



1304 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

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>
Observation Folder				
	1		NIRCam Imaging	(1) DRACO-F0
	2		NIRCam Imaging	(2) DRACO-F1
	3		NIRCam Imaging	(3) DRACO-F3
	4		NIRCam Imaging	(4) SCULPTOR-F0
	5		NIRCam Imaging	(5) SCULPTOR-F1
	52	Repeat Observation 2	NIRCam Imaging	(2) DRACO-F1

ABSTRACT

We will observe five fields in the nearest classical Milky Way dwarf spheroidal galaxies Draco and Sculptor, to study the internal PM dynamics of their stars. This will determine whether their dark halos have central cores or cusps, which provides an important constraint on the properties of dark matter and cosmological models of galaxy formation. PMs will be determined either from comparison to existing HST data, or from comparison to similar JWST observations to be obtained in GTO Cycles 2 and 3, or to be requested in future JWST GO cycles.

OBSERVING DESCRIPTION

We propose to measure the internal proper motion dynamics of the dwarf spheroidal galaxies Draco and Sulptor. To determine proper motion of stars in our target galaxies, we will reobserve five fields (three in the Draco, and two in the Sculptor dwarf spheroidals) with NIRCAM using F200W+F277W. We will also observe parallel fields with NIRISS using F200W.

We request that the observations be obtained early in the first part of Cycle 1, i.e., prior to Jul 15, 2022. 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 1304 - Targets - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	DRACO-F0	RA: 17 20 12.3912 (260.0516300d) Dec: +57 54 55.30 (57.91536d) Equinox: J2000		
<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO				
(2)	DRACO-F1	RA: 17 20 47.2851 (260.1970212d) Dec: +57 54 40.97 (57.91138d) Equinox: J2000		
<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO				
(3)	DRACO-F3	RA: 17 19 33.4167 (259.8892363d) Dec: +57 58 8.69 (57.96908d) Equinox: J2000		
<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO				
(4)	SCULPTOR-F0	RA: 01 00 5.9868 (15.0249450d) Dec: -33 42 38.77 (-33.71077d) Equinox: J2000		
<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO				
(5)	SCULPTOR-F1	RA: 01 00 12.1856 (15.0507733d) Dec: -33 48 52.56 (-33.81460d) Equinox: J2000		
<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO				

Fixed Targets

Proposal 1304 - Observation 1 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	Proposal 1304, Observation 1 Diagnostic Status: Warning Observing Template: NIRCam Imaging Coordinated Parallel Template(s): NIRISS Imaging <i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i>									
Diagnostics	(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)	DRACO-F0	RA: 17 20 12.3912 (260.0516300d) Dec: +57 54 55.30 (57.91536d) Equinox: J2000							
	<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO									
Template	NIRCam Imaging					NIRISS Imaging				
	Module: ALL Subarray: FULL									
Dithers	#	Primary Dither Type		Primary Dithers	Dither Size	Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes	
	1	NONE				1		4-POINT-SMALL-WITH-NIRISS	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	F200W	F277W	SHALLOW4	3	1	4	4	601.259	
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F200W		NIS	3	1	4	4	558.312	

Proposal 1304 - Observation 1 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 01-JUL-2023:00:00:00
Aperture PA Range 220 to 240 Degrees (V3 220.09730273 to 240.09730273)
Offset 88.0 arcsec, 0.0 arcsec
No Parallel

Proposal 1304 - Observation 2 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	Proposal 1304, Observation 2 Diagnostic Status: Warning Observing Template: NIRCam Imaging Coordinated Parallel Template(s): NIRISS Imaging <i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i>									
Diagnostics	(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.									
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous		
	(2)	DRACO-F1	RA: 17 20 47.2851 (260.1970212d) Dec: +57 54 40.97 (57.91138d) Equinox: J2000							
	<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO									
Template	NIRCam Imaging					NIRISS Imaging				
	Module: ALL Subarray: FULL									
Dithers	#	Primary Dither Type		Primary Dithers	Dither Size	Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes	
	1	NONE				1		4-POINT-SMALL-WITH-NIRISS	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	F200W	F277W	SHALLOW4	3	1	4	4	601.259	
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F200W		NIS	3	1	4	4	558.312	

Proposal 1304 - Observation 2 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 01-SEP-2022:00:00:00
Aperture PA Range 120 to 195 Degrees (V3 120.09730273 to 195.09730273)
Offset -88.0 arcsec, 0.0 arcsec
No Parallel

Proposal 1304 - Observation 3 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	Proposal 1304, Observation 3 Diagnostic Status: Warning Observing Template: NIRCcam Imaging Coordinated Parallel Template(s): NIRISS Imaging <i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCcam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i>										
Diagnostics	(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(3)	DRACO-F3	RA: 17 19 33.4167 (259.8892363d) Dec: +57 58 8.69 (57.96908d) Equinox: J2000								
	<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO										
Template	NIRCcam Imaging					NIRISS Imaging					
	Module: ALL Subarray: FULL										
Dithers	#	Primary Dither Type		Primary Dithers		Dither Size		Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes
	1	NONE						1		4-POINT-SMALL-WITH-NIRISS	NO_DITHERING
Spectral Elements	NIRCcam Imaging	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Dithers	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F200W	F277W	SHALLOW4	3	1	4	4	601.259		
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F200W		NIS	3	1	4	4	558.312		

Proposal 1304 - Observation 3 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 01-JUL-2023:00:00:00
Aperture PA Range 215 to 235 Degrees (V3 215.09730273 to 235.09730273)
Offset 88.0 arcsec, 0.0 arcsec
No Parallel

Proposal 1304 - Observation 4 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	Proposal 1304, Observation 4 Diagnostic Status: Warning Observing Template: NIRCam Imaging Coordinated Parallel Template(s): NIRISS Imaging <i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i>									
Diagnostics	(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.									
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous		
	(4)	SCULPTOR-F0	RA: 01 00 5.9868 (15.0249450d) Dec: -33 42 38.77 (-33.71077d) Equinox: J2000							
	<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO									
Template	NIRCam Imaging					NIRISS Imaging				
	Module: ALL Subarray: FULL									
Dithers	#	Primary Dither Type		Primary Dithers		Dither Size	Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes
	1	NONE					1		4-POINT-SMALL-WITH-NIRISS	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	F200W	F277W	SHALLOW4	3	1	4	4	601.259	
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F200W		NIS	3	1	4	4	558.312	

Proposal 1304 - Observation 4 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 15-SEP-2022:00:00:00
Aperture PA Range 280 to 295 Degrees (V3 280.09730273 to 295.09730273)
Offset -88.0 arcsec, 0.0 arcsec
No Parallel

Proposal 1304 - Observation 5 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	Proposal 1304, Observation 5 Diagnostic Status: Warning Observing Template: NIRCam Imaging Coordinated Parallel Template(s): NIRISS Imaging <i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i>									
Diagnostics	(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections			Miscellaneous		
Fixed Targets	(5)	SCULPTOR-F1	RA: 01 00 12.1856 (15.0507733d) Dec: -33 48 52.56 (-33.81460d) Equinox: J2000							
Fixed Targets	<i>Comments:</i> Category=Galaxy Description=[Dwarf spheroidal galaxies] Extended=NO									
Template	NIRCam Imaging					NIRISS Imaging				
Template	Module: ALL Subarray: FULL									
Dithers	#	Primary Dither Type		Primary Dithers	Dither Size	Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes	
Dithers	1	NONE				1		4-POINT-SMALL-WITH-NIRISS	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
Spectral Elements	1	F200W	F277W	SHALLOW4	3	1	4	4	601.259	
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
Spectral Elements	1	F200W		NIS	3	1	4	4	558.312	

Proposal 1304 - Observation 5 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 15-SEP-2022:00:00:00
Aperture PA Range 275 to 275.2 Degrees (V3 275.09730273 to 275.29730273)
Aperture PA Range 281 to 283 Degrees (V3 281.09730273 to 283.09730273)
Aperture PA Range 289.5 to 300 Degrees (V3 289.59730273 to 300.09730273)
Offset -88.0 arcsec, 0.0 arcsec
No Parallel

Proposal 1304 - Observation 52 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Fri Jul 15 21:00:21 GMT 2022

Observation	<p>Proposal 1304, Observation 52: Repeat Observation 2</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRCam Imaging</p> <p>Coordinated Parallel Template(s): NIRISS Imaging</p> <p><i>Comments: We use an "offset" special requirement to put the target near the center of one of the two NIRCam modules. The offset may need to be updated after JWST's focal plane has been calibrated more accurately during commissioning. We also use the "PA range" special requirement to maximize our field overlap with existing HST ACS/WFC or WFC3/UVIS fields.</i></p>										
Diagnostics	(Visit 52:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(2)	DRACO-F1	RA: 17 20 47.2851 (260.1970212d) Dec: +57 54 40.97 (57.91138d) Equinox: J2000								
	<p><i>Comments:</i></p> <p><i>Category=Galaxy</i></p> <p><i>Description=[Dwarf spheroidal galaxies]</i></p> <p><i>Extended=NO</i></p>										
Template	NIRCam Imaging					NIRISS Imaging					
	Module: ALL Subarray: FULL										
Dithers	#	Primary Dither Type		Primary Dithers		Dither Size		Subpixel Positions		Coordinated Parallel Subpixel Selector	Dither Direct Images Primes
	1	NONE						1		4-POINT-SMALL-WITH-NIRISS	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	F200W	F277W	SHALLOW4	3	1	4	4	601.259		
Spectral Elements	NIRISS Imaging	Filter	Grism	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	F200W		NIS	3	1	4	4	558.312		

Proposal 1304 - Observation 52 - Internal Dynamics of Milky Way Dwarf Spheroidal Galaxies

Special Requirements

Before Date 01-SEP-2022:00:00:00
Aperture PA Range 120 to 195 Degrees (V3 120.09730273 to 195.09730273)
Offset -88.0 arcsec, 0.0 arcsec
No Parallel