



4479 - SOSS background measurements

Cycle: 2, Proposal Category: CAL/NIRISS

INVESTIGATORS

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OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Observation Folder				
	1		NIRISS External Calibration	(1) ECLIPTIC-RA00
	2		NIRISS External Calibration	(1) ECLIPTIC-RA00
	3		NIRISS External Calibration	(2) ECLIPTIC-RA20
	4		NIRISS Imaging	(2) ECLIPTIC-RA20
	5		NIRISS External Calibration	(2) ECLIPTIC-RA20
	6		NIRISS External Calibration	(4) ECLIPTIC-RA60
	7		NIRISS External Calibration	(6) ECLIPTIC-RA100
	8		NIRISS External Calibration	(7) ECLIPTIC-RA120

ABSTRACT

Observations of the zodiacal light background are requested for 6 pointings, one of which is repeated to give some indication of whether there is a variability to the background from acquisition to acquisition depending on the grism position. Each field is fairly empty by the standards of the SOSS mode with no star bright enough to acquire. Observations are taken without an acquisition in full frame read-out with the GR700XD grism in the beam. No observations in the F277W filter are requested here. Analysis of these observations will allow some evaluation of how much the background may vary from pointing to pointing, and we expect to produce a number of zodiacal background template shapes from these data that can be used in the analysis of SOSS time series.

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

OBSERVING DESCRIPTION

Observations in cycle 1 have shown that scaling the “template” NIRISS SOSS mode background image does not produce a good background subtraction in many cases. There are residuals at the few percent level which cause problems for the light-curve analysis. We request time to observe the SOSS background at six sky positions which are either near the ecliptic plane or near +/-30 degrees ecliptic latitude. These observations will provide more samples of the zodiacal light background shape in the GR700XD grism and thus give us a direct measurement of the level of variability in the background spectrum.

One sky position has 2 observations which are non-interruptable. This observation is intended to see whether changes in the PWCPOS causes a change in the background spectrum, by having a second acquisition of the same pointing between the exposures, as was done in program 1512 in cycle 1.

Proposal 4479 - Targets - SOSS background measurements

#	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> Category=Calibration Description=[External flat field]				
(2)	ECLIPTIC-RA20	RA: 01 50 36.5120 (27.6521333d) Dec: +11 32 18.10 (11.53836d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(3)	ECLIPTIC-RA40	RA: 03 56 13.5780 (59.0565750d) Dec: -09 17 39.52 (-9.29431d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(4)	ECLIPTIC-RA60	RA: 07 07 38.0400 (106.9085000d) Dec: +27 33 47.11 (27.56309d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(5)	ECLIPTIC-RA80	RA: 08 16 26.3285 (124.1097021d) Dec: +19 11 28.72 (19.19131d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(6)	ECLIPTIC-RA100	RA: 10 11 30.0400 (152.8751667d) Dec: +11 42 6.11 (11.70170d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(7)	ECLIPTIC-RA120	RA: 12 03 47.2300 (180.9467917d) Dec: +04 45 23.79 (4.75661d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				
(8)	ECLIPTIC-RA140	RA: 14 02 31.5220 (210.6313417d) Dec: -04 30 44.15 (-4.51226d) Equinox: J2000		
<i>Comments:</i> Category=Calibration Description=[External flat field]				

Fixed Targets

Proposal 4479 - Targets - SOSS background measurements

(9)	ECLIPTIC-RA160	RA: 16 00 23.4186 (240.0975775d) Dec: -11 38 58.56 (-11.64960d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(10)	ECLIPTIC-RA180	RA: 18 59 29.4100 (284.8725417d) Dec: -43 53 21.12 (-43.88920d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(11)	ECLIPTIC-RA200	RA: 20 15 21.9600 (303.8415000d) Dec: -26 49 59.90 (-26.83331d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(12)	ECLIPTIC-RA220	RA: 22 04 31.9200 (331.1330000d) Dec: -11 49 18.90 (-11.82192d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(13)	LAT30-LONG180	RA: 12 51 45.1400 (192.9380833d) Dec: +27 18 33.40 (27.30928d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(14)	LAT30-LONG150	RA: 10 59 53.9300 (164.9747083d) Dec: +39 21 11.20 (39.35311d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		
(15)	LAT-30-LONG320	RA: 22 19 17.5300 (334.8230417d) Dec: -42 51 25.20 (-42.85700d) Equinox: J2000
<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>		

Proposal 4479 - Observation 1 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	<p>Proposal 4479, Observation 1</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRISS External Calibration</p>							
Diagnostics	<p>(Visit 1:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:5) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:6) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:7) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:8) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:9) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 1:10) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>							
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					
	<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>							
Acquisition	#	Target						
	1	NONE						
Template	Pointing Type							
	PRIME							
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order	
	5	2	75.0	75.0	0.0	0.0	DEFAULT	
Dithers	#	Pattern Type	Image Dithers	Primary Dithers	Subpixel Positions	Pattern Size		
	1	NONE						

Proposal 4479 - Observation 1 - SOSS background measurements

Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
		1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	28	1	1	1	311.366
Special Requirements	<p>Group Visits within 53.0 Days Visits Same PA</p> <p>Group Observations 1, 2, Non-interruptible</p>											

Proposal 4479 - Observation 2 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	<p>Proposal 4479, Observation 2</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRISS External Calibration</p>							
Diagnostics	<p>(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:5) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:6) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:7) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:8) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:9) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 2:10) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>							
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					
	<p><i>Comments:</i> Category=Calibration Description=[External flat field]</p>							
Acquisition	#	Target						
	1	NONE						
Template	Pointing Type							
	PRIME							
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order	
	5	2	75.0	75.0	0.0	0.0	DEFAULT	
Dithers	#	Pattern Type	Image Dithers	Primary Dithers	Subpixel Positions	Pattern Size		
	1	NONE						

Proposal 4479 - Observation 2 - SOSS background measurements

Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
		1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	28	1	1	1	311.366
Special Requirements	<p>Group Visits within 53.0 Days Visits Same PA</p> <p>Group Observations 1, 2, Non-interruptible</p>											

Proposal 4479 - Observation 3 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	Proposal 4479, Observation 3 Diagnostic Status: Warning Observing Template: NIRISS External Calibration											
Diagnostics	(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 3:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous			
(2)	ECLIPTIC-RA20	RA: 01 50 36.5120 (27.6521333d) Dec: +11 32 18.10 (11.53836d) Equinox: J2000										
<i>Comments:</i> Category=Calibration Description=External flat field												
Acquisition	#										Target	
1										NONE		
Template	Pointing Type											
PRIME												
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order					
5	2	75.0	75.0	0.0	0.0	DEFAULT						
Dithers	#	Pattern Type	Image Dithers			Primary Dithers			Subpixel Positions		Pattern Size	
1	NONE											
Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104		

Proposal 4479 - Observation 3 - SOSS background measurements

Special Requirements

Group Visits within 53.0 Days
Visits Same PA
Sequence Observations 3, 4, 5, Non-interruptible

Proposal 4479 - Observation 4 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	<p>Proposal 4479, Observation 4</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRISS Imaging</p>									
Diagnostics	<p>(Observation 4) Warning (Form): Dither = NONE is strongly discouraged for NIRISS Imaging of science targets.</p> <p>(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections			Miscellaneous			
	(2)	ECLIPTIC-RA20	RA: 01 50 36.5120 (27.6521333d) Dec: +11 32 18.10 (11.53836d) Equinox: J2000							
	<p><i>Comments:</i> <i>Category=Calibration</i> <i>Description=External flat field</i></p>									
Dithers	#	Image Dithers				Pattern Size				
	1	NONE				MEDIUM				
Spectral Elements	#	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F480M		NISRAPID	4	1	1	1	53.684	
Special Requirements	<p>Sequence Observations 3, 4, 5, Non-interruptible</p>									

