



17882 - Narrowband Imaging of NGC 6888

Cycle: 32, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) NGC-6888-EDGE	WFC3/UVIS	4	07-Apr-2025 16:00:11.0	yes
02	(1) NGC-6888-EDGE	WFC3/UVIS	2	07-Apr-2025 16:00:12.0	yes

6 Total Orbits Used

ABSTRACT

We propose to take deep narrowband imaging of the Wolf-Rayet nebula NGC 6888. Deep H-alpha, [N II], and [OIII] images in F656N, F658N, and F502N will sample different density and temperature regions within the nebula.

OBSERVING DESCRIPTION

We will obtain high signal-to-noise imaging of NGC 6888, the Crescent Nebula, in narrow-band filters F502N, F656N, and F658N as well as short bookend exposures in broadband filters F475W and F814W to provide color balance on the stars in the field. We propose a single WFC3 pointing which will cover a bright portion on the edge of the larger nebula. In the event of needing to retake a failed visit, we will attempt to match the Position Angle; in the event that this is not possible to schedule in Reduced Gyro Mode, we will make due with reduced dithers and use archival WFPC2 data to boost signal-to-noise if necessary. We will also employ a dither pattern which fills the chip gaps and enables cosmic ray rejection. The full nebula extends over a diameter of 20 arcmin, so we will focus on a particularly bright and turbulent edge of the nebula. Based on archival WFPC2 data, we estimate that high signal-to-noise images will require 2 orbits of F502N, 1 orbit of F656N, and 1 orbit of F658N, totalling 4 orbits. Most of the color composite will derive from the contrasting physical conditions promoting emission in [O III], [N II], and H-alpha. With exposure times calculated from existing archival WFPC2 observations, we can achieve the signal-to-noise desired with 4 orbits.

Following a partial failure of Visit 01:

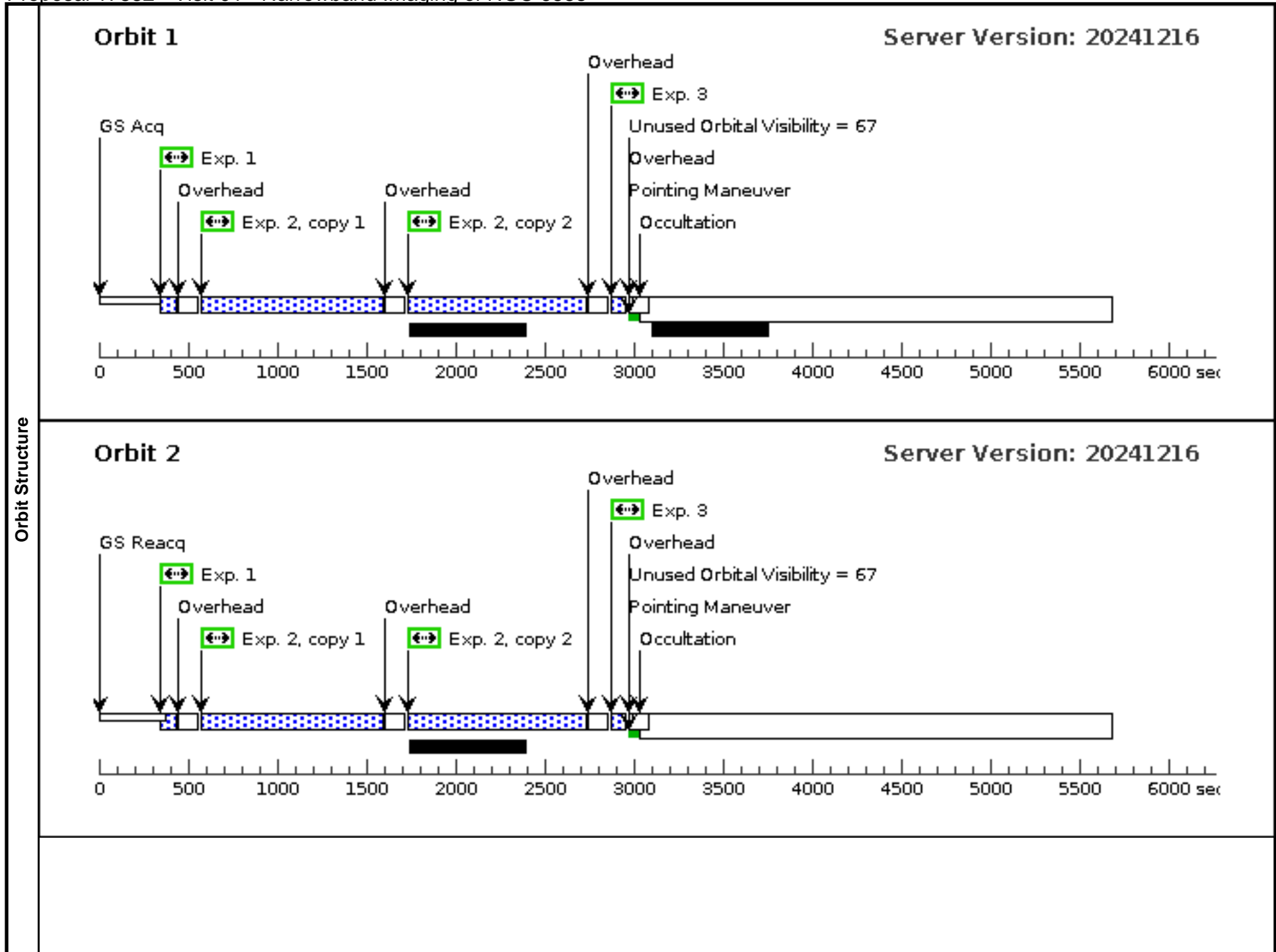
After review, the Telescope Time Review Board (TTRB) approves your request and awards two orbits to repeat orbit #2 and #3 in Visit 01, which suffered failed guide-star reacquisition and loss of lock anomalies, leading to degraded data. The TTRB also approves your request to execute the repeats at the same ORIENT as the successful observations from Visit 01 or at 90 degrees offset from it.

