12050 - 20th Anniversary of HST Launch

Cycle: 17, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
11	(1) HH901 ANY	ACS/WFC WFC3/UVIS	3	12-Feb-2010 21:01:08.0	yes
12	(1) HH901 ANY	ACS/WFC WFC3/UVIS	3	12-Feb-2010 21:01:20.0	yes
13	(1) HH901 ANY	ACS/WFC WFC3/UVIS	3	12-Feb-2010 21:01:29.0	yes
14	(1) HH901 ANY	ACS/WFC WFC3/UVIS	3	12-Feb-2010 21:01:38.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
25	(2) HH901-COPY	WFC3/IR	3	12-Feb-2010 21:01:46.0	yes
21	(1) HH901	WFC3/IR	3	12-Feb-2010 21:01:51.0	yes
22	(1) HH901	WFC3/IR	3	12-Feb-2010 21:01:57.0	yes
23	(1) HH901	WFC3/IR	3	12-Feb-2010 21:02:02.0	yes
24	(1) HH901	WFC3/IR	3	12-Feb-2010 21:02:09.0	yes

27 Total Orbits Used

ABSTRACT

The 20th anniversary of HST's launch on April 24, 2010 will be a significant milestone both in the Hubble mission and in the history of U.S. space astronomy. Already plans are in place for many activities surrounding this anniversary that take advantage of the "teachable moment" afforded by this event. A new, high-impact image from Hubble is a necessary component of this mix. We are proposing here to meet that need with new observations of a dramatic region of the Carina Nebula only partially observed previously with Hubble. The release of the large mosaic of the Carina Nebula for HST's 17th anniversary was one of the largest Hubble images ever released (Fig. 1). It contains numerous dramatic details including the pillar containing HH 901 (Fig. 2) which was itself released as a separate detail image. What is not widely realized, however, is that the HST data in the Carina mosaic is limited to H-alpha only. The oxygen (502 nm) and sulfur (673 nm) images were obtained with the MOSAIC camera at CTIO. These low resolution images were combined with the much higher resolution HST data to produce the final color image composite. When the full mosaic is viewed, the loss of resolution is an acceptable compromise. However, when zooming in on details, the effect is noticeable. We have selected the most dramatic portion to return to with WFC3 to obtain HST resolution in a complete filter set. In order to highlight the new capabilities of WFC3 as well as foreshadowing the

capabilities of JWST, we will obtain a full 3-color composite in the IR channel of WFC3 in addition to the UVIS.

OBSERVING DESCRIPTION

UVIS channel: We propose a 2x2 mosaic of WFC3 UVIS fields of view as outlined in Fig. 2. We will observe in three filters that incorporate four narrowband emission lines, F502N (O III), F657N (Ha + N II), and F673N (S II). This filter set isolates the three strongest emission lines in the nebula and represents the “classic” filter set for this object. We have chosen to use the F657N filter because with a FWHM of 9.63 nm, it is a better match to the bandwidth of the other two filters (5.78 and 10.05 nm) and will help us to avoid the problem of ‘pink’ stars that often appears in nebular composites. The increased blue sensitivity of WFC3 compared to WFPC2 will also help with this balance. The UVIS exposures will be dithered with a three-step linear dither that covers the chip-gap. Three exposures will be obtained in each filter in each of 3 UVIS orbits per pointing. The integration time per filter will be 3200s (F502N), 1980s (F657N), and 2400 s (F673N). We will obtain a S/N comparable to or better than that obtained for the nearby region of HH666 in Carina observed for the SM4 EROs.

IR channel: We propose to cover a slightly smaller area with the IR channel as covered by the UVIS mosaic. We will accomplish this with a 2x2 mosaic using the WFC3 IR FOV. With the IR channel we seek to obtain an image that is markedly different than the UVIS image. We will accomplish this by selecting three narrow band filters that will reveal substantially more stars than the UVIS narrow band filters because of the lower dust opacity in the IR. We will use a modified box dither pattern to avoid the “death star” dead pixel artifact and enable some resolution enhancement. We will observe with the F124N, F164N [Fe II] and the F128N Paschen filters. This three filter set will allow us to make, for the first time, a full three color image in the WFC3 IR channel. The two-color image of HH 666 from the EROs demonstrates that this will have the potential to be a

truly spectacular and different view of Carina. The two iron line filters highlight the jets (there are at least three in the region we are targeting) and the Paschen filter will pick up stronger nebular emission. We are using the STEP 100 sequence with 12 or 13 reads for a total integration time of 2400s (F124N), 2800s (F128N) and 2800s (F164N).

ADDITIONAL COMMENTS

We will follow the format of previous such large datasets by advertising in time for cycle 18 GO and AR programs that will be able to exploit the data
to be available from this program. As with previous programs of this kind (M51,M82, M104) we will make available enhanced data products (drizzled mosaics) that will increase the value for archival researchers. The rich array of narrow band filters available in WFC3 will enable multiple opportunities to expand upon the baseline data we will provide.

The 20th anniversary of HST's launch on April 24, 2010 will be a significant milestone both in the Hubble mission and in the history of U.S. space astronomy. Already plans are in place for many activities surrounding this anniversary that take advantage of the "teachable moment" afforded by this event. A new, high-impact image from Hubble is a necessary component of this mix. We are proposing here to meet that need with new observations of a dramatic region of the Carina Nebula only partially observed previously with Hubble. The release of the large mosaic of the Carina Nebula for HST's 17th anniversary was one of the largest Hubble images ever released (Fig. 1). It contains numerous dramatic details including the pillar containing HH 901 (Fig. 2) which was itself released as a separate detail image. What is not widely realized, however, is that the HST data in the Carina mosaic is limited to H-alpha only. The oxygen (502 nm) and sulfur (673 nm) images were obtained with the MOSAIC camera at CTIO. These low resolution images were combined with the much higher resolution HST data to produce the final color image composite. When the full mosaic is viewed, the loss of resolution is an acceptable compromise. However, when zooming in on details, the effect is noticeable. We have

selected the most dramatic portion to return to with WFC3 to obtain HST resolution in a complete filter set. In order to highlight the new capabilities of WFC3 as well as foreshadowing the capabilities of JWST, we will obtain a full 3-color composite in the IR channel of WFC3 in addition to the UVIS. A strong motivation for choosing this target is the association of these dramatic spacescapes with traditional landscape photography and art. This association is a natural consequence of the similarity of form and the unique Hubble palette. It allows a point of reference that makes the images at once more accessible and more powerful in their emotional impact. The landscape nature of these images also recalls the exploration of the American West that was documented and celebrated in the works of landscape artists like Bierstadt and Ansel Adams.

Visit

Proposal 12050, Visit 11, completed Sat Feb 13 02:02:14 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFC3/UVIS

