



11189 - Probing the early universe with GRBs

Cycle: 16, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:02:00.0	yes
02	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:02:17.0	yes
03	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:02:32.0	yes
13	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:02:47.0	yes
J1	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:03:00.0	yes
J2	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:03:13.0	yes
H1	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:03:26.0	yes
H2	(8) GRB090423	WFC3/IR	5	16-Dec-2010 21:03:37.0	yes
G1	(6) GRB080913	WFC3/IR	3	16-Dec-2010 21:03:49.0	yes
B2	(7) GRB090429B	WFC3/IR	1	16-Dec-2010 21:03:55.0	yes
B3	(7) GRB090429B	WFC3/IR	1	16-Dec-2010 21:04:01.0	yes
Y1	(7) GRB090429B	WFC3/IR	1	16-Dec-2010 21:04:06.0	yes
Y2	(7) GRB090429B	WFC3/IR	1	16-Dec-2010 21:04:11.0	yes
B1	(7) GRB090429B	ACS/WFC	1	16-Dec-2010 21:04:16.0	yes

48 Total Orbits Used

ABSTRACT

Cosmology is beginning to constrain the nature of the earliest stars and galaxies to form in the Universe, but direct observation of galaxies at $z > 6$ remains highly challenging due to their scarcity, intrinsically small size, and high luminosity distance. GRB afterglows, thanks to their extreme luminosities, offer the possibility of circumventing these normal constraints by providing redshifts and spectral information which couldn't be obtained through direct observation of the host galaxies themselves. In addition, the association of GRBs with massive stars means that they are an indicator of star formation, and that their hosts are likely responsible for a large proportion of the ionizing radiation during that era. Our collaboration is conducting a campaign to rapidly identify and study candidate very high redshift bursts, bringing to bear a network of 2, 4 and 8m telescopes with near-IR instrumentation. Swift has proven capable of detecting faint, distant GRBs, and reporting accurate positions for many bursts in near real-time. Here we propose to continue our HST program of targetting GRBs at $z \sim 6$ and above. HST is crucial to this endeavour, allowing us (a) to characterise the basic properties, such as luminosity and colour, and in some cases morphologies, of the hosts, which is essential to

understanding these primordial galaxies and their relationship to other galaxy populations; and (b) to monitor the late time afterglows and hence compare them to lower- z bursts and test the use of GRBs as standard candles.

OBSERVING DESCRIPTION

We will observe the host galaxies of three GRBs which lie at high redshift. Two of these are spectroscopically confirmed (GRB 080913 at $z=6.7$ and GRB 090423 at $z=8.3$), while the final one has a photometric redshift suggesting $z\sim 8-9$ (GRB 090429B), but this will be strongly tested by our observations. Our strategy for each burst is described below:

For GRB 090423 we will obtain 10 orbits of observation in each of F125W and F160W, split into 5 orbit visits for scheduling purposes. These will each reach 3 sigma limits around 28.5(AB), sufficient to detect ~50% of the UDF z -band dropouts should they be shifted to $z=8.3$. If necessary we will stack the two filters to obtain deeper limits, although a detection would also yield a colour measurement.

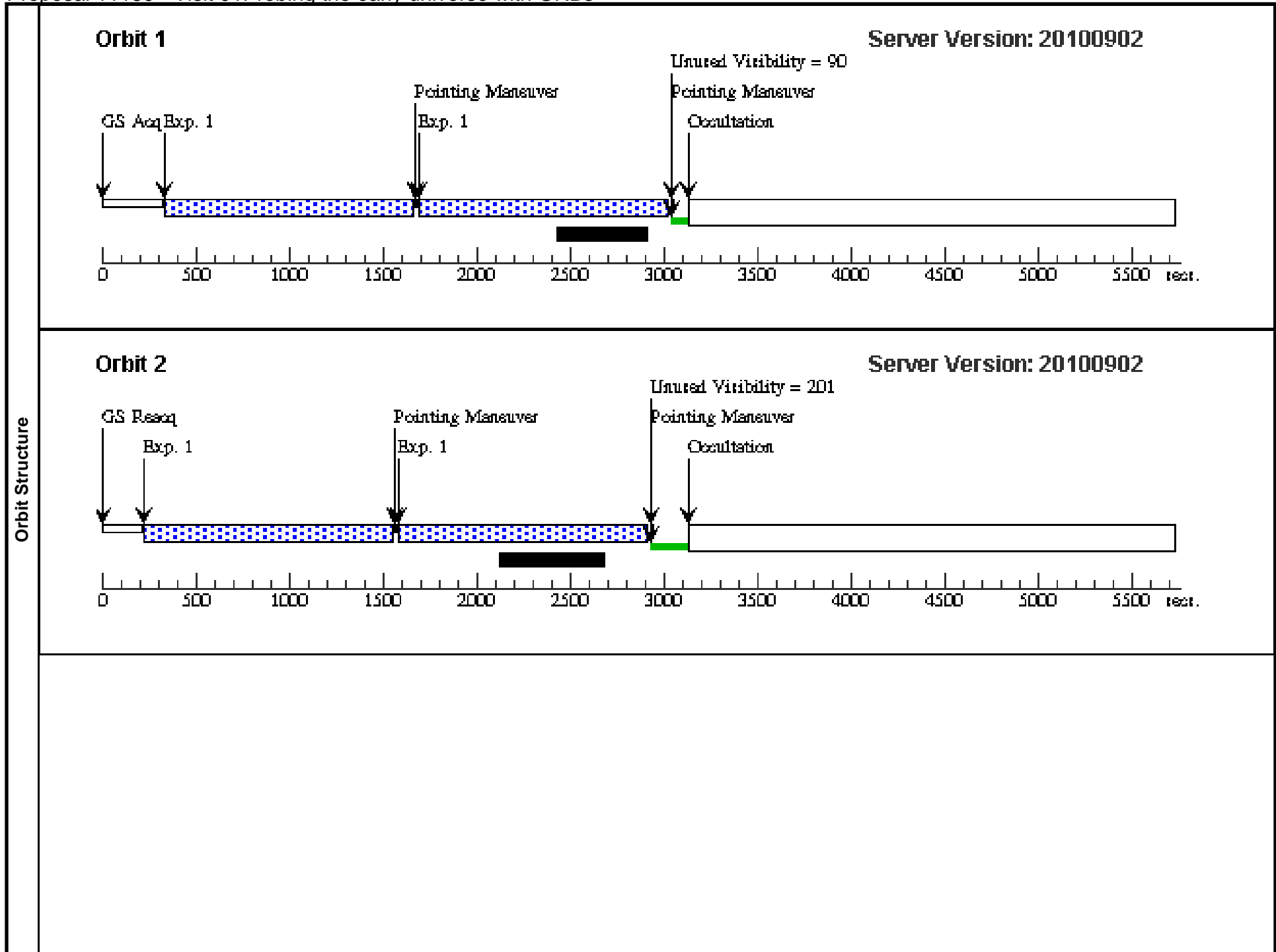
For GRB 080913 we will obtain 3 orbits of in F160W with the principle aim of detecting the host galaxy. These observations will reach limiting magnitudes of F160W(AB)=27.9 (3-sigma). Subject to success of these observations we will follow up with a further 3 orbit visit in F110W.

For 090429B the absence of a spectroscopic redshift means our primary aim is to confirm the photometric redshift. Hence we will conduct two one orbit visits using ACS/WFC F606W and WFC3 with F160W. The primary aim of these observations is again to search for a host galaxy. If the high redshift scenario is correct we expect the object to be non-detected in the F606W observations, and very faint (or non-detected) in F160W.

Proposal 11189 - Visit 01 Probing the early universe with GRBs

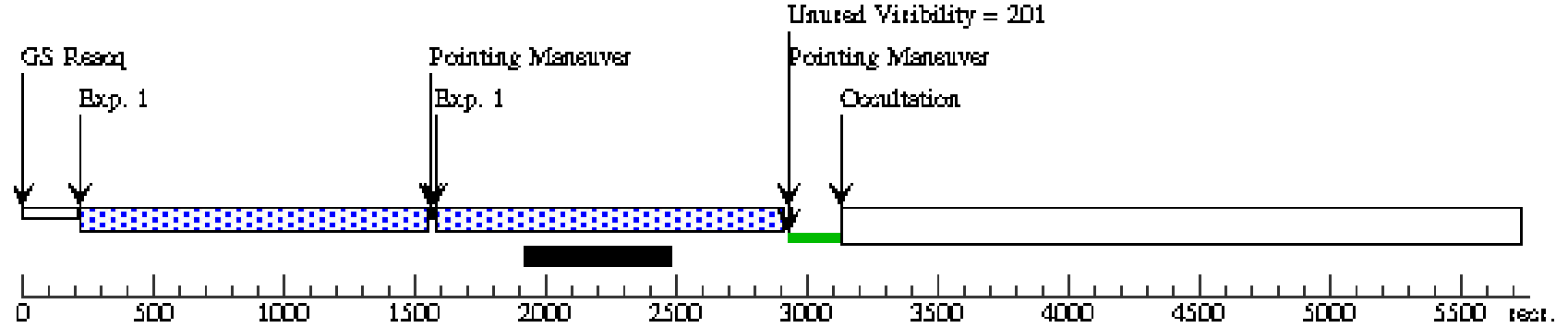
Fri Dec 17 02:04:23 GMT 2010

Visit	Proposal 11189, Visit 01, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 88.1D TO 124.8 D; ORIENT 178.1D TO 214.8 D; ORIENT 268.1D TO 304.8 D; ORIENT 358.1D TO 34.8 D <i>Comments: Repeat of failed visit J1</i>									
	(Visit 01) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(3)	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			(2)				
(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=30+/-2	Reference Frame: UKIRT				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPAR S100			Pattern 4, Exps 1-1 in Visit 01 (4)	[==>(Pattern 1,1)]	[1]
									[==>(Pattern 1,2)]	[2]
									[==>(Pattern 2,1)]	[3]
									[==>(Pattern 2,2)]	[4]
									[==>(Pattern 3,1)]	[5]
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS 100; NSAMP=14			Pattern 3, Exps 2-2 in Visit 01 (3)	[==>(Pattern 1)]	[5]	
								[==>(Pattern 2)]		



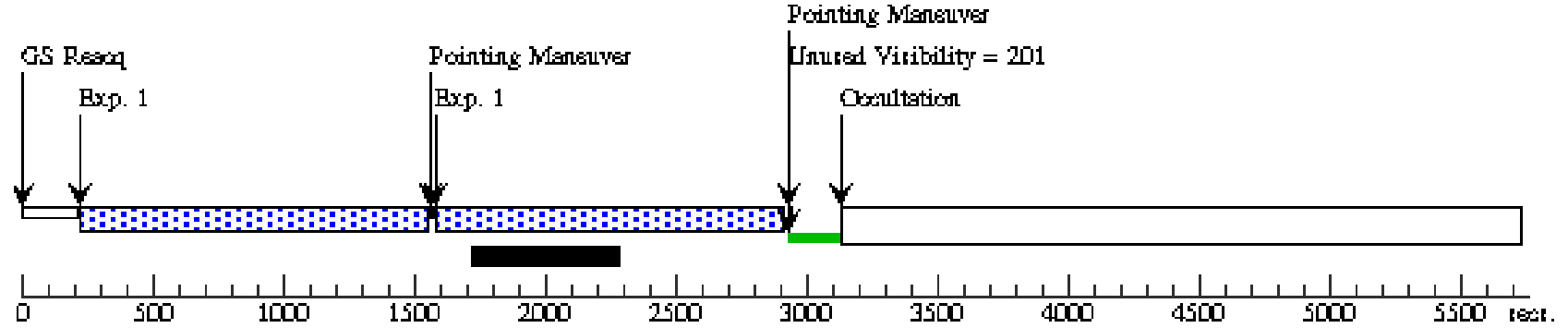
Orbit 3

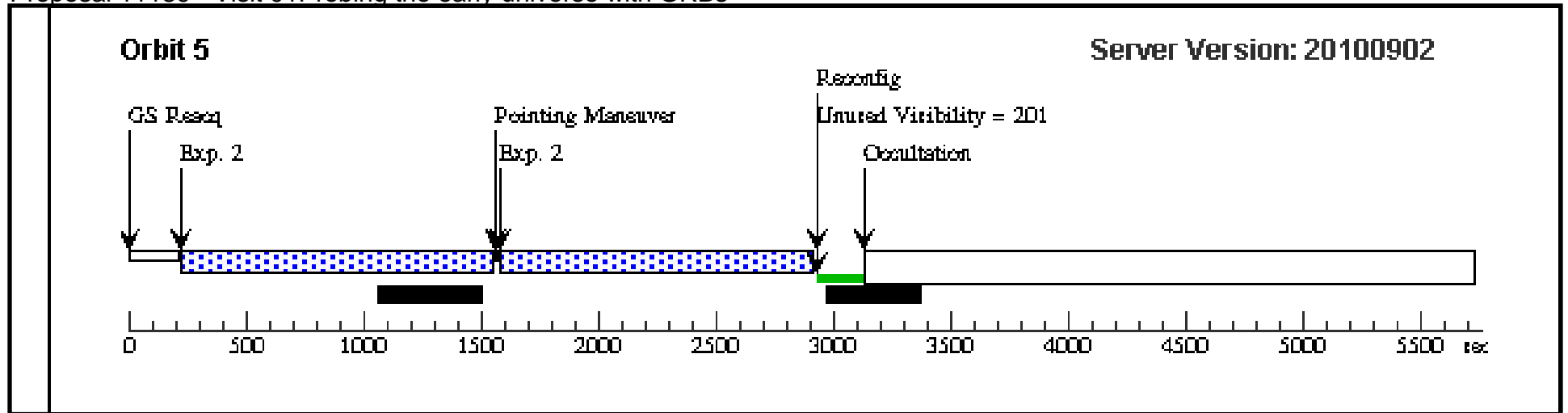
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Orbit 4

