



10577 - Resolving the non-radiative shock in SN1006

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) SN1006-NW	ACS/WFC	3	05-Aug-2005 21:06:04.0	yes
02	(1) SN1006-NW	ACS/WFC	3	05-Aug-2005 21:06:09.0	yes
03	(1) SN1006-NW	ACS/WFC	3	05-Aug-2005 21:06:13.0	yes

9 Total Orbits Used

ABSTRACT

An ACS image of the H alpha filament in the supernova remnant SN1006 will resolve the thickness of the H alpha emission zone. This will permit us to derive an accurate pre-shock density, which in turn can be used to model

Proposal 10577 - Overview

the time-dependent X-ray spectrum of the bright X-ray ridge with no free parameters, thus benchmarking these widely used models. We will also search for evidence of a shock precursor, and we will use the scale of ripples in the shock to estimate the level of density inhomogeneity in the pre-shock gas.

OBSERVING DESCRIPTION

This is a deep WFC H alpha image of the NW filament in SN1006.

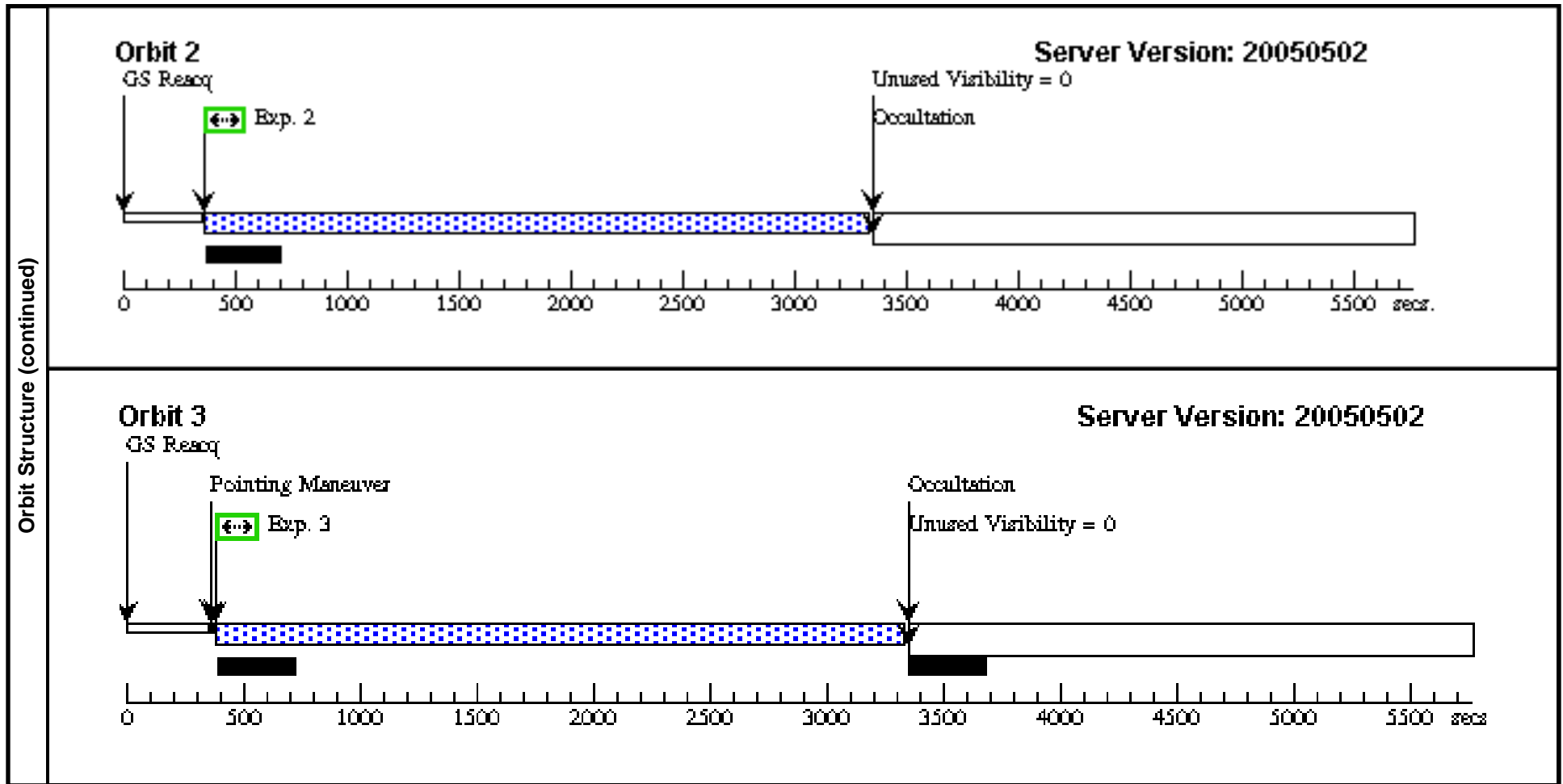
It uses the UDF dither pattern as suggested by Andy Fruchter;

