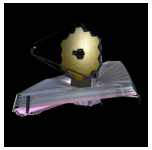

1906 - NAOMY-J: NIR-dark Accretion Outbursts from Massive Young stellar objects with JWST

Cycle: 1, Proposal Category: GO

INVESTIGATORS

Name	*Institution*
Dr. Alessio Caratti o Garatti (PI) (ESA Member)	**INAF - Osservatorio Astronomico di Capodimonte (OAC)**
Dr. Jochen Eisloeffel (CoI) (ESA Member) (CoPI)	Thuringer Landessternwarte Tautenburg (TLS)
Dr. Bringfried Stecklum (CoI) (ESA Member) (CoPI)	Thuringer Landessternwarte Tautenburg (TLS)
Dr. Henrik Beuther (CoI) (ESA Member)	Max Planck Institute for Astronomy
Dr. Joel David Green (CoI) (US Admin CoI)	Space Telescope Science Institute
Dr. Todd Hunter (CoI)	Associated Universities, Inc.
Dr. Crystal Brogan (CoI)	Associated Universities, Inc.
Dr. Pamela Klaassen (CoI) (ESA Member)	United Kingdom Astronomy Technology Centre
Dr. Hendrik Linz (CoI) (ESA Member)	Max Planck Institute for Astronomy
Olga Bayandina (CoI) (ESA Member)	INAF - Osservatorio Astrofisico di Arcetri
Dr. Mizuho Uchiyama (CoI)	ISAS, Japan Aerospace Exploration Agency
Mr. Dmitry Antonovich Ladeyschikov (CoI)	Ural Federal University
Dr. Dominique M.-A. Meyer (CoI) (ESA Member)	Universitat Potsdam
Anastasia Bisyarina (CoI)	Ural Federal University
Eduard Vorobyov (CoI) (ESA Member)	University of Vienna
Rodrigo Guadarrama (CoI) (ESA Member)	University of Vienna
Dr. Alberto Sanna (CoI) (ESA Member)	INAF, Osservatorio Astronomico di Cagliari
Dr. Gordon C. MacLeod (CoI)	SARAO Hartebeesthoek Radio Astronomy Observatory
Andrey Mikhailovich Sobolev (CoI)	Ural Federal University
Dr. Tom Megeath (CoI)	University of Toledo
Dr. Ross Alexander Burns (CoI)	National Astronomical Observatory of Japan (NAOJ)

OBSERVATIONS

Folder	*Observation*	*Label*	*Observing Template*	*Science Target*
MYSO-OUTBURST-1st-epoch				
	1	NIRSPEC-MYSO-OUTBURST-1st-epoch	NIRSpec IFU Spectroscopy	(3) IRAS-18134-1942
	2	MIRI-MRS-MYSO-OUTBURST-1st-epoch	MIRI Medium Resolution Spectroscopy	(5) IRAS-18134-1942-MIRI
	3	MIRI-BACKGROUND-1st-epoch	MIRI Medium Resolution Spectroscopy	(4) BACKGROUND_MIRI_IRAS18134-1942
MYSO-OUTBURST-2nd-epoch				
	4	NIRSPEC-MYSO-OUTBURST-2nd-epoch	NIRSpec IFU Spectroscopy	(3) IRAS-18134-1942
	5	MIRI-MRS-MYSO-OUTBURST-2nd-epoch	MIRI Medium Resolution Spectroscopy	(5) IRAS-18134-1942-MIRI
	6	MIRI-BACKGROUND-2nd-epoch	MIRI Medium Resolution Spectroscopy	(4) BACKGROUND_MIRI_IRAS18134-1942
MYSO-OUTBURST-3rd-epoch				
	7	NIRSPEC-MYSO-OUTBURST-3rd-epoch	NIRSpec IFU Spectroscopy	(3) IRAS-18134-1942
	8	MIRI-MRS-MYSO-OUTBURST-3rd-epoch	MIRI Medium Resolution Spectroscopy	(5) IRAS-18134-1942-MIRI
	9	MIRI-BACKGROUND-3rd-epoch	MIRI Medium Resolution Spectroscopy	(4) BACKGROUND_MIRI_IRAS18134-1942
MYSO-OUTBURST-4th-epoch				
	10	NIRSPEC-MYSO-OUTBURST-4th-epoch	NIRSpec IFU Spectroscopy	(3) IRAS-18134-1942
	11	MIRI-MRS-MYSO-OUTBURST-4th-epoch	MIRI Medium Resolution Spectroscopy	(5) IRAS-18134-1942-MIRI
	12	MIRI-BACKGROUND-4th-epoch	MIRI Medium Resolution Spectroscopy	(4) BACKGROUND_MIRI_IRAS18134-1942

ABSTRACT

A wealth of new theoretical and observational evidence supports now the idea that episodic accretion is a fundamental and common phenomenon across mass and time in star formation. In particular, the most recent discovery and follow-up of four accretion bursts from massive young stellar

objects (MYSOs) have been key to link low- and high-mass star-formation mechanisms to the common ground of disk-mediated accretion. Two of the events (dubbed NIR-dark accretion bursts) from early stage and highly embedded MYSOs could not be detected below 10 micron, hampering our ability to infer the key accretion parameters of these bursts. Only JWST gives us the unique combination of spatial resolution (to obtain the source spectral energy distribution - SED - clean from extended emission and source multiplicity, typical of massive star forming regions) and sensitivity in the thermal IR for line spectroscopy of these faint IR massive protostars. We propose a ToO multi-epoch program with NIRSpec and MIRI-MRS to study and follow-up the next NIR-dark accretion burst in the 3-28 micron regime. For the first time, we will catch an accretion burst from an early-stage MYSO during its rise, heralded by methanol maser flares. We will derive its key accretion parameters (rising time, duration, released energy, strength, accreted mass, accretion luminosity and mass accretion rate), its origin, as well as its impact on the source and its surrounding environment (chemistry, ice/gas state of disk/envelope, ejection burst). This ToO will finally prove the nature of accretion bursts from early-stage MYSOs, conclusively linking low- and high-mass star-formation mechanisms across mass and time.

OBSERVING DESCRIPTION

We aim at observing and tracking the full evolution of the next NIR-dark accretion burst from a massive young stellar object with NIRSpec in IFU mode and MIRI-MRS between 3 and 28 micron. This spectral range has a large set of different atomic and molecular species (both in gas and ice phase), that trace different processes (e. g., accretion, ejection, disk heating) and regions of the MYSO (inner and outer disk, outflow-cavities, envelope). The analysis of both spectral features and IR thermal continuum will allow us to derive, for the first time, the key properties of NIR-dark accretion bursts, follow-up their evolution and understand how the MYSO structure (protostar, disk, envelope, outflow) is affected and modified by the sudden release of energy.

We thus propose a multi-epoch ToO programme, that will be triggered if a NIR-dark accretion burst is detected by means of CH3OH maser flares and if the sensitivity criteria exposed in the proposal are met.

The outbursting MYSO will be observed using NIRSpec G395H/F290LP grism and the 4 channels and 3 sub-bands of MIRI-MRS. The spectral resolution will be in the range of 1500-3500 (i.e. 85-200 km/s).

For our calculations we adopt the pre-outburst, burst and post-burst SEDs of the G358.93-0.03 MM1 event, the faintest, farthest and weakest NIR-dark accretion burst discovered so far.
Integration times and observational settings have been determined to meet the following requirements.

i) Detection of the pre-burst continuum (with a SNR>/=5) at the shortest wavelength of 3 micron.

ii) Detection of the faintest accretion/ejection key lines (HI, H2 ro-vibrational lines, [NeII], [NeIII]) with a SNR>/=10 with both NIRspec and MIRI-MRS.

iii) Measuring the burst continuum with SNR>/=60-100 to properly detect the main ice/gas molecular and silicate-dust features with SNR>/=10.

iv) An upper limit constraint of SNR~600 to the 20-28 micron continuum to avoid saturation.

We set 2 integrations with 10 groups and 4-point dithering with NIRSpec for a total on-source exposure of ~1 hr for each of the four epochs. In case of crowded fields, leakage correction exposures (~0.5 hr) were added. For MIRI-MRS we set 3 integrations of 36 groups each and a 4-point dithering for a total on-source exposure of ~1 hr for each of the four epochs. An additional background exposure (900 s) was also foreseen. In total, the required science time to perform our program is 10.73 hrs, while the total charged time is 24.88 hrs (or 6.22 hrs per epoch). We stress that these settings will be refined before the triggering, depending on the source distance and brightness, as well as the crowdedness of the field.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	IRAS-18134-1942	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Young stellar objects]*				
(4)	BACKGROUND_MIRI_IRAS 18134-1942	RA: 18 15 52.0789 (273.9669954d) Dec: -19 48 46.40 (-19.81289d) Equinox: J2000	Epoch of Position: 2000	
Comments: *Category=Unidentified* *Description=[Blank field]* *Extended=NO*				
(5)	IRAS-18134-1942-MIRI	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. *Category=Star* *Description=[Young stellar objects]*				

Observation

Proposal 1906, Observation 1: NIRSPEC-MYSO-OUTBURST-1st-epoch Thu Apr 13 16:00:36 GMT 2023

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
(3)	IRAS-18134-1942	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	NRS	10	2	false	true	NONE	4	8	3521.661	
2	G395H/F290LP	NRS	10	1	true	true	NONE	4	4	1760.83	

Special Requirements

Target Of Opportunity Response Time 14 Days, Number of Activations 1

Sequence Observations 1, 2, 3, Non-interruptible

Observation

Proposal 1906, Observation 2: MIRI-MRS-MYSO-OUTBURST-1st-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[MIRI-BACKGROUND-1st-epoch (Obs 3)]

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
(5)	IRAS-18134-1942-MIRI	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	

Special Requirements	
	Target Of Opportunity Response Time 14 Days, Number of Activations 1 Sequence Observations 1, 2, 3, Non-interruptible

Observation

Proposal 1906, Observation 3: MIRI-BACKGROUND-1st-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [MIRI-MRS-MYSO-OUTBURST-1st-epoch (Obs 2)]

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
(4)	BACKGROUND_MIRI_IRAS 18134-1942	RA: 18 15 52.0789 (273.9669954d) Dec: -19 48 46.40 (-19.81289d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	

Special Requirements	Sequence Observations 1, 2, 3, Non-interruptible

Observation

Proposal 1906, Observation 4: NIRSPEC-MYSO-OUTBURST-2nd-epoch

Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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
(3)	IRAS-18134-1942	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	NRS	10	2	false	true	NONE	4	8	3521.661	
2	G395H/F290LP	NRS	10	1	true	true	NONE	4	4	1760.83	

Special Requirements

Target Of Opportunity Response Time 26 Days, Number of Activations 1

Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 1906, Observation 5: MIRI-MRS-MYSO-OUTBURST-2nd-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[MIRI-BACKGROUND-2nd-epoch (Obs 6)]

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)	IRAS-18134-1942-MIRI	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	

Special Requirements	
	Target Of Opportunity Response Time 26 Days, Number of Activations 1 Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 1906, Observation 6: MIRI-BACKGROUND-2nd-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [MIRI-MRS-MYSO-OUTBURST-2nd-epoch (Obs 5)]

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
(4)	BACKGROUND_MIRI_IRAS 18134-1942	RA: 18 15 52.0789 (273.9669954d) Dec: -19 48 46.40 (-19.81289d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	

Special Requirements	Sequence Observations 4, 5, 6, Non-interruptible

Observation

Proposal 1906, Observation 7: NIRSPEC-MYSO-OUTBURST-3rd-epoch

Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

Diagnostics

(Visit 7:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(3)	IRAS-18134-1942	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	NRS	10	2	false	true	NONE	4	8	3521.661	
2	G395H/F290LP	NRS	10	1	true	true	NONE	4	4	1760.83	