Special Requirements: ORIENT 333D TO 333 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=63.697 Angle Between Sides= Center Pattern=false		(1-4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F673N	CR-SPLIT=NO	POS TARG -69.41669530031582,-79.19727329894862; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	900 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
2		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F657N	CR-SPLIT=NO	POS TARG -69.41669530031582,-79.19727329894862	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	800 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
3		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	CR-SPLIT=NO	POS TARG -69.41669530031582,-79.19727329894862	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	1100 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
4		ANY	ACS/WFC, ACCUM, WFCENTER	F502N			Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	850 Secs X 3	
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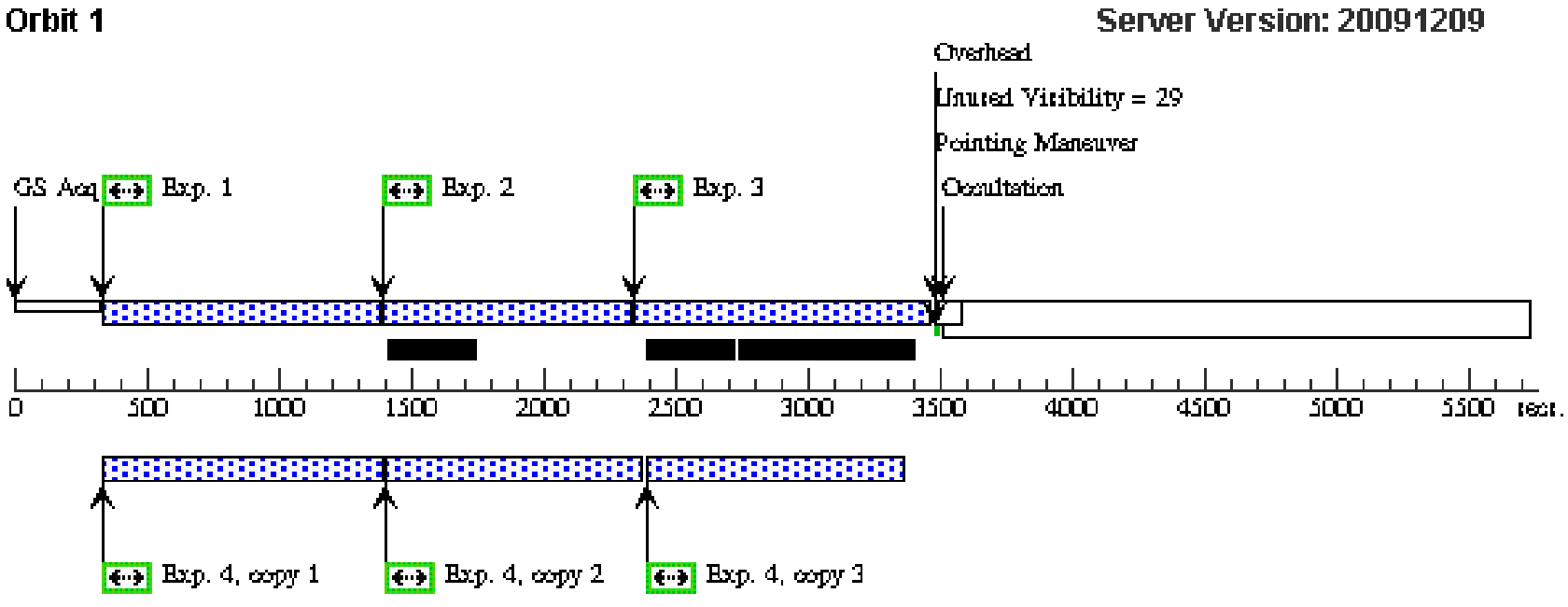
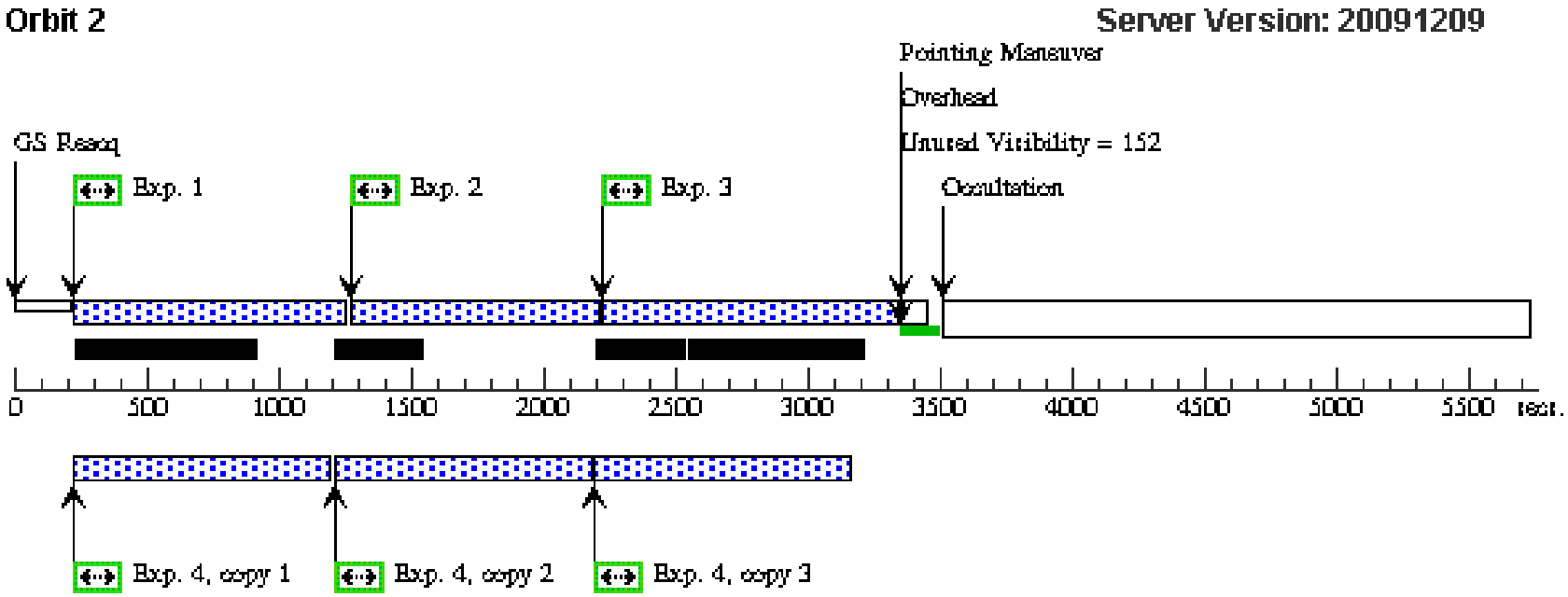
Orbit Structure

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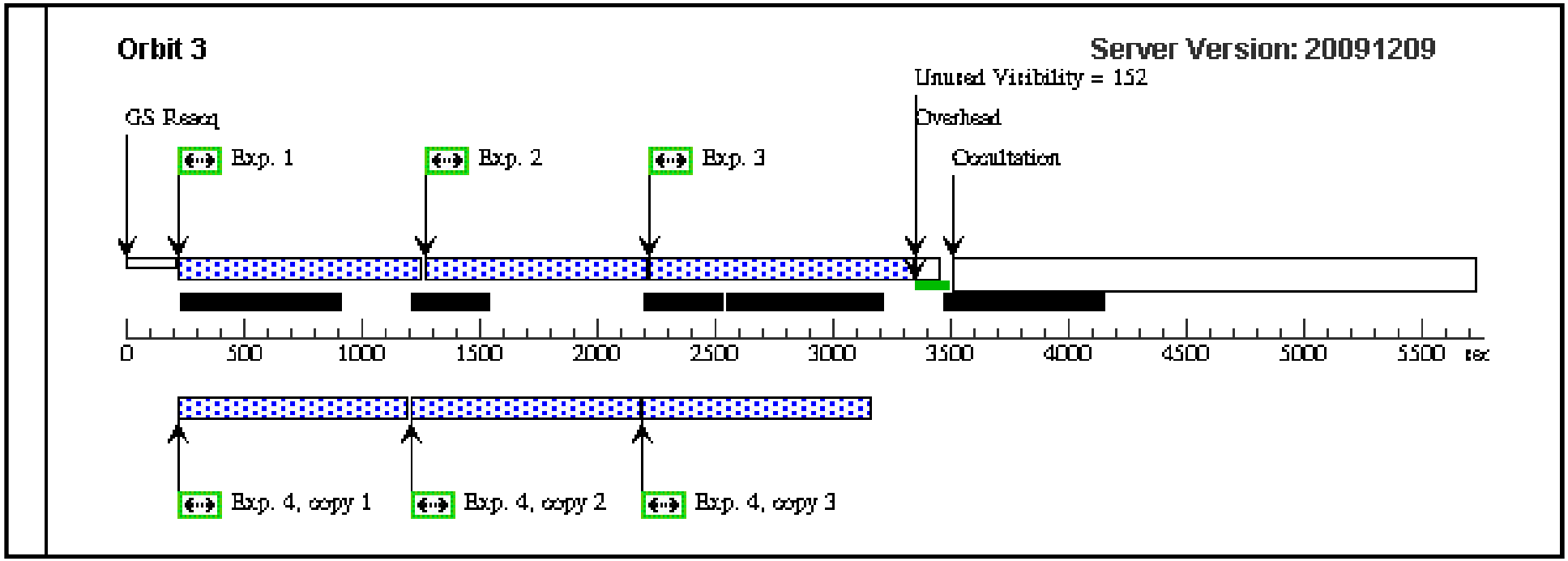
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Exp. 4, copy 3

Visit

Proposal 12050, Visit 12, completed Sat Feb 13 02:02:16 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFC3/UVIS

