

JWST Observatory and Instrumentation Documentation

- [JWST Director's Discretionary Early Release Science Call for Proposals](#)

- [JWST Call for Proposals for Cycle 1](#)

- [James Webb Space Telescope Call for Proposals for Cycle 1](#)

- [JWST Cycle 1 Proposal Checklist and Resources](#)

- [JWST Cycle 1 Proposal Policies and Funding Support](#)

- [JWST Cycle 1 Proposal Categories](#)

- [JWST Cycle 1 GTO Observations Available for Archival Proposals](#)

- [JWST Cycle 1 Observation Types and Restrictions](#)

Articles in this area, "JWST Observatory and Instrumentation," contain the types of content found in traditional instrument handbooks. The articles provide instrument-related information such as hardware descriptions, specifications, modes of operation, performance, and operational details. Also included are articles about the JWST telescope and spacecraft operations.

- [JWST Cycle 1 Proposal Selection Process](#)

- [JWST Cycle 1 Observation Mode Restrictions](#)

Other areas selectable from the menu are [JWST Observation Planning](#), [JWST Opportunities and Policies](#), and [JWST Data Calibration and Analysis](#).

- [JWST Cycle 1 Proposal Science Categories and Keywords](#)

While downloadable PDF files for this and the other sections will be generated for each cycle, the online content will be constantly updated with the latest information.

- [JWST General Science Policies](#)

- [JWST Observing Overheads and Time Accounting Policy](#)

- [JWST Duplicate Observations Policy](#)

- [JWST Science Parallel Observation Policies and Guidelines](#)

A graphical guide is available on how to get started exploring this website using the navigation bar, search bar, and links, as well as the page tree on the right of each page.

- [JWST Observing Program Modification Policy](#)

- [Policies for the Telescope Time Review Board](#)

- [JWST Target of Opportunity Program Activation](#)

- [NASA-SMD Policies and Guidelines for the Operations of JWST at STScI](#)

- [Policy 1 - Limitations on the Use of Funds for the Research of General Observers and Archival Research](#)

- [Policy 2 - Data Rights and Data Dissemination](#)

- [Policy 3 - Data Requests and Facilities](#)

- [Policy 4 - Post-Launch Commissioning of JWST](#)

- [Policy 5 - Clarification of Extensions of Exclusive Access Data to Public Affairs Activities](#)

- [Policy 6 - Distribution of JWST Science Data Obtained from Investigations Other Than Those Selected Through the Peer-review Process](#)

- [Policy 7 - NASA Needs for Support for Other Missions](#)

- [Policy 8 - Definition of Observing Time](#)

- [Policy 9 - Allocation of Guaranteed Observing Time to Scientists Selected Under AO 01-OSS-05 and Through NASA-ESA-CSA Agreements](#)

- [Policy 10 - Redistribution of Guaranteed Observing Time Among Observers](#)

- [Policy 11 - Protection of Science Programs Associated With Guaranteed Time](#)

- [Policy 12 - Education and Public Outreach](#)

Proposal Preparation

- [Understanding Exposure Times](#)

- [General Proposal Planning Workflow](#)

- [Methods and Roadmaps](#)

- [JWST Imaging](#)

- •Imaging Roadmap
- •Imaging Options
- •Imaging Performance
- • JWST Slit Spectroscopy
- • JWST Slitless Spectroscopy
- JWST High-Contrast Imaging
 - •Contrast Considerations for JWST High-Contrast Imaging
 - •JWST Coronagraphic Observation Planning
 - •JWST Coronagraphic Sequences
 - •JWST Coronagraphy in ETC
 - •JWST High-Contrast Imaging in APT
 - •JWST High-Contrast Imaging Inner Working Angle
 - •JWST High-Contrast Imaging Optics
 - •JWST Small Grid Dither Technique
 - •MIRI-Specific Treatment of Limiting Contrast
 - •NIRCam-Specific Treatment of Limiting Contrast
 - •NIRISS AMI-Specific Treatment of Limiting Contrast
 - •Selecting Suitable PSF Reference Stars for JWST High-Contrast Imaging
- JWST Integral Field Spectroscopy
 - •IFU Roadmap
 - •Introduction to IFU Spectroscopy
 - •IFU Example Science
 - •IFU Terminology
- JWST MOS Spectroscopy
 - •A Comparison of MOS spectroscopy with the NIRSpec MSA and other JWST Instruments
 - •MOS Terminology
 - •MOS Data and Example JWST Science Use Cases
- JWST Time-Series Observations
 - •Overview of Time-Series Observation (TSO) Modes
 - •Noise Sources for Time-Series Observations
 - •Sensitivity of Time-Series Observation Modes
 - •Bright limits of Time-Series Observation Modes
 - •Preparing Time-Series Observations with JWST
 - •Target Acquisition for Time-Series Observations
 - •NIRCam-Specific Time-Series Observations
 - •NIRISS-Specific Time-Series Observations
 - •MIRI-Specific Time-Series Observations
- JWST Moving Target Observations
 - •Moving Target Roadmap
 - •Field of Regard Considerations for Moving Targets
 - •Instrument-Specific Considerations for Moving Targets
 - •Moving Target Recommended Strategies
 - •JWST Moving Target Observing Procedures
 - •JWST Moving Target Calibration and Processing
 - •JWST Moving Target Ephemerides
 - •JWST Moving Targets in APT

- •Tutorial on Creating Solar System Targets in APT
 - •Tutorial on Creating Solar System Observations in APT
 - •Tutorial on Visualizing Dithers of a Solar System Observation in APT
- •JWST Moving Targets in ETC
- •JWST Moving Target Useful References and Links
- •Overheads for Moving Targets
- •JWST Moving Target Policies
- NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
 - •Step-by-Step ETC Guide for NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
 - •Step-by-Step APT Guide for NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
- JWST Parallel Observations
 - •Coordinated Parallels Roadmap
 - Custom Dithers for Coordinated Parallel Observations
 - •Coordinated Parallel Dither Tables
- JWST Target of Opportunity Observations
 - •Target of Opportunity Roadmap
- Example Science Programs
- Recommended Observing Strategies
- Observatory Functionality
 - •JWST Position Angles, Ranges, and Offsets
 - •JWST Instrument Ideal Coordinate Systems
 - JWST Background Model
 - •How JWST Backgrounds Vary
 - •Background-Limited JWST Observations
 - •JWST Guide Stars
 - •JWST Mosaic Overview
 - •JWST Dithering Overview
 - JWST Duplication Checking
 - •Identifying Potential Duplicate Observations
 - JWST Observing Overheads and Time Accounting Overview
 - •JWST Observing Overheads Summary
 - •JWST Slew Times and Overheads
 - JWST Instrument Overheads
 - Observing Overheads for NIRCam Imaging
 - •Overheads Example for NIRCam Imaging with INTRAMODULEBOX Primary Dithers
 - •Overheads Example for NIRCam Imaging with INTRAMODULE Primary Dithers
 - •Overheads Example for NIRCam Imaging with FULLBOX Primary Dithers
 - •Overheads Example for NIRCam Imaging with FULL Primary Dithers
 - •JWST Data Rate and Data Volume Limits

- Observatory Hardware
 - ● JWST Observatory Overview
 - ● JWST Observatory Coordinate System and Field of Regard
 - ● JWST Field of View
 - ● JWST Orbit
 - JWST Spacecraft Bus
 - ● JWST Attitude Control Subsystem
 - ● JWST Communications Subsystem
 - ● JWST Propulsion
 - ● JWST Pointing Performance
 - ● JWST Telescope
 - ● JWST Wavefront Sensing and Control
 - ● JWST Momentum Management
 - ● JWST Integrated Science Instrument Module
 - ● JWST Solid State Recorder
 - ● JWST Target Viewing Constraints
 - ● Fine Guidance Sensor, FGS

Proposing Tools

- JWST Exposure Time Calculator Overview
 - ● JWST ETC New User Guide
 - JWST ETC Calculations Page Overview
 - ● JWST ETC Creating a New Calculation
 - ● JWST ETC Backgrounds
 - ● JWST ETC Wavelength of Interest/Slice
 - ● JWST ETC Batch Expansions
 - JWST ETC Strategies
 - ● JWST ETC Imaging Aperture Photometry Strategy
 - ● JWST ETC Aperture Spectral Extraction Strategy
 - ● JWST ETC MSA Full Shutter Extraction Strategy
 - ● JWST ETC IFU Nod in Scene and IFU Nod off Scene Strategy
 - ● JWST ETC SOSS Spectral Extraction Strategy
 - ● JWST ETC Coronagraphy Strategy
 - JWST ETC Target Acquisition
 - ● JWST ETC MIRI Target Acquisition
 - ● JWST ETC NIRCcam Target Acquisition
 - ● JWST ETC NIRISS Target Acquisition
 - ● JWST ETC NIRSpec Target Acquisition
 - JWST ETC Outputs Overview
 - ● JWST ETC Images and Plots
 - ● JWST ETC Reports
 - ● JWST ETC Downloads
 - JWST ETC Workbooks Overview
 - ● JWST ETC Using the Sample Workbooks
 - ● JWST ETC Sharing Workbooks

- JWST ETC Pandeia Engine Tutorial
 - •Installing Pandeia
 - •Pandeia Quickstart
 - •Pandeia Reference Data
 - •Pandeia Configuration Dictionaries
 - •Pandeia Order of Operations
 - •Pandeia Reports
 - •Pandeia Batch Mode
 - •Pandeia Guides and Examples
 - •Pandeia Backgrounds
- • JWST ETC Point Spread Functions
- • JWST ETC Instrument Throughputs
- • JWST ETC Residual Flat Field Errors
- • JWST ETC NIRCcam Imaging

- Astronomers Proposal Tool
 - • JWST Astronomers Proposal Tool Overview
 - APT Workflow
 - •APT Proposal Information
 - APT Targets
 - •APT Bulk Target Ingest
 - •APT Observations
 - •APT Special Requirements
 - •APT Target Acquisition
 - •APT Visit Planner
 - •APT Smart Accounting
 - •APT Submitting Your JWST Proposal
 - Additional APT Functionality
 - JWST APT Mosaic Planning
 - •JWST APT Mosaic Tile Splitting Activity
 - •JWST APT Aladin Viewer
 - •APT Visit Splitting
 - JWST APT Coordinated Parallel Observations
 - •Example NIRCcam Imaging and NIRISS WFSS Exposure Combination
 - •JWST APT Pure Parallel Observations
 - •JWST APT Target Confirmation Charts
 - Getting Help with APT
 - •JWST APT Help Features
 - JWST APT Functionality Examples
 - •JWST APT Simple Mosaic Example
 - •JWST APT Coronagraphic Sequence Examples
 - •JWST APT Training Examples and Video Tutorials

- APT Observation Templates
- ETC to APT Interface
- JWST APT-ETC Connectivity

- Video Tutorials
 - Other Tools
 - Backgrounds Tool
 - Space Telescope Imaging Product Simulator (STIPS)
 - Target Visibility Tools
 - JWST General Target Visibility Tool Help
 - JWST Moving Target Visibility Tool Help
 - JWST Coronagraphic Visibility Tool Help

Instruments

- Mid Infrared Instrument
 - MIRI Overview
 - MIRI Observing Modes
 - MIRI Coronagraphic Imaging
 - MIRI Imaging
 - MIRI Low-Resolution Spectroscopy
 - MIRI Medium-Resolution Spectroscopy
 - MIRI Instrumentation
 - MIRI Optics and Focal Plane
 - MIRI MRS Field
 - MIRI Filters and Dispersers
 - MIRI Coronagraph Masks
 - MIRI Spectroscopic Elements
 - MIRI Detector Overview
 - MIRI Detector Readout Overview
 - MIRI Detector Readout Slow
 - MIRI Detector Readout Fast
 - MIRI Detector Performance
 - MIRI Detector Subarrays
 - MIRI Operations
 - MIRI Target Acquisitions
 - MIRI Imaging Target Acquisition
 - MIRI Coronagraphic Imaging Target Acquisition
 - MIRI LRS Slit Target Acquisition
 - MIRI LRS Slitless Target Acquisition
 - MIRI MRS Target Acquisition
 - MIRI Bright Source Imaging Target Acquisition
 - MIRI Dithering
 - MIRI Imaging Dithering
 - MIRI Coronagraph Imaging Dithering
 - MIRI LRS Dithering
 - MIRI MRS Dithering
 - MIRI MRS Dedicated Sky Observations
 - MIRI Mosaics