Special Requirements

On Hold To be triggered later

Sequence Observations 7, 8, 9, Non-interruptible

Observation

Proposal 1906, Observation 8: MIRI-MRS-MYSO-OUTBURST-3rd-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[MIRI-BACKGROUND-3rd-epoch (Obs 9)]

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
(5)	IRAS-18134-1942-MIRI	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	

Special Requirements	
	On Hold To be triggered later Sequence Observations 7, 8, 9, Non-interruptible

Observation

Proposal 1906, Observation 9: MIRI-BACKGROUND-3rd-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [MIRI-MRS-MYSO-OUTBURST-3rd-epoch (Obs 8)]

Diagnostics

(Visit 9:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
(4)	BACKGROUND_MIRI_IRAS 18134-1942	RA: 18 15 52.0789 (273.9669954d) Dec: -19 48 46.40 (-19.81289d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	

Special Requirements	
	On Hold To be triggered later Sequence Observations 7, 8, 9, Non-interruptible

Observation

Proposal 1906, Observation 10: NIRSPEC-MYSO-OUTBURST-4th-epoch

Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: NIRSpec IFU Spectroscopy

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
(3)	IRAS-18134-1942	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Template

TA Method
NONE

Dithers

#	Dither Type	Size	Starting Point	Number of Points	Points
1	4-POINT-DITHER				

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	NRS	10	2	false	true	NONE	4	8	3521.661	
2	G395H/F290LP	NRS	10	1	true	true	NONE	4	4	1760.83	

Special Requirements

On Hold To be triggered later

Sequence Observations 10, 11, 12, Non-interruptible

Observation

Proposal 1906, Observation 11: MIRI-MRS-MYSO-OUTBURST-4th-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observations:[MIRI-BACKGROUND-4th-epoch (Obs 12)]

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
(5)	IRAS-18134-1942-MIRI	RA: 18 16 22.1370 (274.0922375d) Dec: -19 41 27.13 (-19.69087d) Equinox: J2000	Proper Motion RA: 1.0054619685576468E-4 sec of time/yr Proper Motion Dec: -5.999999984851456E-4 arcsec/yr Epoch of Position: 2000	

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

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	Dither 1	4	12	1221.018	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	Dither 1	4	12	1221.018	

Special Requirements	
	On Hold To be triggered later Sequence Observations 10, 11, 12, Non-interruptible

Observation

Proposal 1906, Observation 12: MIRI-BACKGROUND-4th-epoch Thu Apr 13 16:00:36 GMT 2023

Diagnostic Status: Warning

Observing Template: MIRI Medium Resolution Spectroscopy

Background Observation For: [MIRI-MRS-MYSO-OUTBURST-4th-epoch (Obs 11)]

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
(4)	BACKGROUND_MIRI_IRAS 18134-1942	RA: 18 15 52.0789 (273.9669954d) Dec: -19 48 46.40 (-19.81289d) Equinox: J2000	Epoch of Position: 2000	

Comments:
Category=Unidentified
Description=[Blank field]
Extended=NO

Acquisition

#	Target
1	NONE

Template

AcqFilter	Primary Channel	Simultaneous Imaging	Imager Subarray
	ALL	NO	FULL

Dithers

#	Dither Type	Optimized For	Direction
1	4-Point	EXTENDED SOURCE	NEGATIVE

Spectral Elements

#	Wavelength Range	Detector	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Exposures/Dith	Dither	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
1	SHORT(A)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
1	SHORT(A)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
2	MEDIUM(B)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSLONG		FASTR1	36	3	1	None	1	3	305.254	
3	LONG(C)	MRSSHORT		FASTR1	36	3	1	None	1	3	305.254	

Special Requirements	
	On Hold To be triggered later Sequence Observations 10, 11, 12, Non-interruptible