



2526 - Density structure and fragmentation manner of infrared dark filaments

Cycle: 1, Proposal Category: GO

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		MIRI Imaging	(1) G34A
	2		MIRI Imaging	(2) G34B
	3		MIRI Imaging	(3) G34C
	4		MIRI Imaging	(4) G353A
	5		MIRI Imaging	(5) G353B
	6		MIRI Imaging	(6) G353C
	7		MIRI Imaging	(7) NGC6334M-A
	8		MIRI Imaging	(8) NGC6334M-B
	9		MIRI Imaging	(9) NGC6334M-C
	19	Repeat of Observation 9	MIRI Imaging	(9) NGC6334M-C
	10		MIRI Imaging	(10) NGC6334N-A
	11		MIRI Imaging	(11) NGC6334N-B
	12		MIRI Imaging	(12) NGC6334N-C

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
	13		MIRI Imaging	(13) G0
	21	Repeat of Observation 13	MIRI Imaging	(13) G0
	14		MIRI Imaging	(14) G32
	15		MIRI Imaging	(15) NGC6334M-A-25um
	16		MIRI Imaging	(16) NGC6334M-B-25um
	17		MIRI Imaging	(17) NGC6334M-C-25um
	20	Repeat of Observation 17	MIRI Imaging	(17) NGC6334M-C-25um
	18		MIRI Imaging	(18) NGC6334M-C-25um-BACKGROUND

ABSTRACT

The results of Herschel and Spitzer imaging surveys of nearby Galactic clouds suggest that most stars form in dense molecular filaments, which are often dark at near- to mid-IR wavelengths. The Herschel results support a filament paradigm for at least solar-type star formation, whereby Jeans-like fragmentation of 0.1-pc-wide supercritical filaments produces < 0.1 pc prestellar cores, which subsequently collapse to protostars. The validity and details of this paradigm are much debated, however, and the detailed fragmentation manner of filaments remains a puzzle. Despite ongoing debates, the properties of dense filaments are thought to be representative of the initial conditions of most star formation in the Galaxy. We propose to exploit the unique resolution and sensitivity of JWST in the mid-IR to determine the radial density structure and fragmentation spacing properties of a sample of 6 infrared-dark filaments at different locations in the Galactic disk with unprecedented accuracy. The proposed observations will resolve the thermal Jeans length < 0.02 pc, provide a deep census of starless dense cores down to the Jeans mass, and determine the core mass function in each filament. The results will be compared with numerical simulations of filament fragmentation. They will be used to test the simple picture, tentatively suggested by recent ALMA findings, that the average filament width and core spacing remain roughly the same in all filaments, but that the typical core mass scales \sim linearly with the line mass of the parent filament. If confirmed by the proposed MIRI study, this will have profound implications for our understanding of the origin of the initial mass function.

OBSERVING DESCRIPTION

Using mid-infrared absorption mapping with MIRI at 7.7 microns (F770W filter), we will characterize the radial density structure and fragmentation spacing properties of six Galactic infrared dark filaments with unprecedented accuracy. Thanks to the unique subarcsec resolution and sensitivity provided by JWST/MIRI around 8 microns, close to the minimum of the mid-infrared absorption curve, we will be able to probe the presence of dense starless cores down to a 5sigma sensitivity limit of 5×10^{-3} to 0.6 Msun in the target filaments. The densest, most massive filament will also be

imaged with MIRI at 25.5 microns (F2550W filter) to provide an independent determination of its column density structure and allow us to trace the presence of low-mass protostars in its interior.

Proposal 2526 - Targets - Density structure and fragmentation manner of infrared dark filaments

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	G34A	RA: 18 53 19.0191 (283.3292462d) Dec: +01 27 0.08 (1.45002d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(2)	G34B	RA: 18 53 19.7676 (283.3323650d) Dec: +01 23 52.20 (1.39783d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(3)	G34C	RA: 18 53 20.5461 (283.3356088d) Dec: +01 22 40.28 (1.37786d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(4)	G353A	RA: 17 30 3.8682 (262.5161175d) Dec: -34 30 52.96 (-34.51471d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(5)	G353B	RA: 17 29 58.1111 (262.4921296d) Dec: -34 31 18.17 (-34.52171d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(6)	G353C	RA: 17 29 52.5616 (262.4690067d) Dec: -34 31 52.23 (-34.53118d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				
(7)	NGC6334M-A	RA: 17 20 44.8205 (260.1867521d) Dec: -35 47 2.11 (-35.78392d) Equinox: J2000		
<i>Comments:</i> Category= <i>ISM</i> Description=[<i>Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds</i>] Extended= <i>YES</i>				

Fixed Targets

Proposal 2526 - Targets - Density structure and fragmentation manner of infrared dark filaments

(8)	NGC6334M-B	RA: 17 20 46.8114 (260.1950475d) Dec: -35 45 53.60 (-35.76489d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(9)	NGC6334M-C	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(10)	NGC6334N-A	RA: 17 22 33.0808 (260.6378367d) Dec: -35 12 50.63 (-35.21406d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(11)	NGC6334N-B	RA: 17 22 30.6801 (260.6278337d) Dec: -35 11 45.46 (-35.19596d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(12)	NGC6334N-C	RA: 17 22 28.9832 (260.6207633d) Dec: -35 10 40.73 (-35.17798d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(13)	G0	RA: 17 46 19.6793 (266.5819971d) Dec: -28 37 54.94 (-28.63193d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(14)	G32	RA: 18 49 26.5485 (282.3606188d) Dec: -00 50 0.58 (-.83349d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		

Proposal 2526 - Targets - Density structure and fragmentation manner of infrared dark filaments

(15)	NGC6334M-A-25um	RA: 17 20 44.8205 (260.1867521d) Dec: -35 47 2.11 (-35.78392d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(16)	NGC6334M-B-25um	RA: 17 20 46.8114 (260.1950475d) Dec: -35 45 53.60 (-35.76489d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(17)	NGC6334M-C-25um	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		
(18)	NGC6334M-C-25um- BACKGROUND	RA: 17 21 10.6170 (260.2942375d) Dec: -35 43 44.63 (-35.72906d) Equinox: J2000
<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>		

Proposal 2526 - Observation 1 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 1 Diagnostic Status: Warning Observing Template: MIRI 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)	G34A	RA: 18 53 19.0191 (283.3292462d) Dec: +01 27 0.08 (1.45002d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 2 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 2</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
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)	G34B	RA: 18 53 19.7676 (283.3323650d)			Dec: +01 23 52.20 (1.39783d)		Equinox: J2000			
	<p><i>Comments:</i></p> <p><i>Category=ISM</i></p> <p><i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i></p> <p><i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 3 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 3 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(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)	G34C	RA: 18 53 20.5461 (283.3356088d) Dec: +01 22 40.28 (1.37786d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 4 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 4 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(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)	G353A	RA: 17 30 3.8682 (262.5161175d) Dec: -34 30 52.96 (-34.51471d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 5 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 5 Diagnostic Status: Warning Observing Template: MIRI Imaging</p>										
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			
	(5)	G353B	RA: 17 29 58.1111 (262.4921296d) Dec: -34 31 18.17 (-34.52171d) Equinox: J2000								
	<p><i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES</p>										
Template	<p>Subarray FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 6 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 6</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
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			
	(6)	G353C	RA: 17 29 52.5616 (262.4690067d) Dec: -34 31 52.23 (-34.53118d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 7 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 7 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(7)	NGC6334M-A	RA: 17 20 44.8205 (260.1867521d) Dec: -35 47 2.11 (-35.78392d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 8 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 8 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(8)	NGC6334M-B	RA: 17 20 46.8114 (260.1950475d) Dec: -35 45 53.60 (-35.76489d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 9 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 9 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(9)	NGC6334M-C	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 19 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 19: Repeat of Observation 9</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
Diagnostics	(Visit 19:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(9)	NGC6334M-C	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 10 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 10</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
Diagnostics	(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(10)	NGC6334N-A	RA: 17 22 33.0808 (260.6378367d) Dec: -35 12 50.63 (-35.21406d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 11 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 11 Diagnostic Status: Warning Observing Template: MIRI Imaging										
Diagnostics	(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(11)	NGC6334N-B	RA: 17 22 30.6801 (260.6278337d) Dec: -35 11 45.46 (-35.19596d) Equinox: J2000								
	Comments: Category= <i>ISM</i> Description= <i>[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> Extended= <i>YES</i>										
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 12 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 12 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(12)	NGC6334N-C	RA: 17 22 28.9832 (260.6207633d) Dec: -35 10 40.73 (-35.17798d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 13 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 13 Diagnostic Status: Warning Observing Template: MIRI Imaging										
	(Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(13)	G0	RA: 17 46 19.6793 (266.5819971d) Dec: -28 37 54.94 (-28.63193d) Equinox: J2000								
<i>Comments:</i> Category=ISM Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds] Extended=YES											
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				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 21 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 21: Repeat of Observation 13</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
Diagnostics	(Visit 21:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(13)	G0	RA: 17 46 19.6793 (266.5819971d) Dec: -28 37 54.94 (-28.63193d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 14 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 14</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p>										
Diagnostics	(Visit 14:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(14)	G32	RA: 18 49 26.5485 (282.3606188d) Dec: -00 50 0.58 (-.83349d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F770W	FASTR1	20	15	1	Dither 1	4	60	3485.45	

Proposal 2526 - Observation 15 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 15</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p> <p>Background Observations:[]</p>										
Diagnostics	<p>(Observation 15) Warning (Form): Target requiring background exposure selected for template that doesn't require background exposure</p> <p>(Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(15)	NGC6334M-A-25um	RA: 17 20 44.8205 (260.1867521d) Dec: -35 47 2.11 (-35.78392d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129	
Special Requirements	<p>Group Observations 15, 16, 17, 18, Non-interruptible</p>										

Proposal 2526 - Observation 16 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 16</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p> <p>Background Observations:[]</p>										
Diagnostics	<p>(Observation 16) Warning (Form): Target requiring background exposure selected for template that doesn't require background exposure</p> <p>(Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(16)	NGC6334M-B-25um	RA: 17 20 46.8114 (260.1950475d) Dec: -35 45 53.60 (-35.76489d) Equinox: J2000								
	<p><i>Comments:</i></p> <p><i>Category=ISM</i></p> <p><i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i></p> <p><i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129	
Special Requirements	<p>Group Observations 15, 16, 17, 18, Non-interruptible</p>										

Proposal 2526 - Observation 17 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 17</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p> <p>Background Observations:[]</p>										
Diagnostics	<p>(Observation 17) Warning (Form): Target requiring background exposure selected for template that doesn't require background exposure</p> <p>(Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(17)	NGC6334M-C-25um	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000								
	<p><i>Comments:</i></p> <p><i>Category=ISM</i></p> <p><i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i></p> <p><i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129	
Special Requirements	<p>Group Observations 15, 16, 17, 18, Non-interruptible</p>										

Proposal 2526 - Observation 20 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	Proposal 2526, Observation 20: Repeat of Observation 17 Diagnostic Status: Warning Observing Template: MIRI Imaging Background Observations:[]																														
	(Repeat of Observation 17 (Obs 20)) Warning (Form): Target requiring background exposure selected for template that doesn't require background exposure (Visit 20:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.																														
Diagnosics																															
Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th colspan="2">Targ. Coord. Corrections</th> <th colspan="5">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(17)</td> <td>NGC6334M-C-25um</td> <td>RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000</td> <td colspan="2"></td> <td colspan="5"></td> </tr> <tr> <td colspan="10"> <i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i> </td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections		Miscellaneous					(17)	NGC6334M-C-25um	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000								<i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i>									
	#	Name	Target Coordinates	Targ. Coord. Corrections		Miscellaneous																									
(17)	NGC6334M-C-25um	RA: 17 20 48.6673 (260.2027804d) Dec: -35 44 44.15 (-35.74560d) Equinox: J2000																													
<i>Comments:</i> <i>Category=ISM</i> <i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i> <i>Extended=YES</i>																															
Template	Subarray																														
	FULL																														
Dithers	<table border="1"> <thead> <tr> <th>#</th> <th>Dither Type</th> <th>Starting Point</th> <th>Number of Points</th> <th>Points</th> <th>Starting Set</th> <th>Number of Sets</th> <th>Optimized For</th> <th>Direction</th> <th>Pattern Size</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>4-Point-Sets</td> <td></td> <td></td> <td></td> <td>5</td> <td>1</td> <td>EXTENDED SOURCE</td> <td>POSITIVE</td> <td>DEFAULT</td> </tr> </tbody> </table>	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT										
	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size																					
1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT																						
Spectral Elements	<table border="1"> <thead> <tr> <th>#</th> <th>Filter</th> <th>Readout Pattern</th> <th>Groups/Int</th> <th>Integrations/Exp</th> <th>Exposures/Dith</th> <th>Dither</th> <th>Total Dithers</th> <th>Total Integrations</th> <th>Total Exposure Time</th> <th>ETC Wkbk.Calc ID</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>F2550W</td> <td>FASTR1</td> <td>13</td> <td>13</td> <td>1</td> <td>Dither 1</td> <td>4</td> <td>52</td> <td>2009.129</td> <td></td> </tr> </tbody> </table>	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129									
	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID																				
1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129																						

Proposal 2526 - Observation 18 - Density structure and fragmentation manner of infrared dark filaments

Tue Oct 03 20:00:18 GMT 2023

Observation	<p>Proposal 2526, Observation 18</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: MIRI Imaging</p> <p>Background Observation For: [Observation 15, Observation 16, Observation 17]</p>										
Diagnostics	(Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Miscellaneous			
	(18)	NGC6334M-C-25um-BACKGROUND	RA: 17 21 10.6170 (260.2942375d) Dec: -35 43 44.63 (-35.72906d) Equinox: J2000								
	<p><i>Comments:</i></p> <p><i>Category=ISM</i></p> <p><i>Description=[Dense interstellar clouds, Filamentary nebulae, Interstellar absorption, Interstellar dust, Molecular clouds]</i></p> <p><i>Extended=YES</i></p>										
Template	<p>Subarray</p> <p>FULL</p>										
Dithers	#	Dither Type	Starting Point	Number of Points	Points	Starting Set	Number of Sets	Optimized For	Direction	Pattern Size	
	1	4-Point-Sets				5	1	EXTENDED SOURCE	POSITIVE	DEFAULT	
Spectral Elements	#	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	F2550W	FASTR1	13	13	1	Dither 1	4	52	2009.129	
Special Requirements	Group Observations 15, 16, 17, 18, Non-interruptible										