10572 - Resolving M32's Main Sequence: A Critical Test for Stellar Population Studies

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) M32	ACS/HRC	4	13-Jul-2005 21:09:37.0	yes
02	(1) M32	ACS/HRC	4	13-Jul-2005 21:09:44.0	yes
03	(1) M32	ACS/HRC	4	13-Jul-2005 21:09:53.0	yes
04	(1) M32	ACS/HRC	4	13-Jul-2005 21:09:58.0	yes
05	(1) M32	ACS/HRC	4	13-Jul-2005 21:10:05.0	yes
07	(1) M32	ACS/HRC	4	13-Jul-2005 21:10:13.0	yes
06	(1) M32	ACS/HRC	4	13-Jul-2005 21:10:22.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
08	(1) M32	ACS/HRC	4	13-Jul-2005 21:10:33.0	yes
09	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:10:39.0	yes
10	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:10:43.0	yes
11	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:10:48.0	yes
12	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:10:53.0	yes
13	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:11:04.0	yes
14	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:11:12.0	yes
15	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:11:20.0	yes
16	(2) M31BACKGROUNDFIELD	ACS/HRC	4	13-Jul-2005 21:11:31.0	yes

64 Total Orbits Used

ABSTRACT

We propose to observe the M32 main-sequence turnoff (MSTO) with deep ACS/HRC B and V images. Only the superior resolution and blue sensitivity of ACS/HRC make this possible. M32 is the only elliptical galaxy close enough to allow direct observation of its MSTO - it is a vital laboratory for deciphering the stellar populations of all other elliptical galaxies, which can only be studied by the spectra of their integrated light, given their greater distances. Major questions about M32's star formation history remain unanswered. Spectral studies suggest that M32 underwent a recent burst of star formation 3 to 8 billion years ago; observation of the M32 MSTO will confirm this directly. In the process, ACS will easily resolve more luminous components: hot blue stars, luminous, intermediate-age red clump and AGB stars, and any extended blue horizontal branch. These detailed CMDs will provide a direct comparison with population synthesis models for M32, providing a bridge to studies of the integrated light of more distant elliptical galaxies, a crucial ingredient for understanding their star formation histories. As M32 is projected against the edge of the M31 disk, an essential part of our proposal includes deep observation of an M31 disk field to allow the M32 photometry to be background corrected. These observations will reveal the star formation history of M31's outer disk and are thus of interest in their own right.

OBSERVING DESCRIPTION

The observations in this program comprise 16 orbit ACS/HRC exposures in each of F555W and F435W for each of M32 and an M31 background field for 64 orbits total. The M32 stellar population exposures are obtained approximately at the mu(V)=22 isophote in M32 in the anti-M31 direction, The M31 background field is obtained at an identical disk surface brightness as occurs as a contaminating background in the M32 field. The M31 background contributes 1/3 of the light to the M32 field. The F555W and F435W filters were selected to optimize visibility of the M32 main-sequence over the RG branch. The HRC observations are obtained in a 2X2 square 0.5 pixel pattern to achieve Nyquist sampling of the combined image set. Larger offsets of in a 0.125"-based square spiral are executed between the dither sets to allow for the rejection of hot pixels and CCD defects. These larger offsets are selected both to achieve Nyquist sampling of the ACS/WFC parallel observations, as well as to provide backup subpixel sampling of the primary HRC observations.

ADDITIONAL COMMENTS

All observations in this program must be accomplished for this program to be successful. The M31 background field is specified as a separate target from the M32 main field. The observations of the background field do not have to be obtained immediately after or before the M32 field, but they must be obtained close enough in time so that the analysis can move forward. Likewise, both targets require observations in both filters so that CMDs can be constructed.

Visit

Proposal 10572, Visit 01 Thu Jul 14 01:11:34 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; GROUP 01,02,03,04,05,07,06,08 WITHIN 30.0D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

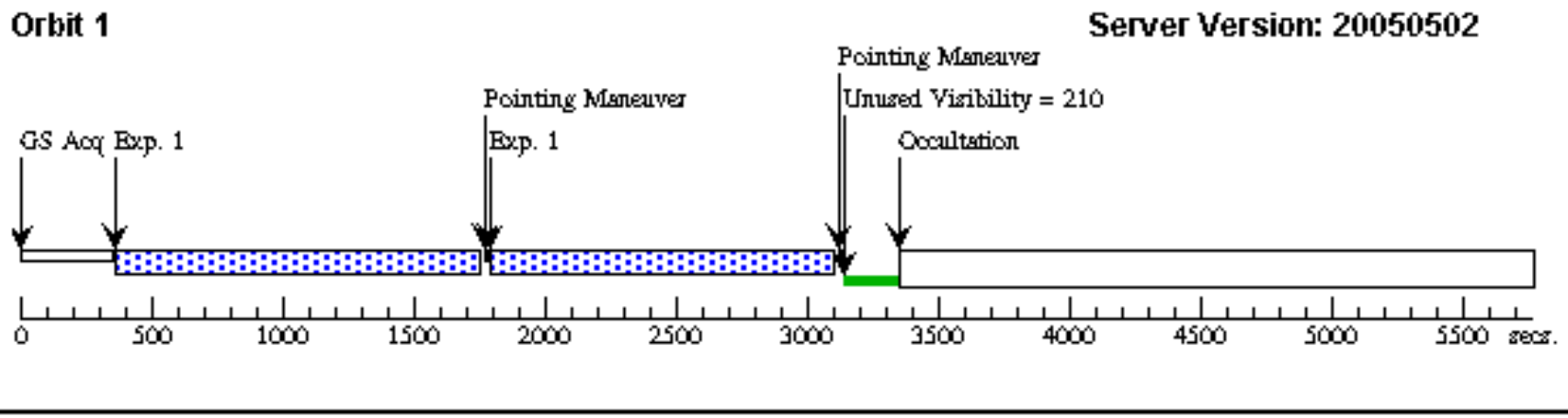
Fixed Targets

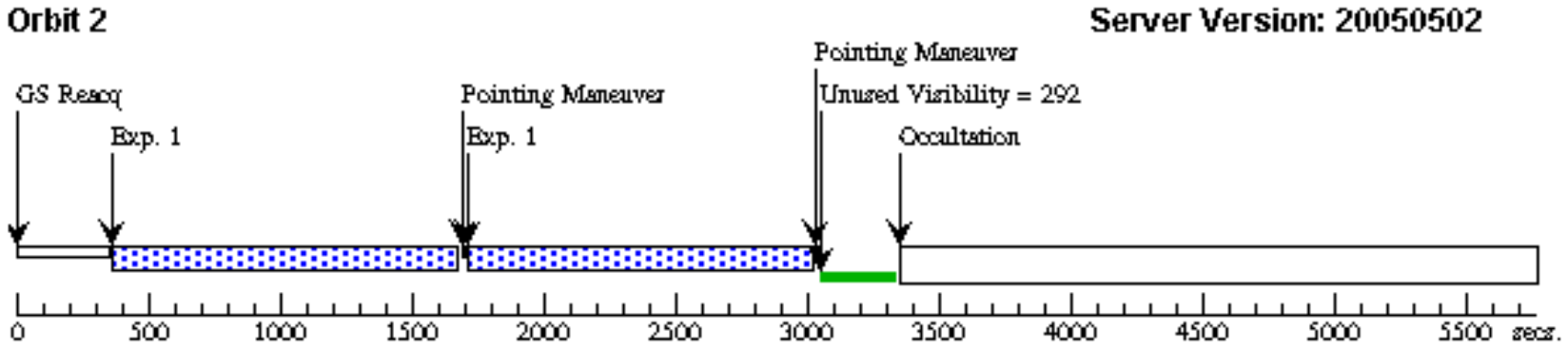
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

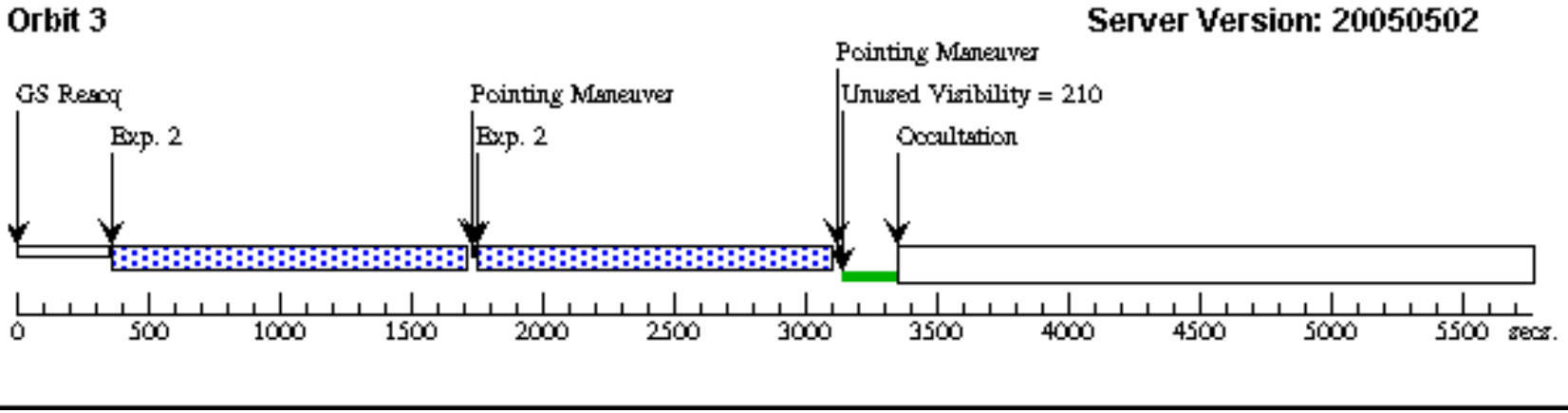
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

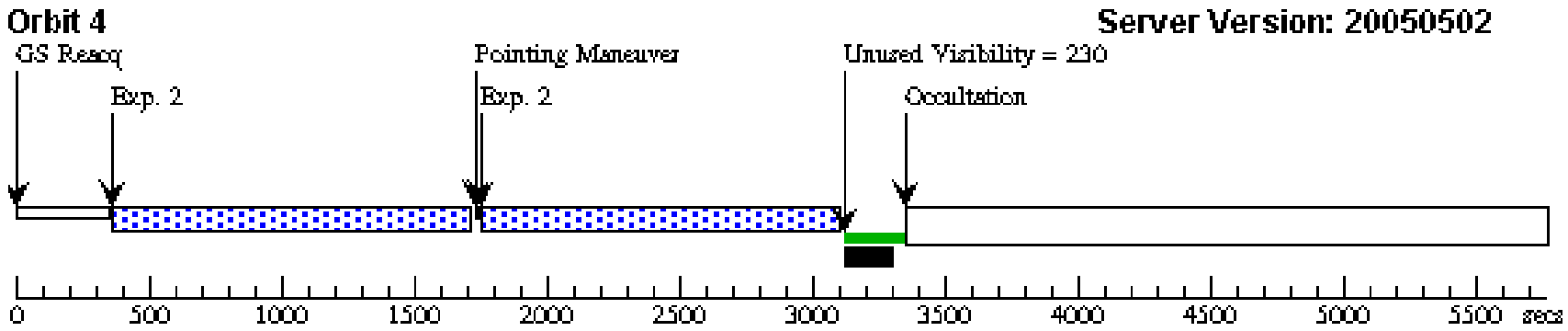
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 02 Thu Jul 14 01:11:35 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

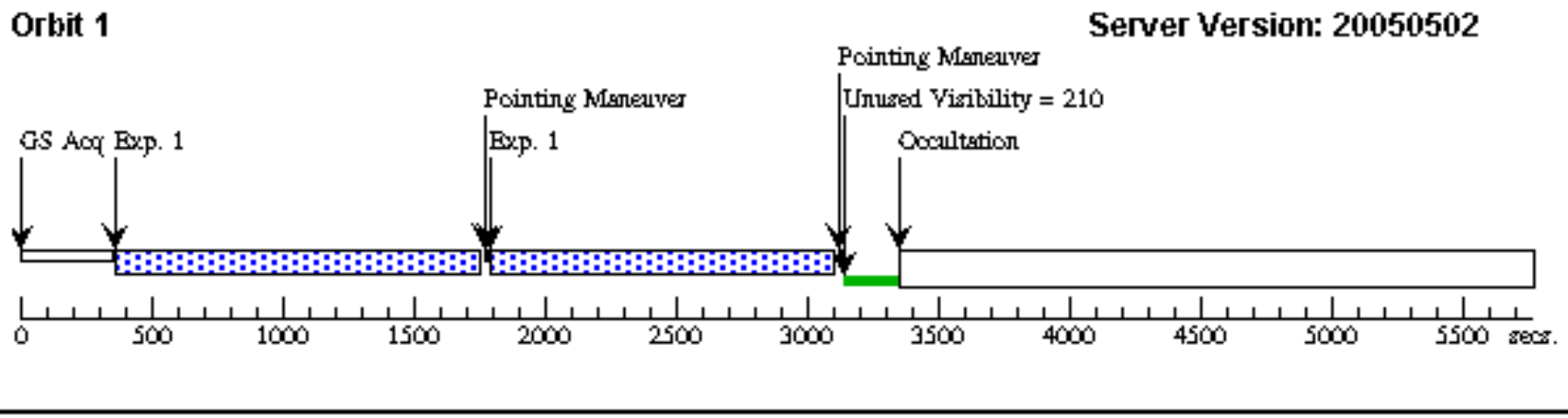
Fixed Targets

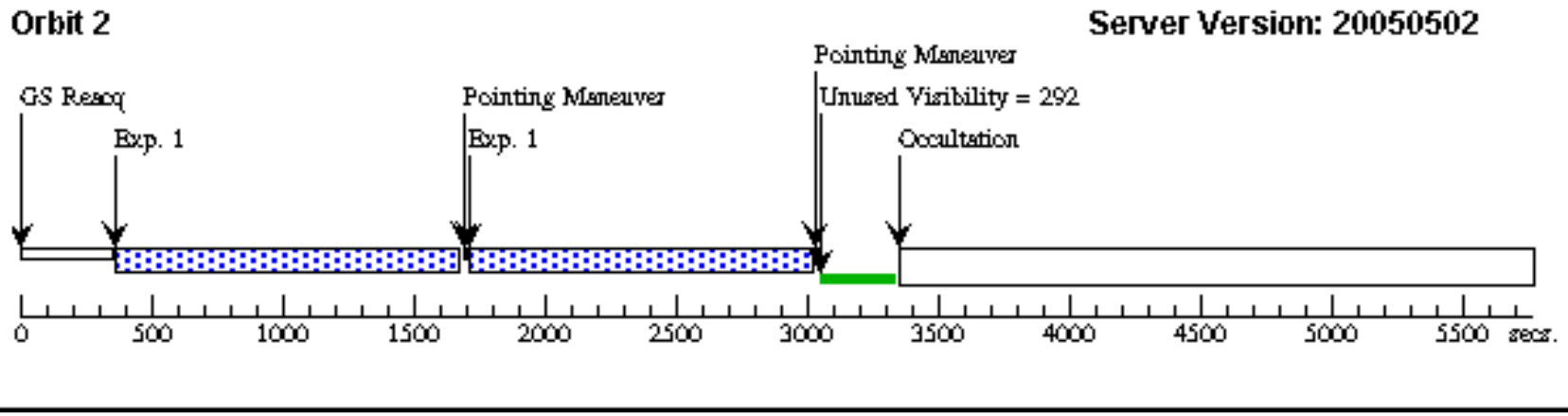
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

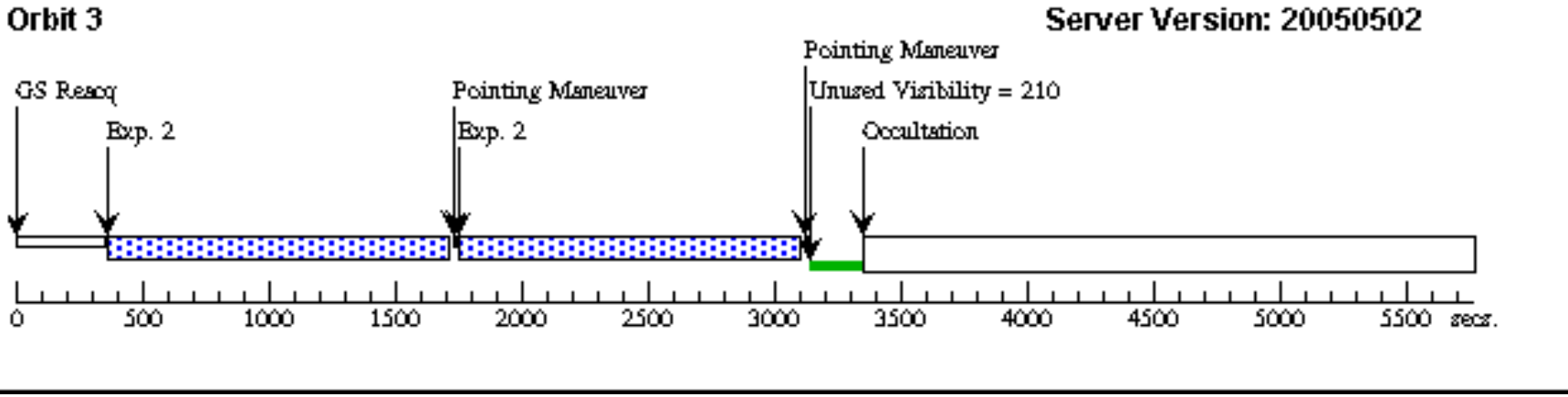
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

