

# JWST Community Engagement

## Data analysis and Cy1 survey feedback

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JSTUC, June 15, 2021



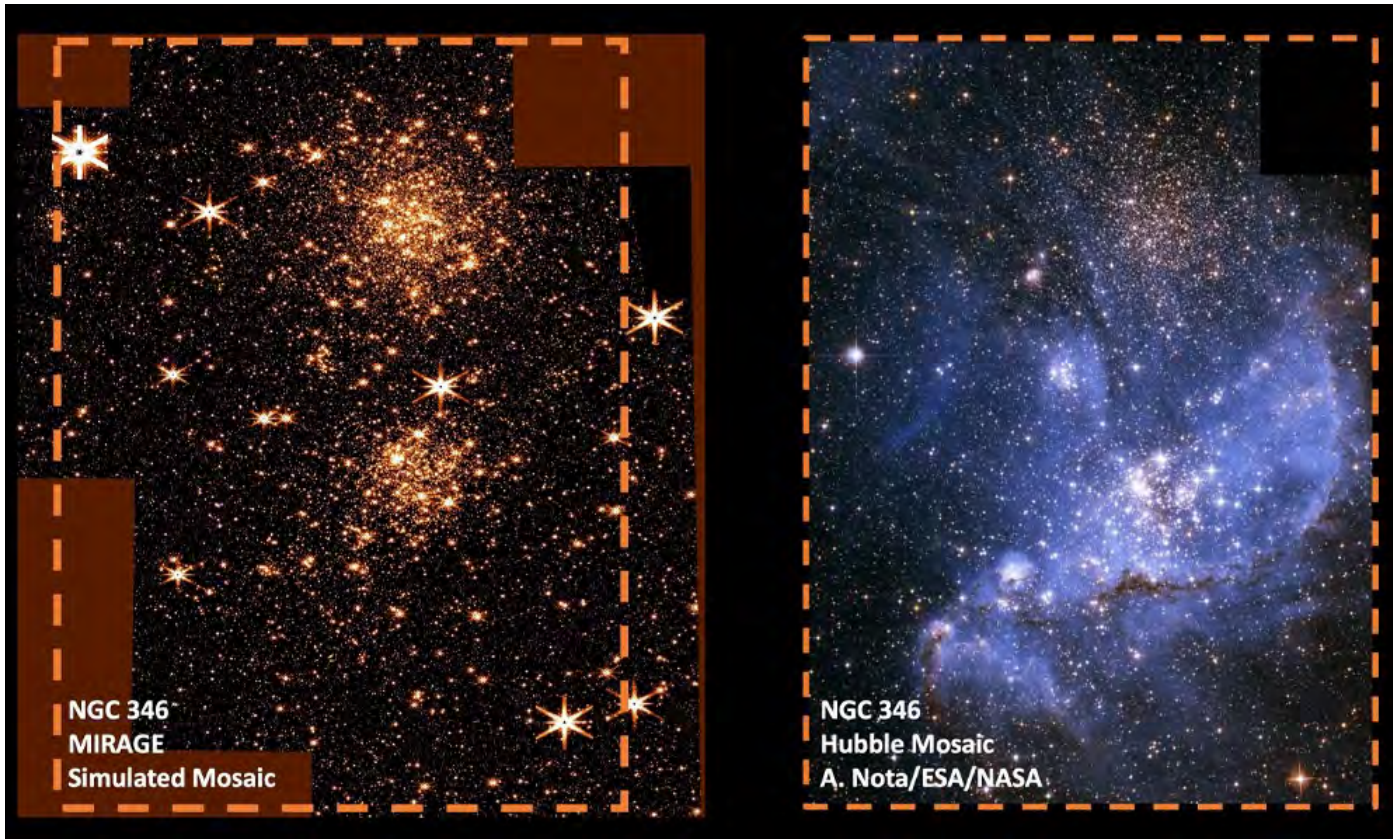
## DAAG recommendations

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- 1. New tool development at STScI should focus on tools that work with JWST-specific (i.e., pipeline-processed) data to produce analysis-ready data products.**
  - Development driven by the data analysis notebooks on [https://github.com/spacetelescope/jdat\\_notebooks](https://github.com/spacetelescope/jdat_notebooks)
  - Notebooks mostly use JWST simulated data sets to ensure that they work with pipeline-processed data.
- 2. Steps should be taken to maximize the impact of existing and custom tools.**
  - JWST data products will generally work with existing tools (ds9, etc.) in the same way as they would work with equivalent HST data sets.
  - This can be verified by the recently-released simulated data sets, including imaging, IFU cubes, etc.
- 3. Requirements for mapping solar system objects should be evaluated and implemented.**
  - Multiple channels of communication with, in particular, the ERS teams have been opened to receive feedback. Meetings between ERS and the pipeline development team, data analysis tools team, and MAST, have been held
  - The solar system ERS team (and other teams) have indicated that they are not yet ready to provide detailed feedback, because they have not had experience yet with existing tools
  - JWWebinars ongoing to provide basic training in the pipeline and data formats
- 4. Support for the use of intermediate DRP products should be enhanced.**
  - The JWST pipeline is fundamentally designed to be highly modular and to provide well-documented access to intermediate products
  - This can be verified with simulated data sets, most of which include levels 1, 2, and 3



