10616 - Gotcha! Using Swift GRBs to Pinpoint the Highest Redshift Galaxies

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
03	(2) GALAXY-HIGHZ-2	ACS/WFC	2	26-Mar-2006 23:30:41.0	yes
04	(2) GALAXY-HIGHZ-2	NIC3	4	26-Mar-2006 23:30:55.0	yes
05	(3) GALAXY-HIGHZ-3	NIC3	3	26-Mar-2006 23:31:01.0	yes
06	(3) GALAXY-HIGHZ-3	NIC3	3	26-Mar-2006 23:31:06.0	yes
07	(4) GALAXY-HIGHZ-4	NIC3	3	26-Mar-2006 23:31:11.0	yes
08	(4) GALAXY-HIGHZ-4	NIC3	3	26-Mar-2006 23:31:21.0	yes
09	(5) GRB050904	NIC3	4	26-Mar-2006 23:31:27.0	yes
10	(5) GRB050904	ACS/WFC	2	26-Mar-2006 23:31:32.0	yes
11	(5) GRB050904	NIC3	3	26-Mar-2006 23:31:37.0	yes
12	(5) GRB050904	NIC3	3	26-Mar-2006 23:31:47.0	yes

30 Total Orbits Used

ABSTRACT

While there is convincing evidence that the Universe was re-ionized between redshifts of 6.5 and 15, the role of galaxies in this process is still not understood. Several star-forming galaxies at z~6 have been identified in recent deep, narrow-field surveys, but the expensive observations along with cosmic variance and contamination make it difficult to assess their contribution to re-ionization. Moreover, the detection of galaxies at z>7 is exceedingly difficult even with the Hubble UDF or cluster lensing. Significant progress can be made using gamma-ray bursts (GRBs) localized with the now-operational Swift satellite, which is capable of detecting bursts out to z>10. GRBs have the advantage of being an uncontaminated signpost for star-formation, and their afterglows are sufficiently bright even at z>6 to allow photometric selection (via the Ly-alpha drop out technique) with 2-5 meter telescopes. Using our approved TOO programs at an extensive range of facilities (from 1-m robotic telescopes to Keck/Magellan), we can rapidly find afterglows at z>6 and easily distinguish them from dusty low redshift bursts. This approach is highly efficient compared to current techniques, especially at z>7. Here we request imaging with NICMOS (z>6), ACS (z~6), and Spitzer/IRAC to characterize the properties (SFR, age, morphology) of up to five galaxies located in this manner, and begin to address their role in re-ionization. These observations are requested as >2

month TOOs, allowing flexibility of scheduling and at the same time taking a unique and timely advantage of the exquisite performance of three of NASA's premier missions.

OBSERVING DESCRIPTION

Target Sample:

We will trigger on long-duration gamma-ray bursts detected with the Swift satellite, or by other satellites, for which we have indication from the afterglow emission that the redshift is z>6. The purpose of the study is to image the host galaxy and therefore the observations will be delayed by several weeks (nominally t>2 months, but this will be assessed on a case-by-case basis) to ensure that the afterglow fades away below the detection level of HST.

There are two cases:

1. Redshift z~6-7: We will use 2 orbits with ACS+F850LP and 4 orbits with NICMOS/NIC3+F160W.

2. Redshift z>7: We will use only NICMOS/NIC3+F160W for six orbits.

The templates supplied with the phase-II are for case (1), but will be modified when targets for this program become available (along with coordinates and the requested time delay before observations are made).

Visit

Proposal 10616, Visit 03 Mon Mar 27 04:31:49 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: PCS MODE FINE; GROUP 03,04 WITHIN 1.0D; ON HOLD

Comments: This is the 2-orbit ACS F850LP observations of a z~6 galaxy (paired with visit 04 which is NIC3)

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=0.164 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.2 Angle Between Sides= Center Pattern=false			(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.304 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=137.2 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.164 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.2 Angle Between Sides= Center Pattern=false	(3)

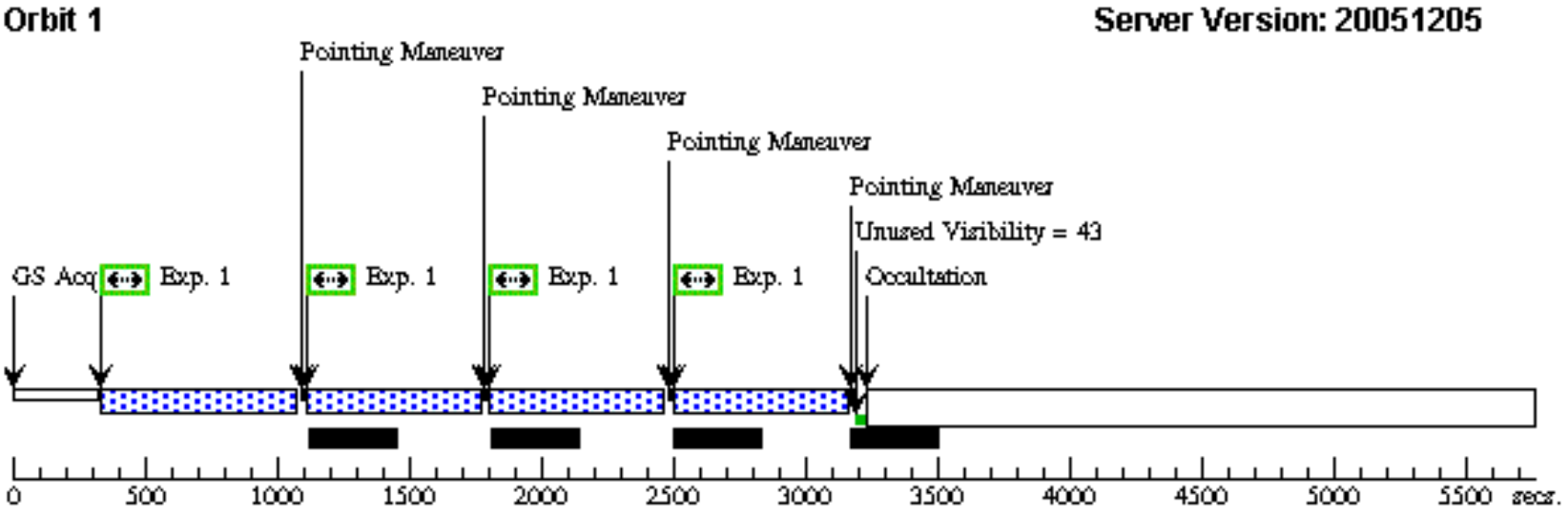
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GALAXY-HIGHZ-2	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

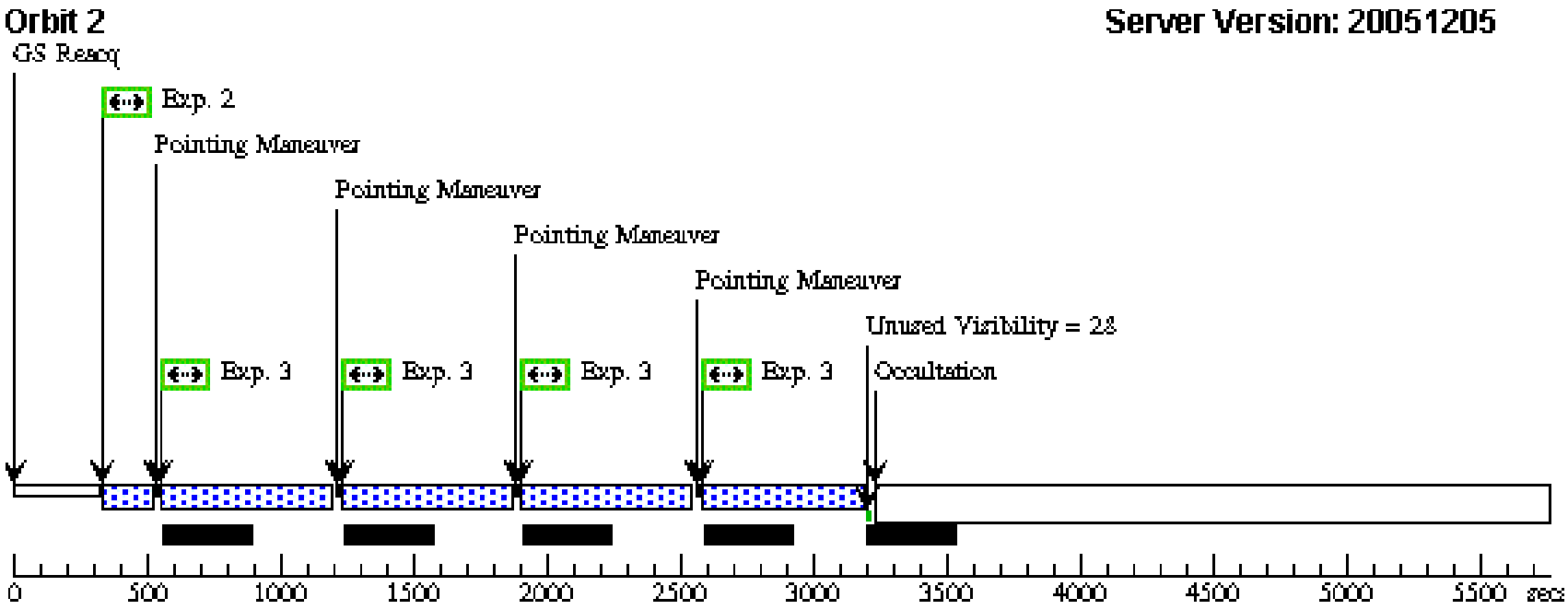
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) GALAXY-HIGHZ-2	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO		Sequence 1-1 Non-Int Pattern 1-1 (2)	537.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(2) GALAXY-HIGHZ-2	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO		Sequence 2-3 Non-Int	60.0 Secs *[==>]*	***[2]***
3		(2) GALAXY-HIGHZ-2	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO	POS TARG 0.279,0.0773	Sequence 2-3 Non-Int Pattern 3-3 (3)	519.0 Secs *[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]* *[==>(Pattern 2,1)]* *[==>488.0 Secs (Pattern 2,2)]*	***[2]***

Orbit Structure



Orbit Structure (continued)



Visit

Proposal 10616, Visit 04 Mon Mar 27 04:31:51 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: PCS MODE FINE; GROUP 04,03 WITHIN 1.0D; ON HOLD

Comments: This is the 4-orbit NIC3 F160W observations of a z~6 galaxy (paired with visit 03 which is ACS)

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3), (4)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