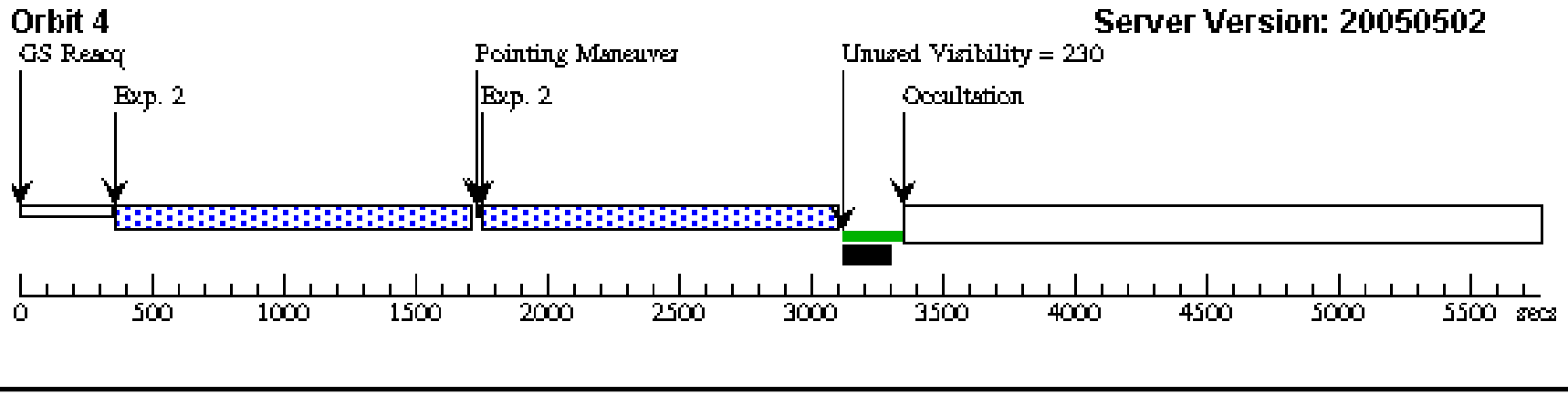
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 03 Thu Jul 14 01:11:36 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0	Pattern 2-2 (1)	1320.0 Secs	
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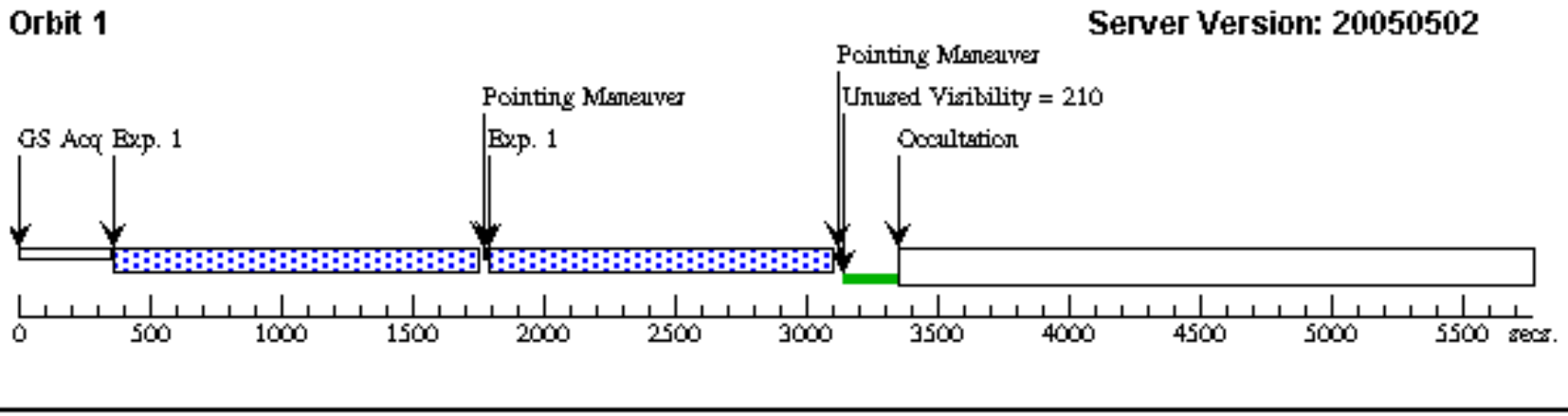
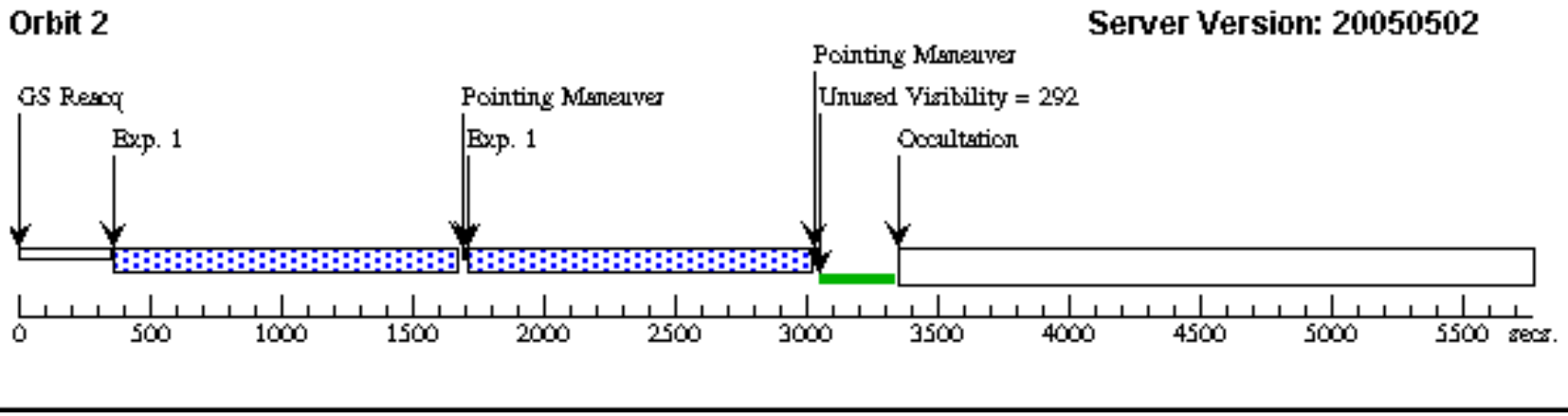
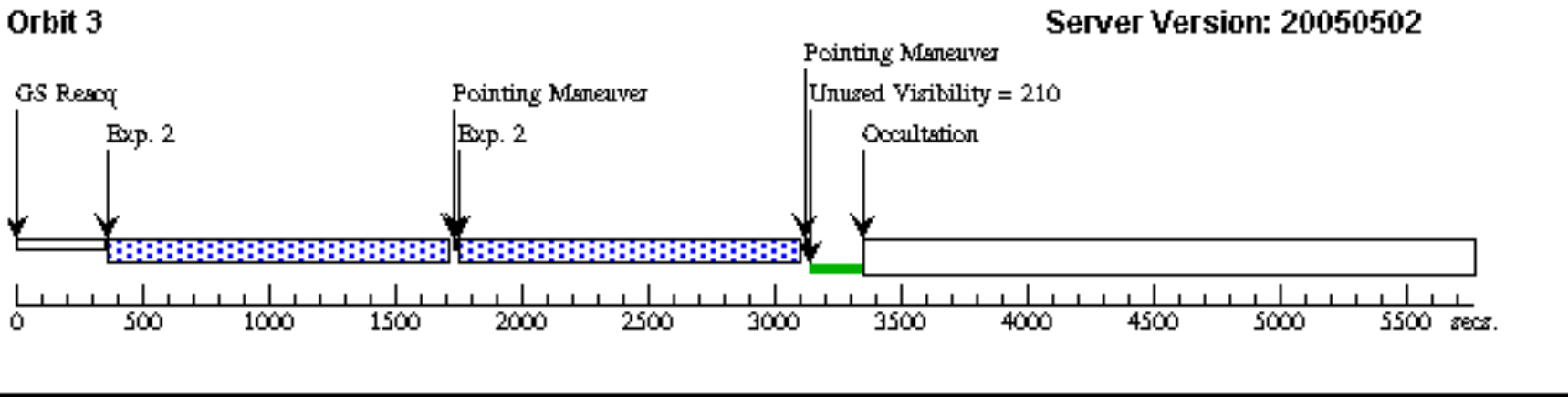
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

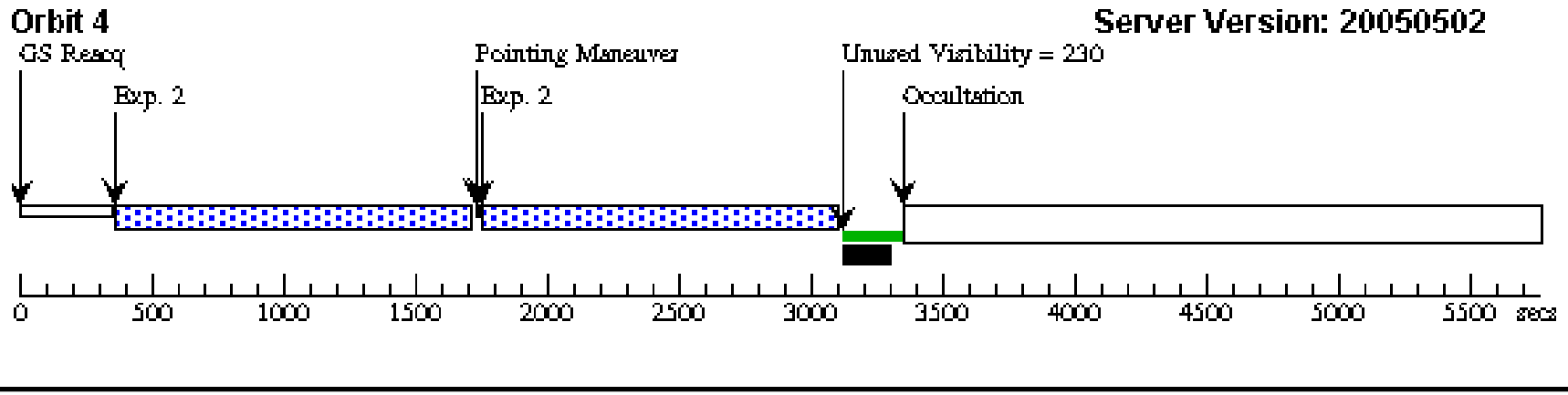
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 04 Thu Jul 14 01:11:36 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,-0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,-0.125	Pattern 2-2 (1)	1320.0 Secs	
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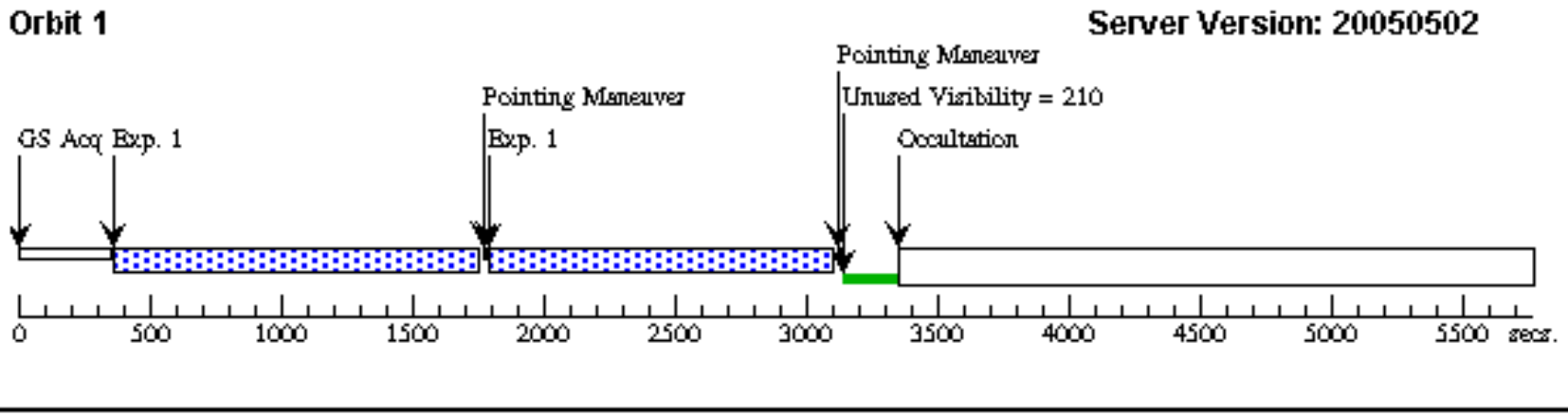
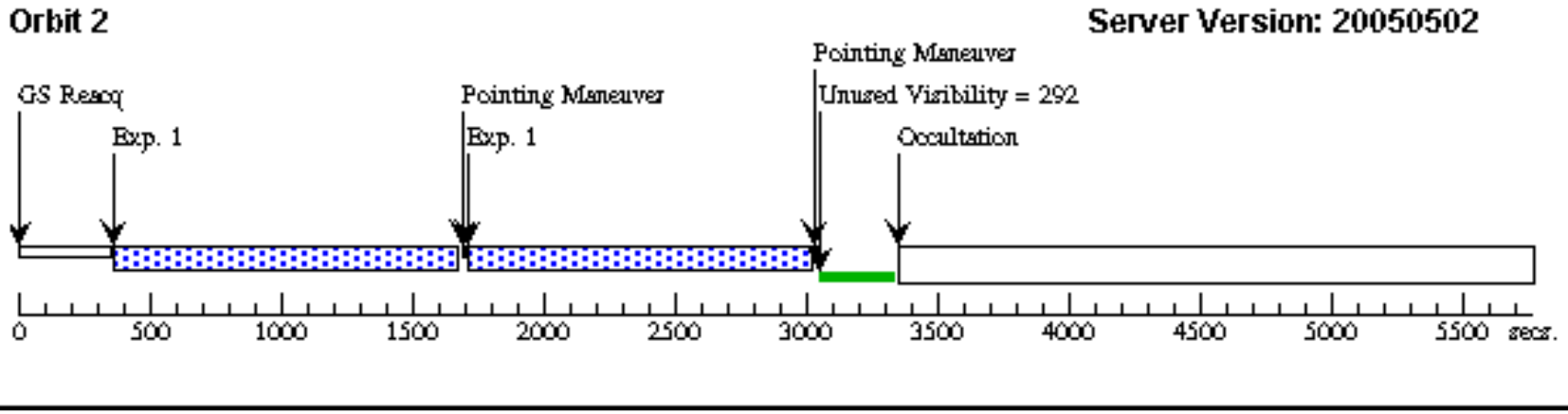
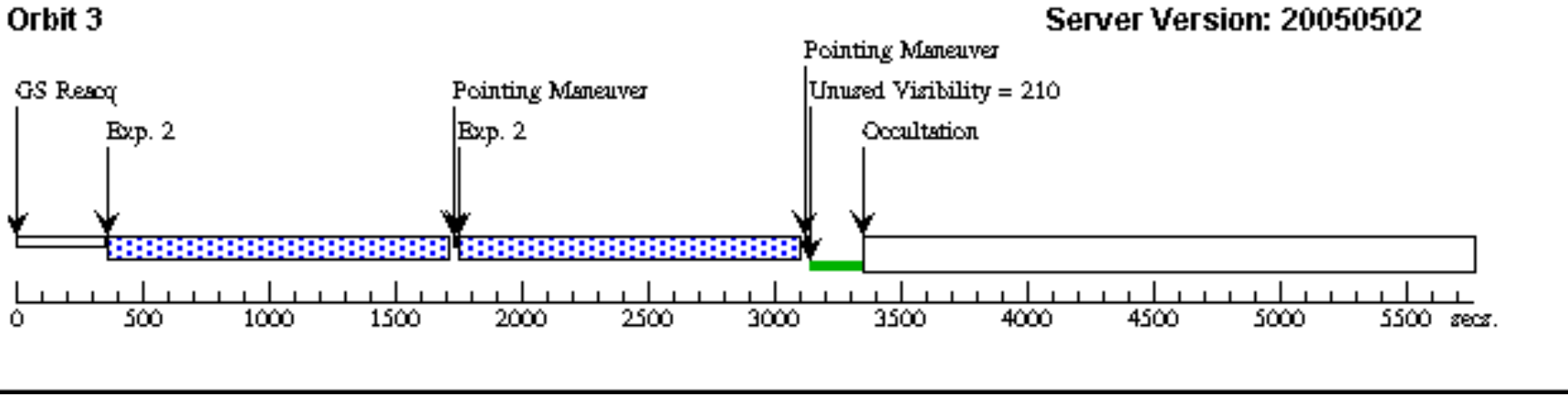
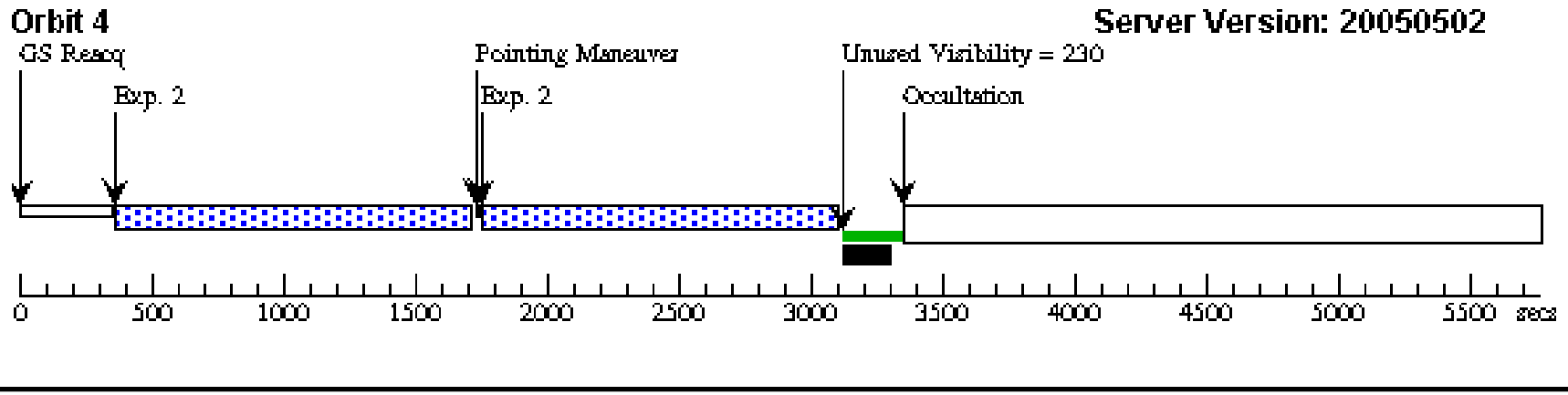
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 05 Thu Jul 14 01:11:38 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0	Pattern 2-2 (1)	1320.0 Secs	
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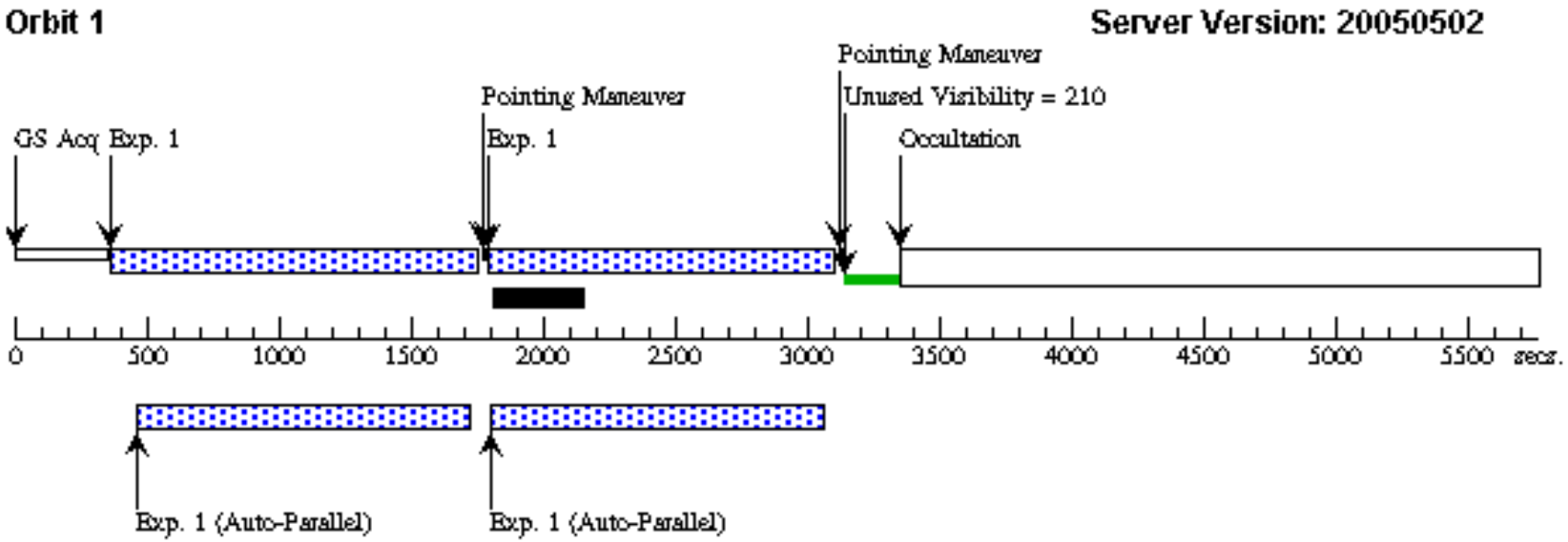
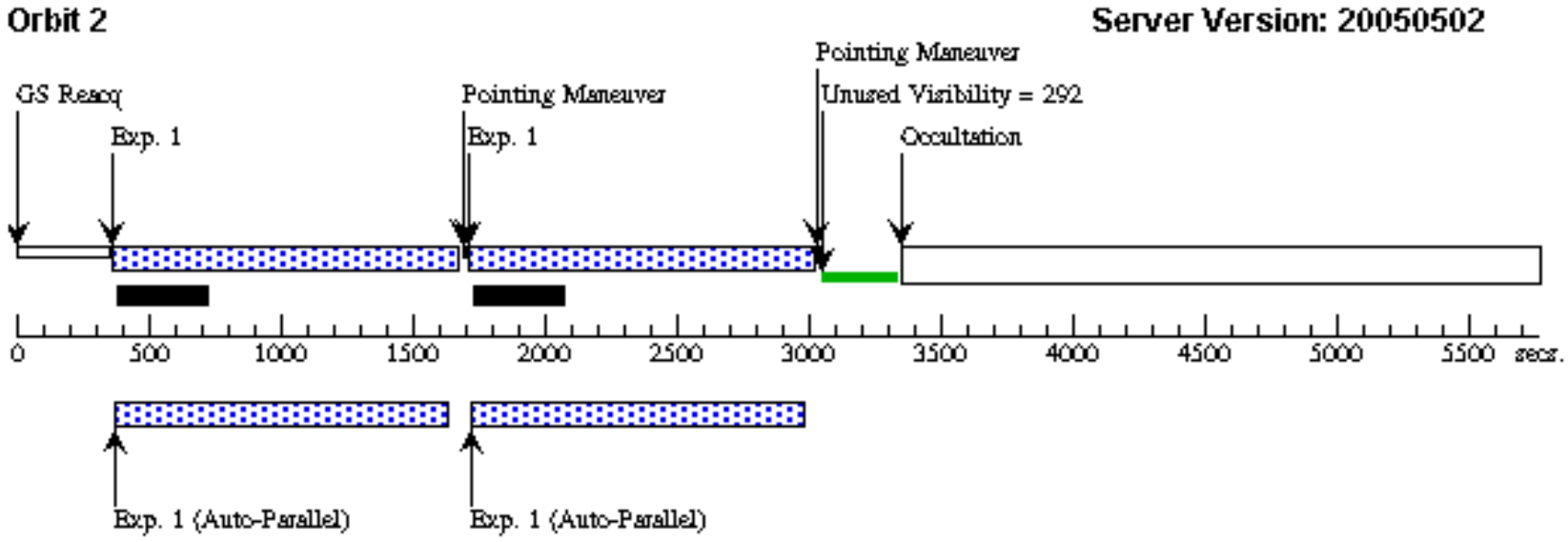
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

