



# 7612 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Cycle: 4, Proposal Category: GO

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>
<b>Logan Pearce (PI)</b>	<b>University of Michigan</b>
Mary Anne Limbach (CoI) (CoPI)	University of Michigan
Dr. Simon Blouin (CoI) (CSA Member)	University of Victoria
Mr. Alexander Venner (CoI)	University of Southern Queensland
Dr. Andrew Vanderburg (CoI)	Harvard University
Dr. Kevin Stevenson (CoI)	The Johns Hopkins University Applied Physics Laboratory
Dr. Elisabeth C Matthews (CoI) (ESA Member)	Max Planck Institute for Astronomy
Dr. Mathilde Malin (CoI)	The Johns Hopkins University
Dr. Yifan Zhou (CoI)	The University of Virginia
Dr. Rachel Bowens-Rubin (CoI)	Eureka Scientific Inc.
Dr. Caroline Morley (CoI)	University of Texas at Austin
Dr. Jacob Lustig-Yaeger (CoI)	The Johns Hopkins University Applied Physics Laboratory
Dr. Ryan J MacDonald (CoI) (ESA Member)	University of St Andrews
Dr. Anthony Boccaletti (CoI) (ESA Member)	Observatoire de Paris - Section de Meudon
Dr. Markus R. Janson (CoI) (ESA Member)	Stockholm University

## OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
Procyon Roll 1				
	1	Background Ref	MIRI Imaging	(3) TYC-782-269-1

JWST Proposal 7612 (Created: Tuesday, March 10, 2026, 1:04:59PM Eastern Standard Time) - Overview

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
	2	Switch to Opaque filter for slew	MIRI Dark	NONE
	3	Procyon Science Data Roll 1	MIRI Imaging	(2) -alf-CMi
	4	Switch to Opaque filter for slew	MIRI Dark	NONE
Procyon Roll 2				
	5	Switch to Opaque filter for slew	MIRI Dark	NONE
	6	Procyon Science Data Roll 2	MIRI Imaging	(2) -alf-CMi
	7	Switch to Opaque filter for slew	MIRI Dark	NONE
Sirius Roll 1				
	8	Switch to Opaque filter for slew	MIRI Dark	NONE
	9	Sirius Science Data Roll 1	MIRI Imaging	(1) -alf-CMa
	10	Switch to Opaque filter for slew	MIRI Dark	NONE
Sirius Roll 2				
	11	Switch to Opaque filter for slew	MIRI Dark	NONE
	12	Sirius Science Data Roll 2	MIRI Imaging	(1) -alf-CMa
	13	Switch to Opaque filter for slew	MIRI Dark	NONE

**ABSTRACT**

We propose to use JWST/MIRI coronagraphy to conduct a direct imaging and infrared excess search for terrestrial and cold gas giant planets around Sirius B, the closest white dwarf to our solar system. Given Sirius B's proximity (2.6 pc) and its high temperature ( $T = 26,000$  K), JWST's unparalleled ability to achieve remarkable sensitivity enables the direct imaging of super-earth-sized planets near the outer edge of the habitable zone. This program will use the infrared excess and direct imaging detection techniques to enable detection of planets spanning from the Roche limit (0.004 au) to the Hill sphere (3.9 au). With just 16 hours of integration time, it will set the most stringent direct imaging limits on planets ever

## JWST Proposal 7612 (Created: Tuesday, March 10, 2026, 1:04:59PM Eastern Standard Time) - Overview

achieved by any observatory. Our program holds the potential to detect rocky planets and cold (>70K) gas giants—a feat unlikely to be possible until the next generation of observatories comes online decades from now. If a planet-like signal is detected, follow-up proper motion measurements or spectroscopy will confirm its planetary nature and provide a detailed characterization of its physical and atmospheric properties. This program could be JWST's singular chance to directly image rocky planets in a nearby system, offering profound insights into planetary evolution around post-main sequence stars and in binary systems.

### **OBSERVING DESCRIPTION**

Background reference image: Point to a star ~6 degrees away from Procyon and take a background/reference image in all the same filters/settings as the science image. We start with this as we don't want the detector to have persistence from the "A" components in the science target.

Switch to the opaque filter.