Special Requirements: SAME ORIENT AS 11

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=63.697 Angle Between Sides= Center Pattern=false		(1-4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F673N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,-69.489 09690293831; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	900 Secs	
								[==>(Pattern 1)]	***[1]***
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								[==>(Pattern 3)]	***[3]***
2		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F657N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,-69.489 09690293831	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	800 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
3		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,-69.489 09690293831	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	1100 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
4		ANY	ACS/WFC, ACCUM, WFCENTER	F502N			Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	850 Secs X 3	
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								[==>(Pattern 1, Copy 2)]	
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								[==>(Pattern 2, Copy 1)]	***[2]***
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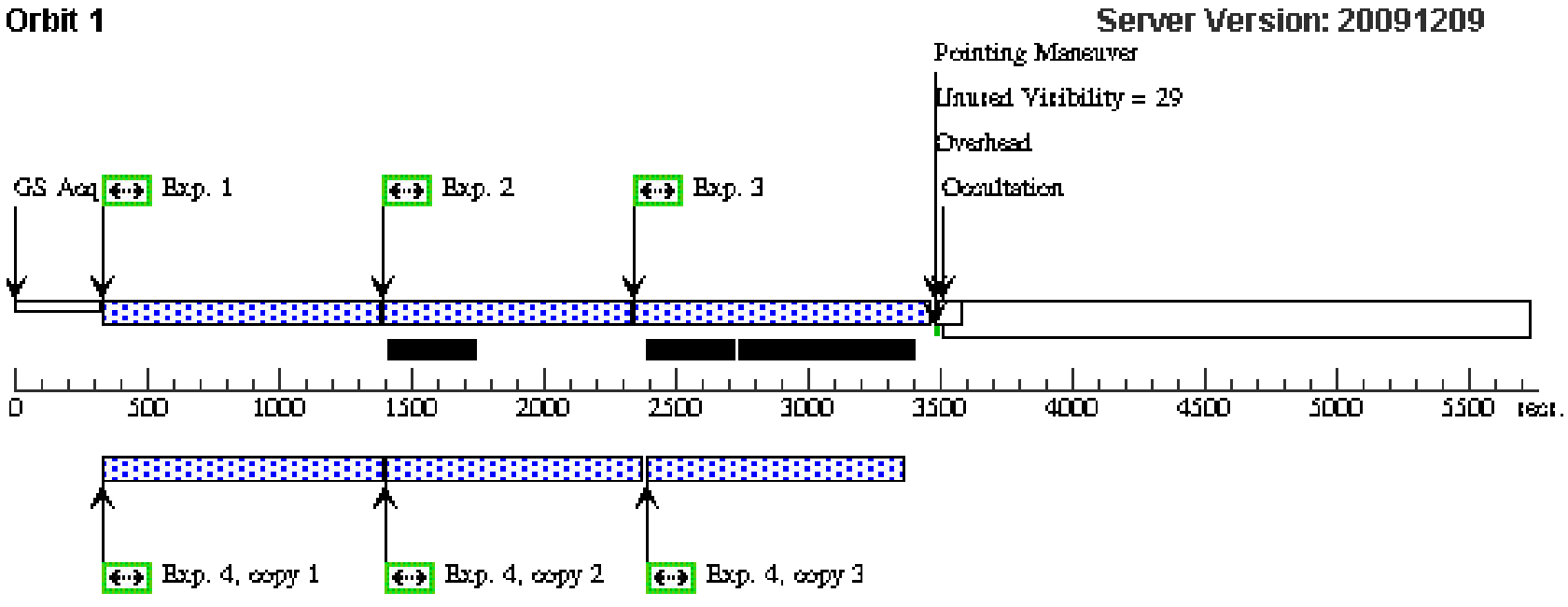
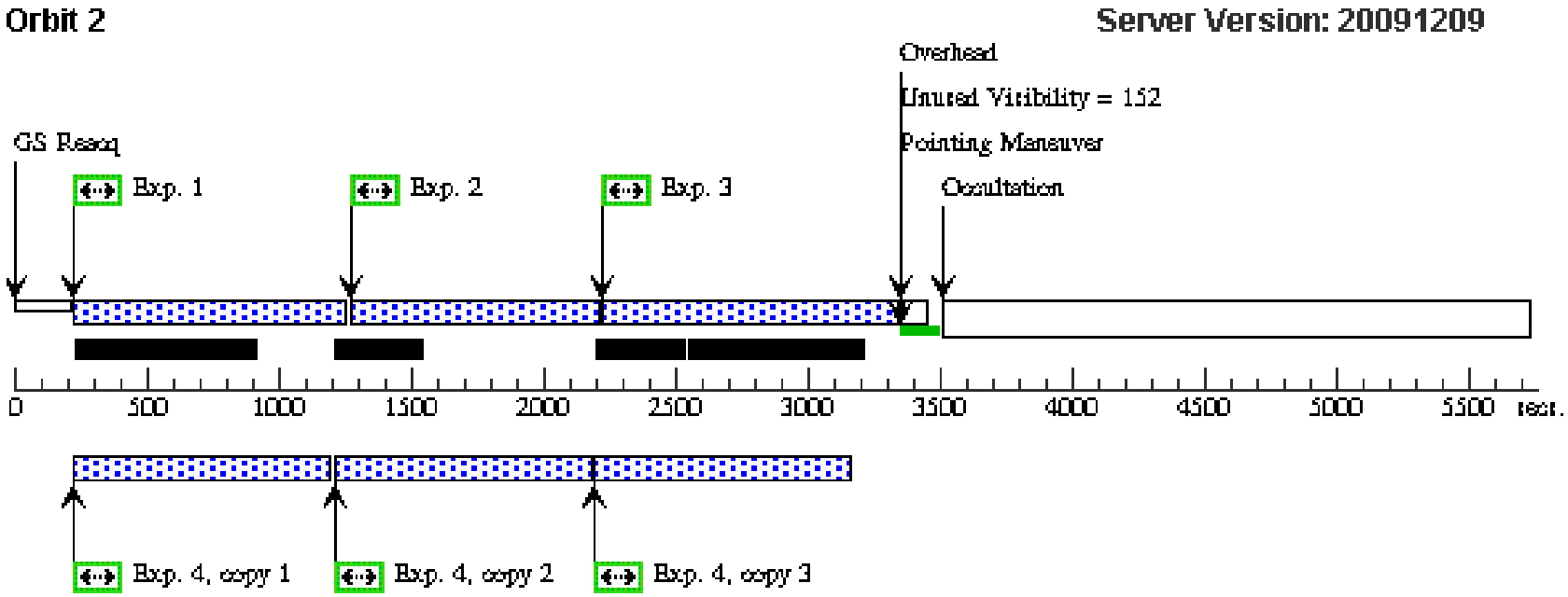
Orbit Structure

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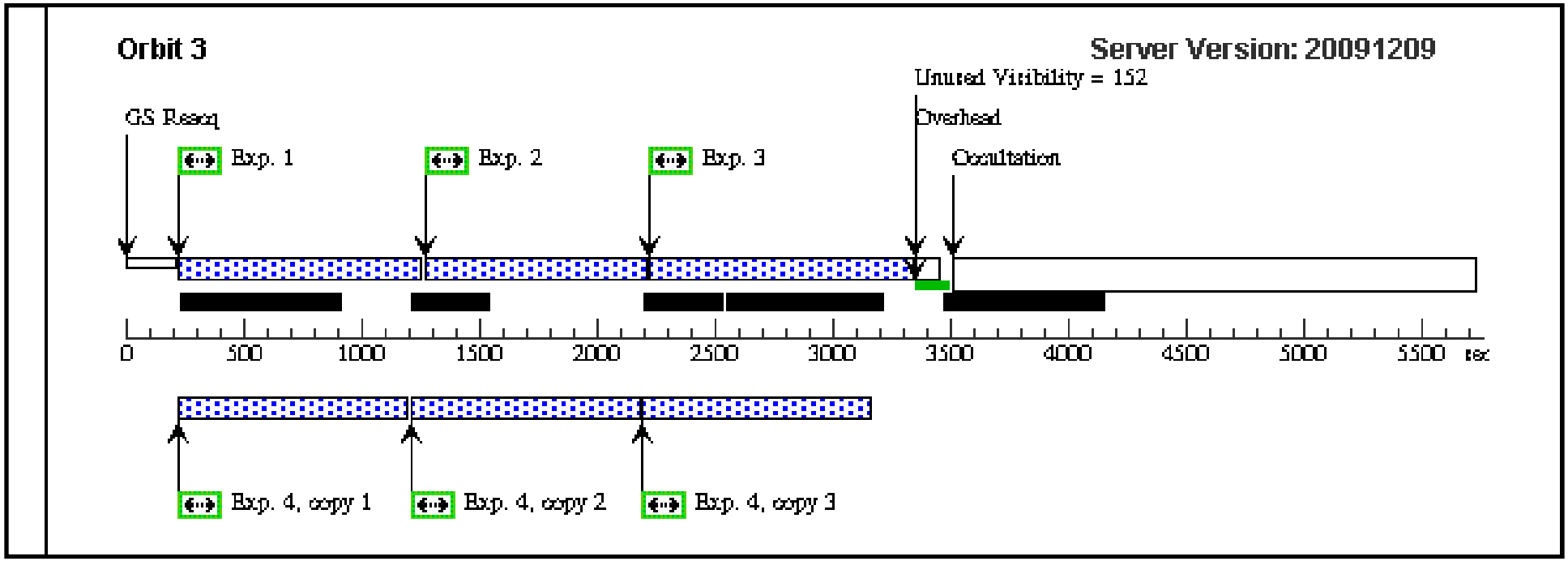
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Visit

Proposal 12050, Visit 13, completed Sat Feb 13 02:02:17 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFC3/UVIS

Special Requirements: SAME ORIENT AS 11

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=63.697 Angle Between Sides= Center Pattern=false		(1-4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F673N	CR-SPLIT=NO	POS TARG -69.41669530031582,69.48909690293833; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	900 Secs	
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								[==>(Pattern 3)]	***[3]***
2		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F657N	CR-SPLIT=NO	POS TARG -69.41669530031582,69.48909690293833	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	800 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
3		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	CR-SPLIT=NO	POS TARG -69.41669530031582,69.48909690293833	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	1100 Secs	
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								[==>(Pattern 3)]	***[3]***
4		ANY	ACS/WFC, ACCUM, WFCENTER	F502N			Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	850 Secs X 3	
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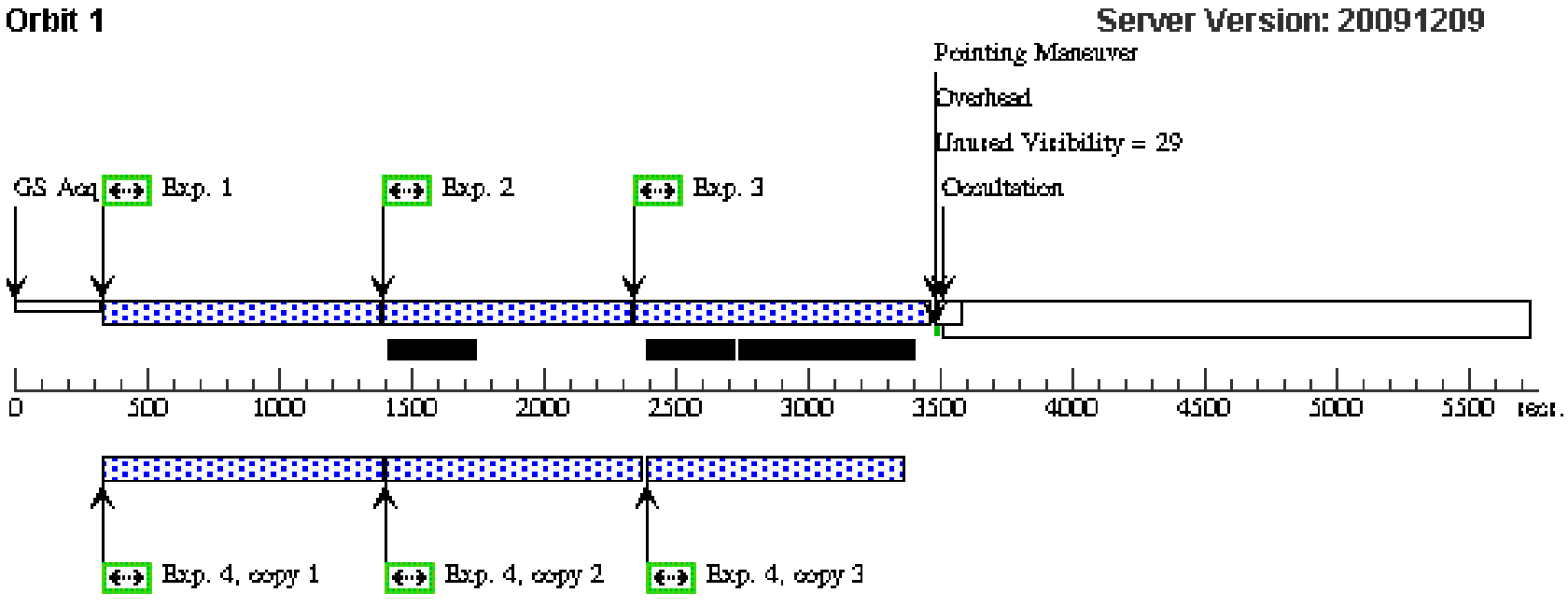
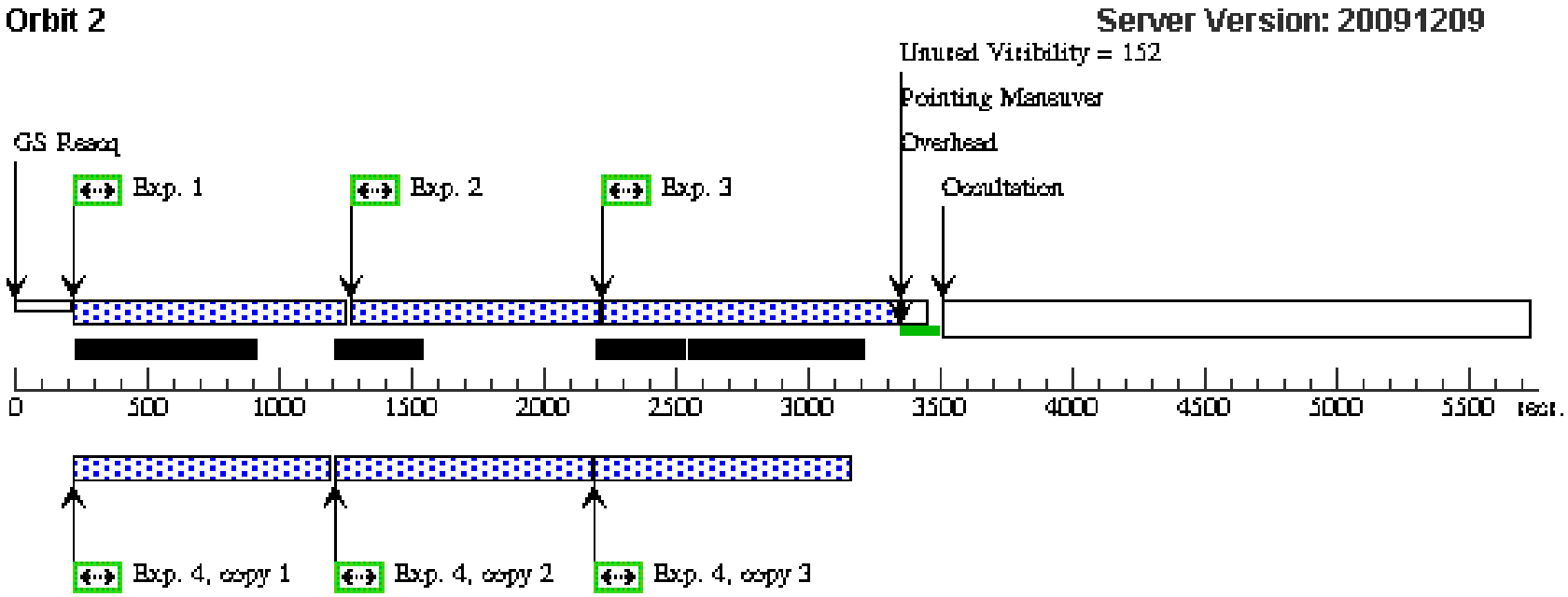
Orbit Structure