Orbit Structure



Orbit Structure (continued)



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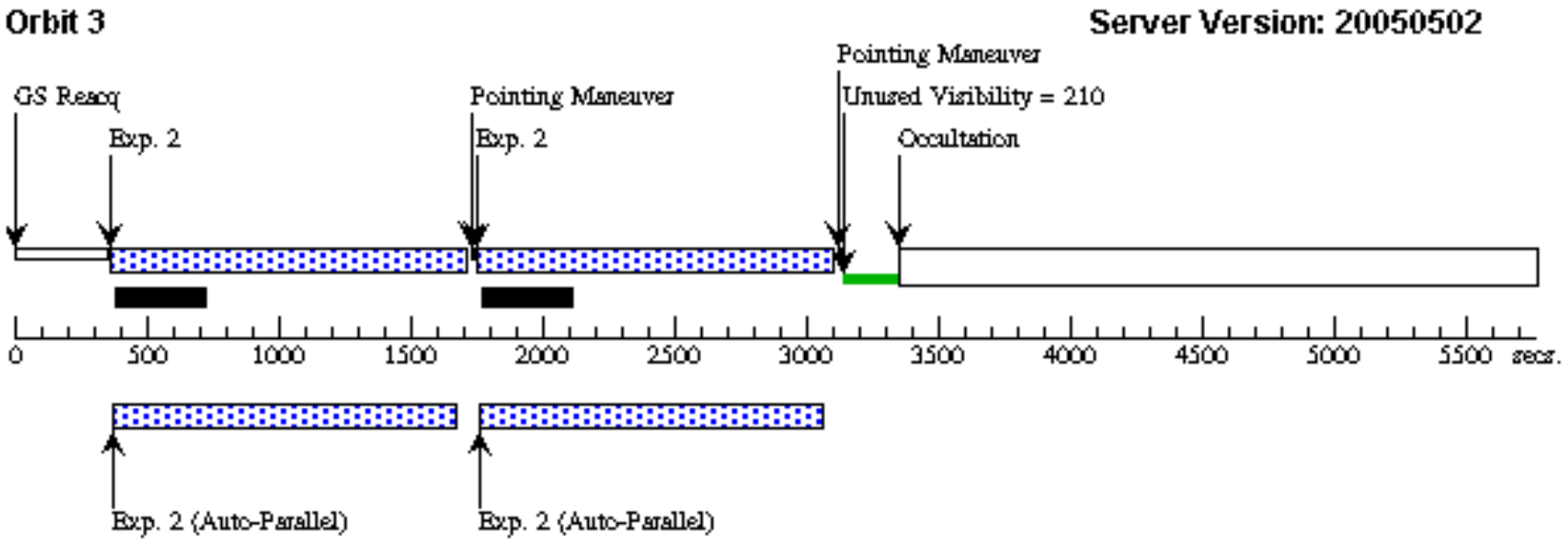
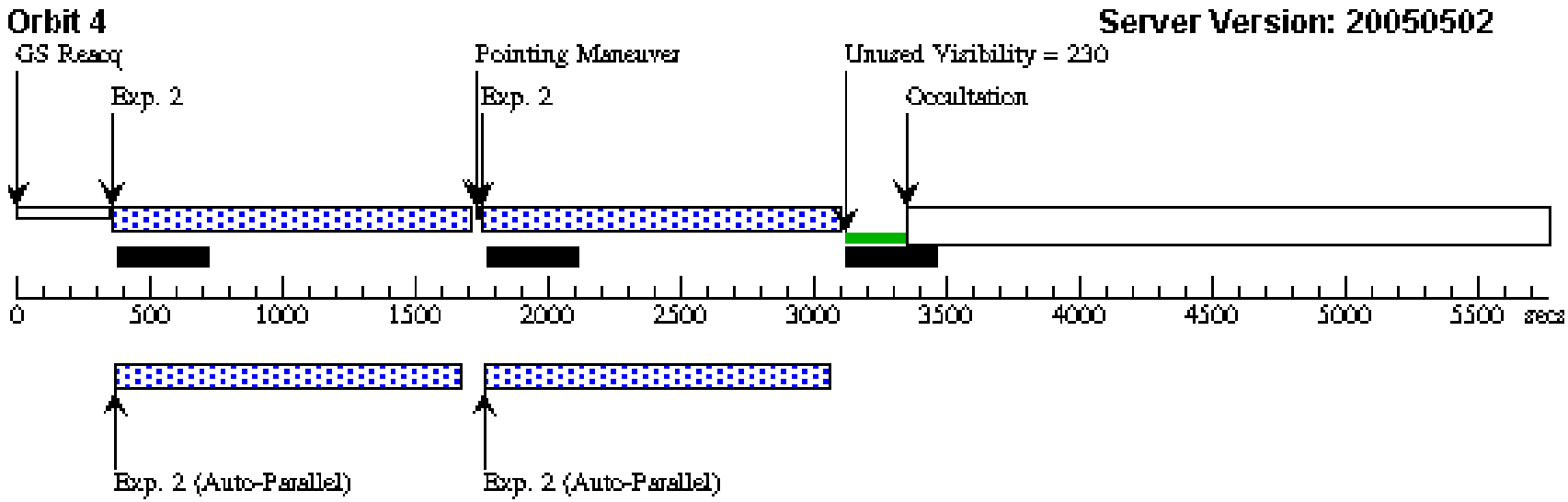


Orbit Structure (continued)



Visit

Proposal 10572, Visit 07 Thu Jul 14 01:11:39 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0	Pattern 2-2 (1)	1320.0 Secs	
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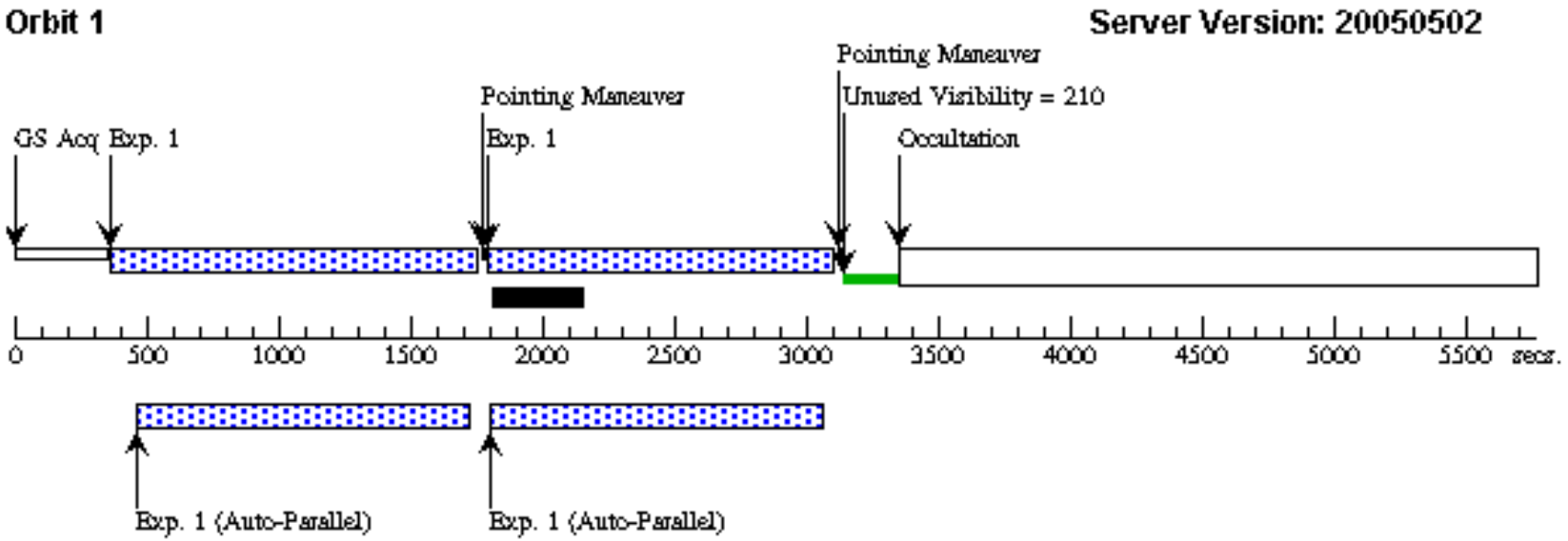
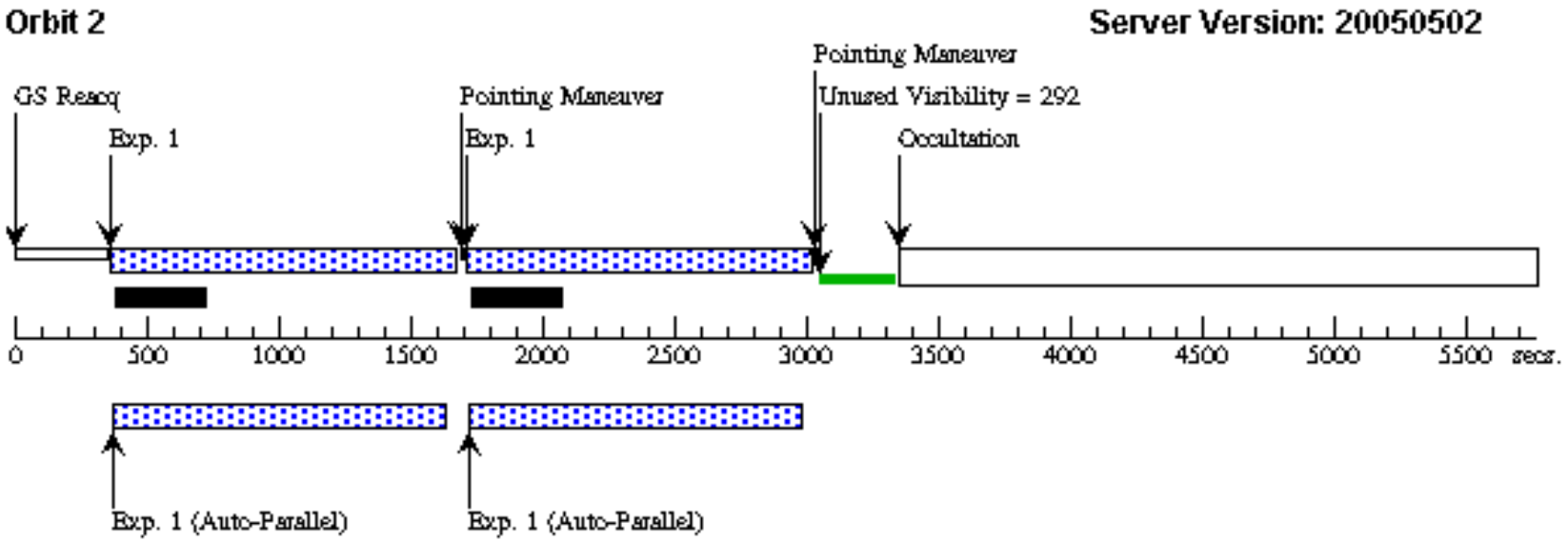
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

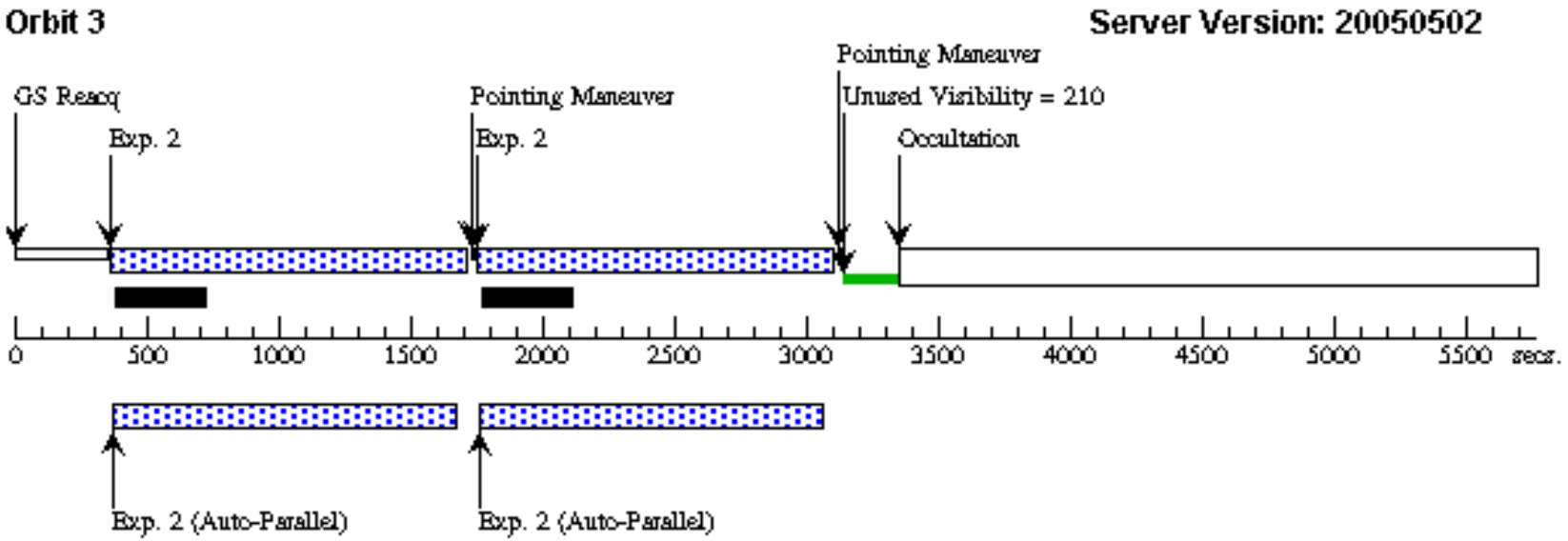
Orbit Structure



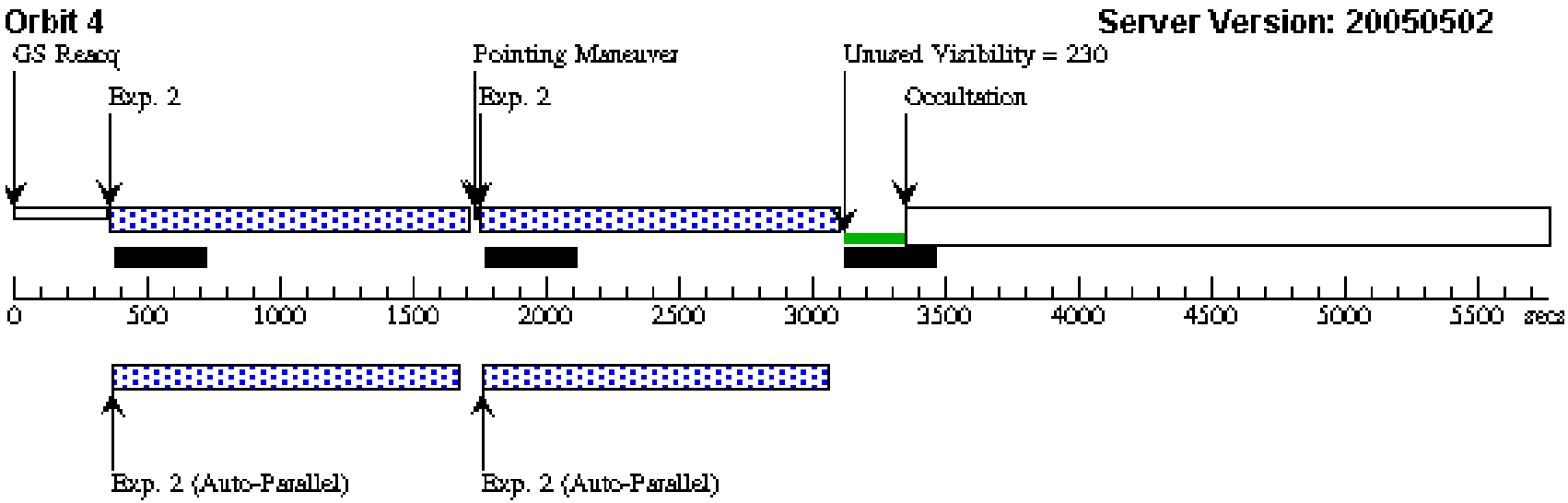
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10572, Visit 06 Thu Jul 14 01:11:40 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
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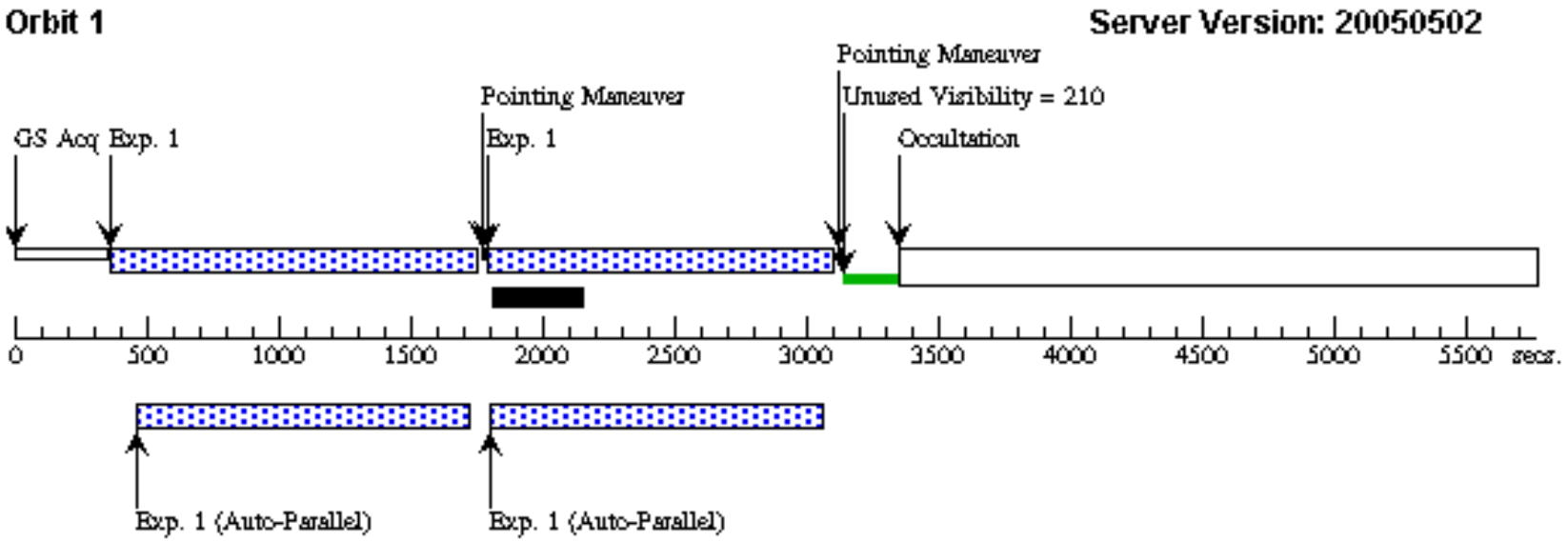
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

