Policies, Procedures, and Proposal Instructions
August 2023
Late breaking news

New information that arises during the Cycle 3 Call for Proposals will be provided here.

- Cycle 3 proposers should use APT 2023.5 or higher and ETC 3.0 in proposal preparation. APT 2023.5 and ETC 3.0 will become public around 24 August 2023.

Welcome

We invite scientists to participate in Cycle 3 of the James Webb Space Telescope (JWST). The telescope and its instruments were built under the auspices of the National Aeronautics and Space Administration (NASA), the European Space Agency (ESA), and the Canadian Space Agency (CSA). Management of JWST’s scientific program is carried out by the Space Telescope Science Institute (STScI). We anticipate allocating up to 5,000 hours in this cycle. In Cycle 2, the split between size categories was 2,350 hours for Small programs (≤ 25 hours), 1,750 for Medium programs (> 25 and ≤ 75 hours), and 900 for Large programs (> 75 hours). The Cycle 3 allocations are subject to adjustment based on proposal pressure. Abstracts of previously accepted programs can be found on the JWST proposal catalogs webpage.
This document establishes the goals, requirements, and policies for General Observer (GO) and Archival Research (AR) programs in Cycle 3. The table of contents for the web version of this document is on the left side of the page, and links there can take you to any page from any other page (click the arrow to expand the entire table of contents under “JWST Call for Proposals for Cycle 3”). The links at the top of each page correspond to sections within that given page.

Proposing calendar and deadlines

Cycle 3 dates: **July 1, 2024 – June 30, 2025**
Cycle 3 proposal deadline: **October 25, 2023 by 8:00pm US Eastern Daylight Time**
Cycle 3 Peer Review meeting: **January 29 - February 8, 2024**
Cycle 3 Budget submission deadline: **April 11, 2024 by 5:00pm US Eastern Daylight Time**

Notification of the outcome of the selection process will be sent to all proposers in late February/early March, 2024.

Where to get help

- Read this Call for Proposals
- Visit the STScI JWST Proposal Checklist
- Visit the JWST User Documentation Homepage
- Register (or review/check) a STScI Single Sign-On (SSO) Account
- Contact the STScI JWST Help Desk. We strongly encourage users to use this avenue submit questions directly to the appropriate team of experts.

Who's responsible

The JWST Call for Proposals and related materials for Cycle 3 were edited by Amaya Moro-Martín. The Associate Director for Science, Neill Reid, and the Science Mission Office at STScI are responsible for the oversight of the JWST science program selection process, whose members include Alessandra Aloisi (Head of Science Mission Office), Christine Chen (Head of James Webb Space Telescope Science Policies Group), Katey Alatalo, Andrew Fruchter, Claus Leitherer, Amaya Moro-Martín, Jamila Pegues, Elena Sabbi, Linda Smith, Laura Watkins, and Technical Manager Brett Blacker.

Next: **JWST New and Important Features**
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Important new features for proposers to consider in Cycle 3 are covered in this article.

What's new for Cycle 3

APT

- Cycle 3 proposers should use APT 2023.5 or higher. APT 2023.5 will become public on or about 24 August 2023.
- Allow NRAO Joint Observatory for JWST Cycle3
- Add NIRCam WFSS template science Pure Parallel
- Create interface for optional first, short exposure in NIRISS SOSS template
- Change SURVEY Allocation method to match HST Snapshot for Cycle 3

ETC

- The Exposure Time Calculator ETC 3.0 will go live around 24 August 2023. This is the version that should be used in proposal preparation.

Policy

- **Exclusive Access Period (EAP)**

  The current default EAP is 12 months; discussions are currently on-going regarding a possible reduced, non-zero value. At this time, no decisions have been taken. The feedback from the community survey is an important factor in the outcome.

- **APT template**
Proposers should make sure that they mark the APT coversheets appropriately using the menus that expand out on the Proposal Information page, such as "Explain unschedulable observations", "Supply Meteoroid Zone Justification", "Request custom time allocation", "Future Cycles", and "Coordinated telescopes", providing all the requested information. If these fields are not marked and filled out in the APT coversheet those requests might not be met, even if they are described in the proposal. For more information, see Filling Out the APT Proposal Form.
Opportunities

- **Survey programs**

Survey programs consist of similar, relatively short observations of a targets drawn from a large sample; unlike GO programs, they will serve two main purposes in Cycle 3: supplementing the Long Range Plan to maintain observing efficiency if there is a shortfall of GO programs; and providing simple observations that can be executed when data volume is constrained by external factors. Survey programs have no guaranteed completion fraction. Proposals are for a number of targets, not time; proposers must specify the minimum number of targets to achieve the science goals in the Special Requirements section. See Survey Proposals for further information. NIRSpec MOS and MIRI MRS are not available for Surveys.

Artemis 2 is planned for launch during Cycle 3. *Data downlink capability may be severely limited during that mission,* and proposers are encouraged to submit low-data volume Survey Programs that can be scheduled at that time.

- **Target of opportunity**

Ultrarapid and disruptiveToOs are not permitted with NIRSpec MOS.
Standard ToO proposals have a duration of one cycle. Proposers may apply for “carry-over” status if the target phenomena have a low probability of occurrence during one cycle. Carry-over ToOs are allowed for both disruptive and non-disruptive observations.

As with other GO categories, non-disruptive ToO proposals can request triggers in up to 2 future cycles i.e. in cycles N, N+1 and N+2. Disruptive ToO proposals are restricted to the current cycle. Future cycle ToOs are not eligible for carry-over status.

Requests for carry-over status or future cycle allocations should be justified in the APT Special Requirements and marked on the APT coversheet.

In the case of duplications, triggers from previous cycle proposals have priority.

- **Joint JWST proposals**

  In addition to the Joint JWST Proposal opportunities with ALMA, Chandra, HST, NASA Keck, NOIRLab and/or XMM-Newton, new to Cycle 3 is that proposers may request NRAO observations for individual targets in their JWST program. A total of up to 5% of the available time on the VLA, GBT or the VLBA per year is available to highly rated proposals. Similarly, NRAO will be able to award up to 50 hours of JWST time per cycle to highly rated proposals. There is no guarantee that joint observations will be obtained simultaneously with JWST observations. See Joint Proposals for further information. Proposers taking advantage of these Joint JWST Proposal opportunities should enter their request in the “Coordinated Telescopes Section” in the APT Proposal Information section.

- **Pure parallels**

  Pure parallel observations are only paired with same cycle prime programs. Due to the way that they are implemented the number of pure parallel opportunities executed cannot be guaranteed. In particular, if data volume issues are anticipated, the primary observations have priority and pure parallels are dropped.

- **Citizen science with JWST**

  GO and AR proposals may also include a citizen science component in support of the science goals. Funded support for those activities must be compliant with the JWST General Grant Provisions and is limited to no more than 10% of the total budget. NASA document SPD-33 provides guidelines on citizen science projects.

Next: JWST Proposal Checklist
JWST Proposal Checklist

JWST Cycle 3 proposers are encouraged to follow this checklist for writing and submitting proposals for the James Webb Space Telescope (JWST).

On this page

- Know the deadlines
- Know where to find the JWST user documentation
- Learn the JWST observation planning tools
- Design a JWST observing program in APT
- Write your science proposal
- Submit your JWST proposal
- Wait and check
- Next steps for approved programs

Know the deadlines

✓

The Cycle 3 proposal deadline is **October 25, 2023 by 8:00pm US Eastern Daylight Time**

Director's Discretionary Time proposals can be submitted at any time.

Know where to find the JWST user documentation

✓

- JWST User Documentation
- JWST Proposal Opportunities and Science Policies
- JWST Observatory and Instrumentation documentation
  - JWST Observatory Hardware and JWST Observatory Characteristics
  - Near Infrared Camera
  - Near Infrared Imager and Slitless Spectrograph
  - Near Infrared Spectrograph
  - Mid Infrared Instrument

Learn the JWST observation planning tools

✓
JWST Exposure Time Calculator (ETC) - The JWST ETC is a web-based tool for estimating how much exposure (science) time will be required for different HST instrument modes and configurations to achieve the desired science goals.

Astronomer's Proposal Tool (APT) - APT is a stand-alone software package required for preparing JWST observations and submitting JWST proposals.

Design a JWST observing program in APT

- Download and install the latest version of APT.
- Create a New JWST proposal in APT and fill out the Proposal Information section
- Enter your target or targets
- Create a new Observation Folder and a new Observation with an observation template.
- View an Observation with the Aladin visualizer tool.
- Resolve any errors or warnings in APT.
- Check for duplicate observations.

Write your science proposal

Create the PDF attachment of the proposal narrative, which includes a number of required text sections such as the Scientific Justification and Technical Justification.

Submit your JWST proposal

- Attach the PDF of your scientific proposal to the APT program on Proposal Information form.
- Preview and Verify the entire proposal by selecting the APT PDF Preview tool. This view will merge the information provided in APT along with the PDF attachment, and is what the Telescope Allocation Committee (TAC) will review. APT supports UTF-8 for the title, abstract, observing description and observation comment, but make sure all special characters appear correctly.
• Submit your completed proposal with APT. Select the APT Submission Tool in the top tool bar and follow the instructions. In the Submission Log window you will see a message giving the time of the submission, the assigned proposal ID (if a new proposal), and the submission status.
• After the initial submission, proposals can be re-submitted as needed (up to the stated deadline). Resubmitting does not change the proposal number received upon the initial submission.

Wait and check

After you submit your proposal, all investigators will receive an automatic email acknowledgment that the submission was received successfully. If you do not receive that email within minutes of your submission, please check the APT Submission Log field for a problem. In addition, all investigators will receive an additional email indicating whether your proposal was successfully processed after the submission deadline.

If you do not receive this acknowledgement within 72 hours of the deadline, please submit an incident to the JWST Help Desk, as your submission was not received and the TAC will not see your proposal; please provide the submission ID information from the APT Submission Log field. If there are any problems associated with your PDF attachment or APT information submitted, you will be contacted by email separately.

Notification of your proposal's status (approved or rejected) generally occurs within ~4 weeks of the Telescope Allocation Committee meeting. The full list of approved programs will be made public.

Next steps for approved programs

U.S. investigators with approved JWST programs are eligible for funding. See JWST Grant Funding and Budget Submissions for further details.

Successful JWST observing proposals will be reviewed by a STScI instrument scientist and program coordinator. Programs may require adjustments or revisions after the award. Proposers should submit programs that are executable, but STScI expects iterative optimization between the institute and the PI of accepted Cycle 3 programs. The instrument scientist and program coordinator will iterate with proposers to finalize the observations in accordance with TAC recommendations, under the approval of the STScI director.

Next: JWST Anonymous Proposal Reviews
| Latest updates |  
|---------------|---
| Originally published | 15 Aug 2023 |
STScI has implemented a dual-anonymous proposal review process, where the identities of the proposing team are concealed from reviewers. Dual anonymous reduces bias in the review process by focusing on the scientific merit of the proposal rather than the participants.

STScI has a responsibility to simultaneously ensure that the community has equal opportunity for the use of JWST and that the best science is being done with the finite amount of observing time available. The Institute places a high value on the equity and integrity of the proposal review process.

The focus of the TAC review is to recommend the best science. The identity of the proposing team should not be a consideration in making this judgement. However, analysing data from many cycles, we noted that there were systematic demographic differences in proposal success that suggested that unconscious bias might be playing a role in the TAC deliberations. Several studies have also shown that a reviewer's attitude toward a submission may be affected, even unconsciously, by the identity of the lead author or principal investigator. Independent studies of our reviews suggested that a double-anonymous process might help resolve this inequity, and may balance out other areas of potential bias.

In the spring of 2018, STScI convened a working group from the astronomy community to explore the idea of a dual-anonymous system and issue a set of recommendations to the STScI Director. The working group's report, along with detailed instructions to proposers and reviewers, and a list of FAQs, can be found on the Working Group's website. The dual-anonymous system was successfully implemented during the Delta 26 proposal review, has been successfully used in every HST and JWST proposal review since, and will be continued this Cycle. The goal of Dual Anonymous Peer Review is to enable each reviewer to focus on the science, not the proposing team. A summary of the dual-anonymous process guidelines, along with a description of how the review process works, is given below.

The Dual Anonymous review process
As in past cycles, proposers submit their proposals through APT. However, the PDF attachment that is uploaded containing the scientific and technical justifications must be anonymized following the guidelines below. Additionally, proposers must submit, via the Astronomer’s Proposal Tool, a separate section titled “Team Expertise and Background.” The review panels (and the Executive Committee) will conduct their review without seeing any of the names associated with the proposal, and without seeing the information in the “Team Expertise and Background” section. The panels will discuss the proposals and generate a final ranked list of proposals that are recommended for selection. In addition to the Panel Chair, each review panel (including the Executive Committee) will have a full-time “Leveler” present in the room during all panel discussions. The job of the Leveler is to ensure that discussions remain focused on the scientific merit of the proposal.

Once the ranked list is set, the panels will be given access to the “Team Expertise and Background” information associated with each proposal recommended for implementation. At this point, proposals may only be flagged for downgrade, where a downgrade would result in a non-selection of the proposal. If a proposal is downgraded after the team expertise review, other lower ranked proposals may not be upgraded to take its place. This flag, assigned by majority vote of the panel, should only be used in the most extreme circumstances of a team being clearly unqualified to undertake the work proposed. Should a proposal be suggested for downgrade, both the Panel Chair and the Leveler will participate in the discussion about why this recommendation is necessary. A detailed description of the reason for the flag must be given. This flag will then be passed on to the STScI Director, along with the proposal’s initial ranking, and a statement by the panel on the rationale for flagging the proposal. The Director will make the final decision, in consultation with appropriate personnel from STScI, including the Science Mission Office (SMO), JWST Mission Office, ESA Office, and operations/scheduling staff. Finally, any proposals that are downgraded will have the reasons for downgrade passed on to the proposers. The same process will be applied to Large proposals by the Executive Committee.

Guidelines for the PDF submission

Provided here are guidelines to assist proposers in preparing their proposals, specifically their PDF Submissions, to help conceal the identities of the proposers, and ensure a fairer proposal evaluation process. The anonymous review does not mean proposals will be accepted from anonymous sources. As with previous cycles, proposers must still enter the names and affiliations of all investigators into the APT system. APT will not include names or affiliations in the versions generated for the reviews.

While APT will largely obscure the proposing teams identities in cover materials, it will not change or alter information contained in the PDF submission. Thus, it is necessary for proposers to take additional steps to further anonymize their PDF attachment before it is uploaded to APT. Below are some guidelines to accomplish this:

- Do not include author names or affiliations anywhere in the PDF attachment. This includes, but is not limited to, page headers, footers, diagrams, figures, or watermarks. This does not include references to past work, which should be included whenever relevant (see below).
- Referencing is an essential part of demonstrating knowledge of the field and progress. When citing references within the proposal, use third person neutral wording. This especially applies to self-referencing. For example, replace phrases like “as we have shown in our previous work (Doe et al. 2010)” with “as
Doe et al. (2010) showed…” Do not refer to previous campaigns using JWST or other observatories in an identifying fashion. For instance, rather than write “we observed another cluster, similar to the one we are proposing under JWST program #XXXXX,” instead write “JWST program #XXXXX has observed this target in the past…”

- We encourage references to published work, including work citable by a DOI, but do not claim ownership.
  
  **In general, only use the first person possessive when talking about future work by the proposal team.**

- It may be important to cite exclusive access datasets, ancillary data from private facilities or non-public software that may reveal (or strongly imply) the investigators on the proposal. Please include those references if they are germane to the proposed science, but without claiming ownership. We suggest proposers use language like “obtained in private communication” or “from private consultation” when referring to such potentially revealing data or facility access. Reviewers are instructed to accept such statements without requiring more justification in the proposal text, although that can be included in the Team Expertise section.

- Do not include acknowledgements, or the source of any grant funding.

- The goal of dual-anonymous peer review is to remove the focus of the proposal from the proposing team and place it on the proposed science. Thus, discussions of the team's experience or composition is strongly discouraged, even if done so in an anonymous fashion.

It takes effort by authors to anonymize their PDF submissions. Some examples of re-worked text can be found in Example text for anonymous proposing. Please take sufficient time to prepare the manuscript, especially if planning to resubmit a proposal from an earlier cycle or other submissions.

Anonymizing a proposals is not an excuse to omit relevant scientific information. Proposers should describe the past work in the field, and how this proposal will improve, build-upon, or complete that past work. Many successful proposals include a discussion of stated-sample goals or statistical completeness and how the proposed work fits into this broader context. Similarly, proposals may also discuss the uniqueness of the sample, and goals in comparison to similar work.

### Team expertise and background section

As part of the proposal submission, proposers should complete the “Team Expertise and Background” section in APT. This section should provide a brief description of the expertise, background, and roles of key team members, as they relate to the science proposed. This section should be limited in length; for most proposals, a paragraph or two will suffice. For proposals with a large number of Co-Investigators, it is not necessary to report on the qualifications of every team member, nor is it necessary to provide a bio of all team members. If proposers wish, they can identify the PI in this section. An example is provided in the Proposer Guidelines in Anonymous Reviews.

Please note: the text box will support ascii text. Special text markup and LaTex are not supported.
Compliance

Proposals must be anonymized in accordance with the guidelines above. Compliance with this policy is mandatory. Proposals received with violations will be subject to disqualification before the review-panel stage. Proposals with very minor infringements may be allowed to proceed under exceptional circumstances. Feedback will be provided to proposers regarding any violations.

A possible concern that may arise is the following: "I've made every effort to anonymize my proposal, have followed all the guidelines, changed all my references to third-person, but I fear that my work is so specialized (or my analysis methods so unique) that panelists who know me will still be able to figure out who I am. Will my proposal be disqualified?" So long as the guidelines above are followed, the answer is NO, such a proposal will not be considered to be in violation. It is not necessary to "water down" or obscure your science, your methods, or your tools: it is simply your responsibility to write about them in the third-person, in a way that does not intentionally identify yourself.

Self-plagiarism is not acceptable. Not only is it unethical, it goes against the spirit of Dual Anonymous review by identifying authors of one proposal as authors of another, even if not by name. Examples of self-plagiarism include, but are not limited to, using identical portions of text in multiple proposals submitted in the same cycle, and submitting a proposal identical to one approved in a previous cycle (resubmission of unsuccessful proposals from previous cycles is acceptable). Some re-use of text from confidential sections of a proposal may be allowable. Instances of self-plagiarism risk being disqualified from the review.

