



1306 - Galactic Center Astrometry

Cycle: 1, 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>
GCe1				
	1	First visit	NIRCam Imaging	(1) NAME-GAL-CENTER

ABSTRACT

We will observe the Galactic Center with NIRCam to study the orbits of stars around the supermassive black hole and the structure of the nuclear star cluster. We will focus on the fainter stars, which are harder to measure from the ground. We will observe through medium-band filters in order to go deep without saturating the bright stars too much. This set of observations will constitute a first epoch. The second epoch, which will be taken a few years later, will allow us to measure proper motions. This program will also constitute a demonstration of JWST's high-precision astrometric capabilities.

OBSERVING DESCRIPTION

We will observe the Galactic center through medium-band filters, which will provide a nice compromise between not missing too many of the bright stars and going deep enough to provide a good complement to ground-based observations. We were able to fit in 7 secondary dithers, which should allow an exquisite reconstruction of the JWST PSF, which is of course critical to high-accuracy astrometry. NIRISS will be observed in parallel so

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that we can get some additional information for a nearby field. We request that the observations be obtained in the first half of Cycle 1, i.e., prior to May 15, 2020. This is important to maximize the time baseline, and hence proper motion accuracy, when compared to planned follow-up JWST observations in later cycles.

Proposal 1306 - Observation 1 - Galactic Center Astrometry

Wed Feb 21 00:32:23 GMT 2018

Observation	Proposal 1306, Observation 1: First visit Diagnostic Status: Warning Observing Template: NIRCam Imaging Coordinated Parallel Template(s): NIRISS Imaging									
	(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)	NAME-GAL-CENTER	RA: 17 45 40.0400 (266.4168333d) Dec: -29 00 28.00 (-29.00778d) Equinox: J2000							
<i>Comments: We use an "offset" special requirement to put the Galactic Center at the center of NIRCam's short-wave SCAs A3. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning</i> <i>Category=Stellar Cluster</i> <i>Description=[Stellar associations]</i> <i>Extended=Unknown</i>										
Template	NIRCam Imaging					NIRISS Imaging				
	Module: ALL Subarray: FULL					Subarray: FULL				
Dithers	#	Primary Dither Type		Primary Dithers	Dither Size	Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes	
	1	NONE				7		NIRCam Only	NO_DITHERING	
Spectral Elements	NIRCam Imaging	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID
	1	F182M	F360M	SHALLOW2	4	1	7	7	1352.833	
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F158M		NIS	3	1	7	7	977.046	

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Special Requirements

Before Date 15-MAY-2020:00:00:00
Offset 52.0 arcsec, 34.5 arcsec
No Parallel