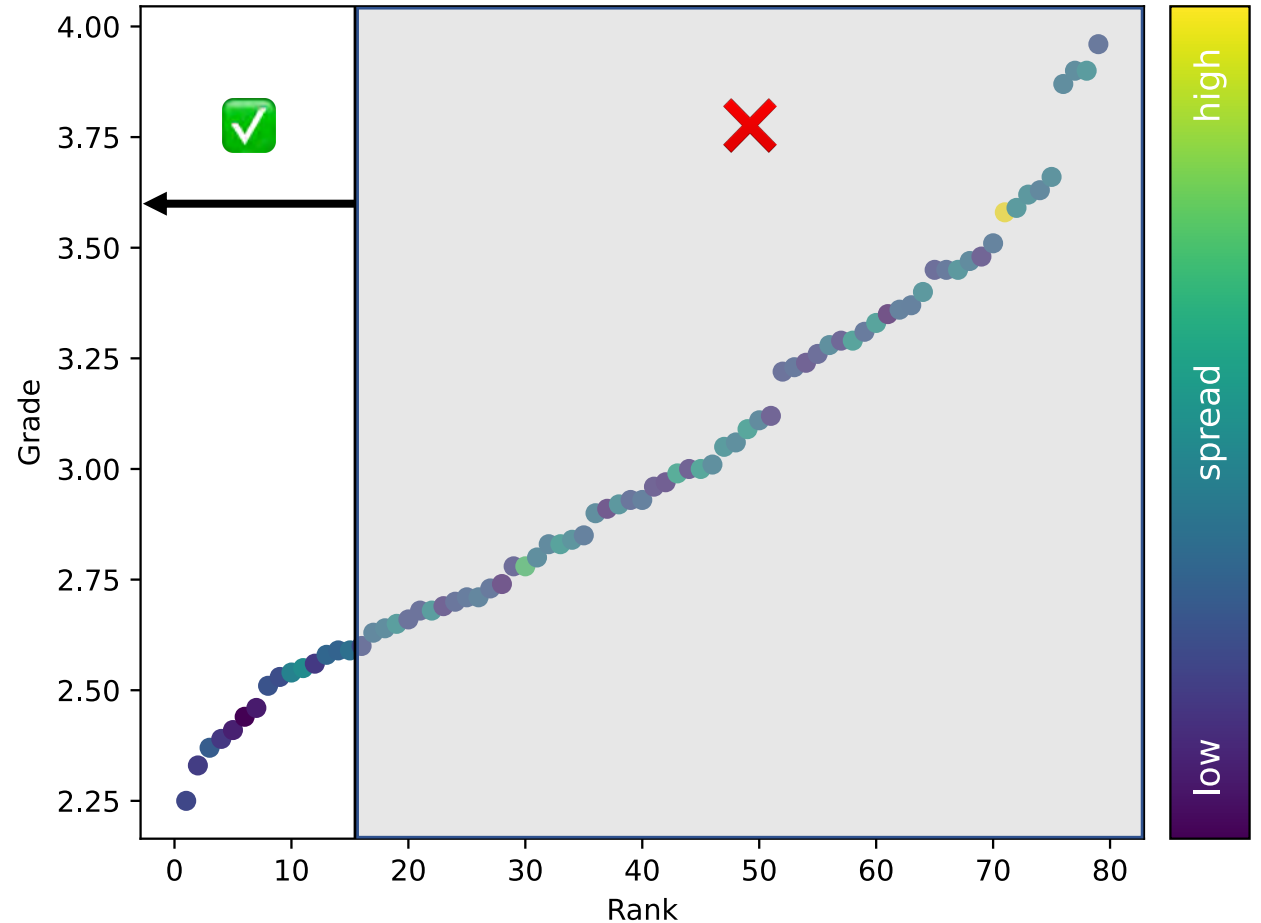


External Panels: Grading and Ranking



Selection of Proposals Reviewed by External Panels

- 5 reviewers per proposal.
- STScI averages grades, makes ranked list.
- Panel is allocated N orbits.
- Cumulative orbit count calculated in rank order.
- Top-ranked proposals that total $<N$ orbits recommended for acceptance.
- **Separate orbit pool for external panels.**





Large Proposals:
Expert Reviews



Expert Reviews of Large Proposals

- EC reviews Large, Treasury and Legacy proposals in **all** science areas.
- 2 people per subject area (except 1 from Solar System) + 3 At-Large members.
- Expert panelists often conflicted. Wide range of expertise among panelists.
- **Proposals should be written accordingly!**
- But, we supplement with Expert Reviews.
- PIs and CoIs from previous cycle (if not already on panels).
- 4-6 proposals each.
- Questions not grades:
 - What are the major and minor strengths of the proposal?
 - What are the major and minor weaknesses of the proposal?
 - How timely is the proposed science?
 - What impact will the results have on the subject area?