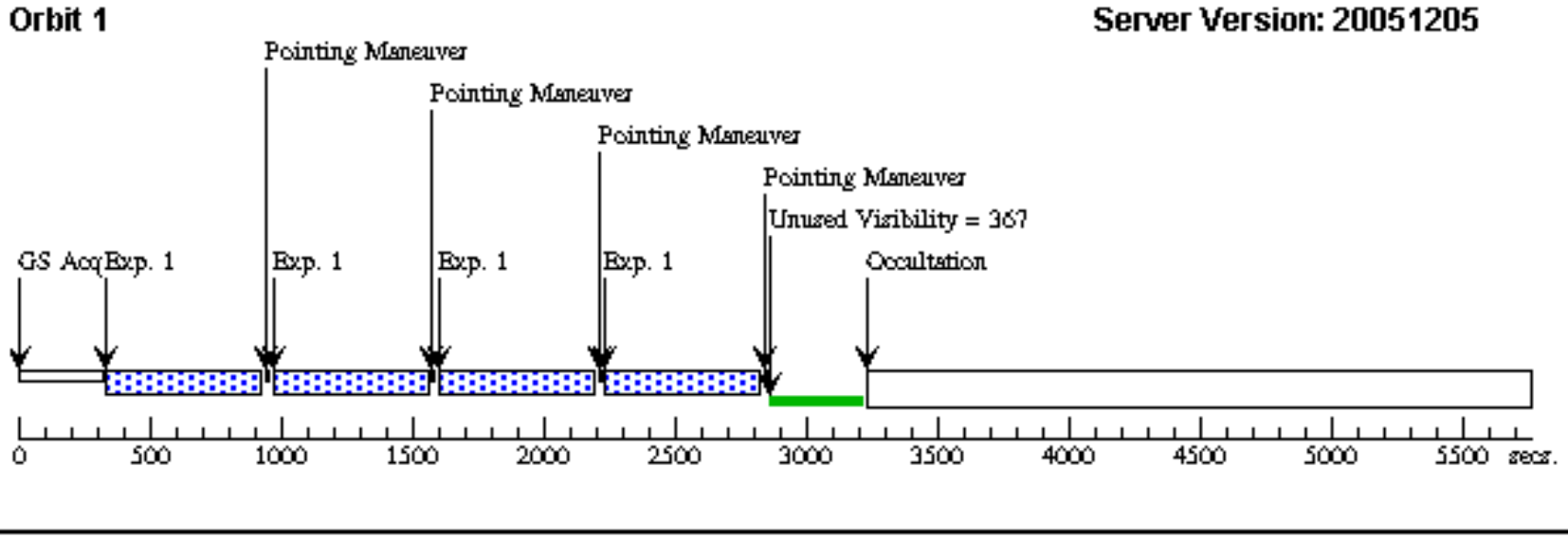
Fixed Targets

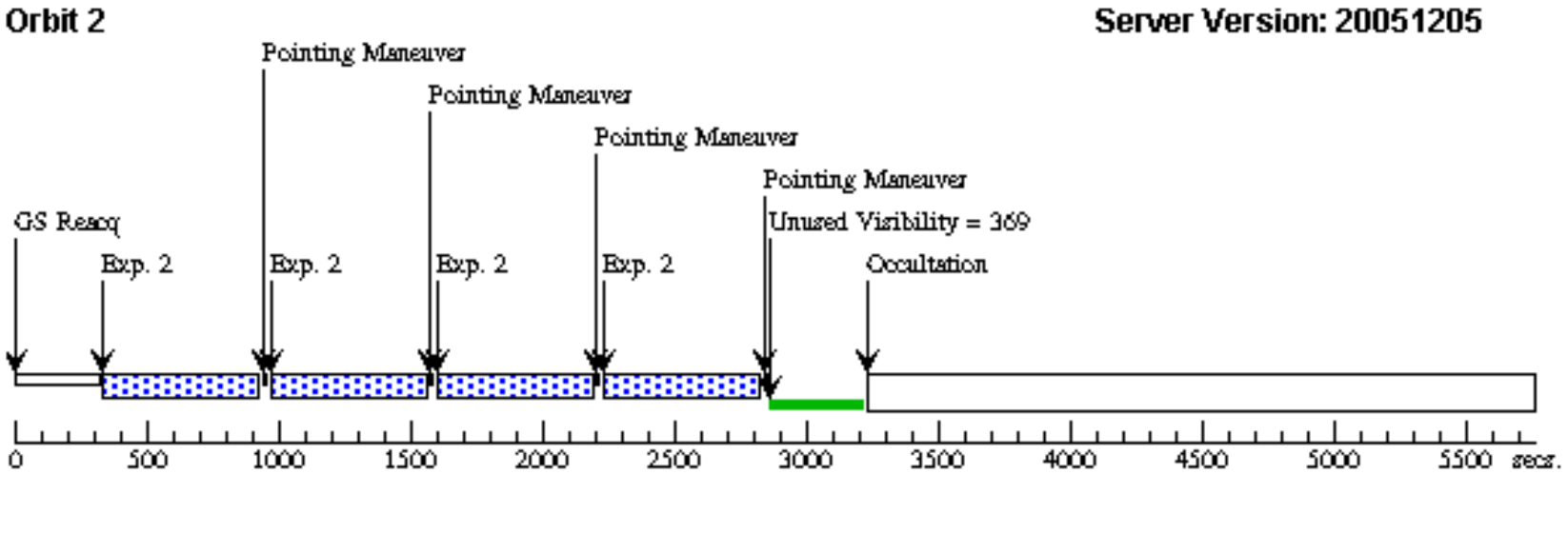
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GALAXY-HIGHZ-2	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

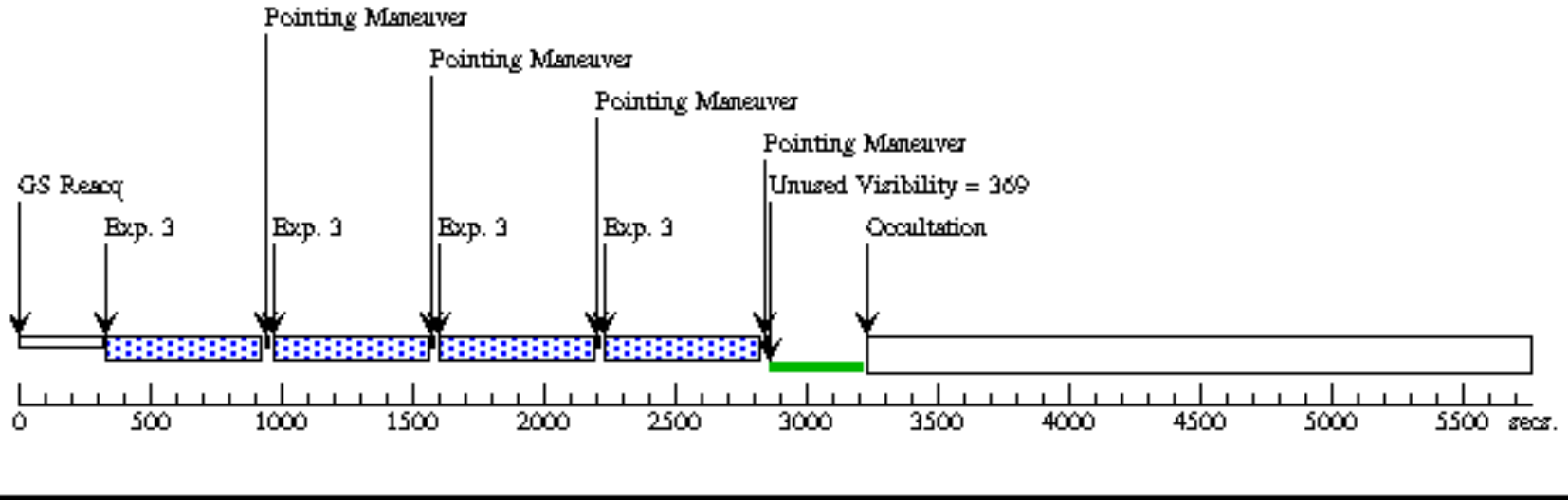
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) GALAXY-HIGHZ-2	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0145,0.0223	Sequence 1-1 Non-Int Pattern 1-1 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(2) GALAXY-HIGHZ-2	NIC3, ACCUM, NIC3	F160W		POS TARG 0.026,0.075	Sequence 2-2 Non-Int Pattern 2-2 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(2) GALAXY-HIGHZ-2	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0335,0.062	Sequence 3-3 Non-Int Pattern 3-3 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***
4		(2) GALAXY-HIGHZ-2	NIC3, ACCUM, NIC3	F160W		POS TARG 0.12,0.05	Sequence 4-4 Non-Int Pattern 4-4 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[4]***

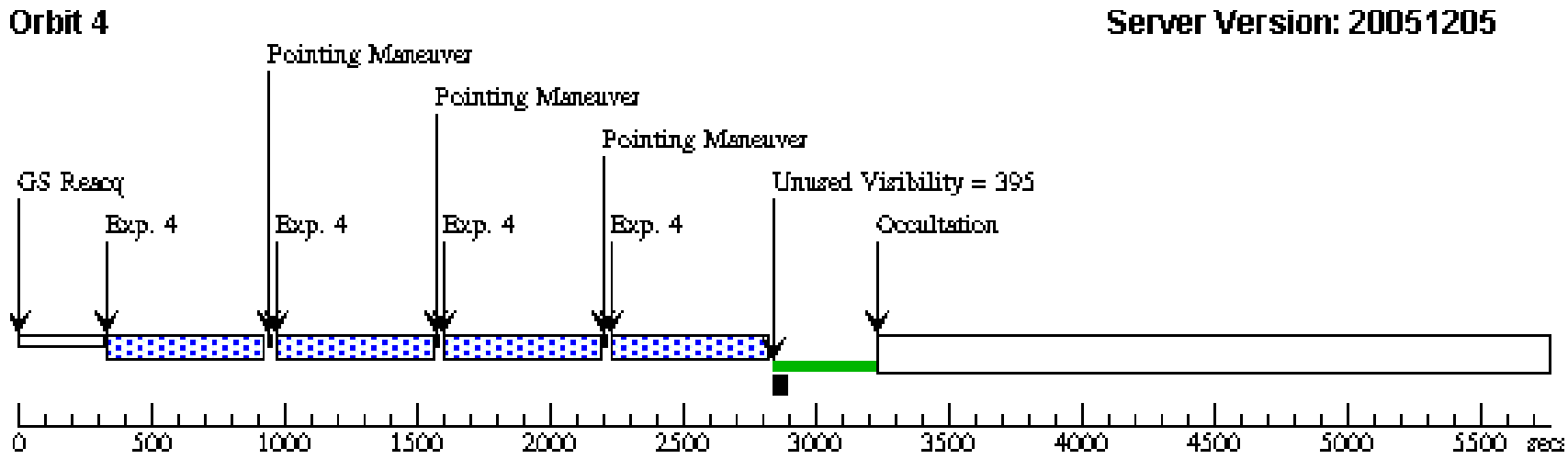
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10616, Visit 05 Mon Mar 27 04:31:52 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: PCS MODE FINE; SAME ORIENT AS 06; GROUP 05,06 WITHIN 1.0D; ON HOLD

Comments: This is the first group of 3-orbit NIC3 F160W observations of a z>7 galaxy (grouped with visit 06 which is the second set of 3-orbit NIC3 observations). Orientation of visits 05 and 06 should be the same

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

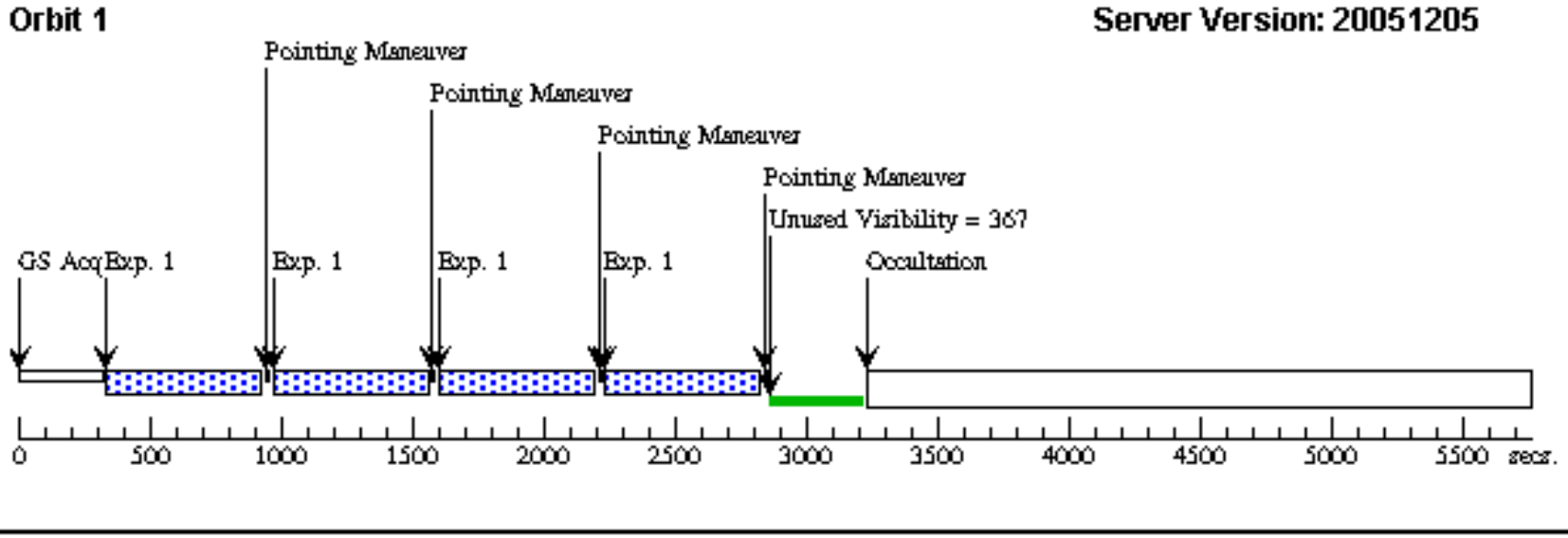
Fixed Targets

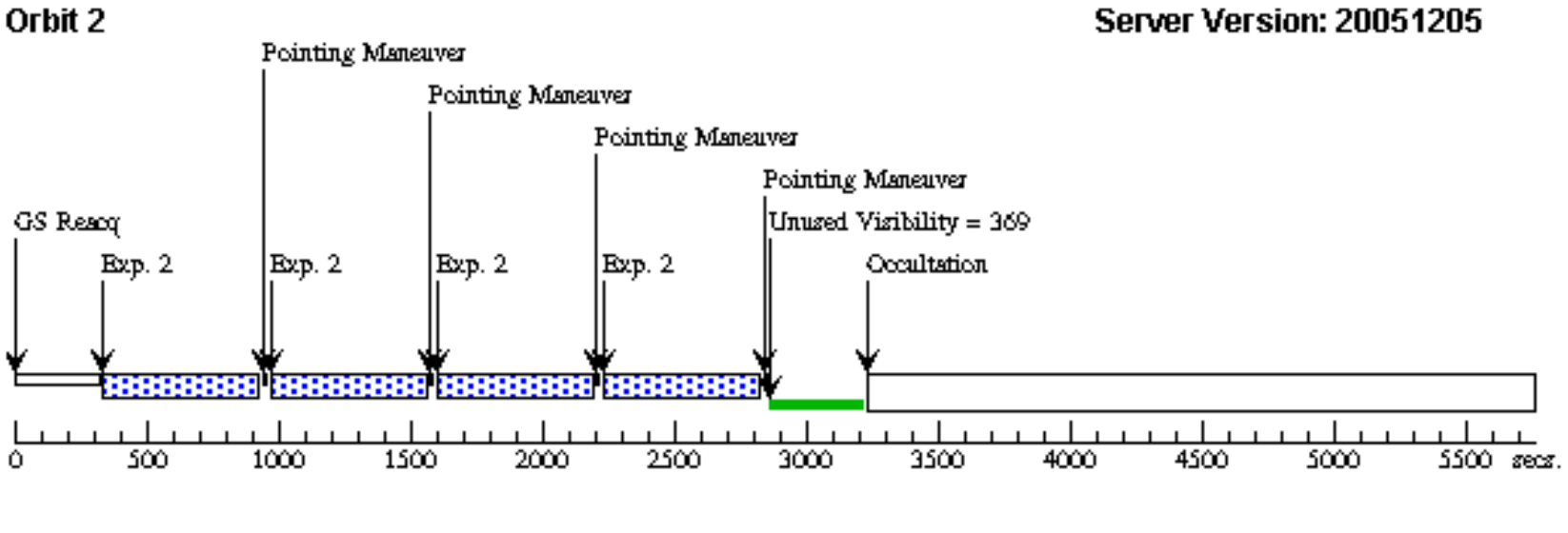
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GALAXY-HIGHZ-3	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

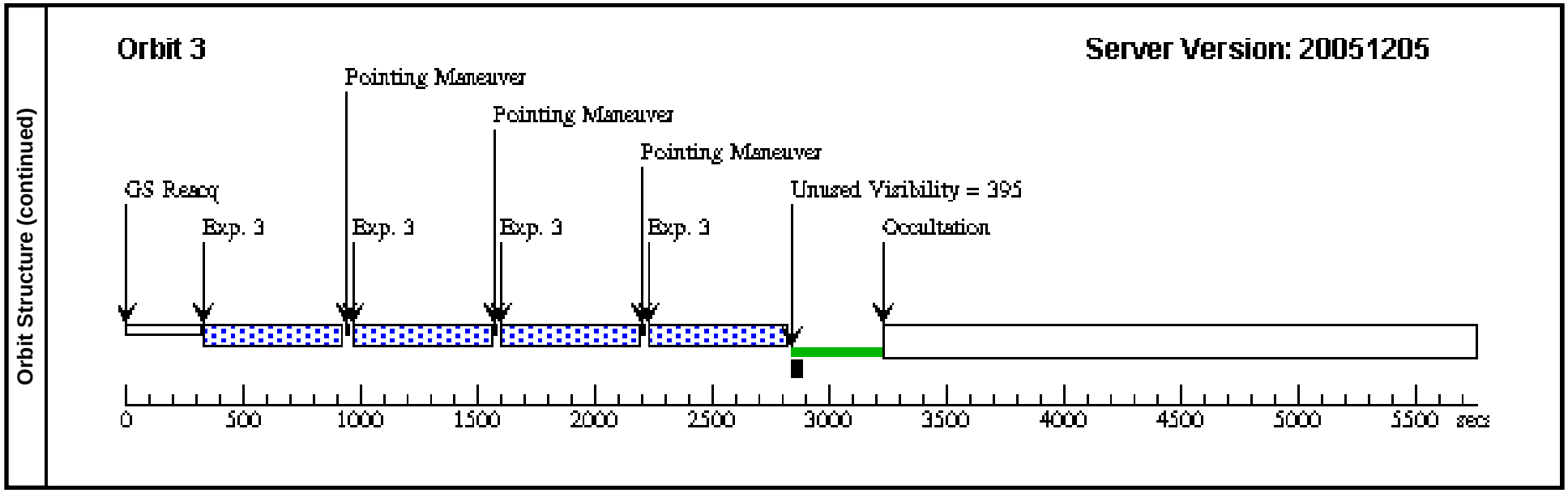
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0145,0.0223	Sequence 1-1 Non-Int Pattern 1-1 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.026,0.075	Sequence 2-2 Non-Int Pattern 2-2 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0335,0.062	Sequence 3-3 Non-Int Pattern 3-3 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure






Orbit Structure (continued)
Orbit 3
Server Version: 20051205
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Reacq
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Unused Visibility = 395
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 10616, Visit 06 Mon Mar 27 04:31:52 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: PCS MODE FINE; SAME ORIENT AS 05; GROUP 06,05 WITHIN 1.0D; ON HOLD

Comments: This is the second group of 3-orbit NIC3 F160W observations of a z>7 galaxy (grouped with visit 05 which is the first set of 3-orbit NIC3 observations). Orientation of visits 05 and 06 should be the same

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

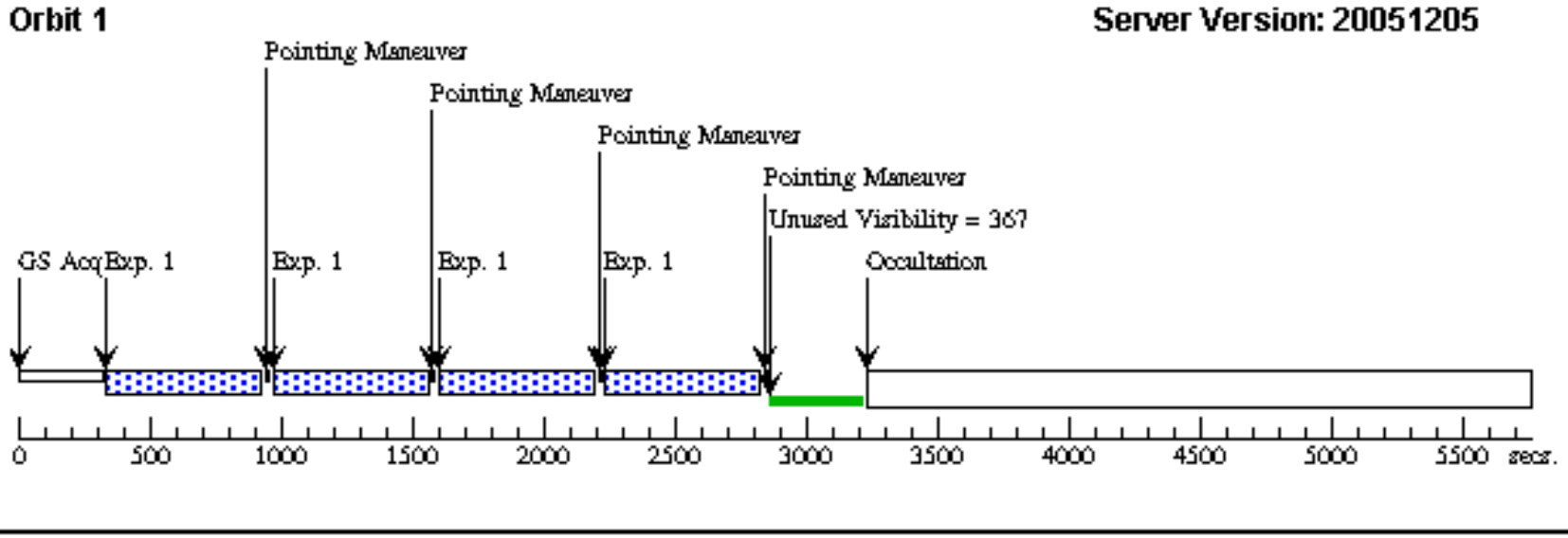
Fixed Targets

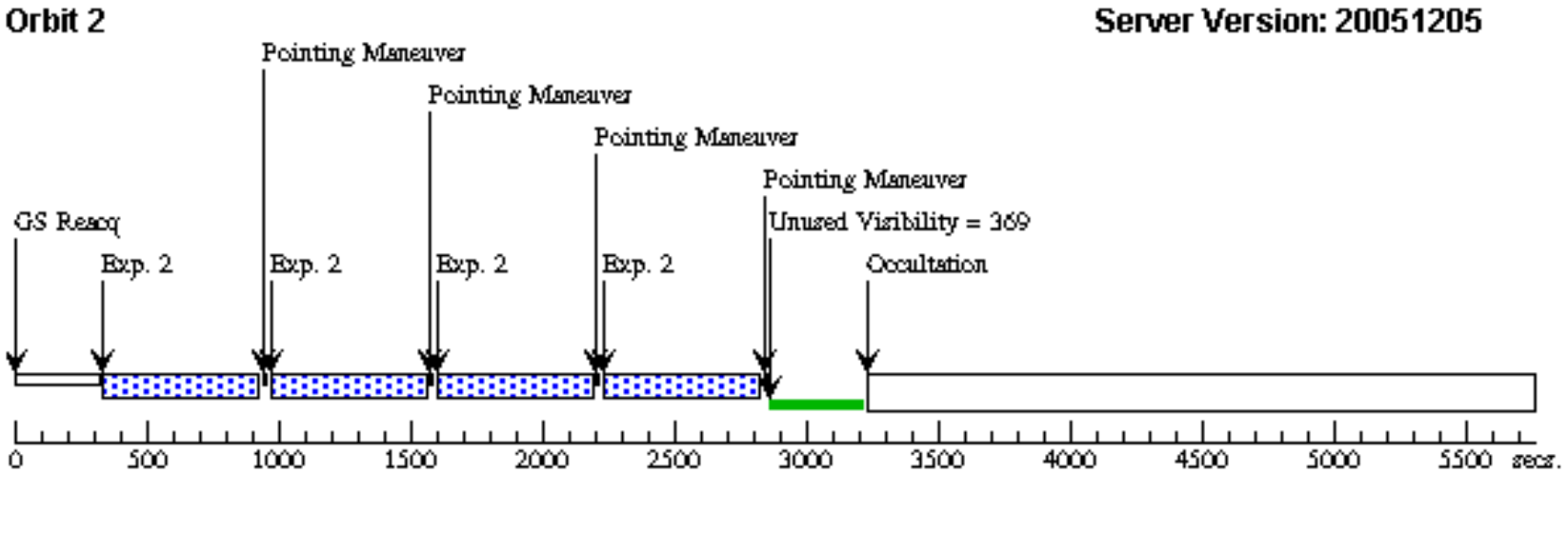
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GALAXY-HIGHZ-3	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

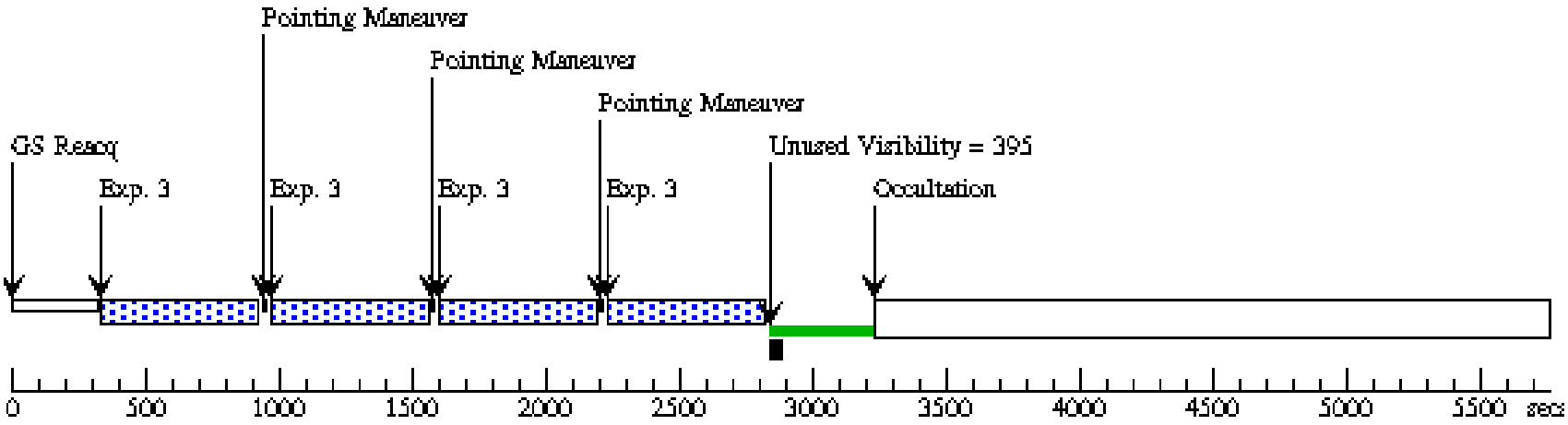
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.026,0.075	Sequence 1-1 Non-Int Pattern 1-1 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0335,0.062	Sequence 2-2 Non-Int Pattern 2-2 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(3) GALAXY-HIGHZ-3	NIC3, ACCUM, NIC3	F160W		POS TARG 0.12,0.05	Sequence 3-3 Non-Int Pattern 3-3 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure





Orbit Structure (continued)



Visit

Proposal 10616, Visit 07 Mon Mar 27 04:31:53 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: PCS MODE FINE; SAME ORIENT AS 08; GROUP 07,08 WITHIN 1.0D; ON HOLD

Comments: This is the first group of 3-orbit NIC3 F160W observations of a z>7 galaxy (grouped with visit 08 which is the second set of 3-orbit NIC3 observations). Orientation of visits 07 and 08 should be the same

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

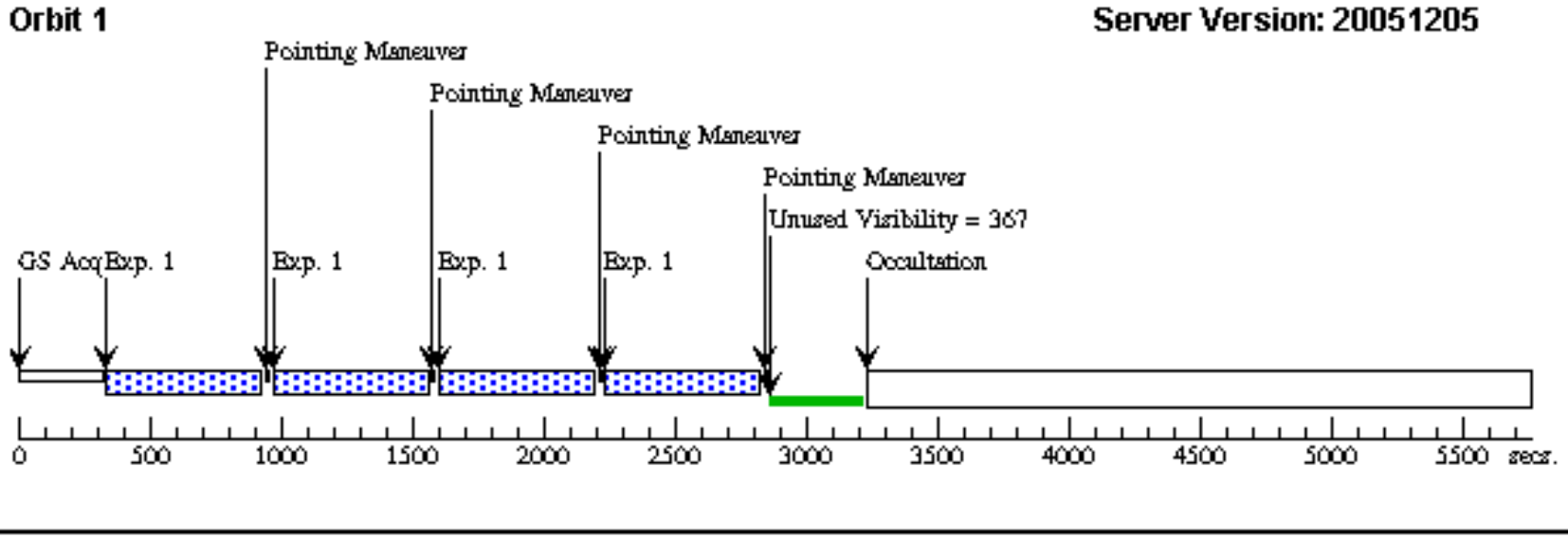
Fixed Targets

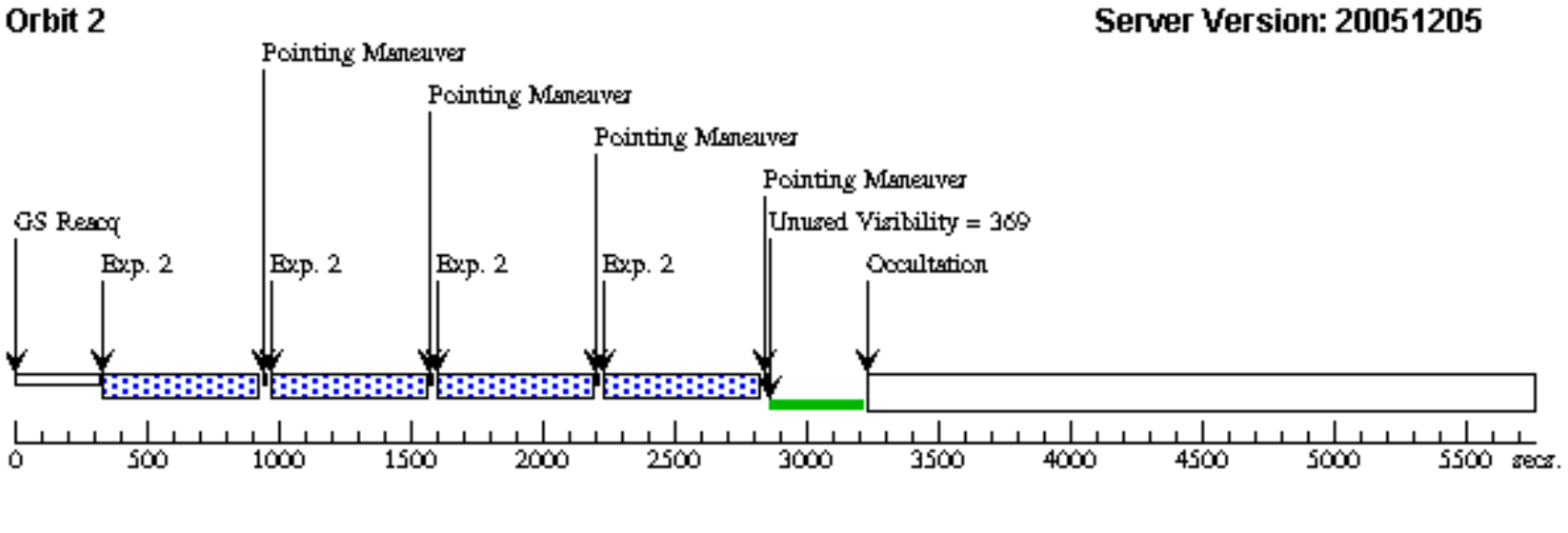
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	GALAXY-HIGHZ-4	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

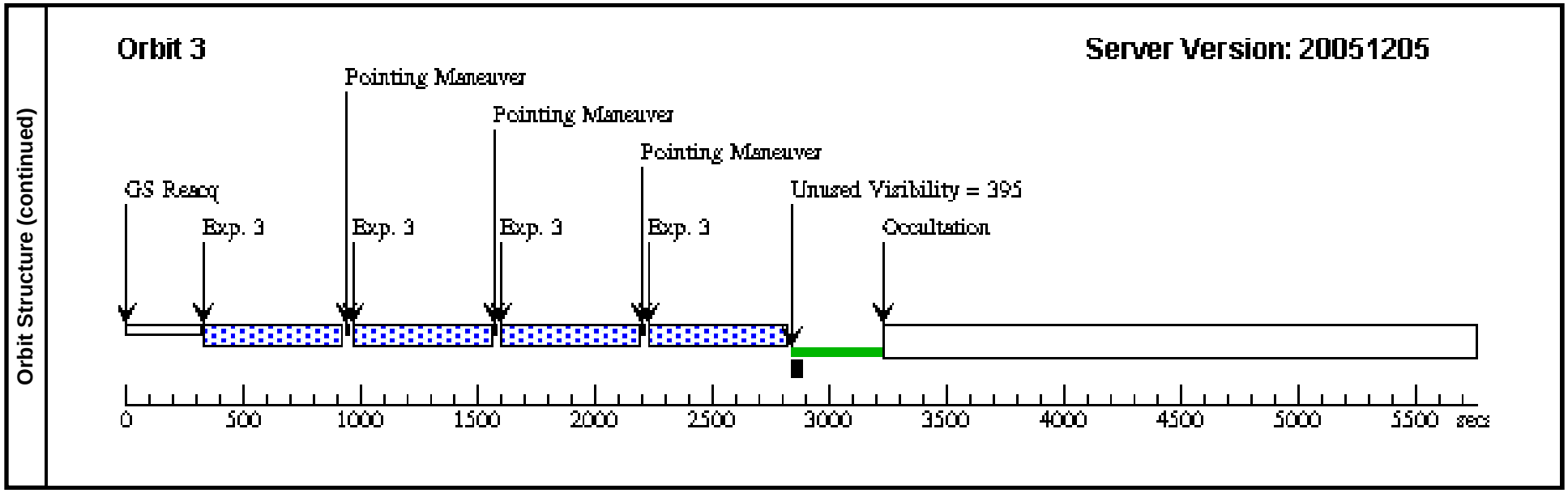
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0145,0.0223	Sequence 1-1 Non-Int Pattern 1-1 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.026,0.075	Sequence 2-2 Non-Int Pattern 2-2 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0335,0.062	Sequence 3-3 Non-Int Pattern 3-3 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure






Orbit Structure (continued)
Orbit 3
Server Version: 20051205
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Reacq
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Unused Visibility = 395
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 10616, Visit 08 Mon Mar 27 04:31:53 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: PCS MODE FINE; SAME ORIENT AS 07; GROUP 08,07 WITHIN 1.0D; ON HOLD

Comments: This is the second group of 3-orbit NIC3 F160W observations of a z>7 galaxy (grouped with visit 05 which is the first set of 3-orbit NIC3 observations). Orientation of visits 07 and 08 should be the same

On Hold Comments: Target of opportunity

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

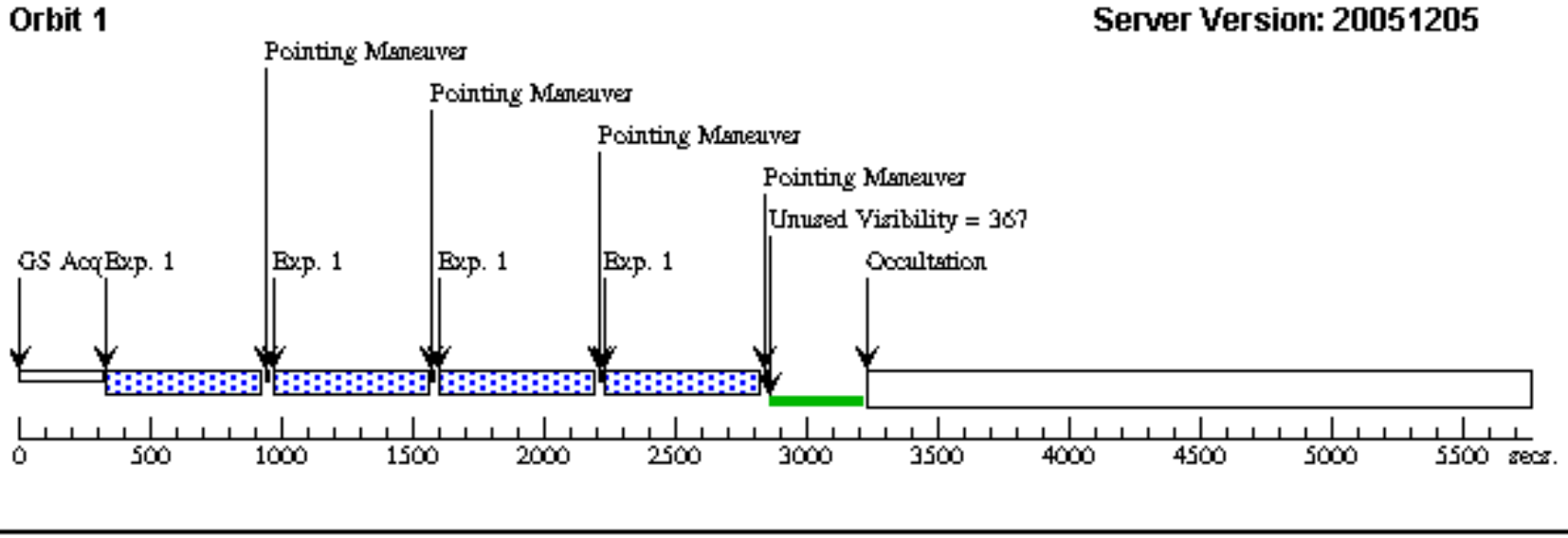
Fixed Targets

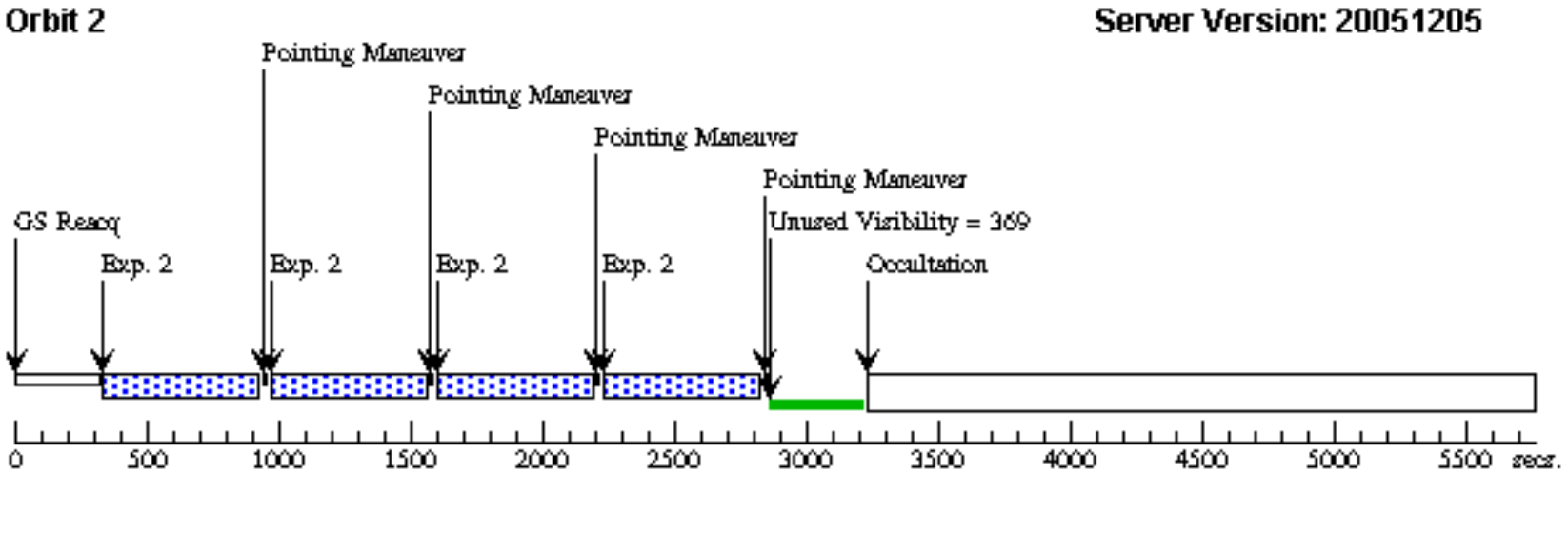
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	GALAXY-HIGHZ-4	RA: 00 00 0.0000 (.0000000d) Dec: +00 00 0.00 (.00000d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

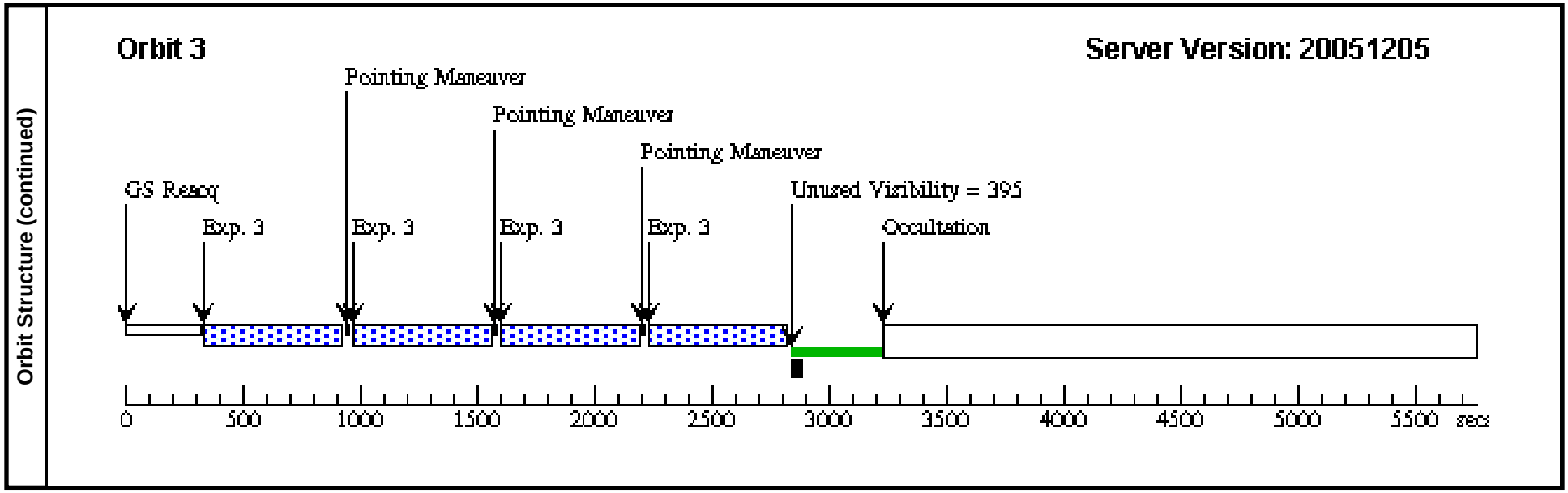
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.026,0.075	Sequence 1-1 Non-Int Pattern 1-1 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.0335,0.062	Sequence 2-2 Non-Int Pattern 2-2 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(4) GALAXY-HIGHZ-4	NIC3, ACCUM, NIC3	F160W		POS TARG 0.12,0.05	Sequence 3-3 Non-Int Pattern 3-3 (1)	630.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure






Orbit Structure (continued)
Orbit 3
Server Version: 20051205
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
GS Reacq
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Unused Visibility = 395
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 10616, Visit 09 Mon Mar 27 04:31:54 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3), (4)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

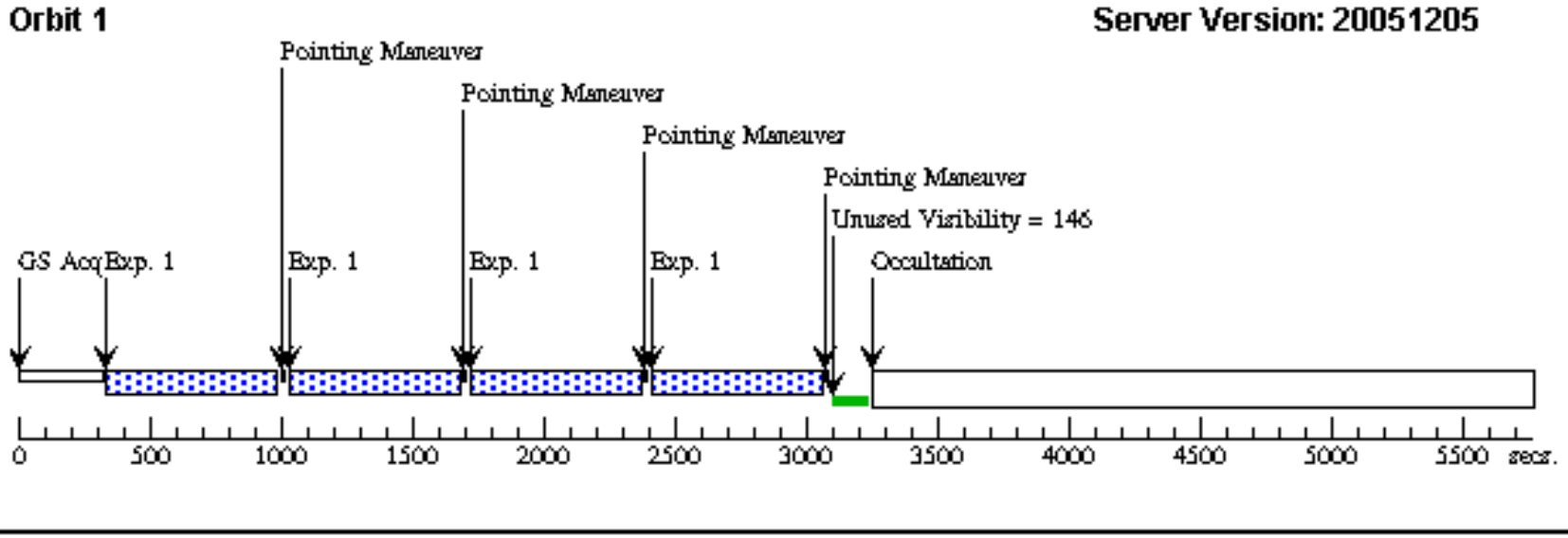
Fixed Targets

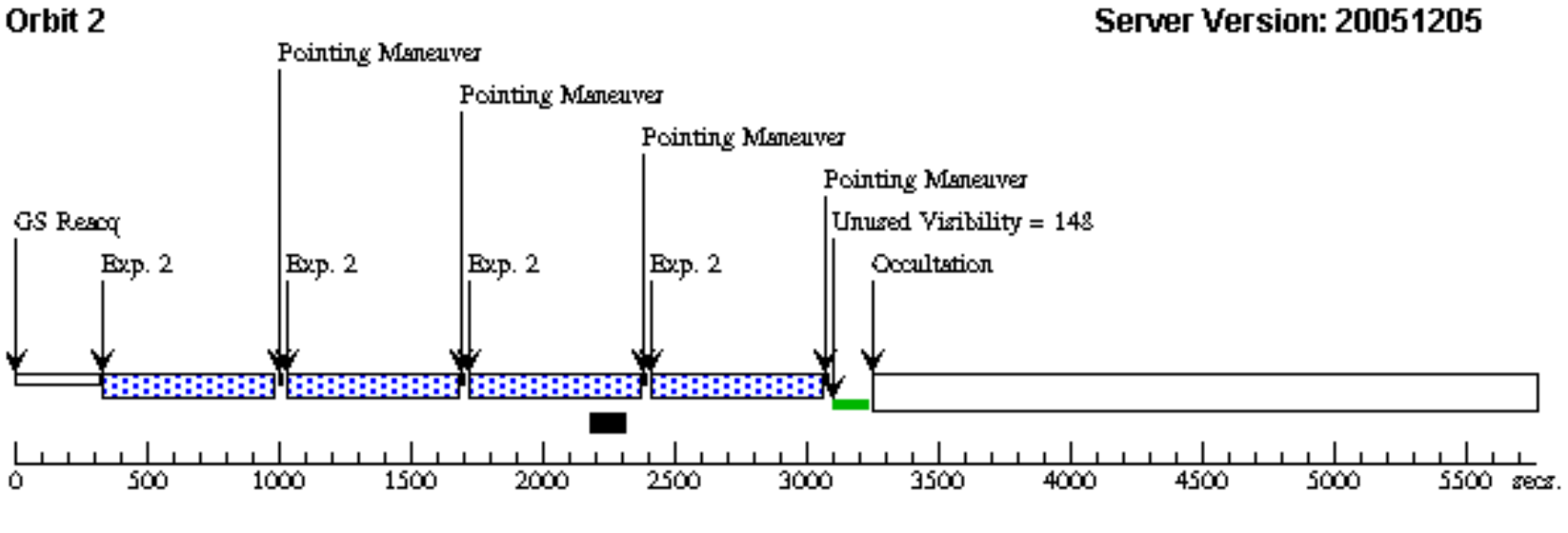
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GRB050904	RA: 00 54 50.8000 (13.7116667d) Dec: +14 05 10.00 (14.08611d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

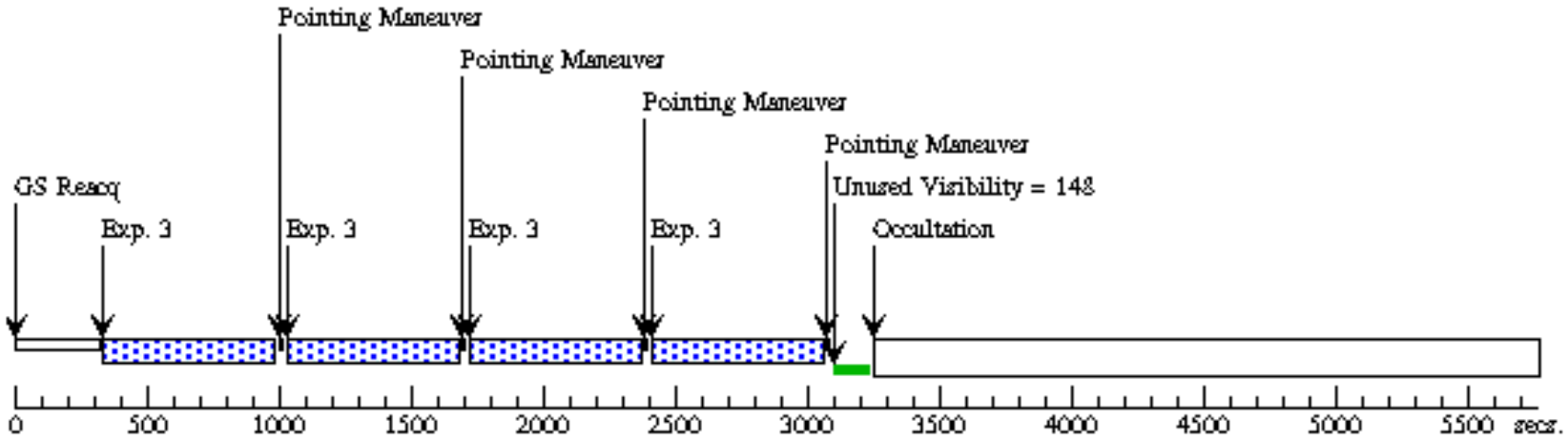
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0145,0.0223; GS ACQ SCENARIO BASE1TNS	Pattern 1-1 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.026,0.075	Pattern 2-2 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0335,0.062	Pattern 3-3 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***
4		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.12,0.05	Pattern 4-4 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[4]***

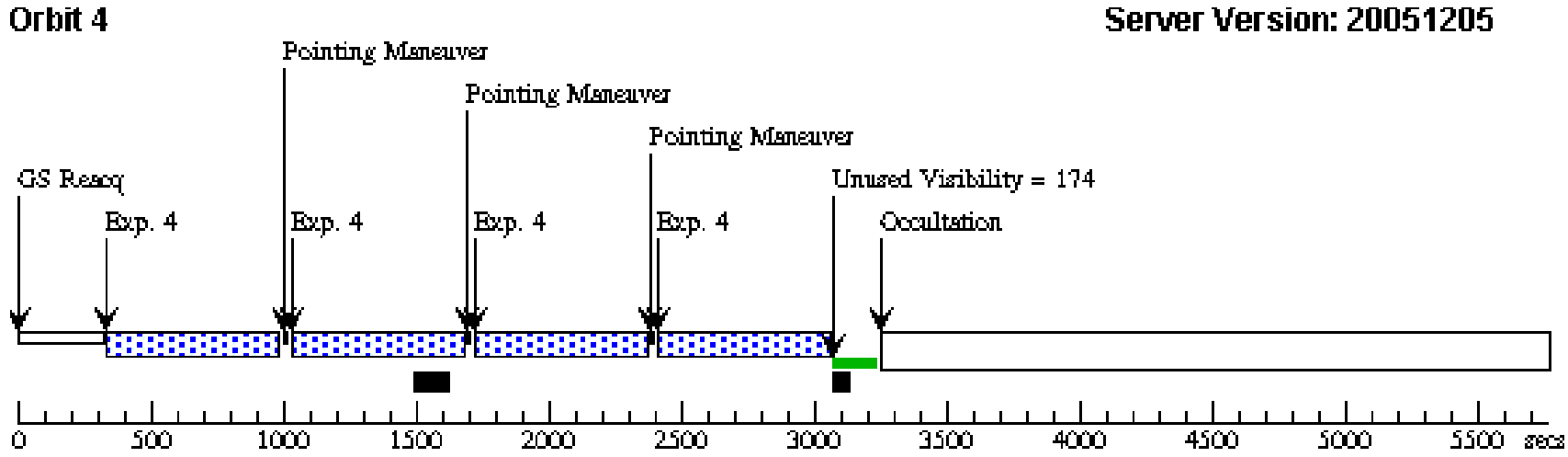
Orbit Structure





Orbit Structure (continued)





Visit

Proposal 10616, Visit 10 Mon Mar 27 04:31:55 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: PCS MODE FINE

Comments: This is the 2-orbit ACS F850LP observations of GRB050904 z~6.1 (paired with visit 10 which is NIC3)

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=4 Point Spacing=0.164 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.2 Angle Between Sides= Center Pattern=false			(1)
(3)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.304 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=137.2 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.164 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.2 Angle Between Sides= Center Pattern=false	(2)

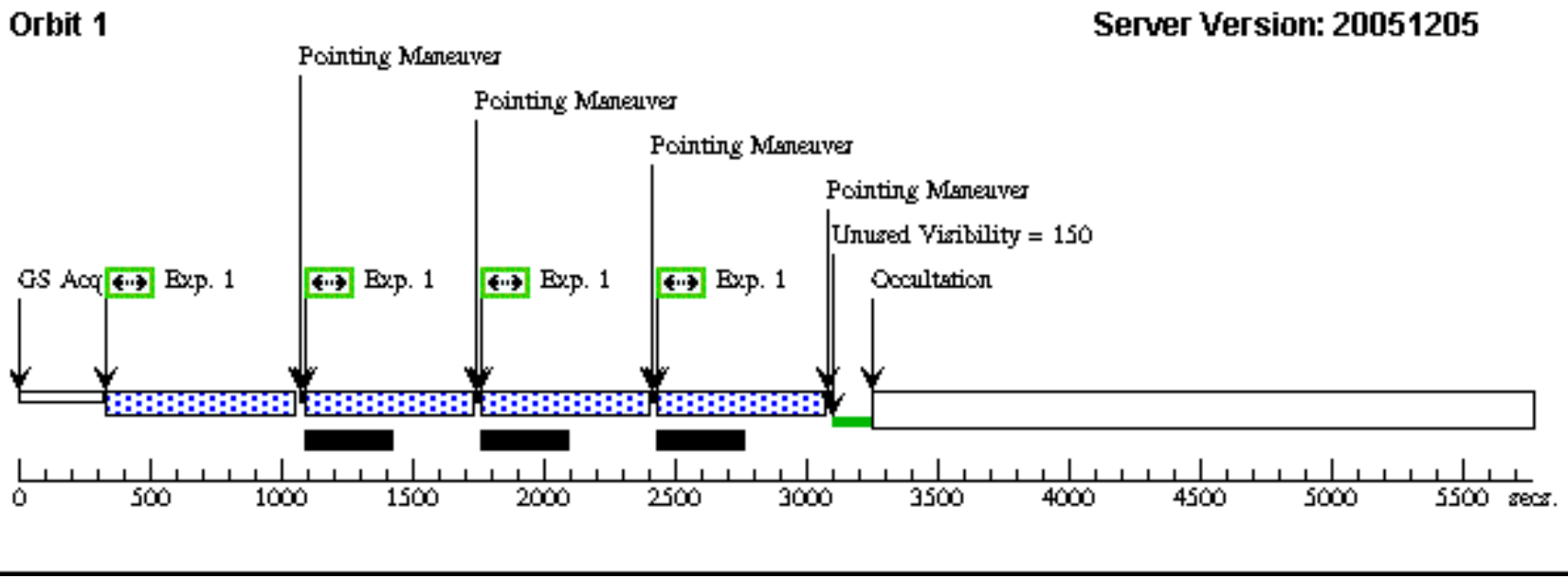
Fixed Targets

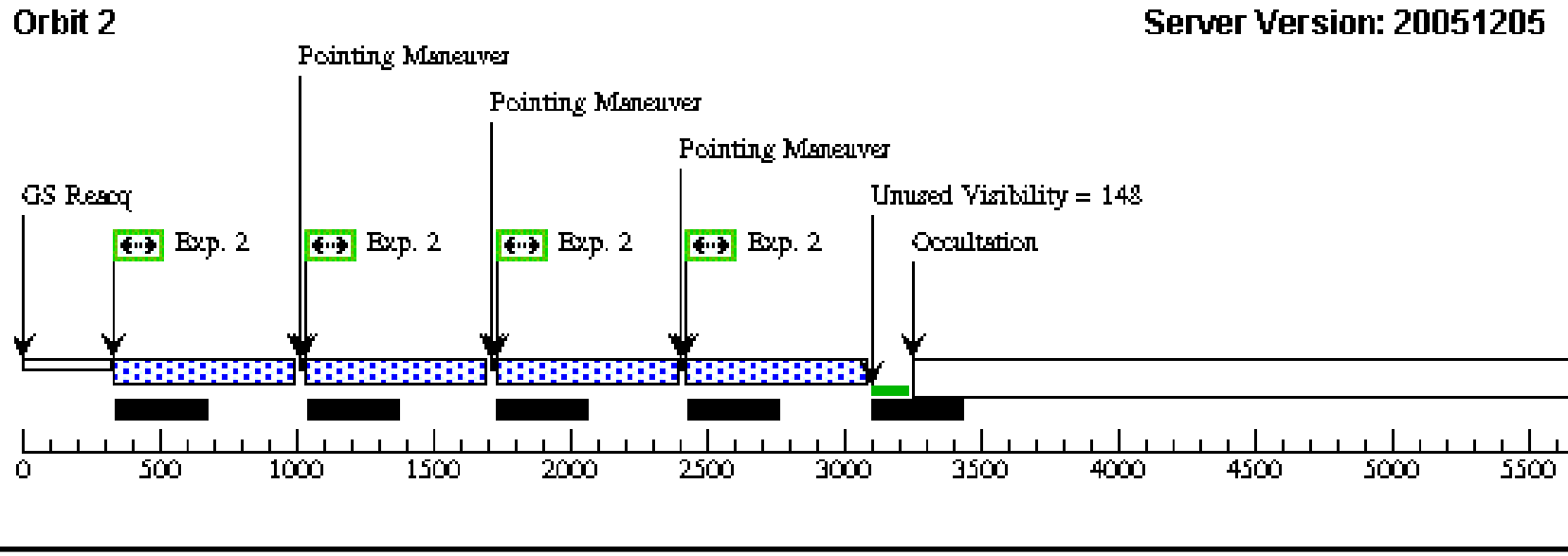
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GRB050904	RA: 00 54 50.8000 (13.7116667d) Dec: +14 05 10.00 (14.08611d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) GRB050904	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO		Pattern 1-1 (2)	514.0 Secs	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(5) GRB050904	ACS/WFC, ACCUM, WFC1	F850LP	CR-SPLIT=NO	POS TARG 0.279,0.0773	Pattern 2-2 (3)	540.0 Secs	
								[==>(Pattern 1,1)] *[==>(Pattern 1,2)]* *[==>(Pattern 2,1)]* *[==>(Pattern 2,2)]*	***[2]***

Orbit Structure





Visit

Proposal 10616, Visit 11 Mon Mar 27 04:31:56 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: (none)

Comments: This is the first of two 3-orbit NICMOS visits for GRB 050904 at z=6.295. Please execute in the next visibility window starting on June 10, 2006

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

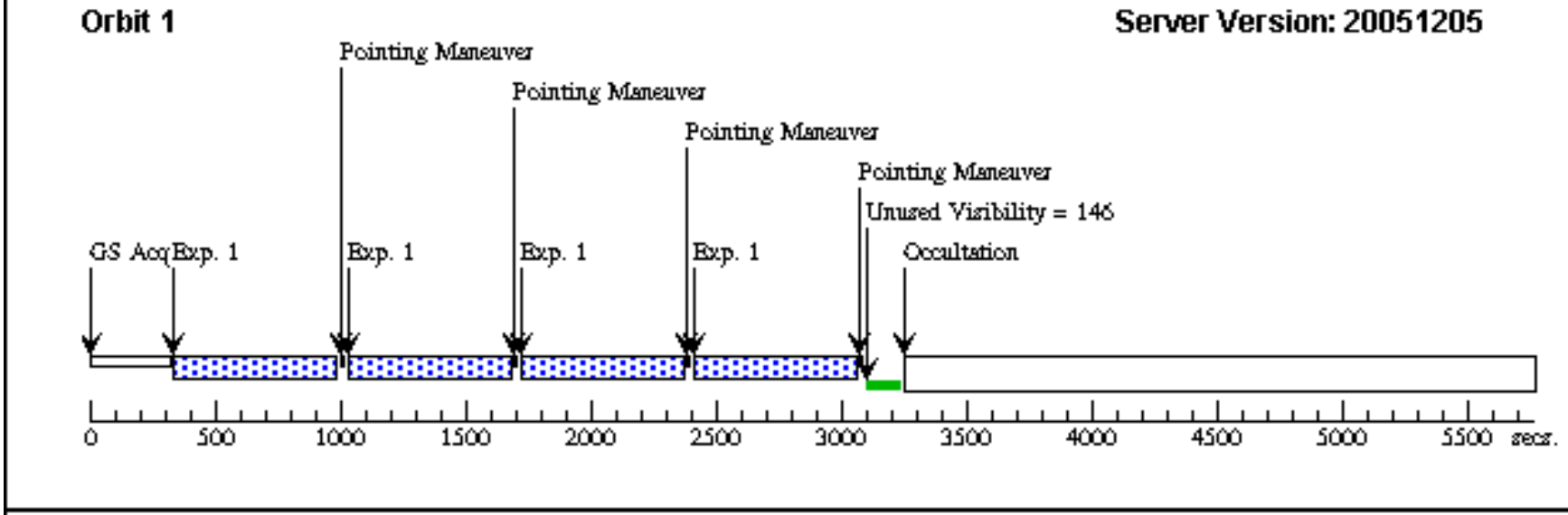
Fixed Targets

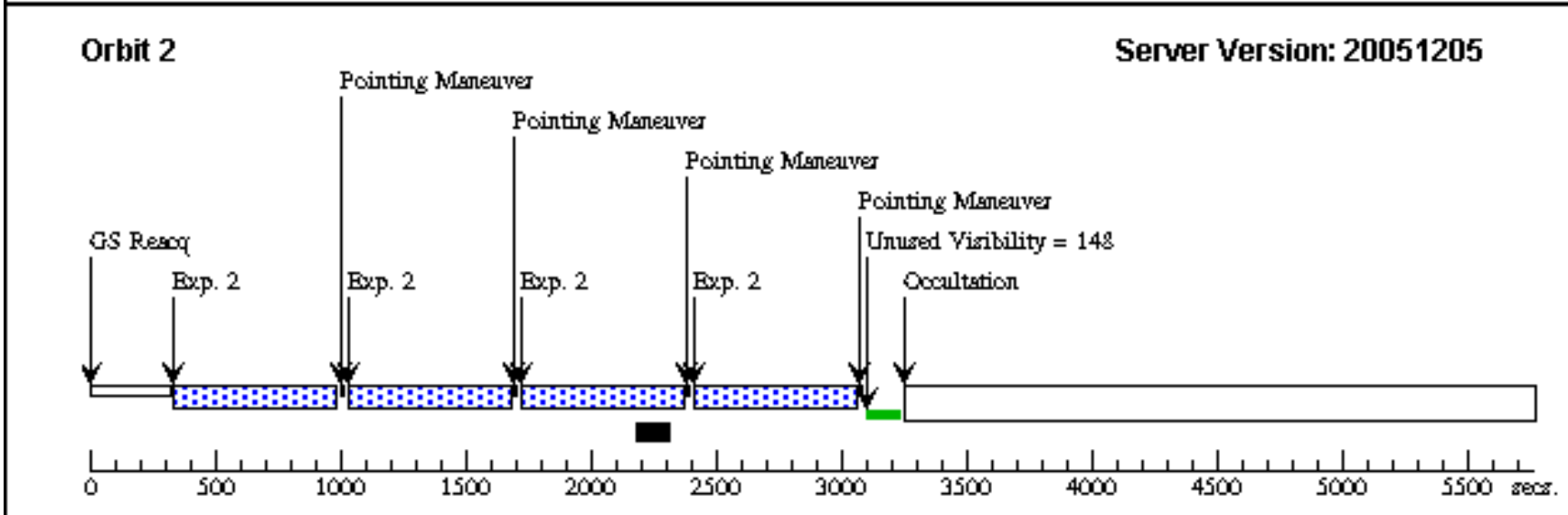
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GRB050904	RA: 00 54 50.8000 (13.7116667d) Dec: +14 05 10.00 (14.08611d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

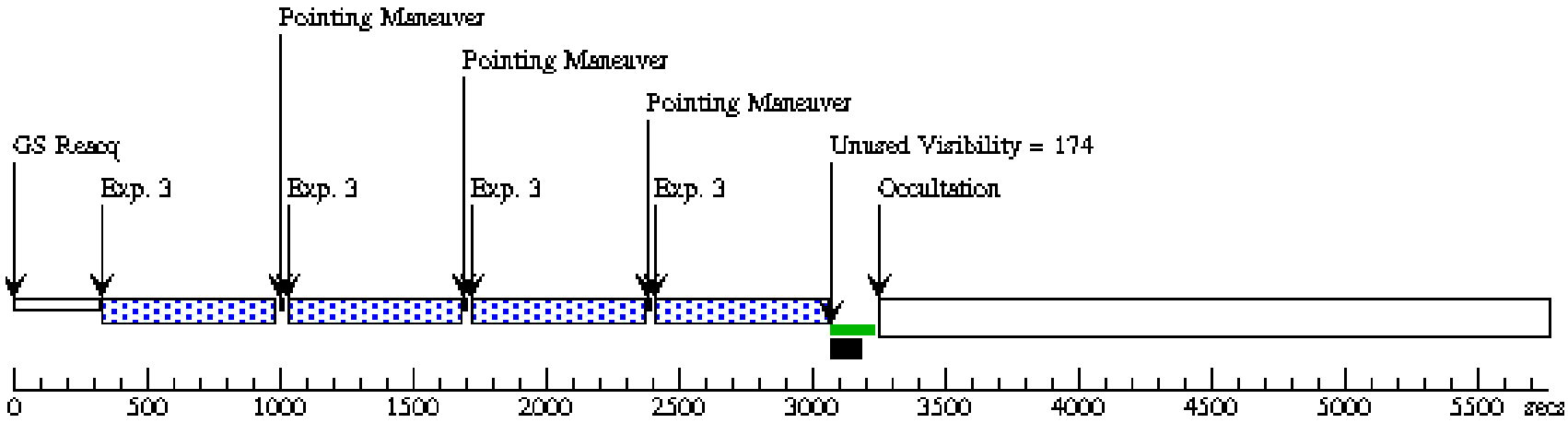
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0145,0.0223; GS ACQ SCENARIO BASE1TNS	Pattern 1-1 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.026,0.075	Pattern 2-2 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0335,0.062	Pattern 3-3 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure





Orbit Structure (continued)



Visit

Proposal 10616, Visit 12 Mon Mar 27 04:31:56 GMT 2006

Diagnostic Status: No Diagnostics

Scientific Instruments: NIC3

Special Requirements: (none)

Comments: This is the second of two 3-orbit NICMOS visits for GRB 050904 at z=6.295. Please execute in the next visibility window starting on June 10, 2006

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=NIC-SPIRAL-DITH	Coordinate Frame=POS-TARG		(1), (2), (3)
	Purpose=DITHER	Pattern Orientation=23		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=5.06	Center Pattern=true		
	Line Spacing=			

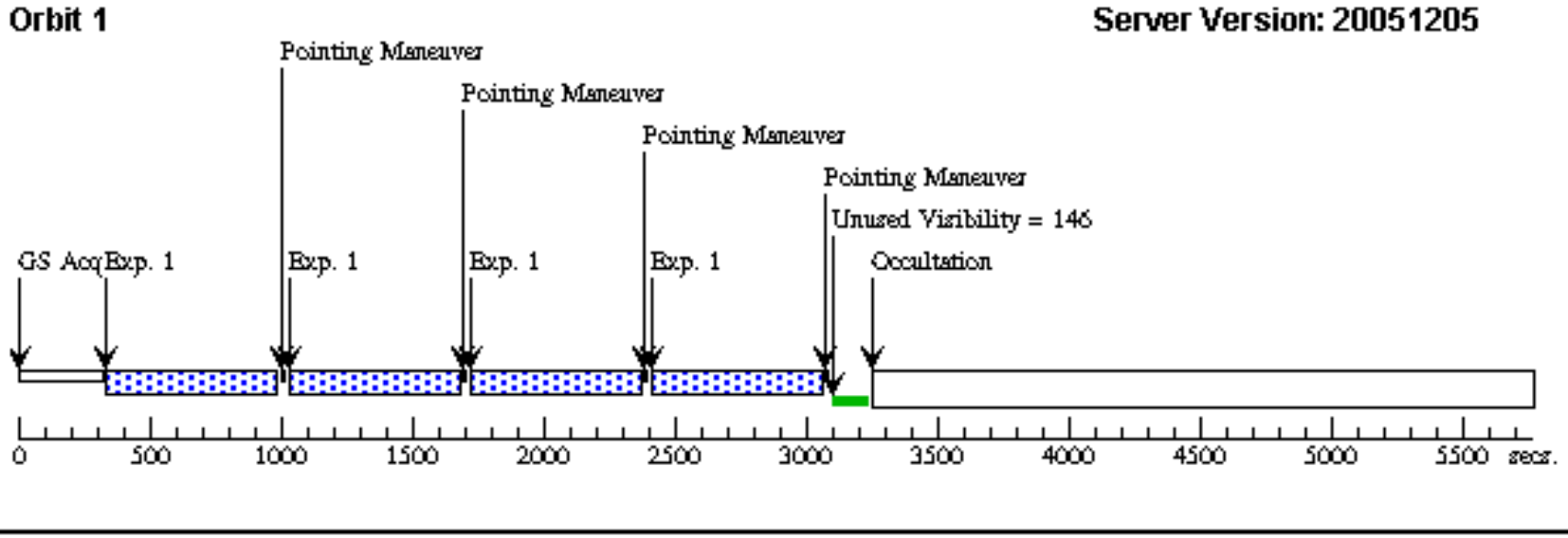
Fixed Targets

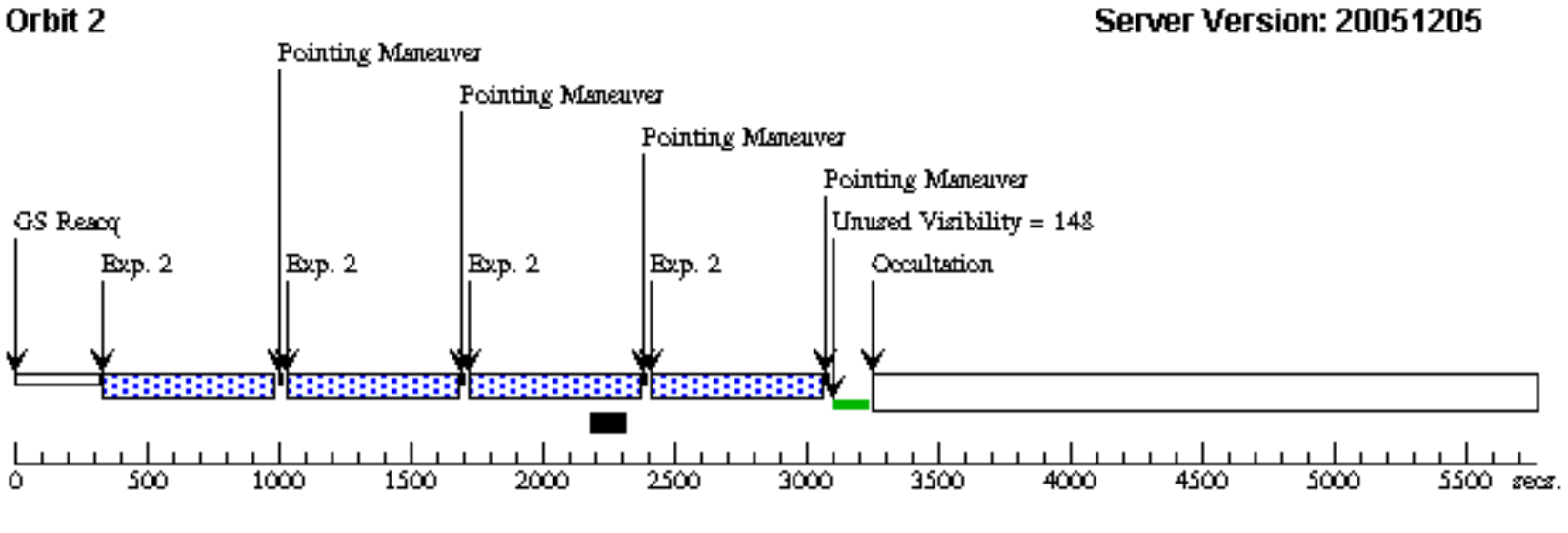
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	GRB050904	RA: 00 54 50.8000 (13.7116667d) Dec: +14 05 10.00 (14.08611d) Equinox: J2000 Plate Id: (?)		V=35.0	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0245,0.0123; GS ACQ SCENARIO BASE1TNS	Pattern 1-1 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.036,0.085	Pattern 2-2 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
3		(5) GRB050904	NIC3, MULTIACCUM, NIC3	F160W	NSAMP=12; SAMP-SEQ=SPARS64	POS TARG 0.0235,0.052	Pattern 3-3 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***

Orbit Structure





Orbit Structure (continued)