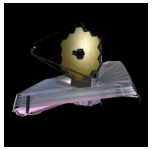

4460 - NIRSpec Slit-loss Extension

Cycle: 2, Proposal Category: CAL/NIRSPEC

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
SLIT: F-Flat + Absolute flux calibration + Path losses				
	12	S1600A1 slitlosses	NIRSpec Fixed Slit Spectroscopy	(1) 1808347
	20	S200A1 slitlosses	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	22	S200A1 FFLT-G140M/F100LP	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	14	S200A1 slitlosses	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	19	S200A2 slitlosses	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	23	S200A2 FFLT-G140M/F100LP	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	16	S200A2 slitlosses	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	24	S400A1 slitlosses & FFLT-G140M/F100LP	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
	18	S400A1 slitlosses	NIRSpec Fixed Slit Spectroscopy	(2) 1743045
IFU: F-Flat + Absolute flux calibration + Path losses				
	10	IFU slitlosses	NIRSpec IFU Spectroscopy	(3) SF1615+001A

ABSTRACT

This program will obtain observations of a spectrophotometric standard star in order to further characterize wavelength dependent throughput variations as a function of position in the slit for FS and IFU modes. Data will be taken for the fixed slit 2-point and 5-point dither patterns and the 21st through 40th points in the IFU cycling pattern and will build on the data already obtained in commissioning (the fixed slit 3-point dither pattern and the first 20 points of the IFU cycling pattern).

This calibration program is provisional and may change in response to system developments and final science program.

OBSERVING DESCRIPTION

This activity consists of positioning a spectro-photometric star in a given NIRSpec aperture with the PRISM/CLEAR configuration and a short dither pattern to derive the first characterization of slit and diffraction losses. The pathloss characterization will then be translated from the PRISM/CLEAR observations to all other disperser/filter combinations.

Currently there are only a small number of spectro-photometric standard stars recommended for JWST calibration. We have identified the suitable ones based on their visibility and brightness, and also additional back-up targets in case it is needed based on scheduling constraints. Most known standard stars are bright enough to cause saturation in a significant part of spectra taken with PRISM/CLEAR configuration. Therefore, the observations to characterize the slit-losses will be done on a different spectrophotometric star. Final target selection will be based on the targets during commissioning and for the Absolute Flux Calibration programs and the Nirspec F-flat characterization program. For the fixed-slits, subarrays will also be used.

The observations for the FS, and IFU modes will be obtained as follows:

i) FS: for the four fixed slits, spectra of the same spectro-photometric standard star will be obtained with the PRISM/CLEAR configuration in the 2 and 5 point dither patterns to get a preliminary slitloss measurement for non-centered sources. All data will be obtained in subarray mode using NRSRAPID readout pattern. Target acquisition will be self-WATA with SUB32 subarray, F110W filter, and NRSRAPID readout, to avoid saturating the relatively bright standards (J = 11.65-12.98 Vega mag).

ii) IFU: Observations to obtain measurements of the IFU diffraction losses will be done using the PRISM/CLEAR configuration and a spectro-photometric standard star suitable in brightness, using the second 20 points of the 60-point cycling. Full frame data using NRSIRS2RAPID. Target

acquisition will be self-WATA with SUB32 subarrar, CLEAR filter, and NRSRAPID readout, to obtain SN~20 on the J = 15.26 Vega mag standard.

TIMING CONSTRAINTS

The observations in this program can be scheduled any time during Cycle 2.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	1808347	RA: 18 08 34.7493 (272.1447888d) Dec: +69 27 28.85 (69.45801d) Equinox: J2000	Proper Motion RA: 8.551498481451355E-4 sec of time/yr Proper Motion Dec: 0.008391 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Calibration* *Description=[A stars, External flat field, Spectrophotometric]*				
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Calibration* *Description=[A stars, External flat field, Spectrophotometric]*				
(3)	SF1615+001A	RA: 16 18 14.2421 (244.5593421d) Dec: +00 00 8.44 (.00234d) Equinox: J2000	Proper Motion RA: 1.702666668091902E-4 sec of time/yr Proper Motion Dec: -0.010932000009233889 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Calibration* *Description=[External flat field, G stars, Spectrophotometric]*				

Observation

Proposal 4460, Observation 12: S1600A1 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(S1600A1 slitlosses (Obs 12)) Warning (Form): Record ETC Wkbk.Calc ID used to verify target acquisition.

(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	1808347	RA: 18 08 34.7493 (272.1447888d) Dec: +69 27 28.85 (69.45801d) Equinox: J2000	Proper Motion RA: 8.551498481451355E-4 sec of time/yr Proper Motion Dec: 0.008391 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	

Template

Slit	Subarray
S1600A1	SUB512

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S1600A1	NRSRAPID	30	8	1	NONE	9	72	506.264	

Observation

Proposal 4460, Observation 20: S200A1 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(Visit 20:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	109288

Template

Slit	Subarray
S200A1	SUBS200A1

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S200A1	NRSRAPID	10	8	1	NONE	9	72	1235.411	
2	PRISM/CLEAR	S200A1	NRSRAPID	10	8	2	NONE	9	72	1235.411	

Observation

Proposal 4460, Observation 22: S200A1 FFLT-G140M/F100LP Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(Visit 22:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	109288

Template

Slit	Subarray
S200A1	SUBS200A1

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	NONE

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G140M/F100LP	S200A1	NRSRAPID	30	2	1	NONE	3	6	289.911	

Observation

Proposal 4460, Observation 14: S200A1 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(S200A1 slitlosses (Obs 14)) Warning (Form): Record ETC Wkbk.Calc ID used to verify target acquisition.

(Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	

Template

Slit	Subarray
S200A1	SUBS200A1

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	5	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S200A1	NRSRAPID	10	8	1	NONE	15	120	2059.018	
2	PRISM/CLEAR	S200A1	NRSRAPID	10	8	2	NONE	15	120	2059.018	
3	PRISM/CLEAR	S200A1	NRSRAPID	10	8	3	NONE	15	120	2059.018	

Observation

Proposal 4460, Observation 19: S200A2 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(Visit 19:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	109288

Template

Slit	Subarray
S200A2	SUBS200A2

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S200A2	NRSRAPID	10	8	1	NONE	9	72	1235.411	
2	PRISM/CLEAR	S200A2	NRSRAPID	10	8	2	NONE	9	72	1235.411	

Observation

Proposal 4460, Observation 23: S200A2 FFLT-G140M/F100LP Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(Visit 23:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	109288

Template

Slit	Subarray
S200A2	SUBS200A2

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	NONE

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G140M/F100LP	S200A2	NRSRAPID	30	2	1	NONE	3	6	289.911	

Observation

Proposal 4460, Observation 16: S200A2 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(S200A2 slitlosses (Obs 16)) Warning (Form): Record ETC Wkbk.Calc ID used to verify target acquisition.

(Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	

Template

Slit	Subarray
S200A2	SUBS200A2

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	5	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S200A2	NRSRAPID	10	8	1	NONE	15	120	2059.018	
2	PRISM/CLEAR	S200A2	NRSRAPID	10	8	2	NONE	15	120	2059.018	
3	PRISM/CLEAR	S200A2	NRSRAPID	10	8	3	NONE	15	120	2059.018	

Observation

Proposal 4460, Observation 24: S400A1 slitlosses & FFLT-G140M/F100LP Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(Visit 24:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	109288

Template

Slit	Subarray
S400A1	SUBS400A1

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	3	NONE

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S400A1	NRSRAPID	10	8	1	NONE	3	24	411.804	
2	PRISM/CLEAR	S400A1	NRSRAPID	10	8	2	NONE	3	24	411.804	
3	G140M/F100LP	S400A1	NRSRAPID	30	2	3	NONE	3	6	289.911	

Observation

Proposal 4460, Observation 18: S400A1 slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec Fixed Slit Spectroscopy

Diagnostics

(S400A1 slitlosses (Obs 18)) Warning (Form): Record ETC Wkbk.Calc ID used to verify target acquisition.

(Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	1743045	RA: 17 43 4.4886 (265.7687025d) Dec: +66 55 1.62 (66.91712d) Equinox: J2000	Proper Motion RA: 1.9112608129025408E-4 sec of time/yr Proper Motion Dec: -0.002714000083869905 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[A stars, External flat field, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	

Template

Slit	Subarray
S400A1	SUBS400A1

Dithers

#	Primary Dither Positions	Sub-Pixel Pattern
1	5	SPECTRAL

Spectral Elements

#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	S400A1	NRSRAPID	10	8	1	NONE	15	120	2059.018	
2	PRISM/CLEAR	S400A1	NRSRAPID	10	8	2	NONE	15	120	2059.018	
3	PRISM/CLEAR	S400A1	NRSRAPID	10	8	3	NONE	15	120	2059.018	

Observation

Proposal 4460, Observation 10: IFU slitlosses

Wed Dec 06 20:00:56 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(IFU slitlosses (Obs 10)) Warning (Form): Record ETC Wkbk.Calc ID used to verify target acquisition.

(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	SF1615+001A	RA: 16 18 14.2421 (244.5593421d) Dec: +00 00 8.44 (.00234d) Equinox: J2000	Proper Motion RA: 1.702666668091902E-4 sec of time/yr Proper Motion Dec: -0.010932000009233889 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Calibration
Description=[External flat field, G stars, Spectrophotometric]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	CLEAR	NRSRAPID	3	1	1	0.08	

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	MEDIUM	41	20	

Spectral Elements

#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	PRISM/CLEAR	NRSIRS2RAPID	10	2	false	true	NONE	20	40	6419.112	