10549 - SAINTS - Supernova 1987A INTensive Survey

Cycle: 14, Proposal Category: GO

(Availability Mode: AVAILABLE)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Robert P. Kirshner (PI)	**Harvard University**	**kirshner@cfa.harvard.edu**
Dr. Eddie Baron (CoI)	University of Oklahoma Norman Campus	baron@nhn.ou.edu
Mr. Peter Challis (CoI)	Harvard University	pchallis@cfa.harvard.edu
Dr. Roger A. Chevalier (CoI)	The University of Virginia	rac5x@virginia.edu
Dr. Arlin Crotts (CoI)	Columbia University in the City of New York	arlin@astro.columbia.edu
Dr. Alex V. Filippenko (CoI)	University of California - Berkeley	alex@astro.berkeley.edu
Dr. Claes Fransson (CoI) (ESA Member)	Stockholm University	fransson@astro.su.se
Dr. Bryan Gaensler (CoI)	Harvard University	bgaensler@cfa.harvard.edu
Dr. Peter Garnavich (CoI)	University of Notre Dame	pgarnavi@nd.edu
Dr. Weidong Li (CoI)	University of California - Berkeley	wli@astro.berkeley.edu
Dr. Peter Lundqvist (CoI) (ESA Member)	Stockholm University	peter@astro.su.se
Dr. Stephen S. Lawrence (CoI)	Hofstra University	Stephen.Lawrence@hofstra.edu
Dr. Bruno Leibundgut (CoI) (ESA Member)	European Southern Observatory - Germany	bleibund@eso.org
Dr. Thomas Matheson (CoI)	National Optical Astronomy Observatories, AURA	tmatheson@noao.edu
Dr. Richard McCray (CoI)	University of Colorado at Boulder	dick@jila.colorado.edu
Dr. Nino Panagia (CoI) (ESA Member)	Space Telescope Science Institute - ESA	panagia@stsci.edu
Dr. Mark M. Phillips (CoI)	Carnegie Institution of Washington	mmp@lco.cl
Dr. Jason Pun (CoI)	University of Hong Kong	jcspun@hkucc.hku.hk
Dr. Jesper Sollerman (CoI) (ESA Member)	Stockholm University	jesper@astro.su.se
Dr. Ben E. Sugerman (CoI)	Space Telescope Science Institute	sugerman@stsci.edu
Dr. Nicholas B. Suntzeff (CoI)	National Optical Astronomy Observatories - CTIO	nsuntzeff@noao.edu

Name	*Institution*	*E-Mail*
Dr. Lifan Wang (CoI)	Lawrence Berkeley National Laboratory	lifan@panisse.lbl.gov
Dr. J. Craig Wheeler (CoI)	University of Texas at Austin	wheel@astro.as.utexas.edu

VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:12.0	yes
02	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:19.0	yes
03	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:25.0	yes
04	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:33.0	yes
05	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:38.0	yes
06	(3) SN1987A-GRISM-O120 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:56:43.0	yes
10	(1) SN1987A	ACS/HRC	4	06-Sep-2005 21:56:54.0	yes
11	(1) SN1987A	ACS/HRC	4	06-Sep-2005 21:57:07.0	yes
13	(1) SN1987A	ACS/HRC	2	06-Sep-2005 21:57:13.0	yes
20	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:18.0	yes
21	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:24.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
22	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:28.0	yes
23	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:33.0	yes
24	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:38.0	yes
25	(4) SN1987A-GRISM-O300 (2) SN1987A-OFFSET	ACS/HRC	1	06-Sep-2005 21:57:43.0	yes
30	(1) SN1987A	NIC1	3	06-Sep-2005 21:57:49.0	yes
31	(1) SN1987A	NIC1 NIC2	2	06-Sep-2005 21:58:00.0	yes

27 Total Orbits Used

ABSTRACT

SAINTS is a program to observe SN 1987A, the brightest supernova in 384 years, as it morphs into the youngest supernova remnant at age 18. HST is the unique and perfect tool for spatially-resolved observations of the many physical components of SN 1987A. A violent encounter is underway between the fastest-moving debris and the circumstellar ring, exciting hotspots seen with HST that are suddenly lighting up. The optical and X-ray flux from the ring are both rising rapidly: HST and Chandra observations taken together are needed to understand the physics of these shocked regions. In Cycle14, the hotspots may fuse as the shock fully enters the ring. Photons from these shocks may excite previously hidden gas outside the ring, revealing the true extent of the mass loss that preceded the explosion. The inner debris of the explosion itself, still excited by radioactive isotopes produced in the explosion, is now well resolved by ACS and seen to be aspherical, providing direct clues to the mechanism of the explosion. Our search for a compact remnant is beginning to eliminate some theoretical possibilities and we have the opportunity in Cycle 14 to place much more stringent limits with NICMOS.

Many questions about SN 1987A remain unanswered. How did the enigmatic three rings form in the late stages of Sanduleak -69 202? Precisely what

took place in the center during the core collapse and bounce? Is a black hole or a neutron star left behind in the debris? SAINTS has been a continuous program since HST was launched-- we propose to extend this rich and deep data set for present use and future reference to answer these central questions in the science of supernovae.

OBSERVING DESCRIPTION

Our ACS/HRC imaging program provides continuing information on the debris luminosity and expansion, eruption of new hotspots, and recombination of the rings at the highest spatial resolution. Observations in a basic set of filters (F330W, F435W, F555W, F625W, F814W, F658N, F606N and F502N) will connect with our earlier observations at similar signal-to-noise ratio (S/N). With 8 orbits we obtain S/N ratios of 5-20 in the debris and 5-100 in the hotspots. In previous cycles, we were able to take advantage of the CVZ and fewer orbits to obtain the observations. In Cycle 14, with the potential of being in the 2 gyro mode and shorter orbits, we are requesting an allocation to match the data from previous cycles.
Since the ACS/HRC G800L grism spectra described below will pose some complications in extracting the emission-line strengths of some lines, we would like to use narrow-band images through both F658N and F660N to help extract the strengths of H{α } and [N II]. The reconnaissance for eruption of new hotspots should be done again late in Cycle 14, which takes 2 additional orbits. NICMOS observations were last carried out in 1997 and 1998. Observations done in Cycle 14 would include F110W, F160W, F205W, F108N, F164N, F187N, and F212N and require 5 orbits. Observations in these filters were carried out in Cycles 7 and 8. Those observations will be used

as templates to measure changes from 7 years ago. They will also provide the best limits on emission from a compact remnant in the debris.
Cycle 14 spectra will be carried out with the ACS/HRC grism (G800L) using the coronographic mask (CORON-3.0) to cut down on the overlapping emission from the circumstellar ring. By using the coronographic mask, and positioning SN1978A carefully behind the mask, we will take grism observations of one half of the ring, then moving slightly to obtain the spectra of other half of the ring as illustrated in Figure 6 and 7. We are proving this technique in Cycle 13, and should soon know how well it works in May 2005. We expect this will be effective in determining the spectra of individual hotspots. Some problems with blending can be resolved with the second order images. We are fortunate in the placement of CORON-3.0 in the focal plane relative to the G800L dispersion so that the entire 1st and 2nd order land on the HRC detector over the useful sensitivity range 5500-11000A. We are planning for 3 orbits of each per side of the ring. Each orbit will be series of drizzled exposures and have a different orientation to help remove the complex background. We expect that this combination of observations can provide data sets that are comparable in wavelength coverage, superior in spatial resolution, and adequate in resolution to provide a direct comparison with our earlier series of STIS spectra.
We request to make this observation twice in cycle 14, 6 months or 180 degrees apart to deal with confusion from the stellar background.

Visit

Proposal 10549, Visit 01 Wed Sep 07 01:58:03 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 128.0D TO 128.0 D; SEQ 01,02,03,04,05,06 WITHIN 20 D

Patterns

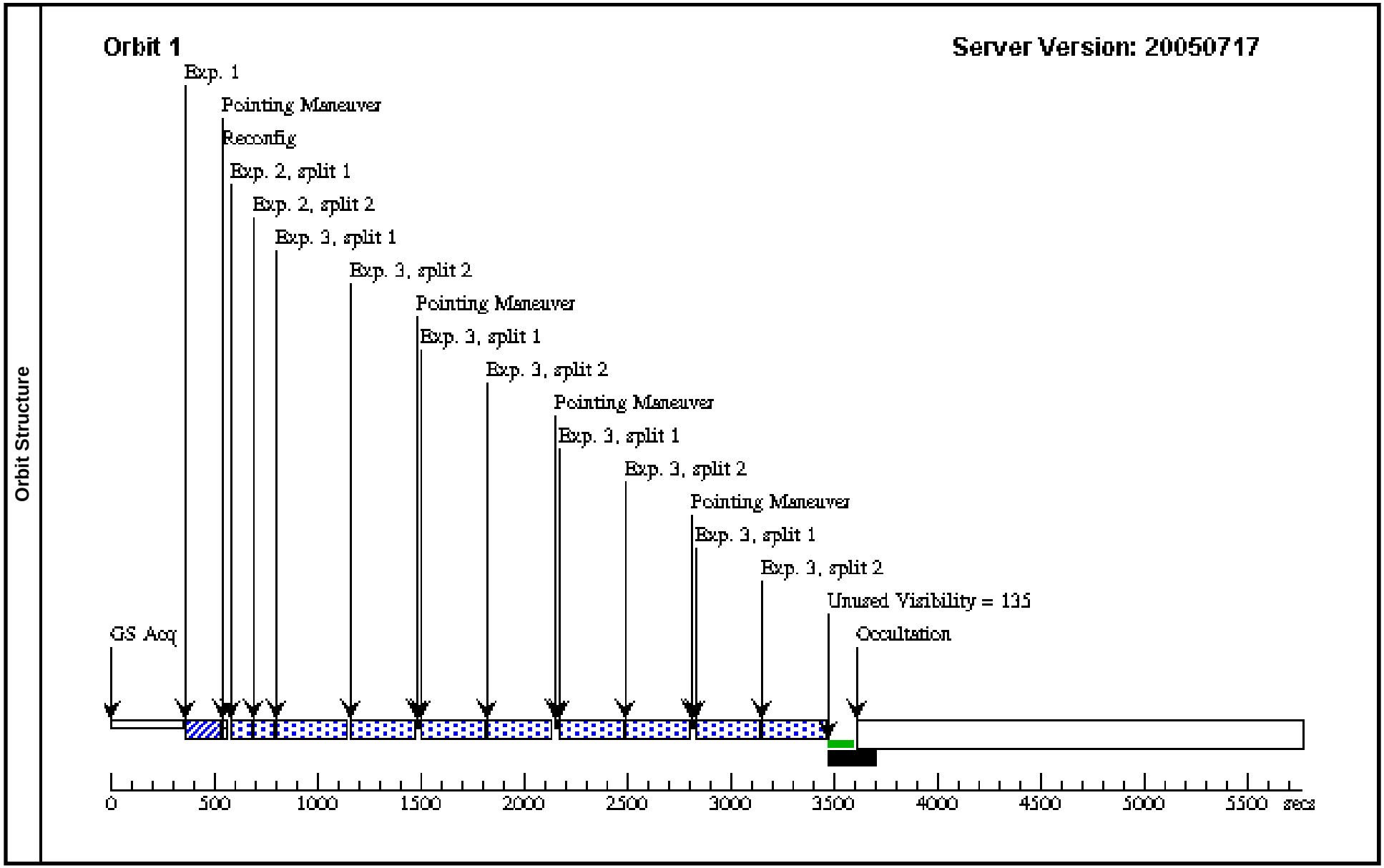
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***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Exp. 1
Pointing Maneuver
Reconfig
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 02 Wed Sep 07 01:58:05 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 01