Mid-Cycle Reviews



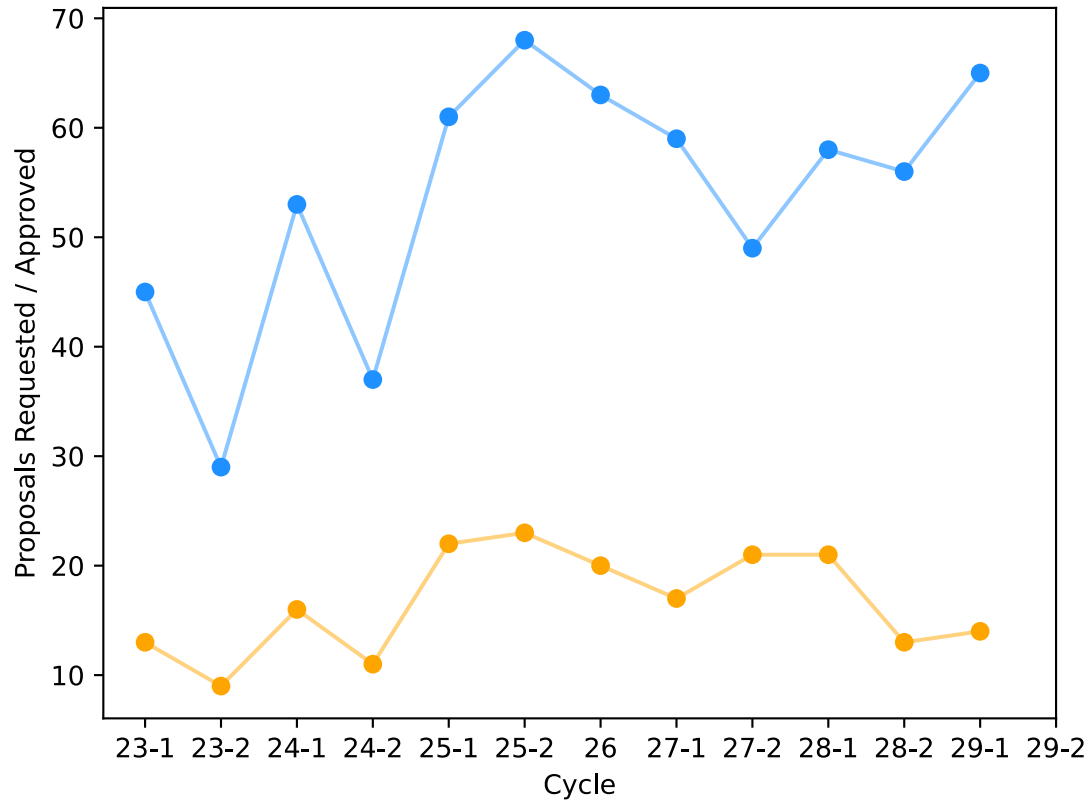
Mid-Cycles Overview

- Started in Cycle 23, typically ~300 orbits per cycle.
- In-cycle observations of **recently-discovered, non-transient** objects.
- (Director's Discretionary programs target unexpected transient phenomena and time-critical observations.)
- HST cycles run 1 October -> 30 September (deadline for main call ~March/April).
- 2 mid-cycle calls per year, typically:
 - Deadline September 30 for execution from November 15 to end of Cycle.
 - Deadline January 31 for execution from March 15 to end of Cycle.
 - (Small adjustments this year because of the longer cycle.)
- Limited to **15 orbits**. No joint programs.
- Usual proposal submission + **must explain why mid-cycle time is needed**.