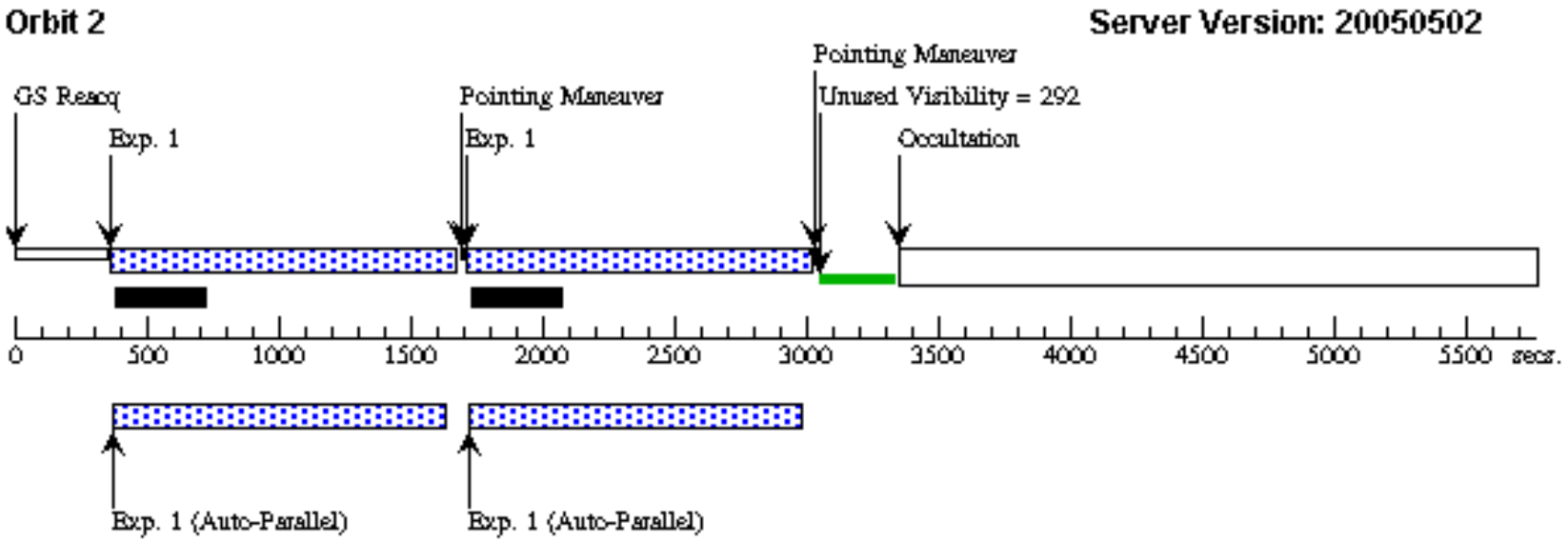
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

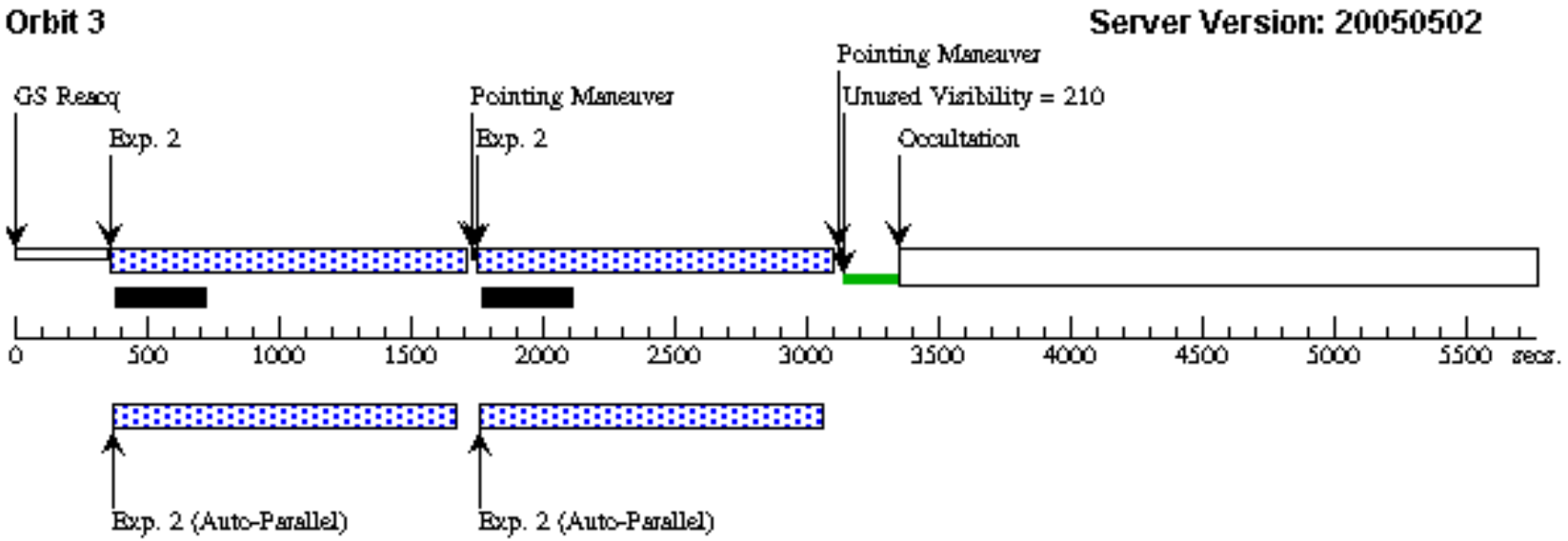
Orbit Structure

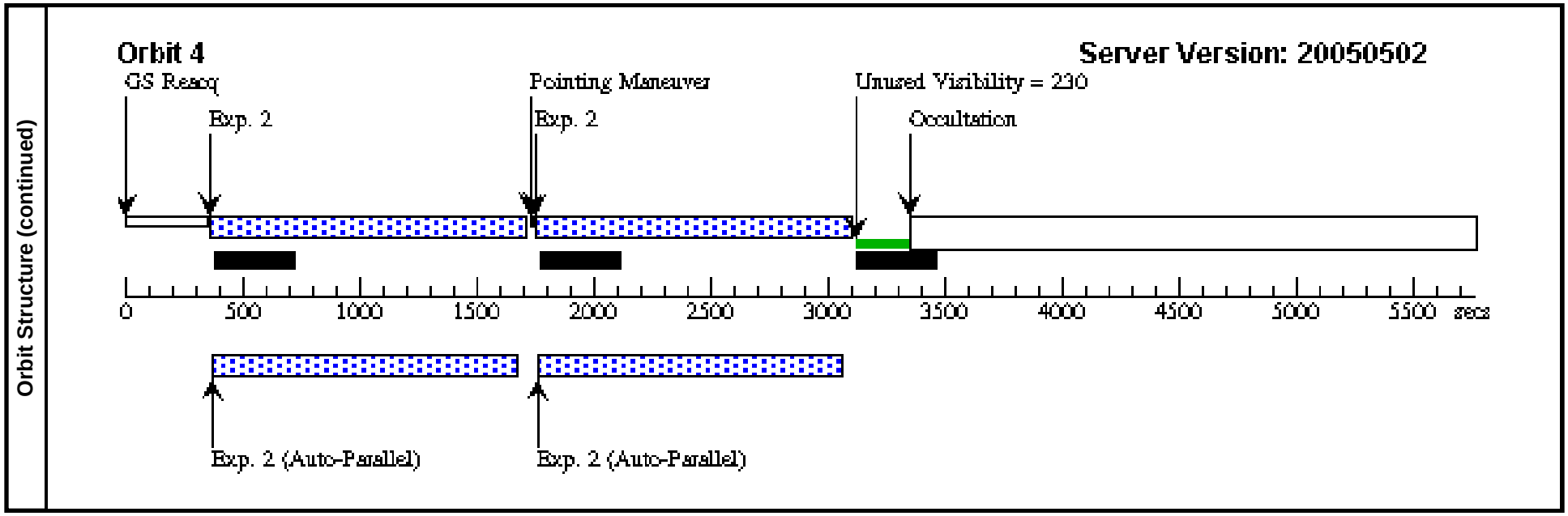


Orbit Structure (continued)



Orbit Structure (continued)




Orbit Structure (continued)
Orbit 4
Server Version: 20050502
GS Reacq
Exp. 2
Pointing Maneuver
Exp. 2
Unused Visibility = 230
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs
Exp. 2 (Auto-Parallel)
Exp. 2 (Auto-Parallel)

Visit

Proposal 10572, Visit 08 Thu Jul 14 01:11:40 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

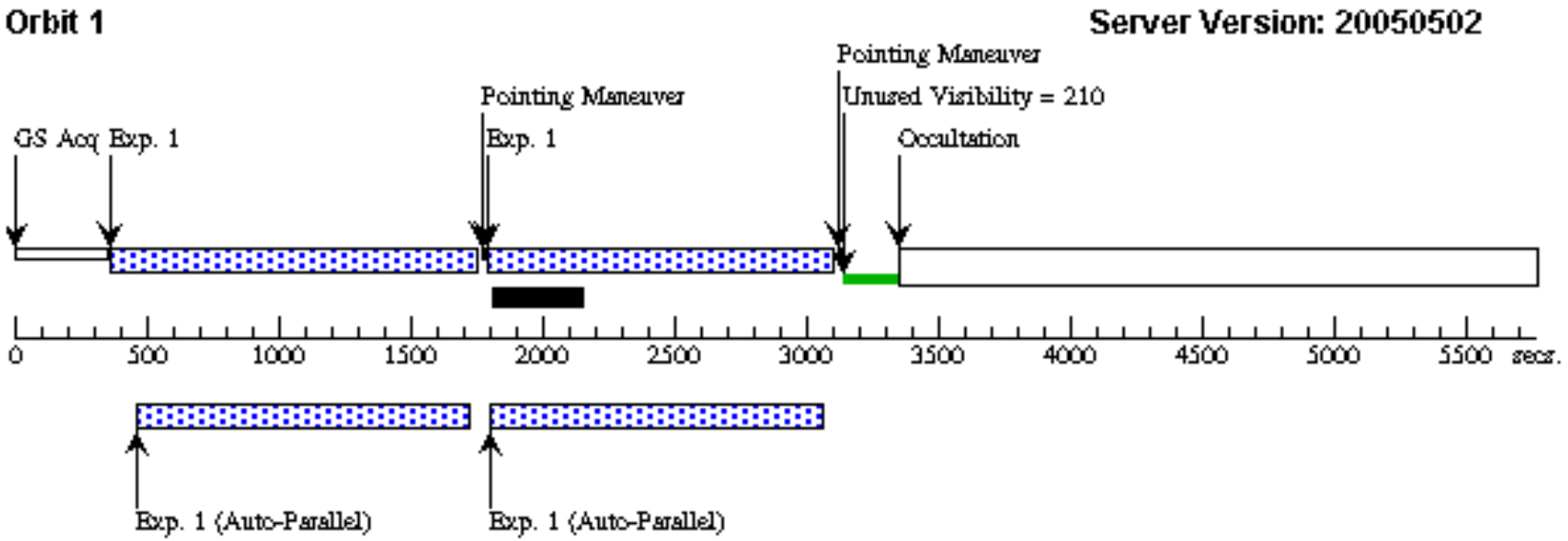
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	M32	RA: 00 42 47.6300 (10.6984583d) Dec: +40 50 27.40 (40.84094d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=22	Coordinate Source: GUIDE_STAR_CATALOG

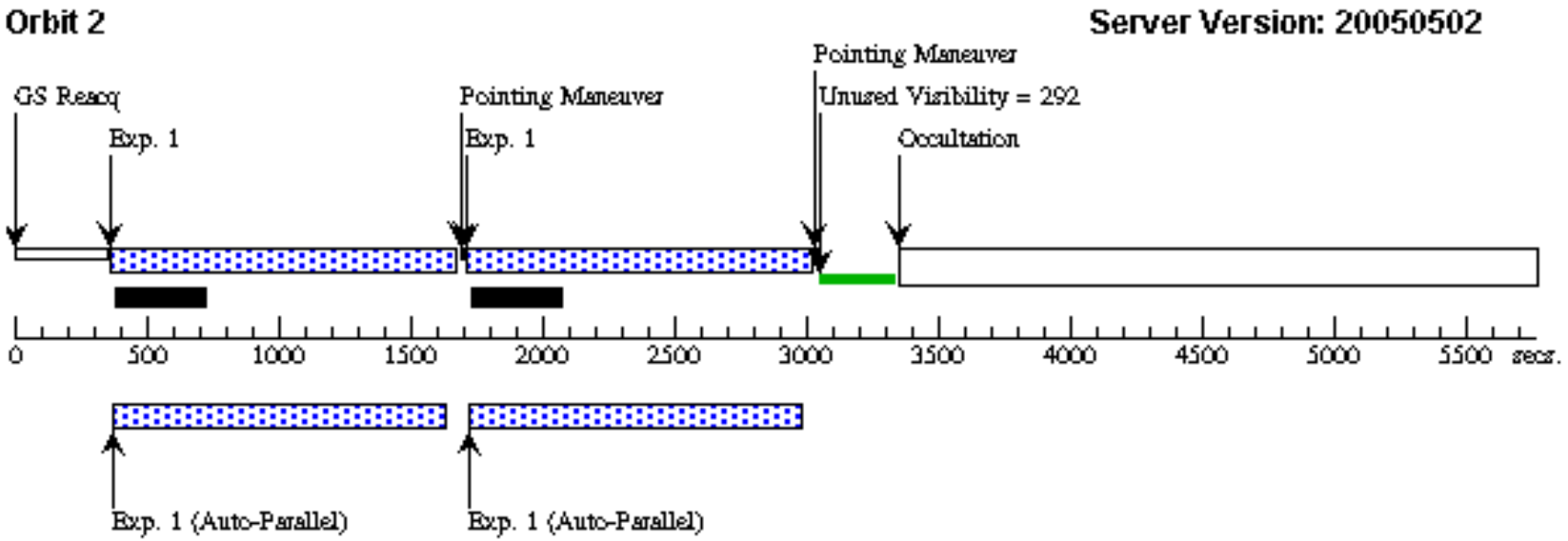
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,-0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(1) M32	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,-0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

