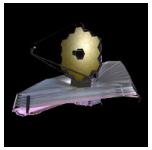

4542 - NIRSpec IFU on free floating analogs

Cycle: 3, Proposal Category: GTO

INVESTIGATORS

Name	*Institution*
Prof. Michael R. Meyer (PI)	**University of Michigan**
Dr. Per Calissendorff (CoI)	University of Michigan
Dr. Marcia J. Rieke (CoI)	University of Arizona

OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
ABD analog				
	1	J1324	NIRSpec IFU Spectroscopy	(1) 2MASS-J13243553+6358281
Sco-Cen analog				
	2	J1609	NIRSpec IFU Spectroscopy	(2) LHJ2007-J160918.69-222923.7

ABSTRACT

We aim to obtain NIRSpec/IFU observations of free floating planetary mass objects in young moving group associations to serve as analogs for directly imaged planetary mass companions in the same groups and associations. The observations will allow us to make direct comparisons between objects of the same age, mass and effective temperature, but which may have formed through varying formation mechanisms and experienced different evolution. The observed objects will serve as important benchmarks for characterizing directly imaged exoplanets.

OBSERVING DESCRIPTION

We have selected two free floating analogs to directly imaged gaseous planets in the AB Dor moving group and Upper-Scorpius region. The observevations are adjusted to have similar sensitivty and signal to noise as their corresponding exoplanet-counterpart.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(1)	2MASS-J13243553+6358281	RA: 13 24 34.6274 (201.1442808d) Dec: +63 58 27.03 (63.97418d) Equinox: J2000	Proper Motion RA: -364.4 mas/yr Proper Motion Dec: -72.4 mas/yr Parallax: 0.0997" Epoch of Position: 2016.4	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Target ICRS Coordinates, Proper motions and Annual Parallax were updated based on paper by Kirkpatrick et al. (2021) using Spitzer data at epoch=2016.4 and equinox=J2000.0.* *Category=Star* *Description=[Brown dwarfs, T dwarfs]*				
(2)	LHJ2007-J160918.69-222923.7	RA: 16 09 18.6792 (242.3278300d) Dec: -22 29 23.84 (-22.48996d) Equinox: J2000	Proper Motion RA: 1.8499999999999999 mas/yr Proper Motion Dec: -1.4500000816042302 mas/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Brown dwarfs, L dwarfs]*				

Observation

Proposal 4542, Observation 1: J1324

Fri Jan 24 01:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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)	2MASS-J13243553+6358281	RA: 13 24 34.6274 (201.1442808d)	Proper Motion RA: -364.4 mas/yr	
		Dec: +63 58 27.03 (63.97418d)	Proper Motion Dec: -72.4 mas/yr	
		Equinox: J2000	Parallax: 0.0997"	
			Epoch of Position: 2016.4	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Target ICRS Coordinates, Proper motions and Annual Parallax were updated based on paper by Kirkpatrick et al. (2021) using Spitzer data at epoch=2016.4 and equinox=J2000.0.
Category=Star
Description=[Brown dwarfs, T dwarfs]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	CLEAR	NRSRAPIDD6	3	1	1	0.26	157566

Template

HFF Readout Mode
false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	SMALL	1	10	

Spectral Elements

#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G395H/F290LP	NRSIRS2RAPID	5	1	false	true	NONE	10	10	875.333	

Observation

Proposal 4542, Observation 2: J1609 Fri Jan 24 01:00:10 GMT 2025

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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)	LHJ2007-J160918.69-222923.7	RA: 16 09 18.6792 (242.3278300d) Dec: -22 29 23.84 (-22.48996d) Equinox: J2000	Proper Motion RA: 1.8499999999999999 mas/yr Proper Motion Dec: -1.4500000816042302 mas/yr Epoch of Position: 2000	

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=Star
Description=[Brown dwarfs, L dwarfs]

Acquisition

#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SAME	WATA	SUB32	CLEAR	NRSRAPIDD6	3	1	1	0.26	157566

Template

HFF Readout Mode
false

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	CYCLING	SMALL	1	10	

Spectral Elements

#	Grating/Filter	Readout Pattern	Groups/Int	Integrations/Exp	Leakcal	Dither	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	G395H/F290LP	NRSIRS2RAPID	8	1	false	true	NONE	10	10	1313.0	