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EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

Transitioning to a Default Zero Exclusive Access Period for Hubble

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Background – Ken asked STUC in October to "Please consider the pros/cons of a zero month default proprietary period for all HST data"

Proprietary time

- Large / Treasury / DD / Calibration – 0 months (default)
- Small / Medium / SNAP– 6 months (default)

- Consider
  - Robust archives maximize scientific accessibility (Peek et al. paper)
  - More papers are produced each year from archival data than new observations
  - Most papers based on new GO data take >1-2 years to publish

- What are we trying to achieve?
  - Level playing field, equal access, data belong to everyone
  - Encourage exploration
  - Encourage timely publication
  - Set standard (and community mindset) for future missions such as Webb and Roman

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Further background context

- The goal of (inter-)national facilities is to maximize the science return of *all* of the data—EAP limits community ability to access data. We want to balance benefits between proposing teams and community as a whole.
- Recent changes in NASA on the Science Information Policy ("SPD-41") include: "There shall be no period of exclusive access to Mission data. A period after the data have been obtained may be allowed for activities such as calibration and validation of the data. This period shall be as short as practical and shall not exceed six months." See: https://science.nasa.gov/researchers/science-data/science-information-policy
- While this new policy does not *directly* apply to Hubble (or JWST) data, it does frame some of the overall environment in which Hubble is now operating.
- The STScI Director can recommend change in EAP to NASA, in full consultation with other stakeholders, including the Users Community: thus, we are here to solicit the STUC's views on changing the default EAP to zero time.

Current Status

- Since Cycle 11, default proprietary time has been zero months for Large and Treasury programs.
- Since Cycle 25, the default has been **six months for small and medium programs**, and (down from 12 months).
- Midcycles have always had three months proprietary time.
- Only a small handful of requests for longer than default EAP in the last ~20 years
- JWST:
  - GTO, Small, and Medium default proprietary time is 12 months
  - Large default proprietary time is 0 months
  - This may change in future cycles
- Roman will have default zero exclusive access period for all data
- Exclusive Access Period (EAP) is given per *dataset*, not per *program*. So if it takes 9 months to get the data for the full program, then the earlier data will already be public when the last data are taken.

Proposed Implementation Policy

Overall Proposed Policy for Default Zero Exclusive Access Period

- All data taken with Hubble will, as a default, be immediately publicly available.
- Proposers will be able to request, with justification and approval though the peer review process and sign-off by the STScI Director, for non-zero Exclusive Access Periods.
- As with current policy, the awarded Phase 1 EAP would not preclude subsequent requests for modification before the data are taken in case of adverse circumstances (war, natural disasters, illness, etc.).
- Ideal policy would address concerns regarding reviewers potentially being biased against proposals requesting non-zero EAP without overcomplicating what is already a complicated review process.
- Ideal policy would treat all Hubble proposals (small/medium/large GO, DD's, mid-cycles, etc.) in the same manner.

Three possible models for requesting non-default EAP

1. Current policy: single-step, part of the science justification, fully anonymous
2. Two-step, separated from science justification, fully anonymous
3. Two-step, separated from science justification, not anonymous

The slides that follow outline each of these proposed implementations, along with the pros and cons of each. In particular, the main downsides of Models #2 and #3 are that they will be expensive to implement, especially while running Cycle 30 mid-cycles and a JWST review, and thus not feasible to have ready for Cycle 31. Thus the options on the table are:

A. Model #1 (current policy) for Cycle 31 as a "temporary" solution; have software ready for Models #2 or #3 for Cycle 32.

B. Model #1 (current policy) for Cycle 31 as a "temporary" solution; assess after Cycle 31 if Models #2 or #3 for Cycle 32 will be preferred or necessary.

C. Keep current EAPs for Cycle 31; implement Models #2 or #3 for Cycle 32

Model #1: Current Policy

1. EAP request is included on the proposal coversheet. Anonymized justifications are included in the main text of the proposal.
2. Panels can approve or turn down these requests after the final grading + ranking stage. For externally reviewed proposals, including mid cycles, each reviewer separately advises STScI on these requests.
3. Team expertise revealed as usual; should not affect earlier call with respect to EAP requests, but panel can flag for “game playing”.
4. Summary of anonymized requests, justifications, reviewer opinions, and summary of SPG recommendations tabulated for Director’s Review. The Director makes the final call.

Model #1: Advantages, Disadvantages, and Notes

+ This plan enables TAC participation (i.e., those who have reviewed the science case in detail) but final call will rest with the Director.
+ Nearly cost-free to implement; only documentation will have to be updated.
+ Consistent with current policy.

– Does not fully separate discussions of EAP requests from the proposed science.
  → Panelists will be directed to separate EAP discussion from grading based on science; Levelers will intervene, as usual, if conversation goes away from science.
  → STScI will add success rates of proposals with EAP requests to metrics tracked.

Model #2: Two-step, separated from science justification, fully anonymous

1. Before ranking is finalized, EAP requests hidden from reviewers (i.e., not on coversheet or visible in Spirit). Proposers not required to specify if requesting non-zero EAP within the main text of the proposal, but can volunteer this information.
2. Once ranking is finalized, any proposals “above the line” requesting non-zero EAP are flagged, and requests+justifications are made available to reviewers. These requests are anonymized, but provide all relevant information. Reviewer (or panels) give thumbs up or down on whether or not each request is reasonable.
3. Team expertise revealed as usual; should not affect earlier call w.r.t. EAP requests, but panel can flag for “game playing”.
4. Summary of anonymized requests, justifications, and reviewer opinions, and summary of SPG recommendations tabulated for Director’s Review. The Director makes the final call.

Model #2: Advantages, Disadvantages, and Notes

+ This plan enables TAC participation (i.e., those who have reviewed the science case in detail) but final call will rest with the Director.
+ All proposals treated equally in the grading and ranking phases, regardless of request for an Exclusive Access Period.

– Hiding EAP requests and will require significant modifications to many different pieces of software to implement.
– Multi-step process will be time-consuming and further complicate TAC reviews.
– Current requests for non-default EAPs are not hidden from the TAC.

Model #3: Two-step, separated from science justification, not anonymous

1. EAP request is not included on the proposal coversheet. EAP requests and non-anonymized justifications are included in the Team expertise.
2. Panels can approve or turn down these requests after the final grading + ranking stage and proposals “above the line” are de-anonymized. For externally reviewed proposals, reviewers do not see the Team Expertise, so STScI would adjudicate those requests.
3. Summary of requests, non-anonymized justifications, panel or SPG rulings, and SPG recommendations tabulated for Director’s Review for final decision. The Director makes the final call.

Model #3: Advantages, Disadvantages, and Notes

+ All proposals treated equally in the grading and ranking phases, regardless of request for an Exclusive Access Period.
+ This plan enables TAC participation (i.e., those who have reviewed the science case in detail) for the panel-reviewed proposals, but final call will rest with the Director.
+ Less expensive to implement and easier for reviewers than Model #2

- Having justifications not be anonymized may introduce bias.
- Software will need to be updated to remove EAP from cover sheet and Spirit
- Does not treat externally reviewed and panel reviewed proposals consistently.
- For externally reviewed proposals, the reviewers familiar with the science case do not review the EAP justification.
- Midcycles and DD's do not currently request Team Expertise.
- Not consistent with current policy.

To the future…

The rest of NASA missions are heading toward open access data with zero proprietary time: is this a place for Hubble to lead the field?