# Simulated data sets now available



<https://www.stsci.edu/jwst/science-planning/proposal-planning-toolbox/simulated-data>

- 16 data sets released for all 4 instruments.
  - For most, available in stage 1, 2, and 3.
  - Readme files and documentation
  - Jupyter notebooks to demonstrate use
- MIRI
  - LRS point source
  - LRS TSO, WASP-62
  - MRS x 2 (point source)
- NIRCams
  - Imaging x 4 (LMC/astrometric field, NGC 346, GOODS-S)
  - Grism TSO (WASP-79b)
  - WFSS (JADES)
  - Moving target (point source, 120"/hr)
- NIRISS
  - WFSS ("lensing cluster")
  - AMI, binary AB Dor and calibrator HD37093
  - SOSS, WASP-43b
- NIRSpec
  - BOTS, GJ436b
  - IFU, faint and bright QSO



# Community communication strategy during commissioning

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- NASA is responsible for approving all communications during commissioning
- Generally, STScI will not initiate communication with the community (or the public) concerning commissioning activities.
- Exceptions:
  - JWST Town Hall at the 239<sup>th</sup> AAS (January 9-13), with representation from NASA HQ and GSFC
  - Material to set expectations for availability of science observations (i.e., after the ERO press conference)
  - In case of significant changes to the planned schedule, in coordination with NASA
  - Communication about in-orbit science performance toward the end of commissioning, in coordination with NASA (likely a single, relatively brief document)
- However, STScI will continue to support **data analysis training** during commissioning
  - Limited by INS staff resources
  - Advertisements of just-in-time-resources
  - Information about planned science meetings and timeline after commissioning
  - Small number of JWebbinar events, possibly including live workshop at the AAS, and community-contributed events.

