



3225 - What are the real mass loss rates of massive stars?

Cycle: 2, Proposal Category: GO

INVESTIGATORS

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OBSERVATIONS

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
G395H spec				
	1	NGC346-ELS-090	NIRSpec Fixed Slit Spectroscopy	(1) NGC346-ELS-090
	2	AZV468	NIRSpec Fixed Slit Spectroscopy	(2) AZV468
	3	MPG012	NIRSpec Fixed Slit Spectroscopy	(3) MPG012
	4	AZV461	NIRSpec Fixed Slit Spectroscopy	(4) AZV461

<i>Folder</i>	<i>Observation</i>	<i>Label</i>	<i>Observing Template</i>	<i>Science Target</i>
5		AZV170	NIRSpec Fixed Slit Spectroscopy	(5) AZV170
6		AZV396	NIRSpec Fixed Slit Spectroscopy	(6) AZV396
7		AZV440	NIRSpec Fixed Slit Spectroscopy	(7) AZV440
8		AZV446	NIRSpec Fixed Slit Spectroscopy	(8) AZV446
9		AZV207	NIRSpec Fixed Slit Spectroscopy	(9) AZV207
10		AZV378	NIRSpec Fixed Slit Spectroscopy	(10) AZV378
11		AZV223	NIRSpec Fixed Slit Spectroscopy	(11) AZV223
12		AZV177	NIRSpec Fixed Slit Spectroscopy	(12) AZV177
13		AZV388	NIRSpec Fixed Slit Spectroscopy	(13) AZV388
14		AZV95	NIRSpec Fixed Slit Spectroscopy	(14) AZV95
15		AZV15	NIRSpec Fixed Slit Spectroscopy	(15) AZV15

ABSTRACT

Mass loss is a key physical process ruling the evolution of massive stars, whose impact propagates into galactic evolution, population synthesis models, the interpretation of high-redshift galaxies, explosive events like SN, and our understanding of the First Stars. However, there are currently substantial uncertainties in the low-metallicity (Z), low-luminosity regimes where the classical diagnostics, H-alpha and UV P-Cygni profiles, fail to yield true mass-loss rates. Only upper limits exist for most of the parameter space of interest and this is insufficient to inform the models of evolution.

In contrast, the Br-alpha line in the mid-IR breaks this degeneracy, enabling accurate determination of very low mass loss rates that are also independent from assumptions concerning wind inhomogeneities and wind X-ray emission. The technique has already been demonstrated for bright O-stars in the Milky Way. However, our primary low- Z laboratory is the Small Magellanic Cloud (SMC), where Br-alpha spectroscopy of O-stars is simply impossible for any facility other than JWST.

We propose to exploit JWST's superb sensitivity in the thermal IR to determine the mass-loss rates of SMC O-stars with thin winds for the first time. Our results will serve to anchor the physics of radiation-driven wind theory that is so crucial for our understanding of massive star evolution and their impact on the Universe.

OBSERVING DESCRIPTION

JWST Proposal 3225 (Created: Friday, July 12, 2024 at 8:00:23 PM Eastern Standard Time) - Overview

The program consists on Fixed-Slit NIRSpec observations of O-type stars in the SMC.

The same configuration is used for all of them:

NIRSpec

Grating: G395H

Blocking Filter: F290LP

Aperture: S200A2

Dithering pattern: 5 point Primary Dithers.

No sub-pixel pattern.

Detector strategy: Full-frame with NRSIRS2RAPID read-out is preferred.

In the event of data-volume violation, NRSIRS2 is used.

The number of integrations and groups has been tailor-estimated for each star so that signal-to-noise ratio SNR=150 is achieved at 4.07 microns.

All stars are concentrated within roughly a 1 degree radius circle on the sky.

Targets are isolated within the S200A2 slit and no ORIENT is specified.

Target coordinates were taken from the Gaia-DR3 catalog. Since accuracy is better than 100 mas, and the program has no ORIENT-requirement, target acquisition will be performed in WATA mode.

All targets are isolated within a 2" radius. Stars AzV396 and MPG012 have a nearby object at ~2", but it is fainter.

All targets have ecliptic latitudes of -64deg -- -65deg and no ORIENT is specified, hence observations at the Micrometeoroid Avoidance Zone can be easily minimized or avoided. This has been double-checked with the Meteoroid Safe Zone tool of the Visit Planner.

Proposal 3225 - Targets - What are the real mass loss rates of massive stars?

#	Name	Target Coordinates	Targ. Coord. Corrections	Miscellaneous	
(1)	NGC346-ELS-090	RA: 00 58 25.7015 (14.6070896d) Dec: -72 14 33.39 (-72.24261d) Equinox: J2000			
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>					
(2)	AZV468	RA: 01 12 5.8791 (18.0244962d) Dec: -72 40 56.62 (-72.68239d) Equinox: J2000			
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>					
(3)	MPG012	RA: 00 58 14.0883 (14.5587013d) Dec: -72 10 44.31 (-72.17898d) Equinox: J2000			
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>					
Fixed Targets	(4)	AZV461	RA: 01 11 25.5733 (17.8565554d) Dec: -72 09 48.82 (-72.16356d) Equinox: J2000		
	<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>				
	(5)	AZV170	RA: 00 55 42.4323 (13.9268012d) Dec: -73 17 30.54 (-73.29182d) Equinox: J2000		
	<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>				
	(6)	AZV396	RA: 01 06 4.2184 (16.5175767d) Dec: -72 13 34.18 (-72.22616d) Equinox: J2000		
	<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>				
	(7)	AZV440	RA: 01 08 56.0235 (17.2334313d) Dec: -71 52 46.71 (-71.87964d) Equinox: J2000		
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>					

Proposal 3225 - Targets - What are the real mass loss rates of massive stars?

(8)	AZV446	RA: 01 09 25.4312 (17.3559633d) Dec: -73 09 29.93 (-73.15831d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(9)	AZV207	RA: 00 58 33.1918 (14.6382992d) Dec: -71 55 46.74 (-71.92965d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(10)	AZV378	RA: 01 05 9.4377 (16.2893238d) Dec: -72 05 34.68 (-72.09297d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(11)	AZV223	RA: 00 59 13.4303 (14.8059596d) Dec: -72 39 2.65 (-72.65074d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(12)	AZV177	RA: 00 56 44.1059 (14.1837746d) Dec: -72 03 31.70 (-72.05881d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(13)	AZV388	RA: 01 05 39.5332 (16.4147217d) Dec: -72 29 26.96 (-72.49082d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		
(14)	AZV95	RA: 00 51 21.6025 (12.8400104d) Dec: -72 44 14.89 (-72.73747d) Equinox: J2000
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>		

Proposal 3225 - Targets - What are the real mass loss rates of massive stars?

(15)	AZV15	RA: 00 46 42.1609 (11.6756704d) Dec: -73 24 55.51 (-73.41542d) Equinox: J2000
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Comments:
Category=Star
Description=[O stars]
Extended=NO

Proposal 3225 - Observation 1 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	<p>Proposal 3225, Observation 1: NGC346-ELS-090</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec Fixed Slit Spectroscopy</p>										
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)	NGC346-ELS-090	RA: 00 58 25.7015 (14.6070896d) Dec: -72 14 33.39 (-72.24261d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i></p>										
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit					Subarray					
	S200A2					FULL					
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	20	6	1	NONE	5	30	44204.337 147241.28

Proposal 3225 - Observation 2 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	<p>Proposal 3225, Observation 2: AZV468</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec Fixed Slit Spectroscopy</p>										
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)	AZV468	RA: 01 12 5.8791 (18.0244962d) Dec: -72 40 56.62 (-72.68239d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i></p>										
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	20	3	1	NONE	5	15	22102.168 147241.31

Proposal 3225 - Observation 3 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 3: MPG012 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit 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		
	(3)	MPG012	RA: 00 58 14.0883 (14.5587013d) Dec: -72 10 44.31 (-72.17898d) Equinox: J2000								
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	16	2	1	NONE	5	10	11817.001

Proposal 3225 - Observation 4 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 4: AZV461 Diagnostic Status: Warning 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)	AZV461	RA: 01 11 25.5733 (17.8565554d) Dec: -72 09 48.82 (-72.16356d) Equinox: J2000								
<i>Comments:</i> Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	18	2	1	NONE	5	10	13275.89

Proposal 3225 - Observation 5 - What are the real mass loss rates of massive stars?

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Observation	Proposal 3225, Observation 5: AZV170 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit 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			
	(5)	AZV170	RA: 00 55 42.4323 (13.9268012d) Dec: -73 17 30.54 (-73.29182d) Equinox: J2000								
Comments: Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2RAPID	80	1	1	NONE	5	5	5908.5

Proposal 3225 - Observation 6 - What are the real mass loss rates of massive stars?

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Observation	Proposal 3225, Observation 6: AZV396 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV396	RA: 01 06 4.2184 (16.5175767d) Dec: -72 13 34.18 (-72.22616d) Equinox: J2000								
Comments: Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	13	2	1	NONE	5	10	9628.667

Proposal 3225 - Observation 7 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 7: AZV440 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV440	RA: 01 08 56.0235 (17.2334313d) Dec: -71 52 46.71 (-71.87964d) Equinox: J2000								
Comments: Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	16	2	1	NONE	5	10	11817.001

Proposal 3225 - Observation 8 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 8: AZV446 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV446	RA: 01 09 25.4312 (17.3559633d) Dec: -73 09 29.93 (-73.15831d) Equinox: J2000								
Comments: Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	18	2	1	NONE	5	10	13275.89

Proposal 3225 - Observation 9 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 9: AZV207 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV207	RA: 00 58 33.1918 (14.6382992d) Dec: -71 55 46.74 (-71.92965d) Equinox: J2000								
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	20	1	1	NONE	5	5	7367.389

Proposal 3225 - Observation 10 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 10: AZV378 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV378	RA: 01 05 9.4377 (16.2893238d) Dec: -72 05 34.68 (-72.09297d) Equinox: J2000								
<i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i>											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit					Subarray					
	S200A2					FULL					
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2RAPID	70	1	1	NONE	5	5	5179.056

Proposal 3225 - Observation 11 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	<p>Proposal 3225, Observation 11: AZV223</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec Fixed Slit Spectroscopy</p>											
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			
	(11)	AZV223	RA: 00 59 13.4303 (14.8059596d) Dec: -72 39 2.65 (-72.65074d) Equinox: J2000									
	<p><i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i></p>											
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	NRSRAPID	3	1	1	0.08	63549	
Template	Slit				Subarray							
	S200A2				FULL							
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern					
	1	5					NONE					
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	G395H/F290LP	S200A2	NRSIRS2RAPID	60	1	1	NONE	5	5	4449.611	147241.40

Proposal 3225 - Observation 12 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 12: AZV177 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit Spectroscopy										
	(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)	AZV177	RA: 00 56 44.1059 (14.1837746d) Dec: -72 03 31.70 (-72.05881d) Equinox: J2000								
<i>Comments:</i> Category=Star Description=[O stars] Extended=NO											
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	16	2	1	NONE	5	10	11817.001

Proposal 3225 - Observation 13 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	<p>Proposal 3225, Observation 13: AZV388</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec Fixed Slit Spectroscopy</p>											
Diagnostics	(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)	AZV388	RA: 01 05 39.5332 (16.4147217d) Dec: -72 29 26.96 (-72.49082d) Equinox: J2000									
	<p><i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i></p>											
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	NRSRAPID	3	1	1	0.08	63549	
Template	Slit					Subarray						
	S200A2					FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern					
	1	5					NONE					
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID	
	1	G395H/F290LP	S200A2	NRSIRS2RAPID	90	1	1	NONE	5	5	6637.945	147241.43

Proposal 3225 - Observation 14 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	<p>Proposal 3225, Observation 14: AZV95</p> <p>Diagnostic Status: Warning</p> <p>Observing Template: NIRSpec Fixed Slit Spectroscopy</p>										
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)	AZV95	RA: 00 51 21.6025 (12.8400104d) Dec: -72 44 14.89 (-72.73747d) Equinox: J2000								
	<p><i>Comments:</i> <i>Category=Star</i> <i>Description=[O stars]</i> <i>Extended=NO</i></p>										
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	NRSRAPID	3	1	1	0.08	63549
Template	Slit				Subarray						
	S200A2				FULL						
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2	12	1	NONE	5	5	4449.611	147241.40

Proposal 3225 - Observation 15 - What are the real mass loss rates of massive stars?

Sat Jul 13 01:00:23 GMT 2024

Observation	Proposal 3225, Observation 15: AZV15 Diagnostic Status: Warning Observing Template: NIRSpec Fixed Slit 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		
	(15)	AZV15	RA: 00 46 42.1609 (11.6756704d) Dec: -73 24 55.51 (-73.41542d) Equinox: J2000								
Comments: Category=Star Description=[O stars] Extended=NO											
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	F110W	NRSRAPID	3	1	1	0.08	63549
Template	Slit					Subarray					
	S200A2					FULL					
Dithers	#	Primary Dither Positions					Sub-Pixel Pattern				
	1	5					NONE				
Spectral Elements	#	Grating/Filter	Slit	Readout Pattern	Groups/Int	Integrations/Ex #	Autocal	Total Dithers	Total Integrations	Total Exposure Time	ETC Wkbk.Calc ID
	1	G395H/F290LP	S200A2	NRSIRS2RAPID	30	1	1	NONE	5	5	2261.278