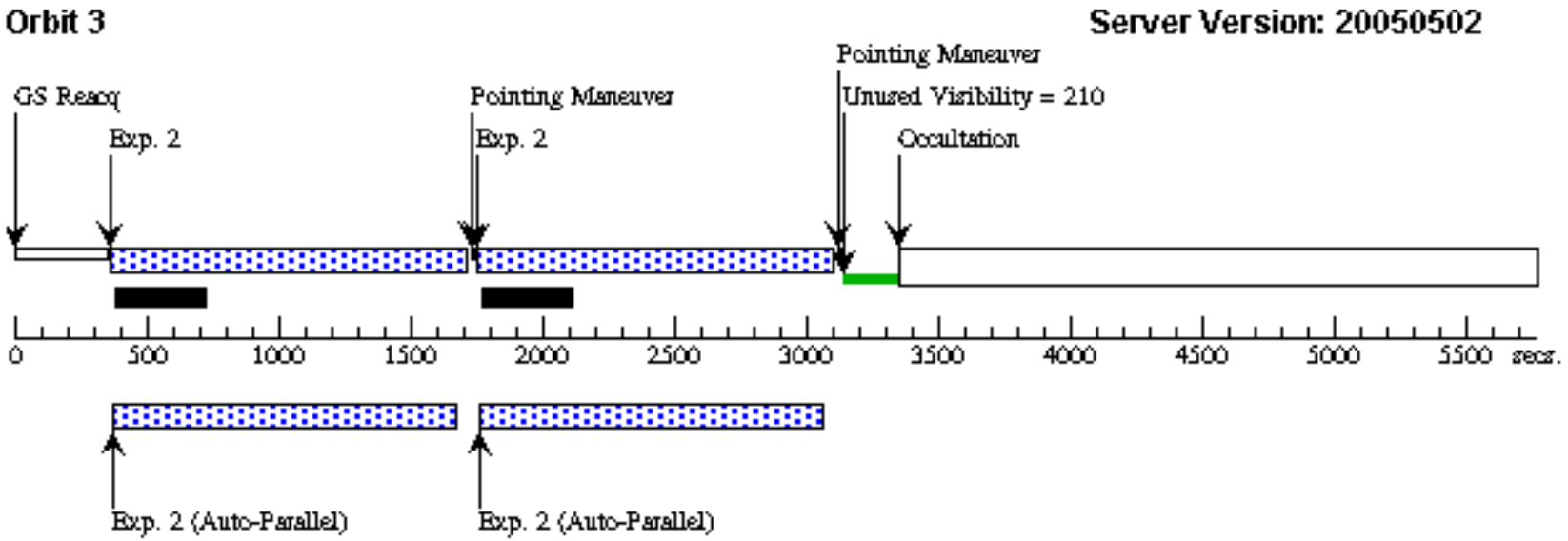
Orbit Structure



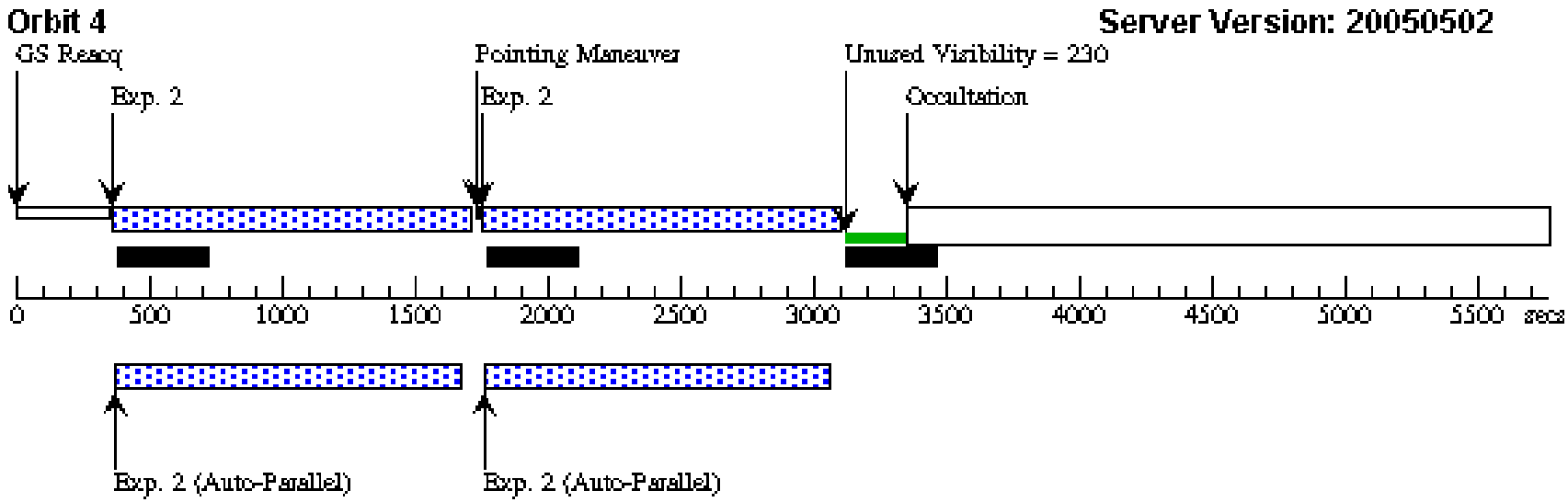
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10572, Visit 09 Thu Jul 14 01:11:41 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; GROUP 09,10,11,12,13,14,15,16 WITHIN 30.0D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

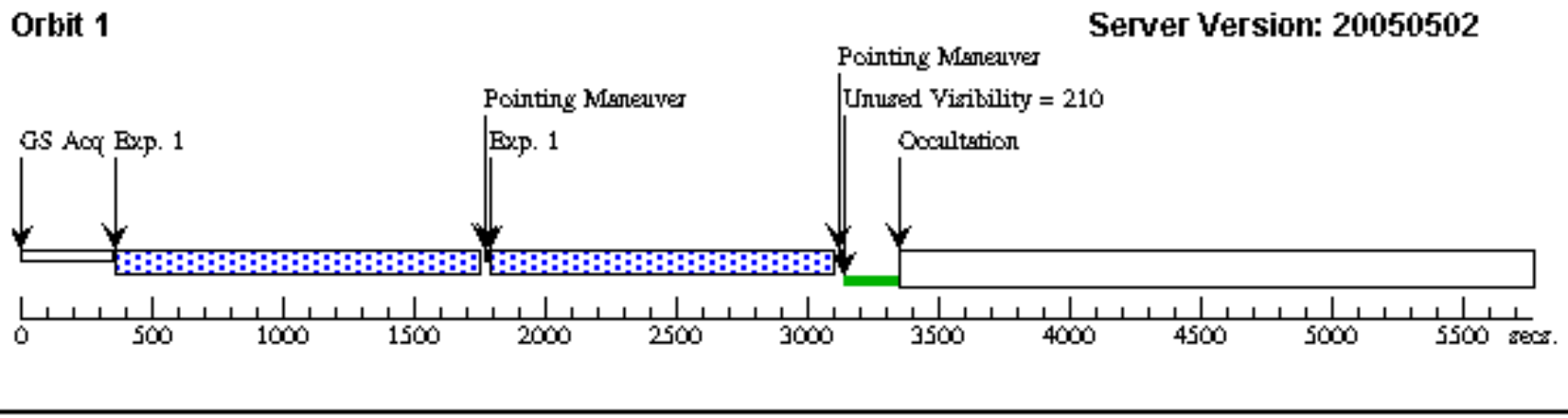
Fixed Targets

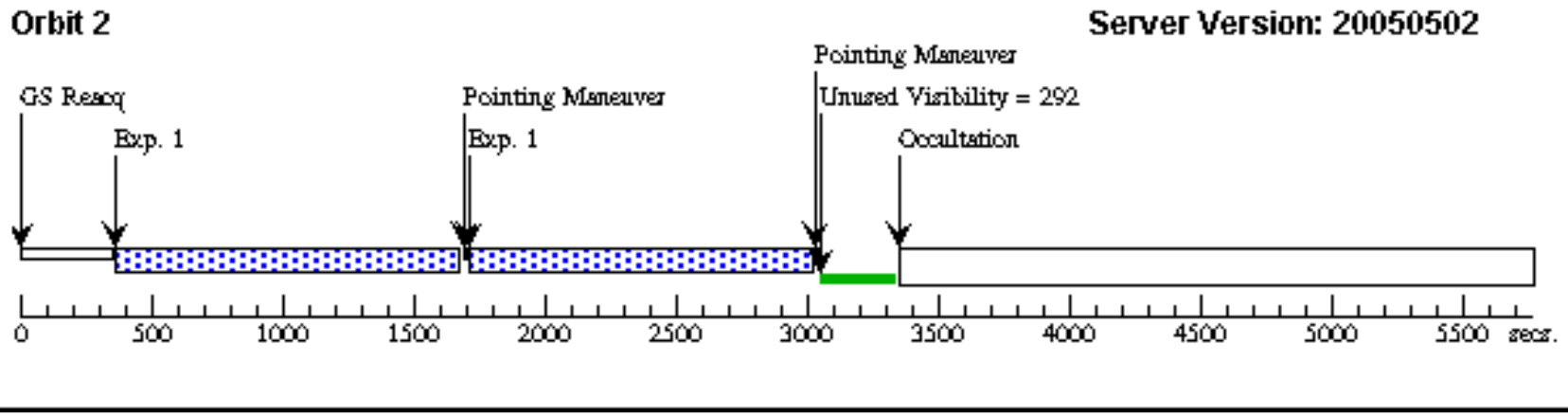
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

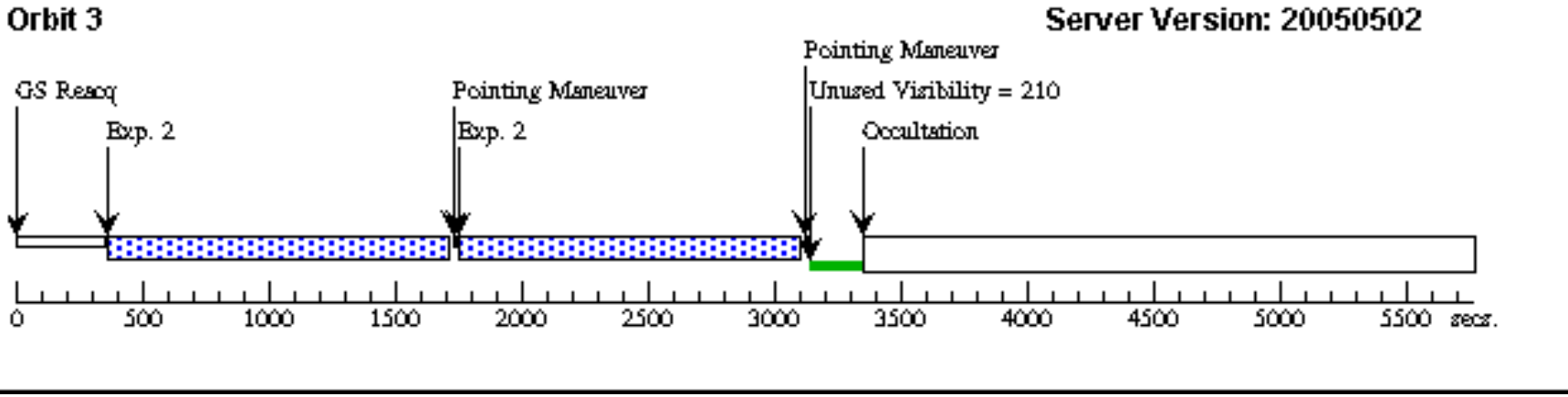
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

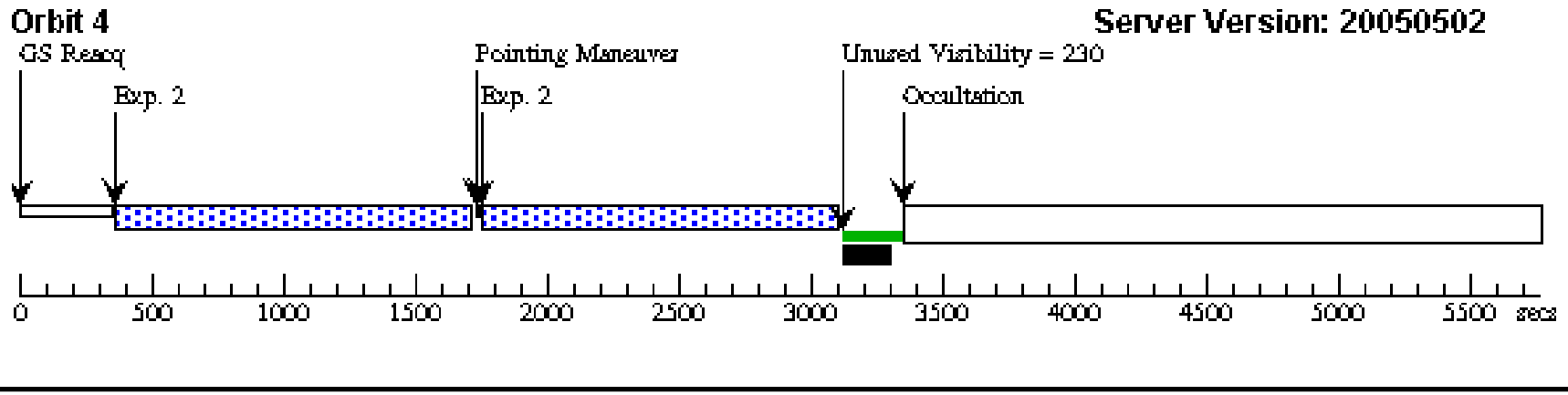
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 10 Thu Jul 14 01:11:42 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

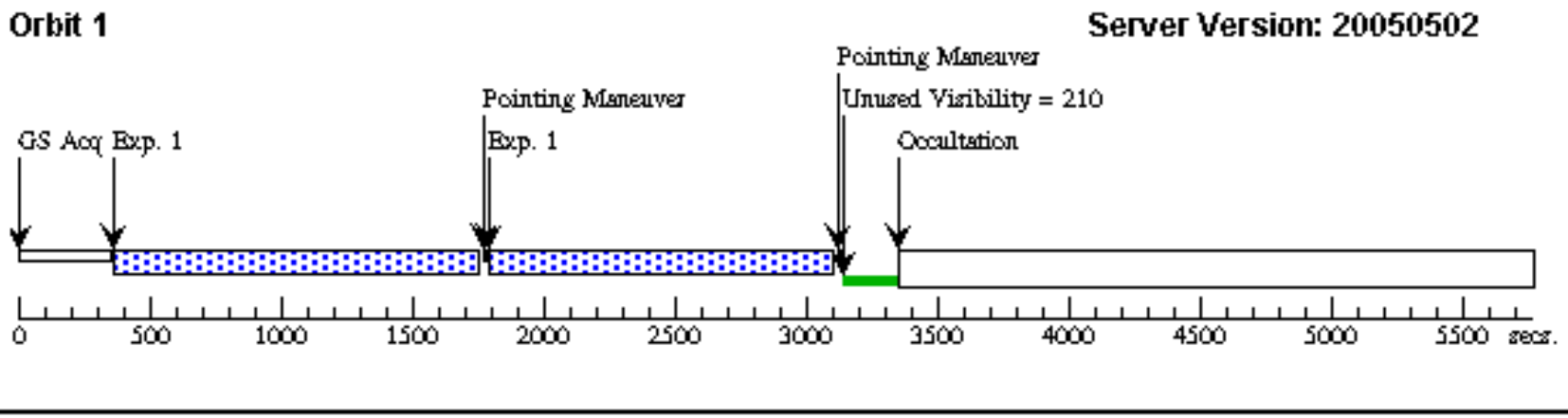
Fixed Targets

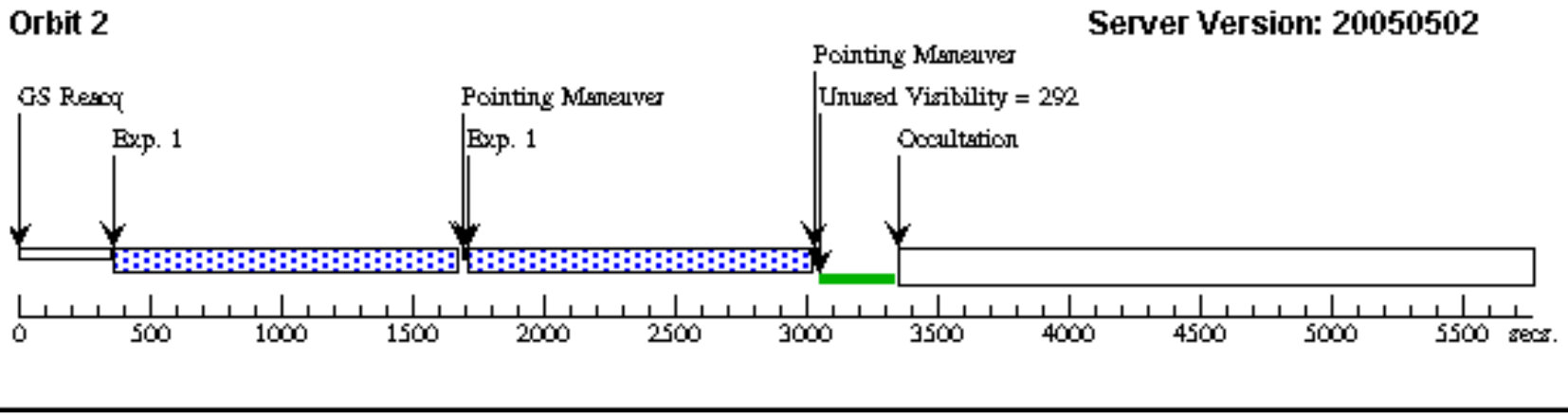
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

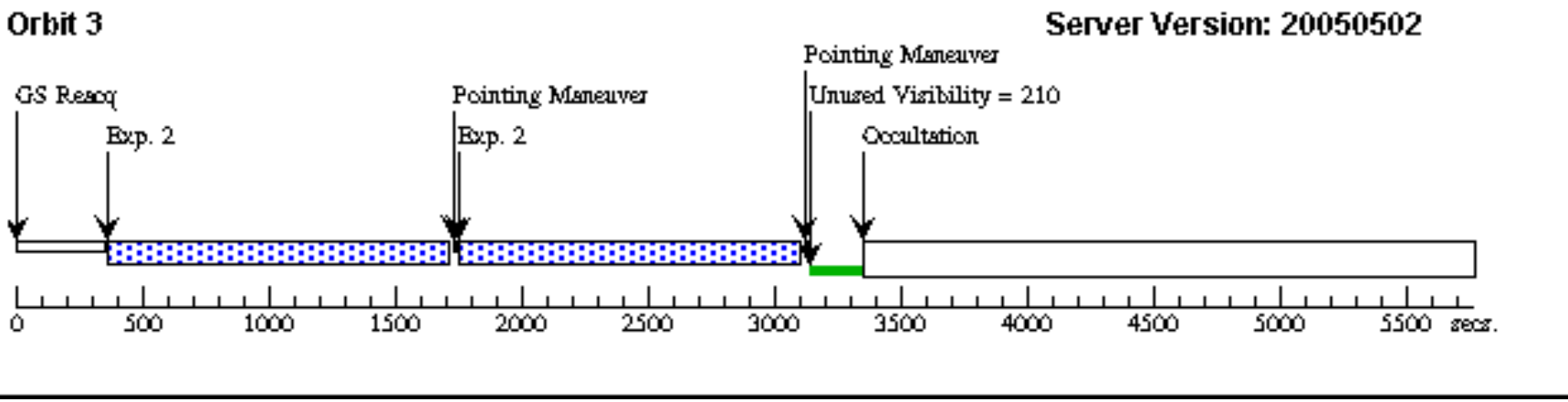
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

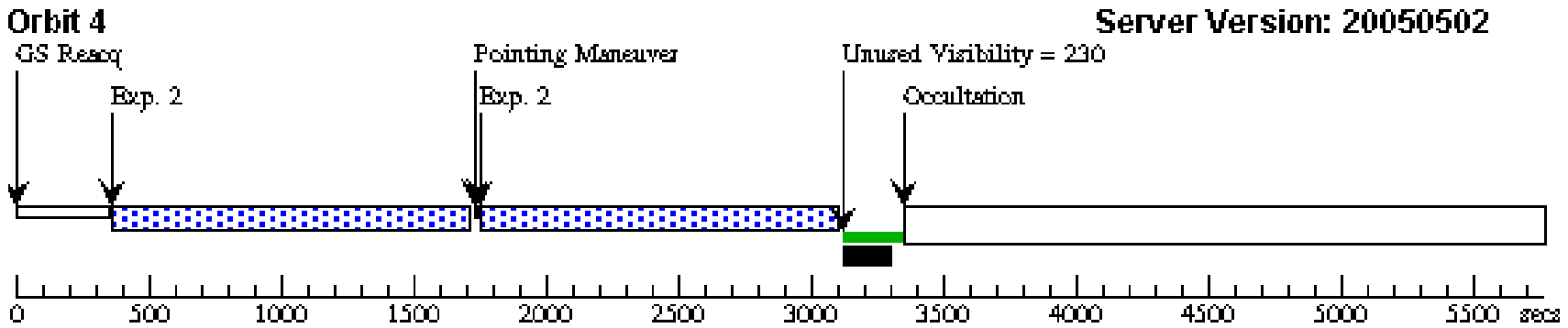
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 11 Thu Jul 14 01:11:43 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