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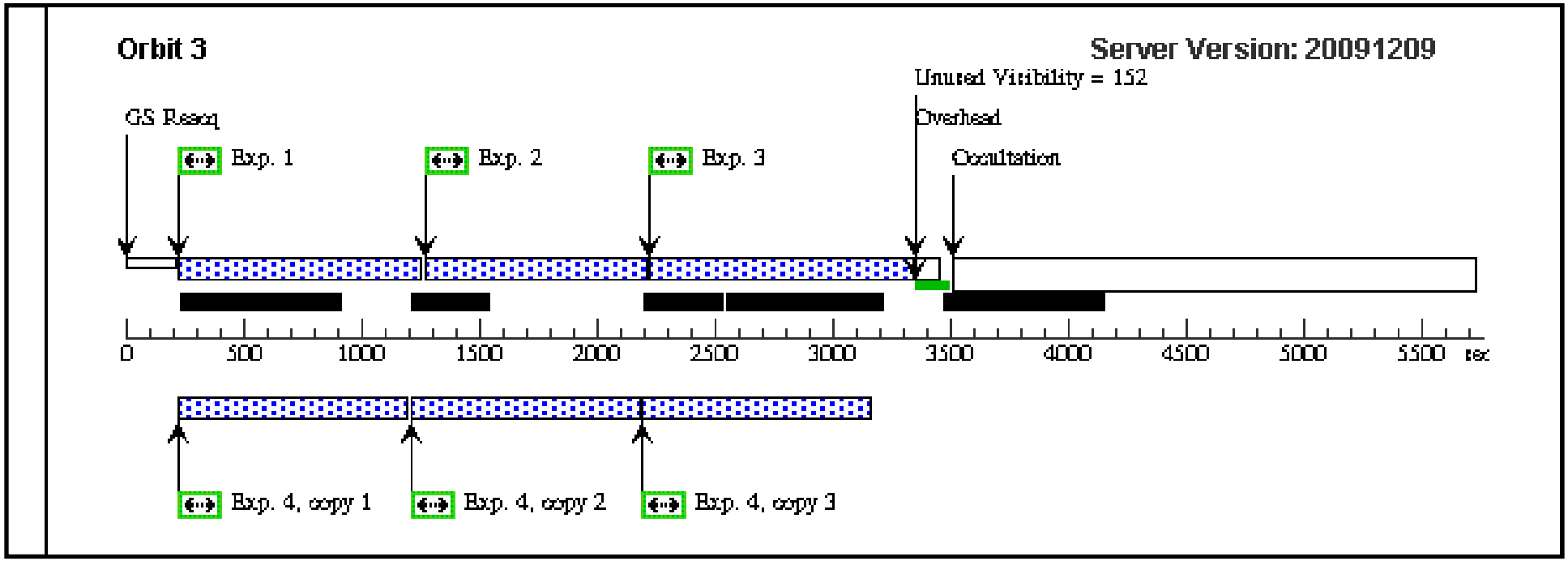
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Visit

Proposal 12050, Visit 14, completed Sat Feb 13 02:02:18 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC, WFC3/UVIS

Special Requirements: SAME ORIENT AS 11

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=63.697 Angle Between Sides= Center Pattern=false		(1-4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F673N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,79.1972 7329894863; GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	900 Secs	
								[==>(Pattern 1)]	***[1]***
								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
2		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F657N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,79.1972 7329894863	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	800 Secs	
								[==>(Pattern 1)]	***[1]***
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3		(1) HH901	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	CR-SPLIT=NO	POS TARG 69.4166 9530031582,79.1972 7329894863	Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	1100 Secs	
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								[==>(Pattern 2)]	***[2]***
								[==>(Pattern 3)]	***[3]***
4		ANY	ACS/WFC, ACCUM, WFCENTER	F502N			Pattern 1, Exps 1-4 (1) Prime + Parallel Group 1-4	850 Secs X 3	
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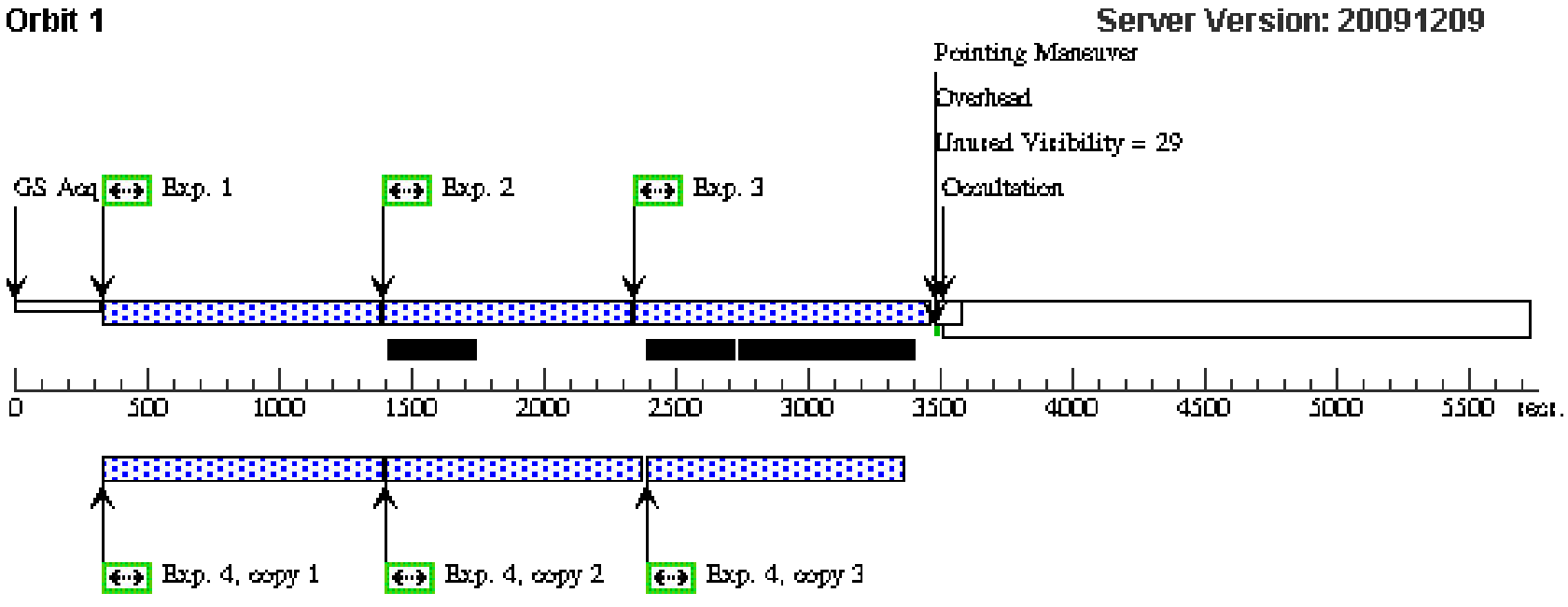
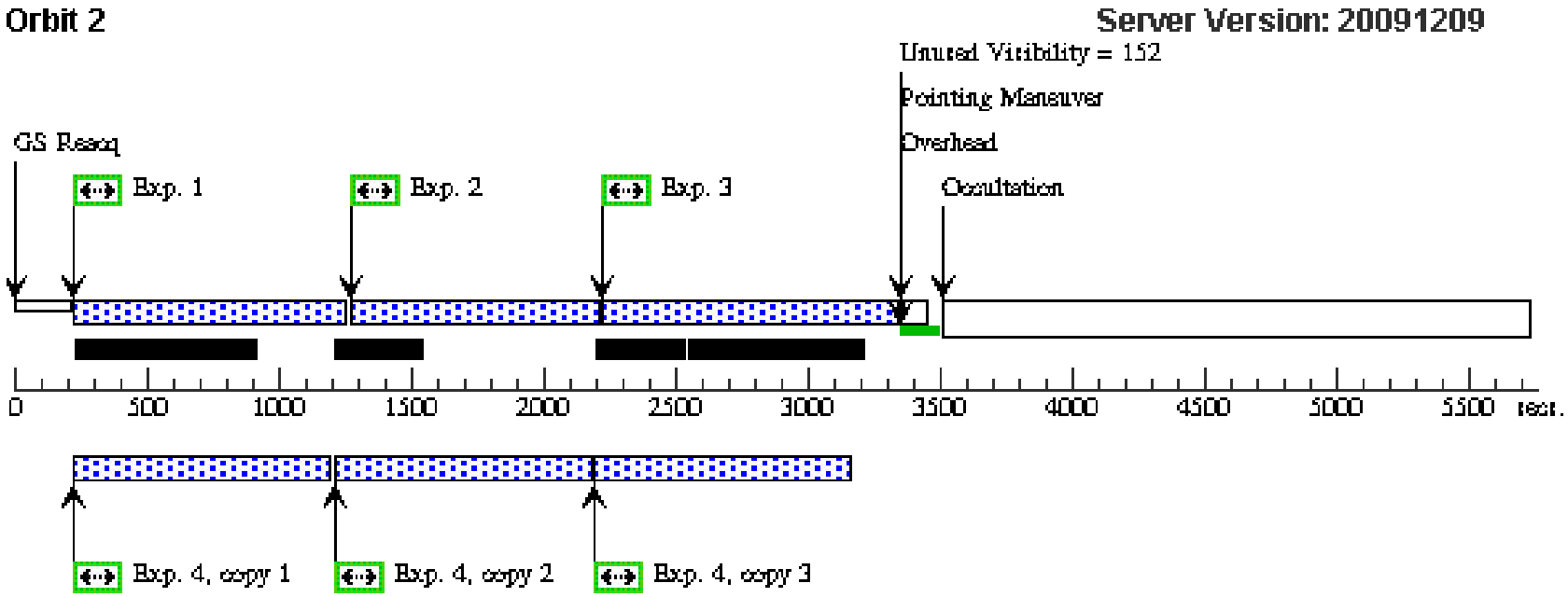
Orbit Structure