How your anonymous proposal is reviewed

Proposers need to write a proposal that concentrates on the science and is properly anonymous in regard to the Proposal Team, but the reviewers also have responsibilities to follow the dual-anonymous process, detailed in Dual Anonymous Proposals Guide for Reviewers. The primary objective of these reviews is to select the best science, not the best science teams. Panels, facilitated by Panel Chairs, rank proposals in order of scientific merit, and recommend the resources that should be allocated to each. The experience of the team with JWST or otherwise is not a consideration until after rankings occur. Reviewers are instructed to not spend time attempting to identify the team or the principal investigator. All accepted proposals are assigned a Program Coordinator who works with the PI to finalize the Phase II submission for feasible observations. MAST provides "science ready" data for most uses, and there is help/documentation for further data processing. A reviewer's preliminary grading should be centered on the main review criteria. This includes technical issues in the design of the study, as described in the Description of Observations section and elsewhere. The discussion should focus on the scientific merit of the proposal. Chairs and Levelers are instructed to refocus or terminate discussion when it moves to PI or team. The guidelines given to reviewers can be found in the Dual Anonymous Proposals Guide for Reviewers.

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JWST Proposal Submission Policies

This page describes the policies for JWST Cycle 3 General Observer (GO) and Archival (AR) proposals. GO and AR proposals are solicited in all areas of Astrophysics.

Who may submit

Investigators of any nationality or affiliation may submit and be included on JWST proposals. Institutional endorsement is not required for proposal submission. All proposals are reviewed without regard to the nationalities or affiliations of the investigators.

Principal Investigator and Co-Investigators

Each proposal must have a Principal Investigator (PI), who is responsible for the scientific leadership of the project. A Co-Principal Investigator (Co-PI) option is also available, allowing two or more proposers to share the scientific responsibility of the project. Any other individuals who are actively involved in the proposal should be listed as Co-Investigators (Co-Is). The proposal itself must be submitted through APT, by either the PI or any Co-I.

Proposals by non-U.S. PIs that have one or more U.S. Co-Is must designate one of the U.S. Co-Is as the Administrative PI. Some U.S. PIs, including students and postdoctoral fellows, may also need to designate an Administrative PI. This person will have overall oversight and responsibility for any budget submissions by the U.S. Co-Is. All proposals have the option of designating a Contact Co-I, who will serve as the contact person for that proposal. However, the Administrative PI remains responsible for oversight of the award, the proper conduct of research, the appropriate use of funds (regardless of whether or not the Administrative PI received support through the award), and the administrative requirements such as the submission of progress reports.

Co-PIs can be identified with appropriate justification clearly specifying the leadership roles and responsibilities of each Co-PI in the Team Expertise section.

ESA and CSA scientists
An agreement between NASA and ESA states that a minimum of 15% of JWST observing time (on average over the lifetime of the JWST project) will be allocated to scientists from institutions in ESA member states. Similarly, an agreement between NASA and CSA states that a minimum of 5% of JWST observing time (on average over the lifetime of the JWST project) will be allocated to scientists from Canadian institutions. It is anticipated that these requirements will be satisfied via the normal selection process, as it has been with the Hubble Space Telescope.

**Institutional endorsement**

STScI does not require the signature of an Authorizing Official (AO) on JWST Science GO/AR Proposals. However, some institutions do require AO approval of all submitted proposals. It is the responsibility of each PI to follow all applicable institutional policies concerning the submission of proposals.

**Funding**

Subject to availability of funds from NASA, STScI will provide financial support to eligible U.S. investigators on approved JWST Cycle 3 programs. Budgets are not due at the Cycle 3 GO/AR proposal deadline, but are required by the budget submission deadline, **April 11, 2024 by 5:00pm US Eastern Daylight Time**.

Canada-based and ESA member-state proposers should seek funding from their respective home institutions or national funding agencies. CSA and ESA employees at STScI are eligible for funding.

See [JWST Grant Funding and Budget Submissions](#) and the General Grant Provisions (GGP) for further funding information.

**Proposal confidentiality**

Proposals submitted to STScI will be kept confidential to the extent allowed by the review process. For accepted proposals, the following information will become publicly accessible: names of PI, Co-PIs, and Co-Is, project titles, abstracts, description of observations, special scheduling requirements, and details of all targets and exposures. The APT files of approved proposals become publicly accessible in their entirety. The scientific and technical justifications of accepted proposals remain confidential.

*Next:* [JWST Proposal Categories](#)
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General Observer (GO) proposals may be submitted for any amount of observing time on JWST. Proposals may also be submitted to financially support Archival Research (AR) for the analysis of archival JWST data, to develop data science software to benefit the community of JWST users, or to financially support theoretical research in support of JWST observational programs.
JWST observations can be requested with General Observer (GO) Proposals, Survey proposals, or through Director's Discretionary (DD) Time Proposals. GO proposal categories include Small, Medium, Large, Calibration, Long-Term, Treasury, and hybrid GO-Archival. Survey programs consist of similar, relatively short observations of targets drawn from a large sample; unlike GO programs, Survey programs have no guaranteed completion fraction. Funding for JWST-related projects that do not require new JWST observations can be requested with an Archival Research (AR) Proposal. An AR proposal can be either a Regular AR, Calibration AR, Legacy AR, Theory, Cloud Computing, or a Community Data Science Software Proposal. All GO, Survey, and AR proposals are peer-reviewed by a Telescope Allocation Committee (TAC), as described in JWST Proposal Selection Procedures. Investigators may request Director's Discretionary (DD) time at any time for unanticipated and scientifically compelling astronomical observations.

General Observer (GO) Proposals

A GO Proposal may be submitted for any amount of observing time, counted in hours, including all overheads. GO Proposals are classified as Small (≤ 25 hours), Medium (> 25 and ≤ 75 hours) and Large (> 75 hours). The classification into these categories is the total charged time for the observatory, including overheads. Proposals in these categories can request observing time in future cycles as a Long-Term Proposal when this is scientifically justified, however the program's total time, and hence its category, will be determined from the sum total of time for all cycles in the request. The additional category of Treasury Proposals is designed to stimulate certain types of ambitious and innovative proposals that may not naturally fit into the Small, Medium, or Large Proposal categories.

There are also opportunities to apply for Joint Observing programs to obtain multi-wavelength data and Calibration Proposals to provide calibrations for non-standard instrumentation modes.

Proposers should note that all JWST observations are accepted with the understanding that the timescale on which the observations will actually be obtained will depend on scheduling opportunities and demands on JWST resources. Programs with scheduling constraints may require execution over a period that may extend into the next Cycle.

In general, proposals are either accepted or rejected in their entirety. Accordingly, proposers are urged to request the actual number of hours required to achieve the proposal science goals. Laboratory astrophysics relevant to JWST observations is an acceptable component of a GO proposal.

Ground-based observations that complement JWST observations may also be included as a component of a GO proposal, but note that these observations are generally obtained independently, as STScI does not award time on ground-based facilities except for Joint Observing programs awarded as part of this Call.

Proposals may include a citizen science component, ground-based observations and laboratory astrophysics in support of the science goals. Funded support for those activities must be compliant with the JWST General Grant Provisions and is limited to no more than 10% of the total budget. NASA document SPD-33 provides guidelines on citizen science projects.
Small GO Proposals

Small GO Proposals are those that request less than or equal to 25 hours of total time. 2,350 hours were allocated to Small Proposals in Cycle 2. The Cycle 3 allocation is subject to adjustment based on proposal pressure. Small Proposals will have a default exclusive access period of 12 months.

Medium GO Proposals

Medium GO Proposals are those that request above 25 hours but less than or equal to 75 hours of total time. The Medium Proposal category exists to ensure that compelling science programs that demand a medium-size hour request have appropriate opportunities for success. In Cycle 2, 1,750 hours were allocated to GO medium proposals. The Cycle 3 allocation is subject to adjustment based on proposal pressure. Medium Proposals will have a default exclusive access period of 12 months.

Large GO Proposals

Large Proposals are those that request more than 75 hours of total time. These programs should lead to a clear advance in our understanding in an important area of astronomy. They must use the unique capabilities of JWST to address scientific questions in a comprehensive approach that is not possible in smaller time allocations. Selection of a Large Proposal for implementation does not rule out acceptance of Small or Medium Proposals to do similar science, and vice versa. But, as with all programs, target duplication and overall program balance will be considered.

900 hours were allocated to Large and Treasury Proposals in Cycle 2. The Cycle 3 allocation is subject to adjustment based on proposal pressure. Data taken for Large Proposals will, by default, have no exclusive access period. Proposals may request an exclusive access period; that request should be justified in the "Special Requirements" section of the proposal and will be subject to TAC review.

Long-Term GO Proposals

Small, Medium, Large, and Treasury GO Proposals may request JWST observing time in more than one cycle if a clear scientific case can be made. Long-Term Proposals must be limited to cases where long-baseline, multi-epoch observations are clearly required to achieve the scientific goals. Long-Term Proposals require a long time baseline, but not necessarily a large number of JWST hours, to achieve their science goals. Examples include astrometric observations or long-term monitoring of variable stars or active galactic nuclei.
Proposers may request time in up to three cycles (3, 4, and 5). Long-term Proposals should describe the entire requested program and provide a cycle-by-cycle breakdown of the number of hours requested. The review panels and TAC will only be able to award a limited amount of time in future cycles, so a detailed scientific justification for allocating time beyond Cycle 3 must be presented. **Scheduling concerns are not a sufficient justification.** The sum of all hours requested in Cycles 3, 4, and 5 determines whether a Long-Term Proposal is Small, Medium, or Large, with the appropriate exclusive access periods applied (12 months for Small and Medium, and 0 months for Large). Target-of-Opportunity Proposals are eligible to be Long-Term for rare phenomena if certain conditions are met (see JWST Observation Types). GOs with approved Long-Term Proposals are not required to submit continuation proposals for subsequent cycles.

**Treasury GO Proposals**

Treasury Proposals are those designed to create JWST datasets of lasting scientific value. A Treasury Program is defined by the following characteristics:

- The program should focus on the potential to solve multiple scientific problems with a single, coherent dataset. It should enable a variety of compelling scientific investigations.
- The program should produce data products that are processed or calibrated significantly beyond the capabilities of the JWST Calibration Pipeline to maximize the scientific impact of the program. Examples include tiled images, multi-band object catalogs, or coordinated observations on other facilities (for which some funding can be provided). Funding for the proposed data products will depend on their timely availability. They should be delivered to STScI in suitable digital formats for dissemination via MAST.
- Data taken under a Treasury Program will usually have no exclusive access period, although brief exclusive access periods may be requested if that will enhance the public data value. Such requests are subject to TAC approval.

The following additional characteristics are particularly encouraged:

- Development of new techniques for data reduction or analysis.
- Creation and dissemination of tools (software, Web interfaces, models, etc.), beyond what is offered to the community by STScI, for the scientific community to work with the data products.

The emphasis will be on observations whose value is maximal if taken in the current cycle. However, Treasury Proposals may request observing time to be distributed in future cycles if scientifically required (similar to the situation for Small, Medium, and Large Long-Term GO Proposals). In Cycle 3 approximately 850 hours of JWST time will be available for Large and Treasury Proposals. Treasury Programs will be selected by the TAC as part of the normal peer review process. Investigators submitting Treasury Proposals must select the Treasury Program flag on the APT cover page and include additional technical details on the scheduling aspects of their program in the “Description of the Observations” section in APT. Treasury programs can be Small, Medium or Large proposals.
The "Scientific Justification" section of the proposal should include a description of the scientific investigations that will be enabled by the final data products and their importance. The "Technical Justification" section of the proposal should not only include a detailed rationale of the observations, but also plans for data analysis and a description of how the data products will be made available to STScI and the community, the method of dissemination, and a realistic time line.

**Calibration GO Proposals**

JWST is a complex observatory, with many possible instrument configurations. Calibrations and calibration software are maintained by STScI for the most important and most used configurations. However, STScI does not have the resources to calibrate fully all potential capabilities of all instruments. Additionally, the astronomical community has expressed interest in receiving support to perform calibrations for certain uncalibrated or poorly calibrated modes, or to develop specialized software for certain JWST calibrations. In recognition of this, STScI is encouraging users to submit Calibration Proposals, which aim to fill gaps in the calibration of JWST and its instruments.

Calibration Proposals should not be linked to a specific science program, but should provide a calibration or calibration software that can be used by the community for existing or future programs. A specific science program that has special calibration requirements is not a Calibration Proposal; such a proposal should be submitted as a normal GO Proposal and the necessary calibration observations should be included in the science program. Users submitting Calibration Proposals **must** contact the appropriate instrument team at STScI (via the helpdesk) to discuss their program prior to submission. Failure to do so will result in automatic rejection of the proposal.

Successful proposers will be required to deliver documentation, data products and/or software to STScI to be made available to the community to support future observing programs or archival research. Funding is available to support Calibration Proposals in the same manner as for normal science programs, with the following exception: **Scientists affiliated with STScI are not eligible for any funding to support their role (as PI or Co-I) in a Calibration Proposal.**

Calibration Proposals will be reviewed internally at STScI by the Instruments Division. The internal review will provide the TAC with an assessment of the feasibility of the proposal, how the proposal complements/extends the existing calibration program, and the type of science impacted by the proposed calibrations. Proposers should summarize the relevance and overall scientific utility of the calibration techniques and products described in their proposal.

Investigators interested in submitting a Calibration Proposal are encouraged to study the JWST User Documentation to determine the level at which STScI provides calibration and characterization. The data obtained for a GO Calibration Proposal will nominally have no exclusive access period, as is the case for regular calibration observations. Proposers may request an exclusive access period (which should be explained in the "Special Requirements" section of the proposal), but such a request will be subject to panel and TAC review and will only be granted in exceptional circumstances. Calibration Proposals cannot be submitted as Survey Proposals. Calibration Proposals can be submitted as Archival Proposals. Calibration AR Proposals are appropriate in cases where the necessary data have already been taken, or for programs that do not require specific data but aim to develop specialized software for certain JWST calibration and data reduction tasks.
Combined GO-Archival Programs

In past cycles, we required separate GO and AR proposals for programs that included new observations and substantial analysis of JWST archival data so that both could be funded at an appropriate level. **We are now offering the GO-Archival option for research programs where substantial effort (>10%) will be devoted analyzing JWST archival data. GO-Archival proposals should include an Analysis Plan for the archival data.**

Programs that require funding for Archival Research alongside new observations should be submitted as a single GO Proposal, regardless of the relative size of the Archival component. Both the GO and the Archival science must be clearly described and justified.

Proposers should select the GO-Archival flag in APT to identify the combined nature of the proposal.

The GO categories Small, Medium, Large, Calibration, Long-Term, or Treasury are all permitted; proposals sizes will be determined by the GO orbit request. The chosen GO category determines the page limit for the PDF attachment.

Proposers will also be able to select an appropriate AR flags for the proposal, as described in this page.

Archival Research (AR) Proposals

Observations that are no longer in the exclusive access period are freely available for analysis by scientists through retrieval from the Mikulski Archive for Space Telescopes (MAST). For JWST Cycle 3, this includes all Director's Discretionary Early Release Science datasets, which have no exclusive access period, and some approved GO and GTO program datasets. AR proposals may be submitted by non-US PIs if there are US co-Is who request funding.

The JWST Archival Research (AR) Program can provide financial support for the analysis of such data sets (as Regular or Legacy AR proposals), or the theory (as AR Theory), or cloud computing (as Cloud Computing Proposals), or science software (as Community Data Science Software Proposals) which maximize their use. There is also an opportunity to support calibration activities (as Calibration AR Proposals) beyond what is produced by the standard calibration pipeline. All AR Proposals must include an analysis plan. Proposals for AR funding are considered at the same time, and by the same reviewers, as proposals for observing time, on the same basis. Laboratory astrophysics and citizen science are acceptable components of archival proposals.

AR proposals may include a citizen science component, ground-based observations and laboratory astrophysics in support of the science goals. Funded support for those activities must be compliant with the JWST General Grant Provisions and is limited to no more than 10% of the total budget. NASA document SPD-33 provides guidelines on citizen science projects.

Regular AR Proposals
The general goal of a Regular AR Proposal is to analyze a subset of data from JWST to address a specific scientific issue. In general, the scientific questions addressed should differ from those tackled by the original programs that obtained the data. A strong justification must be given to reanalyze data if the new project has the same science goals as the original proposal. There is no limit to the amount of funding that may be requested in a Regular AR Proposal. For reference, it is expected that the majority of awards will fall under $150,000, with a median of about $75,000. However, STScI actively encourages the submission of more ambitious AR programs (Regular and Legacy) for which larger amounts of funding may be justified. Budget plans should be commensurate with the level of work required to carry out the goals of the proposal.

Legacy AR Proposals

A Legacy AR Proposal is defined by the following characteristics:

- The project should perform a homogeneous analysis of a well-defined subset of data from JWST in MAST.
- The main goal should be to provide a homogeneous set of calibrated data and/or ancillary data products to the scientific community.
- The results of the project should enable a variety of new and important types of scientific investigations.

We encourage the development of open source community software tools for dissemination to the community.

The main difference between a Regular and a Legacy AR Proposal is that the former aims at performing a specific scientific investigation, while the latter will also create data products and/or tools for the benefit of the community. While Legacy AR Proposals will be judged primarily on the basis of scientific merit, the importance and broad applicability of the products produced by the Legacy Proposal will be key features in judging the overall scientific merit of the proposal.

It is a strict requirement for Legacy AR Proposals that the proposed data products be created and distributed to the community in a timely manner. Data products should also be delivered to STScI in a format consistent with the MAST High-Level Science products Contributions Guidelines for dissemination via MAST.

It is anticipated that Legacy AR Proposals will be larger in scope and requested funds than most Regular AR Proposals. While there is no lower limit on the requested amount of funding, it is expected that most Legacy AR Proposals will require at least $150,000, and possibly up to a few times this amount, to accomplish their goals. Commensurate with the expected scope, Legacy AR Proposals are allowed to be multi-year projects, although this is not a requirement. Multi-year projects will be funded on a yearly basis, with continued funding beyond the first year subject to a performance review. Legacy AR Proposals will be evaluated by the TAC in conjunction with Large and Treasury GO Proposals.

The "Scientific Justification" section of the proposal should include a description of the scientific investigations that will be enabled by the final data products, and their importance. The "Analysis Plan" section should describe the plans for data analysis, the data products that will be made available to STScI and the community, the method of dissemination, and a realistic timeline.