#### Roll 1, Procyon A

Slew to Procyon A. Using bands in order of least to most saturation (longest to shortest wavelength), trace the star across the detector, always keeping Procyon B ahead of Procyon A to avoid persistence contamination. This requires the “Sparse Dithering” mode in MIRI. Pattern is here: [https://docs.google.com/presentation/d/1ujvkXLD68RM\\_YcmHLDH7rK1KjbgKUGt9AamFbGbG2iA/edit?usp=sharing](https://docs.google.com/presentation/d/1ujvkXLD68RM_YcmHLDH7rK1KjbgKUGt9AamFbGbG2iA/edit?usp=sharing). Each band will use monotonically increasing dither numbers, as required. Observations will be conducted in F1130W, F1500W, F1800W, F2100W, and F2550W, filters that do not saturate outside 2 on the primary star. We will use 5 groups/int (to minimize saturation of the primary), the FASTR1 readout pattern, bright sky, and four dithers per band.

We wait 12 or more hours for persistence to clear the detector before performing the next imaging sequence for this program.

Wait 12-36 hours. Switch to the opaque filter.

#### Roll 2, Procyon A

Repeat all steps above with a 10-11 degree

Wait 12-36 hours. Switch to the opaque filter.

Roll 1, Sirius A

Repeat steps for Roll 1 above

Wait 12-36 hours. Switch to the opaque filter.

Roll 2, Sirius A

Repeat steps for roll 2

See comments in individual visits for more details.

Proposal 7612 - Targets - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	-alf-CMa	RA: 06 45 8.9173 (101.2871554d) Dec: -16 42 58.02 (-16.71612d) Equinox: J2000	Proper Motion RA: -546.01 mas/yr Proper Motion Dec: -1223.0699999918215 mas/yr Parallax: 0.37921" Epoch of Position: 2000	
<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.</i></p> <p><i>Category=Star</i> <i>Description=[White dwarfs]</i></p>				
(2)	-alf-CMi	RA: 07 39 18.1195 (114.8254979d) Dec: +05 13 29.96 (5.22499d) Equinox: J2000	Proper Motion RA: -714.59 mas/yr Proper Motion Dec: -1036.8000000426036 mas/yr Parallax: 0.28456" Epoch of Position: 2000	
<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.</i></p> <p><i>Category=Star</i> <i>Description=[White dwarfs]</i></p>				
(3)	TYC-782-269-1	RA: 07 44 29.7699 (116.1240413d) Dec: +09 55 57.69 (9.93269d) Equinox: J2000	Proper Motion RA: -7.029 mas/yr Proper Motion Dec: 5.048 mas/yr Parallax: 0.0030924999999999998" Epoch of Position: 2000	
<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.</i></p> <p><i>Category=Star</i> <i>Description=[Exoplanets]</i></p>				

Fixed Targets

Proposal 7612 - Observation 1 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<b>Proposal 7612, Observation 1: Background Ref</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Imaging <i>Comments: (1) slew to offset star 1 and take a reference/background image.</i>																																																																											
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Proposal 7612 - Observation 1 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Special Requirements

Sequence Observations 1, 2, 3, 4, Non-interruptible

Proposal 7612 - Observation 2 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 2: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: (2) switch to opaque filter by taking at dark so that when we slew to the Procyon field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 2)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 2:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>	<b>Test Pattern</b>				<b>Imager Subarray</b>				
	IMAGER	NONE				FULL				
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>Sequence Observations 1, 2, 3, 4, Non-interruptible</p>									

Proposal 7612 - Observation 3 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 3: Procyon Science Data Roll 1</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Imaging</p> <p><i>Comments: (3) Conduct science imaging on Procyon for "roll 1" starting at the longest filter (F2550W) where Procyon A saturates the least, and moving to the shortest filter where it saturates the most (F1130W) to minimize streaking as A slews across the detector. Procyon B is nearly due north of Procyon A (5.49 degrees west of due north). The dither pattern is set to sweep in from south to north, winding west to east, then back east to west snaking our way north. Brightsky subarray must be used or B falls off the detector at some dither positions.</i></p> <p><i>Dither pattern is here: <a href="https://docs.google.com/presentation/d/1ujvkXLD68RM_YcmHLDH7rK1KjbgKUGt9AamFbGbG2iA/edit?usp=sharing">https://docs.google.com/presentation/d/1ujvkXLD68RM_YcmHLDH7rK1KjbgKUGt9AamFbGbG2iA/edit?usp=sharing</a></i></p>										
	<p>(Visit 3:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p> <p>(Procyon Science Data Roll 1 (Obs 3)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.</p>										
<b>Diagnosics</b>											
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>			<b>Targ. Coord. Corrections</b>			<b>Miscellaneous</b>		
	(2)	-alf-CMi	RA: 07 39 18.1195 (114.8254979d) Dec: +05 13 29.96 (5.22499d) Equinox: J2000			Proper Motion RA: -714.59 mas/yr Proper Motion Dec: -1036.8000000426036 mas/yr Parallax: 0.28456" Epoch of Position: 2000					
<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.</i></p> <p><i>Category=Star</i></p> <p><i>Description=[White dwarfs]</i></p>											
<b>Template</b>	<b>Subarray</b>										
	BRIGHTSKY										
<b>Dithers</b>	<b>#</b>	<b>Dither Type</b>	<b>Starting Point</b>	<b>Number of Points</b>	<b>Points</b>	<b>Starting Set</b>	<b>Number of Sets</b>	<b>Optimized For</b>	<b>Direction</b>	<b>Pattern Size</b>	
	1	Sparse Cycling	1	4	242,253,257,270					DEFAULT	
2	Sparse Cycling	1	4	96,98,163,187					DEFAULT		
3	Sparse Cycling	1	4	106,139,160,244					DEFAULT		
4	Sparse Cycling	1	4	91,130,172,233					DEFAULT		
5	Sparse Cycling	1	4	49,65,197,304					DEFAULT		
<b>Spectral Elements</b>	<b>#</b>	<b>Filter</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Dither</b>	<b>Total Dithers</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	F2550W	FASTR1	5	105	1	Dither 1	4	420	2177.044	
2	F2100W	FASTR1	5	100	1	Dither 2	4	400	2073.211		
3	F1800W	FASTR1	5	100	1	Dither 3	4	400	2073.211		
4	F1500W	FASTR1	5	100	1	Dither 4	4	400	2073.211		
5	F1130W	FASTR1	5	100	1	Dither 5	4	400	2073.211		

Proposal 7612 - Observation 3 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Special Requirements

Aperture PA Range 95 to 99 Degrees (V3 90.16455103 to 94.16455103)

5 After 3 by 24 Hours to 48 Hours

Sequence Observations 1, 2, 3, 4, Non-interruptible

Aperture PA Offset 6 from 3 by 10 to 11 Degrees (Same offsets in V3)

Proposal 7612 - Observation 4 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 4: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: (2) switch to opaque filter by taking at dark so that when we slew to the Procyon field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 4)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 4:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>		<b>Test Pattern</b>				<b>Imager Subarray</b>			
	IMAGER		NONE				FULL			
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>Sequence Observations 1, 2, 3, 4, Non-interruptible</p>									

Proposal 7612 - Observation 5 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 5: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: (4) switch to opaque filter by taking at dark so that when we slew to the Procyon field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 5)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>		<b>Test Pattern</b>				<b>Imager Subarray</b>			
	IMAGER		NONE				FULL			
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>5 After 3 by 24 Hours to 48 Hours</p> <p>Sequence Observations 5, 6, 7, Non-interruptible</p>									

Proposal 7612 - Observation 6 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<b>Proposal 7612, Observation 6: Procyon Science Data Roll 2</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Imaging Comments: (5) Roll 2 science data																																																																											
	(Visit 6:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Procyon Science Data Roll 2 (Obs 6)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.																																																																											
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Proposal 7612 - Observation 6 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Special Requirements

8 After 6 by 24 Hours to 48 Hours  
Sequence Observations 5, 6, 7, Non-interruptible  
Aperture PA Offset 6 from 3 by 10 to 11 Degrees (Same offsets in V3)

Proposal 7612 - Observation 7 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 7: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: (4) switch to opaque filter by taking at dark so that when we slew to the Procyon field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 7)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>	<b>Test Pattern</b>				<b>Imager Subarray</b>				
	IMAGER	NONE				FULL				
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>Sequence Observations 5, 6, 7, Non-interruptible</p>									

Proposal 7612 - Observation 8 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 8: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: switch to opaque filter by taking at dark so that when we slew to the Sirius field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 8)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 8:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>		<b>Test Pattern</b>				<b>Imager Subarray</b>			
	IMAGER		NONE				FULL			
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>8 After 6 by 24 Hours to 48 Hours</p> <p>Sequence Observations 8, 9, 10, Non-interruptible</p>									

Proposal 7612 - Observation 9 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<b>Proposal 7612, Observation 9: Sirius Science Data Roll 1</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Imaging <i>Comments: Conduct science imaging on Sirius for "roll 1" starting at the longest filter (F2550W) where Sirius A saturates the least, and moving to the shortest filter where it saturates the most (F1130W) to minimize streaking as A slews across the detector. Sirius B is nearly northeast of Sirius A (PA = 56.6 degrees). The dither pattern is set to sweep in from south to north, winding west to east, then back east to west snaking our way north. Brightsky subarray must be used or B falls off the detector at some dither positions.</i>																																																																												
	(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Sirius Science Data Roll 1 (Obs 9)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.																																																																												
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Proposal 7612 - Observation 9 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Special Requirements

Aperture PA Range 95 to 99 Degrees (V3 90.16455103 to 94.16455103)

11 After 9 by 24 Hours to 48 Hours

Sequence Observations 8, 9, 10, Non-interruptible

Aperture PA Offset 12 from 9 by 10 to 11 Degrees (Same offsets in V3)

Proposal 7612 - Observation 10 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 10: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: switch to opaque filter by taking at dark so that when we slew to the Sirius field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 10)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 10:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>		<b>Test Pattern</b>				<b>Imager Subarray</b>			
	IMAGER		NONE				FULL			
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>Sequence Observations 8, 9, 10, Non-interruptible</p>									

Proposal 7612 - Observation 11 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 11: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: switch to opaque filter by taking at dark so that when we slew to the Sirius field of view there is no persistence streaks from initial slew</i></p>																													
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 11)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>																													
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1	IMAGER		FASTR1	10	1	1	1	27.75																						
<b>Special Requirements</b>	<p>11 After 9 by 24 Hours to 48 Hours</p> <p>Sequence Observations 11, 12, 13, Non-interruptible</p>																													

Proposal 7612 - Observation 12 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<b>Proposal 7612, Observation 12: Sirius Science Data Roll 2</b> <b>Diagnostic Status: Warning</b> Observing Template: MIRI Imaging <i>Comments: Roll 2 science</i>																																																																											
	(Visit 12:1) Warning (Form): Overheads are provisional until the Visit Planner has been run. (Sirius Science Data Roll 2 (Obs 12)) Informational (Form): The Visit Planner and Spike may produce different schedulability results.																																																																											
<b>Diagnosics</b>																																																																												
<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>-alf-CMa</td> <td>RA: 06 45 8.9173 (101.2871554d) Dec: -16 42 58.02 (-16.71612d) Equinox: J2000</td> <td>Proper Motion RA: -546.01 mas/yr Proper Motion Dec: -1223.0699999918215 mas/yr Parallax: 0.37921" Epoch of Position: 2000</td> <td></td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous	(1)	-alf-CMa	RA: 06 45 8.9173 (101.2871554d) Dec: -16 42 58.02 (-16.71612d) Equinox: J2000	Proper Motion RA: -546.01 mas/yr Proper Motion Dec: -1223.0699999918215 mas/yr Parallax: 0.37921" Epoch of Position: 2000		<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>  <i>SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM.</i> Category=Star Description=[White dwarfs]																																																																
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Proposal 7612 - Observation 12 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Special Requirements

Sequence Observations 11, 12, 13, Non-interruptible  
Aperture PA Offset 12 from 9 by 10 to 11 Degrees (Same offsets in V3)

Proposal 7612 - Observation 13 - We can directly image super-Earth-sized planets near the habitable zone of Sirius B with JWST/MIRI

Tue Mar 10 18:05:00 GMT 2026

<b>Observation</b>	<p><b>Proposal 7612, Observation 13: Switch to Opaque filter for slew</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Observing Template: MIRI Dark</p> <p><i>Comments: switch to opaque filter by taking at dark so that when we slew to the Sirius field of view there is no persistence streaks from initial slew</i></p>									
<b>Diagnostics</b>	<p>(Switch to Opaque filter for slew (Obs 13)) Warning (Form): PARALLEL requirement expected.</p> <p>(Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.</p>									
<b>Template</b>	<b>Detector</b>		<b>Test Pattern</b>				<b>Imager Subarray</b>			
	IMAGER		NONE				FULL			
<b>Spectral Elements</b>	<b>#</b>	<b>Detector</b>	<b>MRS Subarray</b>	<b>Readout Pattern</b>	<b>Groups/Int</b>	<b>Integrations/Exp</b>	<b>Exposures/Dith</b>	<b>Total Integrations</b>	<b>Total Exposure Time</b>	<b>Optional ETC ID</b>
	1	IMAGER		FASTR1	10	1	1	1	27.75	
<b>Special Requirements</b>	<p>Sequence Observations 11, 12, 13, Non-interruptible</p>									