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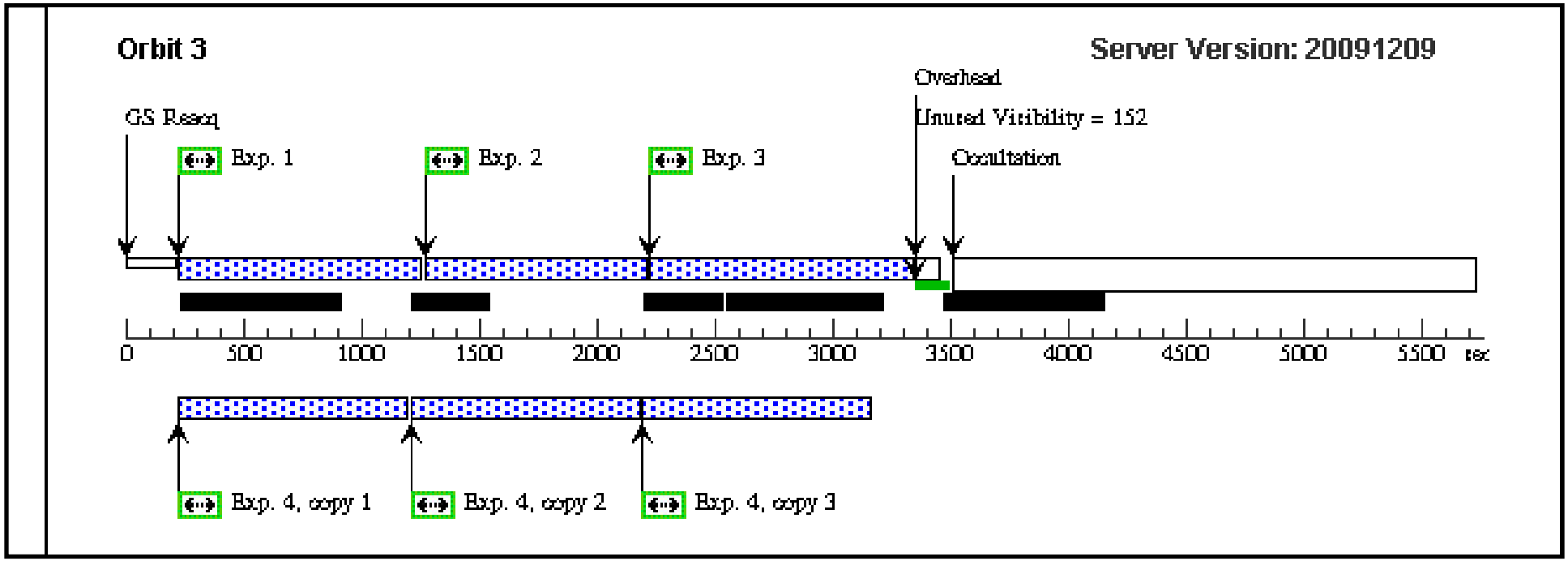
Exp. 4, copy 2
Exp. 4, copy 3


Orbit 3
Server Version: 20091209
Overhead
GS Reacq
Unused Visibility = 152
Exp. 1
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec
Exp. 4, copy 1
Exp. 4, copy 2
Exp. 4, copy 3

Visit

Proposal 12050, Visit 25, implementation Sat Feb 13 02:02:18 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 345D TO 345 D

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1-3)

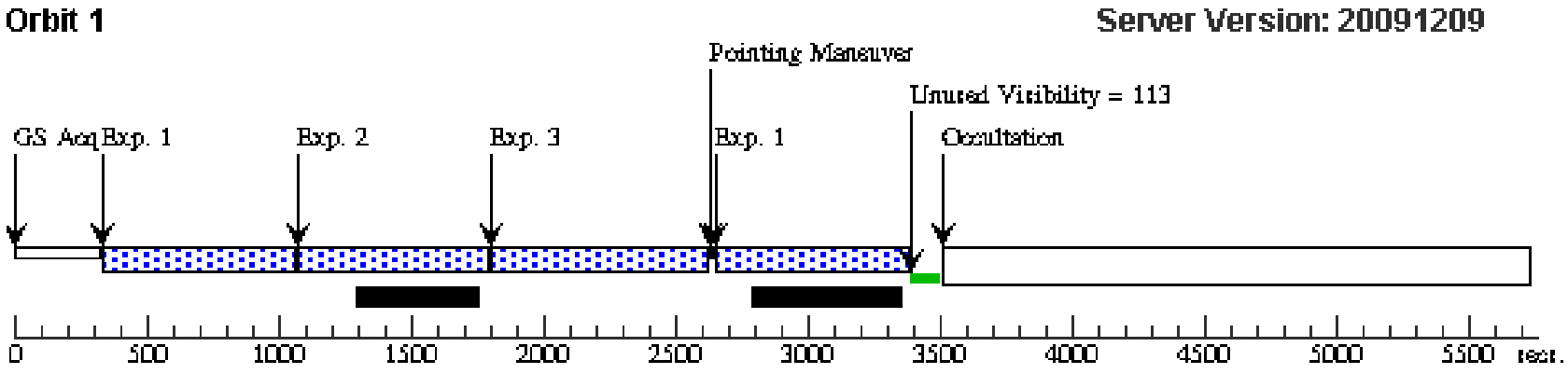
Fixed Targets

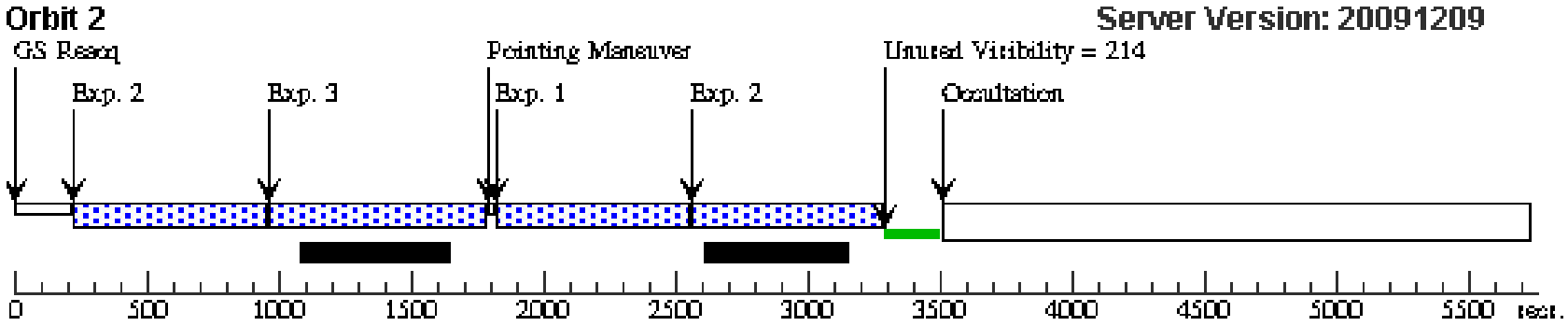
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	HH901-COPY	RA: 10 44 1.1200 (161.0046667d) Dec: -59 28 43.00 (-59.47861d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

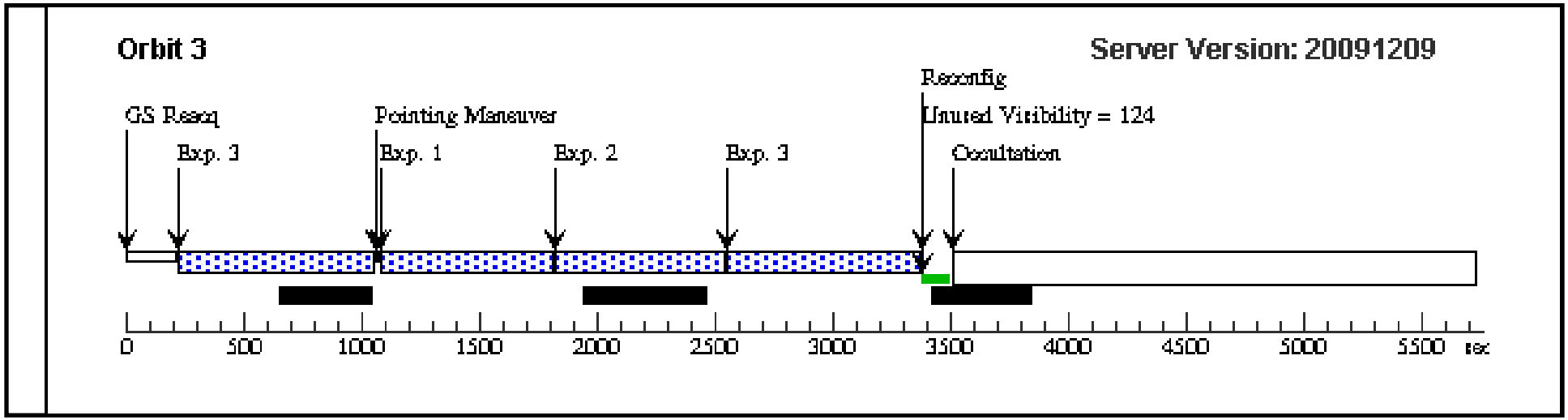
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) HH901-COPY	WFC3/IR, MULTIACCUM, IR-FIX	F126N	NSAMP=13; SAMP-SEQ=STEP100	GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]*	***[1]***
								[==>(Pattern 2,1)]	***[2]***
								[==>(Pattern 2,2)]	***[3]***
2		(2) HH901-COPY	WFC3/IR, MULTIACCUM, IR-FIX	F128N	NSAMP=13; SAMP-SEQ=STEP100		Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)] *[==>(Pattern 2,1)]*	***[2]***
								[==>(Pattern 2,2)]	***[3]***
3		(2) HH901-COPY	WFC3/IR, MULTIACCUM, IR-FIX	F164N	NSAMP=14; SAMP-SEQ=STEP100		Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20091209
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 1
Exp. 2
Exp. 3
Reconfig
Unused Visibility = 124
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12050, Visit 21, completed Sat Feb 13 02:02:19 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 333D TO 333 D

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1-3)

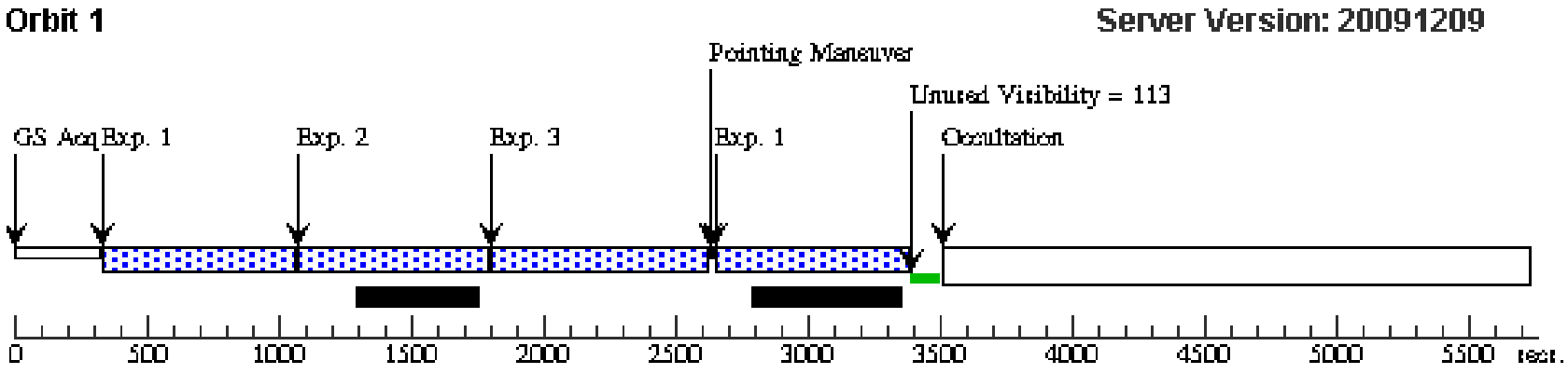
Fixed Targets

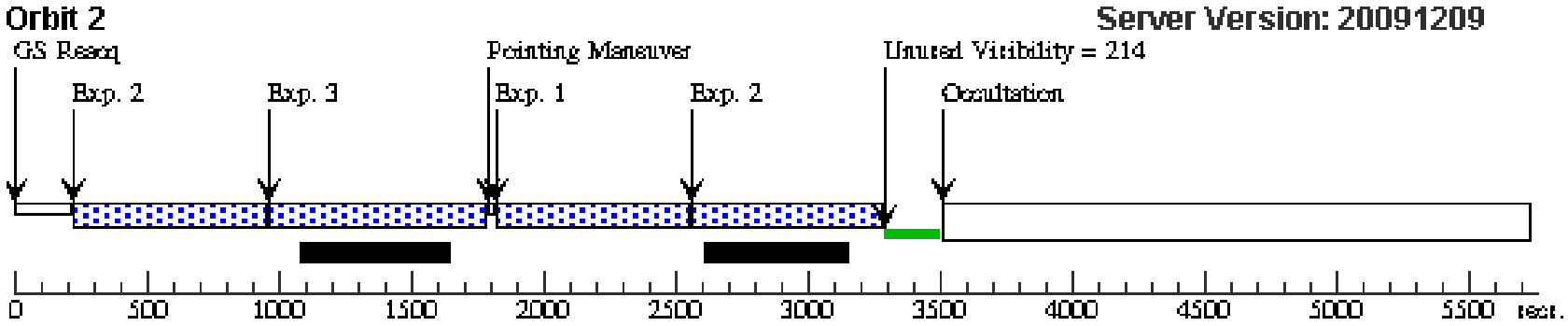
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

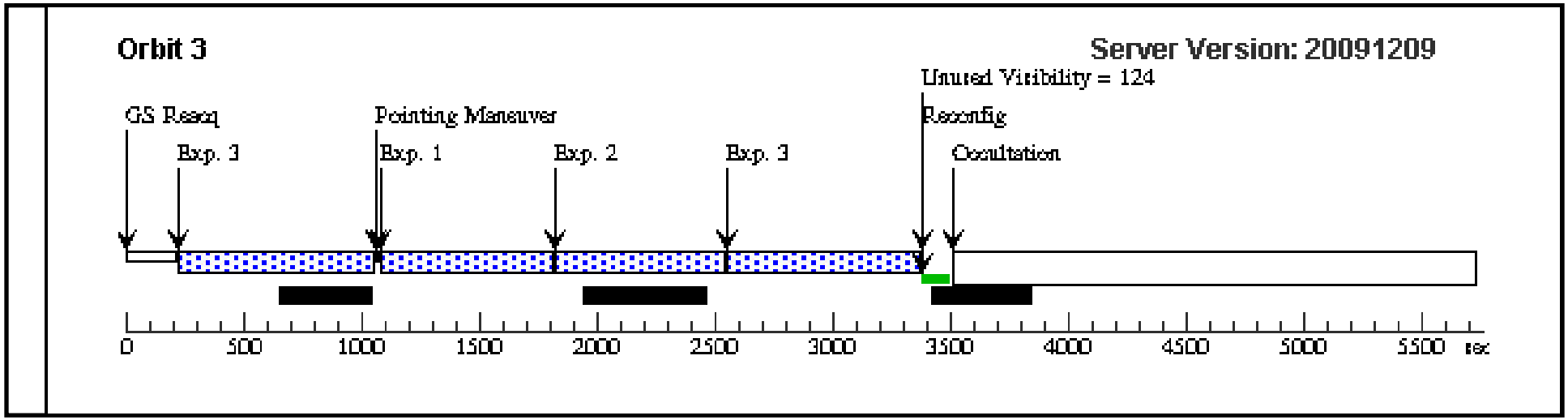
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F126N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG -62.57790000000001,-55.25639999999999; GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]*	***[1]***
								[==>(Pattern 2,1)]	***[2]***
								[==>(Pattern 2,2)]	***[3]***
2		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F128N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG -62.57790000000001,-55.25639999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)] *[==>(Pattern 2,1)]*	***[2]***
								[==>(Pattern 2,2)]	***[3]***
3		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F164N	NSAMP=14; SAMP-SEQ=STEP100	POS TARG -62.57790000000001,-55.25639999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20091209
Unused Visibility = 124
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 1
Exp. 2
Exp. 3
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12050, Visit 22, completed Sat Feb 13 02:02:20 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 21

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1-3)

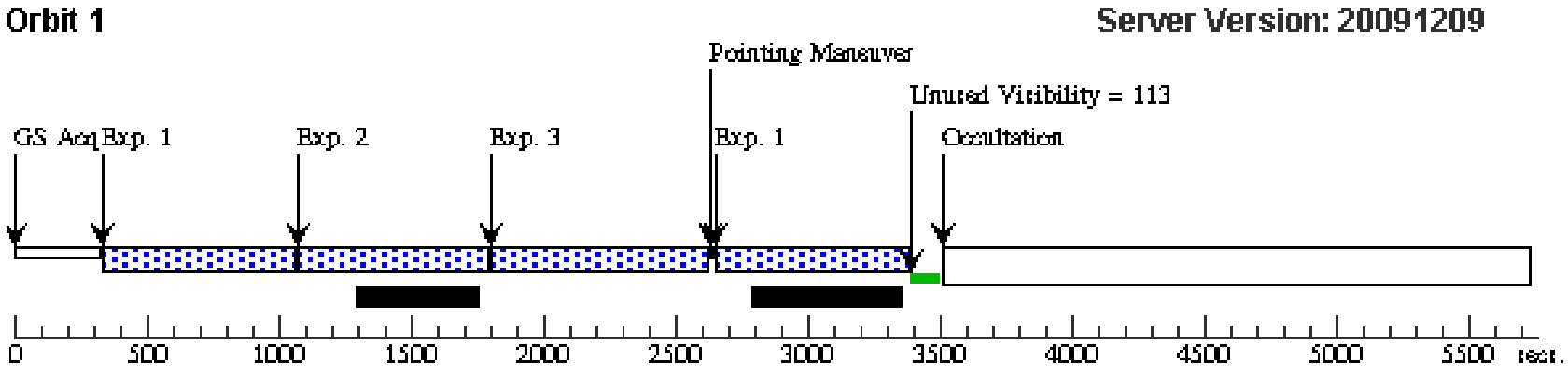
Fixed Targets

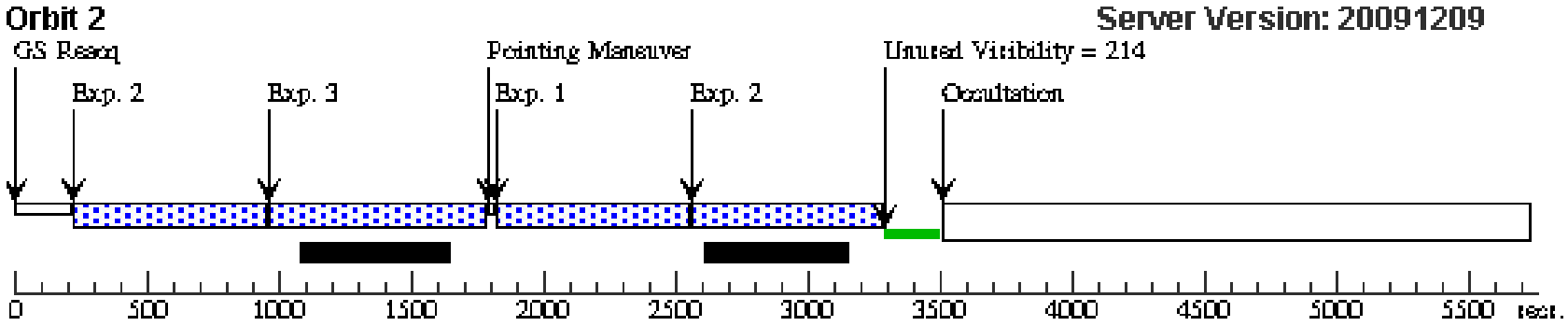
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

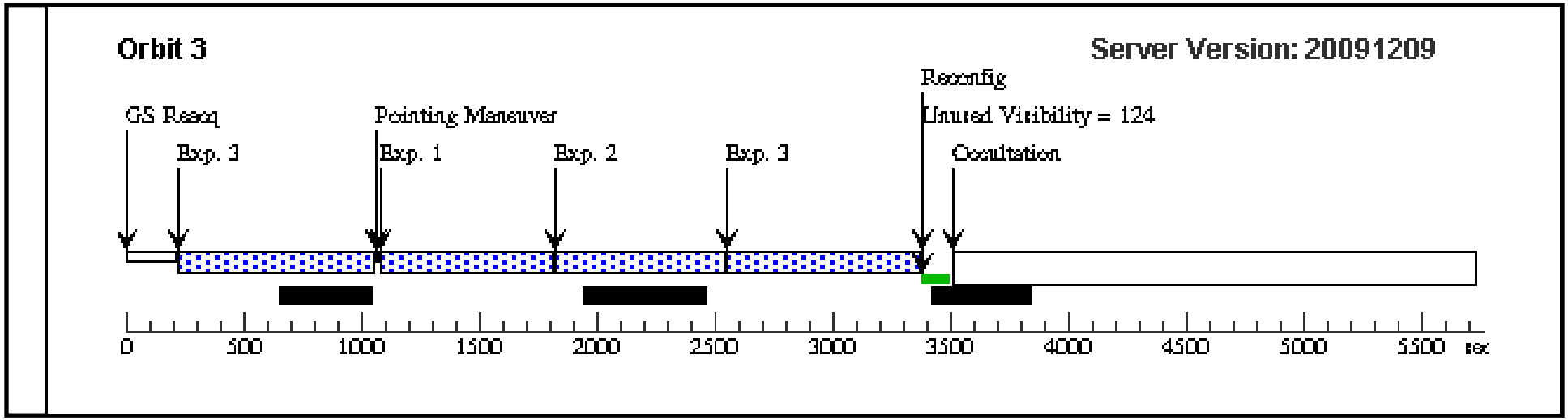
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F126N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG 62.5779000000001,-55.25639999999999; GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]*	***[1]***
								[==>(Pattern 2,1)]	***[2]***
								[==>(Pattern 2,2)]	***[3]***
2		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F128N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG 62.5779000000001,-55.25639999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)] *[==>(Pattern 2,1)]*	***[2]***
								[==>(Pattern 2,2)]	***[3]***
3		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F164N	NSAMP=14; SAMP-SEQ=STEP100	POS TARG 62.5779000000001,-55.25639999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20091209
Reconfig
GS Reacq
Pointing Maneuver
Unused Visibility = 124
Exp. 3
Exp. 1
Exp. 2
Exp. 3
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12050, Visit 23, completed Sat Feb 13 02:02:20 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 21

Diagnostics

(Tile Visit 23) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1-3)

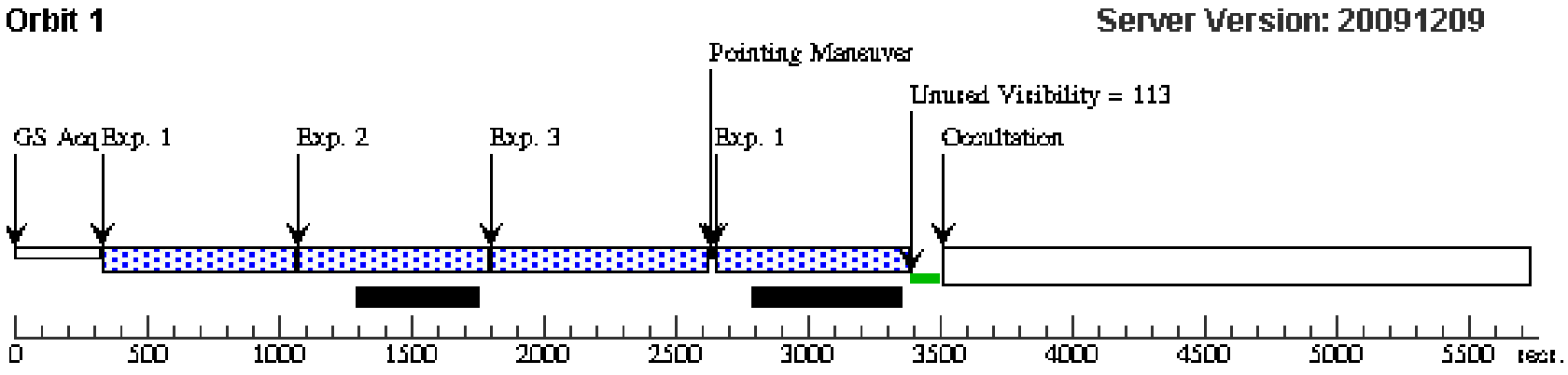
Fixed Targets

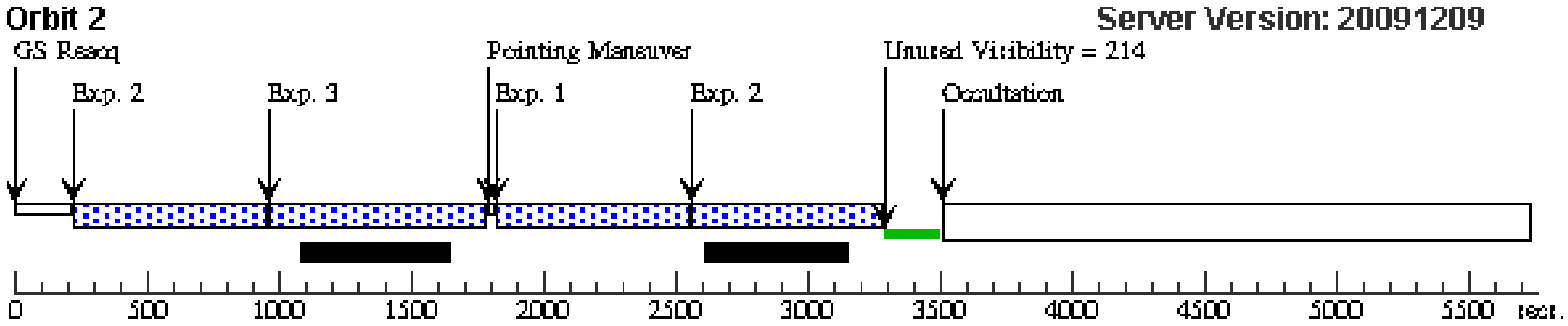
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

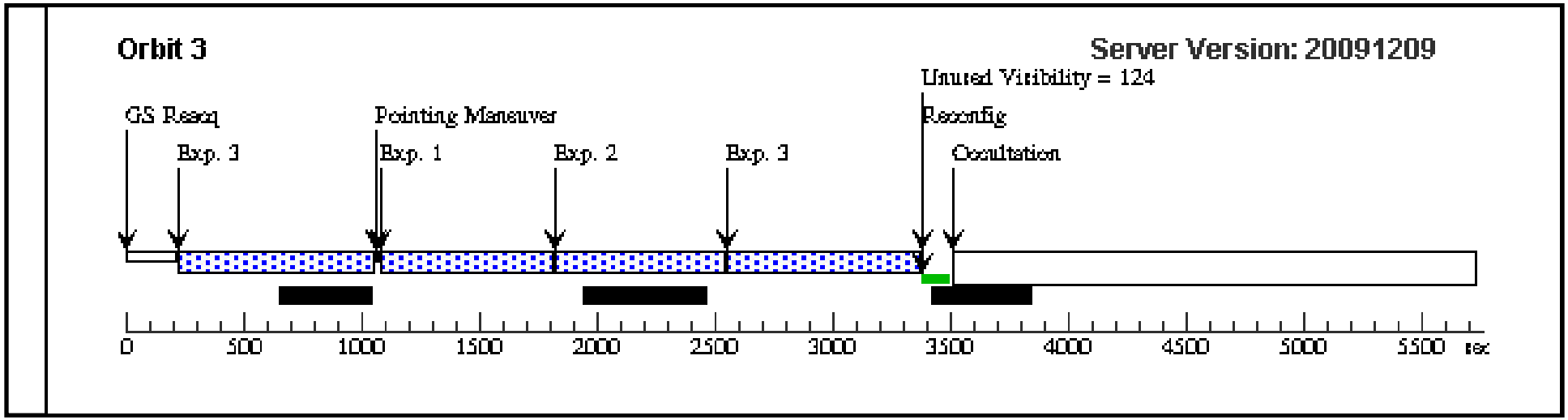
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F126N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG -62.577 90000000001,55.256 39999999999; GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	
								[==>(Pattern 2,1)]	***[2]***
								[==>(Pattern 2,2)]	***[3]***
2		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F128N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG -62.577 90000000001,55.256 39999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)]	
								[==>(Pattern 2,2)]	***[3]***
3		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F164N	NSAMP=14; SAMP-SEQ=STEP100	POS TARG -62.577 90000000001,55.256 39999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)]	***[3]***
								[==>(Pattern 2,2)]	

Orbit Structure






Orbit 3
Server Version: 20091209
Unused Visibility = 124
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 1
Exp. 2
Exp. 3
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12050, Visit 24, failed Sat Feb 13 02:02:21 GMT 2010

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 21

Diagnostics

(Tile Visit 24) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=10 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90 Angle Between Sides= Center Pattern=false	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1-3)

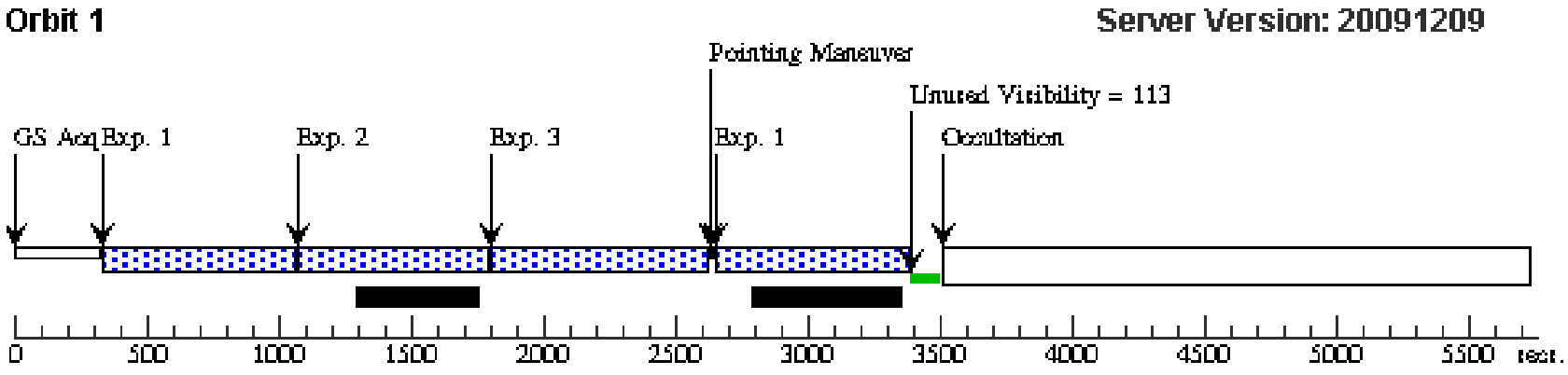
Fixed Targets

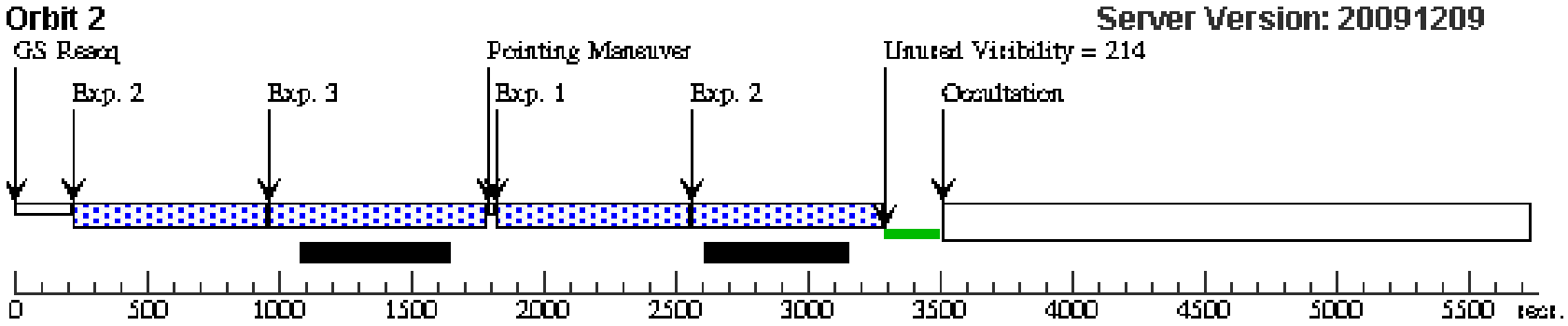
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HH901	RA: 10 44 5.2500 (161.0218750d) Dec: -59 29 45.00 (-59.49583d) Equinox: J2000		V=-12+/-1	Reference Frame: ICRS

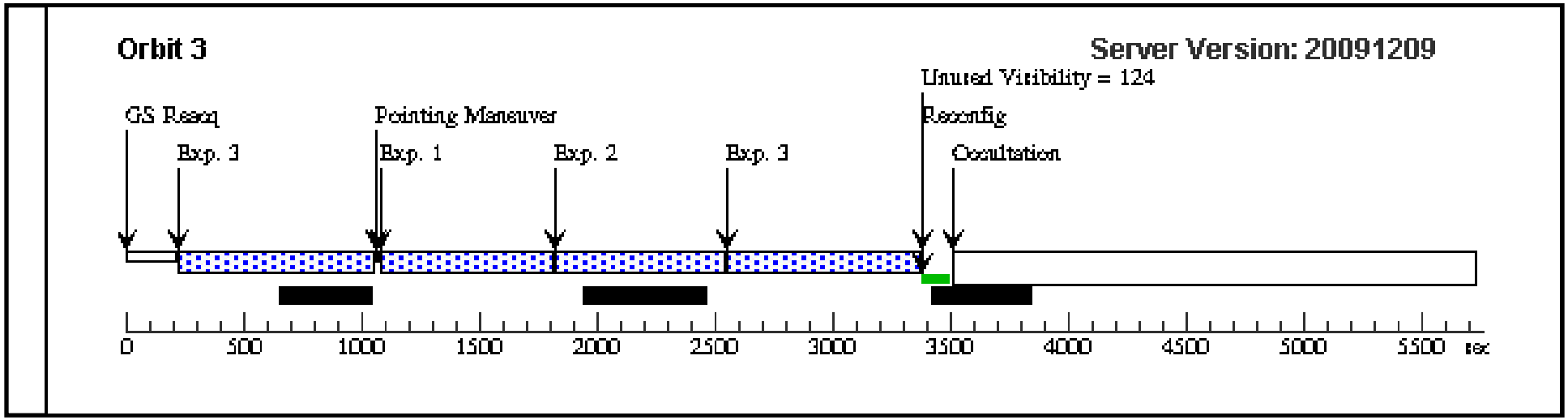
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F126N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG 62.5779 0000000001,55.2563 9999999999; GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]*	***[1]***
								[==>(Pattern 2,1)]	***[2]***
								[==>(Pattern 2,2)]	***[3]***
2		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F128N	NSAMP=13; SAMP-SEQ=STEP100	POS TARG 62.5779 0000000001,55.2563 9999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)] *[==>(Pattern 2,1)]*	***[2]***
								[==>(Pattern 2,2)]	***[3]***
3		(1) HH901	WFC3/IR, MULTIACCUM, IR-FIX	F164N	NSAMP=14; SAMP-SEQ=STEP100	POS TARG 62.5779 0000000001,55.2563 9999999999	Pattern 2, Exps 1-3 (2)	*[==>(Pattern 1,1)]*	***[1]***
								[==>(Pattern 1,2)]	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20091209
Unused Visibility = 124
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 1
Exp. 2
Exp. 3
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec