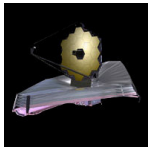

1284 - MIRI IFS of COSMOS sources COS-zs7-1 and B14-65666

Cycle: 1, Proposal Category: GTO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
COS-zs7-1				
	3	MRS-COS-zs7-1	MIRI Medium Resolution Spectroscopy	(1) COS-ZS7-1
	4	MIRIM-COS-zs7-1	MIRI Imaging	(2) COS-ZS7-1-IMA
B14-65666				
	5	MRS-B14-65666	MIRI Medium Resolution Spectroscopy	(3) B14-65666
	6	MIRIM-B14-65666	MIRI Imaging	(4) B14-65666-IMA

ABSTRACT

The sources included in this proposal have an observation ID: WRIGHT_0101 and WRIGHT_0102.

MIRI is the only instrument onboard JWST able to detect the H-alpha line for sources at redshifts beyond 7, the key diagnostic line to establish the instantaneous star formation, as well as the Ly-alpha and ionizing continuum escape fractions for sources during the Epoch of Reionization (EoR) of the universe. Deep MIRI spectroscopy of the H-alpha line with the medium resolution integral field spectrograph (MRS) of the sources COS-zs7-1 and B14-65666 will be obtained. In addition, mid-IR imaging (F560W) of the host galaxies and surrounding fields, as well as simultaneous MIRI imaging of nearby fields will be taken.

OBSERVING DESCRIPTION

The proposal includes two targets in the COSMOS field, COS-zs7-1 and B14-65666. The total time has therefore been increased over the original time allocated to this proposal while the total time dedicated to the entire MRS high-z program is within the allocated time.

This program observes one confirmed Ly-alpha emitter (COS-zs7-1), and one [OIII] emitter (B14-65666) with redshifts of 7.15. The purpose of the program is to get the H-alpha emission line as well as other metallic lines ([NII] and [SII]) with the MRS using the SHORT wavelength configuration. Simultaneous imaging with the imager (MIRIM) of nearby fields will be taken with filter F770W. In addition, a short F560W image of the host galaxy and surrounding field will also be taken.

A combination of dithering strategies (4-pt+4-pt, point source) have been selected to optimize the PSF and detector effects for the MRS channel 1. The PA constraint (108 < PA_V3 < 110) has been selected to avoid bright stars that can saturate the simultaneous IMAGER observations. An additional constraint in the observing dates (6-Apr to 15-May) have been requested to be in a low background regime.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	COS-ZS7-1	RA: 10 00 23.7600 (150.0990000d) Dec: +02 20 37.00 (2.34361d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(2)	COS-ZS7-1-IMA	RA: 10 00 20.3500 (150.0847917d) Dec: +02 20 35.00 (2.34306d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[Lyman-alpha galaxies, Lyman-break galaxies]* *Extended=NO*				
(3)	B14-65666	RA: 10 01 40.6900 (150.4195417d) Dec: +01 54 52.55 (1.91460d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[High-redshift galaxies, Lyman-alpha galaxies]* *Extended=NO*				
(4)	B14-65666-IMA	RA: 10 01 38.6526 (150.4110525d) Dec: +01 54 51.30 (1.91425d) Equinox: J2000		
Comments: *Category=Galaxy* *Description=[Lyman-alpha galaxies, Lyman-break galaxies]*				

Observation

Proposal 1284, Observation 3: MRS-COS-zs7-1 Mon Feb 27 15:01:23 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

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
(1)	COS-ZS7-1	RA: 10 00 23.7600 (150.0990000d) Dec: +02 20 37.00 (2.34361d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F560W	CHANNEL1	YES	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	POINT SOURCE	NEGATIVE
2	4-Point	POINT SOURCE	POSITIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1		IMAGER	F770W	FASTR1	99	10	1	Dither 1	4	40	11089.06	
1	SHORT(A)	MRSLONG		SLOWR1	20	6	1	Dither 1	4	24	11944.96	
1	SHORT(A)	MRSSHORT		SLOWR1	20	6	1	Dither 1	4	24	11944.96	
2		IMAGER	F770W	FASTR1	92	8	1	Dither 2	4	32	8247.419	
2	SHORT(A)	MRSLONG		SLOWR1	21	4	1	Dither 2	4	16	8313.692	
2	SHORT(A)	MRSSHORT		SLOWR1	21	4	1	Dither 2	4	16	8313.692	

Special Requirements	
	Aperture PA Range 108 to 110 Degrees (V3 108.0 to 110.0) Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1284, Observation 4: MIRIM-COS-zs7-1

Mon Feb 27 15:01:23 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Imaging

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
(2)	COS-ZS7-1-IMA	RA: 10 00 20.3500 (150.0847917d) Dec: +02 20 35.00 (2.34306d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[Lyman-alpha galaxies, Lyman-break galaxies]
Extended=NO

Template

Subarray
FULL

Dithers

#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size
1	4-Point-Sets	1			4	1	POINT SOURCE	POSITIVE	SMALL

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F560W	FASTR1	120	2	1	Dither 1	4	8	2675.139	

Special Requirements

Aperture PA Range 112.449705 to 114.449705 Degrees (V3 107.61425603 to 109.61425603)
Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1284, Observation 5: MRS-B14-65666 Mon Feb 27 15:01:23 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

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
(3)	B14-65666	RA: 10 01 40.6900 (150.4195417d) Dec: +01 54 52.55 (1.91460d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[High-redshift galaxies, Lyman-alpha galaxies]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
F560W	CHANNEL1	YES	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	POINT SOURCE	NEGATIVE
2	4-Point	POINT SOURCE	POSITIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1		IMAGER	F770W	FASTR1	110	9	1	Dither 1	4	36	11077.96	
1	SHORT(A)	MRSLONG		SLOWR1	19	6	1	Dither 1	4	24	11371.602	
1	SHORT(A)	MRSSHORT		SLOWR1	19	6	1	Dither 1	4	24	11371.602	
2		IMAGER	F770W	FASTR1	110	9	1	Dither 2	4	36	11077.96	
2	SHORT(A)	MRSLONG		SLOWR1	19	6	1	Dither 2	4	24	11371.602	
2	SHORT(A)	MRSSHORT		SLOWR1	19	6	1	Dither 2	4	24	11371.602	

Special Requirements	
	Aperture PA Range 108 to 110 Degrees (V3 108.0 to 110.0) Aperture PA Range 289 to 293 Degrees (V3 289.0 to 293.0) Background Limited. Background no more than 40th percentile above minimum

Observation

Proposal 1284, Observation 6: MIRIM-B14-65666 Mon Feb 27 15:01:23 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Imaging

Diagnostics

(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(4)	B14-65666-IMA	RA: 10 01 38.6526 (150.4110525d) Dec: +01 54 51.30 (1.91425d) Equinox: J2000		

Comments:
Category=Galaxy
Description=[Lyman-alpha galaxies, Lyman-break galaxies]

Template

Subarray
FULL

Dithers

#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size
1	4-Point-Sets	1			4	1	POINT SOURCE	POSITIVE	SMALL

Spectral Elements

#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F560W	FASTR1	120	2	1	Dither 1	4	8	2675.139	

Special Requirements

Aperture PA Range 112.83425324 to 114.83425324 Degrees (V3 107.99880427 to 109.99880427)
Aperture PA Range 293.83425324 to 297.83425324 Degrees (V3 288.99880427 to 292.99880427)
Background Limited. Background no more than 40th percentile above minimum