



## 4368 - Completing the SMACS 0723 NIRISS WFSS EROs

Cycle: 2, Proposal Category: GO

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>
<b>Dr. Gael Noirot (PI) (CSA Member)</b>	<b>St. Mary's University</b>
Dr. Marcin Sawicki (CoI) (CSA Member) (CoPI)	St. Mary's University
Dr. Camilla Pacifici (CoI) (US Admin CoI)	Space Telescope Science Institute
Dr. Chris J. Willott (CoI) (CSA Member)	NRC Herzberg Institute of Astrophysics
Ghassan T Sarrouh (CoI) (CSA Member)	York University
Guillaume Desprez (CoI) (CSA Member)	St. Mary's University
Kartheik Iyer (CoI)	Columbia University in the City of New York
Dr. Lamiya Mowla (CoI) (CSA Member)	University of Toronto
Prof. Marusa Bradac (CoI)	University of Ljubljana, Dept. of Physics
Dr. Nicholas Martis (CoI) (CSA Member)	St. Mary's University
Mr. Yoshihisa Asada (CoI)	Kyoto University
Shannon MacFarland (CoI) (CSA Member)	St. Mary's University
Vicente Estrada-Carpenter (CoI) (CSA Member)	St. Mary's University

### OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Observation Folder				
	1		NIRISS Wide Field Slitless Spectroscopy	(1) SMACS0723

### ABSTRACT

We propose to observe SMACS 0723 with NIRISS WFSS in the F150W filter to complete the Early Release Observations (EROs) of the field. The current NIRISS WFSS

EROs are limited to the F115W and F200W only, missing the F150W middle filter. The proposed F150W observations will enable a wealth of science (currently not achievable with the limited F115W and F200W coverage) for the  $z=0.39$  cluster galaxies and for background sources, including the first detailed spatially-resolved NIRISS spectroscopic study of an exceptional, highly-magnified cluster at cosmic noon. The proposed observations will ensure the long lasting legacy value of the NIRISS EROs of Webb's First Deep Field, and we therefore waive any proprietary time for a direct access of this data by the community.

### **OBSERVING DESCRIPTION**

We request observing the SMACS 0723 cluster with NIRISS in WFSS mode using the two orthogonal grisms (G150R and G150C) with the F150W filter. To maximize the fraction of traces dispersed on the detector for our primary targets of interest in the field, we require a V3 PA range between 235 and 245 degrees.

# Proposal 4368 - Targets - Completing the SMACS 0723 NIRISS WFSS EROs

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
	(1)	SMACS0723	RA: 07 23 18.5783 (110.8274096d) Dec: -73 27 17.05 (-73.45474d) Equinox: J2000		
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. Category=Clusters of Galaxies Description=[Brightest cluster galaxies, Galaxy groups, High-redshift clusters]					

# Proposal 4368 - Observation 1 - Completing the SMACS 0723 NIRISS WFSS EROs

Observation	Proposal 4368, Observation 1 Diagnostic Status: Warning Observing Template: NIRISS Wide Field Slitless 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)      SMACS0723      RA: 07 23 18.5783 (110.8274096d) Dec: -73 27 17.05 (-73.45474d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> <i>Category=Clusters of Galaxies</i> <i>Description= [Brightest cluster galaxies, Galaxy groups, High-redshift clusters]</i>										
Dithers	#      Image Dithers      Pattern Size										
	1      8      MEDIUM										
Direct Image	#      Exposure Type      Filter      Grism      Readout Pattern      Groups/Int      Integrations/Exp      Two Extra Dithers      Total Dithers      Total Integrations      Total Exposure Time      ETC Wkbk.Calc ID										
	1      DIRECT      F150W           NISRAPID      10      1      YES      1      1      118.104 2      DIRECT      F150W           NISRAPID      10      1      YES      4      4      472.418 3      DIRECT      F150W           NISRAPID      10      1      YES      3      3      354.313										
Spectral Elements	#      Exposure Type      Filter      Grism      Readout Pattern      Groups/Int      Integrations/Exp      Total Dithers      Total Integrations      Total Exposure Time      ETC Wkbk.Calc ID										
	1      GRISM      F150W      GR150R      NIS      8      1      8      8      2834.507 2      GRISM      F150W      GR150C      NIS      8      1      8      8      2834.507										
Special Requirements	Aperture PA Range 235.56126717 to 245.56126717 Degrees (V3 235.0 to 245.0)										