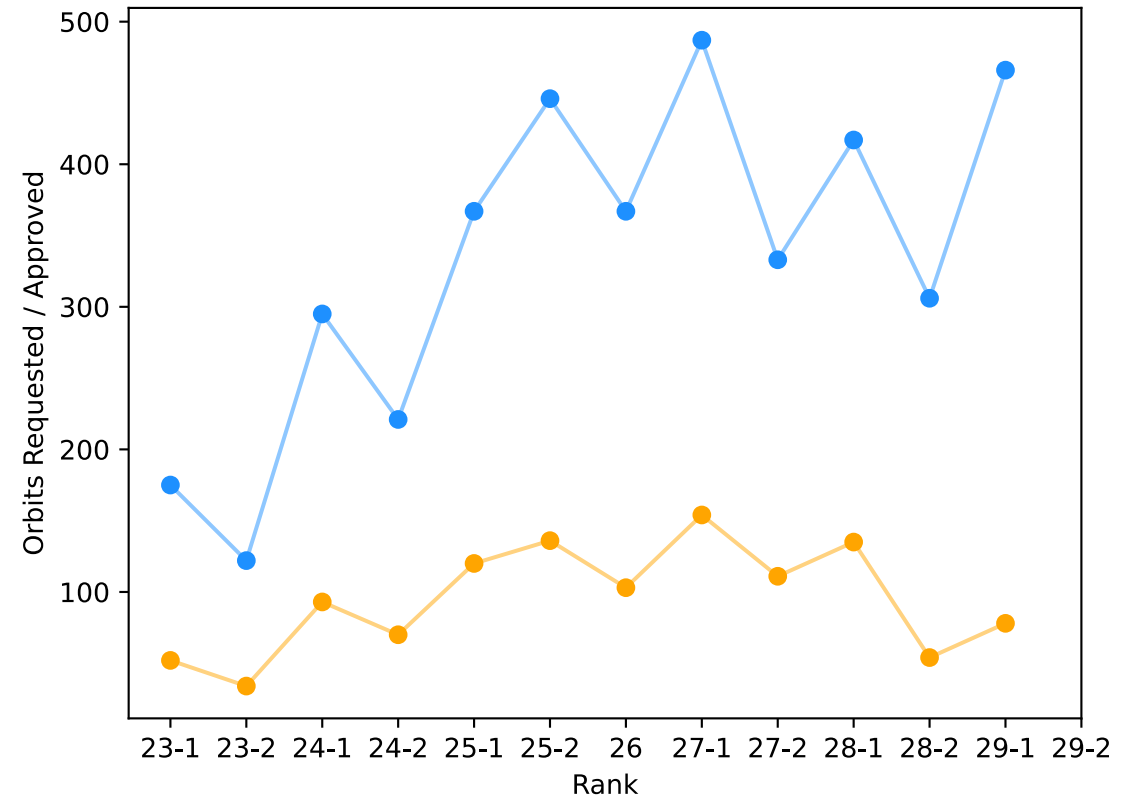


Mid-Cycles by Science Category

Proposals



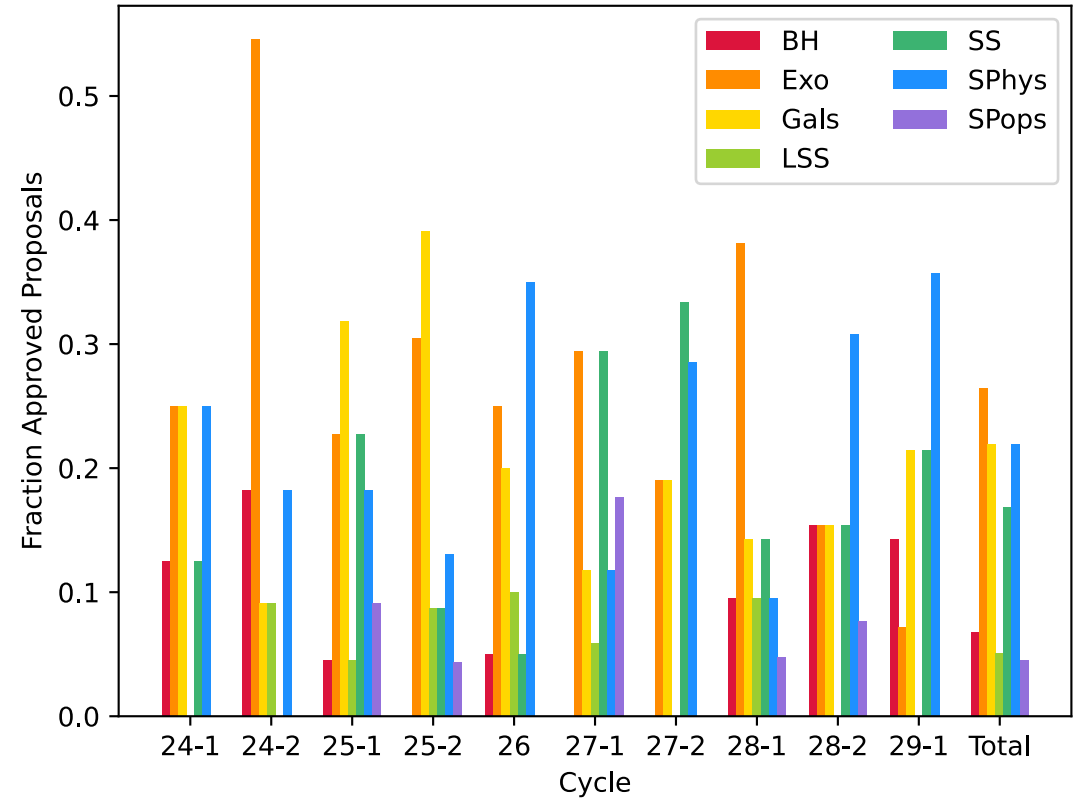
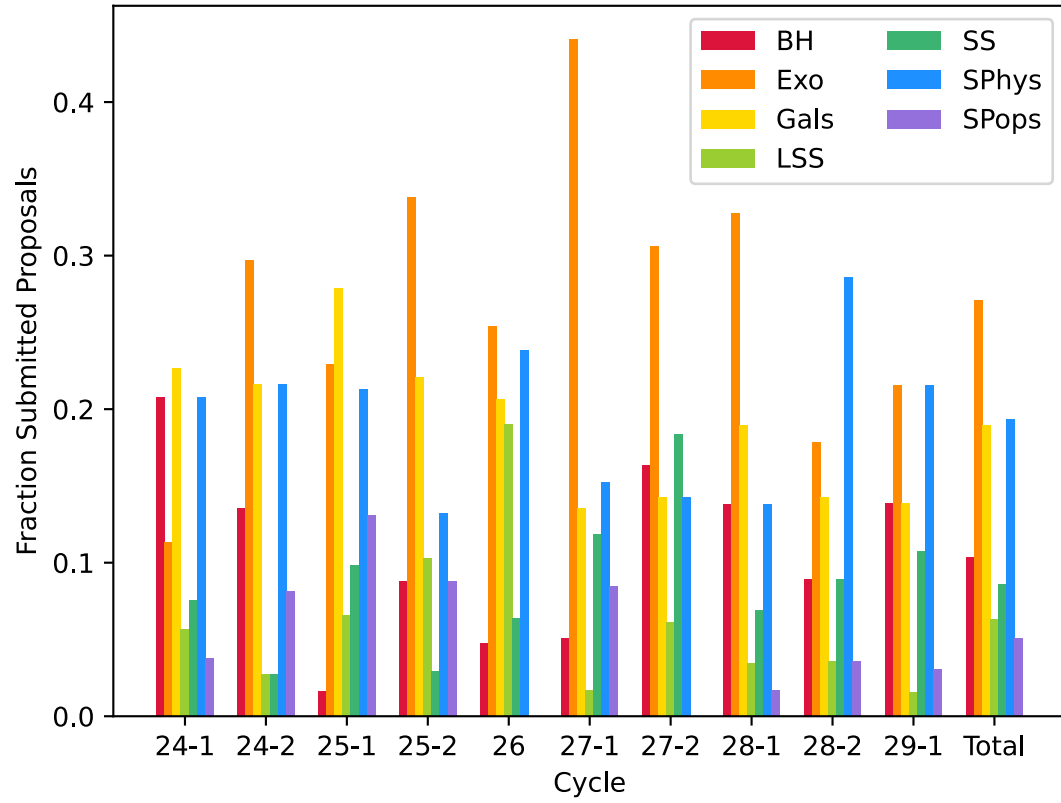
Orbits



submitted
approved



Mid-Cycle Reviews





Mid-Cycle Reviews

- ~ 50 proposals per call, number accepted depends on orbits requested and orbit pool, but typically ~15.
- Submissions vary a lot by science area.
- Reviewers previously PIs and CoIs from previous cycle.
- Now External reviewers also serve as mid-cycle reviewers (except Solar System):
 - Consistency with review of small-small proposals in main cycle.
 - Lowers recruitment effort for SPG.
- Approved Mid-Cycle Programs: <https://hst-docs.stsci.edu/hsp/hst-mid-cycle-approved-programs>