Proposal 4479 - Observation 5 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	Proposal 4479, Observation 5 Diagnostic Status: Warning Observing Template: NIRISS External Calibration											
Diagnostics	(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 5:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 5:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 5:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 5:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous			
(2)	ECLIPTIC-RA20	RA: 01 50 36.5120 (27.6521333d) Dec: +11 32 18.10 (11.53836d) Equinox: J2000										
<i>Comments:</i> Category=Calibration Description=External flat field												
Acquisition	#										Target	
1										NONE		
Template	Pointing Type											
PRIME												
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order					
5	2	75.0	75.0	0.0	0.0	DEFAULT						
Dithers	#	Pattern Type	Image Dithers			Primary Dithers			Subpixel Positions		Pattern Size	
1	NONE											
Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104		

Proposal 4479 - Observation 5 - SOSS background measurements

Special Requirements

Group Visits within 53.0 Days
Visits Same PA
Sequence Observations 3, 4, 5, Non-interruptible

Proposal 4479 - Observation 6 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	Proposal 4479, Observation 6 Diagnostic Status: Warning Observing Template: NIRISS External Calibration											
Diagnostics	(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 6:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 6:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous			
	(4)	ECLIPTIC-RA60	RA: 07 07 38.0400 (106.9085000d) Dec: +27 33 47.11 (27.56309d) Equinox: J2000									
	<i>Comments: Category=Calibration Description=[External flat field]</i>											
Acquisition	#										Target	
	1										NONE	
Template	Pointing Type											
	PRIME											
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order					
	5	2	75.0	75.0	0.0	0.0	DEFAULT					
Dithers	#	Pattern Type	Image Dithers			Primary Dithers		Subpixel Positions		Pattern Size		
	1	NONE										
Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104	

Proposal 4479 - Observation 6 - SOSS background measurements

Special Requirements

Group Visits within 53.0 Days
Visits Same PA

Proposal 4479 - Observation 7 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	Proposal 4479, Observation 7 Diagnostic Status: Warning Observing Template: NIRISS External Calibration											
Diagnostics	(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 7:2) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 7:3) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 7:4) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Visit 7:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous			
(6)	ECLIPTIC-RA100	RA: 10 11 30.0400 (152.8751667d) Dec: +11 42 6.11 (11.70170d) Equinox: J2000										
<i>Comments:</i> Category=Calibration Description=External flat field												
Acquisition	#										Target	
1										NONE		
Template	Pointing Type											
PRIME												
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order					
5	2	75.0	75.0	0.0	0.0	DEFAULT						
Dithers	#	Pattern Type	Image Dithers			Primary Dithers			Subpixel Positions		Pattern Size	
1	NONE											
Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104		

Proposal 4479 - Observation 7 - SOSS background measurements

Special Requirements

Group Visits within 53.0 Days
Visits Same PA

Proposal 4479 - Observation 8 - SOSS background measurements

Mon Nov 20 23:00:09 GMT 2023

Observation	<p>Proposal 4479, Observation 8</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRISS External Calibration</p>						
Diagnostics	<p>(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:2) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:3) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:4) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:5) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:6) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:7) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:8) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:9) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Visit 8:10) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous		
(7)	ECLIPTIC-RA120	RA: 12 03 47.2300 (180.9467917d) Dec: +04 45 23.79 (4.75661d) Equinox: J2000					
<p><i>Comments:</i> <i>Category=Calibration</i> <i>Description=[External flat field]</i></p>							
Acquisition	#	Target					
1	NONE						
Template	Pointing Type						
PRIME							
Mosaic	Rows	Columns	Row Overlap %	Column Overlap %	Row shift (deg)	Column shift (deg)	Tile Order
5	2	75.0	75.0	0.0	0.0	DEFAULT	
Dithers	#	Pattern Type	Image Dithers	Primary Dithers	Subpixel Positions	Pattern Size	
1	NONE						

Proposal 4479 - Observation 8 - SOSS background measurements

Spectral Elements	#	Subarray	Aperture	Filter Wheel	Pupil Wheel	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
		1	FULL	NIS_CEN	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104
Special Requirements	Group Visits within 53.0 Days Visits Same PA											