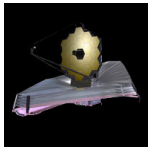

3989 - Spotting the Perturbers: A Coronagraphic Survey of Debris Disk Stars with Proper Motion Anomalies

Cycle: 2, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
HD 21997				
	1	HD 21997	NIRCam Coronagraphic Imaging	(1) HD21997
	2	HD 25945	NIRCam Coronagraphic Imaging	(2) HD25945
HD 92945				
	3	HD 92945	NIRCam Coronagraphic Imaging	(3) HD92945
	4	HD 92921	NIRCam Coronagraphic Imaging	(4) HD92921
HD 202628				
	5	HD 202628	NIRCam Coronagraphic Imaging	(5) HD202628
	6	HD 190580	NIRCam Coronagraphic Imaging	(6) HD190580
HD 195627				
	7	HD 195627	NIRCam Coronagraphic Imaging	(7) HD195627

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
	8	HD 197051	NIRCam Coronagraphic Imaging	(8) HD197051
HD 109085 (eta Crv)				
	9	HD 109085	NIRCam Coronagraphic Imaging	(9) HD109085
	10	HD 114642	NIRCam Coronagraphic Imaging	(10) HD114642
	109	HD 109085	NIRCam Coronagraphic Imaging	(9) HD109085
	110	HD 114642	NIRCam Coronagraphic Imaging	(10) HD114642
HD 164249				
	11	HD 164249	NIRCam Coronagraphic Imaging	(11) HD164249
	12	HD 161915	NIRCam Coronagraphic Imaging	(12) HD161915
HD 113337				
	13	HD 113337	NIRCam Coronagraphic Imaging	(13) HD113337
	14	HD 125161	NIRCam Coronagraphic Imaging	(14) HD125161

ABSTRACT

Using the NIRCam MASK335R coronagraph operating at 2.1 and 4.44 mcirons, we will directly image the massive planets that are responsible for inducing significant Proper Motion anomalies in a set of seven nearby star systems. Our program distingushes itself from other JWST coronagraphic programs, as each of these systems possess a circumstellar debris disk that has been well-characterized by Herschel, ALMA or scattered light imaging in some cases. These resolved images of the debris disks give clear geometric information about the geometry of the system, which in turn tightly constrain the allowable masses and semi-major axis parameter space for any dynamical perturbers. Our detections of planetary mass companions will thus immediately provide their physical separation (in AU), and (crucially) their dynamical mass. The infrared photometry of these companions, combined with their dynamical masses, will put extremely powerful constraints on evolutionary models of exoplanet atmospheres as well as reveal important information about the early thermal histories of planetary mass companions.

OBSERVING DESCRIPTION

We will carry out NIRCam coronagraphy on a sample of seven nearby systems that show evidence for significant common Proper Motion anomalies (PMa) indicative of massive perturbers in these systems. These systems as have well-characterized circumstellar debris disks allowing us to derive the orbital geometry of the system, and therefore assign a dynamical mass and orbital separation for any of the planetary mass companions in this system.

We will use the NIRCam MASK335R coronagraph operating in the F200W and F444W filters to maximize our sensitivity to these planetary

perturbers, as well as identify contaminants in the field of view. We have carefully selected reference PSF stars that show evidence that they are single stars, and are significantly brighter than the targets, allowing us to obtain a set of nine-point small grid dither observations for each science observation in a reasonable amount of integration time.

We have crafted our observing plan by scrutinizing the recommendations of the exoplanet direct imaging Early Release Scicence Program 1386, and carefully implemented these recommendations into our program. All of our observations will be sensitive to the planetary perturbers that are inducing the PMa's in these systems. The multi-wavelegth photometry delivered by NIRCam, when combined with the dynamical mass that we derive, will be extremely powerful for constraining evolutionary models of exoplanet atmospheres, as well as placing essential constraints on the early thermal histories of planets.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	HD21997	RA: 03 31 53.7089 (52.9737871d) Dec: -25 36 51.17 (-25.61421d) Equinox: J2000	Proper Motion RA: 0.003992198789777471 sec of time/yr Proper Motion Dec: -0.01494200009801716 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[A stars]* *Extended=NO*				
(2)	HD25945	RA: 04 05 37.4360 (61.4059833d) Dec: -27 39 6.51 (-27.65181d) Equinox: J2000	Proper Motion RA: 200.528 mas/yr Proper Motion Dec: 94.014 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[F stars]* *Extended=NO*				
(3)	HD92945	RA: 10 43 28.0168 (160.8667367d) Dec: -29 03 52.21 (-29.06450d) Equinox: J2000	Proper Motion RA: -0.01643523356445491 sec of time/yr Proper Motion Dec: -0.04989200006093597 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[K stars]* *Extended=NO*				
(4)	HD92921	RA: 10 43 20.1722 (160.8340508d) Dec: -27 17 54.23 (-27.29840d) Equinox: J2000	Proper Motion RA: -68.145 mas/yr Proper Motion Dec: 0.705 mas/yr Parallax: 0.0012801" Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *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.* *Category=Star* *Description=[K dwarfs]* *Extended=NO*				
(5)	HD202628	RA: 21 18 27.6134 (319.6150558d) Dec: -43 20 4.41 (-43.33456d) Equinox: J2000	Proper Motion RA: 0.0221786867500777 sec of time/yr Proper Motion Dec: 0.021425 arcsec/yr Epoch of Position: 2015.5	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[G stars]*				
(6)	HD190580	RA: 20 08 9.5495 (302.0397896d) Dec: -52 34 40.06 (-52.57779d) Equinox: J2000	Proper Motion RA: -23.691 mas/yr Proper Motion Dec: -19.603999908213154 mas/yr Parallax: 0.018341" Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *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.* *Category=Star* *Description=[G stars]*				

(7)	HD195627	RA: 20 35 34.9972 (308.8958217d) Dec: -60 34 57.18 (-60.58255d) Equinox: J2000	Proper Motion RA: 0.009489196725038195 sec of time/yr Proper Motion Dec: -0.1858609999089822 arcsec/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

(8)	HD197051	RA: 20 44 57.3847 (311.2391029d) Dec: -66 12 11.42 (-66.20317d) Equinox: J2000	Proper Motion RA: -0.00705007277105242 sec of time/yr Proper Motion Dec: 0.00994 arcsec/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[A stars]
Extended=NO

(9)	HD109085	RA: 12 32 3.7695 (188.0157062d) Dec: -16 11 46.52 (-16.19626d) Equinox: J2000	Proper Motion RA: -0.029476325590598505 sec of time/yr Proper Motion Dec: -0.05824099996516452 arcsec/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

(10)	HD114642	RA: 13 12 3.5432 (198.0147633d) Dec: -16 11 54.97 (-16.19860d) Equinox: J2000	Proper Motion RA: 97.167 mas/yr Proper Motion Dec: -288.0660000073476 mas/yr Parallax: 0.0299003" Epoch of Position: 2000

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

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.
Category=Star
Description=[F stars]
Extended=NO

(11)	HD164249	RA: 18 03 3.4136 (270.7642233d) Dec: -51 38 57.77 (-51.64938d) Equinox: J2000	Proper Motion RA: 2.503469968986427E-4 sec of time/yr Proper Motion Dec: -0.08623100006843742 arcsec/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

(12)	HD161915	RA: 17 50 58.4200 (267.7434167d) Dec: -50 17 27.26 (-50.29091d) Equinox: J2000	Proper Motion RA: -0.365 mas/yr Proper Motion Dec: -0.923 mas/yr Epoch of Position: 2015.5

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[M dwarfs]
Extended=NO

	(13)	HD113337	RA: 13 01 46.5239 (195.4438496d) Dec: +63 36 37.18 (63.61033d) Equinox: J2000	Proper Motion RA: -0.025999587800551265 sec of time/yr Proper Motion Dec: 0.02485 arcsec/yr Epoch of Position: 2015.5
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[F stars]* *Extended=NO*			
	(14)	HD125161	RA: 14 16 9.9298 (214.0413742d) Dec: +51 22 2.03 (51.36723d) Equinox: J2000	Proper Motion RA: -149.277 mas/yr Proper Motion Dec: 89.135 mas/yr Epoch of Position: 2000
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[A stars]*			

Observation

Proposal 3989, Observation 1: HD 21997

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 21997 (Obs 1)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD21997	RA: 03 31 53.7089 (52.9737871d) Dec: -25 36 51.17 (-25.61421d) Equinox: J2000	Proper Motion RA: 0.003992198789777471 sec of time/yr Proper Motion Dec: -0.01494200009801716 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[A stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	1 HD21997	F335M	FAINT	RAPID	5	1	1	0.304	180467

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	18	5	1	5	1865.577	180467

PSF References	HD 25945 (Obs 2) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, 0.002 arcsec No Parallel Attachments Group Observations 1, 2, Non-interruptible

Observation

Proposal 3989, Observation 2: HD 25945

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam 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)	HD25945	RA: 04 05 37.4360 (61.4059833d)	Proper Motion RA: 200.528 mas/yr	
		Dec: -27 39 6.51 (-27.65181d)	Proper Motion Dec: 94.014 mas/yr	
		Equinox: J2000	Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	2 HD25945	F335M	BRIGHT (ND Square)	SHALLOW4	65	1	1	16.305	180467

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	9-POINT-CIRCLE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	4	7	9	63	4648.407	180467

PSF References	PSF Reference: true
Special Requirements	Offset -0.01 arcsec, 0.006 arcsec No Parallel Attachments Group Observations 1, 2, Non-interruptible

Observation

Proposal 3989, Observation 3: HD 92945

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 92945 (Obs 3)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD92945	RA: 10 43 28.0168 (160.8667367d) Dec: -29 03 52.21 (-29.06450d) Equinox: J2000	Proper Motion RA: -0.01643523356445491 sec of time/yr Proper Motion Dec: -0.04989200006093597 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[K stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	3 HD92945	F335M	BRIGHT (ND Square)	DEEP8	65	1	1	64.659	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	18	5	1	5	1865.577	198036

PSF References	HD 92921 (Obs 4) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 3, 4, Non-interruptible

Observation

Proposal 3989, Observation 4: HD 92921

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam 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
(4)	HD92921	RA: 10 43 20.1722 (160.8340508d)	Proper Motion RA: -68.145 mas/yr	
		Dec: -27 17 54.23 (-27.29840d)	Proper Motion Dec: 0.705 mas/yr	
		Equinox: J2000	Parallax: 0.0012801"	
			Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

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.
Category=Star
Description=[K dwarfs]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	4 HD92921	F335M	BRIGHT (ND Square)	MEDIUM8	65	1	1	32.556	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	5-POINT-BOX

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	8	4	5	20	3186.149	198036

PSF References	PSF Reference: true
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 3, 4, Non-interruptible

Observation

Proposal 3989, Observation 5: HD 202628

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 202628 (Obs 5)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD202628	RA: 21 18 27.6134 (319.6150558d) Dec: -43 20 4.41 (-43.33456d) Equinox: J2000	Proper Motion RA: 0.0221786867500777 sec of time/yr Proper Motion Dec: 0.021425 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[G stars]

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	5 HD202628	F335M	BRIGHT (ND Square)	DEEP8	65	1	1	64.659	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	10	9	1	9	1818.621	198036

PSF References	HD 190580 (Obs 6) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 5, 6, Non-interruptible

Observation

Proposal 3989, Observation 6: HD 190580

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic 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
(6)	HD190580	RA: 20 08 9.5495 (302.0397896d)	Proper Motion RA: -23.691 mas/yr	
		Dec: -52 34 40.06 (-52.57779d)	Proper Motion Dec: -19.603999908213154 mas/yr	
		Equinox: J2000	Parallax: 0.018341"	
			Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

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.
Category=Star
Description=[G stars]

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	6 HD190580	F335M	BRIGHT (ND Square)	MEDIUM8	65	1	1	32.556	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	5-POINT-BOX

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	7	9	5	45	6206.699	198036

PSF References	PSF Reference: true
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 5, 6, Non-interruptible

Observation

Proposal 3989, Observation 7: HD 195627

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 195627 (Obs 7)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD195627	RA: 20 35 34.9972 (308.8958217d) Dec: -60 34 57.18 (-60.58255d) Equinox: J2000	Proper Motion RA: 0.009489196725038195 sec of time/yr Proper Motion Dec: -0.1858609999089822 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	7 HD195627	F335M	BRIGHT (ND Square)	RAPID	65	1	1	3.313	147305

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	5	18	1	18	1712.971	147305

PSF References	HD 197051 (Obs 8) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.01 arcsec, 0.006 arcsec No Parallel Attachments Group Observations 7, 8, Non-interruptible

Observation

Proposal 3989, Observation 8: HD 197051

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(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)	HD197051	RA: 20 44 57.3847 (311.2391029d) Dec: -66 12 11.42 (-66.20317d) Equinox: J2000	Proper Motion RA: -0.00705007277105242 sec of time/yr Proper Motion Dec: 0.00994 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[A stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	8 HD197051	F335M	BRIGHT (ND Square)	RAPID	65	1	1	3.313	147305

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	9-POINT-CIRCLE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	SHALLOW4	6	18	9	162	5198.852	147305

PSF References	PSF Reference: true
Special Requirements	Offset -0.01 arcsec, 0.006 arcsec No Parallel Attachments Group Observations 7, 8, Non-interruptible

Observation

Proposal 3989, Observation 9: HD 109085

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 109085 (Obs 9)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD109085	RA: 12 32 3.7695 (188.0157062d) Dec: -16 11 46.52 (-16.19626d) Equinox: J2000	Proper Motion RA: -0.029476325590598505 sec of time/yr Proper Motion Dec: -0.05824099996516452 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F335M	BRIGHT (ND Square)	SHALLOW4	33	1	1	8.279	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	SHALLOW4	9	35	1	35	1684.455	198036

PSF References	HD 114642 (Obs 10) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 9, 10, Non-interruptible

Observation

Proposal 3989, Observation 10: HD 114642

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

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)	HD114642	RA: 13 12 3.5432 (198.0147633d)	Proper Motion RA: 97.167 mas/yr	
		Dec: -16 11 54.97 (-16.19860d)	Proper Motion Dec: -288.0660000073476 mas/yr	
		Equinox: J2000	Parallax: 0.0299003"	
			Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

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.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	10 HD114642	F335M	BRIGHT (ND Square)	SHALLOW4	65	1	1	16.305	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	5-POINT-BOX

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	MEDIUM8	8	18	5	90	7602.718	198036

PSF References	PSF Reference: true
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments Group Observations 9, 10, Non-interruptible

Observation

Proposal 3989, Observation 109: HD 109085

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Comments: Repeat of failed observation 9.

Diagnostics

(HD 109085 (Obs 109)) Warning (Form): Coronagraphic Science and PSF Reference observations should be executed contiguously via a Group/Sequence Observations Link.

(HD 109085 (Obs 109)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(Visit 109:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(9)	HD109085	RA: 12 32 3.7695 (188.0157062d) Dec: -16 11 46.52 (-16.19626d) Equinox: J2000	Proper Motion RA: -0.029476325590598505 sec of time/yr Proper Motion Dec: -0.05824099996516452 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	F335M	BRIGHT (ND Square)	SHALLOW4	33	1	1	8.279	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	SHALLOW4	9	35	1	35	1684.455	198036

PSF References	HD 114642 (Obs 10) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments

Observation

Proposal 3989, Observation 110: HD 114642

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Comments: Repeat of failed observation 10.

Diagnostics

(Visit 110:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(10)	HD114642	RA: 13 12 3.5432 (198.0147633d)	Proper Motion RA: 97.167 mas/yr	
		Dec: -16 11 54.97 (-16.19860d)	Proper Motion Dec: -288.0660000073476 mas/yr	
		Equinox: J2000	Parallax: 0.0299003"	
			Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

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.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	10 HD114642	F335M	BRIGHT (ND Square)	SHALLOW4	65	1	1	16.305	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	5-POINT-BOX

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	MEDIUM8	8	18	5	90	7602.718	198036

PSF References	PSF Reference: true
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments

Observation

Proposal 3989, Observation 11: HD 164249

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 164249 (Obs 11)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD164249	RA: 18 03 3.4136 (270.7642233d) Dec: -51 38 57.77 (-51.64938d) Equinox: J2000	Proper Motion RA: 2.503469968986427E-4 sec of time/yr Proper Motion Dec: -0.08623100006843742 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	11 HD164249	F335M	FAINT	RAPID	3	1	1	0.203	147305

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	20	4	1	4	1663.508	147305

PSF References	HD 161915 (Obs 12) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	Offset -0.006 arcsec, 0.002 arcsec No Parallel Attachments On Hold Need to confirm suitability of PSF reference star Group Observations 11, 12, Non-interruptible

Observation

Proposal 3989, Observation 12: HD 161915 Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Comments: We have replaced our original PSF calibrator target (HD161708) with a new one (HD 161915) that has been vetted for contaminating point sources in the field of view.

Diagnostics

(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)	HD161915	RA: 17 50 58.4200 (267.7434167d)	Proper Motion RA: -0.365 mas/yr	
		Dec: -50 17 27.26 (-50.29091d)	Proper Motion Dec: -0.923 mas/yr	
		Equinox: J2000	Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[M dwarfs]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	12 HD161915	F335M	BRIGHT (ND Square)	RAPID	65	1	1	3.313	159628

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	9-POINT-CIRCLE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	SHALLOW4	5	8	9	72	1925.747	159628

PSF References	PSF Reference: true
Special Requirements	Offset -0.01 arcsec, 0.006 arcsec No Parallel Attachments On Hold Need to confirm suitability of PSF reference star Group Observations 11, 12, Non-interruptible

Observation

Proposal 3989, Observation 13: HD 113337

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

Diagnostics

(HD 113337 (Obs 13)) Warning (Form): Science observations should be linked to at least one other compatible science observation by an Aperture PA Offset of 1-14 degrees

(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)	HD113337	RA: 13 01 46.5239 (195.4438496d) Dec: +63 36 37.18 (63.61033d) Equinox: J2000	Proper Motion RA: -0.025999587800551265 sec of time/yr Proper Motion Dec: 0.02485 arcsec/yr Epoch of Position: 2015.5	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[F stars]
Extended=NO

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	13 HD113337	F335M	BRIGHT (ND Square)	DEEP2	65	1	1	64.358	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	NONE

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	DEEP8	10	9	1	9	1818.621	198036

PSF References	HD 125161 (Obs 14) (PSF Reference; Filters [F200W/F444W]) Additional Justification: false
Special Requirements	After Date 01-APR-2024:00:00:00 Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments On Hold waiting confirmation the TA offsets that were implemented in OSS 9.2 Group Observations 13, 14, Non-interruptible

Observation

Proposal 3989, Observation 14: HD 125161

Fri Jul 19 17:00:11 GMT 2024

Diagnostic Status: Warning

Observing Template: NIRCam Coronagraphic Imaging

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)	HD125161	RA: 14 16 9.9298 (214.0413742d)	Proper Motion RA: -149.277 mas/yr	
		Dec: +51 22 2.03 (51.36723d)	Proper Motion Dec: 89.135 mas/yr	
		Equinox: J2000	Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[A stars]

Acquisition

#	Target	Filter	Target Brightness	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	14 HD125161	F335M	BRIGHT (ND Square)	SHALLOW4	65	1	1	16.305	198036

Template

Module	Coronagraphic Mask	Obtain Astrometric Confirmation Images?	Subarray	Dither Pattern
A	MASK335R	true	SUB320A335R	5-POINT-BOX

Confirmation

#	Conf. Readout Pattern	Conf. Groups/Int	Conf. Integrations/Exp	Conf. Total Integrations	Conf. Total Exposure Time	Conf. Total Dithers
1	RAPID	3	1	1	32.21	1

Spectral Elements

#	Short Filter	Long Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	F200W	F444W	MEDIUM8	8	10	5	50	4223.732	198036

PSF References	PSF Reference: true
Special Requirements	Offset -0.006 arcsec, -0.012 arcsec No Parallel Attachments On Hold waiting confirmation the TA offsets that were implemented in OSS 9.2 Group Observations 13, 14, Non-interruptible