Patterns

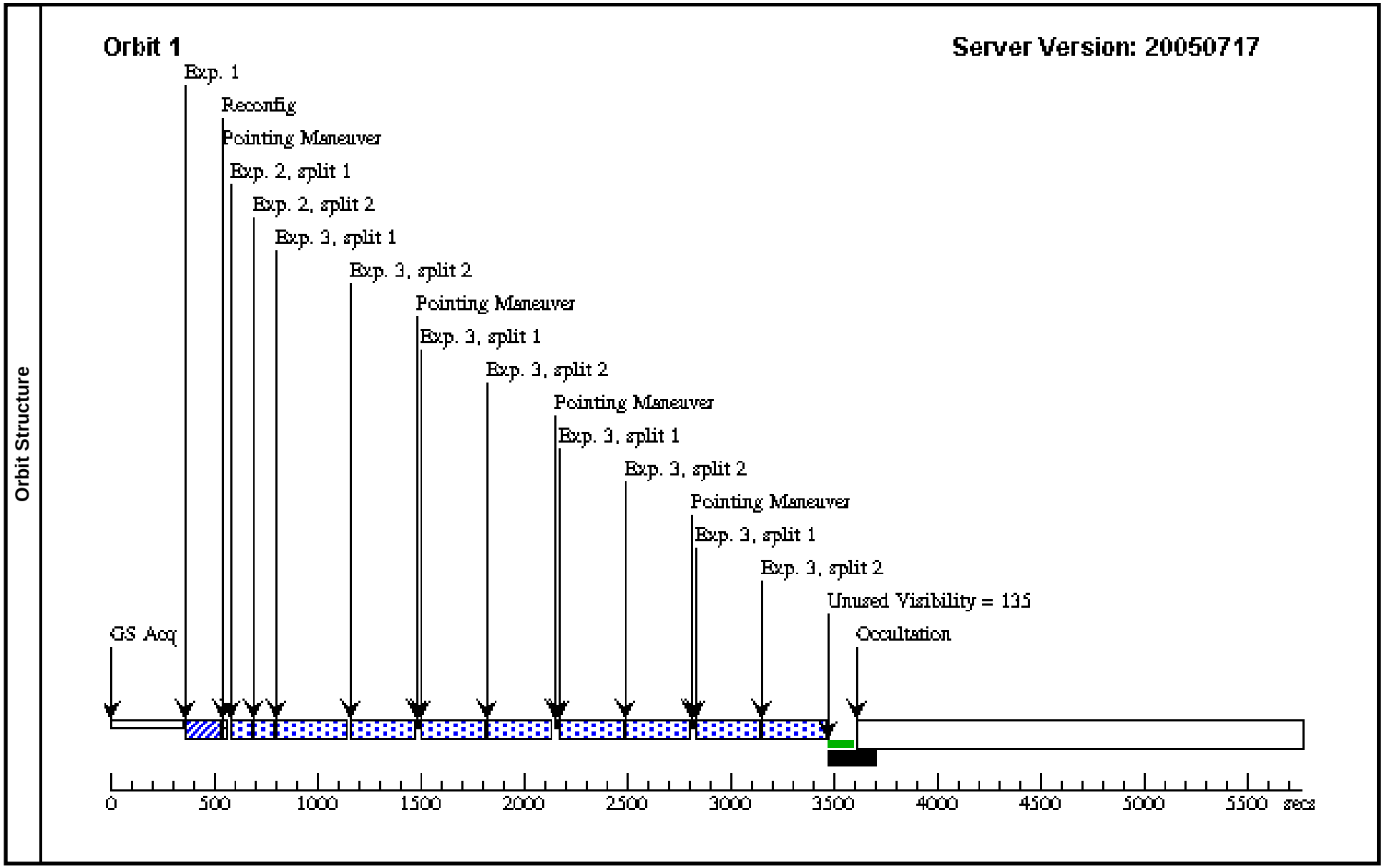
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***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Reconfig
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Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
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2500
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4500
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5500
secs

Visit

Proposal 10549, Visit 03 Wed Sep 07 01:58:05 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 132.0D TO 132.0 D

Patterns

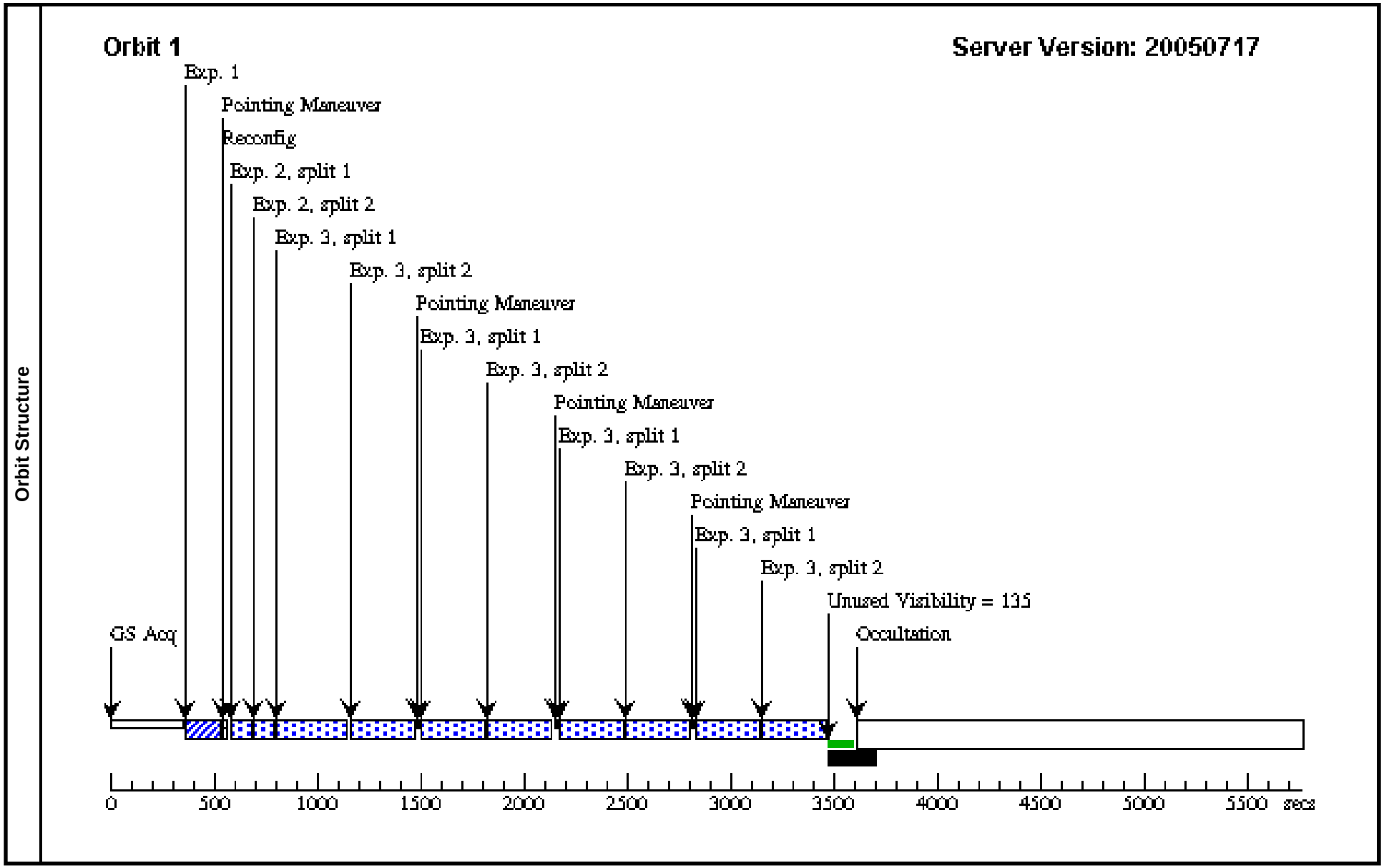
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***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Reconfig
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
0
500
1000
1500
2000
2500
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3500
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4500
5000
5500
secs

Visit

Proposal 10549, Visit 04 Wed Sep 07 01:58:06 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 03

Patterns

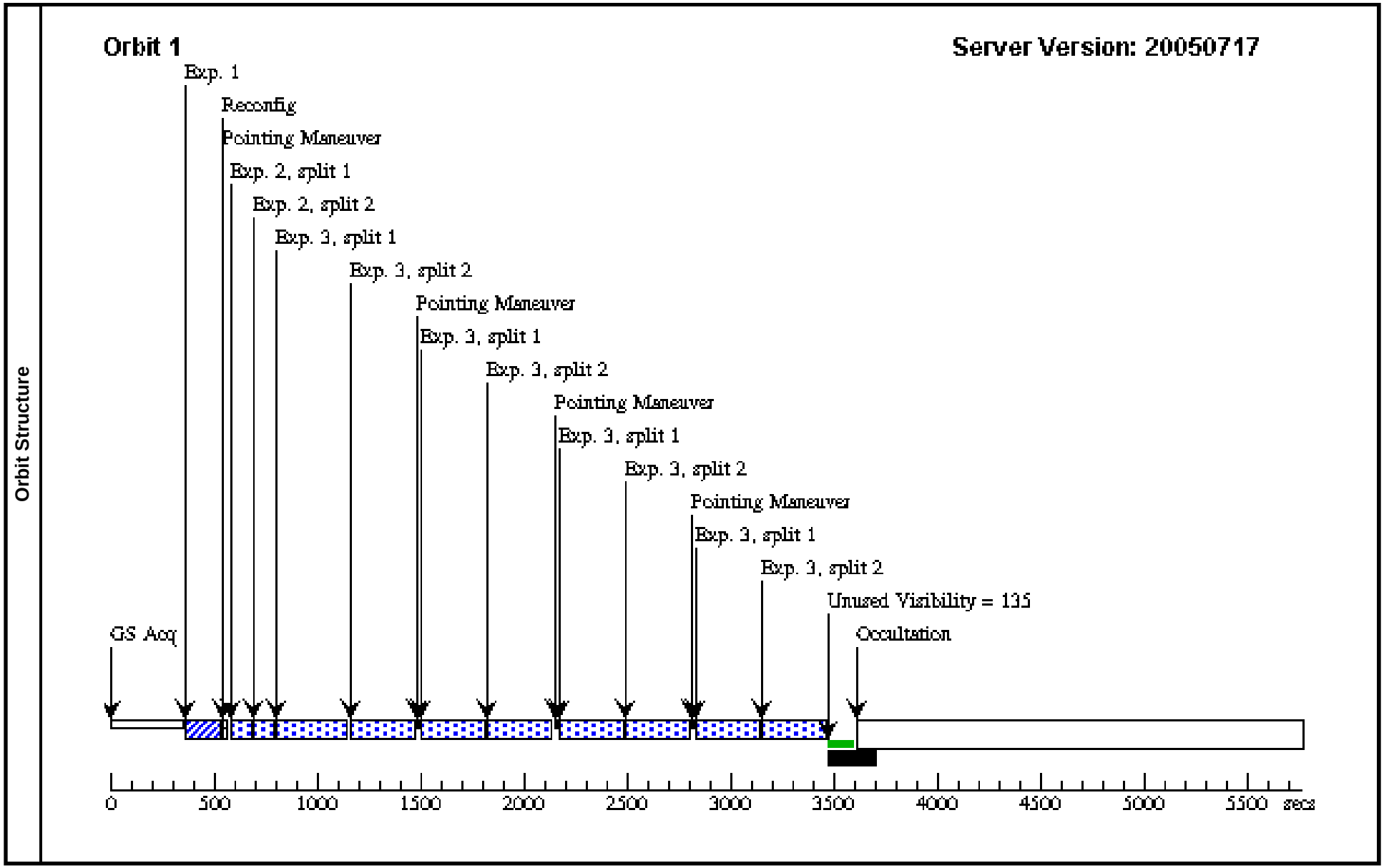
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20050717
Exp. 1
Reconfig
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Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
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Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
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secs

Visit

Proposal 10549, Visit 05 Wed Sep 07 01:58:06 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 136.0D TO 136.0 D

Patterns

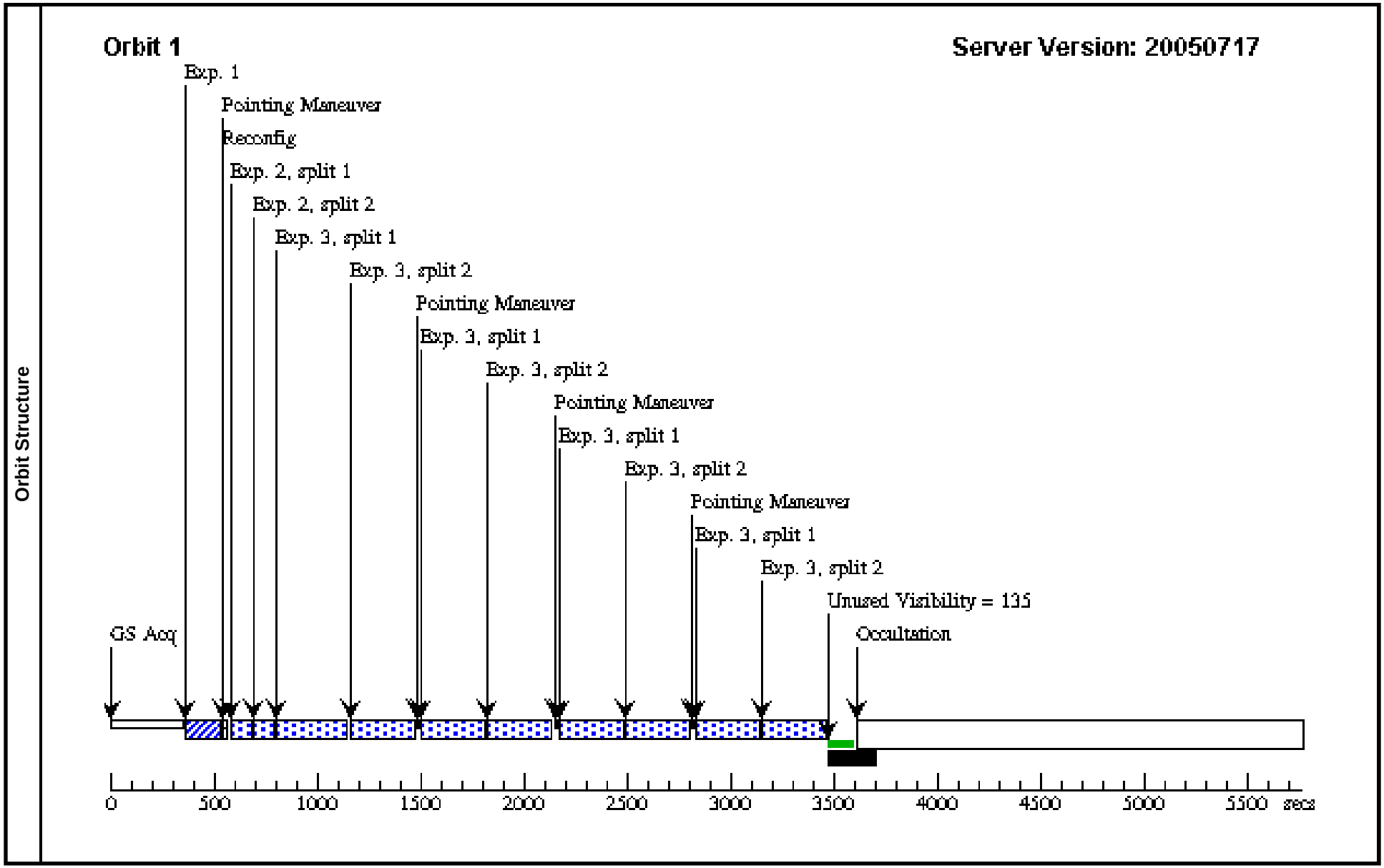
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***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Reconfig
Exp. 2, split 1
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Exp. 3, split 1
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Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
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500
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1500
2000
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3500
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4500
5000
5500
secs

Visit

Proposal 10549, Visit 06 Wed Sep 07 01:58:07 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 05

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
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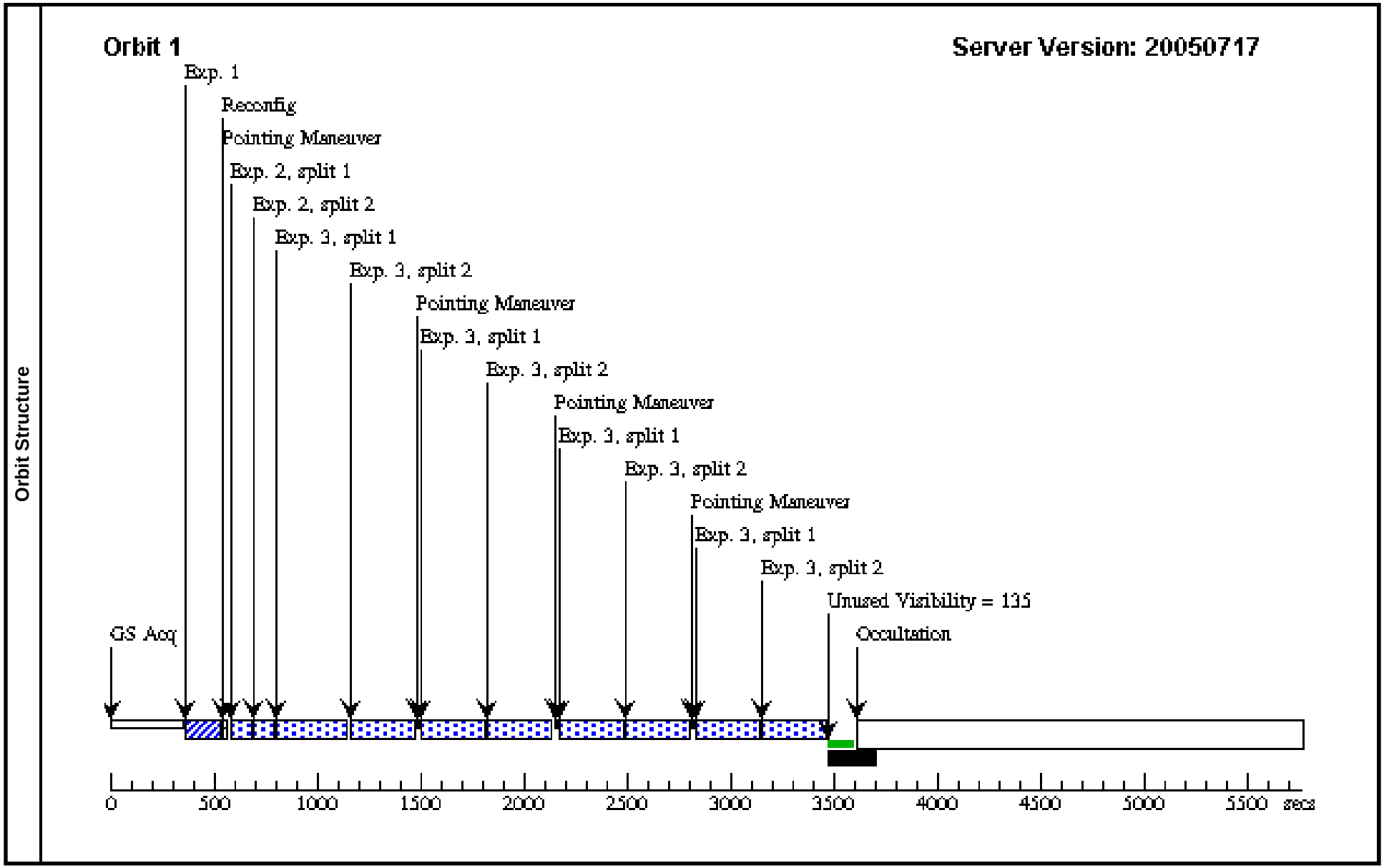
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(3)	SN1987A-GRISM-O120	RA: 05 35 27.3610 (83.8640042d) Dec: -69 16 18.31 (-69.27175d) Equinox: J2000 Plate Id: (?)		V=23.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(3) SN1987A-GRISM-O120	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit 1
Server Version: 20050717
Orbit Structure
Exp. 1
Reconfig
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 135
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 10 Wed Sep 07 01:58:07 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: BETWEEN 01-SEP-2005:00:00:00 AND 01-JAN-2006:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.15 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(1-5)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN1987A	RA: 05 35 28.1100 (83.8671250d) Dec: -69 16 10.85 (-69.26968d) Equinox: J2000 Plate Id: 06B0		V=24.0+/-1.0	Coordinate Source: HST_IMAGE

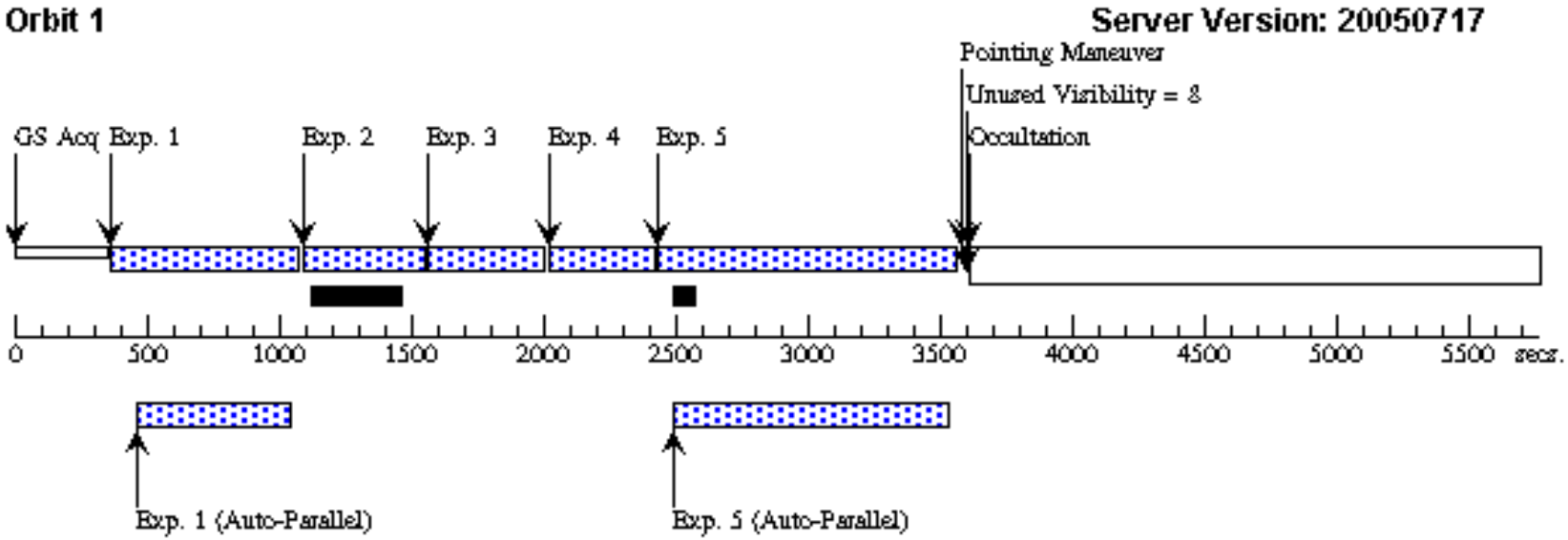
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SN1987A	ACS/HRC, ACCUM, HRC	F330W	CR-SPLIT=NO; PAREXP=MULTIPLE		Pattern 1-5 (1)	600.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
2		(1) SN1987A	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; PAREXP=DEF		Pattern 1-5 (1)	400.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
3		(1) SN1987A	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; PAREXP=DEF		Pattern 1-5 (1)	350.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
4		(1) SN1987A	ACS/HRC, ACCUM, HRC	F625W	CR-SPLIT=NO; PAREXP=DEF		Pattern 1-5 (1)	350.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***