(0,0), (3.0,1.5), (4.5,4.5), 1.5,3.0) pixels and CR-SPLIT=0.

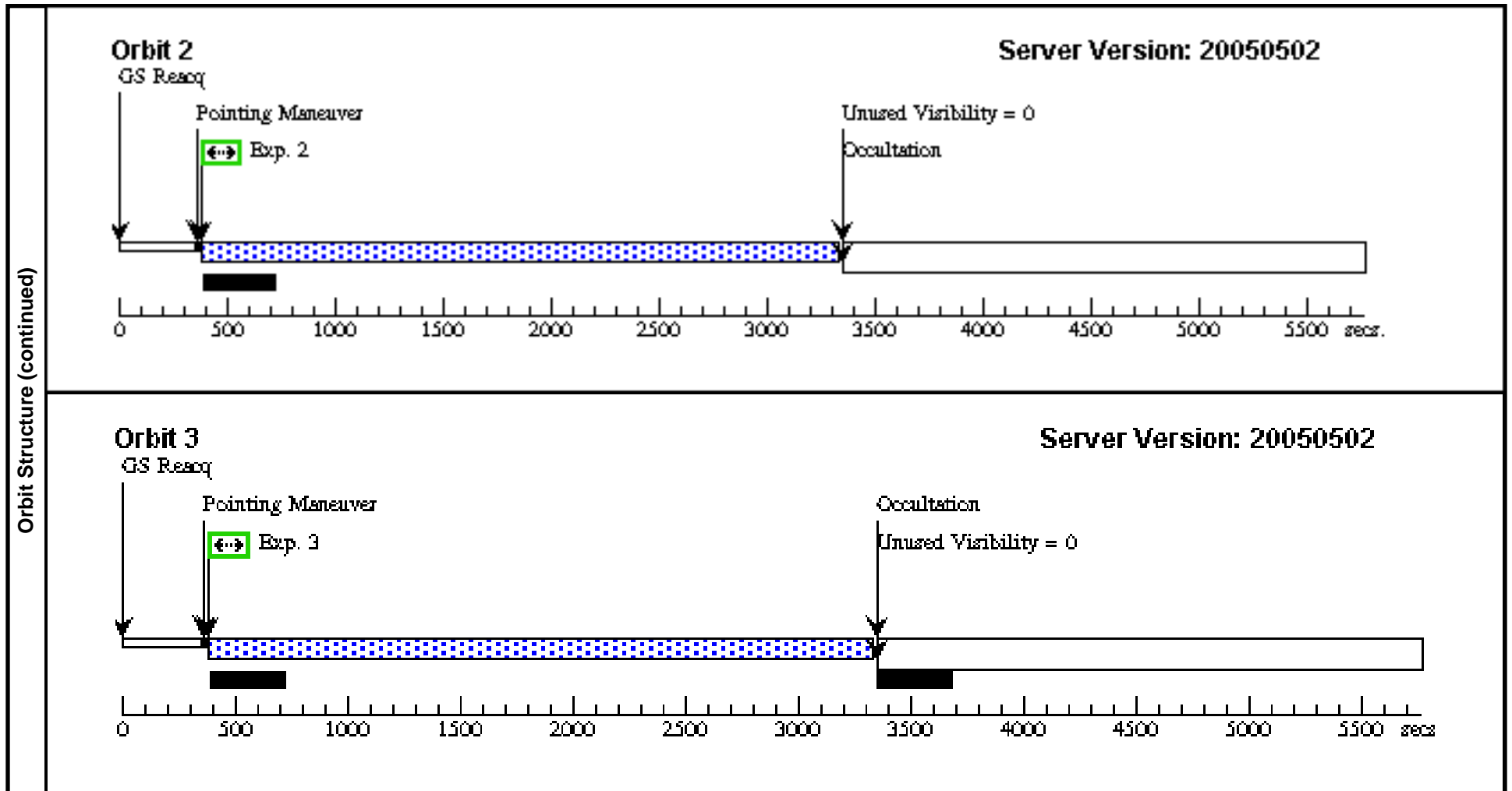
Proposal 10577 - Visit 01 - Resolving the non-radiative shock in SN1006