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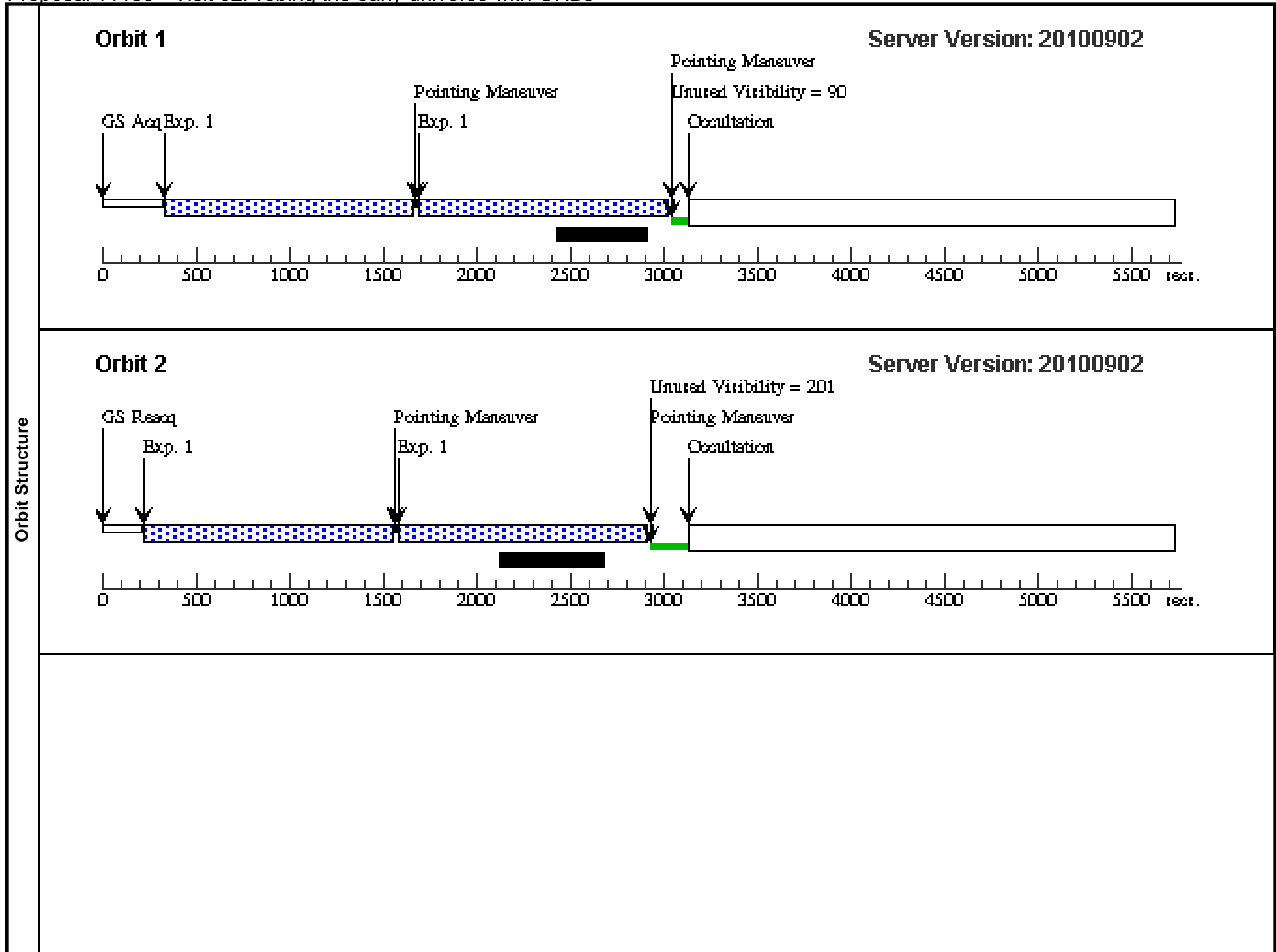




Proposal 11189 - Visit 02 Probing the early universe with GRBs

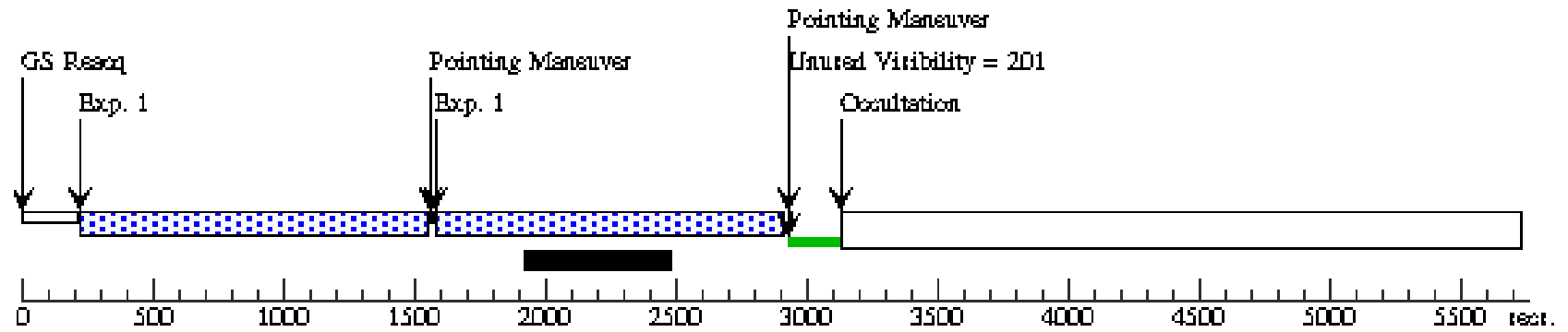
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Visit	Proposal 11189, Visit 02, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; SAME ORIENT AS J1 <i>Comments: Repeat of failed visit J2</i>									
	(Visit 02) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern			Exposures				
	(3)	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			(2)				
Patterns	(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)				
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=30+/-2	Reference Frame: UKIRT					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 0,0.5	Pattern 4, Exps 1-1 i n Visit 02 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)] [==>(Pattern 4,1)] [==>(Pattern 4,2)]	[1] [2] [3] [4]	
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS S100; NSAMP=14	POS TARG 0,0.5	Pattern 3, Exps 2-2 i n Visit 02 (3)	[==>(Pattern 1)] [==>(Pattern 2)]	[5]		



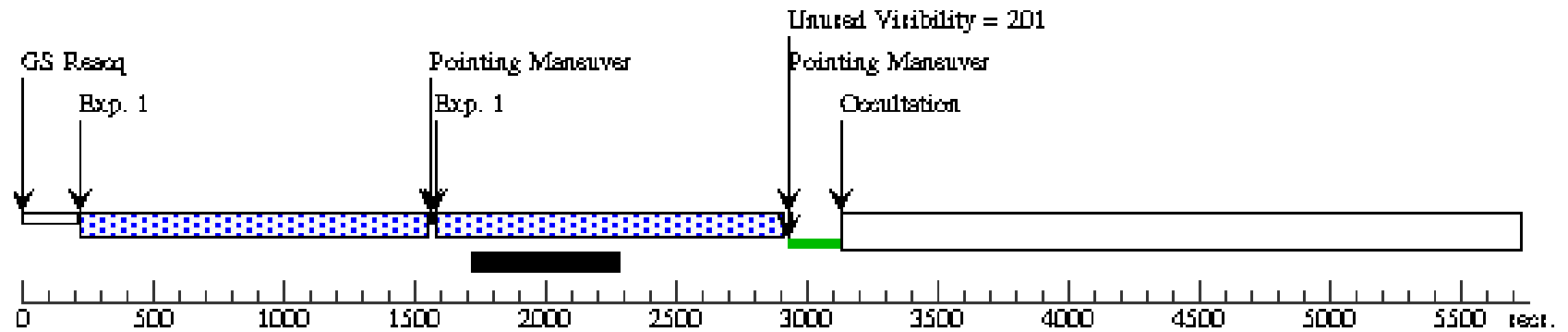
Orbit 3

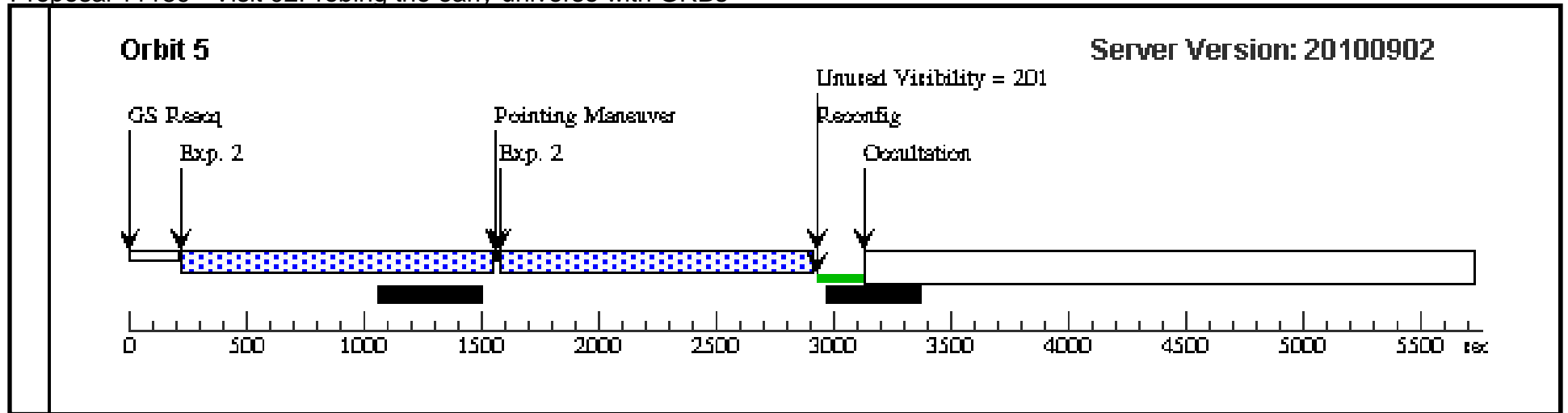
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Orbit 4