- •MIRI Imaging Mosaics
 - •MIRI LRS Mosaics
 - •MIRI MRS Mosaics
 - •MIRI MRS Simultaneous Imaging
 - MIRI Time Series Observations
 - •MIRI Imaging TSOs
 - •MIRI LRS TSOs
- MIRI Predicted Performance
 - •MIRI Bright Source Limits
 - •MIRI Point Spread Functions
 - •MIRI Sensitivity
- MIRI APT Templates
 - •MIRI Imaging APT Template
 - •MIRI LRS APT Template
 - •MIRI MRS APT Template
 - •MIRI Coronagraphic Imaging APT Template
- MIRI Observing Strategies
 - •MIRI Generic Recommended Strategies
 - •MIRI Imaging Recommended Strategies
 - •MIRI LRS Recommended Strategies
 - •MIRI MRS Recommended Strategies
- MIRI Example Programs
 - •MIRI Coronagraphy of GJ 758 b
 - MIRI Imaging, MIRI MRS, and NIRSpec IFU Observations of SN1987A
 - •APT Instructions for MIRI and NIRSpec SN 1987A Observations
 - •ETC Instructions for MIRI and NIRSpec SN 1987A Observations
 - •MIRI and NIRCcam Coronagraphy of the Beta Pictoris Debris Disk
 - •MIRI IFU and NIRSpec Observations of Cas A
 - MIRI MRS Spectroscopy of a Late M Star
 - •Step-by-Step ETC Guide for MIRI MRS Spectroscopy of a Late M Star
 - •Step-by-Step APT Guide for MIRI MRS Spectroscopy of a Late M Star
 - MIRI MRS and NIRSpec IFU Observations of Cassiopeia A
 - •Step-by-Step ETC Guide for MIRI MRS and NIRSpec IFU Observations of Cassiopeia A
 - •Step-by-Step APT Guide for MIRI MRS and NIRSpec IFU Observations of Cassiopeia A
- Near Infrared Camera
 - •NIRCcam Overview
 - NIRCcam Observing Modes
 - •NIRCcam Imaging
 - •NIRCcam Coronagraphic Imaging
 - NIRCcam Time-Series Observations
 - •NIRCcam Time-Series Imaging

- •NIRCam Grism Time Series
 - •NIRCam Wide Field Slitless Spectroscopy
- NIRCam Instrumentation
 - •NIRCam Field of View
 - •NIRCam Modules
 - •NIRCam Optics
 - •NIRCam Dichroics
 - •NIRCam Pupil and Filter Wheels
 - •NIRCam Filters
 - •NIRCam Coronagraphic Occulting Masks and Lyot Stops
 - •NIRCam Filters for Coronagraphy
 - •NIRCam Grisms
 - •NIRCam Weak Lenses
 - NIRCam Detectors
 - •NIRCam Detector Subarrays
 - •NIRCam Detector Readout
 - •NIRCam Detector Readout Patterns
 - •NIRCam Detector Performance
- NIRCam Operations
 - NIRCam Dithers and Mosaics
 - •NIRCam Mosaics
 - •NIRCam Primary Dithers
 - NIRCam Subpixel Dithers
 - •NIRCam Standard Subpixel Dithers
 - •NIRCam Small Grid Dithers
 - •NIRCam Wide Field Slitless Spectroscopy Dithers
 - •NIRCam Subarray Primary Dithers
 - •NIRCam Coronagraphic PSF Estimation
 - •NIRCam Coronagraph Astrometric Confirmation Images
 - •NIRCam Apertures
 - NIRCam Target Acquisition Overview
 - •NIRCam Coronagraphic Target Acquisition
 - •NIRCam Grism Time-Series Target Acquisition
 - •NIRCam Time-Series Imaging Target Acquisition
- NIRCam Predicted Performance
 - •NIRCam Point Spread Functions
 - •NIRCam Dragon's Breath
 - •NIRCam Imaging Sensitivity
 - •NIRCam Sensitivity
 - •NIRCam Bright Source Limits
 - •NIRCam Persistence
 - •NIRCam Flat Fields
 - •NIRCam WFSS Field of View
 - •NIRCam WFSS Backgrounds
- NIRCam APT Templates
 - •NIRCam Imaging APT Template