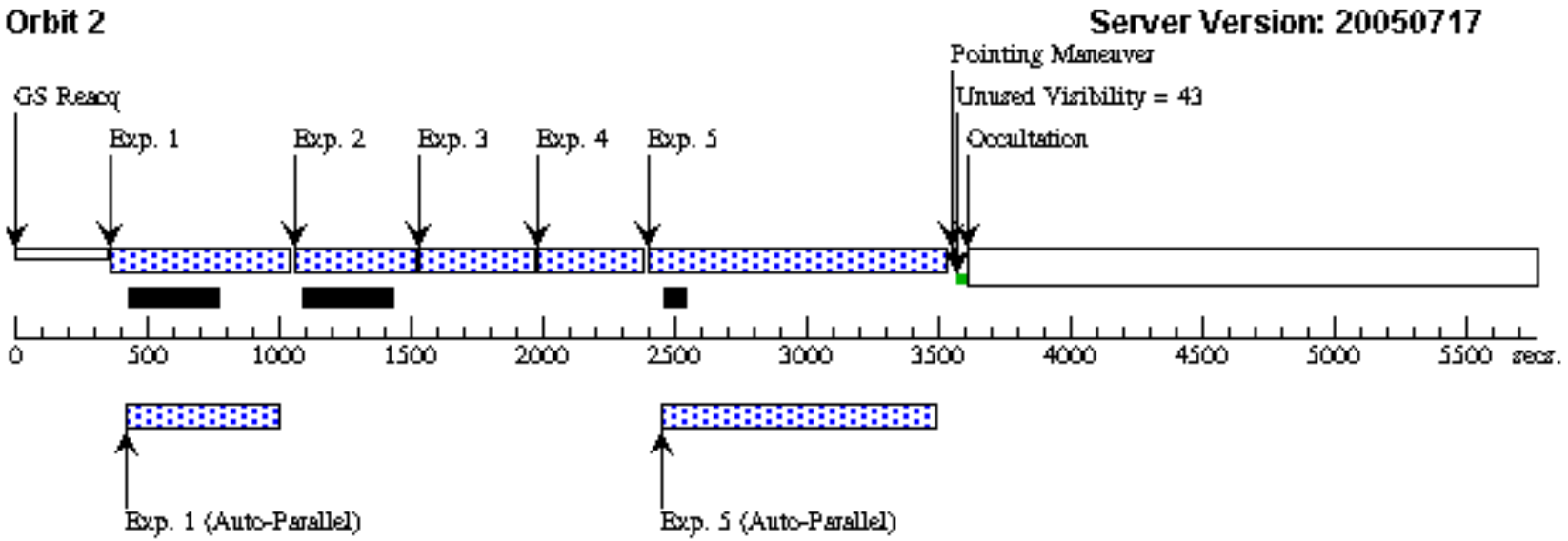
Exposures (continued)

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
5		(1) SN1987A	ACS/HRC, ACCUM, HRC	F502N	CR-SPLIT=NO; PAREXP=DEF		Pattern 1-5 (1)	1060.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***

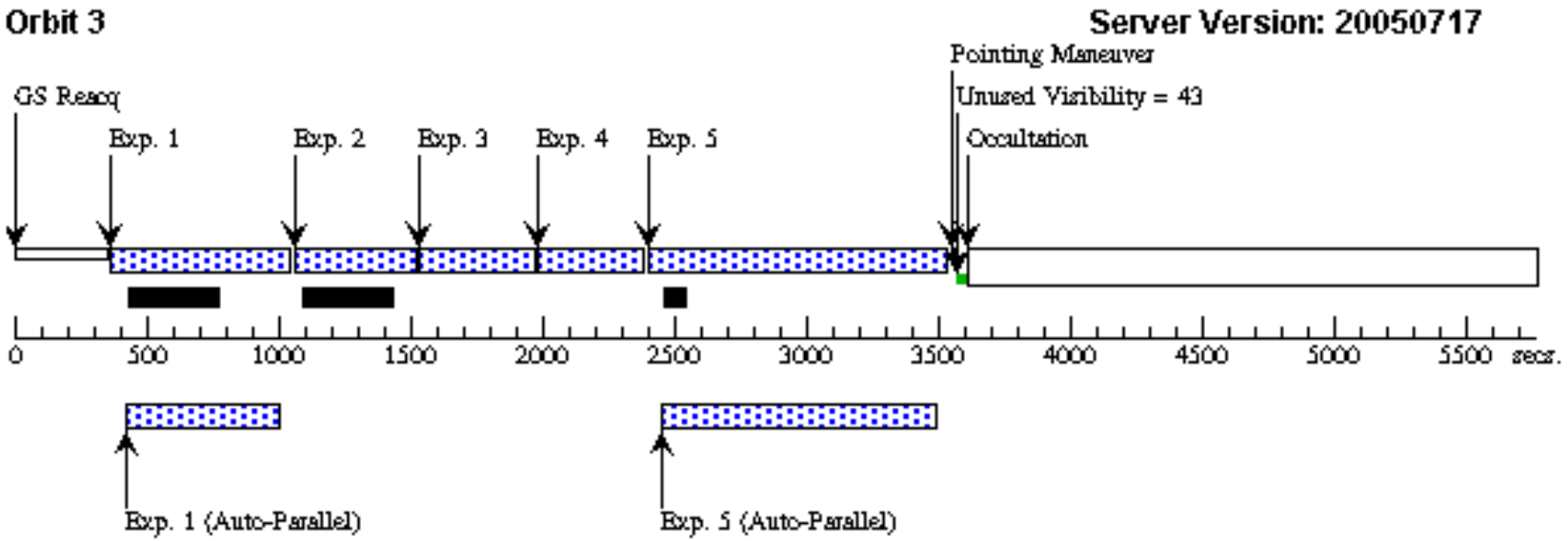
Orbit Structure



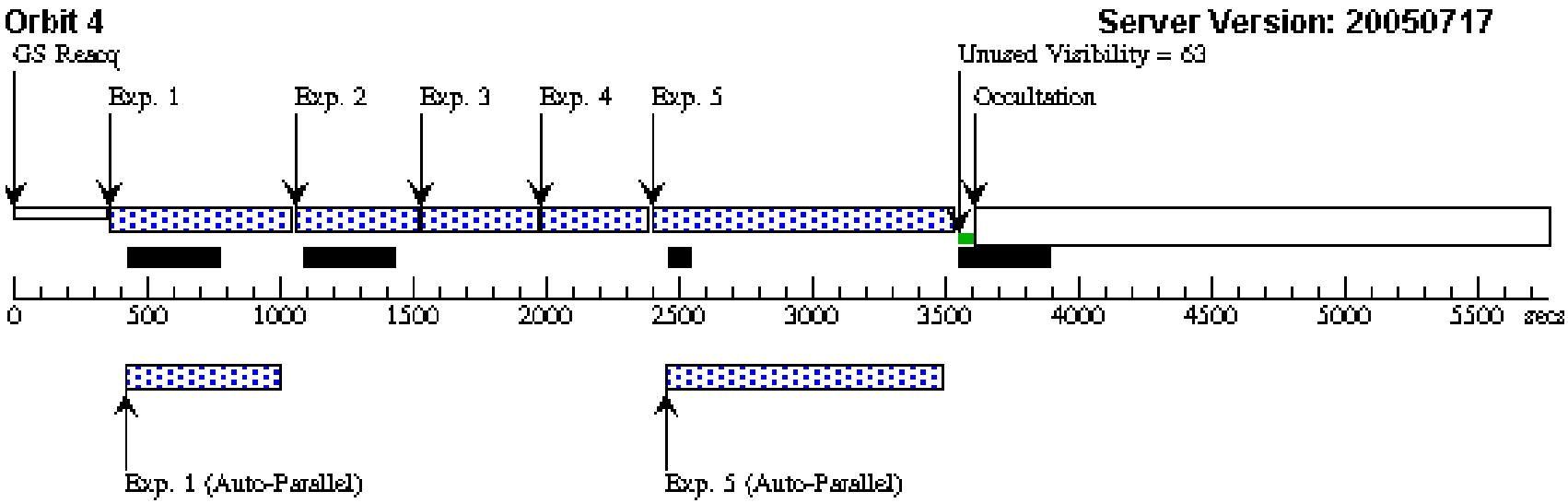
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10549, Visit 11 Wed Sep 07 01:58:08 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: BETWEEN 01-SEP-2005:00:00:00 AND 01-JAN-2006:00:00:00; SEQ 10,11 WITHIN 7 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.15 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(1-4)

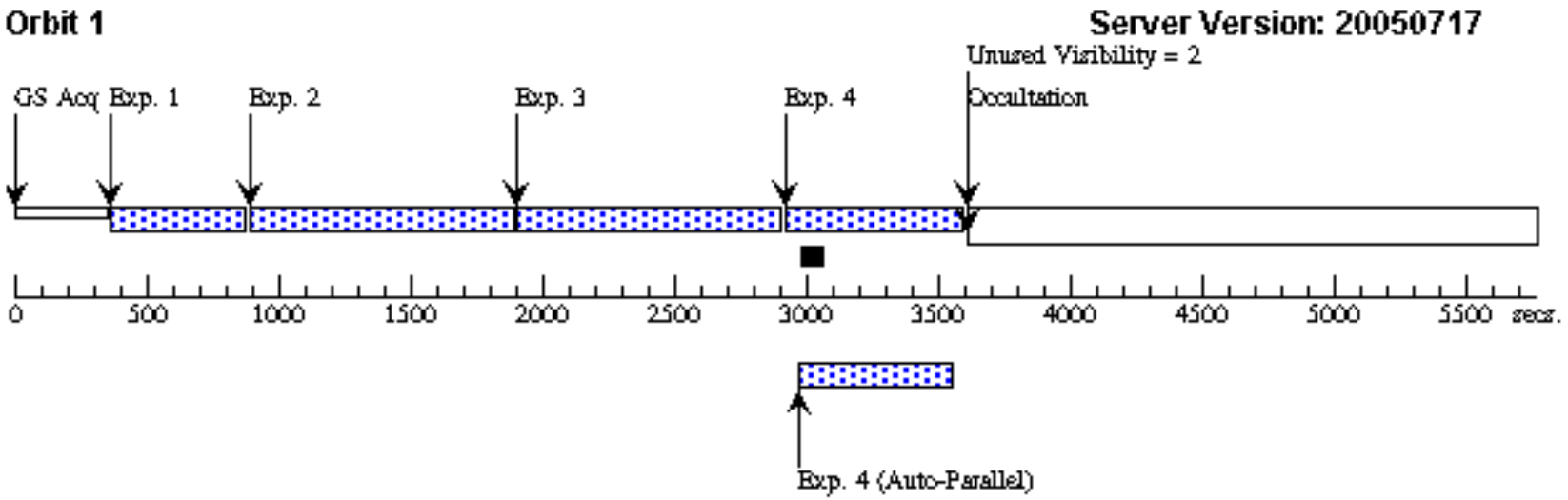
Fixed Targets

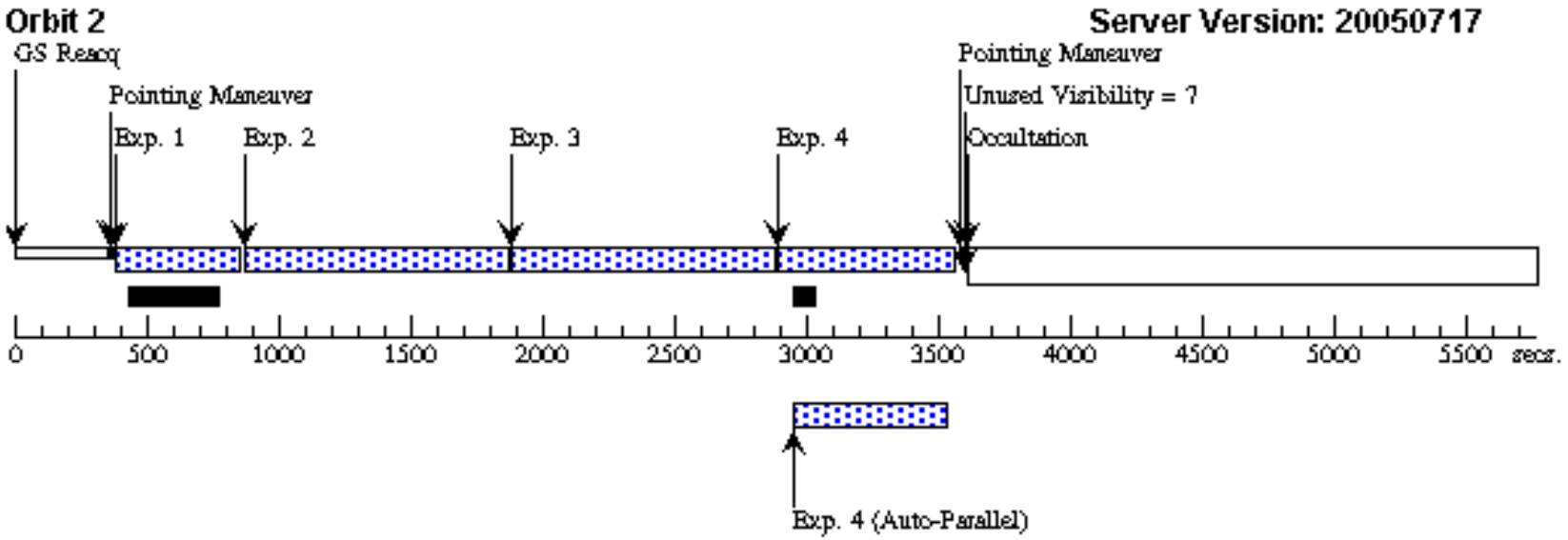
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN1987A	RA: 05 35 28.1100 (83.8671250d) Dec: -69 16 10.85 (-69.26968d) Equinox: J2000 Plate Id: 06B0		V=24.0+/-1.0	Coordinate Source: HST_IMAGE

