

# 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	<a href="#">1074</a>	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	<a href="#">1086</a>	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	<a href="#">1144</a>	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	<a href="#">1145</a>	All	LMC astrometric field <i>from pre-OTE-alignment complete</i>
LMC Astrometric Field	NIRSpec FGS	NIRSpec Imaging  FGS External Calibration	FINEGUIDE	<a href="#">1164</a>	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	<a href="#">1171</a>	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	<a href="#">1473</a>	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.
2MASS05214 330-6927498  P330-E  P177-D  WD1057+719	NIRCam FGS	NIRCam Imaging  FGS External Calibration	FINEGUIDE	<a href="#">1074</a>	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	<a href="#">1076</a>	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	<a href="#">1089</a>	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	<a href="#">1128</a>	All	Includes TSO. Sensitivity and absolute flux calibration using standard stars
BD+60-1753	NIRISS	NIRISS Single-Object Slitless Spectroscopy	FINEGUIDE	<a href="#">1091</a>	Obs 2	TSO of flux calibrator standard (SOSS)
HAT-P-14 b	NIRSpec	NIRSpec Bright Object Time Series	FINEGUIDE	<a href="#">1118</a>	Obs 1 & 5	TSO exoplanet transit
HAT-P-14 b	NIRCam	NIRCam Grism Time Series  NIRCam Engineering Imaging	FINEGUIDE	<a href="#">1442</a>	Obs 1 & 3	TSO exoplanet transit
HAT-P-14 b	NIRISS	NIRISS Single-Object Slitless Spectroscopy  NIRISS External Calibration	FINEGUIDE	<a href="#">1541</a>	Obs 1	TSO exoplanet transit (SOSS)

L 168-9 b	MIRI	MIRI Low Resolution Spectroscopy	FINEGUIDE	<a href="#">1033</a>	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	<a href="#">1021</a>	Obs 1-16	Moving target test with NIRCam and NIRISS; observed various asteroids
Jupiter	NIRCam  FGS	NIRCam Engineering Imaging  FGS External Calibration	MOVING	<a href="#">1022</a>	All	Giant planet scattered light test
216 Kleopatra 64698 (2001 XY84)	NIRSpec	NIRSpec IFU Spectroscopy  NIRSpec MultiObject Spectroscopy	MOVING	<a href="#">1444</a>	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	<a href="#">1449</a>	Obs 1-3	Moving target tracking test; observed various asteroids
HD 147980	FGS	FGS External Calibration	FINEGUIDE	<a href="#">1445</a>	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	<a href="#">1059</a>	Obs 307	Mosaic useful for backgrounds
"NIRISS-FOCUS-FIELD"	NIRISS	NIRISS Wide Field Slitless Spectroscopy	FINEGUIDE	<a href="#">1085</a>	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	<a href="#">1090</a>	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	<a href="#">1541</a>	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	<a href="#">1448</a>	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	<a href="#">1441</a>	All	Check on coronagraphic performance

2MASS-J17554042+6551277	NIRCam	NIRCam Imaging	FINEGUIDE	<a href="#">1160</a>	Obs 22	First Observations
IRAS-05248-7007	NIRSpec	NIRSpec Fixed Slit Spectroscopy  NIRSpec MultiObject Spectroscopy  NIRSpec IFU Spectroscopy	FINEGUIDE	<a href="#">1125</a>	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](mailto:archive@stsci.edu))