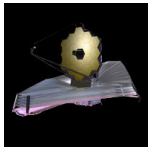

12564 - CAL-NIS-506: NIRISS/SOSS Multistripe Time-Series Observation

Cycle: 5, Proposal Category: CAL/NIRISS

INVESTIGATORS

Name	*Institution*
Dr. Aarynn L Carter (PI)	**Space Telescope Science Institute**
Tyler Baines (CoI)	Space Telescope Science Institute
Rachel Cooper (CoI)	Space Telescope Science Institute
Dr. Joseph Filippazzo (CoI)	Space Telescope Science Institute
Dr. Kevin Volk (CoI) (CSA Member)	Space Telescope Science Institute - CSA - JWST

OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Observation Folder				
	1	WASP-18b Transit	NIRISS Single-Object Slitless Spectroscopy	(1) WASP-18
	2	Zodaical Background	NIRISS External Calibration	(2) background_pointing

ABSTRACT

We will conduct a NIRISS/SOSS time-series observation of the transiting exoplanet WASP-18b to calibrate the stability and sensitivity of the newly designed SOSS multistripe subarrays. WASP-18b has a high mass (~10 MJup), which acts to heavily suppress the strength of atmospheric features in transmission, and is expected to lead to a flat transmission spectrum. With these observations we will be able to evaluate the extent and presence of wavelength dependent systematic signals for the multistripe subarray, as well as the level of precision achieved in comparison to a standard subarray observation.

This calibration program may change in response to system developments and the final Cycle 5 science program.

OBSERVING DESCRIPTION

We will observe the transiting exoplanet WASP-18b using the NIRISS/SOSS multistripe subarray mode.

Specifically, we we utilize SUB680STRIPE_SOSS, with a total exposure time of approximately 6 hours to capture the transit event in addition to sufficient pre-ingress and post-egress baseline. We also require a phase constraint to capture the transit event.

We also attach a dedicated F277W observation to identify any zero-order contaminants.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	WASP-18	RA: 01 37 25.0333 (24.3543054d) Dec: -45 40 40.37 (-45.67788d) Equinox: J2000	Proper Motion RA: 25.404 mas/yr Proper Motion Dec: 20.479 mas/yr Parallax: 0.0081443" Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.* *Category=Star* *Description=[Exoplanet Systems]*				
(2)	background_pointing	RA: 01 36 55.1929 (24.2299704d) Dec: -45 50 24.53 (-45.84015d) Equinox: J2000	Epoch of Position: 2000.0	
Comments: *Category=Calibration* *Description=[External flat field]*				

Observation

Proposal 12564, Observation 1: WASP-18b Transit Tue May 26 13:01:14 GMT 2026

Diagnostic Status: Warning

Observing Template: NIRISS Single-Object Slitless Spectroscopy

Diagnostics

(WASP-18b Transit (Obs 1)) Warning (Form): Exposure Duration exceeds the limit of 10000.0 seconds. Above this limit it is possible that a High Gain Antenna move may occur during the exposure.

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

(Visit 1:1) Informational (Form): Visit schedulable, but most scheduling windows are when JWST is pointed in direction of greatest micrometeoroid impact risk. This is likely due to scheduling special requirements.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	WASP-18	RA: 01 37 25.0333 (24.3543054d) Dec: -45 40 40.37 (-45.67788d) Equinox: J2000	Proper Motion RA: 25.404 mas/yr Proper Motion Dec: 20.479 mas/yr Parallax: 0.0081443" Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.
Category=Star
Description=[Exoplanet Systems]

Acquisition

#	Target	Acquisition Mode	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID
1	1 WASP-18	SOSSFAINT	F480M	NISRAPID	11	1	1	0.566	283056

Template

Subarray	Include Short First Exposure and F277W Exposure?
SUB680STRIPE_SOSS	true

Spectral Elements

#	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
1	NISRAPID	1	1	1	1	1	11.092	
2	NISRAPID	5	559	1	1	559	18533.131	
3	NISRAPID	5	10	1	1	10	331.541	

Special Requirements	
	Before Date 01-AUG-2026:00:00:00 Phase 0.8444704825 to 0.8887283485 with period 0.941452382 Days and zero-phase 2458747.985032 HJD Aperture PA Range 265 to 282 Degrees (V3 264.43873283 to 281.43873283) Aperture PA Range 306 to 318 Degrees (V3 305.43873283 to 317.43873283) Aperture PA Range 324 to 334 Degrees (V3 323.43873283 to 333.43873283) Aperture PA Range 354 to 14 Degrees (V3 353.43873283 to 13.43873283) Time Series Observation No Parallel Attachments Sequence Observations 2, 1 (reordered), Non-interruptible

Observation

Proposal 12564, Observation 2: Zodaical Background

Tue May 26 13:01:14 GMT 2026

Diagnostic Status: Warning

Observing Template: NIRISS External Calibration

Diagnostics

(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.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(2)	background_pointing	RA: 01 36 55.1929 (24.2299704d) Dec: -45 50 24.53 (-45.84015d) Equinox: J2000	Epoch of Position: 2000.0	

Comments:
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
3	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	Optional ETC ID
1	FULL	DEFAULT APERTURE	CLEAR	GR700XD	NISRAPID	10	1	1	1	118.104	

Special Requirements	
	Group Visits within 53.0 Days Visits Same PA Sequence Observations 2, 1 (reordered), Non-interruptible