# **Cycle 1 User Survey Results**



## Survey response statistics

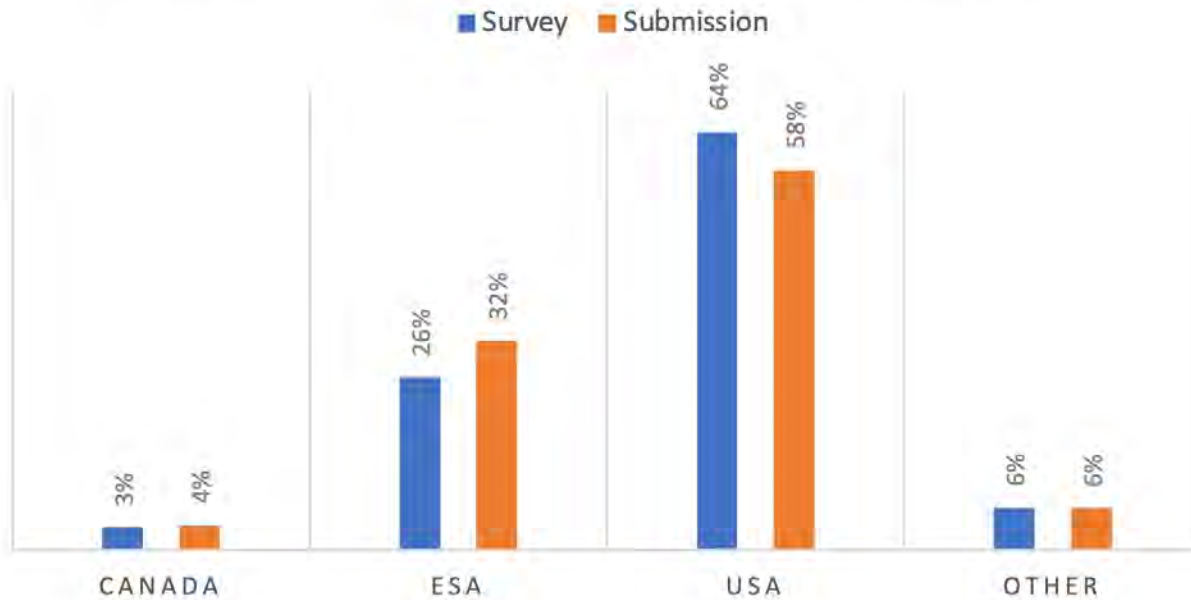
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- 24 questions, implemented on SurveyMonkey
- Ran over 6 weeks, from December 15, 2020 to January 31, 2021
- Advertised on JWST Observer news, social media, email list and the JWST Town Hall at the 237<sup>th</sup> AAS.
- Questions drafted by STScI, and reviewed by GSFC, and the JSTUC
- 376 responses, 64% submitted within the first 48 hours
  - moderate increase in response rate over previous survey with 318 responses.
  - Reminder email resulted in an additional 45 (12%) responses within 24 hours.
- 91% completed all questions
- Average time spent was 8.5 minutes, meeting the goal of keeping the survey under 10 minutes.

