



9255 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Cycle: 4, Proposal Category: GO

INVESTIGATORS

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Dr. Samaporn Tinyanont (CoI)	National Astronomical Research Institute of Thailand
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Ms. Maxime Deckers (CoI) (ESA Member)	Trinity College Dublin

OBSERVATIONS

Folder	Observation	Label	Observing Template	Science Target
MIRI LRS + NIRSPEC G395M WDSN-1				
	1	LRS-Slit	MIRI Low Resolution Spectroscopy	(4) SN2025RBS
	2	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(4) SN2025RBS
	3	LRS-Slit	MIRI Low Resolution Spectroscopy	(4) SN2025RBS
	4	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(4) SN2025RBS
	5	LRS-Slit	MIRI Low Resolution Spectroscopy	(4) SN2025RBS
	6	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(4) SN2025RBS
MIRI LRS + NIRSPEC G395M WDSN-2				
	7	LRS-Slit	MIRI Low Resolution Spectroscopy	(7) SN2026BGD
	8	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(7) SN2026BGD
	9	LRS-Slit	MIRI Low Resolution Spectroscopy	(7) SN2026BGD
	10	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(7) SN2026BGD
	11	LRS-Slit	MIRI Low Resolution Spectroscopy	(7) SN2026BGD
	12	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(7) SN2026BGD
MIRI LRS + NIRSPEC G395M WDSN-3				
	13	LRS-Slit	MIRI Low Resolution Spectroscopy	(8) SN2026FVX
	14	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(8) SN2026FVX
	15	LRS-Slit	MIRI Low Resolution Spectroscopy	(8) SN2026FVX
	16	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(8) SN2026FVX

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
	17	LRS-Slit	MIRI Low Resolution Spectroscopy	(8) SN2026FVX
	18	NIR G395M	NIRSpec Fixed Slit Spectroscopy	(8) SN2026FVX

ABSTRACT

Type Ia supernovae (SN Ia) have enormous importance to cosmology and astrophysics, but we still lack a detailed understanding of their progenitor systems and explosion mechanisms. As a supernova expands over time, it enters the nebular phase where the ejecta become optically thin, allowing us to see interior layers and directly probe its composition, density, temperature, and kinematic structure. JWST observations have shown that nebular phase observations in MIR provide powerful constraints on models, including the density-dependent nucleosynthesis of intermediate mass elements, radioactive iron-group elements, and stable iron-group elements. In the MIR, supernovae transition to the nebular phase far earlier than they do in the optical, and their evolution during this early, rapid transition is expected to reveal unique MIR signatures that will differentiate between models. Here we propose to build a legacy, reference sample of JWST MIR spectra of white dwarf supernovae at early times, as they transition to the nebular phase, with non-disruptive target-of-opportunity observations. In addition to normal SN Ia, we will also observe the diversity of thermonuclear supernovae, including extreme and peculiar objects. Our data will open a new, unexplored window on the early MIR evolution of thermonuclear explosions, uniquely probing wavelengths where the ejecta quickly become optically thin, and strongly testing progenitor and explosion models. All data obtained will be made public immediately, with no exclusive access period.

OBSERVING DESCRIPTION

We will observe 6 target-of-opportunity white dwarf supernovae (WDSN) with 3 objects per cycle for 2 cycles. Each supernova will be observed in three epochs to measure the spectral evolution and disentangle radioactive and stable elements. All epochs consist of mid-infrared (MIRI) and near-infrared (NIRSpec) observations. For all observations, we will use the NIRSpec G395M grating and MIRI LRS to obtain spectroscopic coverage from 2.9 to 5 microns at medium resolution ($R \sim 1000$) and 5 to 13 microns at low resolution ($R \sim 100$). These observations can target normal SN Ia out to 80 Mpc. The low-resolution MIR observations cover many important MIR emission lines of Ar, Co, and Ni; while the higher-resolution NIR data will cover an important [Ca IV] feature not accessible from the ground.

During the program we will trigger on WDSN from different classes, including normal SN Ia, extreme SN Ia (91bg/86G-like and 91T/99aa-like objects), and peculiar objects (SN Iax, Ia-CSM, super-Chandra SN Ia, etc.) ensuring that the breadth of the thermonuclear supernova zoo is adequately represented in our sample, while still maintaining a focus on SN Ia. We will trigger on objects that are discovered early (>10 days before maximum light), are well-positioned to be closely monitored by ground-based facilities in the optical and ground-based NIR, and nearby enough (with limiting distance depending on the specific type of object) to get adequate S/N to achieve our science goals.

Our early MIR observations spanning the transition to the nebular phase will be scheduled approximately +15, +30, and +50 days past maximum light for each supernova. With identification of supernova targets by 10 days before maximum, these will be non-disruptive TOOs that can be scheduled at least 3 weeks in advance. We will work with the WDSN community to identify the best targets, and all data collected in this program will be made publicly available immediately with no exclusive access period.

Proposal 9255 - Targets - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous
	(4)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d) Dec: +34 25 7.96 (34.41888d) Equinox: J2000	Parallax: 0" Epoch of Position: 2000	
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO				
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d) Dec: -43 40 35.76 (-43.67660d) Equinox: J2000	Parallax: 0" Epoch of Position: 2000	
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO				
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d) Dec: +63 47 16.21 (63.78784d) Equinox: J2000	Parallax: 0" Epoch of Position: 2000	
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO				

Proposal 9255 - Observation 1 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 1: LRS-Slit									Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning									
	Observing Template: MIRI Low Resolution 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		
	(4)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d)			Parallax: 0"				
			Dec: +34 25 7.96 (34.41888d)			Epoch of Position: 2000				
			Equinox: J2000							
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO								
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	F1000W	FASTGRPAVG	4	1	1	44.401	258873	
Template	Subarray					Obtain Verification Image?				
	FULL					true				
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset
	1	ALONG SLIT NOD								
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter
	1	FASTR1	16	1	1	1	1	44.401		F1000W

Proposal 9255 - Observation 1 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	25	8	16	1	2	1148.867	258873
Special Requirements	Between Dates 15-JUL-2025:00:00:00 and 01-AUG-2025:00:00:00								
	Group Observations 1, 2, Non-interruptible								

Proposal 9255 - Observation 2 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 2: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpect Fixed Slit 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		
	(4)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d) Dec: +34 25 7.96 (34.41888d) Equinox: J2000				Parallax: 0" Epoch of Position: 2000					
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	4	3	1	NONE	3	9	656.5	258873

Proposal 9255 - Observation 2 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 1, 2, Non-interruptible
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Proposal 9255 - Observation 3 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 3: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
Diagnostics	Observing Template: MIRI Low Resolution Spectroscopy										
	(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)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d)			Parallax: 0"					
			Dec: +34 25 7.96 (34.41888d)			Epoch of Position: 2000					
			Equinox: J2000								
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG	4	1	1	44.401	172271		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	16	1	1	1	1	44.401		F1000W	

Proposal 9255 - Observation 3 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	25	8	16	1	2	1148.867	172271
Special Requirements	Between Dates 18-AUG-2025:00:00:00 and 31-AUG-2025:00:00:00								
	Group Observations 3, 4, Non-interruptible								

Proposal 9255 - Observation 4 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 4: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
Diagnostics	Observing Template: NIRSpec Fixed Slit Spectroscopy											
	(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)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d)				Parallax: 0"					
			Dec: +34 25 7.96 (34.41888d)				Epoch of Position: 2000					
			Equinox: J2000									
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	15	1	1	NONE	3	3	700.267	258873

Proposal 9255 - Observation 4 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 3, 4, Non-interruptible
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Proposal 9255 - Observation 5 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 5: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
Diagnostics	Observing Template: MIRI Low Resolution Spectroscopy										
	(Visit 5:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous		
	(4)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d)			Parallax: 0"					
			Dec: +34 25 7.96 (34.41888d)			Epoch of Position: 2000					
			Equinox: J2000								
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG	4	1	1	44.401	258873		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	16	1	1	1	1	44.401		F1000W	

Proposal 9255 - Observation 5 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	25	8	16	1	2	1148.867	258873
Special Requirements	Between Dates 01-OCT-2025:00:00:00 and 22-OCT-2025:00:00:00								
	Group Observations 5, 6, Non-interruptible								

Proposal 9255 - Observation 6 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 6: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit Spectroscopy											
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)	SN2025RBS	RA: 22 37 3.6450 (339.2651875d)				Parallax: 0"					
			Dec: +34 25 7.96 (34.41888d)				Epoch of Position: 2000					
			Equinox: J2000									
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB32	F110W	NRSRAPIDD6	3	1	1	0.26	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	15	1	1	NONE	3	3	700.267	258873

Proposal 9255 - Observation 6 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 5, 6, Non-interruptible
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Proposal 9255 - Observation 7 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 7: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
	Observing Template: MIRI Low Resolution 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		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)			Parallax: 0"					
			Dec: -43 40 35.76 (-43.67660d)			Epoch of Position: 2000					
			Equinox: J2000								
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO									
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG8	10	1	1	222.003	210149		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	80	1	1	1	1	222.003		F1000W	

Proposal 9255 - Observation 7 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	100	2	4	1	2	1115.566	210149
Special Requirements	Between Dates 02-FEB-2026:00:00:00 and 20-FEB-2026:00:00:00								
	9 After 7 by 10 Days to 25 Days Group Observations 7, 8, Non-interruptible								

Proposal 9255 - Observation 8 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 8: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit Spectroscopy											
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		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)				Parallax: 0"					
			Dec: -43 40 35.76 (-43.67660d)				Epoch of Position: 2000					
			Equinox: J2000									
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB2048	F110W	NRSRAPID	3	1	1	3.628	210149	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	15	1	1	NONE	3	3	700.267	210149

Special Requirements	Group Observations 7, 8, Non-interruptible
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Proposal 9255 - Observation 9 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 9: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
	Observing Template: MIRI Low Resolution Spectroscopy										
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		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)			Parallax: 0"					
			Dec: -43 40 35.76 (-43.67660d)			Epoch of Position: 2000					
			Equinox: J2000								
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO									
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG8	10	1	1	222.003	210149		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	80	1	1	1	1	222.003		F1000W	

Proposal 9255 - Observation 9 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	100	2	4	1	2	1115.566	210149
Special Requirements	Between Dates 23-FEB-2026:00:00:00 and 01-APR-2026:00:00:00								
	9 After 7 by 10 Days to 25 Days Group Observations 9, 10, Non-interruptible								

Proposal 9255 - Observation 10 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 10: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit 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		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)				Parallax: 0"					
	Dec: -43 40 35.76 (-43.67660d)				Epoch of Position: 2000							
	Equinox: J2000											
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB2048	F110W	NRSRAPID	3	1	1	3.628	210149	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	15	1	1	NONE	3	3	700.267	210149

Proposal 9255 - Observation 10 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 9, 10, Non-interruptible
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Proposal 9255 - Observation 11 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 11: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
Diagnostics	Observing Template: MIRI Low Resolution Spectroscopy										
	(Visit 11:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)			Parallax: 0"					
			Dec: -43 40 35.76 (-43.67660d)			Epoch of Position: 2000					
			Equinox: J2000								
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG8	10	1	1	222.003	210149		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	80	1	1	1	1	222.003		F1000W	

Proposal 9255 - Observation 11 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	100	2	4	1	2	1115.566	210149
Special Requirements	Between Dates 01-APR-2026:00:00:00 and 15-JUN-2026:00:00:00								
	Group Observations 11, 12, Non-interruptible								

Proposal 9255 - Observation 12 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 12: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit Spectroscopy											
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		
	(7)	SN2026BGD	RA: 13 20 59.0275 (200.2459479d)				Parallax: 0"					
			Dec: -43 40 35.76 (-43.67660d)				Epoch of Position: 2000					
			Equinox: J2000									
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB2048	F110W	NRSRAPIDD6	3	1	1	14.452	210149	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	15	1	1	NONE	3	3	700.267	210149

Proposal 9255 - Observation 12 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 11, 12, Non-interruptible
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Proposal 9255 - Observation 13 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 13: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
Diagnostics	Observing Template: MIRI Low Resolution Spectroscopy										
	(Visit 13:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)			Parallax: 0"					
			Dec: +63 47 16.21 (63.78784d)			Epoch of Position: 2000					
			Equinox: J2000								
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG	4	1	1	44.401	258873		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	16	1	1	1	1	44.401		F1000W	

Proposal 9255 - Observation 13 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	30	8	16	1	2	1370.87	258873
Special Requirements	Between Dates 18-MAR-2026:00:00:00 and 02-APR-2026:00:00:00								
	Group Observations 13, 14, Non-interruptible								

Proposal 9255 - Observation 14 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 14: NIR G395M											Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpect Fixed Slit Spectroscopy											
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		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)				Parallax: 0"					
			Dec: +63 47 16.21 (63.78784d)				Epoch of Position: 2000					
			Equinox: J2000									
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	7	2	1	NONE	3	6	700.267	258873

Proposal 9255 - Observation 14 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 13, 14, Non-interruptible
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Proposal 9255 - Observation 15 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 15: LRS-Slit										Wed Mar 18 19:00:34 GMT 2026
	Diagnostic Status: Warning										
Diagnostics	Observing Template: MIRI Low Resolution Spectroscopy										
	(Visit 15:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)			Parallax: 0"					
			Dec: +63 47 16.21 (63.78784d)			Epoch of Position: 2000					
			Equinox: J2000								
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG	4	1	1	44.401	258873		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	16	1	1	1	1	44.401		F1000W	

Proposal 9255 - Observation 15 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	30	8	16	1	2	1370.87	258873
Special Requirements	Between Dates 08-APR-2026:00:00:00 and 22-APR-2026:00:00:00								
	Group Observations 15, 16, Non-interruptible								

Proposal 9255 - Observation 16 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 16: NIR G395M											Wed Mar 18 19:00:35 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit Spectroscopy											
Diagnostics	(Visit 16:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)				Parallax: 0"					
			Dec: +63 47 16.21 (63.78784d)				Epoch of Position: 2000					
			Equinox: J2000									
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO										
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB32	F110W	NRSRAPID	3	1	1	0.08	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	7	2	1	NONE	3	6	700.267	258873

Proposal 9255 - Observation 16 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 15, 16, Non-interruptible
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Proposal 9255 - Observation 17 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 17: LRS-Slit										Wed Mar 18 19:00:35 GMT 2026
	Diagnostic Status: Warning										
	Observing Template: MIRI Low Resolution Spectroscopy										
Diagnostics	(Visit 17:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.										
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections			Miscellaneous		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)			Parallax: 0"					
			Dec: +63 47 16.21 (63.78784d)			Epoch of Position: 2000					
			Equinox: J2000								
		Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO									
Acquisition	#	Target	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID		
	1	SAME	F1000W	FASTGRPAVG	6	1	1	66.601	258873		
Template	Subarray					Obtain Verification Image?					
	FULL					true					
Dithers	#	Dither Type		No. Spectral Steps		Spectral Step Offset		No. Spatial Steps		Spatial Step Offset	
	1	ALONG SLIT NOD									
Pointing Verification	#	PV Readout Pattern	PV Groups/Int	PV Integrations/Exp	PV Total Integrations	PV Exposures/Dith	PV Total Dithers	PV Total Exposure Time	Optional ETC ID	Filter	
	1	FASTR1	24	1	1	1	1	66.601		F1000W	

Proposal 9255 - Observation 17 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Spectral Elements	#	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Exposures/Dith	Total Dithers	Total Exposure Time	Optional ETC ID
	1	FASTR1	60	4	8	1	2	1348.669	258873
Special Requirements	Between Dates 16-MAY-2026:00:00:00 and 23-MAY-2026:00:00:00								
	Group Observations 17, 18, Non-interruptible								

Proposal 9255 - Observation 18 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Observation	Proposal 9255, Observation 18: NIR G395M											Wed Mar 18 19:00:35 GMT 2026
	Diagnostic Status: Warning											
	Observing Template: NIRSpec Fixed Slit Spectroscopy											
Diagnostics	(Visit 18:1) Warning (Form): Overheads are provisional until the Visit Planner has been run.											
Fixed Targets	#	Name	Target Coordinates				Targ. Coord. Corrections			Miscellaneous		
	(8)	SN2026FVX	RA: 12 14 58.0860 (183.7420250d)				Parallax: 0"					
	Dec: +63 47 16.21 (63.78784d)				Epoch of Position: 2000							
	Equinox: J2000											
	Comments: Category=Star Description=[Supernovae, Type Ia supernovae] Extended=NO											
Acquisition	#	Target	TA Method	Subarray	Filter	Readout Pattern	Groups/Int	Integrations/Exp	Total Integrations	Total Exposure Time	Optional ETC ID	
	1	SAME	WATA	SUB2048	F110W	NRSRAPID	3	1	1	3.628	258873	
Template	HFF Readout Mode				Slit				Subarray			
	false				S200A1				FULL			
Dithers	#	Primary Dither Positions							Sub-Pixel Pattern			
	1	3							NONE			
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Exp	#	Autocal	Total Dithers	Total Integrations	Total Exposure Time	Optional ETC ID
	1	G395M/F290LP	S200A1	NRSIRS2RAPID	18	1	1	NONE	3	3	831.567	258873

Proposal 9255 - Observation 18 - Getting Late Early: Mid-Infrared Spectroscopy of White Dwarf Supernovae

Special Requirements	Group Observations 17, 18, Non-interruptible
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