Server Version: 20100902

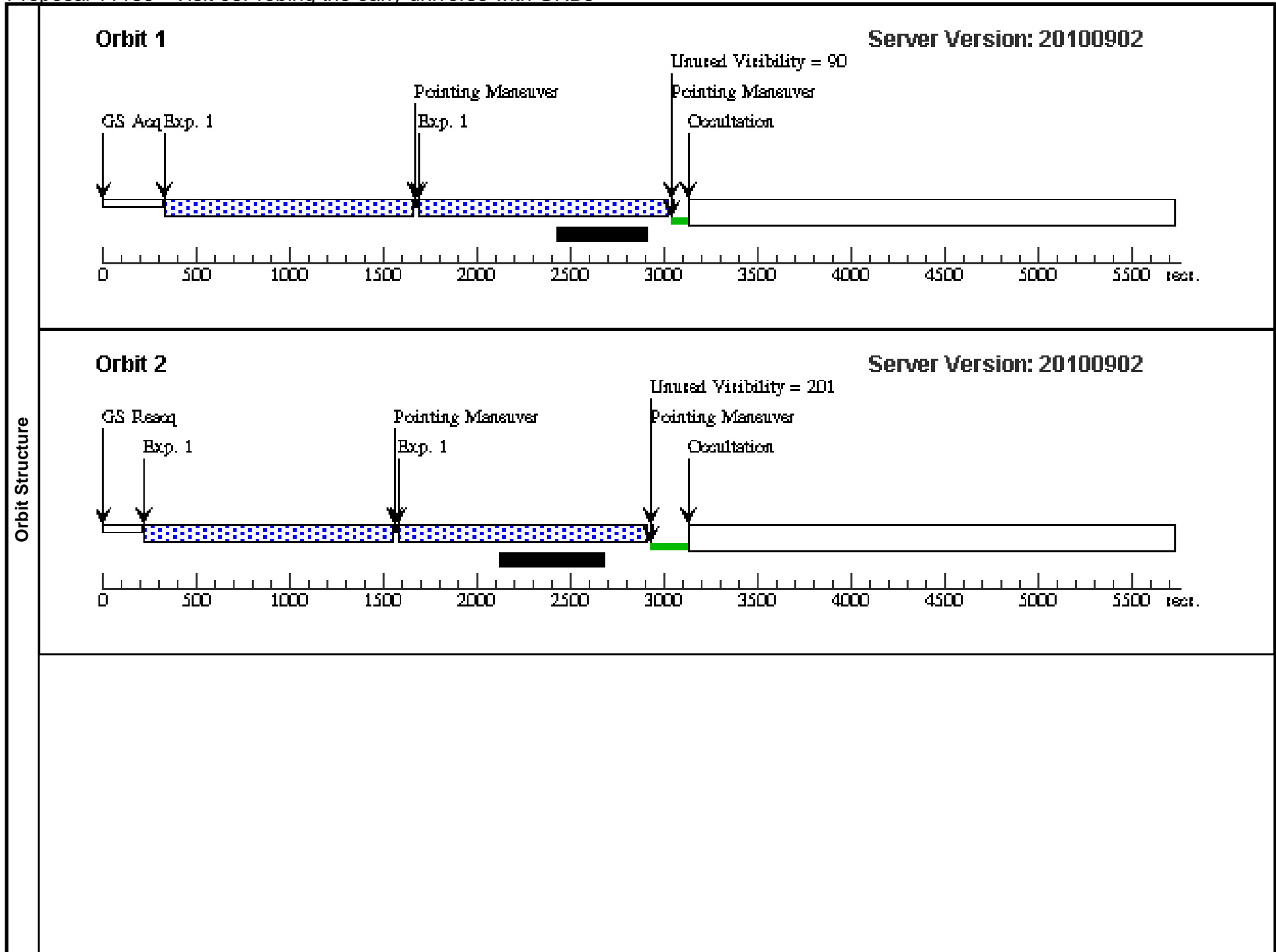




Proposal 11189 - Visit 03 Probing the early universe with GRBs

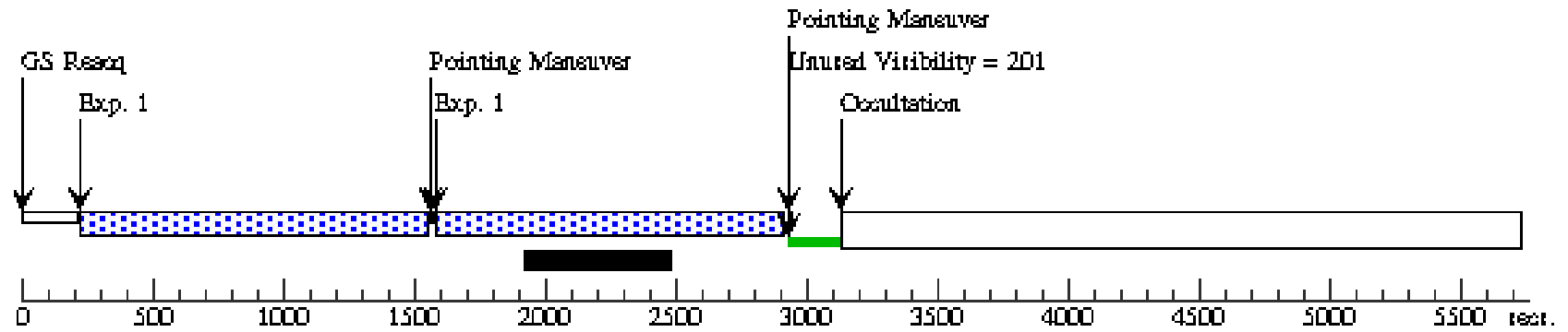
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Visit	Proposal 11189, Visit 03, failed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; SAME ORIENT AS J1 <i>Comments: Repeat of failed visit H2</i>									
	Diagnosics (Visit 03) Warning (Form): Gyro Mode overrides default value of 2G.									
Patterns	#	Primary Pattern				Secondary Pattern				Exposures
	(3)	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						(2)
(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:		V=30+/-2	Reference Frame: UKIRT			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 0,0.5	Pattern 4, Exps 1-1 i n Visit 03 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)]	[1]	
								[==>(Pattern 2,1)] [==>(Pattern 2,2)]	[2]	
								[==>(Pattern 3,1)] [==>(Pattern 3,2)]	[3]	
								[==>(Pattern 4,1)] [==>(Pattern 4,2)]	[4]	
	2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS S100; NSAMP=14	POS TARG 0,0.5	Pattern 3, Exps 2-2 i n Visit 03 (3)	[==>(Pattern 1)] [==>(Pattern 2)]	[5]	



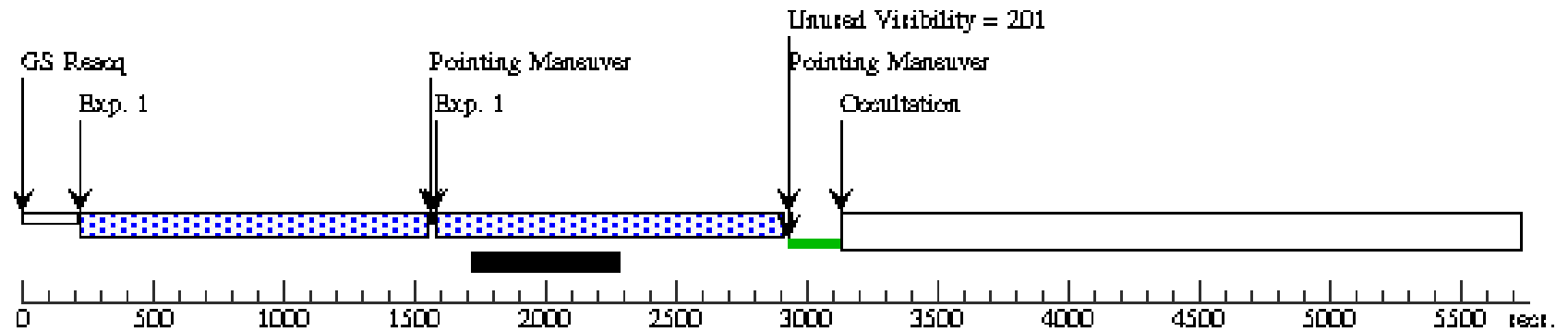
Orbit 3

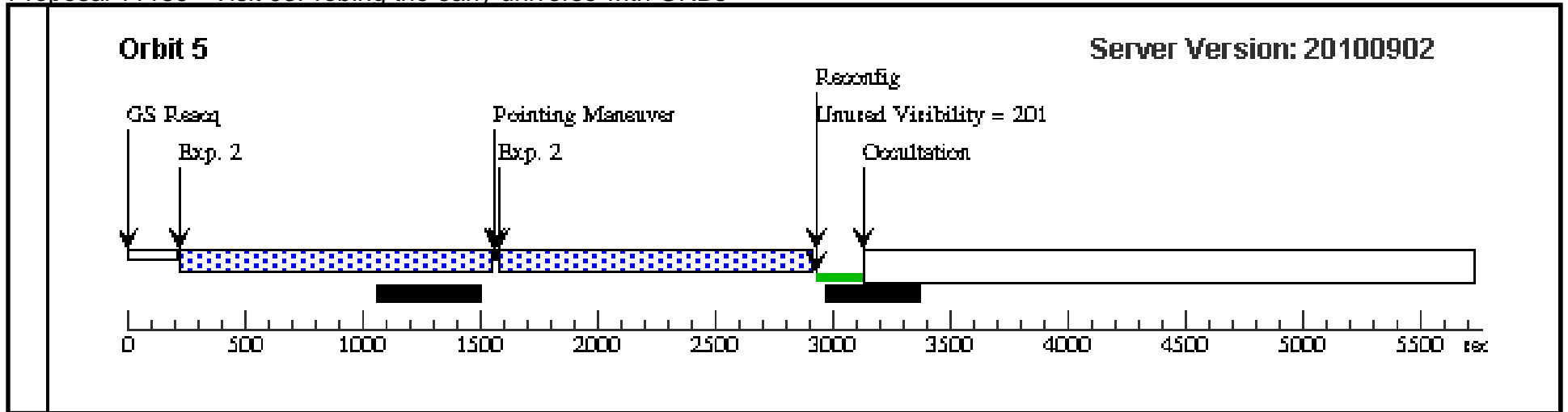
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Orbit 4