Calibration AR Proposals

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Calibration Proposals may be submitted as AR Proposals. Calibration AR Proposals are appropriate in cases where the necessary data have already been taken, or for programs that do not require specific data but aim to develop specialized software for certain JWST calibration and data reduction tasks. Users submitting Calibration Proposals must contact the appropriate instrument group (accessible via the JWST Help desk) to discuss their program prior to submission.

AR Theory Proposals

Proposers may request financial support for theoretical research that is relevant to the JWST mission, and that will have a lasting benefit for current or future observational programs with JWST.

A Theory Proposal should address a topic that is of direct relevance to JWST observational programs, and this relevance should be explained in the proposal. Funding of mission-specific research under the JWST Theory Program will be favored over research that is appropriate for a general theory program, such as the NASA Science Mission Directorate Astrophysics Theory Program. The primary criterion for a Theory Proposal is that the results should enhance the value of JWST observational programs through their broad interpretation (in the context of new models or theories) or by refining the knowledge needed to interpret specific observational results (a calculation of atomic cross sections may fall under the latter category). The results of the theoretical investigation should be made available to the community in a timely fashion.

As with the other AR Proposals, there is no limit to the funding that may be requested in Theory Proposals. For reference, it is expected that the majority of awards will fall under $150,000, with a median of about $75,000. The effort detailed in the Management Plan of the proposal should be commensurate with the level of funding to be requested in the budget submission. Theoretical research should be the primary or sole emphasis of a Theory Proposal. Analysis of archival data may be included, but should not be the main aim of the project. GO or AR Proposals which include a minor component of theoretical research will be funded under the appropriate GO or AR Program.

A Theory Proposal may be submitted by a non-U.S. PI if there are one or more U.S. Co-Is who request funding.

Award amounts for Theory Proposals are anticipated to be similar to those made for Regular AR Proposals. STScI also allows the submission of more ambitious proposals for which larger amounts of funding may be justified.

The "Scientific Justification" section of the proposal should describe the proposed theoretical investigation and also its impact on observational investigations with JWST. Review panels will consist of observational and theoretical astronomers with a broad range of scientific expertise. They will not necessarily have specialists in all areas of astrophysics, particularly theory, so the proposals must be written for general audiences of scientists. The "Analysis Plan" section of the proposal should discuss the types of JWST data that will benefit from the proposed investigation, and references to specific data sets in MAST should be given where possible. This section should also describe how the results of the theoretical investigation will be made available to the astronomical community, and on what time-scale the results are expected.

AR Cloud Computing Studies
All non-exclusive access data for JWST instruments (MIRI, NIRCam, NIRSpec, NIRISS), will be made available as part of the Amazon Web Services (AWS) public dataset program (aws.amazon.com/public-datasets/). Providing these data in close proximity to AWS facilities allows new types of compute-intensive analyses that may have not previously been possible due to individual researcher or research group compute resources. Proposals to make use of this dataset should select the Cloud Computing check box next to the AR category in APT, and be prepared to include a line item in their budget for AWS costs (limit $10,000).

Example use cases for leveraging these data could include: Large scale (re)analyses of data to measure photometric properties or proper motions, computationally-intensive tasks such as training machine learning classifiers, and live community-facing services.

Further reading:
- Link to JWST data on AWS: https://registry.opendata.aws/jwst/
- AWS machine learning services: aws.amazon.com/machine-learning/
- AWS spot computing: aws.amazon.com/ec2/spot/spot-and-science/
- Educational & research use cases: aws.amazon.com/government-education/research-and-technical-computing/

**AR Data Science Software Proposals**

Proposers have an opportunity under the JWST AR Program to obtain financial support for the development of software products that will be made available to the community for the purposes of analyzing JWST data. Descriptions of the data products created by the JWST calibration pipeline and related software tools are available on JWST Data Calibration Considerations, JWST Science Calibration Pipeline Overview, and JWST Post-Pipeline Data Analysis. Examples of additional products include, but are not restricted to,

- scripts to mitigate artifacts from specific detectors,
- tools to identify and extract fluxes/magnitudes from multiple sources within a field,
- utility software for working with JWST data products,
- or codes to produce background-subtracted spectra or software to interact with JWST archive services.

Please contact the Data Science Mission Office (dsmo@stsci.edu) for additional guidance. The primary criterion for a Community Data Science Proposal is that the results should broadly enhance the value of JWST observational products for anyone in the astronomical community. The results of the data science software development should be made available to the community in a timely fashion through an appropriate distribution platform. Open source software using a standard license (https://opensource.org/licenses) is encouraged. The software should have thorough internal documentation at a level consistent with software best practices, and, if computationally intensive, should be compatible with a cloud computing service.

There is no limit to the amount of funding that may be requested, but it is expected that the amounts will be at a similar level to those in the Regular AR category. The effort detailed in the Management Plan section of the proposal should be commensurate with the level of funding requested.
The "Scientific Justification" section of the proposal should describe the proposed software plan and also its impact on observational investigations with JWST. Review panels will consist of observational and theoretical astronomers with a broad range of scientific expertise. They will not necessarily have specialists in all areas of astrophysics, particularly software development, so the proposals must be written for general audiences of scientists. The "Analysis Plan" section of the proposal should discuss the types of JWST data that will benefit from the proposed investigation, and references to specific data sets in MAST should be given where possible. This section should also describe how the results of the investigation will be made available to the astronomical community, and on what time-scale the results are expected.

**Guidelines for AR Proposals**

Please consider the following when developing your AR Proposal:

- In general, any JWST data that you wish to analyze must reside (or be expected to reside) in the Archive, and be released from exclusive access rights by the start of Cycle 3 (July 1, 2024).
- Investigators are allowed to submit an AR Proposal to analyze data that was obtained in a previous GO Program on which they were themselves PI or Co-I, but only if the goals of the AR Proposal differ significantly from those for which GO funding was awarded previously.
- STScI encourages the submission of AR Proposals that combine JWST data with data from other space-missions or ground-based observatories, especially those data contained in the Mikulski Archive for Space Telescopes (MAST). STScI is an active partner of the Virtual Observatory (VO), and MAST is implementing VO technology to make its data holdings available. In particular, the MAST Data Discovery Portal is available at [http://mast.stsci.edu/explore](http://mast.stsci.edu/explore). The Discovery Portal is a one-stop Web interface to access data from all of the MAST supported missions, including HST (in particular the Hubble Legacy Archive- HLA, and Hubble Source Catalog- HSC), TESS, Kepler, GALEX, FUSE, IUE, EUVE, and Swift-UVOT.

**Survey programs**

Survey programs will be used for two main purposes in Cycle 3: supplementing the Long Range Plan to maintain observing efficiency if there is a shortfall of GO programs; and providing simple observations that can be executed when data volume is constrained by external factors.

Proposers may request short (typically <100 minute) observations using different instrument configurations and/or total durations. Proposals must include one example of each type of observation in APT; if proposers are only using one configuration, then only one example observation is required; if there are two configurations, provide one example for each. APT includes two new fields for Survey programs in Cycle 3:

- "Targets Requested" (on the Observation form), where the proposer enters the number of targets associated with each example; and
- "Total Targets Requested" (on the Proposal Information page), giving the total targets in the program. *This field is calculated automatically by APT by summing all targets associated with each example included the proposal.*
The TAC will be instructed to disregard the total program duration since this is generated automatically by APT. All Survey proposals have an 8 page-limit, as described in JWST Guidelines and Checklist for Proposal Preparation. All Survey proposals are evaluated by the Discussion panels.

NIRSpec MOS and MIRI MRS are not available for Survey Proposals.

Artemis 2 is planned for launch during Cycle 3. Data downlink capability may be severely limited during that mission, and proposers are encouraged to submit low-data volume Survey Programs that can be scheduled at that time.

Survey programs are designed to increase the observing efficiency by allowing for short "filler" observations when subscription deficiencies are identified during the Long Range Planning process. They are evaluated together with regular programs in the topical discussion panels, but the requested observing time is drawn from a separate pool. JWST Survey programs are analogous to Snapshot programs on the Hubble Space Telescope.

Only a subset of the targets submitted for each Survey program are likely to be observed. There is no guarantee that any individual visit will be executed. The number of Survey observations planned for each cycle depends on the distribution of GO/GTO observing time across the LRP. In general, only a small fraction of the targets will be planned for scheduling and execution. Survey programs are lower priority and may be dropped if there are conflicts with other observations on a Short Term Schedule.

We anticipate that up to 200 Survey targets may be planned for JWST Cycle 3. The TAC will select programs requesting up to 1000 targets to provide appropriate sky coverage to support both planned and unplanned use of Survey observations. All accepted Survey programs terminate at the end of Cycle 3.

There is no commitment on the part of STScI to obtain any specific completion factor for Survey programs.

Survey programs have the following characteristics:

- Proposers request observations of a specific number of targets.
- Proposers are not required to give a complete list of all targets and their coordinates at the time of submission. Example observations for each type of observation must be provided (along with the number of targets requested for each example). Both the Abstract and the Scientific Justification must describe the target distribution on the sky, and unambiguously identify the targets (e.g., reference to target lists in papers) or give a detailed description of their characteristics. Proposers should describe whether a baseline number of targets is required to reach the science goals. Accepted programs will be required to submit the full target list within one month of the notification of acceptance.
- Proposers must specify the minimum number of targets required to achieve the science goals. Proposers can also indicate if there is an optimal number of targets, if that is different than the minimum. This information must be included in the Special Requirements Section of the proposal.
- Survey programs may not be used for targets of opportunity.
- Observations of any particular target cannot be guaranteed: the point of the Survey program is to have many different options from a class of objects that can be inserted into the observing schedule. Survey Proposals must target sources distributed over a wide range of Right Ascension (given the JWST Observatory Coordinate System and Field of Regard) to ensure that potential targets are readily available for scheduling. Examples of programs that are not well suited to Survey Proposals (because they do not help improve scheduling efficiency) are surveys of targets confined to a restricted region (e.g., M31 or M33) or surveys of targets confined to a restricted range of Right Ascension.
M33) or surveys limited to a few targets (e.g., surveys of two or three specific galaxy clusters). **Targets at high ecliptic latitude are particularly useful since they have longer visibilities.**

- Moving targets are acceptable as long as their angular rate is below 10 mas/s = 0.24 deg/day
- Proposers should minimize the data volume for their visits. Guidance on how to achieve low data volumes is given in JDox [here](#).
- Observations should have minimal constraints to maximize their schedulability.
- Timing and orientation constraints on individual or between (linked) Survey observations are not permitted.
- In the case of duplication, Regular GO proposals have priority over Survey Proposals since observations of individual Survey target are not guaranteed.
- Proposers may not assign priorities to individual observations in a Survey program. Targets will be selected for execution based on the available observatory resources.
- In general, shorter-duration, lower data-volume and spatially well-distributed Survey targets have a higher number of scheduling opportunities and a higher chance of being executed than longer duration, high data-volume and/or spatially clustered Survey observations.
- Cycle 3 Survey Proposals may only request time in Cycle 3; they may not request observations in future cycles.
- Calibration Proposals may not be submitted as Survey Proposals.

All Survey proposals have a default exclusive access period of 12 months. However, because of the potential benefit to the community at large, proposers should consider seriously the possibility of requesting a shorter access period of 0, 3 or 6 months. While this is not a primary criterion for acceptance or rejection, the reduced period can bring additional benefits to any proposal and will be weighed by the reviewers accordingly (see [JWST Cycle 3 Proposal Selection Procedures](#)).

### Joint observing programs

STScI has reached agreements with several other observing facilities (ALMA, Chandra, HST, NASA-Keck, NOIRLab, NRAO, XMM-Newton) to award time for joint programs in which JWST science is the prime science, but multi-wavelength observations from another ancillary observatory are critical for the science goals of the proposal. Joint programs may be for any amount of JWST time. The only criterion above and beyond the usual review criteria is that both sets of data are required to meet the primary science goals.

Proposals with **Coordinated Observations** should provide the requested information regarding the Partner Observatory in the APT coversheet, using the “Coordinated Telescopes" pull down menu. If this information does not appear in APT the joint program request might not be met.

### Joint JWST-ALMA Observing Proposals
By agreement with Joint ALMA Observatory (JAO), the JWST Telescope Allocation Committee (TAC) will award up to 115 hours of ALMA time on each of the ALMA arrays (12-m, 7-m, and Total Power) to highly ranked proposals that require both JWST and ALMA observations. Similarly, the JAO will be able to award up to 115 hours of JWST time to highly rated proposals awarded ALMA time in its TAC process. The only criterion above and beyond the usual review criteria is that the project must be fundamentally of a multi-wavelength nature, and that both sets of data are required to meet the science goals. Time will only be awarded to joint proposals if both data sets are required for the proposed science. It is not essential that the project requires simultaneous ALMA and JWST observations. ALMA time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal).

Proposals for combined JWST and ALMA observations should be submitted to the observatory with the larger time request (not to both observatories). STScI reserves the right to disallow JWST observations that duplicate those approved via any joint program unless the duplications are justified in the original proposals.

Joint proposals requesting ALMA time:

- must comply with the ALMA Users' Policies and Call for Proposals guidelines (https://almascience.org/proposing/learn-more).
- will be allowed to request array configurations offered between the time the project will enter the ALMA queue (i.e. upon project preparation subsequent to proposal approval, as indicated in the JWST Preparation of the PDF Attachment document) until the end of the ongoing ALMA Cycle, as well as those offered in the upcoming ALMA Cycle.
- can not request ALMA time for VLBI or phased array observing modes.
- can not request 50 hours or more of 12-m array time (see the ALMA Proposer's Guide for a definition of a Large Program).

Establishing the technical feasibility of the ALMA observations is the responsibility of the PI, who should review the ALMA Proposer’s Guide or consult with the JAO. A description of the technical information that should be included in the proposal is given in JWST Preparation of the PDF Attachment. For proposals that are approved by JWST, the JAO will perform detailed feasibility checks. The JAO reserves the right to reject any previously JWST-approved observation that proves infeasible, impossible to schedule, and/or dangerous. Any ALMA observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST observations. Duplicate ALMA observations may also be rejected by the JAO.

Joint JWST-ALMA Proposals must be specified in the "Coordinated Telescopes" section of the proposal with the necessary ALMA hours request. Also, you must include technical information about the ALMA observations in the "Coordinated Observations" section of the proposal.

Joint JWST-Chandra Observing Proposals
By agreement with the Chandra X-ray Center (CXC), the JWST TAC will be able to award up to 300 kiloseconds of Chandra observing time. Similarly the CXC will be able to award up to 150 hours of JWST time to highly rated proposals awarded Chandra time in its TAC process. The only criterion above and beyond the usual review criteria is that the project must be fundamentally of a multi-wavelength nature, and that both sets of data are required to meet the science goals. Time will only be awarded to joint proposals if both data sets are required for the proposed science. It is not essential that the project requires simultaneous Chandra and JWST observations. Chandra time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal). **Proposers should take special care in justifying both the scientific and technical reasons for requesting time on both missions.**

Of the Chandra observing time that can be awarded in the JWST review, only approximately 15% of the observations may be time-constrained. In addition, only one rapid ToO can be awarded (less than 20 days turn-around time). The minimum expected response time for any ToO is 24 hours after triggering a Chandra observation. JWST Cycle 3 proposers should keep their Chandra requests within these limits.

Proposals for combined JWST and Chandra observations should be submitted to the observatory that represents the prime science (not to both observatories). STScI reserves the right to disallow JWST observations that duplicate those approved via any joint program unless the duplications are justified in the original proposals. While there is multi-wavelength expertise in the review panels for both observatories, typically the JWST panels will be stronger in IR science and the Chandra panels in X-ray science.

Establishing the technical feasibility of the Chandra observations is the responsibility of the PI, who should review the Chandra documentation or consult with the CXC. For proposals that are approved by JWST, the CXC will perform detailed feasibility checks in Chandra Cycle 26. The CXC reserves the right to reject any previously JWST-approved observation that proves infeasible, impossible to schedule, and/or dangerous to the Chandra instruments. Any Chandra observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST observations. Duplicate Chandra observations may also be rejected by the CXC.

Due to increasingly challenging thermal constraints, the amount of Chandra exposure time available for High Ecliptic Latitude (HEL) targets with absolute Galactic latitude > 55 degrees is extremely limited. If you request joint time on Chandra, please avoid long exposures on such targets if at all possible. You must note explicitly the requested amount of Chandra HEL time in the body of your science justification.

Similarly, constraints that may limit the number of days your targets are observable can be difficult to accommodate within Chandra scheduling. Chandra calculates this difficulty as Resource Cost (RC). Only a fixed total number of RC points, as calculated by Chandra’s RC calculator, may be awarded by Chandra’s joint partner observatories. Every proposal requesting joint Chandra time should explicitly list the RC total of their requested Chandra time in the body of the science justification. Additionally, the proposers must verify that Chandra will be able to acquire suitable star fields for a given target using the Star Checker tool (https://cxc.cfa.harvard.edu/toolkit/starchecker.jsp).

Joint JWST-Chandra Proposals must be specified in the "Coordinated Telescopes" section of the proposal with the necessary CHANDRA kiloseconds request. Also, you must include technical information about the Chandra observations in the "Coordinated Observations" section of the proposal.
Joint JWST-HST Observing Programs

By agreement with the HST Project, the JWST TAC may nominally award 300 orbits of HST observing time. Similarly, the HST TAC may nominally award 150 hours of JWST time. The time will be awarded only for highly ranked proposals that require use of both observatories and shall not apply to Archival or Theory Proposals. The only criterion above and beyond the usual review criteria is that both sets of data of the same target(s) are required to meet the primary science goals. Proposers should take special care in justifying both the scientific and technical reasons for requesting observing time on both missions. It is not essential that the project requires simultaneous HST and JWST observations.

If a science project requires observations with both the Hubble Space Telescope (HST) and JWST, then a single proposal may be submitted to request time on both observatories to the JWST Announcement of Opportunity, so that it is unnecessary to submit proposals to two separate reviews. The proposal should be submitted to the observatory that requires the larger time allocation (where 1 JWST hour is equivalent to 1 HST orbit). Since STScI operates both HST and JWST, the amount of time for JWST-HST Joint Proposals could be revised upwards if the demand is high.

Target of Opportunity observations are allowed. Target of Opportunity (TOO) proposals must state explicitly whether the HST observations require a disruptive ToO (observations within 21 days of notification). No more than one (1) disruptive HST ToO of the joint program will be performed per HST Cycle. Furthermore, Ultra-rapid HST ToO requests (reaction time 2 days or less) will not be accepted for this program; proposals asking for Ultra-rapid HST ToO observations must be submitted in response to the HST Call for Proposals, with HST as the primary observatory. It is mandatory that the PI informs both observatories immediately if the trigger criterion is fulfilled. For this solicitation, no HST time will be allocated without the need for JWST time on the same target to complete the proposed investigation.

Joint time is not allowed to be multi-cycle; that is, the JWST GO request can be multi-cycle in nature but any joint HST time requested can only be for the current cycle.

Establishing the technical feasibility of the HST observations is the responsibility of the PI, who should review the HST Call for Proposals, Instrument Handbooks, and/or contact the HST Helpdesk. The HST Helpdesk offers new features, to search our documentation and to send your question directly to the appropriate team of experts. Questions may also still be submitted via e-mail to help@stsci.edu. For proposals that are approved by JWST, STScI will perform detailed feasibility checks. STScI reserves the right to reject any previously JWST-approved observation that proves infeasible, impossible to schedule, and/or dangerous to the HST instruments. Any HST observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST observations. Duplicate HST observations may also be rejected by the STScI.

Joint JWST-HST Proposals must be specified in the "Coordinated Telescopes" section of the proposal with the necessary HST orbit request. Only a JWST single stream proposal is required at the time of submission, and, you must include technical information about the HST observations in the "Coordinated Observations" section of the proposal. Successful proposers will be contacted to provide an HST Phase II for their program.
Exclusive Access Periods for JWST data and HST data will be set independently following the policies for each observatory according to proposal size and type (for example, if the JWST observations are "large" and thus nonproprietary, but the HST observations are small, the HST data could be proprietary).

**Joint JWST-NASA Keck Observing Proposals**

By agreement with NASA HQ, the NASA Exoplanet Science Institute (NExScI) and the Space Science Telescope Institute (STScI), the JWST Telescope Allocation Committee (TAC) will award up to 10 - 15 nights of NASA Keck time during observing semesters 2024B (August 1, 2024 - January 31, 2025) and 2025A (February 1, 2025 - July 31, 2025) to highly ranked proposals that request observations from both JWST and NASA Keck. Particularly high priority observations that can only be completed in July 2024 (i.e. to coincide with the start of JWST Cycle 3 observations) may also be considered. The only criterion above and beyond the usual NASA Keck review criteria is that the project must require both data sets to meet the science goals. It is not essential that the project requires simultaneous NASA Keck and JWST observations. NASA Keck time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal).

Joint proposals for JWST and NASA Keck observations should be submitted to STScI. STScI reserves the right to disallow JWST observations that duplicate those approved via any joint program unless the duplications are justified in the original proposals.

For joint proposals requesting NASA Keck time:

- May request observations in the 2024B and/or 2025A semesters. Particularly high priority observations that can only be completed in July 2024 (i.e. to coincide with the start of JWST Cycle 3 observations) may also be considered. However most/all NASA Keck time awarded to a joint program will be scheduled after the start of the 2024B observing semester (August 1, 2024).
- NASA Keck data collected as part of a Joint Program will have the same Exclusive Access Period (EAP) as the JWST data.
- Keck observations approved through this joint program will be scheduled in a similar fashion to all other NASA Keck programs. NASA Keck observations lost to weather or instrument/telescope issues will not be rescheduled.
- Requests for contemporaneous/simultaneous JWST/Keck observations will be considered but cannot be guaranteed.
- Although teams may propose a similar or the same program to both the NASA Keck and JWST TACs, STScI and NExScI personnel will examine approved programs to avoid duplication of proposals/programs in the use of NASA Keck time.
- Up to 2 partner Keck Target of Opportunity/cadence interrupts can be awarded by the JWST TAC for the time period covered by the 2024B and 2025A observing semesters.
- Major results from these programs should be credited to both JWST and NASA Keck.
- NExScI will not provide funding to successful Joint Program PIs.
- Questions related to NASA Keck time specifically may be directed to keckcfp@ipac.caltech.edu

The instruments available for NASA Keck 2024A observations are listed [here](#) and we expect them to be the same for 2024B.
Establishing the technical feasibility of the NASA Keck observations is the responsibility of the PI. A description of the technical information that should be included in the proposal is given in JWST Preparation of the PDF Attachment. NExScI will perform a technical review of the Keck portion of the joint proposals approved by the JWST TAC and reserves the right to reject any approved observation determined to be infeasible, impossible to schedule, and/or dangerous to the telescopes or instruments. Any Keck observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST time allocation. We, therefore, urge proposers to discuss technical concerns with appropriate staff at both observatories.

Joint JWST-Keck Proposals must be specified in the "Coordinated Telescopes" section of the proposal with the necessary NASA Keck nights request. Technical information about the NASA Keck observations must be included in the "Coordinated Observations" section of the proposal.

**Joint JWST-NOIRLab Observing Proposals**

By agreement with the National Science Foundation’s National Optical-Infrared Astronomy Research Laboratory (NOIRLab), STScI will be able to award time on NOIRLab facilities to highly ranked proposals that request time on both JWST and NOIRLab telescopes. The award of time on NOIRLab facilities will be subject to approval by the NOIRLab Director, after nominal review by the NOIRLab TAC to avoid duplication of programs. Joint JWST /NOIRLab Proposals should be submitted to the observatory that represents the prime science facility (but not both). The important additional criterion for the award of NOIRLab time is that both the JWST and the ground-based data are required to meet the science goals of the project. Time will only be awarded to joint proposals if both data sets are required for the proposed science. It is not essential that the project requires simultaneous NOIRLab and JWST observations. Under this agreement, NOIRLab time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal). Major results from these programs would be credited to NOIRLab and JWST.

NOIRLab has offered up to 5% of its available time to proposals meeting the stated criteria. NOIRLab observing time will be implemented during the NOIRLab observing semesters (2024B and 2025A). Time cannot be requested for the preceding semester, 2024A. Time may be requested only for those facilities listed on the most recent Call for Proposals webpage. In addition, time on heavily-subscribed resources may be limited by the NOIRLab Director.

Establishing the technical feasibility of the proposed NOIRLab observations is the responsibility of the PI, who should review the NOIRLab documentation or consult with NOIRLab directly. A description of the technical information that should be included in the proposal is given in JWST Preparation of the PDF Attachment. All PIs of joint proposals MUST submit the technical description through the standard NOIRLab process by the nominal April 1, 2024 deadline for semester 2024B. For Gemini proposals, a Gemini PIT proposal must be submitted. For all other telescopes, the standard NOIRLab Time Allocation Proposal form must be submitted. Detailed information for Gemini and other telescopes can be found in the Call for Proposals for the 2024B semester. Proposals not received by the April 1, 2024 deadline may not be scheduled for NOIRLab time.
NOIRLab will perform feasibility checks, and reserves the right to reject any approved observation determined to be infeasible, impossible to schedule, and/or dangerous to the telescopes or instruments. Any NOIRLab observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST time allocation.

Joint JWST-NOIRLab Proposals must be specified in the "Coordinated Telescopes" section of the proposal with the necessary NOIRLab nights request. Also, you must include technical information about the NOIRLab observations in the "Coordinated Observations" section of the proposal.

**Joint JWST-NRAO Observing Proposals**

By agreement with the National Radio Astronomy Observatory (NRAO), STScI will be able to award time on NRAO facilities to highly ranked proposals that request time on both JWST and NRAO telescopes. For Cycle 3, NRAO has offered up to 5% of the available time on its North American facilities, namely the Robert C. Byrd Green Bank Telescope (GBT), the Very Large Array (VLA), and the Very Long Baseline Array (VLBA), for allocation by the JWST TAC in Cycle 3. In return, STScI has offered 50 hours of JWST time for allocation by the NRAO TAC to proposals submitted on or before either of the two NRAO semester deadlines. These time allocations could be updated in future cycles, subject to agreement between both partners.

Joint observing proposals will be available starting with NRAO Cycle 24B (proposal deadline January 31, 2024, with observations commencing in October 2024) and with JWST Cycle 3 (proposal deadline October 2023, with observations commencing in July 2024). Joint proposals will be permitted for the main call for JWST and both semester calls for the Observatory.

Joint JWST/NRAO Proposals should be submitted to the observatory that represents the prime science facility (not to both observatories). STScI reserves the right to disallow JWST observations that duplicate those approved via any joint program unless the duplications are justified in the original proposals.

NRAO observing time awarded through the JWST Cycle 3 review will be implemented during the Cycle 24B and Cycle 25A observing semesters. The award of time on NRAO facilities will be subject to approval by the NRAO Director, after nominal review by the NRAO TAC to avoid duplication of programs. The important additional criterion for the award of NRAO time is that both the JWST and the radio data are required to meet the science goals of the project. Time will only be awarded to joint proposals if both data sets are required for the proposed science. It is not essential that the project requires simultaneous NRAO and JWST observations. Under this agreement, NRAO time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal). Major results from these programs would be credited to NRAO and JWST.

Establishing the technical feasibility of the proposed radio observations is the responsibility of the PI, who should review the NRAO documentation or consult with NRAO directly. If approved for NRAO time, the PI must submit detailed observing information appropriate to the relevant NRAO facility. A description of the technical information that should be included in the proposal is given in Joint JWST-NRAO Observations.
NRAO will perform a technical review of proposals approved by the JWST TAC, and reserves the right to reject any approved observation determined to be infeasible, impossible to schedule, and/or dangerous to the telescopes or instruments. Any NRAO observations that prove infeasible or impossible could jeopardize the overall science program and may cause revocation of the corresponding JWST time allocation. We therefore urge proposers to discuss technical concerns with appropriate staff at both observatories. Discussions with NRAO staff should occur via the NRAO helpdesk.

Proposers must always check whether appropriate archival data exist, and provide clear scientific and technical justification for any new observations of previously observed targets. Observations awarded time that duplicate observations already approved by JWST or NRAO for the same time period may be canceled, or data sharing and cooperation among different groups may be necessary, as determined by the two observatories. This includes ToOs with similar trigger criteria, with or without previously known coordinates.

Be aware that some JWST targets might not require new NRAO observations because the joint science goals can be met using non-exclusive access archival data from the VLA, VLBA, or GBT that are available at http://science.nrao.edu/facilities/vla/archive. Also note that VLA continuum images from sky surveys at a wavelength of 20 cm and at a FWHM resolution of 45 arc seconds (see http://www.cv.nrao.edu/nvss/) or 5 arc seconds (see http://sundog.stsci.edu/top.html) are available.

All scientific data from NRAO telescopes have an exclusive access period where the data are reserved for the exclusive use of the observing team. The data archive policy and exclusive access periods are given at https://science.nrao.edu/observing/proposal-types/datapolicies. This policy applies to NRAO data taken through the joint JWST-NRAO program.

Joint JWST-NRAO Proposals must be specified in the "Coordinated Telescopes" section of the proposal. Also, you must include technical information about the NRAO observations in the "Coordinated Observations" section of the proposal.

Joint JWST-XMM-Newton Observing Proposals

By agreement with the XMM-Newton Observatory, the JWST TAC may award up to 200 kiloseconds of XMM-Newton observing time. Similarly, the XMM-Newton Observing TAC may award up to 40 hours of JWST time to highly rated proposals. The only criterion above and beyond the usual review criteria is that the project must be fundamentally of a multi-wavelength nature, and that both sets of data are required to meet the science goals. Time will only be awarded to joint proposals if both data sets are required for the proposed science. XMM-Newton time will only be awarded in conjunction with new JWST observations (and should not be proposed for in conjunction with an AR or Theory Proposal). Proposers should take special care in justifying both the scientific and technical reasons for requesting time on both missions.

If your science project requires observations from both JWST and the XMM-Newton Observatory, you can submit a single proposal to request time on both observatories to either the JWST Cycle 3 or the XMM-Newton Cycle AO-24 review. Joint JWST/XMM-Newton Proposals should be submitted to the observatory that represents the prime science facility (not to both observatories).
It is not essential that the project requires simultaneous XMM-Newton and JWST observations. No XMM-Newton observations with a reaction time of less than five working days from the trigger date will be considered. Target of Opportunity (ToO) Proposals must state explicitly whether the JWST observations require a disruptive ToO. No more than one disruptive ToO will be allocated per proposal. It is the responsibility of the PI to inform both observatories immediately if the trigger criterion is fulfilled.

Proposals for combined JWST and XMM observations should be submitted to the observatory that represents the prime science (not to both observatories). STScI reserves the right to disallow JWST observations that duplicate those approved via any joint program unless the duplications are justified in the original proposals. While there is multi-wavelength expertise in the review panels for both observatories, typically the JWST panels will be stronger in IR science and the XMM panels in X-ray science.

Establishing the technical feasibility of the XMM-Newton observations is the responsibility of the PI, who should review the XMM-Newton Instrument Handbooks. All standard observing restrictions for both observatories apply to joint proposals. For proposals that are approved, both projects will perform detailed feasibility checks. Both projects reserve the right to reject any approved observation that is in conflict with safety or schedule constraints, or is otherwise deemed to be non-feasible.

Joint JWST/XMM-Newton Proposals must be identified in the "Coordinated Telescopes" section of the proposal with the necessary XMM-Newton kiloseconds request. Also, you must include technical information about the XMM-Newton observations in the "Coordinated Observations" section of the proposal.

Next: JWST Observation Types
JWST Observation Types

There are various types of observations that JWST proposers can request.

On this page

- Primary observations
  - Target-of-Opportunity (ToO) Observations
  - Solar System Targets
  - Observations of Targets That Have Not Yet Been Discovered or Identified
  - Follow-up Observations of JWST Pre-imaging
  - Time-Constrained Observations
- Parallel Observations
  - Coordinated Parallel Observations
  - Pure Parallel Observations

Primary observations are classically targeted observations, which determine the telescope pointing, orientation, and scheduling. There other types of observations that require additional considerations in planning and scheduling. These include parallel observations (coordinated or as pure parallel), time constrained or critical observations, observations of Solar System targets, target-of-opportunity observations (disruptive or non-disruptive), follow-up of targets from JWST pre-imaging, and observations of targets that have not yet been discovered or identified.

Many of these observation types are described with examples in Methods and Roadmaps.

In general, observing programs that require the use of special requirements, especially those that affect timing and schedulability of observations, must include a scientific justification of why the Special Requirements are necessary.

Primary observations

Target-of-Opportunity (ToO) Observations

A target for JWST observation is deemed a Target of Opportunity (ToO) if it is associated with an event that may occur at an unknown time. ToOs are distinct from time constrained observations.
ToO targets include objects that can be identified in advance, but which undergo unpredictable changes (e.g., some dwarf novae), as well as objects that can only be identified in advance by class (e.g., novae, supernovae, gamma ray bursts, newly discovered comets, etc.). ToOs are generally not suitable for observations of periodic phenomena (e.g., eclipsing binary stars, transiting planets, etc.). ToO proposals must provide a clear definition of the trigger criteria and present a detailed plan for the observations to be performed in the technical justification of the PDF submission if the triggering event occurs. A ToO activation may consist of a single observation or of a set of observations executed with a pre-specified cadence.

ToO response times are specified in the APT Special Requirements. The minimum turn-around time for Non-disruptive ToO activation, without significant impact to the schedule, is 14 days. The minimum turn-around time for Disruptive ToO activation is 48 hours, measured from the time when the activation request is submitted to start of the first observation. Disruptive ToOs can be triggered with turn-around times less than 14 days, provided all of the proposal details (except possibly the precise target position) are available in advance. However, since disruptive ToO observations have a significant impact on the JWST schedule, each cycle (including Cycle 3) will be restricted to a total of 8 disruptive activations. Moreover, due to their scheduling impact, Disruptive ToOs required to be triggered within 3 days (ultra-disruptive ToOs) will incur an additional overhead of 30 minutes per activation. Disruptive and Ultra-Disruptive ToOs are not allowed for NIRSpec MOS. There is no limit on the number of Non-disruptive ToOs per cycle.

Information on activating an approved target of opportunity program is in JWST Target of Opportunity Program Activation.

**Carry-over ToOs**

Standard ToO proposals terminate at the end of each cycle. Proposers may apply for "carry-over" status if the target phenomena have a low probability of occurrence during one cycle. Carry-over ToOs will remain active through the subsequent cycle, and will terminate at the close of that cycle. The request for carry-over status must be made when the proposal is submitted. There is no mechanism for requesting an extension during the cycle. "Carry-over" ToOs are allowed for both disruptive and non-disruptive observations.

Requests for Carry-Over status should be justified in the APT Special Requirements.

**Future cycle ToOs**

As with other GO categories, non-disruptive ToO proposals can request triggers in up to 2 future cycles i.e. in cycles N, N+1 and N+2. Disruptive ToO proposals are restricted to the current cycle. Future cycle ToOs are not eligible for carry-over status. If a ToO is not triggered in Cycle N, then that time will be dropped from the program. GO programs should only request time in future cycles if they are specifically for objects triggered in that cycle, and not if they are associated with follow-up observations for an object triggered in a prior cycle.

Requests for Future Cycle time should be justified in the APT Special Requirements.

The APT coversheet should indicate the number of ToO activations per observation for each cycle under consideration. Proposers should use the "Future Cycle" drop-down menu to enter the future cycle time and use the "Request custom time allocation" to override the APT calculated allocation for the current cycle.

**Duplications**
In the case of duplications, triggers from previous-cycle ToOs have priority over current-cycle ToOs. Before applying for ToO observations, proposers must identify and discuss duplications with approved past-cycle carry-over programs or approved ToO programs with "Future Cycle Requests".

Solar System Targets

JWST can observe most targets within our Solar System, although there are a few exceptions. The Sun, Earth, Mercury, Venus, and the Moon cannot be observed due to the orientation of JWST’s sunshade. As moving targets, solar system targets may have reduced periods of visibility as compared to fixed targets. In Cycle 3 for moving targets, the rate of motion may not exceed 75 milliarcseconds per second. Proposers should consult the JDox Moving Target Field of Regard, JWST Moving Target Observations and the JWST Moving Target Visibility Tool pages for additional information in planning this type of observation. Proposers must ensure that an ephemeris of sufficient accuracy is available for the appropriate epoch; observations that prove infeasible for technical reasons will be disallowed.

NIRSpec MSA-based observations of moving targets may only be proposed using the MOS Longslit observing method with the Wide Aperture Target Acquisition or Verify Only TA options. MSA-based Target Acquisition (MSATA) is not possible on moving targets.

Observations of Targets That Have Not Yet Been Discovered or Identified

Investigators may wish to propose for JWST observations of targets that have not yet been discovered or identified. With the exception of NIRSpec MOS observations that require pre-imaging (see Follow-up Observations of JWST Pre-imaging), such proposals are generally allowed only if there is a certain time-criticality to the observations, where proposing for the same observations in the next regular review cycle (after the target has been discovered) would be impossible or would make the observations more difficult (e.g., the object fades rapidly, or its temporal behavior is important), or would lead to diminished scientific returns. Those criteria are generally satisfied for GO observations of ToO targets, and there may also be other circumstances in which proposals for such targets are justified. However, in the absence of demonstrated time-criticality, observations will generally not be approved for targets that have not yet been discovered or identified. Examples of targets that are not suitable for this type of proposal include color-selected galaxies, transiting exoplanets or stars newly discovered in the course of an ongoing survey.

Follow-up Observations of JWST Pre-imaging

Same-cycle follow-up spectroscopic observations of sources identified through JWST NIRCam imaging programs are permitted. For example, a proposal may request imaging with NIRCam as a means of identifying a specific type of target (e.g. high redshift galaxies) for subsequent spectroscopy with NIRSpec. The proposal must include the imaging observation defined in APT, and specify the expected number density and magnitude distribution in the anticipated discovery of new targets.
Proposers should be aware of the minimum timeline for pre-imaging, and other restrictions, detailed in NIRSpec MOS and MSATA Observing Process and NIRSpec MOS Operations - Pre-Imaging Using NIRCam.

**Time-Constrained Observations**

Time constrained observations with JWST are observations required to begin within a specified date and time interval, or specified phase for sources with known periods. They constrain the JWST schedule to an extent dependent on the length of the window for the start time.

Time critical observations are those required to start within a constrained window that is less than 1 hour. Due to their impact on the schedule, time critical observations will incur an additional overhead of 1 hour per visit. Observations with execution windows greater than or equal to 1 hour are not considered to have a significant impact on the scheduling, and therefore do not incur any additional overheads. See JWST Observing Overheads and Time Accounting Overview for a description of accounting, including Smart Accounting, and overhead terms.

There are several kinds of time constrained observations that could be considered time critical in some way. Some scientific examples might include observations of specific phases of variable stars, many transiting exoplanet observations, and some solar system observations. Observations that require a particular telescope orientation (or position angle) are implicitly time constrained; annual visibilities at a specific orientation can be limited to 10 days or less. The JWST Target Visibility Tools and/or JWST Moving Target Visibility Tools may be useful in determining these time constraints on a fixed orientation at a given date of observation.

Coordinated JWST observations with other observatories are by definition time constrained observations, which may or may not be time critical. Linked subsequent observations (specified using the SEQUENCE OBSERVATIONS NON-INTERRUPTIBLE timing special requirement in APT) do not necessarily incur additional overheads, unless they are also specified as time critical visits with critical scheduling windows. Linked observations that are scheduled to occur within 4 hours of a previous observation will be considered time critical observations, incurring the additional overhead. *Proposers can only request SEQ NON-INT with a clear scientific justification. Unjustified requests will not be permitted.*

Proposals may request time constrained observations for a specific date or range of specific dates, when scientifically justified, and can be specified in APT with Timing Special Requirements. See JWST Time-Series Observations for planning monitoring sequences. *All time constraints should be justified in APT and in the Special Requirements section of the PDF.*

**Parallel Observations**

Parallel observing refers to simultaneously operating more than a single science instrument (limited to two instruments for Cycle 3). For JWST proposals, there will be two basic modes of parallel operations: coordinated parallels and pure parallels. Further information with examples, roadmaps, and templates are provided on JWST Parallel Observations. Related policy can be found on JWST Science Parallel Observation Policies and Guidelines.
Coordinated Parallel Observations

Coordinated science parallel observations are those in which simultaneous observations are made with an instrument other than the primary instrument. Coordinated science parallel observations must have science goals that support or complement the prime science programs, and must be explicitly justified in the proposal. In Cycle 3, the following coordinated parallel modes will be supported:

- NIRCam WFSS prime: MIRI imaging or NIRISS imaging as parallels
- NIRCam Imaging prime: MIRI imaging, NIRISS imaging or NIRISS WFSS as parallels
- MIRI imaging prime: NIRCam imaging or NIRISS WFSS as parallels
- NIRISS WFSS prime: MIRI imaging or NIRCam imaging as parallels
- NIRSpec MOS prime: MIRI imaging or NIRCam imaging as parallels.

NIRISS WFSS with NIRCAM WFSS is not supported as a coordinated parallel, however that combination is possible as a pure parallel. Only direct imaging with standard narrow, medium, or broad band filters is allowed for NIRCam and MIRI observations in these coordinated parallel modes. Additional instrument combinations may be available in future cycles.

Pure Parallel Observations

Pure-parallel observations utilize instruments other than the primary instrument on observations from unrelated proposals. Unlike coordinated parallels, pure parallel observations are proposed as entirely separate programs of investigation. Pure parallels use parallel observing slots created by observations of programs that do not use coordinated parallels. Pure parallel observations will not be allowed to influence the dither patterns or other aspects of the observing strategy of the primary observations to which they are attached, since the primary observations will belong to entirely separate science proposals. Pure parallel observations are only paired with same cycle prime programs. Due to the way that they are implemented the number of pure parallel opportunities executed cannot be guaranteed. Primary observations have priority. Onboard systems track the data storage and automatically drop parallel observations if the solid-state recorders cross a threshold capacity.

Pure-parallel programs may propose for observations with NIRCam imaging, NIRCam WFSS, NIRISS imaging, NIRISS WFSS and MIRI imaging (NIRSpec is not allowed as the parallel instrument). For accepted programs, the observations will be paired with suitable prime observations from other programs. Some prime templates cannot have pure parallels attached to them, including MIRI Coronagraphic Imaging, NIRCam Coronagraphic Imaging, NIRCam Time Series, NIRCam Grism Time Series, NIRISS Single Object Slitless Spectroscopy, NIRISS Aperture Masking Interferometry, and NIRSpec Bright Object Time Series. Please check JWST Parallel Observations for the full list of template combinations that are allowed and expected to be available for use in Cycle 3. For pure parallels, only a single exposure specification is allowed per observation. We anticipate that pure parallel opportunities with durations from ~100 seconds to several thousand seconds will be available; the number of such opportunities will not be known until the Cycle 3 GO program is selected, but, as a guide, approximately 200 moderate to long-duration visits (>1500 seconds) at high galactic latitude were available for pure parallels in Cycle 2. Note that observatory activities such as calibration observations for the instruments will take priority in the assignment of available pure parallel slots.
Next: JWST Data Rights and Duplications

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JWST Data Rights and Duplications

This page describes the exclusive access periods that are associated with various types of JWST proposals, as well as the policies regarding duplication of existing data.

On this page

- Data rights
- Policies and procedures regarding duplications

Data rights

Depending on the Proposal Category (see JWST Proposal Categories), observers may have exclusive access to their science data during an exclusive access period. For Small and Medium GO proposals and for Survey proposals, this period is normally 12 months following the date on which the data are archived. At the end of the exclusive access period, the data become available without restriction through the MAST Archive.

Submitters of Small and Medium GO proposals and of Survey proposals who wish to request a shorter exclusive access period of 3 or 6 months, or who are willing to waive their exclusive access rights altogether, should specify the desired Exclusive Access Period on the Proposal Information page in APT. Because of the potential benefit to the community, particularly in the case of Survey programs, proposers should give this serious consideration (see JWST Proposal Selection Procedures).

Data taken under the Treasury, Calibration, and Large Program categories will by default have no exclusive access period. Any request for non-zero exclusive access periods for programs in these categories must be justified in the APT Special Requirements and will be subject to review by the TAC.

Policies and procedures regarding duplications

Observations taken as part of the GO program cannot duplicate those specified by previously approved GO programs, Guaranteed Time Observations (GTOs) or Director's Discretionary Programs, including the Early Release Science programs, unless there is an appropriate scientific justification. Generally, an observation is considered a potential duplication if it is on the same astronomical target or field, with the same instrument in the same mode, with the same spectral resolution and spectral range, and an on-target exposure time within a factor of 4 of the previously-scheduled observation. Duplicate observations must be justified explicitly in the proposal. Proposers should refer to the JWST Duplication Policy for the complete description of the policy requirements.

Next: JWST Proposal Selection Procedures
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JWST Proposal Selection Procedures

JWST proposals will be reviewed by panels of scientists from the international astronomical and planetary science communities that will make recommendations to the STScI Director. Information on the rubric can be found in Selection Criteria and Scoring System.

On this page

- How STScI Conducts the Proposal Review
  - The Review Panels
  - The Executive Committee
  - The Expert Reviewers
- Selection Criteria
  - Primary Criteria for All Proposals
  - Additional Criteria for All GO Proposals
  - Additional Criteria for Large GO, Treasury GO, and Legacy AR proposals
  - Additional Criteria for Treasury GO proposals and Legacy AR Proposals
  - Additional Criteria for Survey Proposals
  - Additional Criteria for Calibration Proposals
  - Additional Criteria for all Archival Proposals
  - Additional Criteria for Theory Proposals
  - Additional Criteria for Community Data Science Software Proposals

How STScI Conducts the Proposal Review

JWST programs are selected through competitive peer review. A broad range of scientists from the international astronomical and planetary science community evaluate and rank all submitted proposals using a well-defined set of criteria and paying special attention to any potential conflicts of interest. The review panels and the Executive Committee constitute the Telescope Allocation Committee (TAC) that recommends the science program to the STScI Director. The STScI Director is the Selecting Official for JWST. Based on the recommendations, the Director will make the final allocation of observing time. Full details on the peer review process are given in the JWST Peer Review Guide.

The Review Panels

Dependent on their size, proposals in JWST Cycle 3 will be reviewed either by external panelists or by discussion-based review panels.
The Cycle 3 discussion-based (i.e., face-to-face) review is planned to comprise sixteen topical panels, one for solar system astronomy, four for exoplanets and exoplanet formation, two for stellar physics and stellar types, two for stellar populations (and the ISM), four for galaxies, two for supermassive black holes and active galaxies, and one for large scale structure of the universe. Each panel will be managed by a panel chair, and there will be one overall TAC chair overseeing the review process. Panelists are chosen based on their expertise in one or more of the areas under review by the panels. The face-to-face panels assess and grade Medium GO proposals (requesting 35 to 75 hours), Small GO proposals requesting 16-35 hours and all Target of Opportunity and Survey proposals, regardless of size. The time allocated to each panel is proportional to the time requested by the proposals assigned to that panel; there are separate allocations for Small and medium proposals. Panels do not adjudicate Large (>75 hours) or Treasury GO proposals or AR Legacy proposals, but they will advise their chair on the scientific merit of the subset of those proposals assigned to their panel.

The remaining Very Small GO proposals (up to 15 hours) and regular AR proposals will be distributed for external review. Those proposals will be assessed by five experts who will grade on an absolute scale against the primary criteria: scientific merit within the field, broader importance for astronomy and the strength of the data analysis plan; JWST’s unique capabilities must also be required to achieve the scientific goals. External Panels are chosen based on their expertise in one or more of the scientific topics covered by the panel. Each external panelist will receive a limited number of proposals. The proposals will be grouped by subject area; the proposals likely to be recommended to the Director for acceptance will be provided to the chair of the appropriate face-to-face panel prior to the meeting to allow them to identify potential conflicts with the proposals reviewed by the panel.
Panel | Science topics
--- | ---
Large-scale Structure of the Universe | Cosmology, dark matter, cosmic infrared background, galaxy clusters, gravitational lensing, high-z universe, deep field surveys, large-scale structure and reionization
Supermassive Black Holes and Active Galaxies | AGN, QSOs, Seyfert galaxies, and feedback mechanisms
Galaxies and the IGM | Studies of galaxies as systems including nearby galaxies, interacting galaxies, elliptical galaxies, starbursts, luminous IR galaxies (LIRGS/ULIRGS/HLIRGS), galaxy evolution, dwarf galaxies, unresolved stellar populations
Stellar Populations and the ISM | Resolved stellar populations, gas and dust in the Galactic interstellar medium and in nearby galaxies, H II regions, star clusters, star-forming regions
Stellar Physics and Stellar Types | Studies of individual stars including massive stars, YSOs & protostars, evolved stars, compact objects, cool stars, brown dwarfs, supernovae, and gamma-ray bursts
Exoplanets and Exoplanet Formation | Exoplanets, debris disks, protoplanetary disks
Solar System | Trans-Neptunian objects, asteroids, comets, planets, moons

Proposals are assigned to individual reviewers based on the reviewers' expertise and based partly on the keywords given in the proposal and partly on analysis of the proposal text.

⚠️ The review panels will follow dual anonymous protocols, with the exception of a team expertise review for the highest-ranked proposals after ranking has been completed. It is important that submissions are conform to the requirements of this type of review. Failure to do so will result in the disqualification of the submission. See [JWST Anonymous Proposal Reviews](#) for more information on what is required for the Cycle 3 review.

### The Executive Committee

The Executive Committee includes the TAC chair, the panel chairs from all panels, and, typically, three at-large members chosen to provide broad expertise across a wide range of scientific categories. The primary responsibility of the Executive Committee is to review Large GO proposals (> 75 hours), Treasury GO programs, Legacy AR programs and other requests for substantial resources, such as large Pure Parallel programs. The Executive Committee are provided additional input on proposals through reviews written by external Expert Reviewers and feedback from the discussion panels via the panel chair.
The Expert Reviewers

Expert reviews provide asynchronous reviews for: (1) proposals evaluated by the Executive Committee; (2) proposals with a large number of panelists that are conflicted; (3) joint-observatory proposals. In the last case, the Expert Reviewers are drawn from the joint-observatories' user communities.

Selection Criteria

Reviewers are instructed to focus on the science case presented in the proposal. Evaluations of JWST proposals are based on the following criteria.

Primary Criteria for All Proposals

- The scientific merit of the program and its potential contribution to the advancement of scientific knowledge;
- The program's importance to astronomy in general. This should be stated explicitly in the “Scientific Justification” section of the proposal;
- A demonstration that the unique capabilities of JWST are required to achieve the science goals of the program.

Additional Criteria for All GO Proposals

- The rationale for selecting the type and number of targets: Reviewers will be instructed to recommend or reject proposals as they are and to refrain from object or hour trimming. Therefore, it is very important to strongly justify both the selection and the number of targets in your proposal, as well as the number of hours requested.
- The reasonability of requested resources.
- The technical feasibility of the project and the likelihood of success. Quantitative estimates of the expected results and the needed signal to noise ratio of the data must be provided.

Additional Criteria for Large GO, Treasury GO, and Legacy AR proposals

- The level of coordination of the overall work described and the production of appropriate databases and/or tools.
• The utility of the data higher-level data products and/or tools.

Additional Criteria for Treasury GO proposals and Legacy AR Proposals

• The extent to which the data products will enable additional scientific investigations and the importance of those investigations.
• The level of data products produced and plans for their timely dissemination to the community. High-level science products should be made available through the MAST data archive or related channels.

Additional Criteria for Survey Proposals

• Willingness to waive all or part of the exclusive access period. While this is not the primary criterion for acceptance or rejection, the reduced period can bring additional benefits to any proposal and will be weighed by the reviewers accordingly.
• The TAC will evaluate the science within the context of the optimal number of targets and minimum number of targets indicated in the Special Requirements Section of the proposal.

Additional Criterion for Calibration Proposals

• The extent to which these observations or analyses enable new types of scientific investigations with JWST and the importance of those observations.

Additional Criteria for all Archival Proposals

• The improvement or addition of scientific knowledge with respect to the original use of the data. In particular, a strong justification must be given to reanalyze data if the new project has the same science goals as the original proposal.
• A well-developed analysis plan describing how the scientific objectives will be realized, and its consistency with the funding level for the proposed category.

Additional Criteria for Theory Proposals

• The extent and importance of JWST science investigations enabled by the theoretical analysis and results.
• The level of planning for timely dissemination of theoretical results, and possibly software or tools, to the community.
Additional Criteria for Community Data Science Software Proposals

- The relevance of the proposed software development to JWST science investigations and/or data reduction or interpretation.
- The level of planning for timely dissemination of the proposed software products to the community.

Next: JWST Guidelines and Checklist for Proposal Preparation

| Latest updates |  
|----------------|---|
| Originally published | 15 Aug 2023 |
JWST Guidelines and Checklist for Proposal Preparation

Formatting of proposals, page limits for various types of proposals, and a checklist for proposers to consult when developing their observing proposals, are covered in this article.

On this page

- General guidelines
  - Deadline
  - Proposal format
  - Page limits
- Proposal preparation checklist

General guidelines

Deadline

The deadline for proposal submission is **October 25, 2023 by 8:00pm US Eastern Daylight Time**. As part of the proposal submission process, proposers should submit a Team Expertise and Background section, following the instructions in JWST Filling Out the APT Proposal Form. We strongly recommend that proposers start preparing their proposals early in order to give themselves enough time to learn APT. Cycle 3 will use APT 2023.5 or higher and ETC 3.0 in proposal preparation. APT 2023.5 and ETC 3.0 will become public around 24 August 2023.

Please submit well before the deadline whenever possible, to avoid possible last-minute hardware or overloading problems, or network delays/outages. Proposals can be re-submitted multiple times; the latest version submitted before the deadline will be the version that is evaluated. Late proposals will not be considered.

Questions about policies and technical issues should be addressed to the STScI Helpdesk well before the deadline. While we attempt to answer all questions as rapidly as possible, we cannot guarantee a speedy response in the last week before the deadline.

Proposal format

Cycle 3 Proposals must be submitted electronically. The Java-based APT (the Astronomer's Proposal Tool) is the interface for all proposal submissions for JWST.

A proposal consists of two parts:
• a completed APT proposal form; and
• an attached PDF file. **Note: Proposals should be anonymized in accordance with the specified guidelines.**

Both are submitted to STScI directly from within APT.

## Page limits

There are page limits on the size of your PDF attachment. The table below outlines these limits for different proposal categories.

### Table 1. Page limits

<table>
<thead>
<tr>
<th>Proposal Category</th>
<th>Total Page Limit for PDF Attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small GO</td>
<td>8</td>
</tr>
<tr>
<td>Long-Term GO</td>
<td>8</td>
</tr>
<tr>
<td>Calibration GO and AR</td>
<td>8</td>
</tr>
<tr>
<td>Survey</td>
<td>8</td>
</tr>
<tr>
<td>Regular AR</td>
<td>8</td>
</tr>
<tr>
<td>Combined GO-Archival</td>
<td>8</td>
</tr>
<tr>
<td>Theory AR</td>
<td>8</td>
</tr>
<tr>
<td>Data Science Software AR</td>
<td>8</td>
</tr>
<tr>
<td>Cloud Computing AR</td>
<td>8</td>
</tr>
<tr>
<td>Medium GO</td>
<td>9</td>
</tr>
<tr>
<td>Large GO</td>
<td>11</td>
</tr>
<tr>
<td>Treasury GO</td>
<td>11</td>
</tr>
<tr>
<td>Legacy AR</td>
<td>11</td>
</tr>
</tbody>
</table>

1 For **Joint JWST-ALMA, Joint JWST-Chandra, Joint JWST-HST, Joint JWST-NOIRLab, Joint JWST-NASA Keck, Joint JWST/XMM-Newton** and **Joint JWST/NRAO Proposals**, users should determine whether their proposal is Small, Medium or Large based on the JWST hours request, and use the appropriate page limits. DD proposals are also required to follow these guidelines.
In relation to these page limits, note the following:

- Proposals that exceed the page limits will be penalized in the review process. Proposals that exceed the page limits will be penalized in the review process; and risk being disqualified from the review in extreme cases.
- There are no limits on the numbers of figures and tables in the PDF attachment, and they may be interspersed in the text. However, the total page limit must be observed.
- References should be listed at the end of the proposal and do not count against the page limits. References have no particular formatting requirements (you can use your favorite style).
- Your PDF attachment must be prepared with a font size of 12pt. Do not change the format of any of the templates provided by STScI.
- **While there are no specific page limits on the scientific justification, the strongest proposals will have a balance between scientific justification and the other required sections (such as the Technical Description or the Analysis Plan) so that reviewers can accurately assess the merits and feasibility of a proposal using the selection criteria. Historically, scientific justifications for different types of programs range from 3-6 pages (depending on proposal type).**

### Proposal preparation checklist

**Table 2. Proposal preparation checklist**

<table>
<thead>
<tr>
<th>Step</th>
<th>Procedure</th>
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</thead>
<tbody>
<tr>
<td>1) Review the JWST Proposal Checklist</td>
<td>The JWST Proposal Checklist is a high level step-by-step guide to writing a proposal. It includes links to various documents.</td>
</tr>
<tr>
<td>2) Install APT</td>
<td>Go to the APT webpage. Follow the instructions there to download and install the latest version of APT onto your machine. You can also ask your system administrator to do an institution-wide installation.</td>
</tr>
<tr>
<td>3) Fill out the APT information</td>
<td>Use APT to fill out the form. Information on the use of APT, including movie tutorials, is available on the APT webpage. A description of which items are requested as well as guidelines for answers are presented in JWST Filling Out the APT Proposal Form. Proposers can save work in progress, so APT submission can be completed over several sessions.</td>
</tr>
<tr>
<td>4) Download a template file for the creation of your PDF attachment</td>
<td>Download one of the templates to create your PDF attachment. There are separate template files for GO and for AR/Theory Proposals. Template files are available in several popular word-processing applications, including LaTeX and Microsoft Word.</td>
</tr>
<tr>
<td>5) Edit the template</td>
<td>Edit the template using your favorite word-processing application. A description of which issues need to be discussed, and guidelines for how to discuss them, are presented in JWST Preparation of the PDF Attachment.</td>
</tr>
<tr>
<td>6) Anonymize the PDF attachment</td>
<td>Ensure that your PDF attachment containing your Scientific and Technical sections are sufficiently anonymized, in accordance with the JWST Anonymous Proposal Reviews guidelines. Violations of the anonymizing guidelines may be flagged for potential disqualification by STScI staff. See the Cycle 2 JWST Peer Review Information and Dual Anonymous Proposals Guide for Reviewers for more information (these reviewer guidelines have not changed from Cycle 2).</td>
</tr>
<tr>
<td>7) Create the PDF attachment.</td>
<td>Transform your edited template into a PDF file. Any figures in your proposal must be included into this PDF file. We will provide the reviewers with the electronic PDF files so that figures can be viewed in color. However there is no guarantee that the reviewers will view the files electronically, so please make sure your figures are useful when printed using grey scales.</td>
</tr>
<tr>
<td>8) Add the PDF filename path to the APT form</td>
<td>In your APT form, list in the appropriate box the path that points to the PDF attachment file on your local disk.</td>
</tr>
<tr>
<td>9) Review your proposal</td>
<td>In APT, click on ‘PDF Preview’ to get a preview of all the final information in your proposal. What you will see is the fully synthesized proposal we keep on record at STScI. The reviewers will see essentially the same, without the list of investigators and without the Team Expertise and Background sections (see JWST Proposal Selection Procedures). If you are not satisfied at this stage, make any necessary changes. Take care to check your submission carefully. You are responsible for ensuring that your PDF upload does not include extraneous material (such as extra cover pages, team expertise statements, or backup material). Extraneous material that causes the proposal to exceed the page limits or to violate Dual Anonymous Peer Review will lead to disqualification of the proposal without review. APT supports UTF-8 for the title, abstract, observing description and observation comment, but make sure all special characters appear correctly.</td>
</tr>
<tr>
<td>10) Institutional Endorsement</td>
<td>STScI does not require institutional endorsement of GO/AR Proposals. However, some institutions do require such endorsement of all submitted proposals. It is the responsibility of each PI to follow all applicable institutional policies concerning the submission of proposals.</td>
</tr>
<tr>
<td>11) Submit your proposal</td>
<td>In APT, use the Submission tool to submit your proposal to STScI. All parts are sent together (i.e., both the APT form information and the PDF attachment).</td>
</tr>
</tbody>
</table>
12) Receive an STScI acknowledgment of your submission

Verification of a successful submission will appear in the Submission Log on the Submission Screen in APT within about a minute. Also, the PI and all Co-Is will receive an automatic email acknowledgment that the merged PDF submission was received successfully. After the Proposal Deadline has passed, and all submissions are in their final form, you will receive final notification that your submission has been successfully processed; this email will mark the completion of the submission. If you do not receive the final notification email within 72 hours of the deadline, please contact the STScI Help Desk and provide the submission ID from the APT Submission Log window. If there are any problems associated with your PDF attachment, you will be contacted by email.

Next: JWST Filling out the APT Proposal Form

<table>
<thead>
<tr>
<th>Latest updates</th>
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<tbody>
<tr>
<td>Originally published</td>
<td>15 Aug 2023</td>
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</table>
JWST Filling Out the APT Proposal Form

This article provides a walk through of the various parts of the Astronomer's Proposal Tool (APT), and the software through which JWST proposals are developed and submitted.
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<td>- Title</td>
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<td>- Abstract</td>
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<tr>
<td>- Category</td>
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<td>- Theory</td>
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<td>- Expandable Menus</td>
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<tr>
<td>- Requested Resources</td>
</tr>
<tr>
<td>- Science Time and Charged Time</td>
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<tr>
<td>- Request Custom Time Allocation</td>
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<tr>
<td>- Exclusive Access Period</td>
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<tr>
<td>- Scientific Category</td>
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<tr>
<td>- Alternate Category</td>
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<tr>
<td>- Keywords</td>
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<td>- Coordinated Telescopes</td>
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<tr>
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<td>- Chandra ksec</td>
</tr>
<tr>
<td>- HST Orbits</td>
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<tr>
<td>- NASA Keck Nights</td>
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<tr>
<td>- NOIRLab Nights</td>
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<tr>
<td>- NRAO Hours</td>
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<tr>
<td>- XMM-Newton ksec</td>
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<tr>
<td>- Proposal PDF Attachment</td>
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<tr>
<td>- Proposal Observing Description</td>
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<td>- Team Expertise and Background</td>
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<td>- Contact</td>
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<tr>
<td>- Co-Investigators</td>
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<td>- Targets</td>
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<tr>
<td>- Observing Summary</td>
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<tr>
<td>- Special Requirements</td>
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<tr>
<td>- Verifying Special Requirements</td>
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</tbody>
</table>
As described in JWST Proposal Checklist, a proposal consists of a completed APT proposal form and an attached PDF file. This article describes the items that must be filled out in the APT proposal form; this information is also available from the context-sensitive help in APT. Not every item described here needs to be filled out for every proposal. For example, some items are only relevant for observing proposals, while others are only relevant for archival proposals. APT will automatically let you know which items need to be filled out, depending on which proposal type you choose. JWST Preparation of the PDF Attachment describes the items that must be addressed in the attached PDF file.

**Introductory material**

**Title**

The title of your proposal should be informative, and must not exceed two printed lines. Please use mixed case instead of all upper case.

**Abstract**

Write a concise abstract describing the proposed investigation, including the main science goals and the justification for requesting observations or funding from JWST. The abstract must be written in standard ASCII and should be no longer than 20 lines of 85 characters of text. This limit is enforced by APT.

**Category**

Select one of the following categories:

- GO—General Observer Proposal
- Survey—Survey Proposal
- AR—Archival Research Proposal

Proposals for Director’s Discretionary Time submitted outside of the normal review cycles should select:

- DD—Director’s Discretionary Time Proposal

**Legacy**

(This item appears in the APT form only for AR Proposals)

Mark this keyword if you are submitting an AR Legacy Proposal.
Theory

(This item appears in the APT form only for AR Proposals)
Mark this keyword if you are submitting an AR Theory Proposal.

Cloud Computing

(This item appears in the APT form only for AR Proposals)
Mark this keyword if you are submitting an AR Cloud Computing Studies Proposal

Data Science Software

(this item appears in the APT form only for AR Proposals)
Mark this keyword if you are planning to request funding for the development of software products that will be made available to the community for the purposes of analyzing JWST data.

Calibration

Mark this keyword if you are submitting a Calibration Proposal. This keyword can be set for both GO and AR Proposals.

Treasury

(This item appears in the APT form only for GO Proposals)
Mark this keyword if you are submitting a GO Treasury Proposal.

GO-Archival

(This item appears in the APT form only for GO Proposals. Once checked, the set of flags for AR proposals will appear.)
Mark this keyword if your proposal combines a request for new data with significant archival research.

Cycle
For a Cycle 3 Proposal, enter "3" (this is the default).

**Expandable Menus**

Make sure to mark the APT coversheet appropriately using the menus that expand out on the Proposal Information page, such as "Explain unschedulable observations", "Supply Meteoroid Zone Justification", "Request custom time allocation", "Future Cycles", and "Coordinated telescopes", providing all the requested information. If these fields are not marked and filled out in the APT coversheet those requests might not be met, even if they are described in the proposal.
Requested Resources

Science Time and Charged Time

(This item appears in the APT form for GO and Survey Proposals)

APT calculates the Science Time and the Charged Time. The Science Time is the amount of time that the instruments spend on sky, observing targets, while the Charged Time also includes all of the instrument and observatory overheads needed to support the science observations. Long-Term Proposals should provide a year-by-year breakdown of the hours requested using the "Future Cycles" pull-down menu where "Next Cycle" corresponds to Cycle 4 and "Third Cycle" corresponds to Cycle 5.

Request Custom Time Allocation

To request custom time allocation, please follow instructions here.
Exclusive Access Period

(This item appears in the APT form only for GO and Survey Proposals)

Enter the requested exclusive access period (formerly known as a proprietary period), of either 0, 3, 6, 12 (months), that will apply to all observations in the program. The default exclusive access period is 0 for Large and Treasury GO Programs, and 12 for Medium GO Programs, and 12 months for Small GO and Survey programs. See JWST Data Rights and Duplications for more information. The benefits of or need for a non-default exclusive access period must be discussed in the "Special Requirements" section of the proposal.

Scientific Category

Specify one Scientific Category from the list below. Please adhere to our definitions of these categories. If you find that your proposal fits into several categories, then select the one that you consider most appropriate. If you are submitting a Calibration AR Proposal, then choose the Scientific Category for which your proposed calibration will be most important. STScI reserves the right to re-assign proposals to categories to ensure the highest chance of the proposal being reviewed by the proper expertise.

• **SOLAR SYSTEM ASTRONOMY:** This includes all objects belonging to the solar system (except the Sun, Mercury, Venus, Earth and Moon), such as planets, minor planets, comets, asteroids, planetary satellites, and Kuiper-belt objects.

• **EXOPLANETS AND EXOPLANET FORMATION:** This includes all objects belonging to extrasolar planetary systems, and observations of their host stars, as well as all studies of circumstellar and proto-planetary disks.

• **STELLAR PHYSICS AND STELLAR TYPES:** This includes stars of all temperatures and evolutionary phases, including pre-main sequence stars, supernovae, pulsars, X-ray binaries, CVs, and planetary nebulae. It also applies to ISM and circumstellar matter in the Milky Way.

• **STELLAR POPULATIONS AND THE INTERSTELLAR MEDIUM:** This includes resolved stellar populations in globular clusters, open clusters or associations, and the general field of the Milky Way and other nearby galaxies. Studies of color-magnitude diagrams, luminosity functions, initial-mass functions, internal dynamics and proper motions are in this category.

• **GALAXIES:** This includes studies of the initial mass function, stellar content and globular clusters in distant galaxies, galaxy morphology and the Hubble sequence, and low surface-brightness galaxies. Starbursts, IR-bright galaxies, dwarf galaxies, galaxy mergers and interactions may fall under this heading. This category also includes studies of gas distribution and dynamics in distant galaxies. Starbursts, IR-bright galaxies, dwarf galaxies, galaxy mergers, and interactions may also fall under this heading if the emphasis is on the ISM.
• **THE INTERGALACTIC MEDIUM AND THE CIRCUMGALACTIC MEDIUM**: This category includes the physical properties and evolution of absorption-line systems detected along the line of sight to quasars, inflow and outflow of gas to the CGM/IGM, and other observations of the diffuse IGM, and the spectroscopy and imaging of damped Ly-alpha systems. This category will be merged with Galaxies to form the panels.

• **SUPERMASSIVE BLACK HOLES AND ACTIVE GALAXIES**: This encompasses active galaxies and quasars, including both studies of the active phenomena themselves, and of the properties of the host galaxies that harbor AGNs and quasars. The definition of AGN is to be interpreted broadly; it includes Seyfert galaxies, BL Lac objects, radio galaxies, blazars, and LINERs.

• **LARGE-SCALE STRUCTURE OF THE UNIVERSE**: This includes studies of the structure and properties of clusters and groups of galaxies, strong and weak gravitational lensing, galaxy evolution through observations of galaxies at intermediate and high redshifts (including for example, the Hubble Deep Fields), cosmology in general, the structure of the universe as a whole, cosmological parameters, the extra-galactic distance scale and reionization.

Proposals in these Scientific Categories will be reviewed by panels of the same names.

**Alternate Category**

If your science goals straddle two separate science categories, users have the option to add an alternate category which will allow keywords from both categories up to a limit of 10 total keywords, thus providing more flexibility in where the proposal will be assigned for review.

**Keywords**

From the list of Scientific Keywords (see Appendix - Scientific Keywords), please select those that best describe the science goals of the proposal. Your choice here is important. Based on the keywords that you specify, your proposal will be assigned to specific reviewers during the proposal review. Please give as many keywords as possible, but not more than five. You must give at least two.

**Coordinated Telescopes**

Proposals with Coordinated Observations should provide the requested information regarding the Partner Observatory using the "Coordinated Telescopes" pull-down menu.

**ALMA Hours**

(This item appears in the APT form only for GO Proposals)
If you are asking for both JWST and ALMA observing time then list the requested number of ALMA hours. You should also provide detailed information on the ALMA observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new ALMA observations, then enter "0" here.

**Chandra ksec**

*(This item appears in the APT form only for GO Proposals)*

If you are asking for both JWST and Chandra observing time then list the requested number of Chandra kiloseconds. You should then also provide detailed information on the Chandra observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new Chandra observations (or if you have Chandra time that has already been awarded), then enter "0" here.

**HST Orbits**

*(This item appears in the APT form only for GO Proposals)*

If you are asking for both JWST and HST observing time then list the requested number of HST orbits. You should then also provide detailed information on the HST observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new HST observations (or if you have HST time that has already been awarded), then enter "0" here.

**NASA Keck Nights**

*(This item appears in the APT form only for GO Proposals)*

If you are asking for both JWST and NASA Keck observing time, then list the requested number of NASA Keck nights. You should also provide detailed information on the NASA Keck observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new NASA Keck observations, then enter "0" here.

**NOIRLab Nights**

*(This item appears in the APT form only for GO Proposals)*

If you are asking for both JWST and NOIRLab observing time then list the requested number of nights on NOIRLab telescopes. You should then also provide detailed information on the NOIRLab observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new NOIRLab observations (or if you have NOIRLab time that has already been awarded), then enter "0" here.

The National Optical Astronomy Observatory (NOAO) is now NOIRLab. Proposers may see references to both NOIRLab and NOAO as this change propagates.
NRAO Hours

(This item appears in the APT form only for GO Proposals)

If you are asking for both JWST and NRAO (VLBA, VLA or GBT) observing time then list the requested number of NRAO hours. You should then also provide detailed information on the NRAO observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new NRAO observations (or if you have NRAO time that has already been awarded), then enter "0" here.

XMM-Newton ksec

(This item appears in the APT form only for GO Proposals)

If you are asking for both JWST and XMM-Newton observing time then list the requested number of XMM-Newton kiloseconds. You should then also provide detailed information on the XMM-Newton observations in the "Coordinated Observations" section of the proposal. If you are not requesting any new XMM-Newton observations (or if you have XMM-Newton time that has already been awarded), then enter "0" here.

Proposal PDF Attachment

List the location on your computer of the PDF file to be attached to your submission. This file should contain the items described in JWST Preparation of the PDF Attachment.

Proposal Observing Description

Describe in 1 to 2 paragraphs the observations requested in this proposal, indicating targets, instruments, modes, and any special requirements. This section should provide an overview of the proposed observations for reference by the program coordinators and instrument scientists, who will be reviewing and implementing the observations. This observing description will be publicly available for accepted proposals, unlike the Technical Justification section of the PDF attachment, which always remains confidential.

Team Expertise and Background
Selecting the arrow to the left of the items in the Tree Editor of APT will show subordinate sections that can be selected to enter additional information. For Proposal Information, this includes Principal Investigator and Co-Investigator information (see below), and the Team Expertise and Background selection. The Team Expertise and Background selection provides a free-format text box to enter the relevant information. The suggested length is one page. See JWST Anonymous Proposal Reviews for details on what information to provide here. Please note: the box supports ascii text. Special text markup and LaTeX characters will not show correctly.

Investigator Information

Principal Investigator

Enter the first and/or last name of the PI. Please use standard ASCII. Entering the first few letters (at least two) and pressing enter or tab will bring up a window containing a list of matches from our proposer database. Clicking on your entry will supply APT with the address information. For U.S. PIs, the institutional affiliation is defined as the institution that will receive funding if the proposal is approved.

If you are not in the database, click on "Add a New Investigator". If you are in the database, but the address information is incorrect, click on "Update This Address." Both clicks will take you to the MyST web page so you can be added to, or update information in, the database. Once you have entered your information into MyST, you must redo the database search and supply APT with the updated information.

APT will not compromise the anonymous status of the proposal. It will keep investigator and institutional information, as well as the separate Team Expertise and Background section, from the TAC and Panels until they are requested by an authorized person to be utilized in a last sensitivity check.

Contact

If one of the Cols (or another individual) is to serve as the contact for a proposal, then the Contact keyword box should be checked. The Contact is the person the Principal Investigator has designated to receive all (non-budgetary) questions/information on the proposal and to be the official voice for the team. More than one Col may be designated as the Contact. Once designated, only the cols identified as Contact may make Change Requests in an approved proposal so that conflicting requests are not made.

For Large and Treasury Programs, we will contact the proposer within 1-2 weeks of the submission deadline if we need to verify our understanding of the appropriate scheduling constraints. If a Co-Investigator is to serve as the contact for this verification, then the Phase I Contact box should be set accordingly. Any person may be designated as the Contact.

Co-Investigators
Co-investigators (Co-Is) can be added in APT as necessary. Once a program is approved, a Co-I can only be added with prior approval from the JWST Science Policies Group. By default, APT will provide one blank Co-I template. Please add other Co-Is or delete as necessary. There is a limit of 999 Co-Is on any proposal. For each Co-I, enter the name and select the correct person from the list of database matches. As for PIs, new investigators or address updates should be submitted via MyST. For U.S. Co-Is the institutional affiliation is defined as the institution that will receive funding if the proposal is approved.

If a proposal has a non-U.S. PI and one or more U.S. CoIs, then you must select the US Admin CoI box (in the PI form), then select one of the U.S. CoIs. This indicates which U.S. CoI will be the Administrative PI for overseeing the grant funding for U.S. investigators (see JWST Proposal Submission Policies). Proposals with a US PI are optionally allowed to designate a Co-I to be the US Admin PI. (e.g., if the PI is a grad student not allowed to hold a grant by their institution).

**Targets**

JWST observing proposals must specify all of the proposed targets (except for Survey proposals) in the Astronomer’s Proposal Tool. See the APT targets page for more details.

**Observing Summary**

*(This item appears in the APT form only for GO and Survey Proposals)*

An APT observation is the basic proposal design element, consisting of one astronomical target and one JWST observing mode using a corresponding APT observation template. See the APT Observations page for more details.

**Special Requirements**

Special requirements in APT are defined parameters used to constrain observation scheduling for scientific reasons, or to indicate other situations requiring specific actions. See the APT Special Requirements page for more details. All Special Requirements must have a scientific justification, discussed explicitly in the PDF portion of their proposal. Special requirements may only be added under exceptional circumstances after a proposal is accepted for execution.

**Verifying Special Requirements**
Certain special requirements can force observations into the portion of a target's visibility that is within the Micrometeoroid Avoidance Zone (MAZ). In this case, APT will flag the observations. If the observations are flagged, then proposers should re-evaluate their special requirements to determine whether the observations can be made outside the MAZ. If the observations can only be obtained using the special requirements, then proposers must provide a justification in APT, using the "Supply Meteoroid Zone Justification" pull down menu in the Proposal Information page. See the APT Micrometeoroid Avoidance article for more information.

Next: JWST Preparation of the PDF Attachment

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JWST Preparation of the PDF Attachment

This page describes the sections required to be present in the PDF attachment. This attachment is written as a standalone file using STScI provided templates, and is uploaded through APT.

On this page

- Science Justification Templates
- Scientific Justification
- Technical Justification
- Special Requirements (if any)
- Justify Coordinated Observations (if any)
  - Joint JWST-Chandra Observations
  - Joint JWST-HST Observations
  - Joint JWST-NASA Keck Observations
  - Joint JWST-NOIRLab Observations
  - Joint JWST-NRAO Observations
  - Joint JWST-XMM-Newton Observations
- Justify Duplications (if any)
- Analysis Plan

Science Justification Templates

Templates for JWST Cycle 3 Proposal PDF attachments:

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Note: The templates have intentionally different margins, to accommodate about the same amount of text per page.
Proposers are encouraged to follow the JWST Proposal Checklist in planning and submitting their proposals. Proposers should also be familiar with the policies on data rights, duplications, dual-anonymous review, and other important topics covered in JWST General Science Policies.

A proposal consists of a completed APT proposal form and an attached PDF file. Template files (above) are available in several popular word-processing environments for the creation of the PDF file. Your PDF Attachment should obey the page limits given in the JWST Guidelines and Checklist for Proposal Preparation.

⚠️ The entire PDF attachment must be anonymized, in accordance with the guidelines specified in JWST Anonymous Proposal Reviews.

Scientific Justification

This section should present a balanced discussion of background information, the program's goals, its significance to astronomy in general, and its importance to for the specific sub-field of astronomy it addresses. The members of the review panels will span a broad range of astronomy expertise, so one should write this section for this more general audience (i.e. not only for researchers in the corresponding sub-field).

Depending on the type of proposal, the following items should also be included:

- Treasury GO, Legacy AR, and Pure Parallel proposals should address the value to the astronomical community of the data products that will be generated by the program.
- Survey proposals should provide a complete description of the target sample.
- AR proposals should describe how the project improves upon or adds to the previous use of data.
- Theory proposals should include a description of the scientific investigations that will be enabled by the successful completion of the program, and their relevance to JWST.
- Calibration proposals should describe what science will be enabled by the successful completion of the program, and how the currently supported core capabilities, their calibrations, and the existing data processing are insufficient to meet the requirements of this type of science.
- Community Data Science Software Proposals should describe how the software packages that will be developed are relevant to and necessary for the reduction or interpretation of JWST data.

Technical Justification

(This item is required for GO and Survey proposals)
Describe the overall experimental design of the program, justifying the selection of instruments, modes, exposure times, and requirements. Describe how the observations contribute to the goals described in the scientific justification. Quantitative estimates must be provided of the accuracy required to achieve key science goals. The JWST ETC generally provides sufficient information to determine the necessary exposure time. For modes that require target acquisition, proposers should verify that the exposure specifications provided meet the stated criteria for success. Successful target acquisitions are crucial for the success of the specified observations, and must be verified. The description should also include the following:

1. Special Observational Requirements (if any): Justify any special scheduling requirements, including time-critical observations. Target of Opportunity observations should estimate the probability of occurrence during Cycle 3, specify whether long-term status is requested, identify whether ToOs are disruptive or non-disruptive, and state clearly how soon JWST must begin observing after the formal activation.
2. Justification of Coordinated Parallels (if any): Proposals that include coordinated parallel observations should provide a scientific justification for and description of the parallel observations. It should be clearly indicated whether the parallel observations are essential to the interpretation of the primary observations or the science program as a whole, or whether they address partly or completely unrelated issues. The parallel observations are subject to scientific review, and can be rejected even if the primary observations are approved.
3. Justification of Duplications (if any): as detailed in the JWST Grant Funding and Budget Submissions and the JWST Duplicate Observations Policy. Any duplicate observations must be explicitly justified.

Special Requirements (if any)

(This item is required for GO and Survey proposals)

All visit-level and exposure-level special requirements must be itemized in the proposal and have a scientific justification, discussed explicitly in the PDF portion of their proposal. Special requirements may only added under exceptional circumstances after a proposal is accepted for execution. Special requirements include:

- For Target-of-Opportunity (ToO) observations, estimate the probability of occurrence during Cycle 3, specify whether long-term status is requested, identify whether the ToOs are disruptive or non-disruptive, and clearly state how soon JWST must begin observing after formal activation.
- Specific dates or ranges of specific dates for time-constrained observations;
- Coordinated Parallel observations.
- Willingness to waive exclusive access rights, either wholly or partially;
- Requests for non-zero exclusive access periods for Large or Treasury programs;
- Links between observations, including non-interruptible sequences;
- Requests for low background or background-limited observations; and
- Requests for High-End Computing time on NASA facilities.
Justify Coordinated Observations (if any)

(This item is required only for GO Proposals)

If you have plans for conducting coordinated observations with other facilities that affect the JWST scheduling, please describe them here (examples are coordinated or simultaneous observations with other spacecraft or ground-based observatories). Describe how those observations will affect the scheduling. Please, remember to follow dual-anonymous guidelines as in the rest of the proposals.

If you have plans for supporting observations that do not affect JWST scheduling, then do not describe them here. If they improve your science case, then describe them in the "Scientific Justification" section of the proposal.

Joint JWST-ALMA Observations

Proposers requesting joint JWST-ALMA observations must provide a full and comprehensive technical justification for the ALMA portion of their program, including:

- the choice of array (12 m, 7 m, or Total Power) and the array configuration (if the 12 m Array is requested),
- the number of sources and the mapping area (Single Pointing, Multiple Pointings, Rectangular Mosaic of given area),
- the requested time including overheads calculated using the Observing Tool (OT). If the requested time was not calculated using the OT, then the proposal should include an explanation for how the time was estimated,
- the requested Band(s) and Correlator Configurations,
- the representative sensitivity for reference array (i.e. 12m, or 7m for ACA stand-alone projects) and aggregated bandwidth used for sensitivity calculation,
- the highest spectral and imaging signal-to-noise ratios expected in your sample,
- any time constraints, including simultaneous or coordinated observations involving multiple observatories,
- whether full-polarization is required. If so, then provide the coordinates of any source with a declination north of +30deg and the expected source linear/circular polarization fraction.
- any other requirement that would be included in the OT (extra text boxes in the technical justification section).

During proposal preparation, proposers must use the ALMA Observing Tool to validate their program. In addition, they must provide a list of OT messages:

- This must include any blue message reported by OT at the top of the Technical Justification section and any warning/error message when validating the project:
- (Exclude obvious errors, like missing title/abstract/scientific justification, which are not required for the purpose of technical justification)

If the observing capabilities requested are not supported by the Observing Tool, then proposers must use other tools provided by ALMA (https://almascience.org/tools) and include a detailed explanation of the assumptions made and the process by which observing time was estimated.
Upon acceptance of a Joint Proposal by STScI, PIs will be required to submit their programs to the JAO using the ALMA Observing Tool. The JAO will prepare Scheduling Blocks and perform a final detailed technical assessment. Programs with significant technical issues may be rejected at the discretion of the JAO. Once the Scheduling Blocks have been prepared, projects will immediately enter the ALMA observing queue, unless requesting observing capabilities only offered in the upcoming Cycle. In that case the project will enter the queue at the corresponding Cycle start date. Approved programs may remain in the ALMA queue for a period of up to two years.

**Joint JWST-Chandra Observations**

Proposers requesting joint JWST-Chandra observations must provide a full and comprehensive technical justification for the Chandra portion of their program. This justification must include:

- the choice of instrument (and grating, if used),
- the requested exposure time, justification for the exposure time, target count rate(s) and assumptions made in its determination,
- information on whether the observations are time-critical; indicate whether the observations must be coordinated in a way that affects the scheduling (of either Chandra or JWST observations),
- the exposure mode and chip selection (ACIS) or instrument configuration (HRC),
- information about nearby bright sources that may lie in the field of view,
- a demonstration that telemetry limits will not be violated,
- a description of how pile-up effects will be minimized (ACIS only).

Due to increasingly challenging thermal constraints, the amount of Chandra exposure time available for High Ecliptic Latitude (HEL) targets with |bGal| > 55 deg is extremely limited. Refer to section on HEL targets in the Chandra Proposers’ Observatory Guide for detailed information. If you request joint time on Chandra, please avoid long exposures on such targets if at all possible. You must note explicitly the requested amount of Chandra HEL time in the body of your science justification.

Similarly, constraints that may limit the number of days your targets are observable can be difficult to accommodate within Chandra scheduling. Chandra calculates this difficulty as Resource Cost (RC). Refer to Section on Resource Cost in the Chandra Proposers’ Observatory Guide for detailed information. Only a fixed total number of RC points, as calculated by Chandra’s RC calculator, may be awarded by Chandra’s joint partner observatories. Every proposal requesting joint Chandra time should explicitly list the RC total of their requested Chandra time in the body of the science justification, except for ToOs where the sky position is unknown. Additionally, the proposers must verify that Chandra will be able to acquire suitable star fields for a given target using the Star Checker tool (https://cxc.cfa.harvard.edu/toolkit/starchecker.jsp).

Technical documentation about Chandra is available from the Chandra X-ray Center (CXC) webpage, which also provides access to the Chandra Help Desk. The primary document is the Proposer’s Observatory Guide, available from the Chandra Proposal Information webpage. Full specification of approved observations will be requested during the Chandra Cycle 25 period when detailed feasibility checks will be made.

Proposers requesting joint JWST-Chandra observations must specify in the "Team Expertise" section whether they were awarded Chandra time in a previous Chandra cycle for similar or related observations.
Joint JWST-HST Observations

Proposers requesting joint JWST-HST observations must provide a full and comprehensive technical justification for the HST portion of their program, including:

- the choice of HST instrument and mode,
- the requested exposure time, justification for the exposure time, target count rate(s), and assumptions made in their determination,
- information on whether the observations are time-critical; indicate whether the observations must be coordinated in a way that affects the scheduling (of either HST or JWST observations),
- any other Special Requirements, if necessary.

Technical documentation about HST is available online.

Joint JWST-NASA Keck Observations

Proposers requesting joint JWST-NASA Keck observations must provide a full and comprehensive scientific and technical justification for the NASA Keck portion of their program, including:

- the telescope(s), instrument(s), mode(s), and wavelengths on which time is requested,
- the requested integration time per telescope/instrument, sensitivity, and source of this information,
- a specification of the number of nights for each semester during which time will be required, a breakdown into dark, grey, and bright time, and an explanation of how the required exposure time was estimated,
- information on whether the observations are time-critical, and whether the observations must be coordinated in a way that affects the scheduling (of either the NASA Keck or the JWST observations),
- a description of any special scheduling or implementation requirements (e.g., optimum and acceptable dates).
- the results of the Keck Observatory Archive (KOA) data check. If appropriate archival Keck data exist in the KOA, proposers must provide clear scientific and technical justification for any new Keck observations of previously observed targets.

Successful proposers for joint JWST-NASA Keck time will be notified in late February 2024 and will then be required to submit a 2024B WMKO coversheet in support of their proposal. If you are requesting NASA Keck observations that can only be conducted in July 2024 to coincide with the start of the JWST observing cycle, you must also submit a 2024A WMKO coversheet before the Cycle 3 proposal deadline in October 2023. The program title and abstract on the WMKO coversheet must be the same as was submitted in your Cycle 3 JWST proposal and choose “JWST Joint Program” as the allocating institution so that the WMKO proposal ID starts with a "J". It is a WMKO requirement that first-time users of an instrument have at least one lead observer present at Keck for the initial observing run. Questions related to NASA Keck time specifically may be addressed to keckcfp@ipac.caltech.edu.
Joint JWST-NOIRLab Observations

The Joint JWST-NOIRLab time is intended to provide investigators with complementary ground-based observations that are necessary in support of their JWST programs. Successful JWST Cycle 3 proposers will receive NOIRLab time in semesters 2024B and 2025A, due to scheduling constraints. Proposers requesting joint JWST-NOIRLab observations must provide a full and comprehensive scientific and technical justification for the NOIRLab portion of their program, including:

- the telescope(s) and instrument(s) on which time is requested,
- the requested observing time per telescope/instrument, a specification of the number of nights for each semester during which time will be required, a breakdown into dark, grey and bright time, and an explanation of how the required exposure time was estimated, including information on filters, gratings, and observing conditions,
- information on whether the observations are time-critical, and whether the observations must be coordinated in a way that affects the scheduling (of either the NOIRLab or the JWST observations),
- a description of any special scheduling or implementation requirements (e.g., optimum and acceptable dates).

In addition to the JWST proposal, this information must be included in a NOIRLab Phase I proposal submitted through the standard NOIRLab process by the nominal April 1, 2024 deadline for semester 2024B. For Gemini proposals, a Gemini PIT proposal must be submitted. For all other telescopes, the standard NOIRLab Time Allocation proposal form must be submitted. Detailed information for Gemini and other telescopes can be found in the Call for Proposals for the 2024B semester. Proposals not received by the April 1, 2024 deadline may not be scheduled for NOIRLab time.

Successful proposers who receive time on Gemini Observatory will have to prepare a Phase II proposal which includes a more detailed description of each observation. Phase II submission instructions will be forthcoming following notification of the results of the JWST review.

Technical documentation about the NOIRLab facilities is available from the NOIRLab webpage. Questions may be directed to the NOIRLab Proposal Help Desk by e-mail to proposal-help@noirlab.edu. NOIRLab will perform feasibility checks on any approved proposals.

Joint JWST-NRAO Observations

Proposers requesting joint JWST/NRAO observations must provide a full and comprehensive technical justification for the NRAO portion of their program, including

- the choice of NRAO telescope(s) (VLA, VLBA and/or GBT), and
- the total estimated NRAO observing time in hours.

For Cycle3, NRAO plans to make available up to 5% of VLA, VLBA, or GBT observing time per year, to be implemented in Cycles 24B and 25A. A VLA configuration schedule is published at:

- https://science.nrao.edu/facilities/vla/proposing/configpropdeadlines
Detailed technical information concerning the NRAO telescopes can be found at:

- http://science.nrao.edu/facilities/vla
- http://science.nrao.edu/facilities/vlba
- https://greenbankobservatory.org/science/gbt-observers/

For the VLA, joint proposals may only use capabilities defined as “general observing” in the NRAO VLA 2024B Call for Proposals, to be released in January 2024. Technical questions about proposing or observing for NRAO telescopes (whose answers are not found in the above links) should be posted to the NRAO helpdesk.

If approved for NRAO time, successful PIs will be contacted by the NRAO Scheduling Officers (schedsoc@nrao.edu for the VLA/VLBA and gbttime@nrao.edu for the GBT). The successful PIs for GBT projects will be responsible for organizing the project’s information in the GBT Dynamic Scheduling Software and for carrying out their GBT observations. For the VLA and VLBA, the PIs will be responsible for submitting scheduling blocks to the telescopes’ dynamic queues. Projects requiring simultaneous JWST-NRAO observations will be performed on fixed dates. In conjunction with JWST, the NRAO Scheduling Officers will inform the PIs of those dates and times, and the PIs will be responsible for submitting scheduling blocks two weeks prior to the observations.

**Joint JWST-XMM-Newton Observations**

Proposers requesting joint JWST/XMM-Newton observations must provide a full and comprehensive technical justification for the XMM-Newton portion of their program, including:

- the choice of prime instrument,
- the requested exposure time, justification for the exposure time, target count rates, and assumptions made in their determination,
- information on whether the observations are time-critical.

Technical documentation about XMM-Newton is available from the XMM-Newton webpage.

**Justify Duplications (if any)**

*(This item is required only for GO Proposals)*

Justify, on a target-by-target basis, any potential duplication with previously accepted observing programs. Use the "Duplication" checkbox in the Observation Summary to identify the duplicating observations. See JWST Data Rights and Duplications for policies on duplications.

**Analysis Plan**
(This item is required for all AR proposals, including GO programs with the Archival flag set, and all Calibration proposals, including Theory)

All AR proposals (including Theory) and all Calibration proposals (both GO and AR) should provide a detailed data analysis plan and describe the datasets that will be analyzed. The plan should include a brief summary of the likely scale of the proposed program, including the number of personnel and associated work effort while still following the JWST Anonymous Proposal Reviews. Inclusion of a target list is not required. Observing proposals that involve complex data analysis should include discussion of the analysis plan as part of the Technical Justification. AR funding becomes available within 30 days of receipt of the grant PI notification letter. Any AR programs requesting a delay in the start date for funding must provide a justification as part of the Analysis Plan and the delay must be approved by the STScI Director.

Legacy AR Proposals should also discuss the data products that will be made available to the community, the method of dissemination, and a realistic timeline. It is a requirement that data products be delivered to STScI in suitable digital formats for further dissemination via the MAST Data Archive or related channels. Any required technical support from STScI and associated costs should be described in detail.

Theory AR Proposals should discuss the types of JWST data that will benefit from the proposed investigation, and references to specific data sets in the MAST Data Archive should be given where possible. They should also describe how the results of the theoretical investigation will be made available to the astronomical community, and on what timescale the results are expected.

Calibration Proposals should discuss what documentation, and data products and/or software will be made available to STScI to support future observing programs. Proposers should explain how their programs complement ongoing calibration efforts by the STScI instrument groups. They should contact the relevant instrument groups to ensure that efforts are not duplicated, and if they are, justify why the duplications are necessary.

During the budget review process, the Financial Review Committee will compare the requested costs with the commensurate work outlined in the Analysis Plan. Support for resources outside the original scope of work will not be considered.

Proposers are reminded that the review panels will include observational and theoretical astronomers and planetary scientists with a broad range of scientific expertise. They will not necessarily have specialists in all areas of astrophysics so the proposals must be written for this general audiences of scientists.

For a checklist of items to complete when writing your JWST proposal, see the JWST Proposal Checklist.

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JWST Proposal Implementation and Execution

Accepted JWST observations will be incorporated in the long range program and checked for technical feasibility.

Once the STScI director has approved the full list of JWST programs for the next cycle, a first version of the long range plan (LRP) will be constructed with the information provided in the single-stream proposals; programs exempted from the nominal single-stream process will be incorporated using approximated scheduling windows determined from their target lists. This first draft of the LRP enables the identification of scheduling conflicts between approved programs together with other issues not flagged by APT. Reviews of the approved programs may be prioritized based on the LRP scheduling window, with programs with targets that have scheduling windows early in the cycle receiving highest priority. Complex large programs with timing constraints (e.g., large mosaic images, exoplanet transit observations, coordinated observations with other facilities) impose significant constraints on the LRP; thus, it is important to incorporate these into the schedule as early as possible.

All programs will be reviewed to ensure that the submitted observing plan is consistent with the TAC allocation and checked for potential duplications. Additionally, programs which are likely to cause severe detector persistence may be flagged so that they may be scheduled so as not to impact subsequent programs. The scheduling process aims to optimize the overall JWST efficiency. Unless there are compelling scientific arguments, STScI will not advance or postpone the scheduling of individual programs.

Unlike some HST instruments, JWST instruments do not require 'health and safety' reviews. Challenging JWST programs may require additional reviews, which will be completed after the compilation of the LRP. These operationally-complex programs are primarily those which require target acquisitions such as coronagraphy and spectroscopy. In particular, NIRSpec MOS program updates must be submitted at least 8 weeks before the assigned plan window start, to allow ample time for review.

After the initial program reviews and construction of the LRP, additional reviews by program coordinators and instrument scientists to further validate each program could be executed throughout the cycle without impacting the schedule. Any significant changes to an approved JWST program must be evaluated by the telescope time review board and will only be approved if they significantly improve the scientific return of the program.
Scheduling observations

The prime criterion applied in scheduling JWST observations is maximizing the overall efficiency. Scheduling will also aim to minimize observations in the micrometeoroid avoidance zone (MAZ). Priority scheduling will be enabled for programs where there is a clear scientific justification for scheduling within a particular time window. All other observations will be given equal weight in constructing the Long Range Plan and the observing schedule.

Program execution

Proposers should be aware that after acceptance of a proposal, the actual execution of the observations may in some cases prove impossible. Possible reasons include:

- The accepted observation may be found to be infeasible or extremely difficult for technical reasons only discovered after the approval; ToO and time-critical observations can be particularly complex to plan and execute, and will be completed only to the extent that circumstances allow.
- The observing mode or instrument selected may not be operational.
- Suitable guide stars or scheduling opportunities may not exist.
- If the total MAZ usage exceeds 15% of the cycle time, certain observations or programs may be delayed to future cycles; if, after mitigation, the total usage remains above 20%, observations will be disallowed, based on the relative ranking of programs from the TAC review.
- Survey programs and pure parallel programs are not guaranteed to be scheduled.
- Anomalies or failures that develop within the observatory may preclude certain observations.

The STScI Director reserves the right to disallow at any time any or all observations of an approved program if it is demonstrated that incorrect or incomplete information was provided in the proposal that may have significantly influenced the approval recommendation by the review panels or the TAC.

Obtaining JWST data

Once observations have been completed and archived, data can be retrieved from MAST via several options. Access restrictions may apply for data within an exclusive access period. See Accessing JWST Data for more information.
Archival research support

As for GO observers, STScI generally provides limited assistance in the reduction and analysis of archived data. Upon request, an Archive Scientist from MAST can work with PIs to identify and guide the development of enhanced data products or software for community distribution via MAST; provide guidance on enhanced metadata and Digital Object Identifier (DOI) tagging to improve data discovery; and provide assistance with large data volumes and/or multi-mission use of MAST archival data. The PIs for Treasury or Legacy AR proposals will be automatically contacted by MAST Archive Scientists. Although an Instrument Scientist is not usually assigned to a funded AR Program, STScI will do so upon request. The Instrument Scientist will serve as a single point of contact to help resolve calibration issues specifically, rather than more general archival support provided by MAST. Proposers should plan to conduct the bulk of their archival research at their home institutions, and should request funds accordingly. Limited resources preclude extensive assistance in the reduction and analysis of data by non-funded archival researchers.

Failed observations

In Cycle 1, JWST observations failed at a rate of 9.3%. Many of the failures were due to Guide Star acquisition failures and FGS an ACS related anomalies. It is expected that the failure rate will decrease to a few percent, comparable with HST. Failed observations due to those causes are usually re-scheduled as repeat observations. When this is the case, the proposer receives a notice of the failure and information on obtaining a repeat observation. A smaller fraction of failures do not have a clear cause, and may not be evident from our internal reviews of data quality. Proposers who believe their observation has failed or is seriously degraded can request a repeat observation. The request must be filed within 90 days after the observations are taken and will be reviewed by the JWST Telescope Time Review Board (TTRB). In cases where the failure resulted from proposer error (e.g., incorrect target coordinates), a repeat will not be granted. In cases where the failure was a result of incorrect instrument performance, or incorrect information provided by STScI, a repeat is usually granted. A full description of the TTRB review process is given here.

Publication of JWST results

It is expected that the results of JWST observations and Archival Research will be published in the scientific literature. All refereed publications based on JWST data must carry the following footnote:

“This work is based [in part] on observations made with the NASA/ESA/CSA James Webb Space Telescope. The data were obtained from the Mikulski Archive for Space Telescopes at the Space Telescope Science Institute, which is operated by the Association of Universities for Research in Astronomy, Inc., under NASA contract NAS 5-03127 for JWST. These observations are associated with program # ____.”
If the research was supported by a NASA JWST grant managed by STScI, the publication should also carry the following acknowledgment at the end of the text:

“Support for program #_____ was provided by NASA through a grant from the Space Telescope Science Institute, which is operated by the Association of Universities for Research in Astronomy, Inc., under NASA contract NAS 5-03127.”

The relevant program ID should be entered in these phrases where indicated.

Because of the importance of maintaining the accuracy and completeness of the JWST bibliography, a link to an electronic version of each preprint of publications based on JWST research should be sent via email to the following addresses:

- Chief Institute Librarian, Space Telescope Science Institute, 3700 San Martin Dr., Baltimore, MD 21218, USA (library@stsci.edu)
- Office of Public Outreach, STScI, 3700 San Martin Drive, Baltimore, MD 21218, USA (scientistnews@stsci.edu)

This requirement includes both refereed and non-refereed publications, but not abstracts or poster papers.

Authors should also include a digital object identifier (DOI) provided by MAST in all papers that use JWST data. This DOI should point to the data analyzed in the paper. It is suggested that authors include the DOI at the end of the "Data" section of the manuscript, e.g.,

"The James Webb Space Telescope data described here can be found at _____"

where the DOI link should be entered where indicated. Including the DOI link will not alter the exclusive access period of the data. MAST provides a service for generating these DOIs, which can be found at http://archive.stsci.edu/access-mast-data/digital-object-identifier-doi.

News release of JWST results

JWST observers have a responsibility to share interesting results of their JWST investigations with the public. STScI’s News branch in the Office of Public Outreach (OPO) is chartered to support NASA in disseminating JWST science and technology information to the general public. In this capacity, OPO offers scientists expert assistance in preparing news releases and the opportunity to share their newsworthy results with hundreds of millions of people. Investigators who believe they have results of public interest should contact the Office of Public Outreach, using the web form http://www.stsci.edu/news/scientist-resources.
Investigators are reminded that NASA maintains the Right of First Refusal for all JWST news releases. Investigators who believe they have newsworthy findings should contact the Space Telescope Science Institute, which produces JWST news releases for NASA distribution, so that their work can be considered for a news release. We encourage the submission of suggestions for news items as soon as scientific results have been submitted for publication, or as an abstract for a science conference. The news submission form can be found here. NASA's policy is to distribute all news fairly and equitably, giving wide access to scientific findings, and enabling a broad impact. OPO works with the scientists’ home institutions to ensure that news items are disseminated nationally as well as locally. The STScI Public Outreach news officers should be made aware of potentially newsworthy science results by principal investigators before the acceptance of JWST publications, with sufficient time for consideration of a news release.

Visits to STScI

Most GOs will find that they can analyze their data most efficiently at their home institution, using the JWST Help Desk (http://jwsthelp.stsci.edu) to resolve issues that are not clear from the available documentation. However, observers may find it useful to visit STScI for 2–3 days to learn how to process and analyze their data. Visits can be arranged through the JWST Help Desk. Observers who visit STScI will be assisted by STScI staff to the extent that resources permit.

Next: JWST Grant Funding and Budget Submissions

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JWST Grant Funding and Budget Submissions

This section includes general information regarding grant funding and budget submissions. Budgets are required after the selection of successful science proposals. Detailed information is provided in the STScI Budget Proposer Guide and the current STScI General Grant Provisions (GGP).

On this page

- Budget proposal deadline
- STScI General Grant Provisions (GGP)
- Eligibility for STScI grant funds
- STScI review of risk posed by applicants
- Budget proposals
- Financial Review Committee evaluation of budget proposals
- Grant awards and availability of funds
- STScI Authority

STScI Grants Administration (GRA) will send Budget Notification Letters after proposers are notified of their successful science programs. The letters will be sent to the U.S. Administrative PI, their Institution Contacts, and Co-investigators with a U.S. institution listed as their primary institution in MyST.

Contact GRA with questions concerning funding policies, eligibility, budget submissions, and allowable costs.

Phone: (410) 338-4200
Email: gms_mail@stsci.edu

The STScI Grants Administration group offered an informative Webinar for Cycle 2 successful proposers with detailed information on JWST Grant Funding and Budget Submission. It can be found at Panopto Link with Closed Captioning and Blue Jeans link with Transcripts.

Budget proposal deadline

April 11, 2024 by 5:00pm US Eastern Daylight Time

Only very limited accommodation can be made for late proposals. Proposers who encounter difficulty meeting this deadline should contact GRA for help at gms_mail@stsci.edu prior to the budget deadline.
Budget proposals are submitted via STGMS (https://stgms.stsci.edu). Contact the Sponsored Research Office at your institution if you need an STGMS account. Be sure to allow sufficient time to meet all internal deadlines at your institution.

**STScI General Grant Provisions (GGP)**

STScI grants will be awarded in accordance with the GGP. The terms of this Call for Proposals are incorporated into and are considered to be part of the GGP.

**Eligibility for STScI grant funds**

*Important:* STScI grant funding is available to only U.S. investigators. Carefully review the GGP, Section 3, Eligibility for STScI Grant Funding, for specific eligibility requirements. Contact GRA with questions regarding requirements or to determine if a person is eligible to request STScI grant funding.

**STScI review of risk posed by applicants**

STScI has an obligation to ensure that grantees meet the requirements related to the award of federal funds. See GGP, Section 7 for criteria considered in STScI’s evaluation of risk posed by applicants. STScI has the authority to deny issuing a grant award to any institution failing to meet such requirements.

Note that requirements are different for Program Administrative PIs vs. Co-Investigators.

**Budget proposals**

The STScI Budget Proposer Guide is available as a resource to help you prepare your budget.

Budgets are a detailed financial expression of the program. Costs must be allowable, reasonable, allocable (Ref. GGP, Sections 9 and 10), and in accordance with the GGP. Budgets must be linked directly to achieving the specific work and science goals described in the approved science proposal.

The responsibility to submit a complete, accurate proposal rests with each investigator and their institution. Missing or incomplete information will likely result in a reduction of funding approved for the program.
It is important to include clear, detailed, and complete information in the Budget, Budget Narrative, and Program Management Plan. The Budget Narrative Template is a requirement.

**Financial Review Committee evaluation of budget proposals**

The FRC reviews and evaluates budget proposals based on the tasks, level of effort, and other costs required to complete the approved science proposal. All costs requested in the budget must be clearly detailed and justified in the required Budget Narrative (reference the Budget Narrative Template).

- All costs must be required for the project and justified in detail in the Budget Narrative.
- Science and budget proposals are reviewed in detail. Budgeted costs must be linked directly to achieving the specific work and science goals described in the approved science proposal. Only tasks that are specifically identified in the science proposal and absolutely necessary for the JWST science will be considered for funding support.
- Unusual or particularly high costs are especially scrutinized and must be well justified.
- Missing or incomplete information will likely result in a reduction of funding allocated to the program.
- The summary of contribution table in the Budget Narrative must include all team members (unfunded and foreign investigators). Effort must be shown in full-time equivalent months. Additionally, the responsibilities, contributions, and level of effort for all team members must be clearly stated and justified in the Budget Narrative. All work and level of effort must be proportionate and in conjunction with each person’s role in the project.
- The contribution of all foreign team members must be described. It must be very clear that foreign team members are contributing their appropriate share of the costs (e.g., labor, travel, and publications).
- Funding support related to ground-based observations will not be considered unless those observations and tasks were specifically described and justified in the science proposal.
- The Budget Narrative must be consistent with the budget request. Costs in the budget must be included in the Budget Narrative and described in detail. Conversely, all costs described in the Budget Narrative should be included in the budget.
- Travel requested must be critical for the project and justified in the Budget Narrative. Avoid generic TBD conferences whenever possible. Higher costs for travel (i.e. international travel or attendance of multiple team members) must be well justified with demonstrated value to the research effort.
- Computers (laptops, desktops) and computing costs must be required for the project.
- Publication costs must be commensurate with the level of the project. Unusually high number of pages or publications must be clearly justified.
- **Support for ground-based observations** (including those awarded through a joint JWST program), lab astrophysics and citizen science will only be considered if specified in the original proposal and will generally be limited to <10% of the total budget (in total).
- Any activities requesting funding must be consistent with the policies described in the General Grants Provisions.
Grant awards and availability of funds

All grant awards are made contingent upon the availability of funds from NASA.

If funding requests and FRC recommendations exceed the amount provided by NASA for the GO/AR Grants Program, additional reductions to recommended amounts may be required to remain within the funding guideline authorized by NASA.

STScI Authority

Allowable costs for all budgets, awards, and expenditures will be determined in accordance with the GGP, this Call for Proposals, and the applicable institutional, NASA, and federal guidelines, policies, and regulations, including but not limited to 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. STScI has the final authority to determine if costs for budgets, awards, and expenditures are allowable, reasonable, and allocable, and necessary. Unallowable costs will be removed from the budget request. STScI reserves the right to recover grant expenditures that were not compliant with applicable policies and regulations.

If funding requests and FRC recommendations exceed the amount provided by NASA for the JWST GO/AR Grants Program, additional reductions to recommended amounts may be required to remain within the funding guideline authorized by NASA.

Next: Appendix - Scientific Keywords
Appendix - Scientific Keywords

Keywords to be used in APT when submitting a proposal.

The Tables in this Appendix list the Scientific Keywords that are valid for use in the proposal template.

Within a panel, proposals are assigned to individual reviewers based on the reviewers' expertise and based partly on the keywords given in the proposal and partly on analysis of the proposal text. Generally, the more keywords the proposer selects the better the match to reviewers' expertise. Proposals can designate both a Science Category and an Alternate Category. Designating an Alternate Category enables usage of keywords from multiple categories. The Science Mission Office at STScI reserves the right to re-classify proposals.

For additional information on the proposal sorting into each panel, see JWST Proposal Selection Procedures. The JWST Scientific Categories and Keywords were developed using the Unified Astronomy Thesaurus.

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