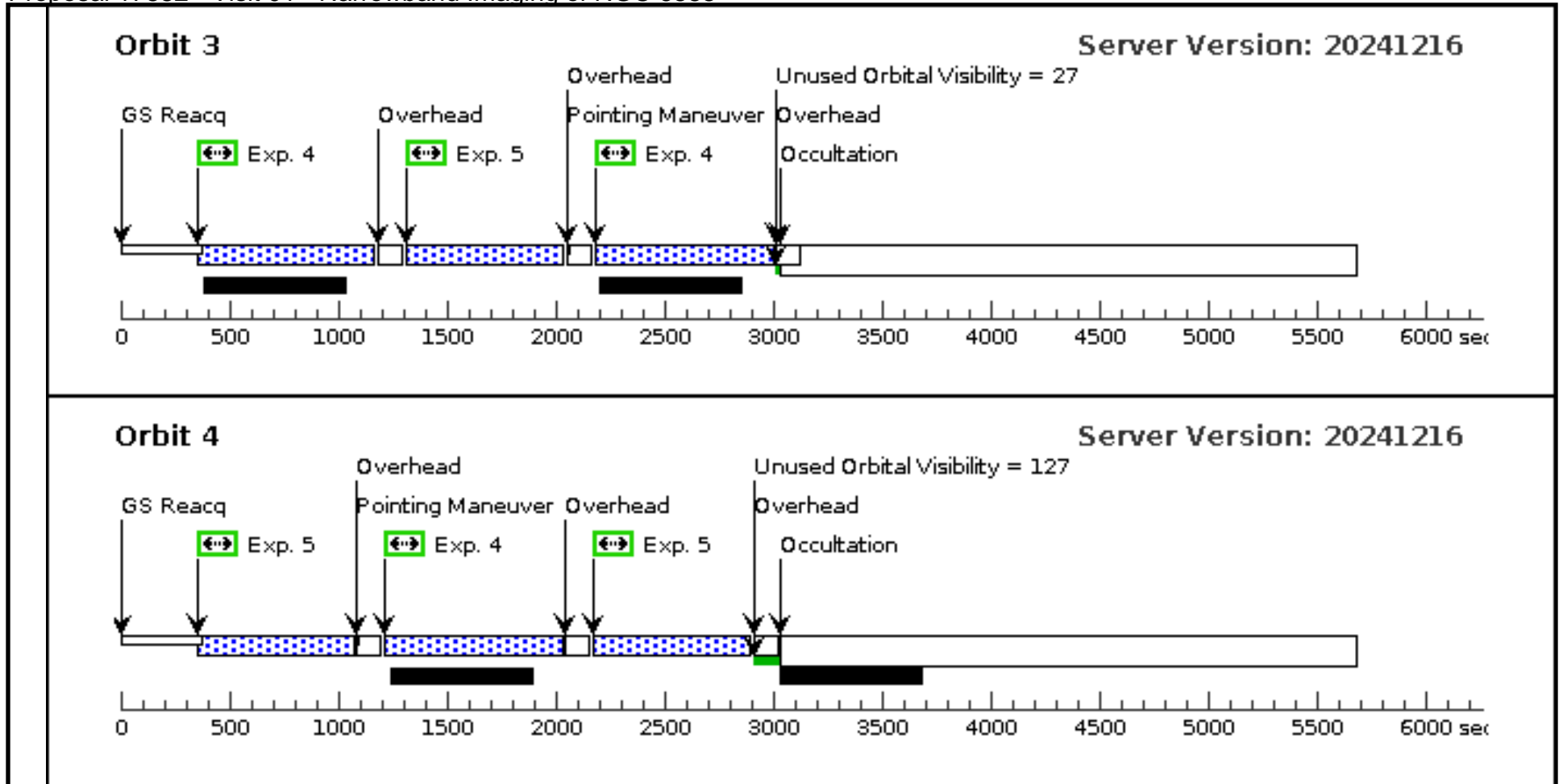
Visit 01 executed at an orientation of 294 deg in March 2025, and repeat visit 02 will execute at 201 deg in July 2025. Where get get two exposures of the same filter in visit 02, we include a standard y-shift gap dither and also a nonstandard x-shift which helps the repeat better match the footprint of the existing data from visit 01.