Exposures

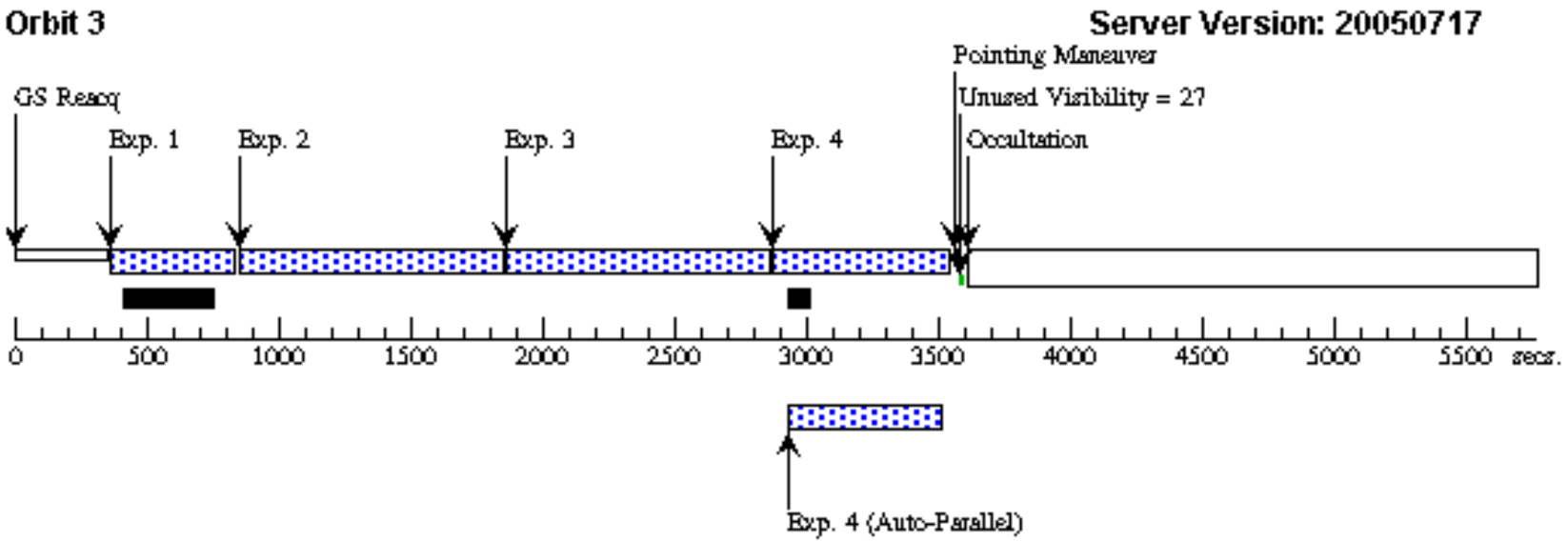
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SN1987A	ACS/HRC, ACCUM, HRC	F814W	CR-SPLIT=NO		Pattern 1-4 (1)	400.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
2		(1) SN1987A	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO		Pattern 1-4 (1)	900.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
3		(1) SN1987A	ACS/HRC, ACCUM, HRC	F660N	CR-SPLIT=NO		Pattern 1-4 (1)	900.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***
4		(1) SN1987A	ACS/HRC, ACCUM, HRC	F250W	CR-SPLIT=NO		Pattern 1-4 (1)	600.0 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
								[==>(Pattern 4)]	***[4]***

Orbit Structure

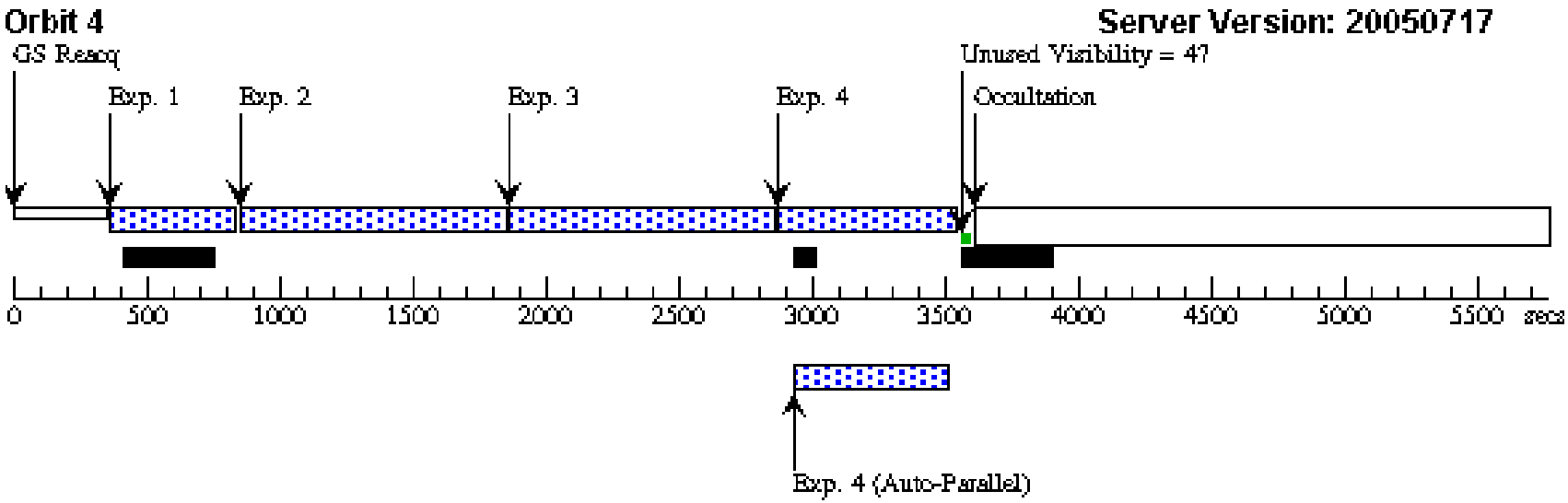




Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10549, Visit 13 Wed Sep 07 01:58:09 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: AFTER 11 BY 140 D TO 220 D

Patterns

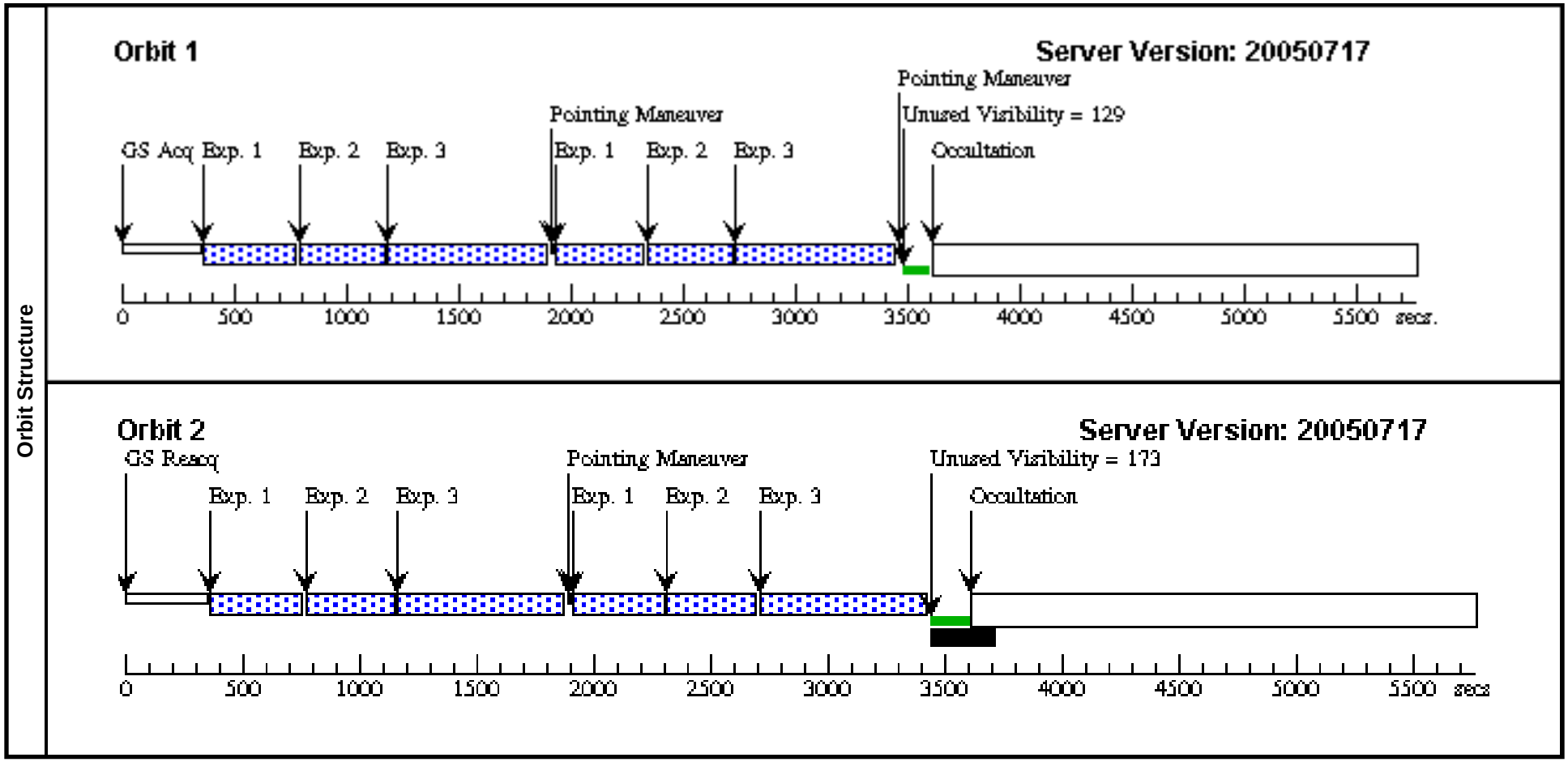
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.15 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(1-3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN1987A	RA: 05 35 28.1100 (83.8671250d) Dec: -69 16 10.85 (-69.26968d) Equinox: J2000 Plate Id: 06B0		V=24.0+/-1.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SN1987A	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO		Pattern 1-3 (1)	300.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) SN1987A	ACS/HRC, ACCUM, HRC	F625W	CR-SPLIT=NO		Pattern 1-3 (1)	300.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
3		(1) SN1987A	ACS/HRC, ACCUM, HRC	F658N	CR-SPLIT=NO		Pattern 1-3 (1)	650.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***


Orbit Structure
Orbit 1
Server Version: 20050717
Pointing Maneuver
Unused Visibility = 129
Pointing Maneuver
GS Acq
Exp. 1
Exp. 2
Exp. 3
Exp. 1
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20050717
GS Reacq
Pointing Maneuver
Unused Visibility = 173
Exp. 1
Exp. 2
Exp. 3
Exp. 1
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 20 Wed Sep 07 01:58:09 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 286.0D TO 286.0 D; BETWEEN 31-AUG-2005:00:00:00 AND 31-DEC-2005:00:00:00; SEQ 20,21,22,23,24,25 WITHIN 20 D

Comments: Visits 20-25
ideally we would like to have 2 orbits per orient.
If this is not possible, any oreint between
250-300 is okay.

Patterns

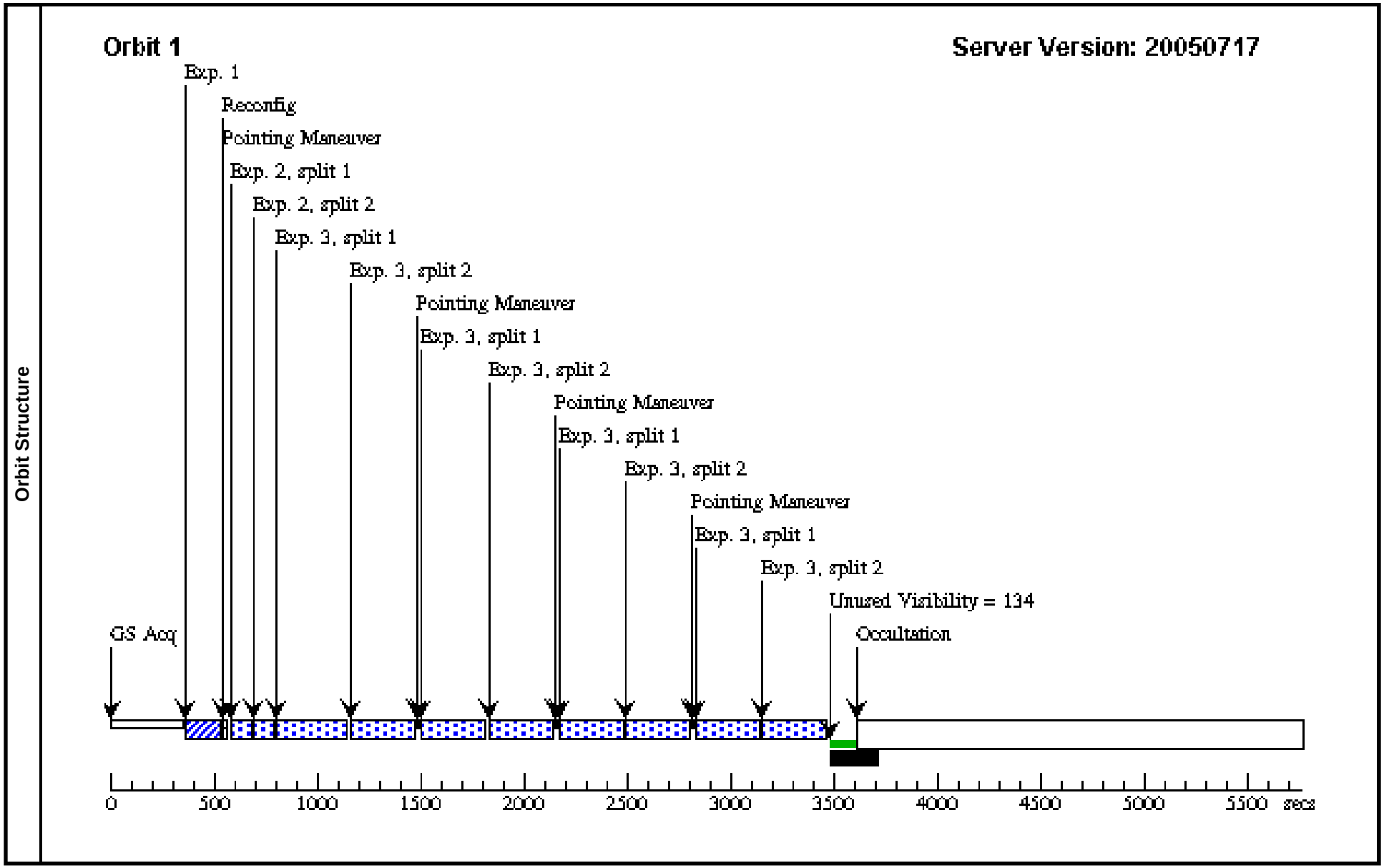
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs *[==>]*	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs *[==>(Split 1)]* *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs *[==>(Pattern 1, Split 1)]* *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20050717
Exp. 1
Reconfig
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 21 Wed Sep 07 01:58:10 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 20

Patterns

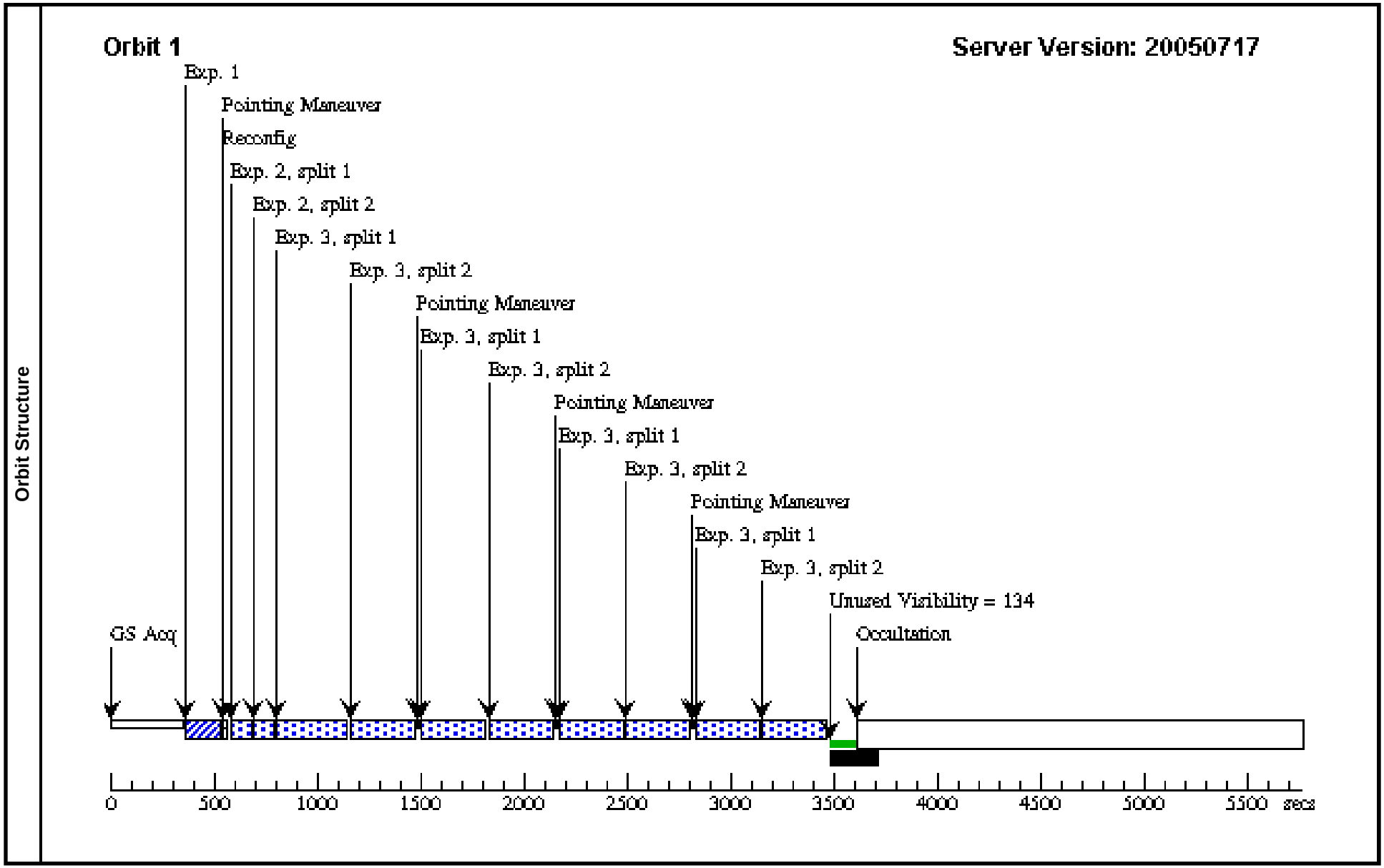
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20050717
Exp. 1
Pointing Maneuver
Reconfig
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 22 Wed Sep 07 01:58:10 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 290.0D TO 290.0 D

Patterns

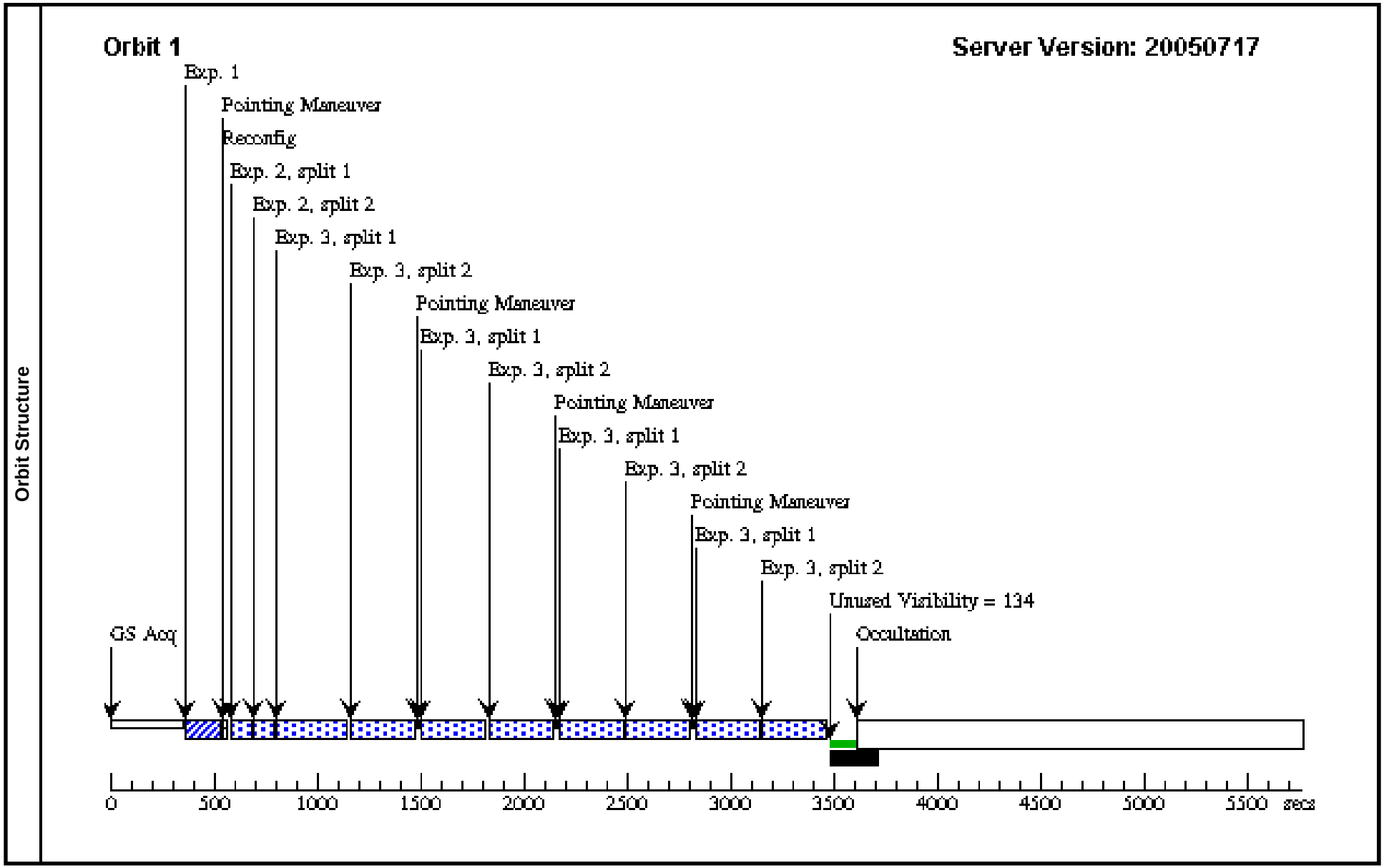
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit 1
Server Version: 20050717
Orbit Structure
Exp. 1
Pointing Maneuver
Reconfig
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 23 Wed Sep 07 01:58:10 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 22