Sat Aug 06 01:06:14 GMT 2005

Visit	Proposal 10577, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)										
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SN1006-NW	RA: 15 02 19.1700 (225.5798750d) Dec: -41 44 50.00 (-41.74722d) Equinox: J2000 Plate Id: (?)	Proper Motion RA: -0.018s/yr Proper Motion Dec: 0.2"/yr Epoch of Position: 1998.0	V=(?) 3.2E-16 erg/(cm ² s arcsec ²) in H alpha emission	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,0		3300.0 Secs [=>2746.0 Secs]	[1]	
	<i>Comments: This is the first position of the box dither suggested by Andy Fruchter: (0.0,0.0), (3.0,1.5), (4.5,4.5), and (1.5,3.0)</i>										
	2	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.1488,0 .08595			3300.0 Secs [=>2848.0 Secs]	[2]
3	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.2232,0 .24075			3300.0 Secs [=>2828.0 Secs]	[3]	
Orbit Structure	<p>Orbit 1 Server Version: 20050502</p> <p>The diagram shows a horizontal timeline from 0 to 5500 seconds. Key events are marked with vertical arrows: 'GS Acq' at approximately 100s, 'Exp. 1' (highlighted in green) at approximately 400s, 'Pointing Maneuver' at approximately 3300s, and 'Occultation' at approximately 3400s. A blue and white checkered bar spans from approximately 400s to 3300s. Text above the timeline indicates 'Unused Visibility = 0' during the occultation period.</p>										



Visit	Proposal 10577, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous		
(1)		SN1006-NW	RA: 15 02 19.1700 (225.5798750d) Dec: -41 44 50.00 (-41.74722d) Equinox: J2000 Plate Id: (?)	Proper Motion RA: -0.018s/yr Proper Motion Dec: 0.2"/yr Epoch of Position: 1998.0	V=(?) 3.2E-16 erg/(cm ² s arcsec ²) in H alpha emission	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0744,0 .1548		3300.0 Secs [=>2766.0 Secs]	[1]
	2	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,0		3300.0 Secs [=>2828.0 Secs]	[2]
	3	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.1488,0 .08595		3300.0 Secs [=>2828.0 Secs]	[3]
Orbit Structure	<p>Orbit 1 Server Version: 20050502</p> <p>GS Acq ←→ Exp. 1</p> <p>Occultation Unused Visibility = 0</p> <p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec.</p>									



Visit	Proposal 10577, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SN1006-NW	RA: 15 02 19.1700 (225.5798750d) Dec: -41 44 50.00 (-41.74722d) Equinox: J2000 Plate Id: (?)	Proper Motion RA: -0.018s/yr Proper Motion Dec: 0.2"/yr Epoch of Position: 1998.0	V=(?) 3.2E-16 erg/(cm ² s arcsec ²) in H alpha emission	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.2232,0 .24075		3300.0 Secs [=>2766.0 Secs]	[1]
	2	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0.0744,0 .1548		3300.0 Secs [=>2828.0 Secs]	[2]
	3	(1) SN1006-NW	(1) SN1006-NW	ACS/WFC, ACCUM, WFC	F658N	CR-SPLIT=NO	POS TARG 0,0		3300.0 Secs [=>2828.0 Secs]	[3]
Orbit Structure	<p>Orbit 1 Server Version: 20050502</p> <p>The diagram shows a horizontal timeline from 0 to 5500 seconds. At 0 seconds, 'GS Acq' is indicated. A green box highlights 'Exp. 1' between approximately 300 and 450 seconds. At approximately 3300 seconds, an 'Occultation' begins, and the region from 3300 to 5500 seconds is shaded with a blue and white checkered pattern, labeled 'Unused Visibility = 0'.</p>									