Proposal 17882 - Visit 01 - Narrowband Imaging of NGC 6888

Mon Apr 07 20:00:13 GMT 2025

Visit	Proposal 17882, Visit 01, failed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: BEFORE 21-MAR-2025:00:00:00									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=89 Angle Between Sides= Center Pattern=false	(1-3)						
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=89 Angle Between Sides= Center Pattern=false	(4-5)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6888-EDGE	RA: 20 12 32.9717 (303.1373821d) Dec: +38 27 11.03 (38.45306d) Equinox: J2000	Epoch of Position: 2000	V=15	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=ISM Description=[EMISSION LINE NEBULA] Extended=YES										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) NGC-6888-EDGE	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=20		Pattern 1, Exps 1-3 in Visit 01 (1)	60 Secs (120 Secs)	
			E						[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
	2		(1) NGC-6888-EDGE	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	FLASH=20		Pattern 1, Exps 1-3 in Visit 01 (1)	1000 Secs X 2 (4000 Secs)	
			E						[=>(Pattern 1, Copy 1)]	[1]
									[=>(Pattern 1, Copy 2)]	
									[=>(Pattern 2, Copy 1)]	[2]
									[=>(Pattern 2, Copy 2)]	
	3		(1) NGC-6888-EDGE	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=20		Pattern 1, Exps 1-3 in Visit 01 (1)	60 Secs (120 Secs)	
			E						[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
	4		(1) NGC-6888-EDGE	WFC3/UVIS, ACCUM, UVIS-CENTER	F656N	FLASH=20		Pattern 2, Exps 4-5 in Visit 01 (2)	800 Secs (2400 Secs)	
			E						[=>(Pattern 1)]	[3]
									[=>(Pattern 2)]	
								[=>(Pattern 3)]	[4]	
5		(1) NGC-6888-EDGE	WFC3/UVIS, ACCUM, UVIS-CENTER	F658N	FLASH=20		Pattern 2, Exps 4-5 in Visit 01 (2)	700 Secs (2100 Secs)		
		E						[=>(Pattern 1)]	[3]	
								[=>(Pattern 2)]		
								[=>(Pattern 3)]	[4]	





Proposal 17882 - Visit 02 - Narrowband Imaging of NGC 6888

Mon Apr 07 20:00:13 GMT 2025

Visit	Proposal 17882, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 201D TO 201 D									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	NGC-6888-EDGE	RA: 20 12 32.9717 (303.1373821d) Dec: +38 27 11.03 (38.45306d) Equinox: J2000	Epoch of Position: 2000	V=15	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Category=ISM Description=[EMISSION LINE NEBULA] Extended=YES									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	FLASH=20			60 Secs (60 Secs) [==>]	[1]
	2		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	FLASH=20			1000 Secs (1000 Secs) [==>]	[1]
	3		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	FLASH=20	POS TARG -12,-2.4		1000 Secs (1000 Secs) [==>]	[1]
	4		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=20			60 Secs (60 Secs) [==>]	[1]
	5		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F656N	FLASH=20			800 Secs (800 Secs) [==>]	[2]
	6		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F658N	FLASH=20			700 Secs (700 Secs) [==>]	[2]
	7		(1) NGC-6888-EDG E	WFC3/UVIS, ACCUM, UVIS-CENTER	F656N	FLASH=20	POS TARG -12,-2.4		800 Secs (800 Secs) [==>]	[2]