Patterns

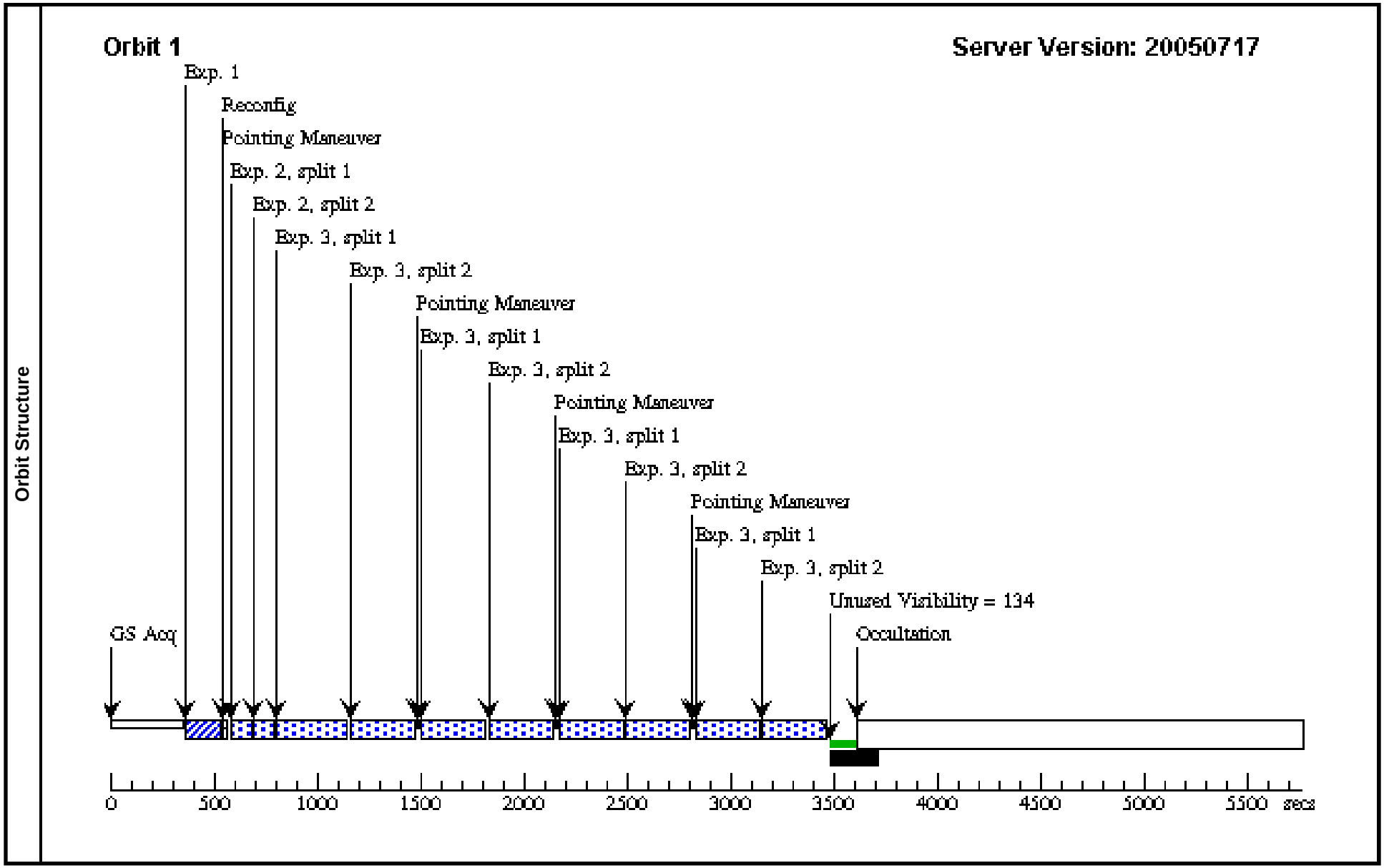
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit 1
Server Version: 20050717
Orbit Structure
Exp. 1
Reconfig
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 24 Wed Sep 07 01:58:11 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: ORIENT 294.0D TO 294.0 D

Patterns

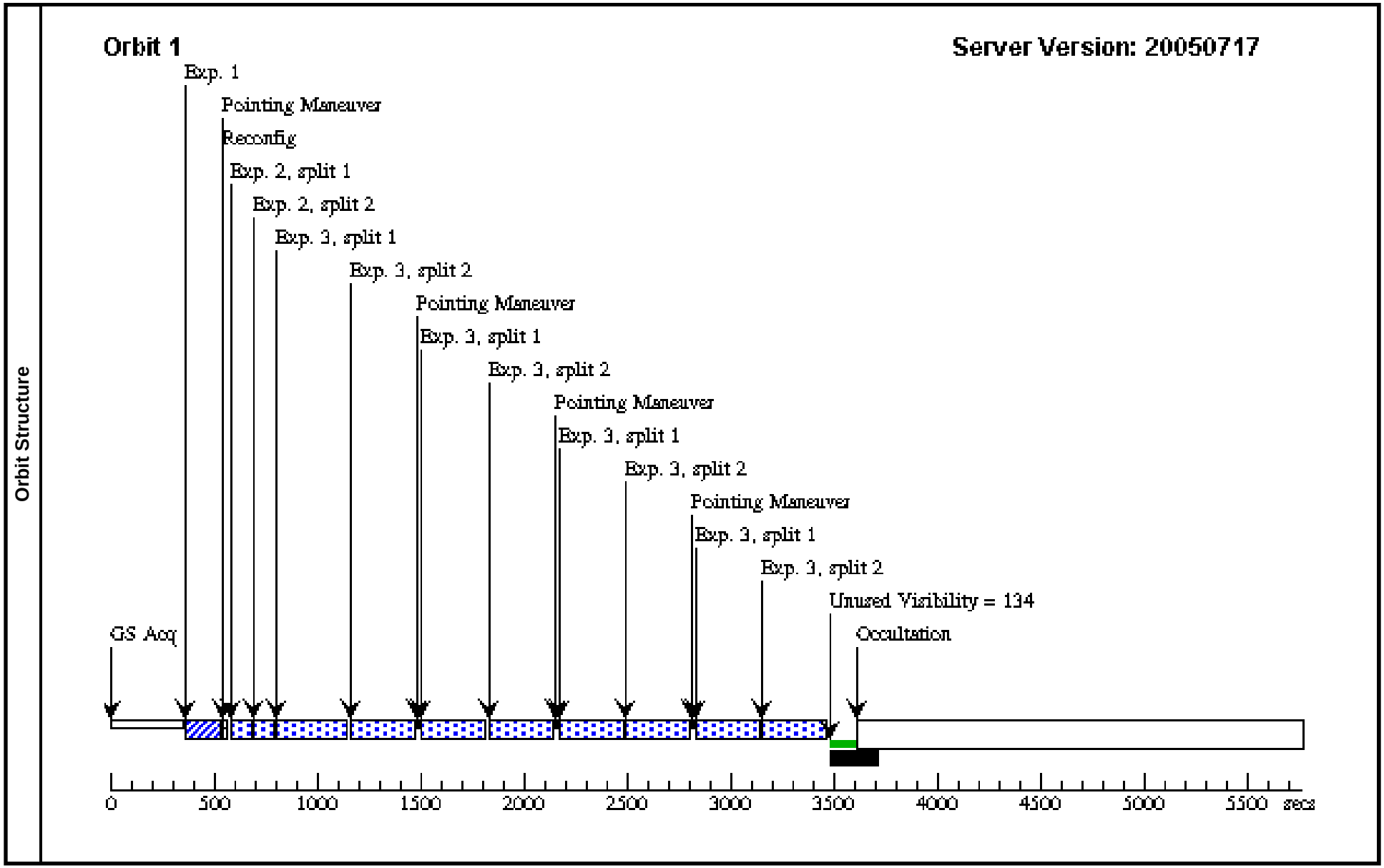
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20050717
Exp. 1
Pointing Maneuver
Reconfig
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 25 Wed Sep 07 01:58:12 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: SAME ORIENT AS 24

Patterns

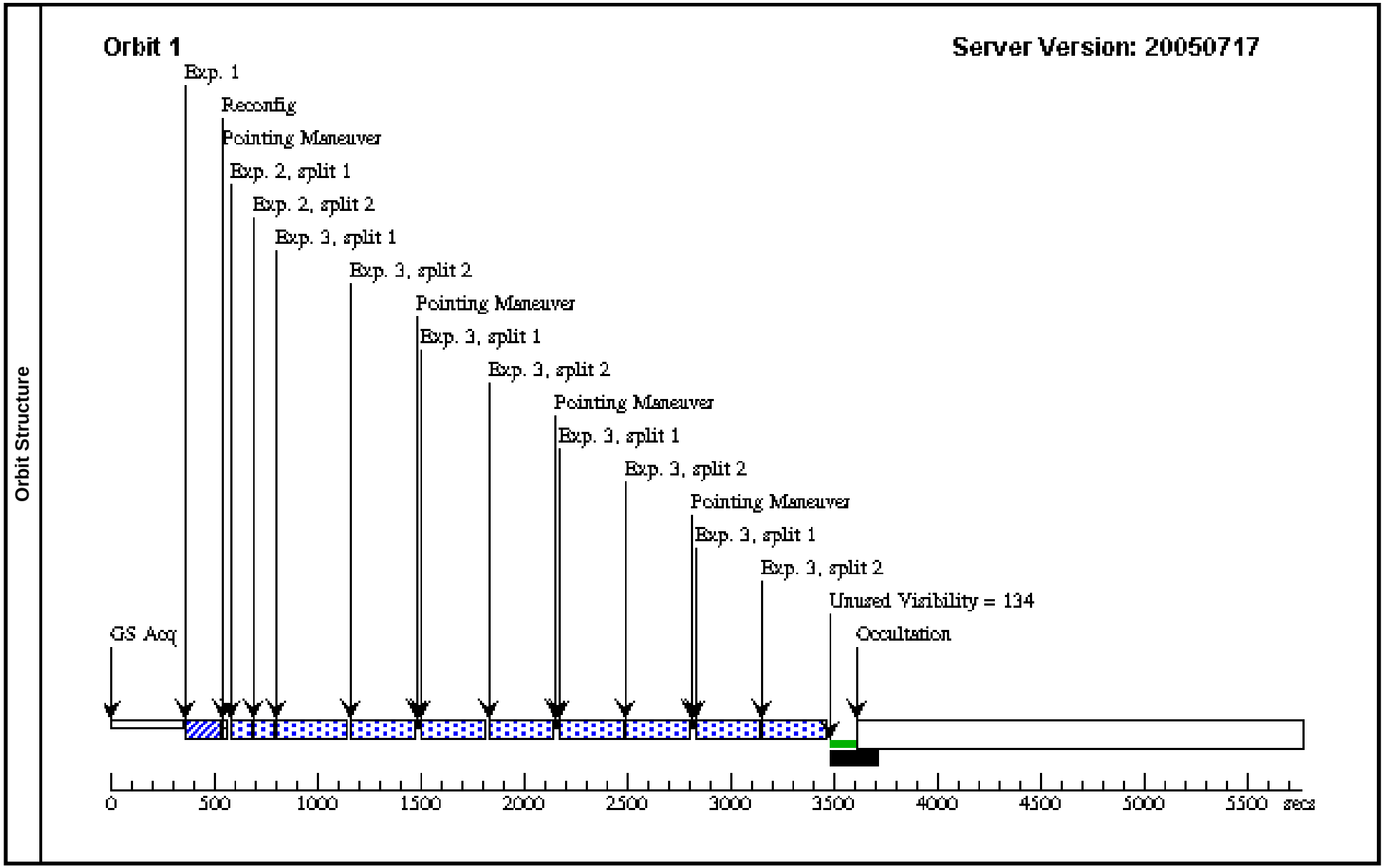
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.5 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.9 Angle Between Sides=63.5 Center Pattern=false		(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SN1987A-OFFSET	RA: 05 35 30.5800 (83.8774167d) Dec: -69 16 18.32 (-69.27176d) Equinox: J2000 Plate Id: (?)		V=16.07	Coordinate Source: HST_IMAGE
(4)	SN1987A-GRISM-O300	RA: 05 35 28.2600 (83.8677500d) Dec: -69 16 2.67 (-69.26741d) Equinox: J2000 Plate Id: (?)		V=24.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) SN1987A-OFFSET	ACS/HRC, ACQ, HRC-ACQ	F625W				2.0 Secs	
								[==>]	***[1]***
2		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	F625W	CR-SPLIT=2			120.0 Secs	
								[==>(Split 1)] *[==>(Split 2)]*	***[1]***
3		(4) SN1987A-GRISM-O300	ACS/HRC, ACCUM, HRC-FIX	G800L	CR-SPLIT=2; AUTOIMAGE=NO		Pattern 3-3 (3)	550.0 Secs	
								[==>(Pattern 1, Split 1)] *[==>(Pattern 1, Split 2)]* *[==>(Pattern 2, Split 1)]* *[==>(Pattern 2, Split 2)]* *[==>(Pattern 3, Split 1)]* *[==>(Pattern 3, Split 2)]* *[==>(Pattern 4, Split 1)]* *[==>(Pattern 4, Split 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20050717
Exp. 1
Reconfig
Pointing Maneuver
Exp. 2, split 1
Exp. 2, split 2
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Pointing Maneuver
Exp. 3, split 1
Exp. 3, split 2
Unused Visibility = 134
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10549, Visit 30 Wed Sep 07 01:58:12 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC1

