

# *James Webb Space Telescope Call for Proposals Cycle 2*

*Policies, Procedures, and Proposal Instructions  
November 2022*

<https://jwsthelp.stsci.edu>



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# JWST Call for Proposals for Cycle 2

STScI solicits proposals for JWST Observing, Archival, and Theoretical Research. Downloadable PDF collections of these articles are provided as a courtesy, made available and updated when feasible. *The online documentation is the authority*, and will be updated with the latest information.

## On this page

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- [Proposing calendar and deadlines](#)
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## Welcome

We invite scientists to participate in Cycle 2 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, including 2,900 hours for [Small programs \( \$\leq 25\$  hours\)](#), 1,250 for [Medium programs \( \$> 25\$  and  \$\leq 75\$  hours\)](#), and 850 for [Large programs \( \$> 75\$  hours\)](#). 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 2. 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 2"). The links at the top of each page correspond to sections within that given page.

## Proposing calendar and deadlines

Cycle 2 dates: **July 1, 2023 – June 30, 2024**

Cycle 2 proposal deadline: **January 27, 2023 by 8:00pm US Eastern Standard Time**

Cycle 2 Peer Review meeting: **April 17 - 27, 2023**

Cycle 2 Budget submission deadline: **June 29, 2023 by 5:00pm US Eastern Daylight Time**

Notification of the outcome of the selection process will be sent to all proposers by Mid-May 2023.

# Where to get help

- Read this [Call for Proposals](#).
- Visit the STScI [JWST Proposal Checklist](#)
- Visit STScI's website at <http://www.stsci.edu/>
- Register (or review/check) a [STScI Single Sign-On \(SSO\) Account](#).
- Contact the STScI [JWST Help Desk](#). We encourage use of the new website where you can submit questions directly to the appropriate team of experts.

# Who's responsible

The JWST Call for Proposals and related materials for Cycle 2 were edited by Christine Chen. 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-Martin, Molly Peeples, Jamila Pegues, Elena Sabbi, Linda Smith, Laura Watkins, and Technical Manager Brett Blacker.

*Next: [JWST New and Important Features](#)*

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# JWST New and Important Features

Important features for proposers to consider in Cycle 2 are covered in this article.

## On this page

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## What's New for Cycle 2

### Policy

- **Micrometeoroid impact mitigation in Cycle 2**

JWST is subject to micrometeoroid impacts that can damage the primary mirror and, in the long term, reduce image quality. Such impacts are more probable when JWST is pointed in its direction of motion. Consequently, as a mitigation strategy, in Cycle 2 JWST will limit the time spent carrying out observations in the [Micrometeoroid Avoidance Zone \(MAZ\)](#), a region with radius 75 degrees centered on the direction of orbital motion at any given time. These constraints will necessarily lead to shorter visibility windows at ecliptic latitudes below 75 degrees. Science observations that **require** pointing in the direction of motion (such as time-critical observations) will **not** be affected.

The Visit Planner in the Astronomer's Proposal Tool has been updated to provide information on the likelihood of visits falling within the [Micrometeoroid Avoidance Zone \(MAZ\)](#). See the [APT Micrometeoroid Avoidance](#) page. Visits that overlap the MAZ by more than 70% will be flagged for attention. If it is not possible to reduce the overlap below 70% (for example, time critical observations, or observations that require specific orientations, e.g. pairing NIRCam and NIRSpec coordinated parallels), proposers **must** provide a justification in APT. That information will be available to STScI, but not to the TAC.

All proposers are strongly encouraged to minimize visit overlap with the MAZ. Following the TAC process, it may be necessary to iterate with the Principal Investigators if certain regions are over-populated with observations. STScI will work with proposers to optimize the schedulability of their programs while preserving, as far as possible, the science goals.

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 may be disallowed. Further information on reducing MAZ overlap can be found in the [APT Micrometeoroid Avoidance](#) page.

# Opportunities

- **Survey Programs**

Proposers may request short "filler" observations to fill gaps identified in the scheduling process. Proposals should include the number of targets needed to address the science goal(s) and example observation(s) in APT. The TAC will be instructed to disregard the telescope time request automatically generated by APT. See [Survey Proposals](#) for further information.

- **Joint JWST Proposals**

Proposers may request ALMA, Chandra, HST, NASA Keck, NOIRLab and/or XMM-Newton for individual targets in their JWST program. There is no guarantee that joint observations will be obtained simultaneously with JWST observations. See [Joint Proposals](#) for further information.

