

JWST Commissioning Data Highlights

JWST commissioning has provided many datasets that astronomers may find useful. Datasets collected during the six month commissioning process provide examples of observation modes to help astronomers become familiar with data formats, the pipeline, and known artifacts, as well as to test their analysis methods. Some commissioning data may also provide serendipitous scientific value. Here we highlight some of the datasets that have been identified by the mission team as potentially useful to astronomers.

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Caveats

- These commissioning datasets were not originally intended for detailed scientific analysis, and may have artifacts, non-optimized instrument configurations, and other issues that were addressed during commissioning.
- Datasets obtained prior to the completion of OTE mirror alignment are particularly susceptible to significant variable wavefront error. Fine phasing of the telescope occurred on 11 March 2022. The wavefront stabilized after MIRI achieved operating temperature on 07 April 2022.
- Help for understanding the science content of these programs should be directed to <https://stsci.service-now.com/jwst>. The JWST Help Desk has very limited resources to investigate issues specific to the content of the data obtained during commissioning and will be prioritizing Cycle 1 support.



MIRI Data

All MIRI commissioning data taken after a detector health and functionality checkout on DOY 101 (11 April 2022) may be of value to the scientific community; references are provided here to several example programs.



The total volume of commissioning data exceeds 46 TB. Data from even a single program may take a long time to download, and will consume considerable space on local storage. We strongly recommend exploring the subset of programs and observations identified here in the **Highlighted Data** section, and restricting your search and download to only the observations denoted in the table. Observation numbers are denoted with a "-o###" in [observation IDs](#) or [file names](#) for supported products.

Highlighted Data



The retrieval scripts have been removed from AWS, since data are reprocessed over time with updated calibrations and pipeline versions.

This table still serves as a useful reference for commissioning observations that the mission and instrument teams have identified of being the most useful. We recommend you use the [astroquery.mast](#) Python library [to search for and download the data products](#) associated with these observations.

Target(s)	Instrument(s)	Template	Pointing Mode	PID	Observations	Notes
LMC astrometric field	NIRCam FGS	NIRCam Imaging FGS External Calibration	FINEGUIDE	1074	Obs 1-3	Observations of the LMC astrometric field in several filters and repeated
LMC Astrometric Field	NIRISS FGS	NIRISS External Calibration FGS External Calibration	FINEGUIDE	1086	Obs 1	Nine position imaging mosaic (10 square arcmin) of the LMC astrometric field in all 12 filters.
LMC Astrometric Field	NIRCam FGS	NIRCam Engineering Imaging FGS External Calibration	COARSE, TRACK, & FINEGUIDE	1144	All NIRCam observations	LMC astrometric field <i>from pre-OTE-alignment complete</i>

LMC Astrometric Field	NIRISS FGS	NIRISS External Calibration FGS External Calibration	TRACK	1145	All	LMC astrometric field <i>from pre-OTE-alignment complete</i>
LMC Astrometric Field	NIRSpec FGS	NIRSpec Imaging FGS External Calibration	FINEGUIDE	1164	Obs 1-4	LMC astrometric field <i>from pre-OTE-alignment complete</i>
LMC Astrometric Field	MIRI FGS	MIRI Medium Resolution Spectroscopy FGS External Calibration	FINEGUIDE	1171	Obs 1-6	LMC astrometric field <i>from pre-OTE-alignment complete</i>
LMC Astrometric Field	NIRCam FGS/NIRISS NIRSpec MIRI	NIRCam Imaging FGS External Calibration MIRI Imaging NIRISS Imaging NIRSpec MultiObject Spectroscopy	FINEGUIDE	1473	All	This is the data used for the public image release right after OTE alignment complete. Contains many more filters and observations in all instruments.
2MASS05214330-6927498 P330-E P177-D WD1057+719	NIRCam FGS	NIRCam Imaging FGS External Calibration	FINEGUIDE	1074	Obs 4-106	Photometric zero points and stability of two standard stars
P330-E	NIRCam	NIRCam Grism Time Series NIRCam Wide Field Slitless Spectroscopy	FINEGUIDE	1076	All	Includes TSO. LW Grism checkout. Includes WFSS data. Interesting background objects. A planetary nebula was observed as another part of this CAR.
WD1657+343 P330E	NIRISS	NIRISS External Calibration	FINEGUIDE	1089	Obs 1-3	Flux calibration observations in all 6 WFSS filters using standard stars. This is a relatively uncrowded field containing many background galaxies.
TYC 4433-1800-1 2MASS J17430448+6655015 GSPC P177-D PG 1057+719 GSPC P177-D 2MASS J16194609+5534178	NIRSpec	NIRSpec Bright Object Time Series NIRSpec IFU Spectroscopy NIRSpec Fixed Slit Spectroscopy NIRSpec MultiObject Spectroscopy	FINEGUIDE	1128	All	Includes TSO. Sensitivity and absolute flux calibration using standard stars
BD+60-1753	NIRISS	NIRISS Single-Object Slitless Spectroscopy	FINEGUIDE	1091	Obs 2	TSO of flux calibrator standard (SOSS)
HAT-P-14 b	NIRSpec	NIRSpec Bright Object Time Series	FINEGUIDE	1118	Obs 1 & 5	TSO exoplanet transit
HAT-P-14 b	NIRCam	NIRCam Grism Time Series NIRCam Engineering Imaging	FINEGUIDE	1442	Obs 1 & 3	TSO exoplanet transit
HAT-P-14 b	NIRISS	NIRISS Single-Object Slitless Spectroscopy NIRISS External Calibration	FINEGUIDE	1541	Obs 1	TSO exoplanet transit (SOSS)

L 168-9 b	MIRI	MIRI Low Resolution Spectroscopy	FINEGUIDE	1033	Obs 5	TSO exoplanet transit
6481 Tenzing 2035 Stearns 1773 Rumpelstilz 20460 Robwhiteley 464798 (2004 JX20) 4015 Wilson-Harrington	NIRCam NIRISS	NIRCam Imaging NIRISS Aperture Masking Interferometry	MOVING	1021	Obs 1-16	Moving target test with NIRCam and NIRISS; observed various asteroids
Jupiter	NIRCam FGS	NIRCam Engineering Imaging FGS External Calibration	MOVING	1022	All	Giant planet scattered light test
216 Kleopatra 64698 (2001 XY84)	NIRSpec	NIRSpec IFU Spectroscopy NIRSpec MultiObject Spectroscopy	MOVING	1444	Obs 1-3	Moving target tracking test; observed various asteroids
2516 Roman 118 Peitho	MIRI	MIRI Imaging MIRI Medium Resolution Spectroscopy MIRI Low Resolution Spectroscopy	MOVING	1449	Obs 1-3	Moving target tracking test; observed various asteroids
HD 147980	FGS	FGS External Calibration	FINEGUIDE	1445	Obs 1-4, 20-30, 40-45	FGS "accidental deep field" taken in parallel with WF monitoring during thermal slew. Originally intended for LOS jitter monitoring.
"ECLIPTIC-RA160"	NIRCam	NIRCam Engineering Imaging	COARSE	1059	Obs 307	Mosaic useful for backgrounds
"NIRISS-FOCUS-FIELD"	NIRISS	NIRISS Wide Field Slitless Spectroscopy	FINEGUIDE	1085	Obs 12	Imaging & spectroscopy of the NIRISS focus field in the outer LMC through all 12 filters and with the GR700XD grism and NRM.
SMP-LMC-58	NIRISS MIRI	NIRISS Wide Field Slitless Spectroscopy NIRISS External Calibration MIRI Imaging	FINEGUIDE	1090	Obs 1-2	Wavelength calibration observations in 5 WFSS filters. Crowded LMC field including the planetary nebula SMP LMC-58.
"ECLIPTIC-RA80"	NIRISS	NIRISS External Calibration	FINEGUIDE	1541	Obs 5	Dithered observations with the GR700XD optical element performed to get observations of the (zodiacal) background, useful to correct NIRISS/SOSS observations
Galactic Bulge pointing Other pointings for backgrounds	NIRCam NIRSpec NIRISS MIRI	NIRCam Imaging MIRI Imaging NIRSpec MultiObject Spectroscopy NIRISS External Calibration	FINEGUIDE	1448	All	Observations to measure stray light at various field points, including near the galactic center
HD 114174 HD 111733 HD 115640 HD 116249	NIRCam	NIRCam Coronagraphic Imaging	FINEGUIDE	1441	All	Check on coronagraphic performance

2MASS-J17554042+6551277	NIRCam	NIRCam Imaging	FINEGUIDE	1160	Obs 22	First Observations
IRAS-05248-7007	NIRSpec	NIRSpec Fixed Slit Spectroscopy NIRSpec MultiObject Spectroscopy NIRSpec IFU Spectroscopy	FINEGUIDE	1125	Obs 1, 5, & 6	Spectra of emission-line object in the 3 NIRSpec modes and in various spectral configuration.

Additional Resources...

- [JWST User Documentation Home](#)
- [JWST Archive Manual](#)
- [Portal Guide](#)
- [Archive Help Desk](#) (or send email to archive@stsci.edu)