



## 4527 - CANUCS: The CANadian NIRISS Unbiased Cluster Survey

Cycle: 3, Proposal Category: GTO

### 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				
	2	config 1, config 2, config 3	NIRSpec MultiObject Spectroscopy	(1) macs1149_ncf_nirspec_targets_v1

**ABSTRACT**

This program targets an overdensity of  $z > 8$  galaxies discovered in the MACS1149 NIRCcam flanking field to investigate the early evolution of galaxies in overdense environments. With NIRSpec MOS medium resolution band 3 spectroscopy we will measure the galaxies' star formation rates and metallicities from Balmer, [OIII] 5007, 4363, [NeIII] 3869 and [OII] 3727 lines. With medium resolution band 1 spectroscopy we will measure Lyman alpha escape fraction and velocity offsets and UV metal emission lines.

**OBSERVING DESCRIPTION**

NIRSpec MOS with two MSA configurations. Observations with two medium resolution gratings: G140M/F100LP and G395M/F290LP. Since we are only interested in emission lines and not continuum we allow overlapping spectra with a separation of at least 200 shutters to increase the multiplex.

The targets are drawn from a single deep NIRCcam pointing. We request an orientation constraint of  $253 < \text{APA} < 257$  in order to maximize the number of high priority targets that fall within active regions of the MSA. This orientation range is within the meteoroid safe zone and provides 24 days of visibility.

The MSA configurations will be updated nearer the date of observation when the exact orientation angle and MSA operability maps are known.

Proposal 4527 - Targets - CANUCS: The CANadian NIRISS Unbiased Cluster Survey

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
	(1)	macs1149_ncf_nirspec_targets_v1	RA: 11 49 37.3836 (177.4057650d) Dec: +22 17 54.26 (22.29841d) Equinox: J2000		
	<i>Comments:</i> Description=[]				

Proposal 4527 - Observation 2 - CANUCS: The CANadian NIRISS Unbiased Cluster Survey

Fri Apr 11 20:00:17 GMT 2025

<b>Observation</b>	Proposal 4527, Observation 2: config 1, config 2, config 3 Diagnostic Status: Warning Observing Template: NIRSpec MultiObject Spectroscopy										
	(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
<b>Fixed Targets</b>	#	Name	Target Coordinates		Targ. Coord. Corrections			Miscellaneous			
	(1)	macs1149_ncf_nirspec_targets_v1	RA: 11 49 37.3836 (177.4057650d) Dec: +22 17 54.26 (22.29841d) Equinox: J2000								
<i>Comments: Description=[]</i>											
<b>Acquisition</b>	#	Reference Star Bin	Target	Filter	MSA Configuration	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1		SAME	CLEAR	Auto Acq MSA Config	NRSRAPIDD6	3	1	4	687.153	
Filter: CLEAR; Readout: NRSRAPIDD6; 8 sources in 2 quads; [ Optimal TA Accuracy ]											
<b>Template</b>	TA Method	HFF Readout Mode	Obtain Confirmation Images	Science Aperture	Primary Candidate List	Filler Candidate List	Spectral Overlap Map	Spectral Overlap Threshold			
	MSATA	false	No	MSA Center	Not 5226816 (374 sources)		jwst-nirspec-mr	1.5			
<b>Reference Stars</b>	Visit	ID	RA	Dec	Magnitude	Visit	ID	RA	Dec	Magnitude	
	1	5203980	177.389175	22.287892	25.343384504423287	1	5212081	177.405455	22.278126	23.981381577012836	
	1	5207636	177.419266	22.315581	25.67279925331477	1	5212262	177.399183	22.280990	25.368251209537135	
	1	5208139	177.424508	22.320112	24.94324263306384	1	5212529	177.401680	22.286408	24.491483383512396	
	1	5209269	177.430666	22.331492	24.22885379045804	1	5214310	177.411616	22.323564	23.93400321580589	

Proposal 4527 - Observation 2 - CANUCS: The CANadian NIRISS Unbiased Cluster Survey

Spectral Elements	#	Exposure Specification	MSA Configuration	Nod Pattern	Pointing	Aperture PA	Dispersion Offset (Shutters)	Cross-Dispersion Offset (Shutters)	Total Dithers	Total Integrations	Total Exposure Time
	1	2 (G140M/F100LP)	c1 : config 1	3 Shutter Slitlet	177.4110375 Degrees 22.301433333333 335 Degrees	256.57659023528 08	3	3	3107.434		
	2	1 (G395M/F290LP)	c1 : config 1	3 Shutter Slitlet	177.4110375 Degrees 22.301433333333 335 Degrees	256.57659023528 08	3	3	3107.434		
	3	1 (G395M/F290LP)	c1 : config 2	3 Shutter Slitlet	177.40882333333 334 Degrees 22.302847222222 223 Degrees	256.57574960467 923	3	3	3107.434		
	4	1 (G395M/F290LP)	c1 : config 3	3 Shutter Slitlet	177.40147833333 333 Degrees 22.298394444444 448 Degrees	256.57297733266 54	3	3	3107.434		
Special Requirements	Aperture PA Range 250.5745697 to 256.5745697 Degrees (V3 112.0 to 118.0) MSA Scheduled Aperture PA 256.5746 to 256.5746 Degrees (V3 118.0 to 118.0)										