



4464 - BOTS background characterization

Cycle: 2, Proposal Category: CAL/NIRSPEC

INVESTIGATORS

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OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
BOTS backgrounds				
	1	Near Ecliptic	NIRSpec Fixed Slit Spectroscopy	(1) ECLIPTIC-RA00
	2	Near north ecliptic pole	NIRSpec Fixed Slit Spectroscopy	(5) LAT90

ABSTRACT

Estimate the flux contribution of the background in TSO (Time-Series Observations) taken at the celestial pole and celestial equator. NIRISS/SOSS TSO observations of transiting exoplanets obtained during commissioning have demonstrated that the background contribution to these observations is significant.

The aim of this program is to take measurements of the zodiacal light background in the CLEAR/PRISM and L290LP/G395H configurations at two pointings, one near the ecliptic and one near the north ecliptic pole, to determine the level of variability of the background for the S1600A1 aperture for these modes.

This calibration program may change in response to system developments and the final Cycle 2 science program.

OBSERVING DESCRIPTION

Analysis of NIRSpec TSO data by Nestor Espinoza has shown that for some NIRSpec dispersers (e.g. PRISM and G395M/H) the background in the S1600A1 aperture can be important for some science targets and needs to be taken into account in order to obtain correct transit spectra, in particular at longer wavelengths. Therefore, we request time to observe the background through the S1600A1 aperture at two different pointings (maximum and near minimum expected Zodi) with the dispersers mentioned above. These observations will provide samples of the zodiacal light background shape in these dispersers and allow us perform further assessment and modelling of these backgrounds to correct for in NIRSpec BOTS data.

Proposal 4464 - Targets - BOTS background characterization

	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
Fixed Targets	(1)	ECLIPTIC-RA00	RA: 00 37 22.6530 (9.3443875d) Dec: +01 25 50.53 (1.43070d) Equinox: J2000		
	<i>Comments:</i> Category=Calibration Description=[External flat field] Extended=NO				
Fixed Targets	(5)	LAT90	RA: 18 08 34.7360 (272.1447333d) Dec: +69 27 28.72 (69.45798d) Equinox: J2000		
	<i>Comments:</i> Category=Calibration Description=[External flat field] Extended=NO				

Proposal 4464 - Observation 1 - BOTS background characterization

Wed May 03 23:03:20 GMT 2023

Observation	Proposal 4464, Observation 1: Near Ecliptic Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections		Miscellaneous		
	(1)	ECLIPTIC-RA00	RA: 00 37 22.6530 (9.3443875d) Dec: +01 25 50.53 (1.43070d) Equinox: J2000								
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[External flat field]</i> <i>Extended=NO</i>											
Template	TA Method		Slit				Subarray				
	NONE		S1600A1				ALLSLITS				
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	NONE					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S1600A1	NRSRAPID	150	4	1	NONE	1	4	3318.458
	2	PRISM/CLEAR	S1600A1	NRSRAPID	50	4	2	NONE	1	4	1120.858

Proposal 4464 - Observation 2 - BOTS background characterization

Wed May 03 23:03:20 GMT 2023

Observation	Proposal 4464, Observation 2: Near north ecliptic pole Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections		Miscellaneous		
	(5)	LAT90	RA: 18 08 34.7360 (272.1447333d) Dec: +69 27 28.72 (69.45798d) Equinox: J2000								
<i>Comments:</i> <i>Category=Calibration</i> <i>Description=[External flat field]</i> <i>Extended=NO</i>											
Template	TA Method		Slit				Subarray				
	NONE		S1600A1				ALLSLITS				
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	NONE					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S1600A1	NRSRAPID	150	4	1	NONE	1	4	3318.458
	2	PRISM/CLEAR	S1600A1	NRSRAPID	50	4	2	NONE	1	4	1120.858