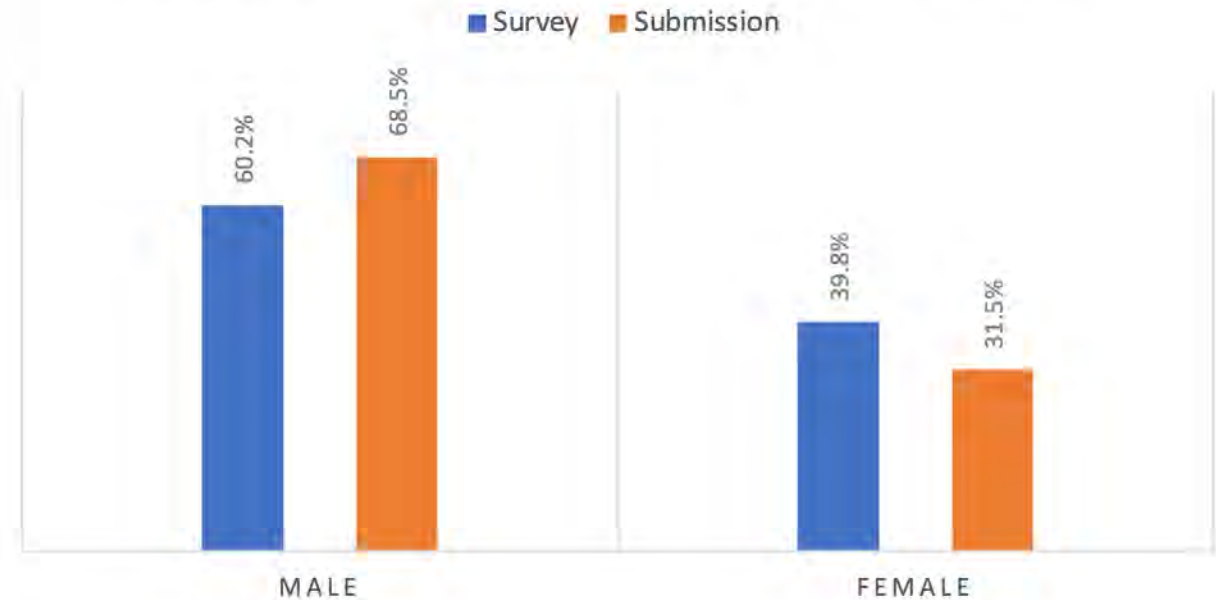


# Basic demographics I

## SURVEY VS. PROPOSALS / COUNTRY



## SURVEY VS. PROPOSALS / GENDER



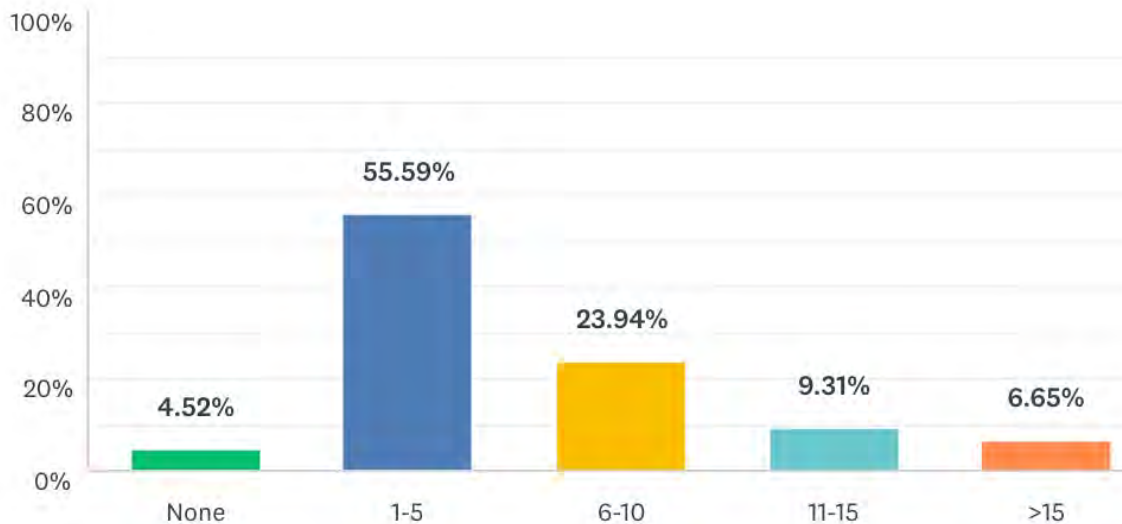
Does the survey sample the submission pool? True for country of residence, maybe a small increase of women respondents in the survey.



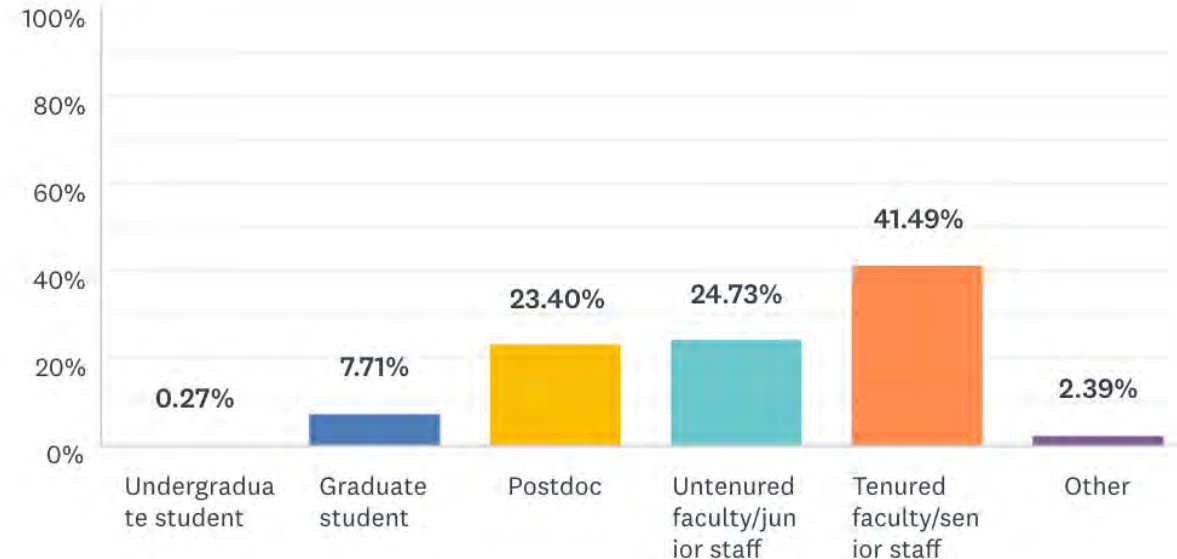
## Basic demographics II

- Most respondents submitted less than 6 proposals, but with a significant tail.
- The survey is biased toward senior staff (roughly consistent with previous surveys).

number of proposals submitted as PI or CoI

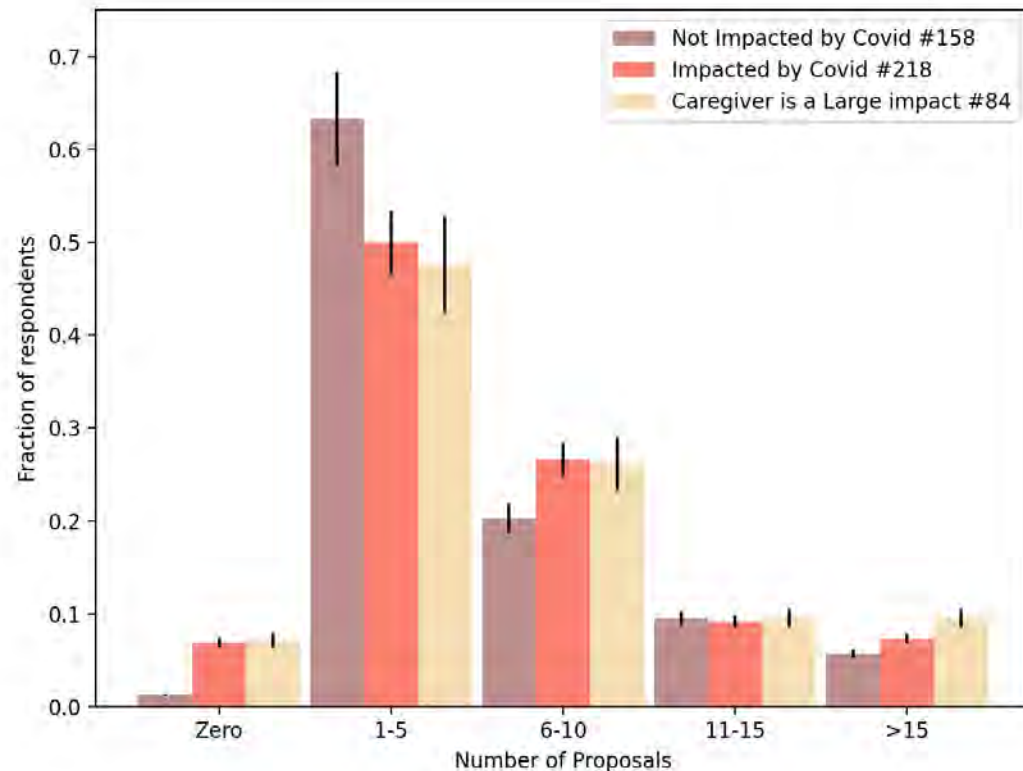


respondents by career stage

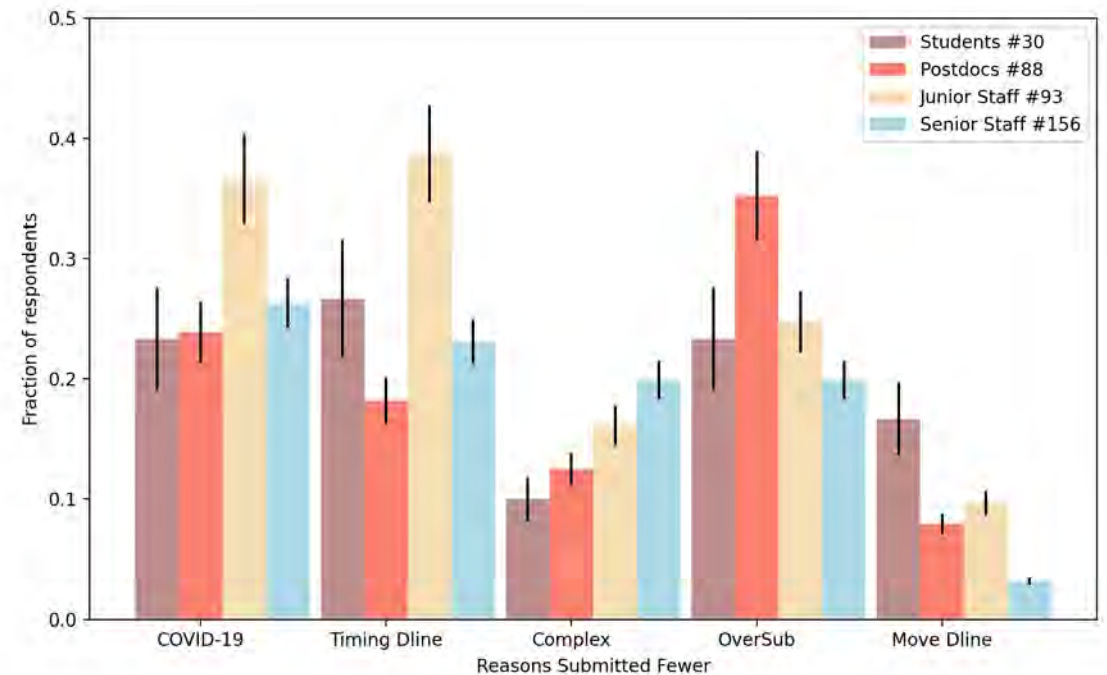




# Impact of Covid 19



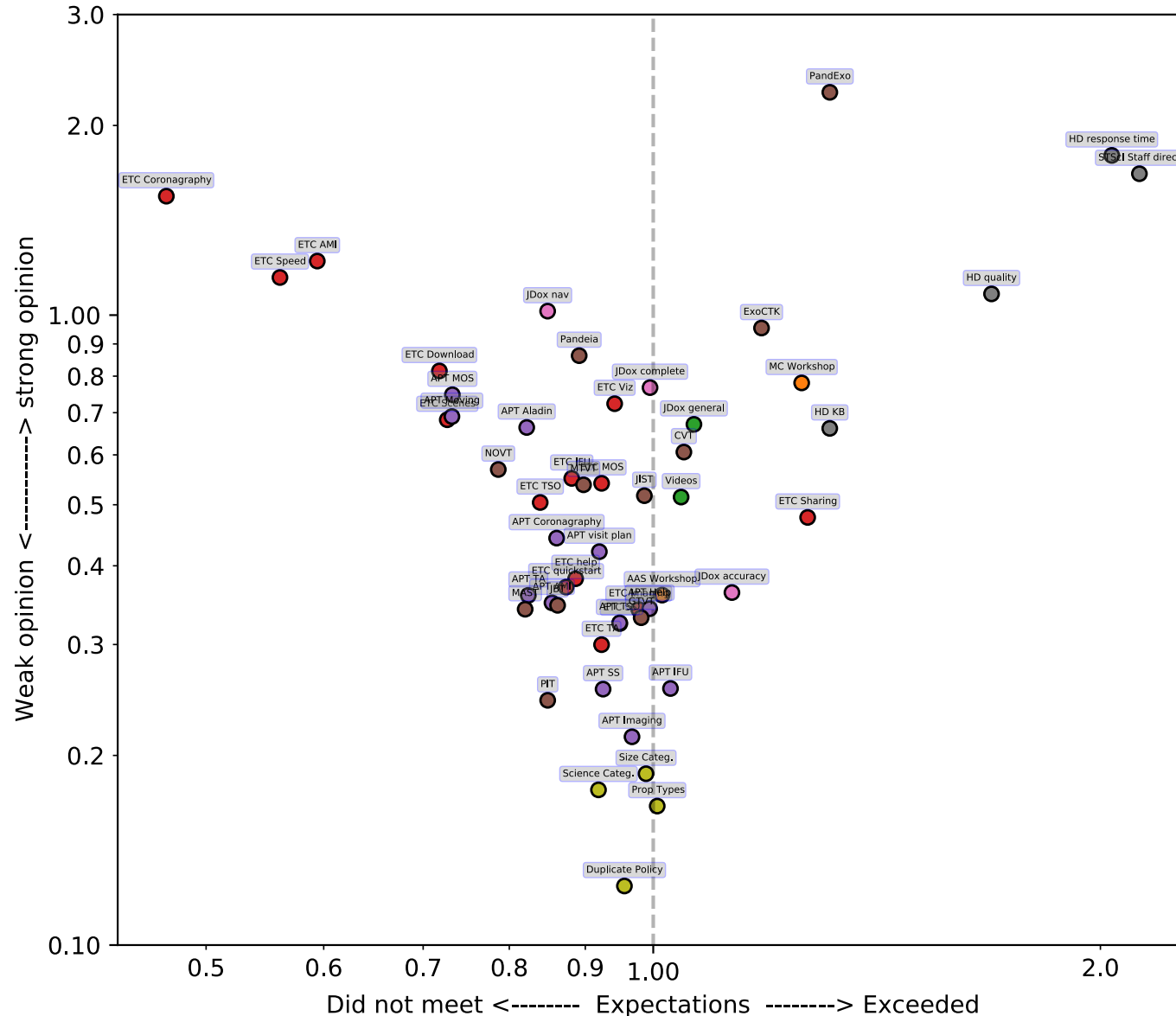
- Investigators reporting significant covid-19 impact, submitted less in the 1-5 proposal bin, but more in higher bins
- **At face value, at least 11% of investigators did not submit due to Covid-19**
- Difficult to adjust for response bias, so caution is required when interpreting the results







## Proposal tools and features II



- “Color-color diagram”
- Which features do users have the strongest opinions about?
  - ETC, Helpdesk, Pandexo, Master Class
  - JDox is polarizing
  - The community have less strong opinions about policy (duplications) and APT



## Cycle 1 lessons learned

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STScI is considering the following improvements (to be prioritized within available resources)

- Further improve stability, speed, and responsiveness of the ETC
- Further improve the ability of the ETC to support management and organization of large numbers of calculations
- Improve support of lines and extended sources
- Further enhance APT/Aladin and clarify the ETC/APT interface
- Add functionality supporting multiple exposures and line sensitivities in JIST
- Consolidation of the background and visibility tools
- Improve visibility of ancillary tools
- Improve the MAST JWST duplication checking interface/workflow
- Streamline support for high-contrast imaging, and solicit community contributions
- Further improve Jdox navigation and discoverability

Backup slides



# Timeline