Server Version: 20100902

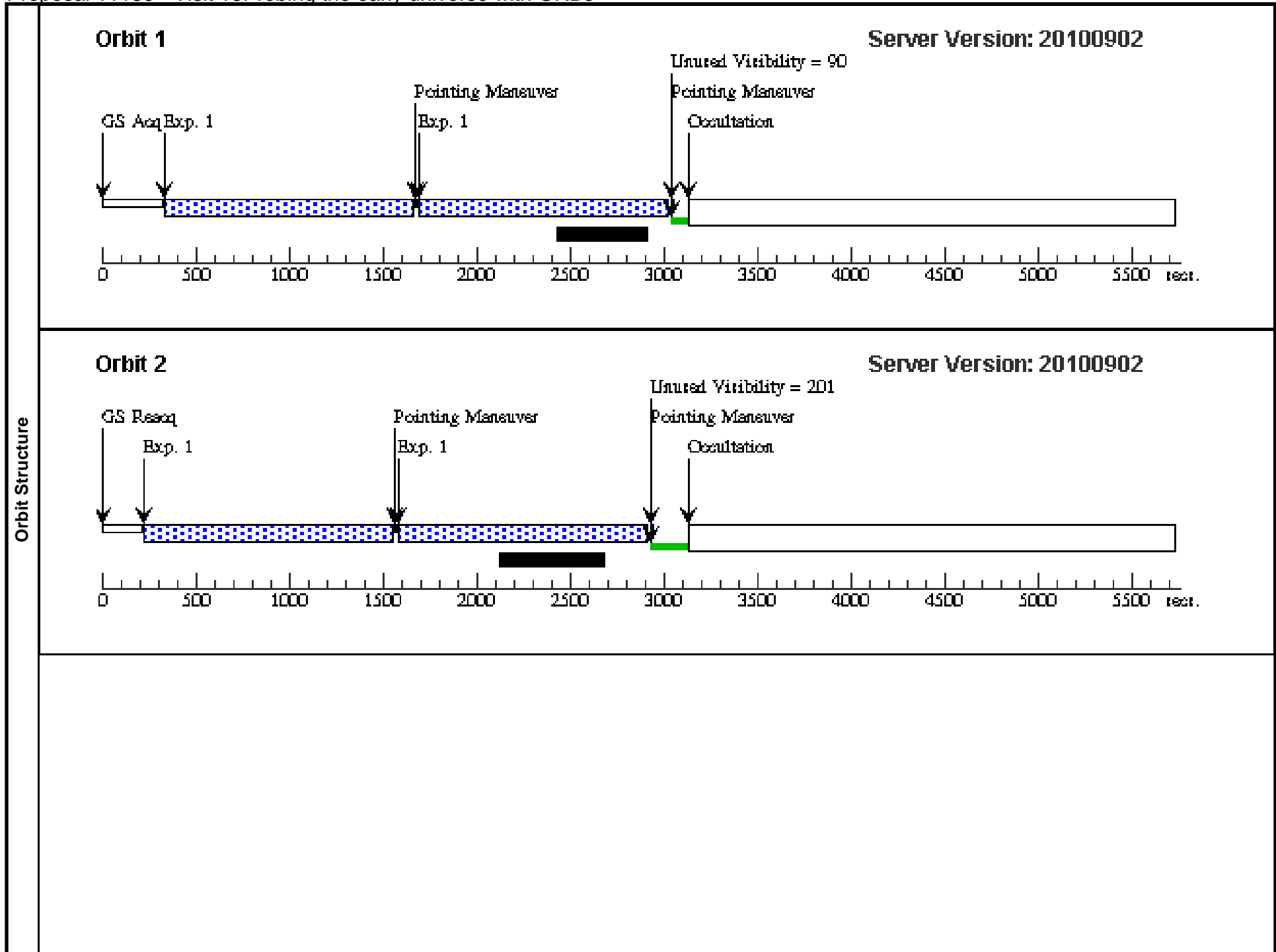




Proposal 11189 - Visit 13 Probing the early universe with GRBs

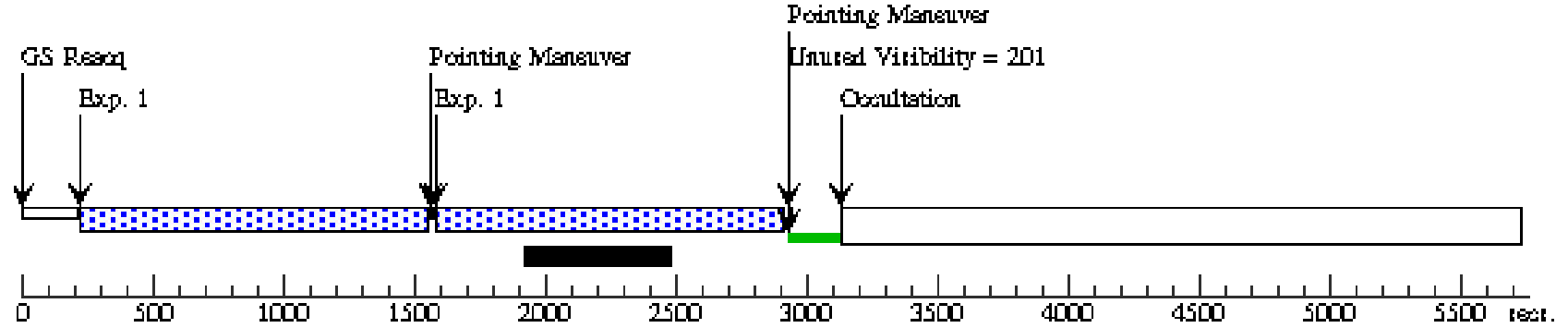
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Visit	Proposal 11189, Visit 13, scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 293D TO 293 D <i>Comments: Repeat of failed visit 03</i> <i>ORIENT 293-293 is to make SAME ORIENT AS J1.</i>									
	(Visit 13) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(3)	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		(2)					
(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=30+/-2	Reference Frame: UKIRT				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 0,0.5	Pattern 4, Exps 1-1 i n Visit 13 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)] [==>(Pattern 4,1)] [==>(Pattern 4,2)]	[1] [2] [3] [4]	
	2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS NSAMP=14	POS TARG 0,0.5	Pattern 3, Exps 2-2 i n Visit 13 (3)	[==>(Pattern 1)] [==>(Pattern 2)]	[5]	



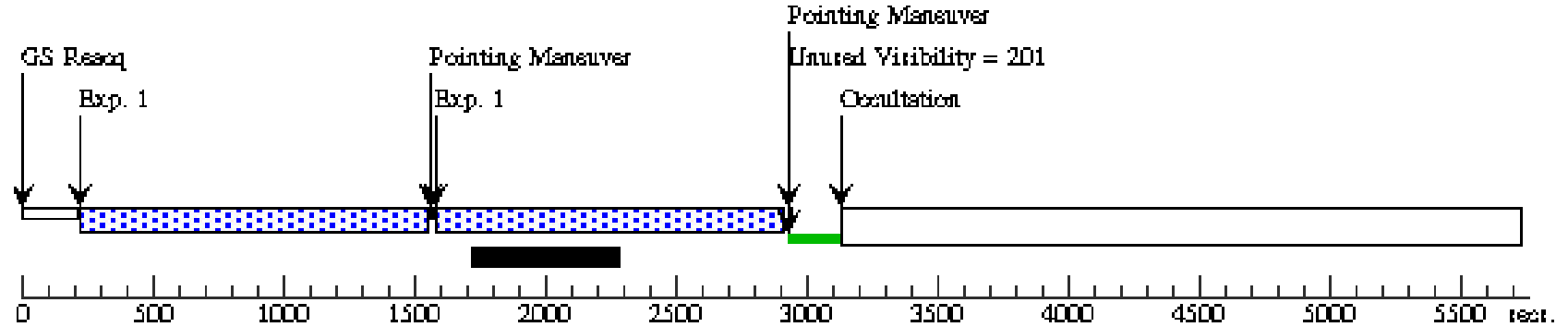
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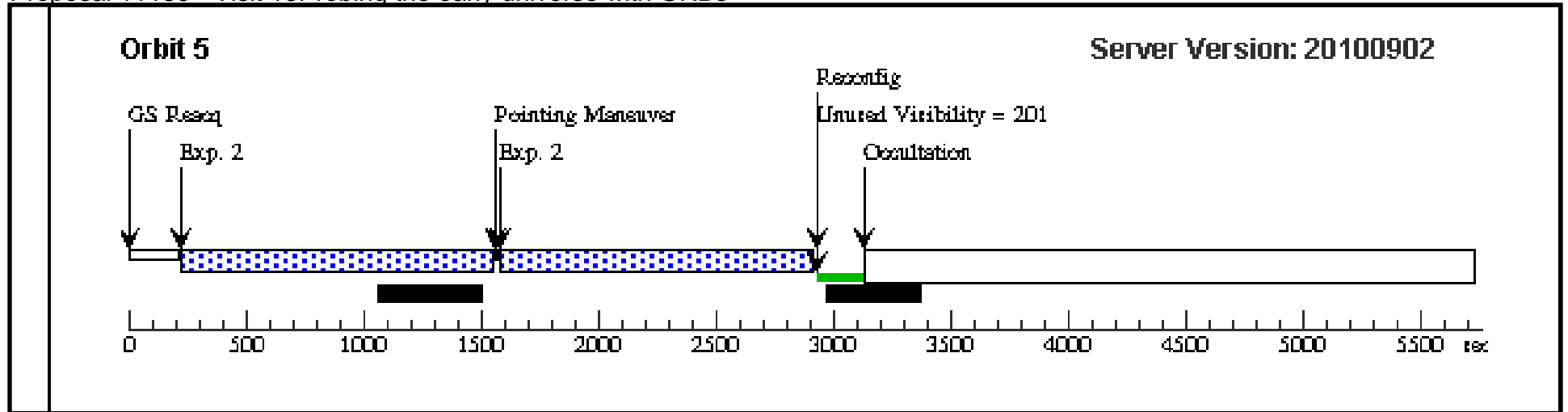
Orbit 3



Server Version: 20100902

Orbit 4

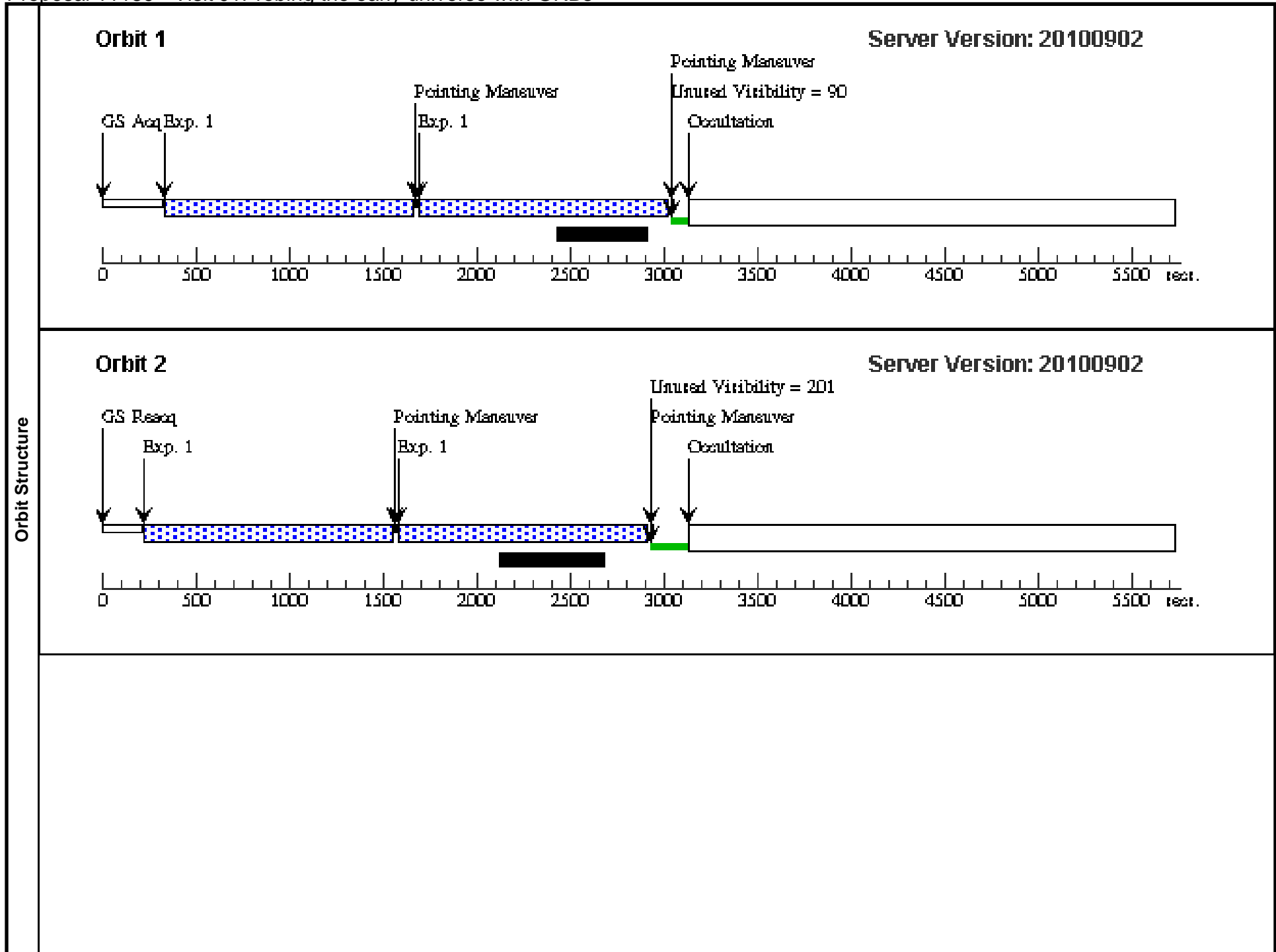




Proposal 11189 - Visit J1 Probing the early universe with GRBs

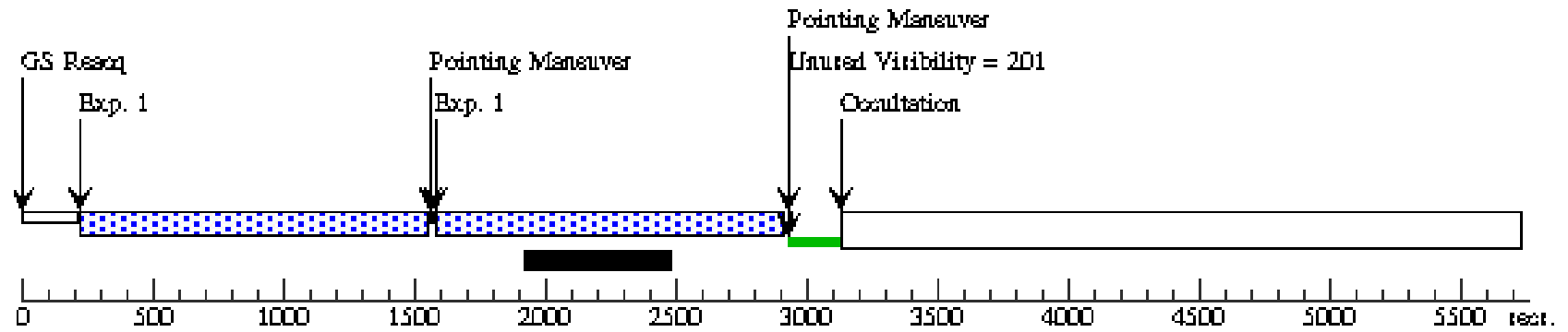
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Visit	Proposal 11189, Visit J1, failed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 88.1D TO 124.8 D; ORIENT 178.1D TO 214.8 D; ORIENT 268.1D TO 304.8 D; ORIENT 358.1D TO 34.8 D; BETWEEN 20-DEC-2009:00:00:00 AND 30-MAR-2010:00:00:00									
	(Visit J1) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(3)	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		(2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=30+/-2	Reference Frame: UKIRT				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPAR S100			Pattern 4, Exps 1-1 in Visit J1 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)] [==>(Pattern 4,1)] [==>(Pattern 4,2)]	[1] [2] [3] [4]
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS 100; NSAMP=14			Pattern 3, Exps 2-2 in Visit J1 (3)	[==>(Pattern 1)] [==>(Pattern 2)]	[5]	



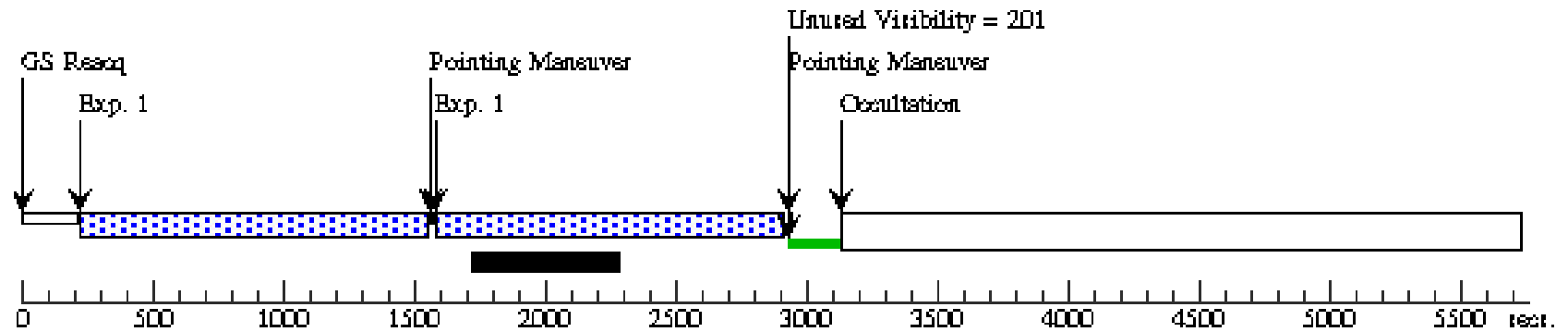
Orbit 3

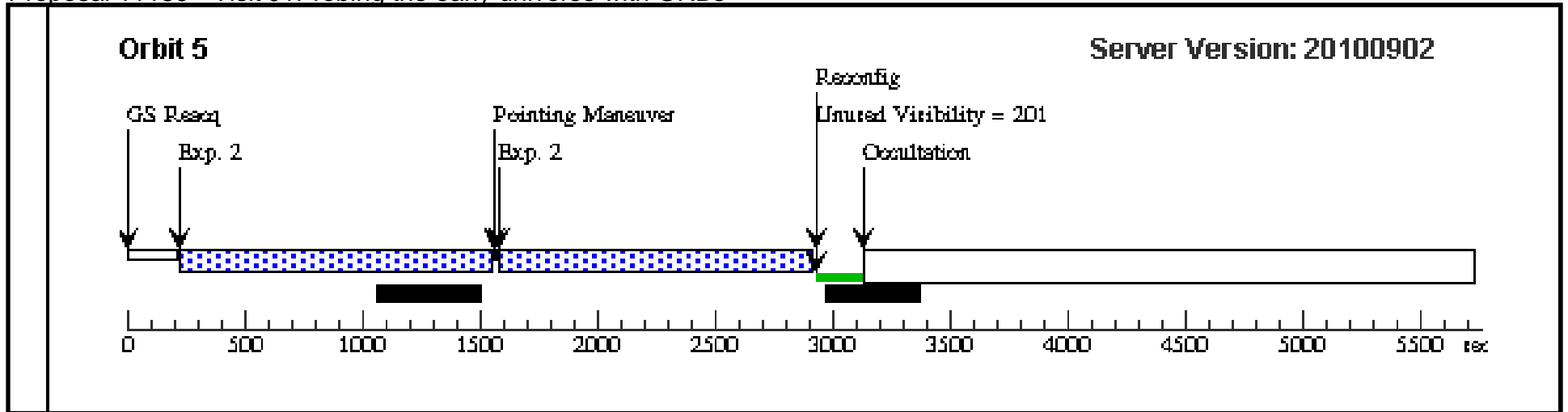
Server Version: 20100902



Orbit 4

Server Version: 20100902

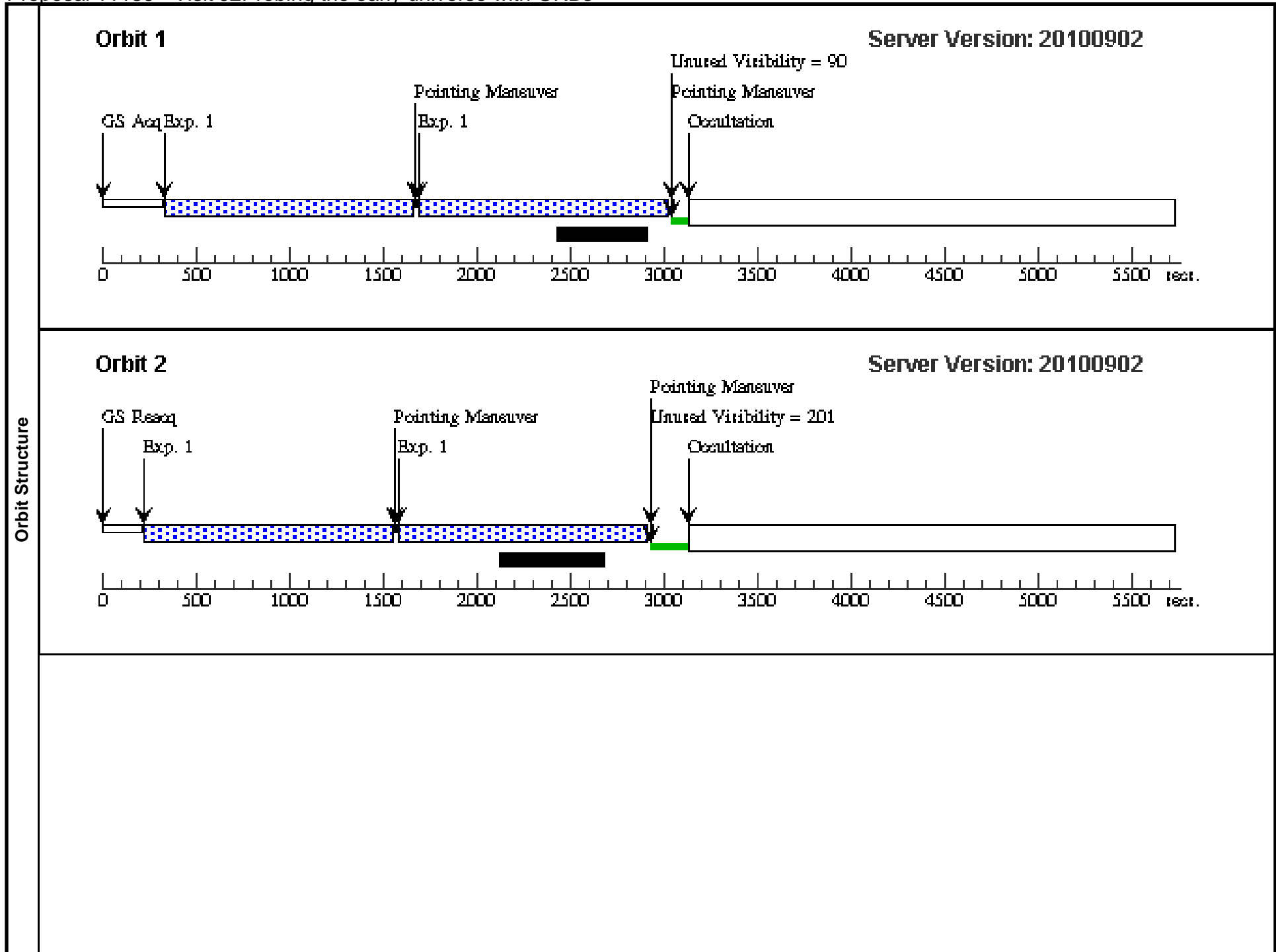




Proposal 11189 - Visit J2 Probing the early universe with GRBs

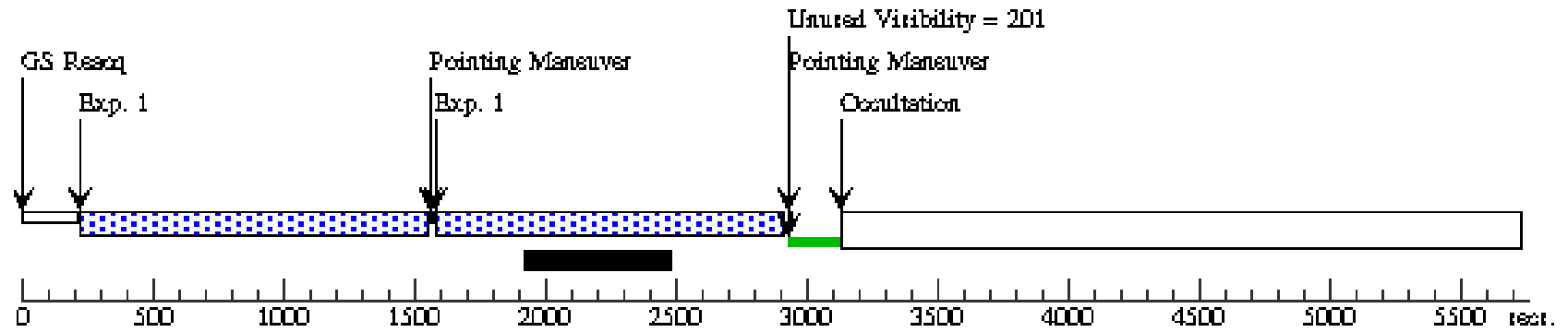
Fri Dec 17 02:04:31 GMT 2010

Visit	Proposal 11189, Visit J2, failed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; SAME ORIENT AS J1; BETWEEN 20-DEC-2009:00:00:00 AND 30-MAR-2010:00:00:00										
	(Visit J2) Warning (Form): Gyro Mode overrides default value of 2G.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(3)	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						(2)	
(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365		Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000		Proper Motion RA: null Proper Motion Dec: null Epoch of Position:		V=30+/-2		Reference Frame: UKIRT		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 0,0.5	Pattern 4, Exps 1-1 i n Visit J2 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)] [==>(Pattern 4,1)] [==>(Pattern 4,2)]		[1] [2] [3] [4]	
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F125W	SAMP-SEQ=SPARS NSAMP=14	POS TARG 0,0.5	Pattern 3, Exps 2-2 i n Visit J2 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[5]		



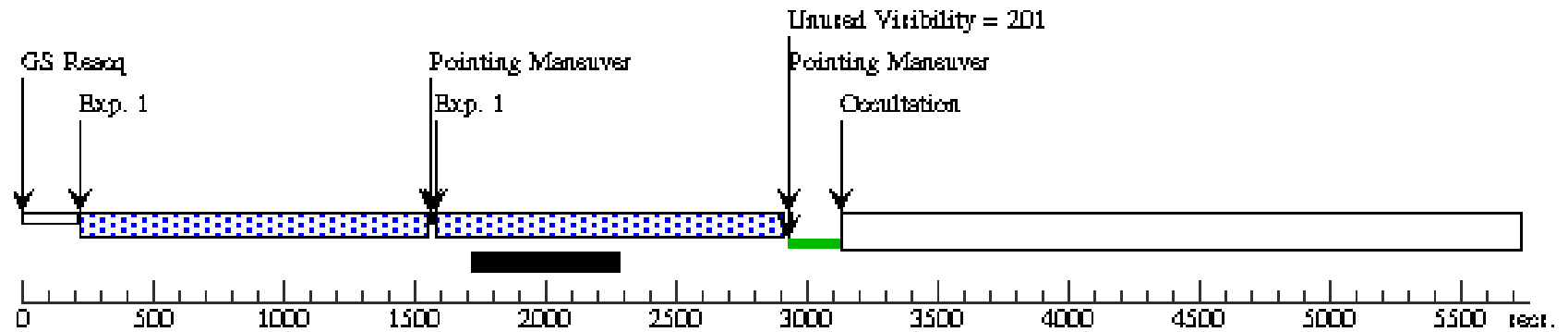
Orbit 3

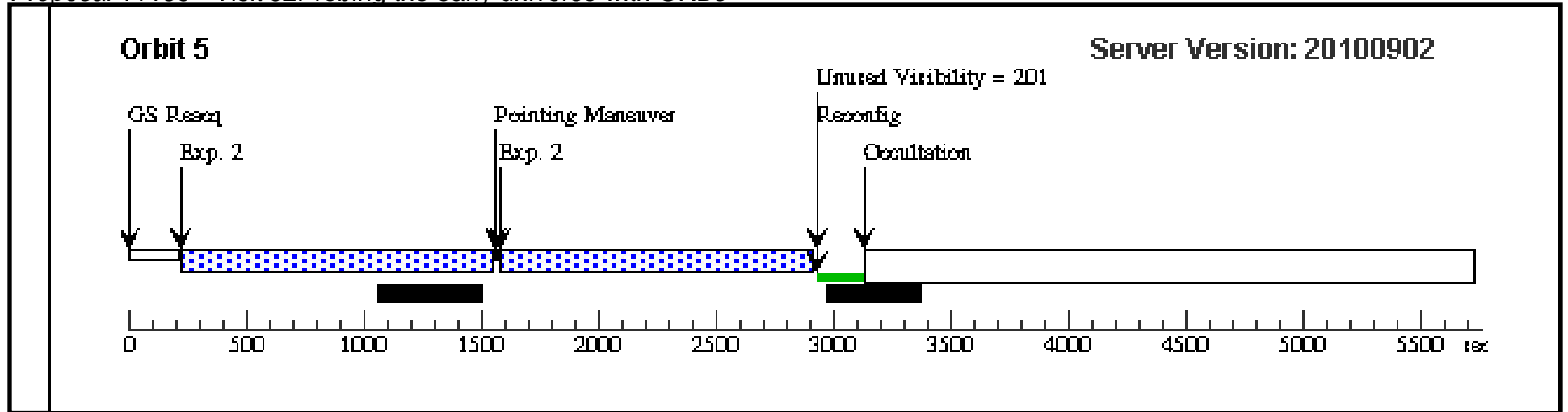
Server Version: 20100902



Orbit 4

Server Version: 20100902

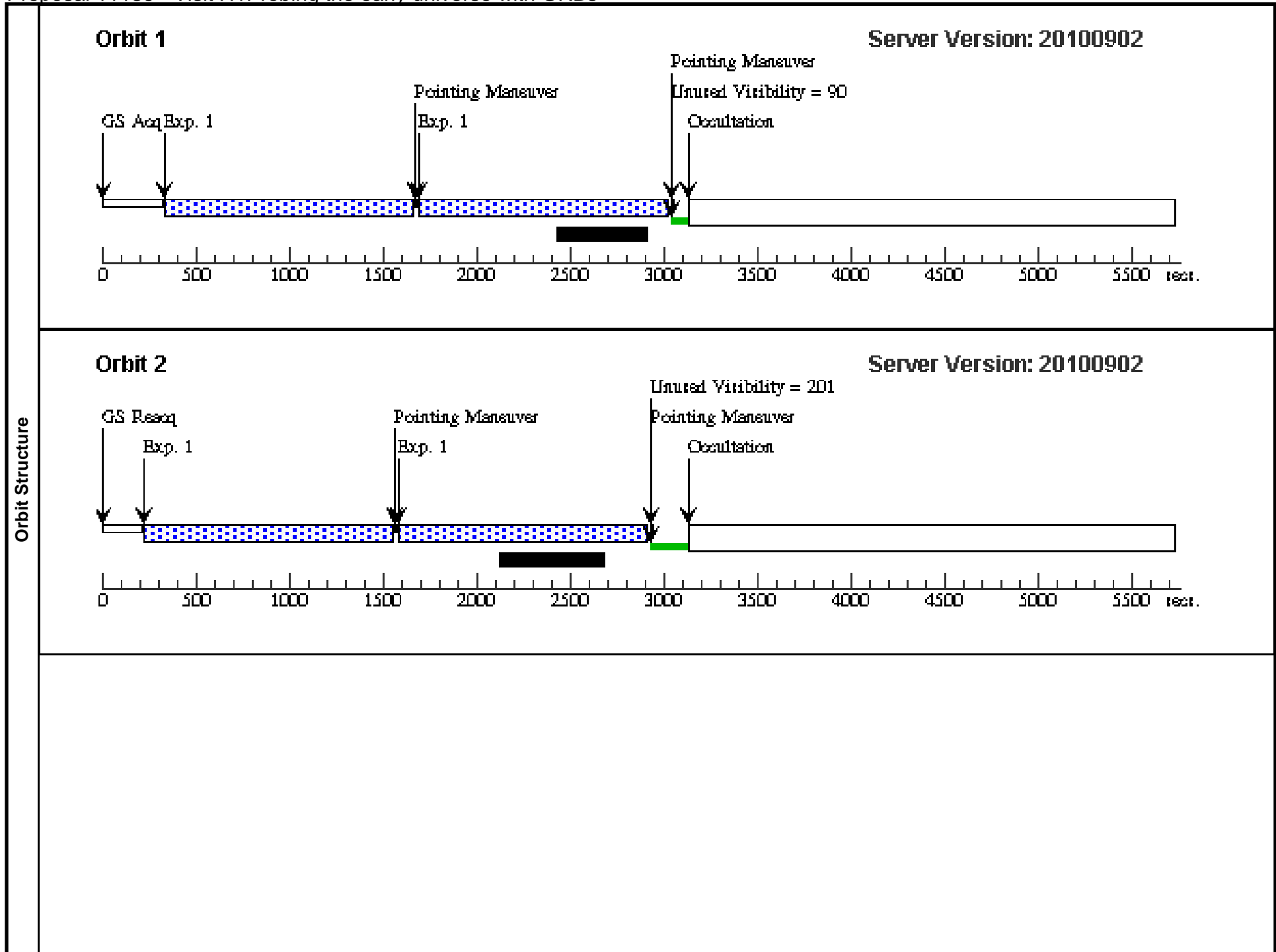




Proposal 11189 - Visit H1 Probing the early universe with GRBs

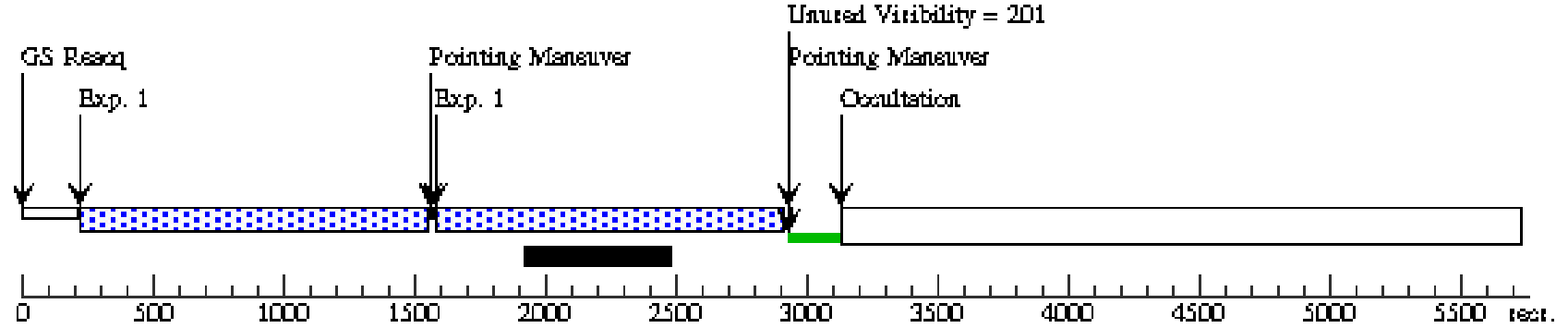
Fri Dec 17 02:04:32 GMT 2010

Visit	Proposal 11189, Visit H1, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; SAME ORIENT AS J1; BETWEEN 20-DEC-2009:00:00:00 AND 30-MAR-2010:00:00:00														
	(Visit H1) Warning (Form): Gyro Mode overrides default value of 2G.														
Diagnosics															
Patterns	#	Primary Pattern				Secondary Pattern				Exposures					
	(3)	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				(2)					
Patterns	(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365				Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous						
	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000		Proper Motion RA: null Proper Motion Dec: null Epoch of Position:		V=30+/-2		Reference Frame: UKIRT						
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit				
	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S100			Pattern 4, Exps 1-1 i n Visit H1 (4)	[==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)] [==>(Pattern 4,1)] [==>(Pattern 4,2)]		[1] [2] [3] [4]				
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 100; NSAMP=14			Pattern 3, Exps 2-2 i n Visit H1 (3)	[==>(Pattern 1)] [==>(Pattern 2)]		[5]					



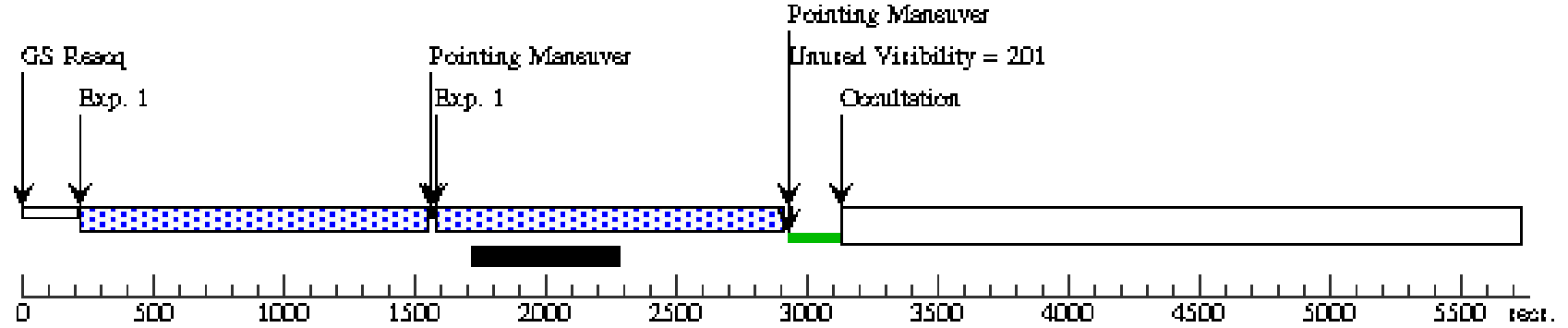
Orbit 3

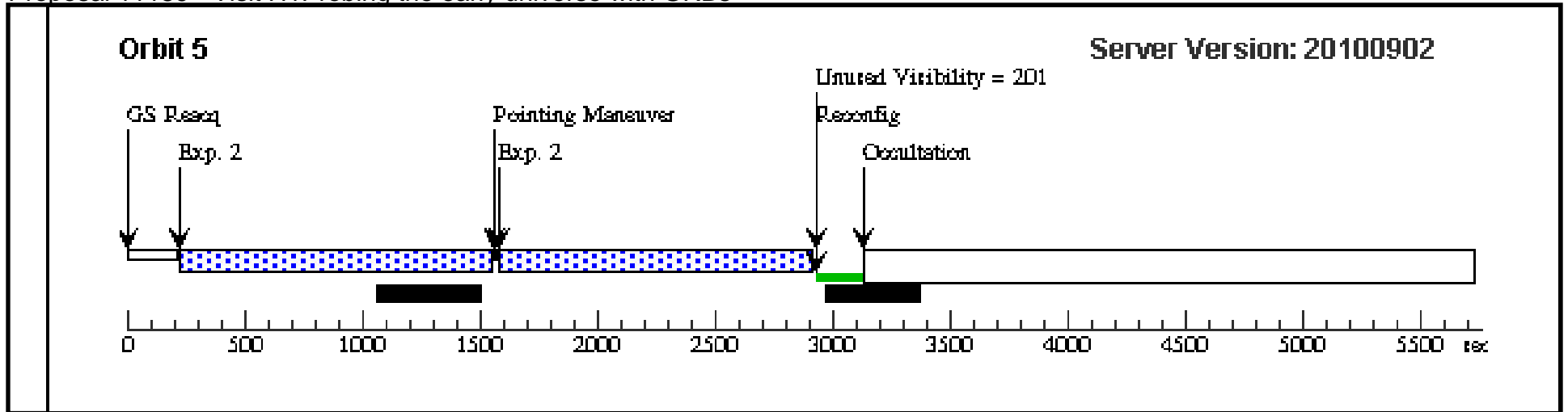
Server Version: 20100902



Orbit 4

Server Version: 20100902

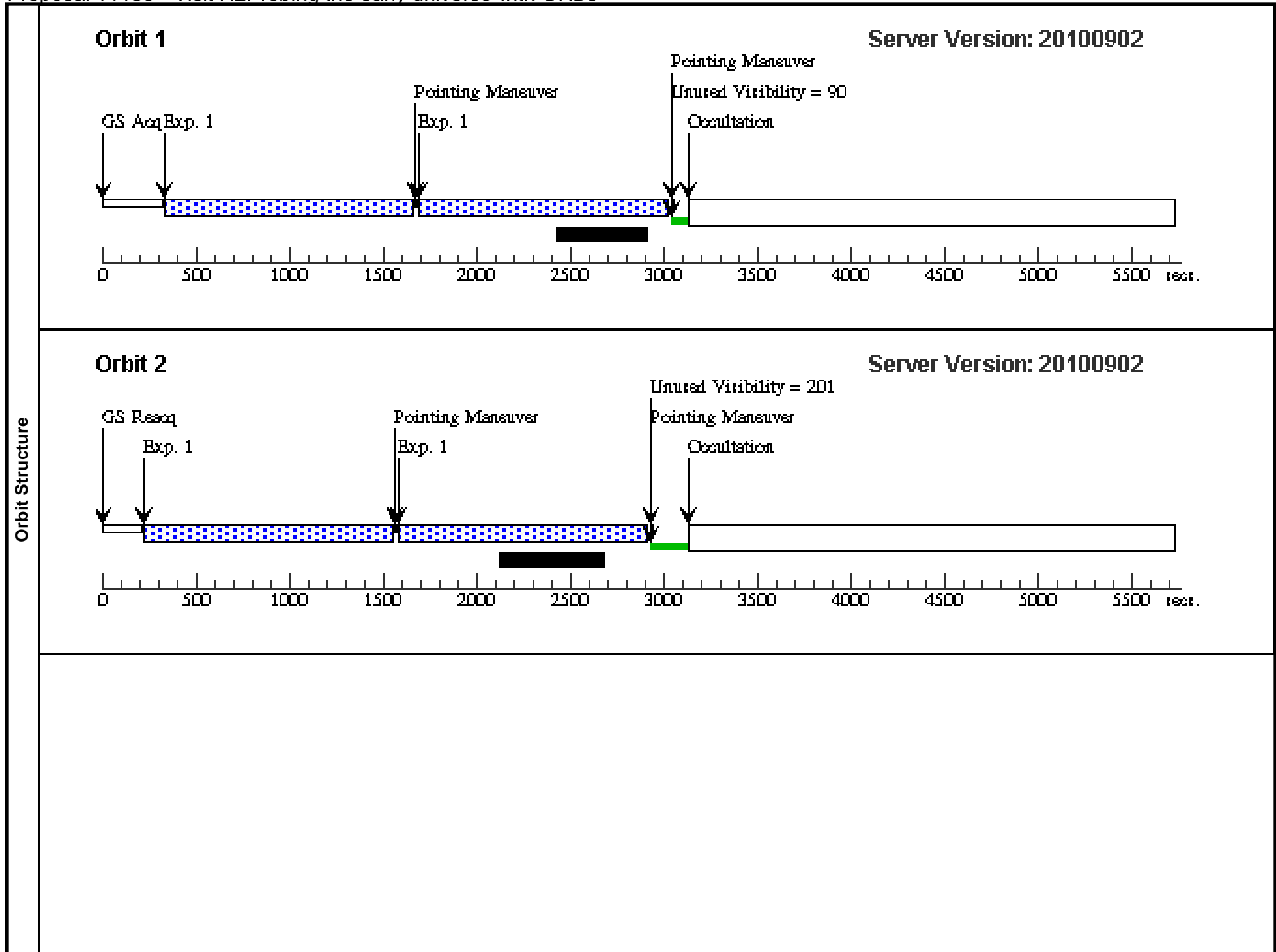




Proposal 11189 - Visit H2 Probing the early universe with GRBs

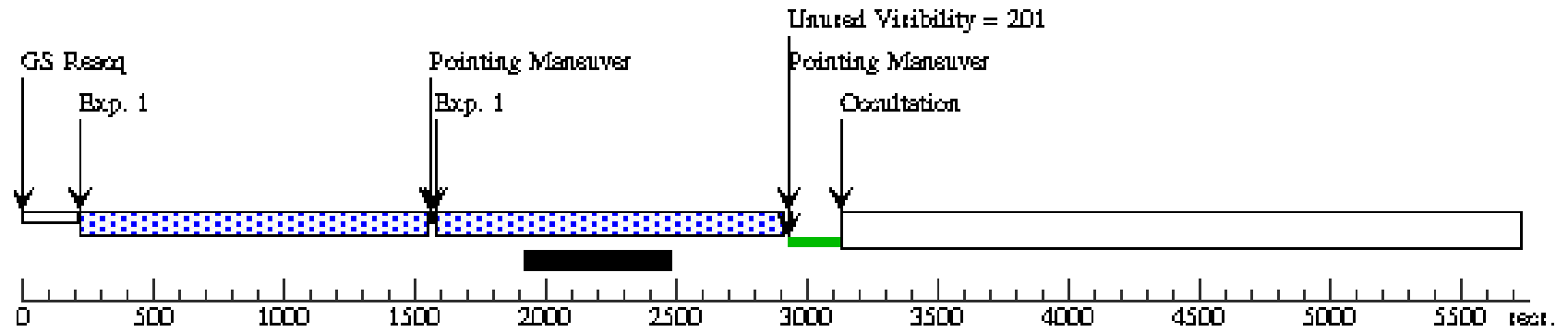
Fri Dec 17 02:04:34 GMT 2010

Visit	Proposal 11189, Visit H2, failed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; SAME ORIENT AS J1; BETWEEN 20-DEC-2009:00:00:00 AND 30-MAR-2010:00:00:00									
	Diagnostics	(Visit H2) Warning (Form): Gyro Mode overrides default value of 2G.								
Patterns		#	Primary Pattern				Secondary Pattern			
	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
Patterns	(3)	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					(2)		
	(4)	Pattern Type=BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 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)				
Fixed Targets	(8)	GRB090423	RA: 09 55 33.2900 (148.8887083d) Dec: +18 08 57.80 (18.14939d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=30+/-2		Reference Frame: UKIRT			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S100	POS TARG 0,0.5	Pattern 4, Exps 1-1 i n Visit H2 (4)	[==>(Pattern 1,1)]	[1]	
								[==>(Pattern 1,2)]	[2]	
								[==>(Pattern 2,1)]	[3]	
								[==>(Pattern 2,2)]	[4]	
								[==>(Pattern 3,1)]	[5]	
								[==>(Pattern 3,2)]	[6]	
2	(8) GRB090423	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 100; NSAMP=14	POS TARG 0,0.5	Pattern 3, Exps 2-2 i n Visit H2 (3)	[==>(Pattern 1)]	[5]		
							[==>(Pattern 2)]	[6]		