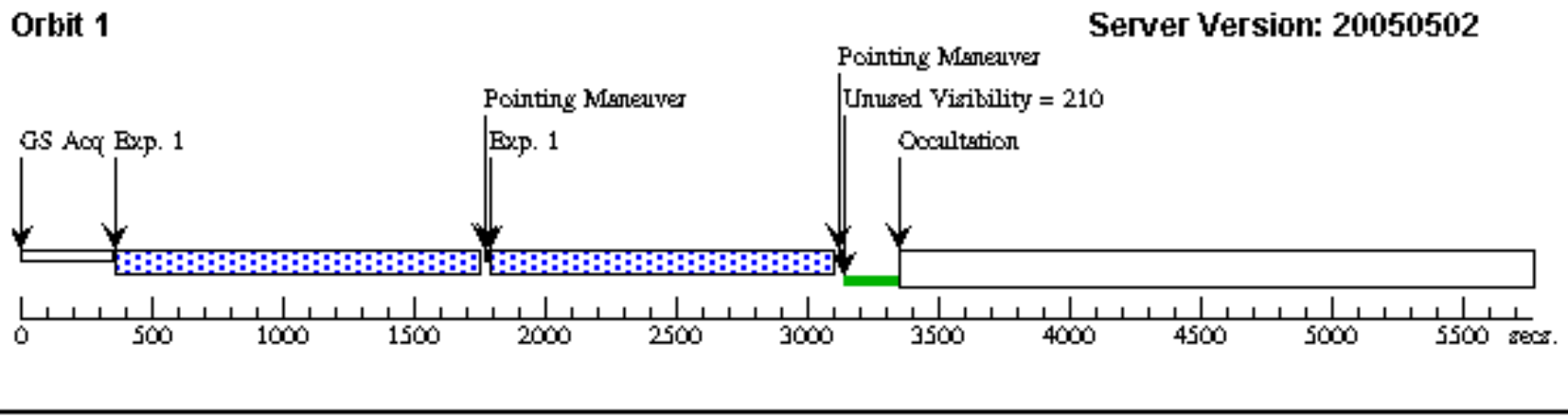
Fixed Targets

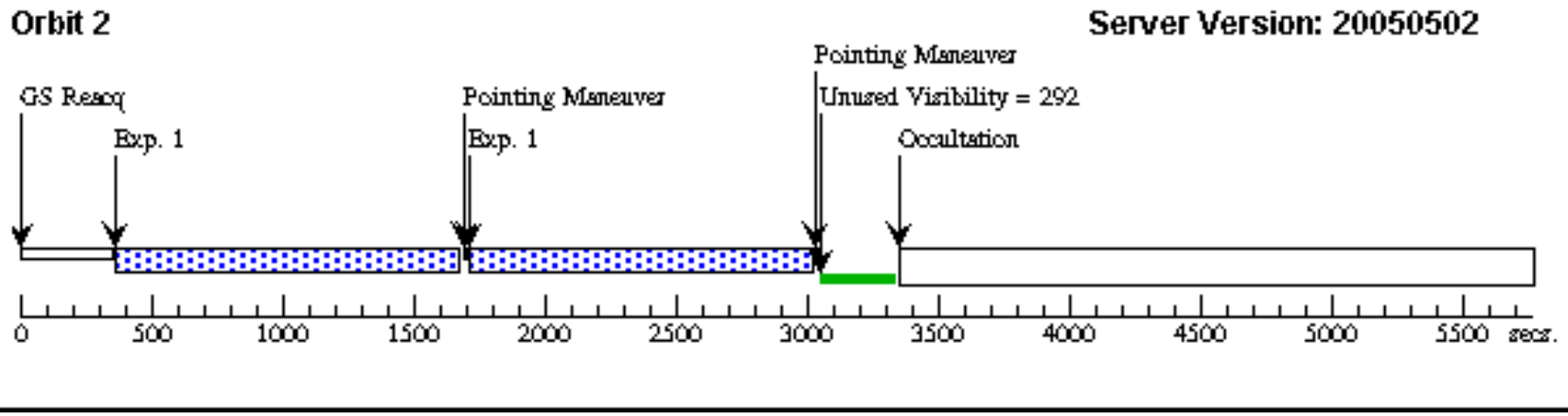
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

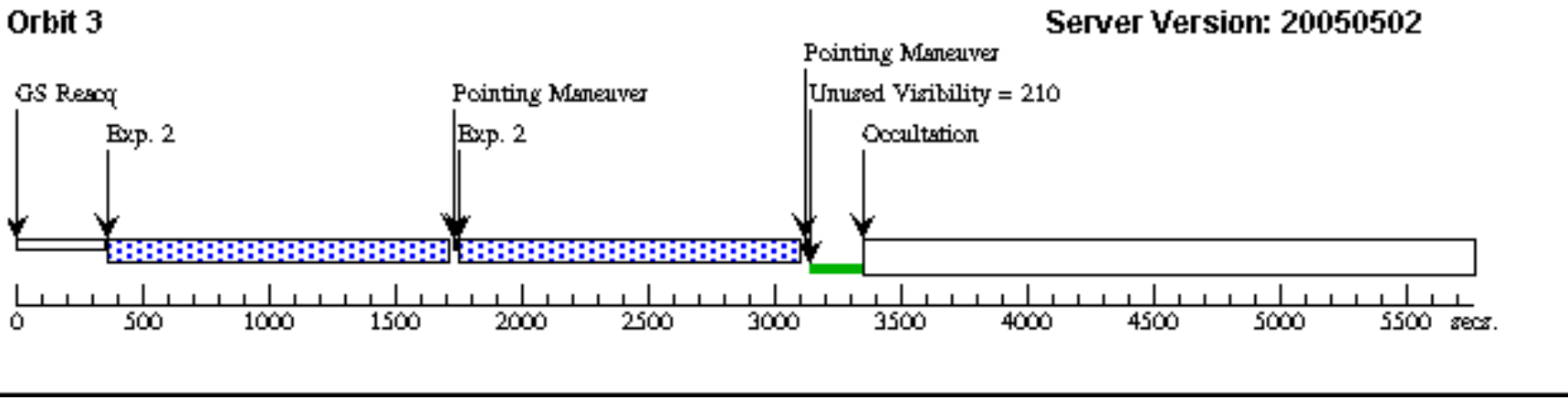
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

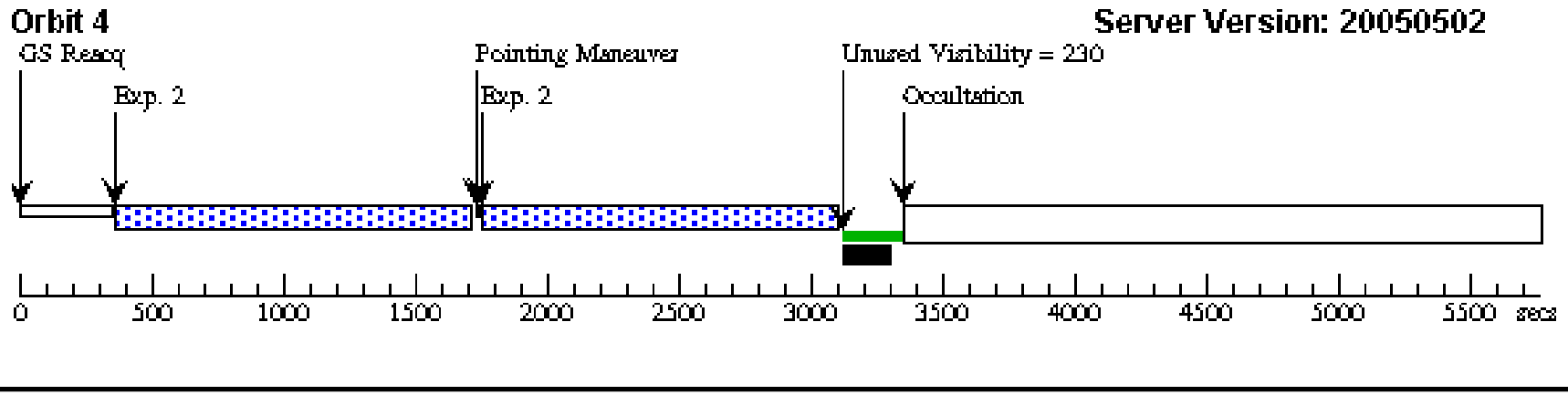
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 12 Thu Jul 14 01:11:44 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

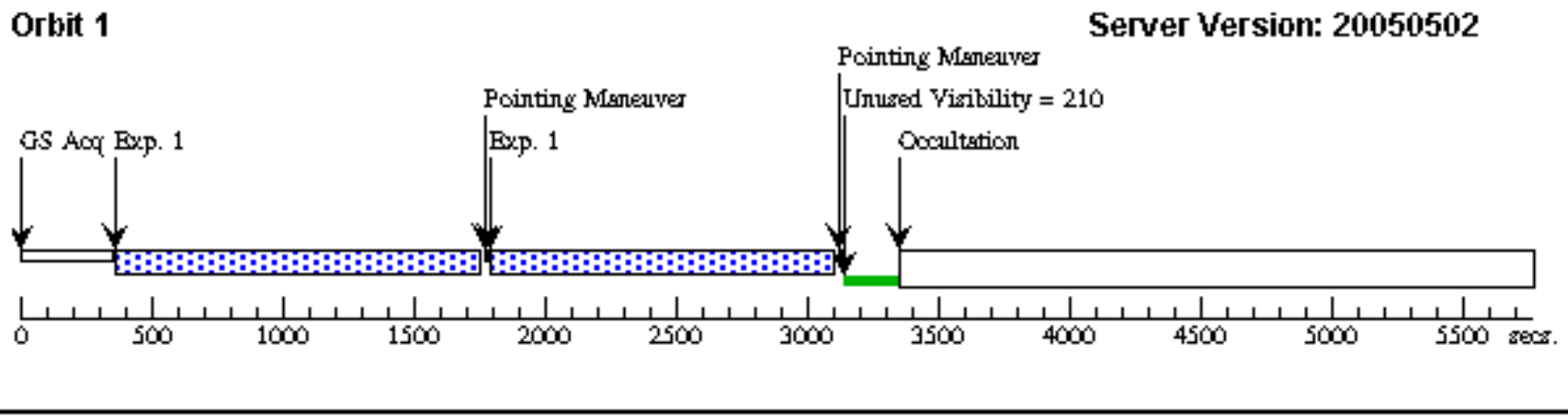
Fixed Targets

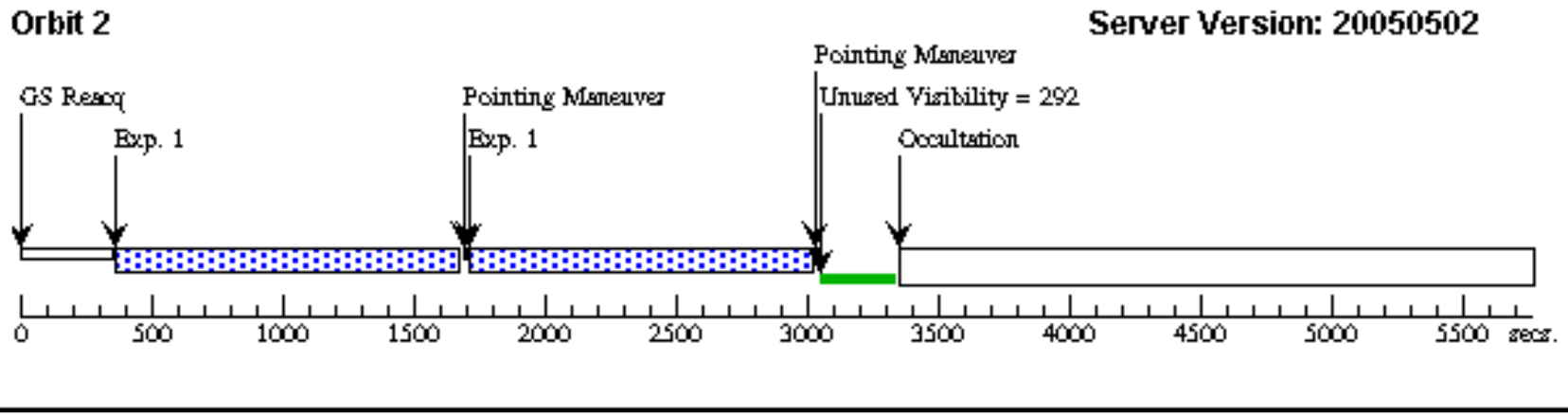
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

Exposures

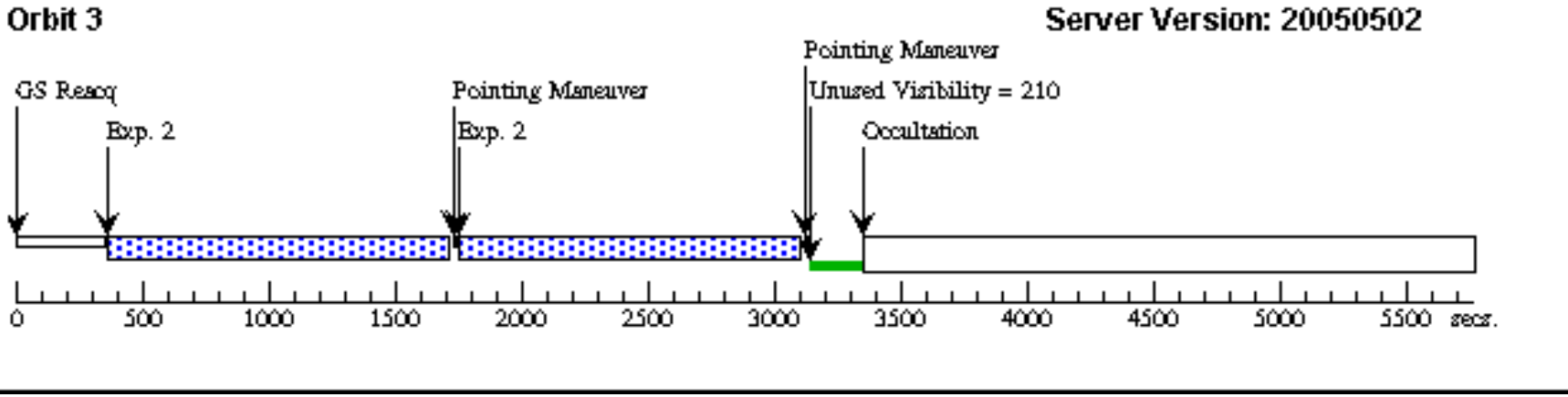
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,-0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F435W	CR-SPLIT=NO; GAIN=2	POS TARG 0,-0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

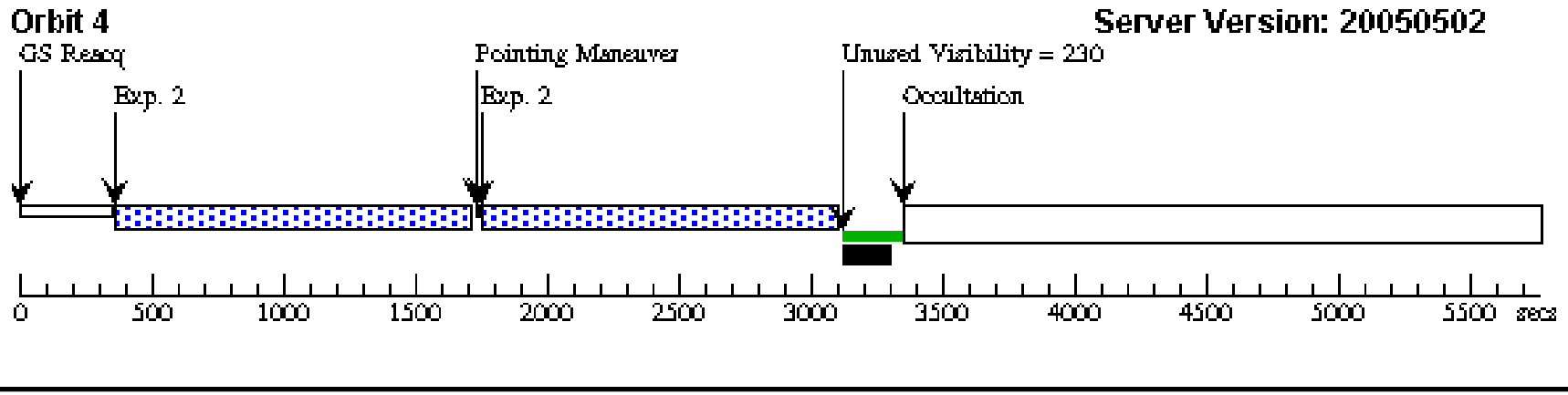
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10572, Visit 13 Thu Jul 14 01:11:44 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

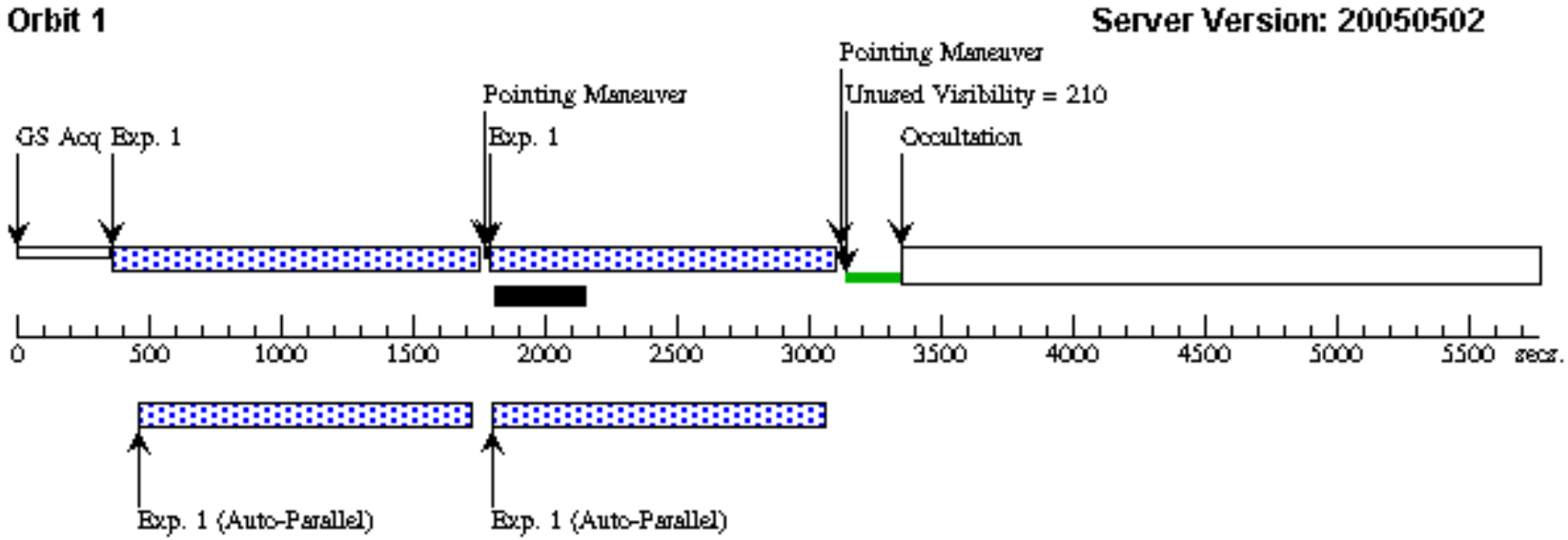
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

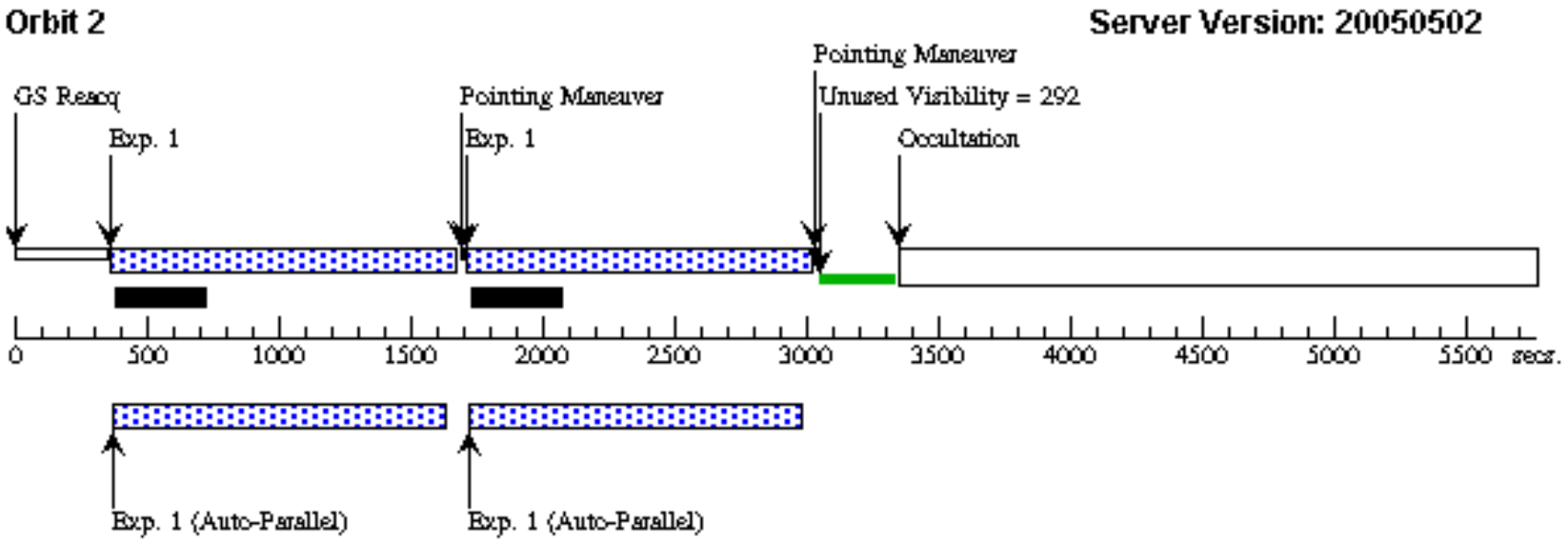
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

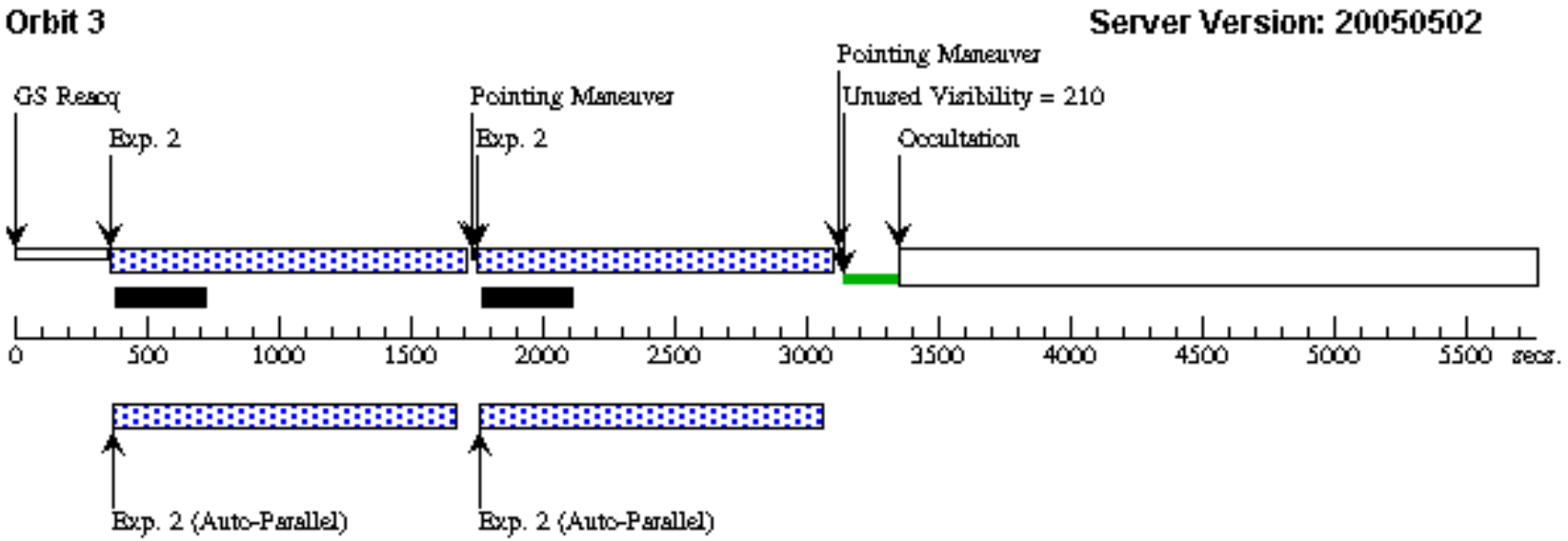
Orbit Structure



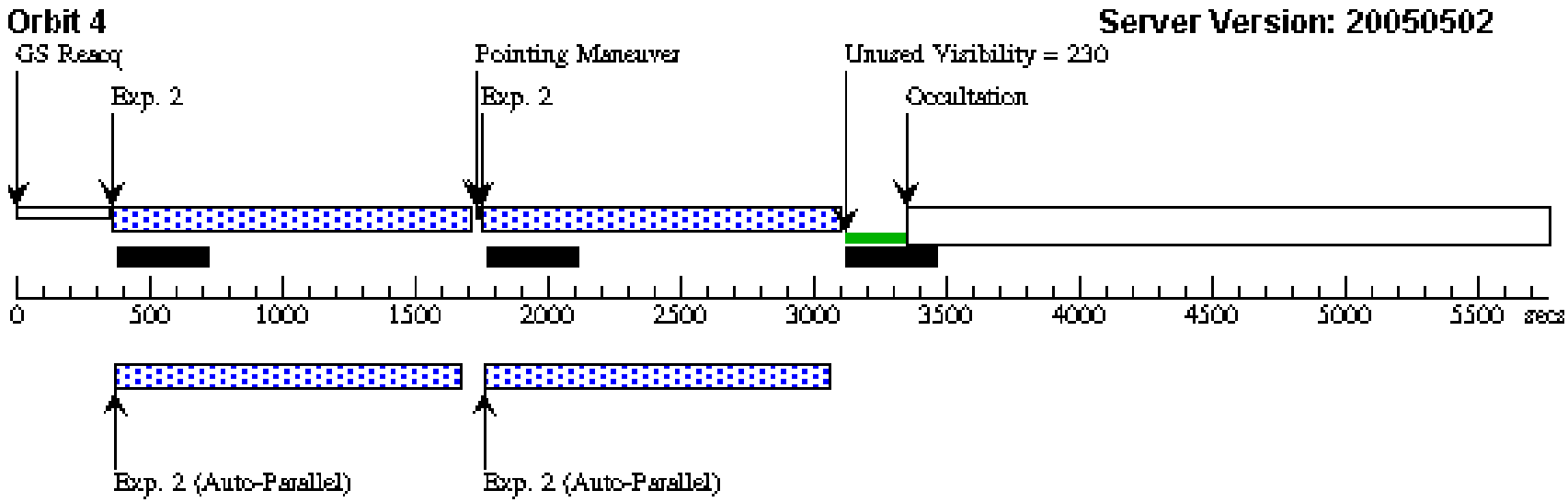
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10572, Visit 14 Thu Jul 14 01:11:45 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

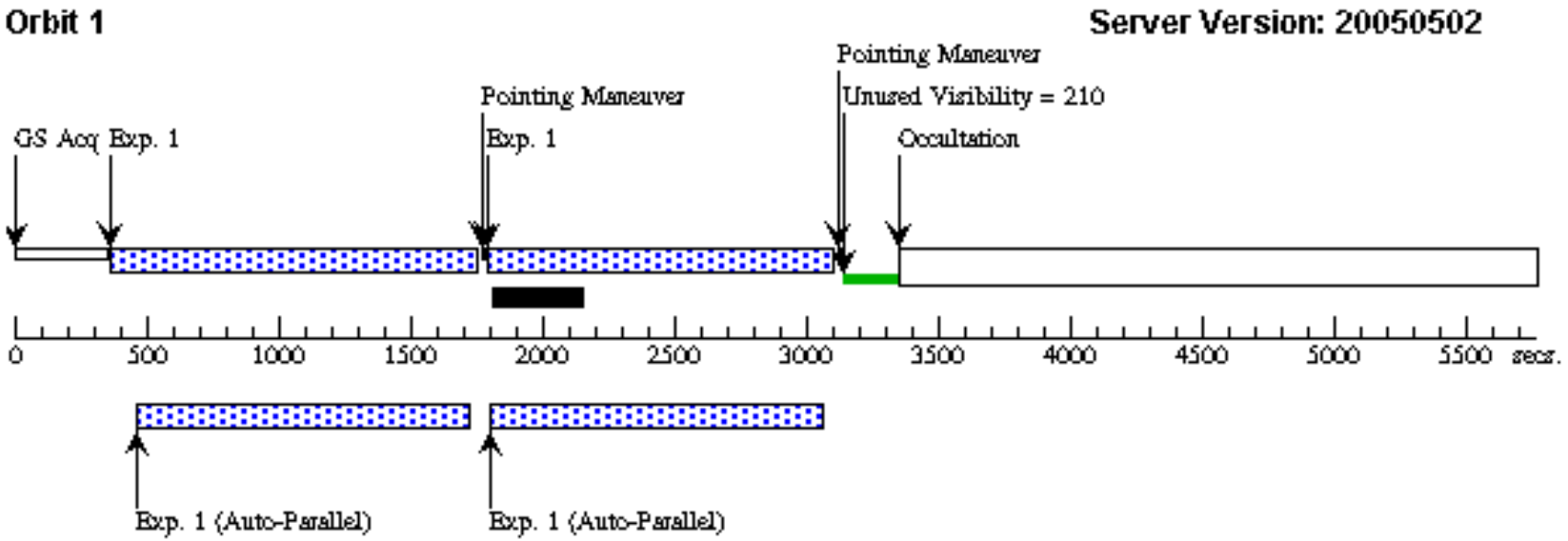
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

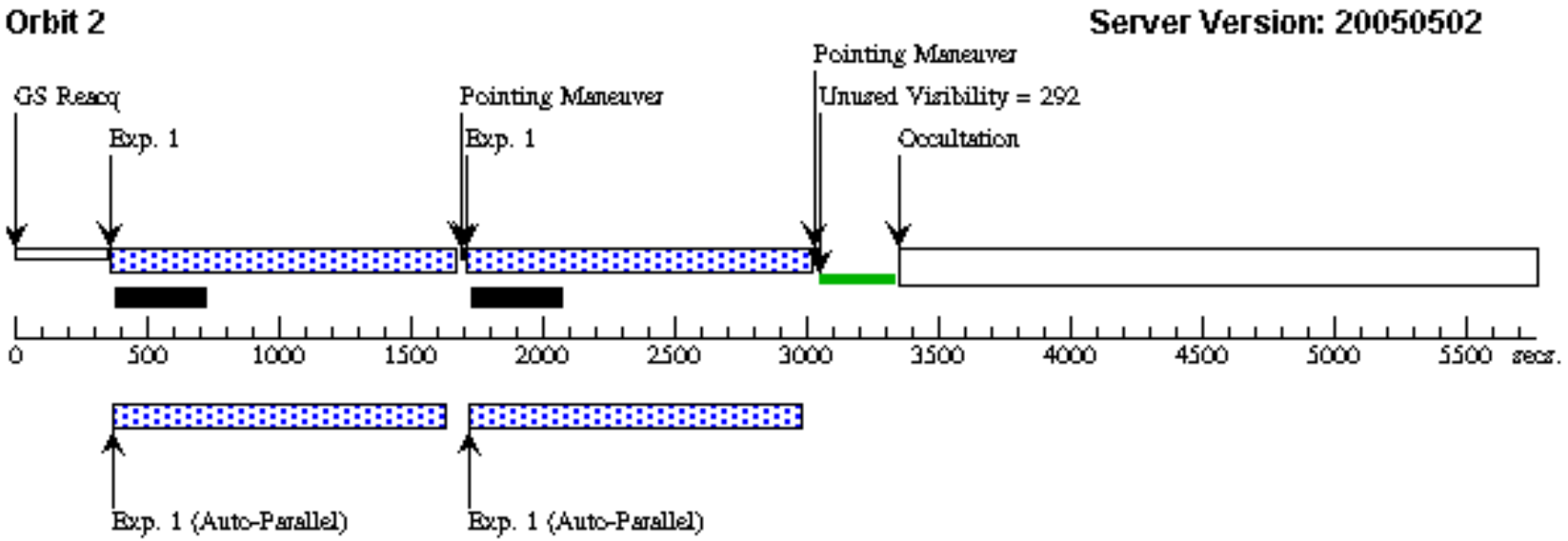
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

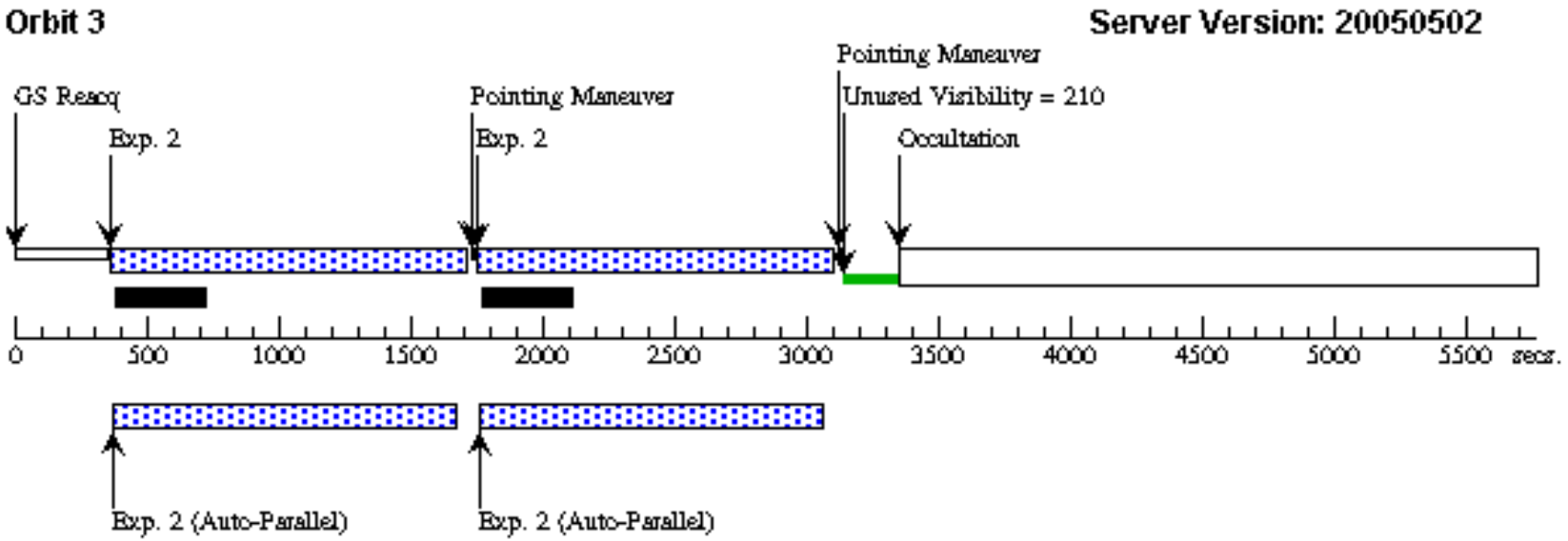
Orbit Structure



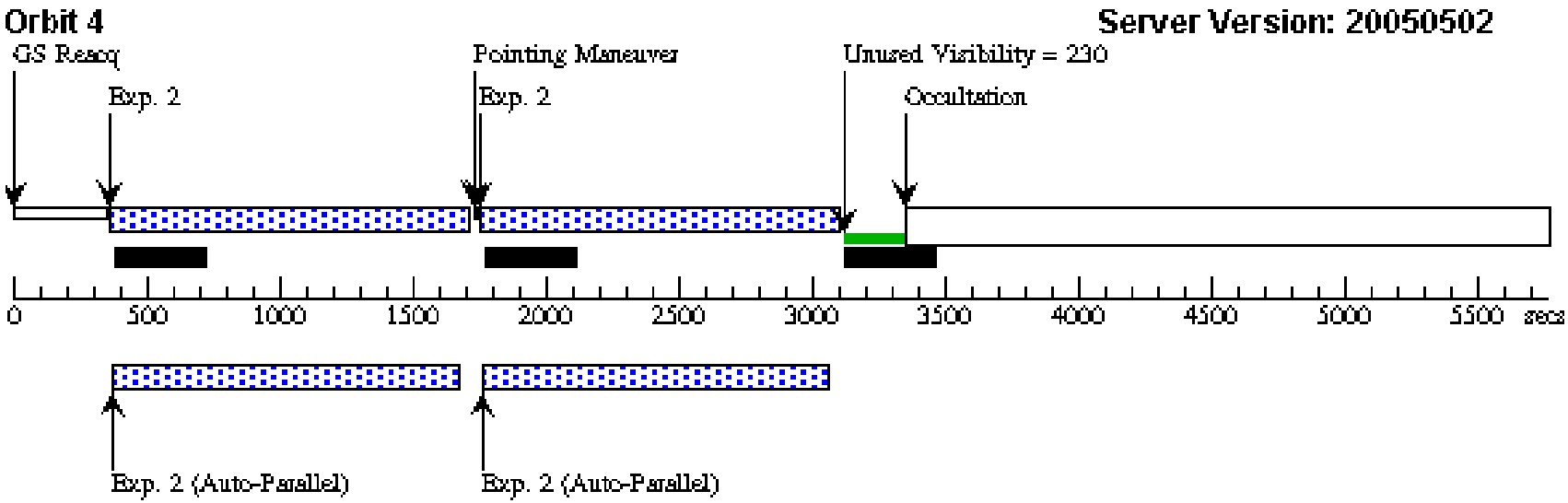
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10572, Visit 15 Thu Jul 14 01:11:46 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

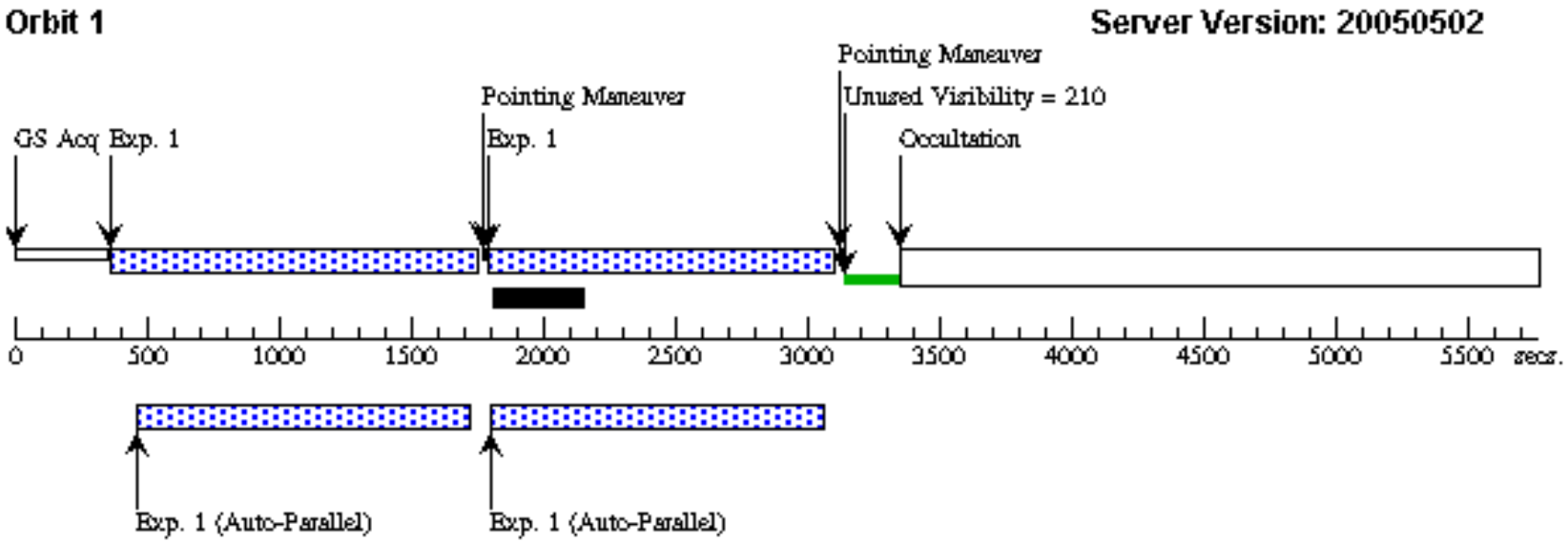
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

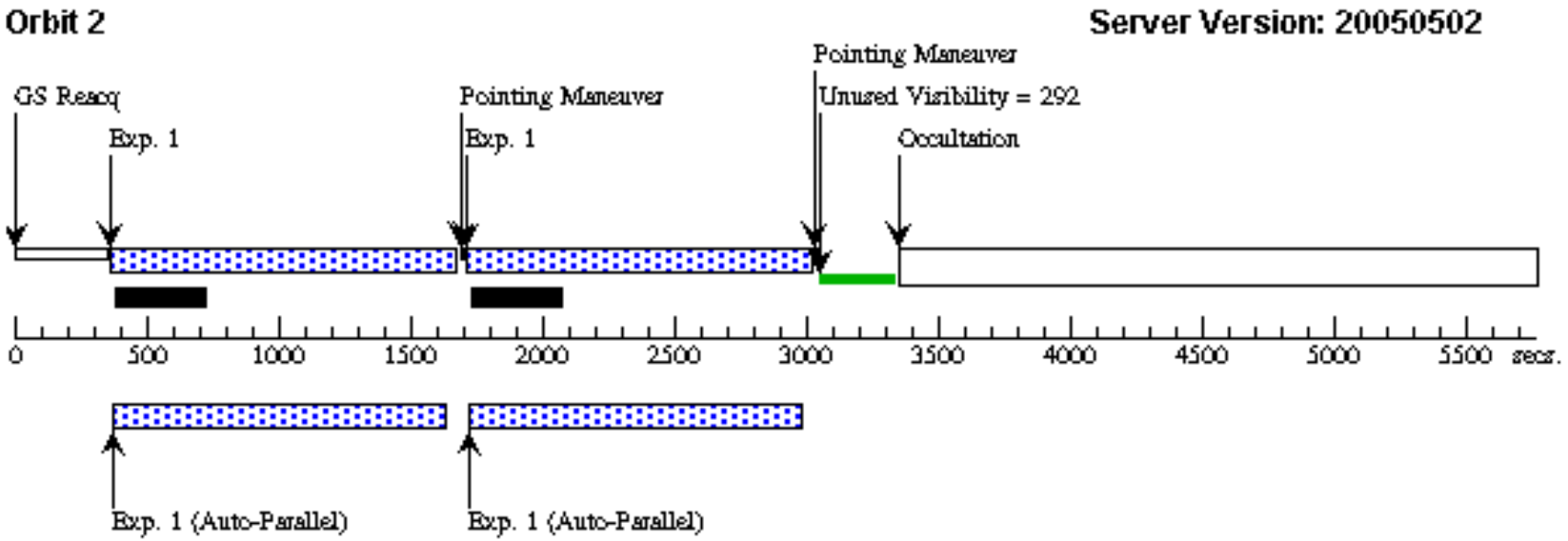
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,0	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

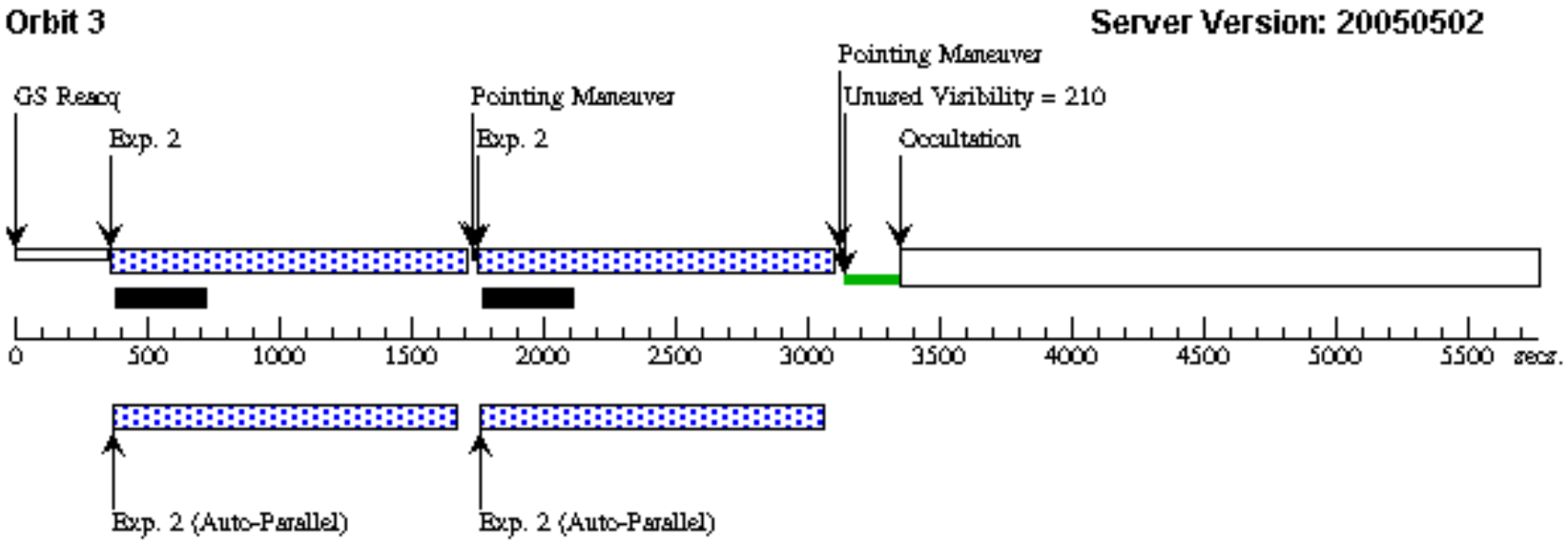
Orbit Structure



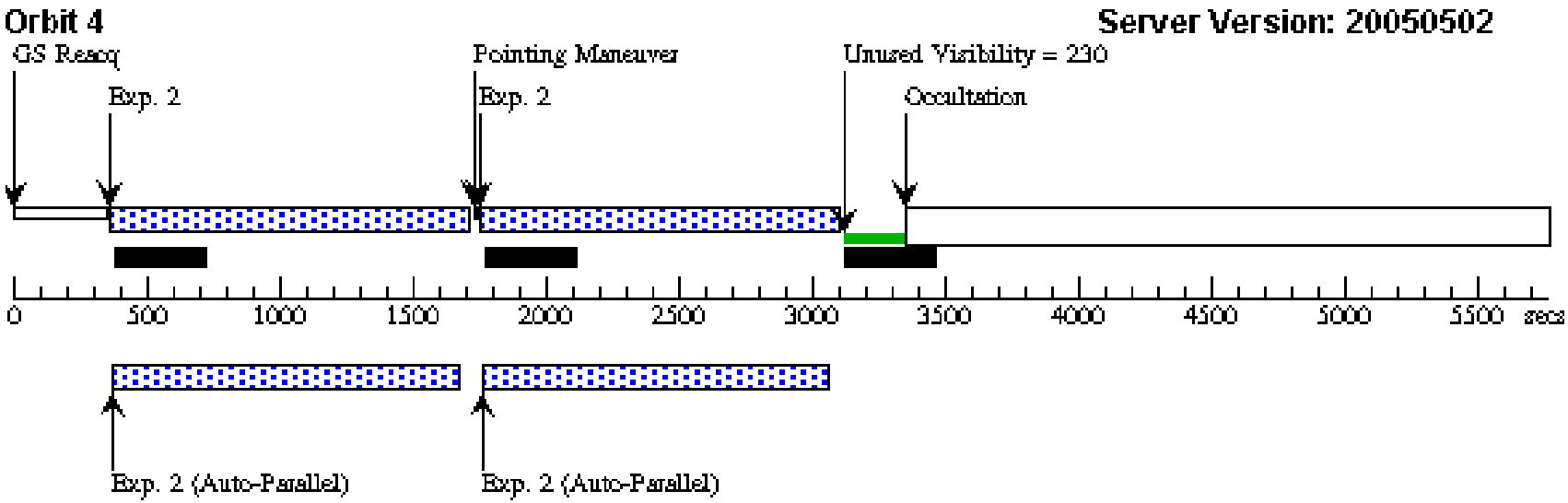
Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)



Visit

Proposal 10572, Visit 16 Thu Jul 14 01:11:47 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/HRC

Special Requirements: PCS MODE FINE; SAME ORIENT AS 09

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.014 Line Spacing=0.012	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=90 Center Pattern=false		(1), (2)

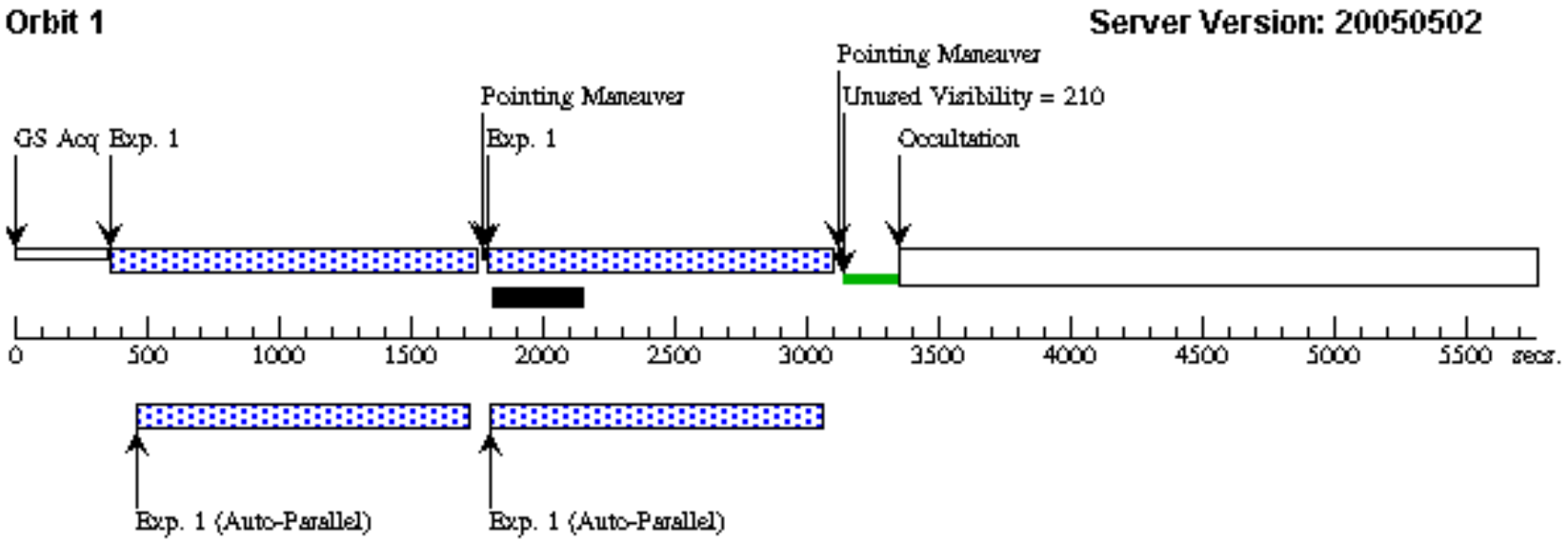
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M31BACKGROUNDFIELD	RA: 00 43 7.8900 (10.7828750d) Dec: +40 54 14.50 (40.90403d) Equinox: J2000 Plate Id: (?)		V=29.2 mu(V)=23.5	Coordinate Source: GUIDE_STAR_CATALOG

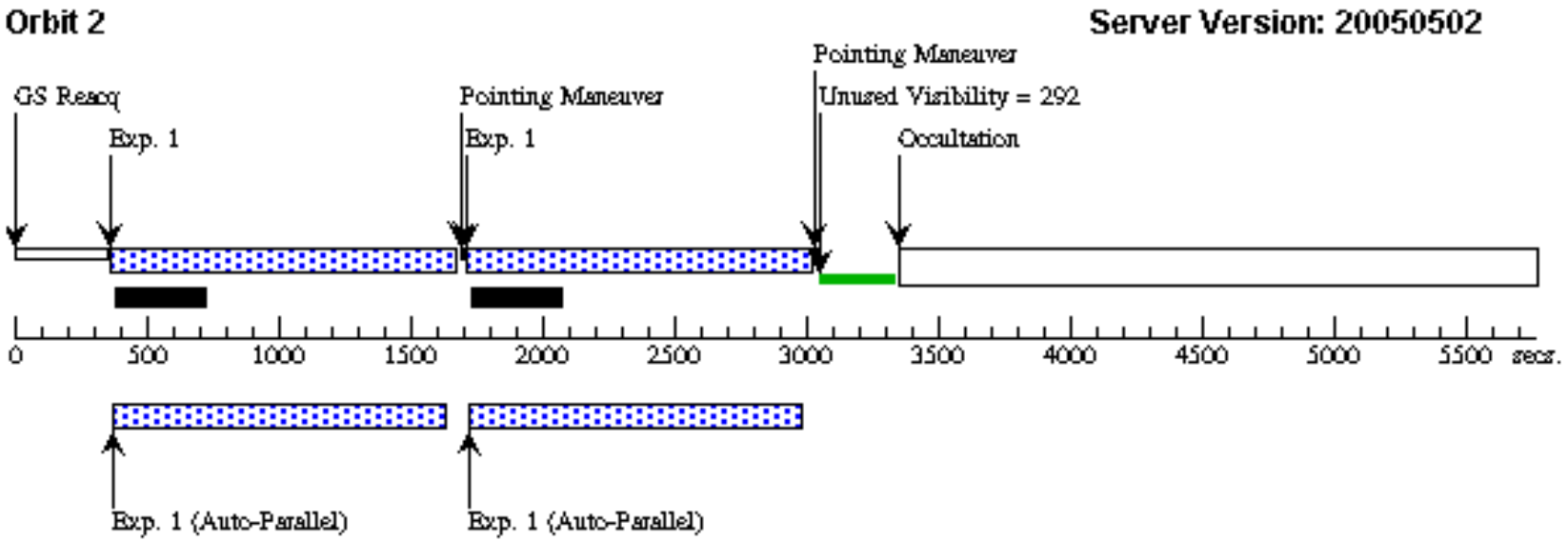
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG -0.125,-0.125	Pattern 1-1 (1)	1279.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[2]***
2		(2) M31BACKGROUNDFIELD	ACS/HRC, ACCUM, HRC	F555W	CR-SPLIT=NO; GAIN=2	POS TARG 0,-0.125	Pattern 2-2 (1)	1320.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[3]***
								[==>(Pattern 3)] *[==>(Pattern 4)]*	***[4]***

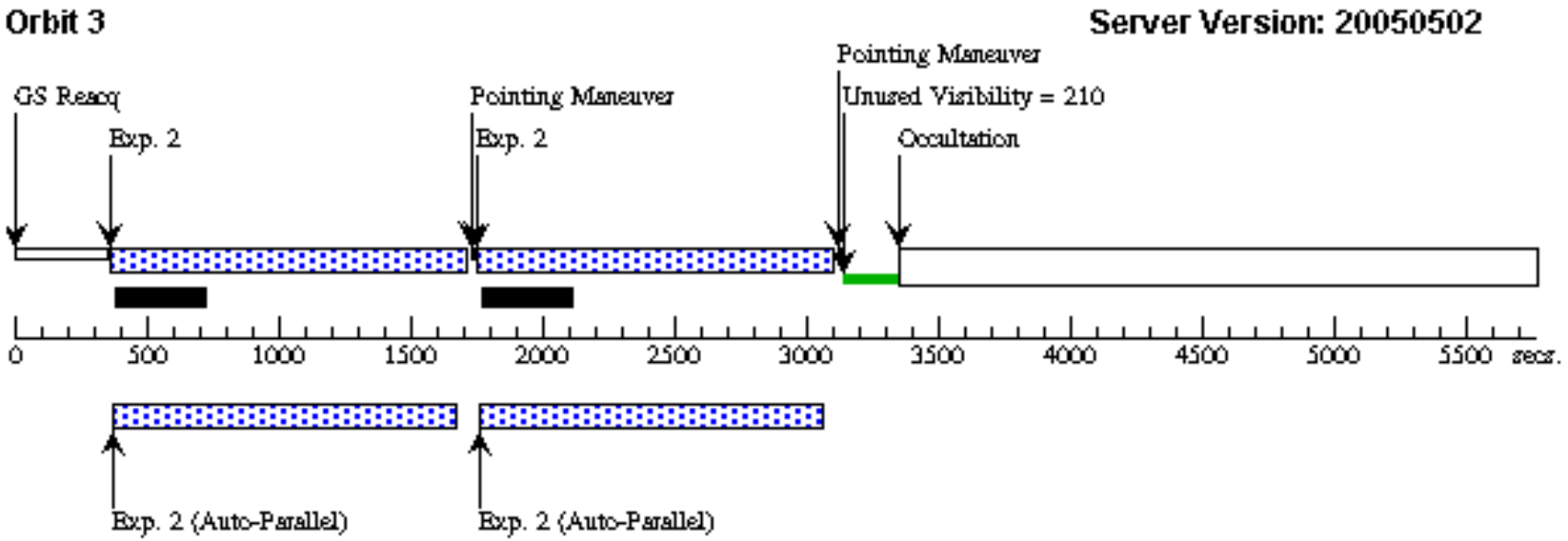
Orbit Structure



Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)