# Instrumentation

- JWST can track moving targets at faster rates than anticipated before launch. Targets moving up to 75 mas /s can be tracked by JWST without streaking.
- Simultaneous NIRCам Coronagraph Short Wavelength (SW) and Long Wavelength (LW) observations are now offered. In this mode, both SW and LW coronagraph observations can be obtained at the same using the same mask.
- NIRISS Imaging observations can now be requested with NIRISS as the prime instrument.
- The Exposure Time Calculator (ETC) 2.0 will go live between November 30th and December 7th. ETC 2.0 will incorporate commissioning results and reflect in flight performance.

Next: [JWST Proposal Checklist](#)

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# JWST Proposal Checklist

JWST Cycle 2 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 2 proposal deadline is **January 27, 2023 by 8:00pm US Eastern Standard 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

- *Proposers should assume nominal performance from JWST, as described in the [JWST User Documentation](#), and as assumed by the [JWST Exposure Time Calculator \(ETC\)](#).*
- [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. We expect the final Cycle 2 update to the ETC reflecting in-flight performance will go live between November 30th and December 7th.
- [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 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.
- 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.

## ✔ 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 2 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](#)*

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# JWST Anonymous Proposal Reviews

*STScI has implemented a dual-anonymous proposal review process, where the identities of the proposing team are concealed from reviewers. The primary goal in so doing is to reduce bias for all.*

## On this page

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- [Guidelines for proposers](#)
- [Guidelines for reviewers](#)
- [Team expertise and background section](#)
- [Compliance](#)

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 goal is to enable each reviewer to focus on the science, not the scientist. Studies have shown that a reviewer's attitude toward a submission may be affected, even unconsciously, by the identity of the lead author or principal investigator (see the [Anonymous-Double Blind Review Annotated Bibliography \[.docx\]](#)). HST proposals led by women have had systematically and successively lower success rates than those led by men. While the exact cause is unknown, independent studies (see [On Gender Bias in Hubble Proposal Ratings \[.pptx\]](#)) of our reviews suggest a double-anonymous process might help resolve this inequity, and may balance out other areas of potential bias including affiliation and country of origin. Such a process may also level the playing field between new and established researchers. 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.

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 Groups's Outerspace](#) site. A summary of those guidelines, along with a description of how the review process will work, is given below.

## The review process

Proposers submit their proposals through APT. The PDF attachment that includes 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 TAC) 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 TAC) 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. Proposals may not be upgraded once the identity of the team is known. 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, CSA, and the operations and 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 TAC.

## Guidelines for proposers

This section provides guidelines to assist proposers prepare their proposals, specifically their PDF Submissions, to avoid highlighting their identity and to support 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 HST or other observatories in an identifying fashion. For instance, rather than write "we observed another cluster, similar to the one we are proposing under HST program #XXXXX," instead write "HST program #XXXXX has observed this target in the past..."

- We encourage references to published work, including work citable by a DOI. It may be occasionally important to cite exclusive access datasets or non-public software that may reveal (or strongly imply) the investigators on the proposal. We suggest proposers use language like "obtained in private communication" or "from private consultation" when referring to such potentially revealing work.
- Do not include acknowledgements, or the source of any grant funding.

It takes some effort by authors to anonymize their PDF submissions. As the guidelines show, grammar and structure are expected to be different than in many other submissions of this type, including previous HST submissions. Some examples of re-worked text can be found on [Example text for anonymous proposing](#).

**Proposers should take sufficient time to prepare the manuscript, especially if one plans to rework a proposal from other submissions.**

Proposers should make an effort to 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 this proposed work fits into this broader context. Similarly, proposals may also discuss the uniqueness of the sample, and goals in comparison to similar work.

## Guidelines for reviewers

The primary objective of the time allocation review is to select the best science, not the best science teams. The TAC panels and 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. **Do 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 program 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 scientific merit of the proposal. This includes technical issues in the design of the study, as described in the technical justification and elsewhere. The discussion should focus on the scientific merit of the proposal. Chairs and Levelers should be quick to refocus or terminate discussion when it moves to PI or team.

## 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 the team members. An example is provided on [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 flagrant violations will be subject to disqualification before the review-panel stage. Proposals with less serious violations (e.g., forgetting to change a reference from first person to third person) will be allowed to remain in contention, but will be flagged for review by SMO and the STScI Director for a final decision. Feedback will be provided to the 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.

*Next: [JWST Proposal Submission Policies](#)*

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# JWST Proposal Submission Policies

This page describes the policies for JWST Cycle 2 General Observer (GO) and Archival (AR) proposals. GO and AR proposals are solicited in all areas of Astrophysics.

## On this page

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  - [ESA and CSA scientists](#)
- [Institutional endorsement](#)
- [Funding](#)
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## 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. 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 PI remains responsible for oversight of the award, the proper conduct of research, the appropriate use of funds (regardless of whether or not the PI received support through the award), and the administrative requirements such as the submission of progress reports. Up to two Co-PIs can be identified with appropriate justification clearly specifying the leadership roles and responsibilities of each Co-PI.

## 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. For Cycle 1, 30% of proposals selected by the TAC (by observing time) were led by ESA PIs and 4% of proposals by CSA PIs.

## Institutional endorsement

STScI does not require the signature of an Authorizing Official (AO) on JWST 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 2 programs. Budgets are not due at the Cycle 2 GO/AR proposal deadline, but are required by the budget submission deadline, **June 29, 2023 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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# JWST Proposal Categories

General Observer (GO) proposals may be submitted for any amount of observing time on JWST. Proposals may also be submitted to financially support the 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.

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## Overview of Proposal categories

JWST observations can be requested with a [General Observer \(GO\) Proposal](#), or through [Director's Discretionary \(DD\) Time Proposals](#). GO proposal categories include Small, Medium, Large, Calibration, Long-Term, Treasury, and Survey. 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, or a Community Data Science Software Proposal. All GO 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 post-launch 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 \( \$\leq 25\$  hours\)](#), [Medium \( \$> 25\$  and  \$< 75\$  hours\)](#) and [Large \( \$\geq 75\$  hours\)](#). 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, [Survey Proposals](#) to designate a set of scheduling-filling observations JWST can make to improve observing efficiency, 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 must be obtained independently, as STScI does not award time on ground-based facilities

## Small GO Proposals

Small GO Proposals are those that request less than or equal to 25 hours of total time. It is anticipated that approximately 2900 hours will be available for allocation to Small Proposals in Cycle 2. 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. It is anticipated that approximately 1250 hours will be available for GO medium proposals in Cycle 2. 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, but target duplication and overall program balance will be considered.

Approximately 750 hours will be made available to Large and Treasury Proposals in Cycle 2. 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 (1, 2, and 3). 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 2 must be presented. **Scheduling concerns are not a sufficient justification.** The sum of all hours requested in Cycles 2, 3, and 4 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 2 approximately 1000 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. Successful proposals will be reviewed by STScI to ensure observing efficiency. 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. Note that a proposal can be both Large and Treasury.

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 can also be submitted as Survey Proposals or Archival Proposals. 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.

## 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 2, this includes all [Director's Discretionary Early Release Science](#) datasets, which have no exclusive access period, and some approved [GTO program](#) datasets.

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.

## 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 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. Laboratory astrophysics relevant to JWST observations is an acceptable component of an archival proposal.

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.

## Legacy AR Proposals

**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

Calibration Proposals may also be submitted as AR Proposals. 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 current JWST instruments (MIRI, NIRCam, NIRSpec, NIRISS), will be made available by July 1, 2023 as part of the Amazon Web Services (AWS) public dataset program ([aws.amazon.com/public-datasets/](https://aws.amazon.com/public-datasets/)). Providing these data in close proximity to AWS facilitates 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 this 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/](https://aws.amazon.com/machine-learning/)
- AWS spot computing: [aws.amazon.com/ec2/spot/spot-and-science/](https://aws.amazon.com/ec2/spot/spot-and-science/)
- Educational & research use cases: [aws.amazon.com/government-education/research-and-technical-computing/](https://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](mailto: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.

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

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.

## Survey Programs

Survey programs are designed to increase the observing efficiency by allowing for short "filler" observations when gaps are identified in the scheduling process. All Survey programs 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.**

Survey Proposals are allocated time for observations of targets drawn from a large sample. However, there is no guarantee that any individual target will be observed because the observations are placed on the Long Range Plan after the observing sequence has been determined for standard GO/GTO programs. The number of observations actually executed will depend on the availability of appropriate schedule gaps. In general, only a small proportion of the available targets will be observed. Based on the experience from Cycle 2, we anticipate that up to 200 hours may be available for Survey observations in JWST Cycle 2; the TAC will select programs requesting up to 1000 targets to provide appropriate sky coverage. All accepted Survey programs will terminate at the end of Cycle 2.

PIs are not required to give a complete list of all targets and their coordinates at the time of submission. Example visits should be provided at the time of submission. The program duration listed by APT will be based on those example visits. **Both the Abstract and the Scientific Justification must** include the total number of targets in the sample and describe their distribution on the sky. Proposers should also describe whether a minimum number of targets is required to reach the science goals. Accepted programs will be required to submit a full target list within one month of the notification of acceptance.

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

Survey programs have the following characteristics:

- Survey programs may not be used for targets of opportunity.
- Survey programs may not include moving targets.
- **Observations of any particular target cannot be guaranteed;** Survey programs are designed to provide a pool of targets that can be inserted into the observing. Proposers are encouraged to submit targets that are well-distributed over the sky to maximize the scheduling opportunities. Targets at high ecliptic latitude are particularly useful since they have longer visibilities.
- Individual visits should not exceed a total duration of 50 minutes, including the science integration time and all associated overheads.
- 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.
- In the case of duplication, Regular GO proposals have priority over Survey Proposals since observation of any specific Survey target is not guaranteed.
- Proposers may not assign priorities to individual visits in a Survey. 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 2 Survey Proposals may only request time in Cycle 2.
- Calibration Proposals may not be submitted as Survey Proposals.

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 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 2 Proposal Selection Procedures](#)).

## Joint Observing Programs

STScI has reached agreements with several other observing facilities (ALMA, Chandra, HST, NASA-Keck, NOIRLab, 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 of the same target(s) are required to meet the primary science goals.

## 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>).
- must request angular resolutions that require array configurations offered in ALMA Cycle 10.
- can not request ALMA time for VLBI or phased array observing modes.
- can not request 50 hours or more of 12-m array time or 150 hours or more of either 7-m or TP 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 2 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 25. 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.

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

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.

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.

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.

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](mailto: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. Also, you must include technical information about the HST observations 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 (2023B for August 2023 to January 2024 and 2024A for February to July 2024). Time cannot be requested for the preceding semester, 2023A. 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](#). If recommended to receive NOIRLab time, the PI MUST submit the technical description through the standard NOIRLab process by the nominal March 31, 2023 deadline for semester 2023B. 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 2023B semester. Proposals not received by the March 31, 2023 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-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 2023B (August 1, 2023 - January 31, 2024) and 2024A (February 1, 2024 - July 31, 2024) to highly ranked proposals that request observations from both JWST and NASA Keck. 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.

Joint proposals requesting NASA Keck time:

- May request observations in the 2023B and/or 2024A semesters. No NASA Keck time awarded to a joint program will be scheduled prior to the start of the 2023B observing semester (August 1, 2023).
- 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 2023B and 2024A 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.

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/XMM-Newton Observing Proposals

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 2 or the XMM-Newton Cycle AO-23 review. Joint JWST/XMM-Newton Proposals should be submitted to the observatory that represents the prime science facility (not to both observatories).

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.**

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. The XMM-Newton AO-23 deadline is nominally in early October 2023. 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](#)*

<b>Latest updates</b>	
<b>Originally published</b>	15 Nov 2022

# 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 roadmaps and examples on [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, and in this way 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 2) 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 will incur an additional overhead of 30 minutes per activation. 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](#).

Proposers may apply for Long-term status for only Non-disruptive ToO Programs (for up to three cycles) only if the target phenomena have a low probability of occurrence during one cycle. The request must be justified in the [APT Special Requirements](#).

## 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 2 for moving targets, the rate of motion may not exceed 30 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.

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. 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.

## 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 NIRCам imaging programs are permitted. For example, a proposal may request imaging with NIRCам 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 NIRCам](#).

## 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 are typically 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.

## Parallel Observations

Parallel observing refers to simultaneously operating more than a single science instrument (limited to two instruments for Cycle 2). 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 may be made with instruments 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 2, the following coordinated parallel modes will be supported:

1. NIRCam Imaging and MIRI Imaging,
2. NIRCam imaging and NIRISS Wide-Field Slitless Spectroscopy (WFSS),
3. NIRCam imaging and NIRISS Imaging (NIRCam must be the prime instrument),
4. NIRCam imaging and NIRSpec MOS (NIRSpec must be the prime instrument),
5. MIRI imaging and NIRISS WFSS,
6. NIRCam WFSS and MIRI Imaging (NIRCam must be the prime instrument),
7. NIRCam WFSS and NIRISS Imaging (NIRCam must be the prime instrument),
8. NIRSpec MOS and MIRI Imaging (NIRSpec must be prime instrument).

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 programs may propose for observations with NIRC*am* imaging, NIRISS imaging and WFSS, and MIRI imaging (NIRSpec is not allowed as the parallel instrument). For accepted programs, the observations will be paired with suitable prime observations by GO, GTO and ERS programs. A number of prime templates **cannot** have pure parallels attached to them, including MIRI Coronagraphic Imaging, NIRC*am* Coronagraphic Imaging, NIRC*am* Time Series, NIRC*am* 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 2. 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 2 GO program is selected. 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, Medium, and Survey GO 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, Medium, and Survey GO 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 (but not exclusively) 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 [Guaranteed Time Observations \(GTOs\)](#) or the [Director's Discretionary Early Release Science \(DD ERS\)](#) program 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](#)*

<b>Latest updates</b>	
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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.

## On this page

- [How STScI Conducts the Proposal Review](#)
  - [The Review Panels](#)
  - [The Executive Committee](#)
- [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 Criterion for Survey Proposals](#)
  - [Additional Criterion for Calibration Proposals](#)
  - [Additional Criteria for all Archival Proposals](#)
  - [Additional Criteria for Treasury GO proposals and Legacy AR 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 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 Telescope Allocation Committee (TAC) offer their recommendations 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.

## The Review Panels

The review panels will consider Small GO ( $\leq 25$  hours), Medium GO ( $> 25$  hours and  $\leq 75$  hours), Calibration GO, Survey, Regular AR, Calibration AR, Community Data Science Software, and Theory proposals. Each review panel has an allocation of a specific number of hours, depending on the overall proposal number submitted in a given area. Medium Proposals are reviewed by the panels and ranked together with the Small Proposals, but are charged differently to the panel's allocation. Each panel will be allowed (but not required) to recommend one Medium Proposal that falls above the hour allocation line at no cost to the panel's allocation total. However, any subsequent Medium Proposals that are ranked above the allocation line will be deducted from that allocation. The panel recommendations generally do not require further approval of the TAC, and scientific balance will be determined within each panel rather than by the TAC. The panels do not adjudicate Large GO ( $> 75$  hours) or Treasury GO proposals, but they will send comments on those proposals to the TAC.

Panelists are chosen based on their expertise in one or more of the scientific topics covered by the panel. Each panel spans several scientific categories. In Cycle 2, we anticipate having panels covering the following areas: Solar System, Exoplanets and Exoplanet Formation, Stellar Physics and Stellar Types, Stellar Populations and the ISM, Galaxies and the IGM, Supermassive Black Holes and Active Galaxies, and the Large-scale Structure of the Universe. Examples of the topical areas covered by each panel are given in the following table:

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
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

Within a panel, proposals are assigned to individual expert reviewers based partly on the keywords given in the proposal and partly on analysis of the proposal text. The Science Mission Office at STScI reserves the right to re-classify proposals.

## The Executive Committee

The Executive Committee will include the TAC chair, the panel chairs from all panels, and three at-large members to ensure broad expertise across the full range of scientific categories. The primary responsibility of the Executive Committee is to review Large GO and Treasury GO programs, and any other particularly large requests of resources, and will be the arbiter of any extraordinary or cross-panel issues.

## 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;
- The strength of the data analysis plan;
- 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 observational database beyond the immediate goals of the project.

## **Additional Criterion 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.

## **Additional Criterion for Calibration Proposals**

- The extent to which these observations or analyses enable new types of scientific investigation 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.
- The demands on STScI resources, including funding, technical assistance, archiving and dissemination of products.
- 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 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 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](#)*

<b>Latest updates</b>	
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# 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 **January 27, 2023 by 8:00pm US Eastern Standard 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 2 will use APT 2022.7, that will be released in November 2022.

Please submit well before the deadline whenever possible, to avoid possible last-minute hardware or overloading problems, or network delays/outages. 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 2 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: Page Limits

Proposal Category <sup>1</sup>	Total Page Limit for PDF Attachment
Small GO, Calibration, and Survey	8
AR (Regular, Theory, or Community Data Science Software)	9
Medium GO	10
Large and Treasury GO, Legacy AR	12

<sup>1</sup> For [Joint JWST-ALMA](#), [Joint JWST-Chandra](#), [Joint JWST-HST](#), [Joint JWST-NOIRLab](#), [Joint JWST-NASA Keck](#), and [Joint JWST/XMM-Newton](#) 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; pages beyond the specified limits will be removed and will not be available to reviewers.
- 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.
- 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: Proposal Preparation Checklist

Step	Procedure
1) Review the JWST Proposal Checklist	The <a href="#">JWST Proposal Checklist</a> is a high level step-by-step guide to writing a proposal. It includes links to various documents.
2) Install APT	Go to the <a href="#">APT webpage</a> . 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.
3) Fill out the APT Phase I form	Use APT to fill out the form. Information on the use of APT, including movie tutorials, is available on the <a href="#">APT webpage</a> . A description of which items are requested as well as guidelines for answers are presented in <a href="#">JWST Filling Out the APT Proposal Form</a> . Proposers can save work in progress, so APT submission can be completed over several sessions.
4) Download a template file for the creation of your PDF attachment	<a href="#">Download one of the templates</a> 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.
5) Edit the template	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 <a href="#">JWST Preparation of the PDF Attachment</a> .
6) Create the PDF attachment.	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.
7) Anonymize the PDF attachment	Ensure that your PDF attachment containing your Scientific and Technical sections are sufficiently anonymized, in accordance with the <a href="#">JWST Anonymous Proposal Reviews</a> guidelines. Particularly egregious violations of the anonymizing guidelines may be flagged for potential disqualification by STScI staff. See the <a href="#">TAC Instructions Dual Anonymous Proposals Guide for Reviewers</a> for more information.
8) Add the PDF filename path to the APT form	In your APT form, list in the appropriate box the path that points to the PDF attachment file on your local disk.

9) Review your proposal	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 <a href="#">JWST Proposal Selection Procedures</a> ). If you are not satisfied at this stage, make any necessary changes.
10) Institutional Endorsement	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.
11) Submit your proposal	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).
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 Phase I 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](#)

Latest updates	
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# JWST Filling Out the APT Proposal Form

A walk through of the various parts of the Astronomer's Proposal Tool (APT), the software through which JWST proposals are developed and submitted, are provided in this article.

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As described in [JWST Proposal Checklist](#), a proposal consists of a completed APT proposal form and an attached PDF file. The present chapter 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.

## Cycle

For a Cycle 2 Proposal, enter '2' (this is the default).

## Requested Resources

## Science Time and Charged Time

(This item appears in the APT form only for GO 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 3 and 'Third Cycle' corresponds to Cycle 4.

## Exclusive Access Period

(This item appears in the APT form only for GO 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 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, and Venus), such as planets, minor planets, comets, asteroids, planetary satellites, and Kuiper-belt objects.
- **EXOPLANETS AND EXOPLANET FORMATION:** This includes all objects belonging to known 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 and the extra-galactic distance scale.

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

## 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.

## 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.

## Special Proposal Types

### 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.

## 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.

## Theory

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

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

## Legacy

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

Mark this keyword if you are submitting an AR Legacy 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 HST 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.

## 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](#).

## 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. 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 "New Entry". If you are in the database, but the address information is incorrect, click on "Update This Address." Both clicks will take you to the ProPer tool so you can be added to, or update information in, the database. Once you have entered your information into [ProPer](#), 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 sensibility check.

## Contact

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 [ProPer](#). 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. Co-Is, then you must select one of the U.S. Co-Is to be the Admin PI, who will oversee the grant funding for U.S. investigators.

## 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.

## Observation Summary (OS)

(This item appears in the APT form only for GO 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. Proposers must justify all requested Special Requirements in the [PDF](#) portion of their proposal.

## 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 in the Micrometeoroid Safe Zone. If the observations can only be obtained using the special requirements, then proposers must provide a justification in APT. See the [APT Micrometeoroid Avoidance](#) article for more information.

*Next: [JWST Preparation of the PDF Attachment](#)*

Latest updates	
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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/XMM-Newton Observations](#)
- [Justify Duplications \(if any\)](#)
- [Analysis Plan](#)

## Science Justification Templates

Templates for JWST Cycle 2 Proposal PDF attachments:

Templates	LaTeX	Microsoft Word	PDF
For GO, AR proposals	<a href="#">JWST_sci_template.tex</a> & <a href="#">jwstproposaltemplate.sty</a>	<a href="#">JWST_sci_template.doc</a>	<a href="#">JWST_sci_template.pdf</a>
For DD proposals	<a href="#">JWST_ddt_template.tex</a> & <a href="#">jwstDDproposaltemplate.sty</a>	<a href="#">JWST_sci_template.doc</a>	<a href="#">JWST_ddt_template.pdf</a>

Note: The templates have intentionally different margins, to accommodate about the same amount of text per page.

Proposers are encouraged to follow the [Getting Started with JWST Proposing](#) in planning and submitting their proposals. Proposers should also be familiar with the policies on data rights, duplications, 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 below section. There is a limit on the total number of pages, as well as on the amount of text in the 'Scientific Justification' section.

**The entire PDF attachment must be anonymized, in accordance with the guidelines specified in [JWST Cycle 2 Anonymous Proposal Review](#).**

## 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 range of science expertise, so one should write this section for a general audience.

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 2, 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 Cycle 2 Proposal Policies and Funding Support](#) 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 and justified in the proposal. Generally, proposers may not add special requirements at a later date.** Special requirements include:

- For Target-of-Opportunity (ToO) observations, estimate the probability of occurrence during Cycle 2, 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.

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. Approved ALMA observations will enter the ALMA scheduling queue at the beginning of Cycle 10 (on 1 October 2023). 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  $|bGal| > 55^\circ$  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.

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. Proposers must also specify whether the team has submitted a similar proposal in response to the current Chandra call.

## 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.

Proposers are required to submit a 2023B [WMKO coversheet](#) by February 27, 2023 in support of their proposal, despite not knowing if the program will be awarded time. Note that WMKO coversheets are available for only 1 semester at a time and 2023B coversheets will not be available until mid-February 2023. If you are requesting NASA Keck observations *in both 2023B and 2024A* semesters, submit a 2023B WMKO coversheet noting the additional request for 2024A observations. If you are requesting NASA Keck observations **only** in 2024A (February 1, 2024-July 31, 2024), submit a 2023B WMKO coversheet as a placeholder noting the need for 2024A observations. The program title and abstract on the WMKO coversheet must be the same as was submitted in your Cycle 2 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.

## Joint JWST-NOIRLab Observations

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 March 31, 2023 deadline for semester 2023B. 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 2023B semester. Proposals not received by the March 31, 2023 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](mailto:proposal-help@noirlab.edu). NOIRLab will perform feasibility checks on any approved proposals.

## 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 AR, Calibration, and Theory Proposals)**

All AR Proposals should provide a detailed data analysis plan and describe the datasets that will be analyzed. 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.

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 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 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 general audiences of scientists.**

For a checklist of items to complete when writing your JWST proposal, see the [JWST Proposal Checklist](#).

*Next: [Proposal Implementation and Execution](#)*

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<b>Originally published</b>	15 Nov 2022

# JWST Proposal Implementation and Execution

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

## On this page

- [Scheduling observations](#)
- [Program execution](#)
- [Obtaining JWST data](#)
- [Archival research support](#)
- [Failed observations](#)
- [Publication of JWST results](#)
- [News release of JWST results](#)
- [Visits to STScI](#)

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 excepted 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 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. STScI will not contemplate requests to advance or postpone the scheduling of individual programs based on other considerations, with the possible exception of compelling scientific arguments.

Unlike 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. NIRSPEC MSA configuration reviews should not impact the JWST proposal cycle timeline, as these would occur throughout the year as the pre-imaging is obtained.

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 intellectual cycle of JWST. 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.

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

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 meta-data 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

HST observations fail at the rate of a few percent, and we anticipate that a few percent of JWST observations will fail as well. Some of these failures result from guide stars that cannot be acquired, or from an instrument anomaly, or the telescope being in a safe mode when a particular observation was scheduled. Such failures, which are beyond the proposer's control, can usually be scheduled for a repeat observation. 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](mailto:library@stsci.edu))
- Office of Public Outreach, STScI, 3700 San Martin Drive, Baltimore, MD 21218, USA ([scientistnews@stsci.edu](mailto: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. 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. 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://jwsthhelp.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 deal with their data. Also, in cases of particularly complex or difficult programs, observers may consider visiting STScI before the proposal deadline. 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*

<b>Latest updates</b>	
<b>Originally published</b>	15 Nov 2022

# JWST Grant Funding and Budget Submissions

General information regarding grant funding and budget submissions are provided in this article. 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](mailto:gms_mail@stsci.edu)



### New this Year!

NASA revised the eligibility requirements for GO/AR grants. Investigators who previously were not eligible to apply for grant support, may now be eligible. This applies to new budget proposals submitted on or after May 25, 2022.

## Budget proposal deadline

June 29, 2023 by 5:00pm US Eastern Daylight Time

Only very limited accommodation can be made for late budget proposals. Proposers who encounter difficulty meeting this deadline should contact GRA for help at [gms\\_mail@stsci.edu](mailto:gms_mail@stsci.edu) as soon as possible prior to the deadline.

Budget proposals are submitted via STGMS (<https://stgms.stsci.edu>). Your Sponsored Research Office will have internal deadlines for your budget submission. Be sure to allow sufficient time to meet the internal deadlines. Contact the Sponsored Research Office at your institution if you need an STGMS account.

## 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. NASA recently revised the definition of U.S. investigator. 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 grantee institutions meet the requirements related to the award of federal funds, and has the authority to deny issuing a grant to any institution failing to meet such requirements. See [GGP](#), Section 7 for criteria considered in STScI's evaluation of risk posed by applicants.

## Budget proposals

A new [STScI Budget Proposer Guide](#) is available 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 of 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.

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

## 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.
- 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 identified and described. It must be very clear that foreign team members are contributing their appropriate share of the overall effort (e.g., labor, travel, and publications). Only tasks that are specifically identified in the science proposal and absolutely necessary for the JWST science will be considered for funding support.
- Any duplication of effort included in the budget must be clearly described and well justified.
- 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.

# 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 JWST 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, the Cycle 2 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, allocable, and necessary. STScI reserves the right to recover grant expenditures that were not in compliance with applicable policies and regulations. Unallowable costs will be removed from the budget request.

Next: [Appendix- Scientific Keywords](#)

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# 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. The science policies group will sort proposals according to the categories and keywords listed below for the time allocation review. 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](#).

<b>Solar System Astronomy</b>
Asteroids
Astronomical models
Astronomical simulations
Atmospheric composition
Atmospheric variability
Binary systems / Multiple systems
Biomarkers
Centaur
Chemical composition
Comets
Inner planets
Irregular satellites
Main belt asteroids
Minor planets
Natural satellites
Near-Earth objects
Occultation
Orbits
Outer planets

<b>Exoplanets and Exoplanet Formation</b>
Astronomical models
Astronomical simulations
Biomarkers
Chemical composition
Circumstellar disks
Coronagraphic imaging
Debris disks
Exoplanet atmospheres
Exoplanet atmospheric composition
Exoplanet atmospheric variability
Exoplanet detection methods
Exoplanet evolution
Exoplanet formation
Exoplanet structure
Exoplanet surfaces
Exoplanet systems
Exoplanets
Extrasolar gas giants
Extrasolar ice giants

Planetary atmospheres
Planetary rings
Planetary surfaces
Small solar system bodies
Space weather
Surface composition
Surface ices
Surface processes
Surface variability
Transits
Trans-Neptunian objects
Trojan asteroids
Zodiacal cloud

<b>Stellar Physics and Stellar Types</b>
Astrometry
Astronomical models
Astronomical simulations
Binary stars / Trinary stars
Brown dwarf stars
Circumstellar disks
Circumstellar matter
Early-type stars
Evolved stars
Gamma-ray bursts
H II regions
Interstellar dust

Extrasolar rocky planets
Free floating planets
Natural satellites (Extrasolar)
Planet hosting stars
Protoplanetary disks (Extrasolar)
Space weather
Transits

<b>Stellar Populations and the Interstellar Medium</b>
Astrometry
Astronomical models
Astronomical simulations
Chemical abundances
Dwarf galaxies
Early-type stars
Elliptical galaxies
Galactic center
Galaxy bulges
Galaxy evolution
Galaxy halos
Galaxy spheroids
Globular star clusters
Gravitational microlensing
H II regions
Hertzsprung Russell diagram
Intermediate type stars
Interstellar dust

Intermediate type stars
Interstellar medium
Late-type stars
Low mass stars
Main sequence Stars
Massive stars
Molecular clouds
Neutron stars
Planetary nebulae
Pre-main sequence stars
Pulsars
Radiative transfer
Stellar abundances
Stellar accretion disks
Stellar atmospheres
Stellar evolution
Stellar jets
Stellar phenomena
Supernovae
Variable stars
White dwarf stars
Young stellar objects

<b>Galaxies and IGM</b>
Astronomical models
Astronomical simulations
Chemical abundances

Interstellar ices
Interstellar medium
Irregular galaxies
Late-type stars
Local Group
Magellanic Clouds
Open star clusters
Planetary nebulae
Population I stars
Population II stars
Population III stars
Star clusters
Star formation
Stellar distance

Disk galaxies
Dwarf galaxies
Elliptical galaxies
Emission line galaxies
Galaxy bulges
Galaxy classification systems
Galaxy dark matter halos
Galaxy disks
Galaxy environments
Galaxy evolution
Galaxy formation
Galaxy mergers
Galaxy spheroids
Galaxy stellar halos
Galaxy structure
High-redshift galaxies
Infrared photometry
Interacting galaxies
Intergalactic dust clouds
Intergalactic medium
Irregular galaxies
Local Group
Luminous infrared galaxies
Magellanic clouds
Quenched galaxies
Scaling relations

<b>Supermassive Black Holes and Active Galaxies</b>
AGN host galaxies
Astronomical models
Astronomical simulations
Blazars
Broad-absorption line quasar
Emission line galaxies
Galaxy jets
Galaxy winds
High-luminosity active galactic nuclei
LINER galaxies
Low-luminosity active galactic nuclei
Markarian galaxies
M-sigma relation
Quasars
Quenched galaxies
Radio cores
Reverberation mapping
Seyfert galaxies
Stellar accretion disks
Stellar feedback
Supermassive black holes
X-ray active galactic nuclei

Spectral energy distribution
Star clusters
Star formation
Starburst galaxies
Stellar populations
Ultraluminous infrared galaxies
Warm-hot intergalactic medium

<b>Large-scale Structure of the Universe</b>
Astronomical models
Astronomical simulations
Chemical abundances
Cooling flows
Cosmic infrared background
Cosmological parameters
Cosmology
Damped Lyman-Alpha Systems
Dark energy
Dark matter distribution
Extragalactic Legacy And Deep Fields
Galaxy clusters
Galaxy groups
Gamma-ray bursts
Gravitational lensing
Gunn-Peterson effect
Intracluster medium
Large-scale structure of the universe
Lyman-Alpha Forest
Protogalaxies
Protostars
Reionization
Stellar distance
Supernovae

End of the Call for Proposals ([back to the beginning](#))

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## Related Links