- •NIRCam Coronagraphic Imaging APT Template
- •NIRCam Time-Series APT Template
- •NIRCam Grism Time-Series APT Template
- •NIRCam Wide Field Slitless Spectroscopy APT Template
- NIRCam Observing Strategies
 - •NIRCam Imaging Recommended Strategies
 - •NIRCam Coronagraphic Recommended Strategies
 - •NIRCam Time-Series Observation Recommended Strategies
 - •NIRCam WFSS Recommended Strategies
- NIRCam Example Programs
 - NIRCam Deep Field Imaging with MIRI Imaging Parallels
 - •Step-by-Step ETC Guide for NIRCam Deep Field Imaging with MIRI Imaging Parallels
 - •Step-by-Step APT Guide for NIRCam Deep Field Imaging with MIRI Imaging Parallels
 - NIRCam Imaging and NIRISS WFSS of Galaxies Within Lensing Clusters
 - •APT Instructions for NIRCam Imaging and NIRISS WFSS
 - •ETC Instructions for NIRCam Imaging and NIRISS WFSS
 - •NIRCam WFSS Deep Galaxy Observations
 - •NIRCam and MIRI Coronagraphy of the Beta Pictoris Debris Disk
 - •NIRCam Coronagraphy of HR8799 b
 - NIRCam Grism Time-Series Observations of GJ 436b
 - •Step-by-Step APT Guide for NIRCam Grism Time-Series Science Use Case
 - •Step-by-Step ETC Guide for NIRCam Grism Time Series Science Use Case
 - •Step-by-Step PandExo Guide for NIRCam Grism Time Series Science Use Case
 - NIRCam Time-Series Imaging of HAT-P-18 b
 - •Step-by-Step APT Guide for NIRCam Time Series Imaging Science Use Case
 - •Step-by-Step ETC Guide for NIRCam Time Series Imaging Science Use Case
- Near Infrared Imager and Slitless Spectrograph
 - • NIRISS Overview
 - NIRISS Observing Modes
 - •NIRISS Wide Field Slitless Spectroscopy
 - •NIRISS Single Object Slitless Spectroscopy
 - •NIRISS Aperture Masking Interferometry
 - •NIRISS Imaging
 - NIRISS Instrumentation
 - •NIRISS Optics and Focal Plane
 - •NIRISS Pupil and Filter Wheels
 - •NIRISS Filters
 - •NIRISS GR150 Grisms
 - •NIRISS GR700XD Grism
 - •NIRISS Non-Redundant Mask
 - NIRISS Detector

- •NIRISS Detector Subarrays
 - •NIRISS Detector Readout
 - •NIRISS Detector Readout Patterns
 - •NIRISS Detector Performance
- NIRISS Operations
 - NIRISS Dithers
 - •NIRISS AMI Dithers
 - •NIRISS Imaging Dithers
 - •NIRISS WFSS Dithers
 - •NIRISS Target Acquisition
 - •NIRISS Apertures
 - •NIRISS Mosaics
- NIRISS Predicted Performance
 - •NIRISS Sensitivity
 - •NIRISS Bright Limits
 - •NIRISS Point Spread Functions
- NIRISS APT Templates
 - •NIRISS Imaging APT Template
 - •NIRISS Wide Field Slitless Spectroscopy APT Template
 - •NIRISS Single-Object Slitless Spectroscopy APT Template
 - •NIRISS Aperture Masking Interferometry APT Template
- NIRISS Observing Strategies
 - •NIRISS WFSS Recommended Strategies
 - •NIRISS SOSS Recommended Strategies
 - •NIRISS AMI Recommended Strategies
 - •NIRISS Imaging Recommended Strategies
- NIRISS Example Programs
 - NIRISS AMI Observations of Extrasolar Planets Around a Host Star
 - •Step-by-Step ETC Guide for NIRISS AMI Observations of Extrasolar Planets Around a Host Star
 - •Step-by-Step APT Guide for NIRISS AMI Observations of Extrasolar Planets Around a Host Star
 - NIRISS SOSS Time-Series Observations of HAT-P-1
 - •Step-by-Step ETC Guide for NIRISS SOSS Time-Series Observations of HAT-P-1
 - •Step-by-Step PandExo Guide for NIRISS SOSS Time-Series Observations of HAT-P-1
 - •Step-by-Step APT Guide for NIRISS SOSS Time-Series Observations of HAT-P-1
 - NIRISS WFSS with NIRCcam Parallel Imaging of Galaxies in Lensing Clusters
 - •Step-by-Step ETC Guide for NIRISS WFSS and Parallel NIRCcam Imaging of Galaxies in Lensing Clusters
 - •Step-by-Step APT Guide for NIRISS WFSS and NIRCcam Parallel Imaging of Galaxies in Lensing Clusters
- Near Infrared Spectrograph