Special Requirements: BETWEEN 01-JUL-2005:00:00:00 AND 01-JAN-2006:00:00:00

Comments: please schedule in SAA Free orbits

Patterns

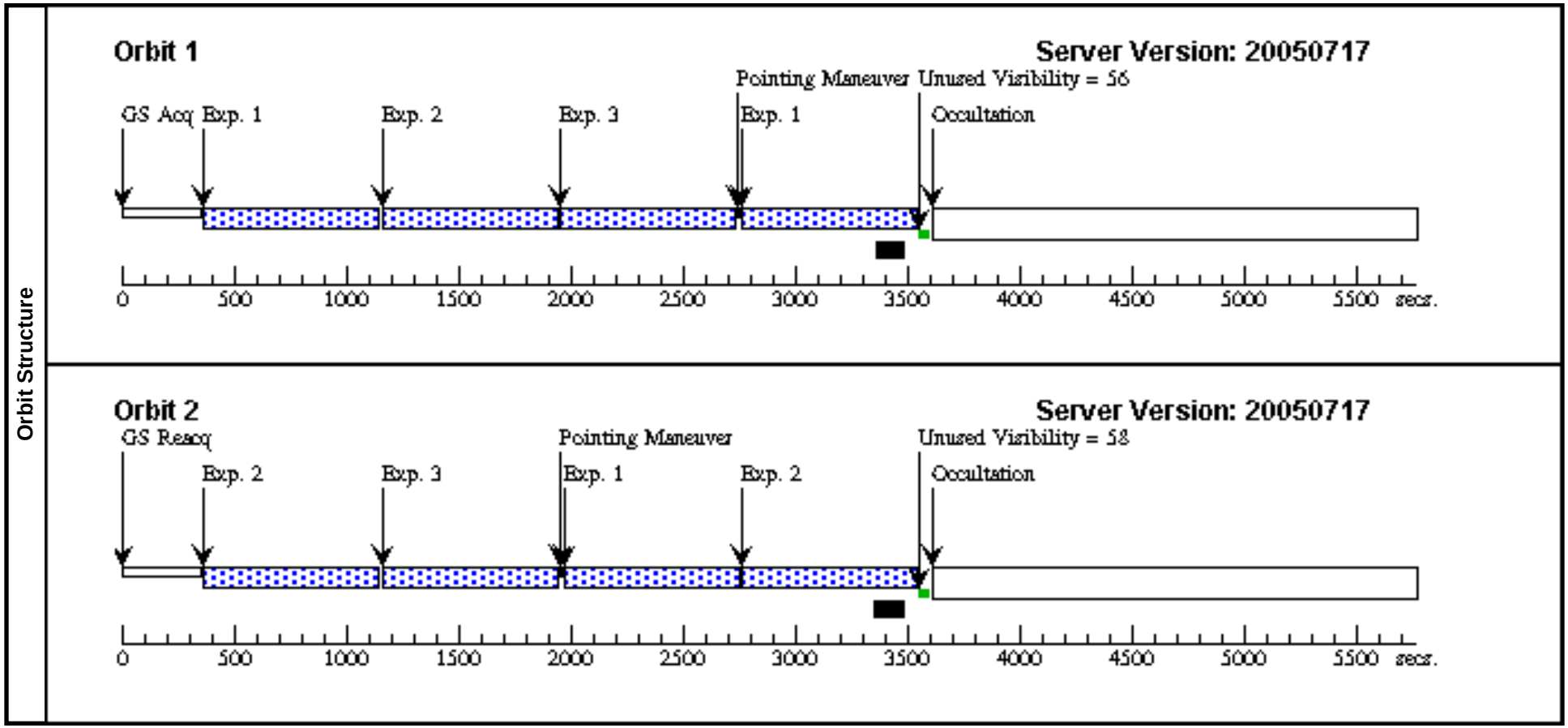
#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG		(1-3)
	Purpose=DITHER	Pattern Orientation=90		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=0.5	Center Pattern=false		
	Line Spacing=			

Fixed Targets

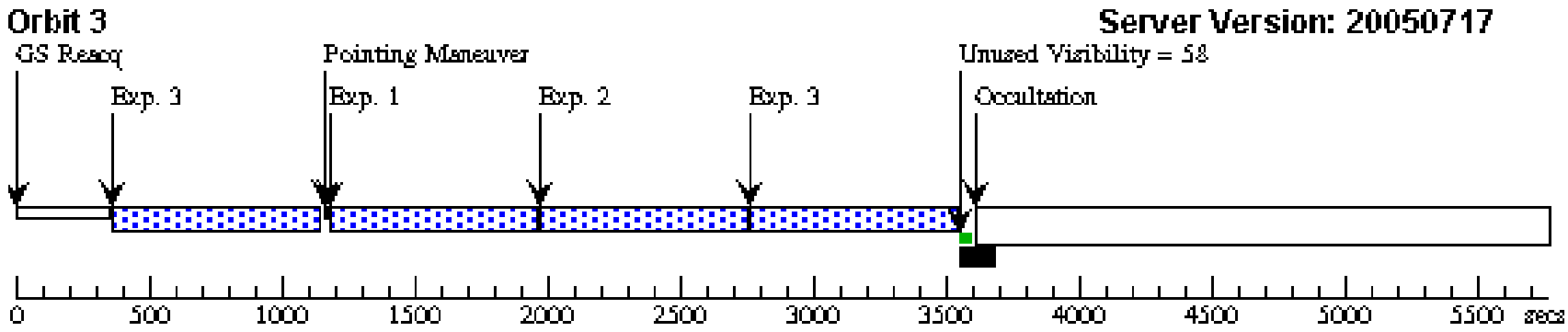
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN1987A	RA: 05 35 28.1100 (83.8671250d) Dec: -69 16 10.85 (-69.26968d) Equinox: J2000 Plate Id: 06B0		V=24.0+/-1.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SN1987A	NIC1, MULTIACCUM, NIC1	F108N	SAMP-SEQ=STEP64; NSAMP=20	GS ACQ SCENARIO BASE1TNS	Pattern 1-3 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)]	***[2]***
								[==>(Pattern 4)]	***[3]***
2		(1) SN1987A	NIC1, MULTIACCUM, NIC1	F187N	SAMP-SEQ=STEP64; NSAMP=20		Pattern 1-3 (2)	*[==>(Pattern 1)]*	***[1]***
								[==>(Pattern 2)] *[==>(Pattern 3)]*	***[2]***
								[==>(Pattern 4)]	***[3]***
3		(1) SN1987A	NIC1, MULTIACCUM, NIC1	F164N	SAMP-SEQ=STEP64; NSAMP=20		Pattern 1-3 (2)	*[==>(Pattern 1)]*	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[3]***


Orbit Structure
Orbit 1
Server Version: 20050717
Pointing Maneuver
Unused Visibility = 56
GS Acq
Exp. 1
Exp. 2
Exp. 3
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20050717
GS Reacq
Pointing Maneuver
Unused Visibility = 58
Exp. 2
Exp. 3
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.

Orbit Structure (continued)



Visit

Proposal 10549, Visit 31 Wed Sep 07 01:58:13 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC2, NIC1

Special Requirements: BETWEEN 01-JUL-2005:00:00:00 AND 01-JAN-2006:00:00:00

Comments: please schedule in SAA Free orbits

Patterns

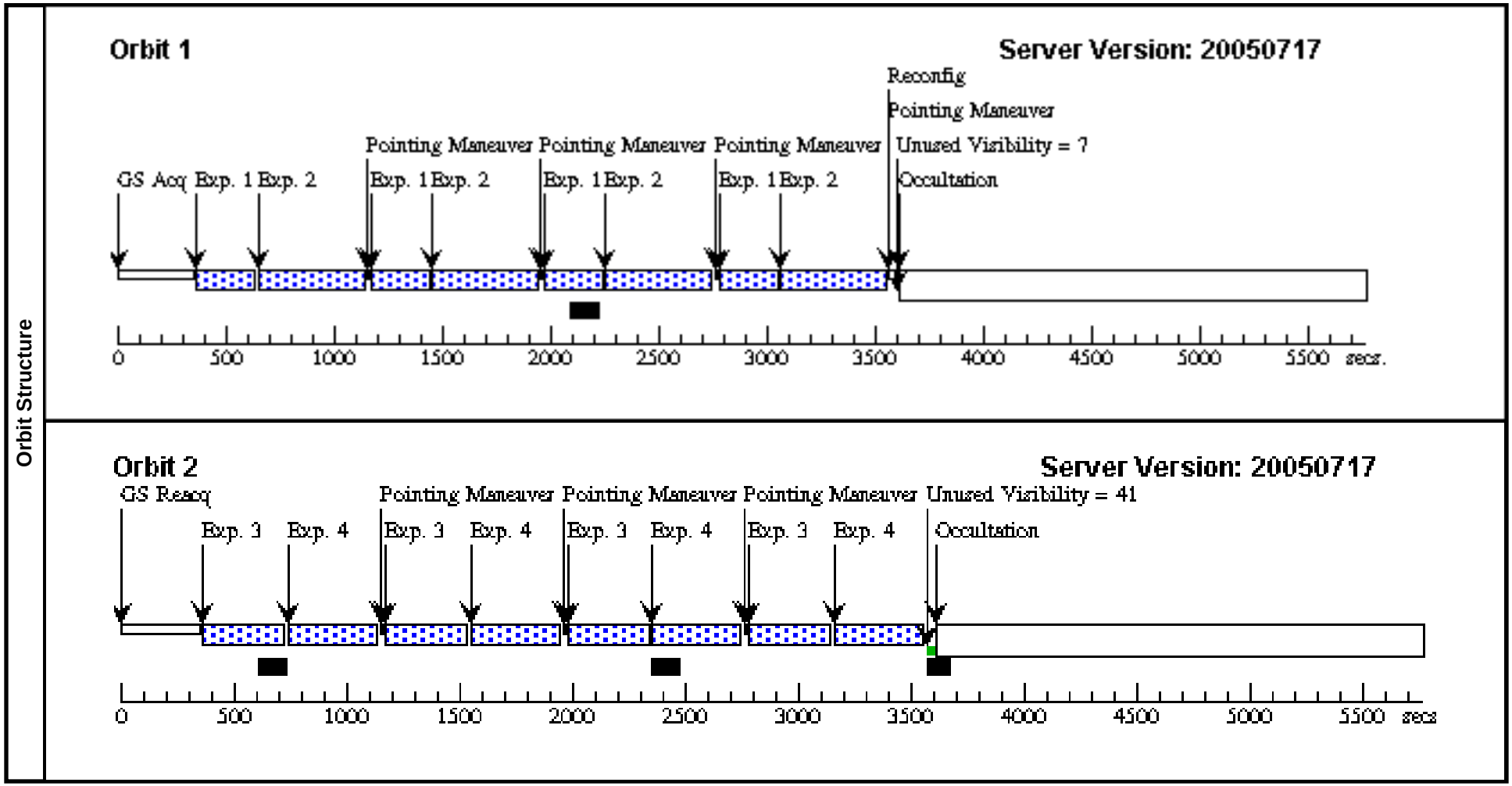
#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG		(1-2), (3-4)
	Purpose=DITHER	Pattern Orientation=90		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=0.5	Center Pattern=false		
	Line Spacing=			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SN1987A	RA: 05 35 28.1100 (83.8671250d) Dec: -69 16 10.85 (-69.26968d) Equinox: J2000 Plate Id: 06B0		V=24.0+/-1.0	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SN1987A	NIC2, MULTIACCUM, NIC2	F205W	NSAMP=15; SAMP-SEQ=STEP32	GS ACQ SCENARIO BASE1TNS	Pattern 1-2 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) SN1987A	NIC2, MULTIACCUM, NIC2	F212N	NSAMP=22; SAMP-SEQ=STEP32		Pattern 1-2 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3		(1) SN1987A	NIC1, MULTIACCUM, NIC1	F110W	SAMP-SEQ=STEP32; NSAMP=18		Pattern 3-4 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
4		(1) SN1987A	NIC1, MULTIACCUM, NIC1	F160W	NSAMP=19; SAMP-SEQ=STEP32		Pattern 3-4 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***


Orbit Structure
Orbit 1
Server Version: 20050717
Reconfig
Pointing Maneuver
Unused Visibility = 7
Occultation
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20050717
GS Reacq
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 41
Occultation
Exp. 3
Exp. 4
Exp. 3
Exp. 4
Exp. 3
Exp. 4
Exp. 3
Exp. 4
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs