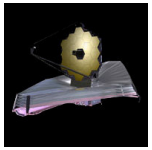

6540 - MIRI Coronagraphy Offset TA test

Cycle: 2, Proposal Category: CAL/MIRI

INVESTIGATORS

Name	*Institution*
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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
Offset TA tests				
	1	Target A and slew to B	MIRI Coronagraphic Imaging	(1) HD167855A
	2	Target B and slew to A	MIRI Coronagraphic Imaging	(2) HD167855B
	3	Target A and slew to B	MIRI Coronagraphic Imaging	(1) HD167855A
	4	Target B and slew to A	MIRI Coronagraphic Imaging	(2) HD167855B

ABSTRACT

This program performs a simple test of offset target acquisition in MIRI coronagraphic imaging mode. We will target the equal-mass binary pair HD 167855 A/B in the CVZ, which has a separation of about 4.4 arcsec and shows no evidence of orbital motion in its 100+ year history of observations. We will perform offset TA on each pair of the binary; targeting one before slewing to the other. This sequences will be used to test if the offset TA slew calculations performed in the tools provided by the MIRI Coronagraphic Imaging Mode team are correct in direction and magnitude.

Since the offsets are input in the detector coordinate frame, they depend on how the V3 position angle of the telescope orients the detector with respect to the sky. The offsets will therefore need to be updated once the program has been scheduled and the V3PA is known.

This calibration program may change in response to system developments and the final Cycle 2 science program.

OBSERVING DESCRIPTION

Observations 1 and 2 will perform TA on one member of the HD 167855 binary before slewing to the other. Observation 1 targets the A component, and Observation 2 targets the B component.

The offsets depend on the V3 angle of the telescope at the observation date, and so will have to be updated once an observation time is set.

This program must occur before the repeat observations for JWST-GO-1618 are executed on March 17, 2024. Additionally, we need to make sure that the telescope V3PA will not align the binaries with the 4QPM quadrant boundaries. Using the JWST Coronagraphy Visibility Tool, this excludes the following windows:

- Feb 19 – Mar 2
- Nov 24 – Dec 5

Two other windows are also excluded that occur after the scheduled JWST-GO-1618 execution date:

- Aug 24 – Aug 31
- May 24 – Jun 8

Proposal 6540 - Targets - MIRI Coronagraphy Offset TA test

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	HD167855A	RA: 18 11 15.2709 (272.8136288d) Dec: +69 15 0.27 (69.25007d) Equinox: J2000	Proper Motion RA: 10.7067 mas/yr Proper Motion Dec: 30.4788 mas/yr Parallax: 0.0082679" Epoch of Position: 2016.0	
Comments: *Category=Calibration* *Description=[Binary stars, G stars]* *Extended=NO*				
(2)	HD167855B	RA: 18 11 14.9161 (272.8121504d) Dec: +69 14 56.34 (69.24898d) Equinox: J2000	Proper Motion RA: 9.4049 mas/yr Proper Motion Dec: 30.9726 mas/yr Parallax: 0.0082638" Epoch of Position: 2016.0	
Comments: *Category=Calibration* *Description=[Binary stars, G stars]* *Extended=NO*				

Observation

Proposal 6540, Observation 1: Target A and slew to B

Thu Apr 04 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Coronagraphic Imaging

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)	HD167855A	RA: 18 11 15.2709 (272.8136288d) Dec: +69 15 0.27 (69.25007d) Equinox: J2000	Proper Motion RA: 10.7067 mas/yr Proper Motion Dec: 30.4788 mas/yr Parallax: 0.0082679" Epoch of Position: 2016.0	

Comments:
Category=Calibration
Description=[Binary stars, G stars]
Extended=NO

Acquisition

#	Target	Filter	Quadrant	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	FND	1	FAST	6	1	1	1.438	151207

Template

Repeat observation
NO

Dithers

#	Dither Type
1	NONE

Spectral Elements

#	Coron Mask/Filter	Subarray	Mask	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4QPM/F1550C	MASK1550	4QPM	F1550C	FASTR1	100	10	1	1	10	241.837	151207

PSF References	PSF Reference: true
Special Requirements	Between Dates 25-OCT-2023:00:00:00 and 23-NOV-2023:00:00:00 Between Dates 06-DEC-2023:00:00:00 and 18-FEB-2024:00:00:00 Offset -3.803 arcsec, 2.124 arcsec No Parallel Attachments Group Observations 1, 2, Non-interruptible

Observation

Proposal 6540, Observation 2: Target B and slew to A

Thu Apr 04 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Coronagraphic Imaging

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)	HD167855B	RA: 18 11 14.9161 (272.8121504d) Dec: +69 14 56.34 (69.24898d) Equinox: J2000	Proper Motion RA: 9.4049 mas/yr Proper Motion Dec: 30.9726 mas/yr Parallax: 0.0082638" Epoch of Position: 2016.0	

Comments:
Category=Calibration
Description=[Binary stars, G stars]
Extended=NO

Acquisition

#	Target	Filter	Quadrant	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	FND	1	FAST	6	1	1	1.438	151207

Template

Repeat observation
NO

Dithers

#	Dither Type
1	NONE

Spectral Elements

#	Coron Mask/Filter	Subarray	Mask	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4QPM/F1550C	MASK1550	4QPM	F1550C	FASTR1	100	10	1	1	10	241.837	151207

PSF References	PSF Reference: true
Special Requirements	Between Dates 25-OCT-2023:00:00:00 and 23-NOV-2023:00:00:00 Between Dates 06-DEC-2023:00:00:00 and 18-FEB-2024:00:00:00 Offset 3.803 arcsec, -2.124 arcsec No Parallel Attachments Group Observations 1, 2, Non-interruptible

Observation

Proposal 6540, Observation 3: Target A and slew to B

Thu Apr 04 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Coronagraphic Imaging

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)	HD167855A	RA: 18 11 15.2709 (272.8136288d) Dec: +69 15 0.27 (69.25007d) Equinox: J2000	Proper Motion RA: 10.7067 mas/yr Proper Motion Dec: 30.4788 mas/yr Parallax: 0.0082679" Epoch of Position: 2016.0	

Comments:
Category=Calibration
Description=[Binary stars, G stars]
Extended=NO

Acquisition

#	Target	Filter	Quadrant	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1000W	1	FAST	6	1	1	1.438	151207

Template

Repeat observation
NO

Dithers

#	Dither Type
1	NONE

Spectral Elements

#	Coron Mask/Filter	Subarray	Mask	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4QPM/F1550C	MASK1550	4QPM	F1550C	FASTR1	100	10	1	1	10	241.837	151207

PSF References	PSF Reference: true
Special Requirements	Before Date 15-MAY-2024:00:00:00 Offset -2.618279 arcsec, -3.482228 arcsec No Parallel Attachments Group Observations 3, 4, Non-interruptible

Observation

Proposal 6540, Observation 4: Target B and slew to A

Thu Apr 04 22:00:10 GMT 2024

Diagnostic Status: Warning

Observing Template: MIRI Coronagraphic 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)	HD167855B	RA: 18 11 14.9161 (272.8121504d) Dec: +69 14 56.34 (69.24898d) Equinox: J2000	Proper Motion RA: 9.4049 mas/yr Proper Motion Dec: 30.9726 mas/yr Parallax: 0.0082638" Epoch of Position: 2016.0	

Comments:
Category=Calibration
Description=[Binary stars, G stars]
Extended=NO

Acquisition

#	Target	Filter	Quadrant	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F1000W	1	FAST	6	1	1	1.438	151207

Template

Repeat observation
NO

Dithers

#	Dither Type
1	NONE

Spectral Elements

#	Coron Mask/Filter	Subarray	Mask	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4QPM/F1550C	MASK1550	4QPM	F1550C	FASTR1	100	10	1	1	10	241.837	151207

PSF References	PSF Reference: true
Special Requirements	Offset 2.618364 arcsec, 3.482164 arcsec No Parallel Attachments Group Observations 3, 4, Non-interruptible