- NIRSpec Overview
 - •NIRSpec Training Webinars and Webcasts
- NIRSpec Observing Modes
 - NIRSpec Multi-Object Spectroscopy
 - •NIRSpec MOS Wavelength Ranges and Gaps
 - NIRSpec IFU Spectroscopy
 - •NIRSpec IFU Wavelength Ranges and Gaps
 - NIRSpec Fixed Slits Spectroscopy
 - •NIRSpec FS Wavelength Ranges and Gaps
 - NIRSpec Bright Object Time-Series Spectroscopy
 - •NIRSpec BOTS Wavelength Ranges and Gaps
- NIRSpec Instrumentation
 - •NIRSpec Optics
 - •NIRSpec Dispersers and Filters
 - NIRSpec Detectors
 - •NIRSpec Detector Performance
 - •NIRSpec Detector Readout
 - NIRSpec Detector Readout Modes and Patterns
 - •NIRSpec Traditional Detector Readout Mode
 - •NIRSpec IRS2 Detector Readout Mode
 - •NIRSpec Detector Subarrays
 - •NIRSpec Micro-Shutter Assembly
 - •NIRSpec Integral Field Unit
 - •NIRSpec Fixed Slits
- NIRSpec Operations
 - NIRSpec Dithers and Nods
 - •NIRSpec MOS Dither and Nod Patterns
 - •NIRSpec IFU Dither and Nod Patterns
 - •NIRSpec FS Dither and Nod Patterns
 - NIRSpec MOS Operations
 - •NIRSpec MOS Observing Process
 - NIRSpec MOS Operations - Catalogs and Images
 - •Hubble Space Telescope Finder Images and Catalogs
 - •NIRSpec MOS Operations - Pre-Imaging Using NIRCcam
 - •NIRSpec MOS Operations - Confirmation Images
 - •NIRSpec MOS Operations - Slit Losses
 - NIRSpec IFU Operations
 - •NIRSpec MSA Leakage Correction for IFU Observations
 - •NIRSpec FS Operations
 - •NIRSpec BOTS Operations
 - NIRSpec Target Acquisition
 - •NIRSpec MSA Target Acquisition
 - •NIRSpec Target Position
 - •NIRSpec Wide Aperture Target Acquisition
- NIRSpec Predicted Performance
 - •NIRSpec Bright Source Limits

- •NIRSpec Sensitivity
- NIRSpec APT Templates
 - NIRSpec Multi-Object Spectroscopy APT Template
 - •NIRSpec MOS Proposal Checklist
 - •NIRSpec MSA Planning Tool, MPT
 - NIRSpec MPT - Catalogs
 - •MPT Catalogs - Examples
 - •NIRSpec MPT - Planner
 - NIRSpec MPT - Manual Planner
 - •MOS Custom Configuration Process
 - •NIRSpec MPT - Plans
 - •NIRSpec MPT - Parameter Space
 - •NIRSpec MSA Spectral Visualization Tool Help
 - •NIRSpec Observation Visualization Tool Help
 - •NIRSpec IFU Spectroscopy APT Template
 - •NIRSpec Fixed Slit Spectroscopy APT Template
 - •NIRSpec Bright Object Time-Series APT Template
 - •NIRSpec FS and IFU Mosaic APT Guide
- NIRSpec Observing Strategies
 - •NIRSpec Background Recommended Strategies
 - •NIRSpec Bright Spoilers and the IFU Recommended Strategies
 - •NIRSpec Detector Recommended Strategies
 - •NIRSpec Dithering Recommended Strategies
 - •NIRSpec MOS Recommended Strategies
 - •NIRSpec MSA Leakage Subtraction Recommended Strategies
 - •NIRSpec Target Acquisition Recommended Strategies
- NIRSpec Example Programs
 - NIRSpec IFU and MIRI MRS Observations of Cassiopeia A
 - •Step-by-Step ETC Guide for NIRSpec IFU and MIRI MRS Observations of Cassiopeia A
 - •Step-by-Step APT Guide for NIRSpec IFU and MIRI MRS Observations of Cassiopeia A
 - NIRSpec BOTS Observations of GJ 1214b
 - •ETC Step-by-Step Instructions for Gliese 1214b
 - •APT Step-by-Step Instructions for Gliese 1214b
 - NIRSpec IFU, MIRI Imaging, and MIRI MRS Observations of SN1987A
 - •ETC Instructions for NIRSpec and MIRI SN 1987A Observations
 - •APT Instructions for NIRSpec and MIRI SN 1987A Observations
 - NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
 - •Step-by-Step ETC Guide for NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
 - •Step-by-Step APT Guide for NIRSpec IFU and Fixed Slit Observations of Near-Earth Asteroids
 - NIRSpec MOS Deep Extragalactic Survey
 - •NIRSpec MOS - Deep Extragalactic Survey ETC Guide
 - •NIRSpec MOS - Deep Extragalactic Survey APT Guide

- •NIRSpec MOS Observations of NGC 346
- •NIRSpec and MIRI IFU Observations of Cas A

Data

- Understanding Data Files
 - • File Naming Conventions and Data Products
 - • Header Keywords and Relationships
 - • Understanding Associations
 - JWST Data Structure
 - •Working with FITS Files
 - •ASDF Data
 - • Coordinate Systems and Transformations
- Obtaining Data
 - • Data Discovery
 - • Data Exploration
 - Data Retrieval
 - •Data Access Policy
 - •Programmatic Interfaces
 - • Archive User Support
- Data Processing and Calibration Files
 - • Absolute Astrometric Calibration
 - • Absolute Flux Calibration
 - • Absolute Wavelength Calibration
 - All Calibration Reference Files
 - •MIRI Calibration Reference Files
 - •NIRCam Calibration Reference Files
 - •NIRISS Calibration Reference Files
 - •NIRSpec Calibration Reference Files
- JWST Data Reduction Pipeline
 - • Primer and Tutorials
 - • Pipeline User's Guide
 - • Software Reference Documentation
 - Algorithm Documentation
 - Stages of Processing
 - Stage 1
 - •CALWEBB_DETECTOR1
 - Stage 2
 - •CALWEBB_IMAGE2
 - •CALWEBB_SPEC2
 - Stage 3
 - •CALWEBB_AMI3
 - •CALWEBB_CORON3
 - •CALWEBB_IMAGE3

- •CALWEBB_SPEC3
- •CALWEBB_TSO3
- •Modes of Observing
- •By Observing Template
- •Obtaining and Installing Software

Other

- [JWST Acronyms and Abbreviations](#)
- [Latest Updates](#)
- [Help Desk](#)
- [General Proposal Planning Workflow](#)
- [JWST Technical Documents](#)

MIRI

Mid-Infrared Instrument

[MIRI Observing Modes](#)

[MIRI Target Acquisition](#)

[MIRI Dithering](#)

[MIRI Mosaics](#)

[MIRI MRS Simultaneous Imaging](#)

[MIRI Sensitivity](#)

[MIRI Bright Source Limits](#)

MIRI Detectors and Readout

NIRISS

Near Infrared Imager
and Slitless Spectrograph

NIRISS Observing Modes

NIRISS Target Acquisition

NIRISS Dithering

NIRISS Mosaics

NIRISS Sensitivity

NIRISS Bright Source Limits

NIRISS Detector and Readout

NIRCam

Near Infrared
Camera

[NIRCam Observing Modes](#)

[NIRCam Target Acquisition](#)

[NIRCam Dithers and Mosaics](#)

[NIRCam Sensitivity](#)

[NIRCam Bright Source Limits](#)

[NIRCam Detectors and Readout](#)

[NIRSpec](#)

[Near Infrared
Spectrograph](#)

[NIRSpec Observing Modes](#)

[NIRSpec Target Acquisition](#)

[NIRSpec Dithering](#)

[NIRSpec Sensitivity](#)

[NIRSpec Bright Source Limits](#)

[NIRSpec Detectors and Readout](#)

[Go to other JDOx sections](#)





JWST Observation
Planning



JWST
Data



JWST
Policies