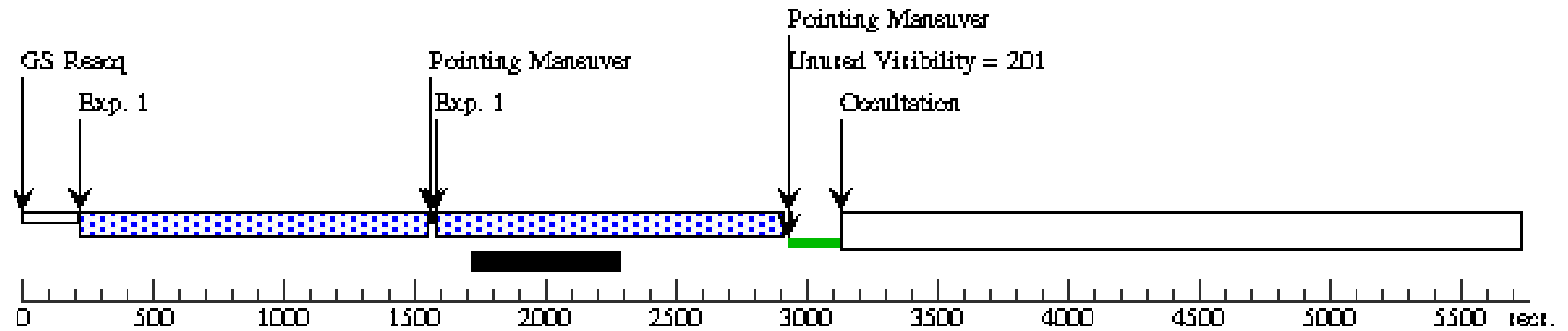
Orbit 3

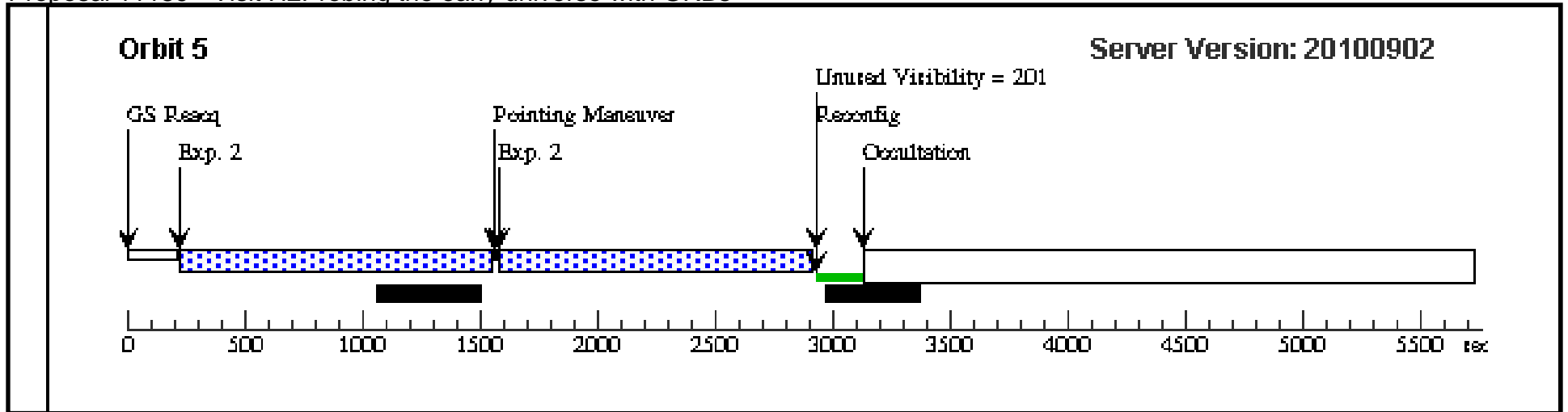
Server Version: 20100902



Orbit 4

Server Version: 20100902

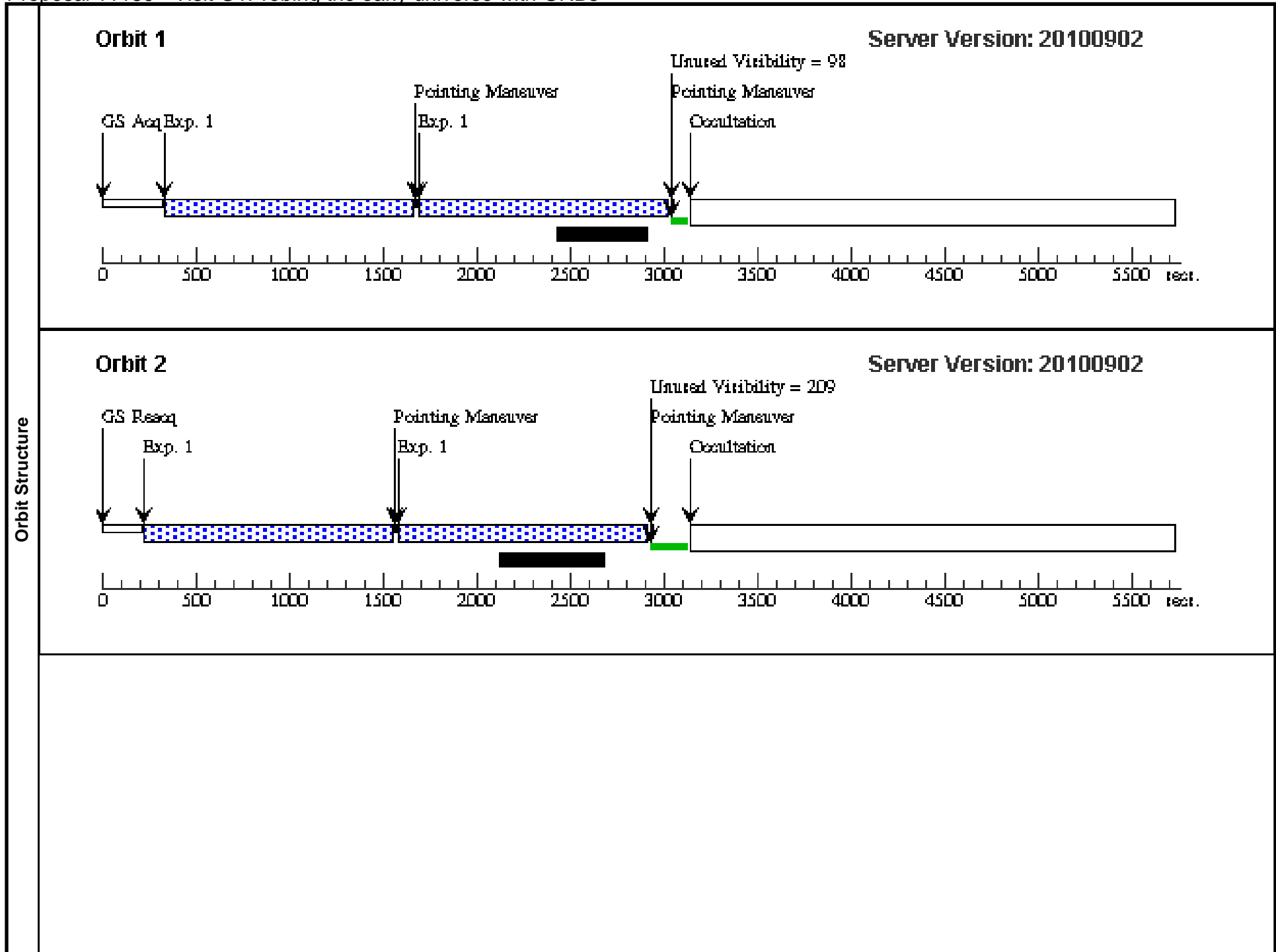


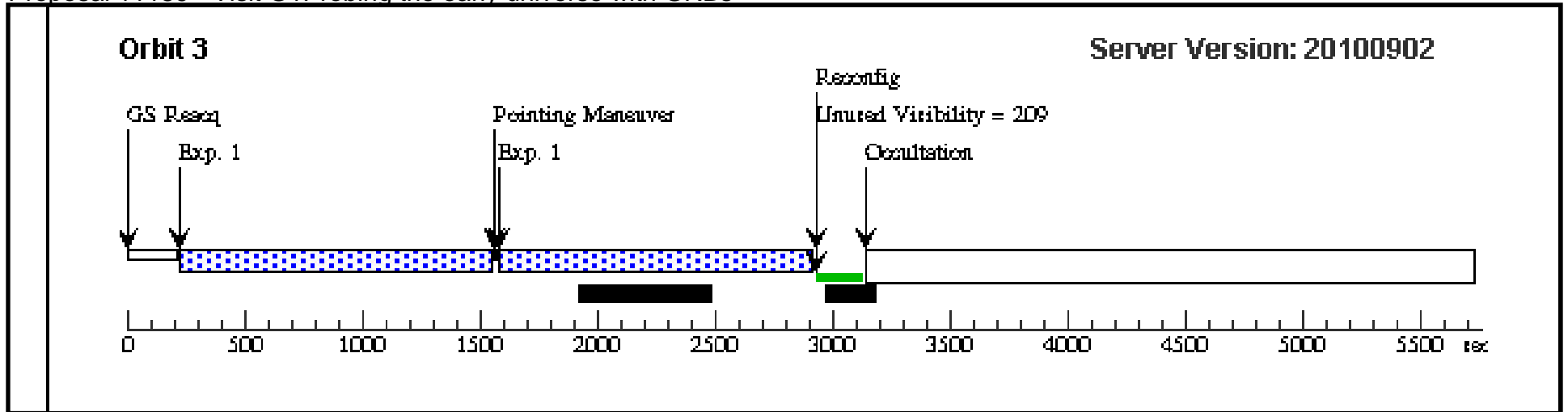


Proposal 11189 - Visit G1 Probing the early universe with GRBs

Fri Dec 17 02:04:37 GMT 2010

Visit	Proposal 11189, Visit G1, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 72.4D TO 81.3 D; ORIENT 162.4D TO 171.3 D; ORIENT 252.4D TO 261.3 D; ORIENT 342.4D TO 351.3 D									
	(Visit G1) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern			Secondary Pattern			Exposures		
	(7)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.604 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=.473 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false	(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	GRB080913	RA: 04 22 54.7300 (65.7280417d) Dec: -25 07 46.10 (-25.12947d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28 +/-1	Reference Frame: Swift				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) GRB080913	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S100		Pattern 7, Exps 1-1 i n Visit G1 (7)	[==>(Pattern 1,1)]	[1]
									[==>(Pattern 1,2)]	
									[==>(Pattern 2,1)]	[2]
								[==>(Pattern 2,2)]		
								[==>(Pattern 3,1)]	[3]	
								[==>(Pattern 3,2)]		

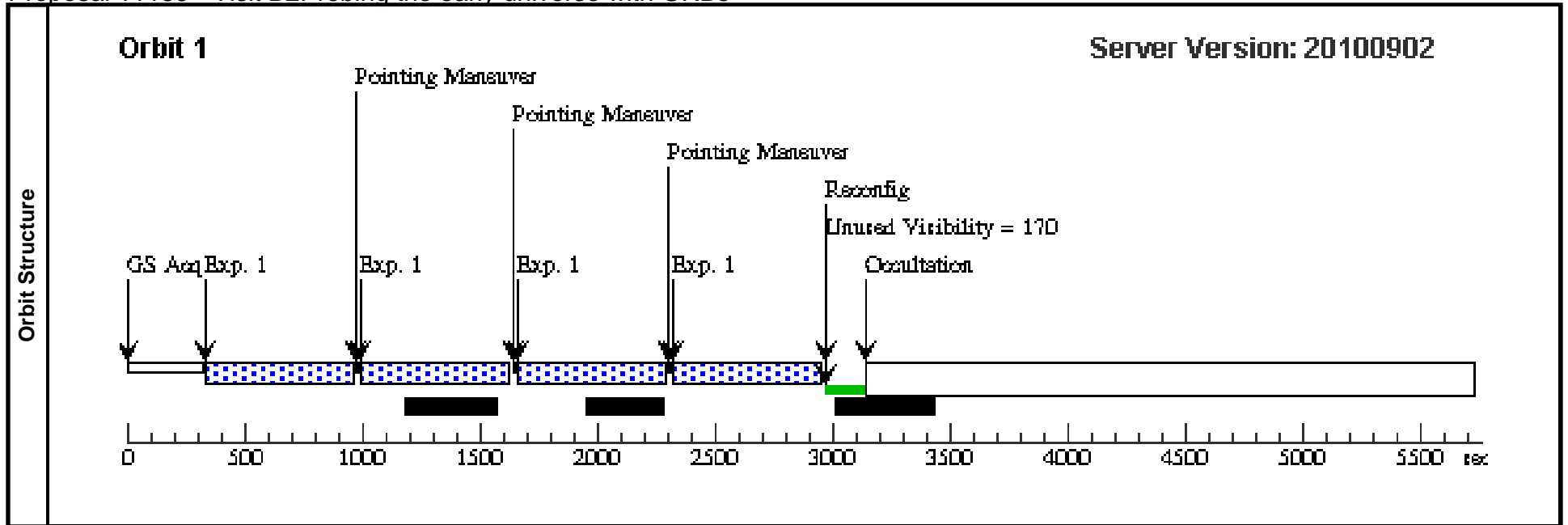




Proposal 11189 - Visit B2 Probing the early universe with GRBs

Fri Dec 17 02:04:38 GMT 2010

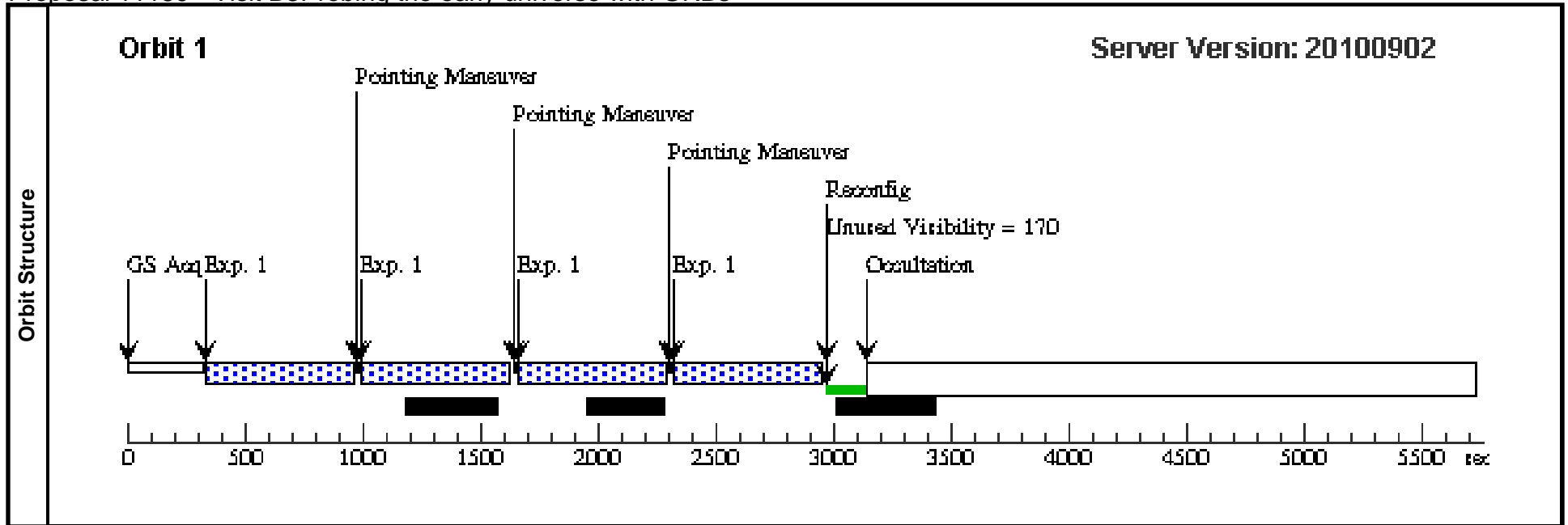
Visit	Proposal 11189, Visit B2, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 11D TO 27.9 D; ORIENT 63.4D TO 71 D; ORIENT 101D TO 117.9 D; ORIENT 153.4D TO 161 D; ORIENT 191D TO 207.9 D; ORIENT 243.4D TO 251 D; ORIENT 281D TO 297.9 D; ORIENT 333.4D TO 341 D									
	(Visit B2) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(9)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false			(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	GRB090429B	RA: 14 02 40.0500 (210.6668750d) Dec: +32 10 14.32 (32.17064d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28+/-2	Reference Frame: Gemini				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) GRB090429B		WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=SPAR S50		Pattern 9, Exps 1-1 in Visit B2 (9)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 11189 - Visit B3 Probing the early universe with GRBs

Fri Dec 17 02:04:39 GMT 2010

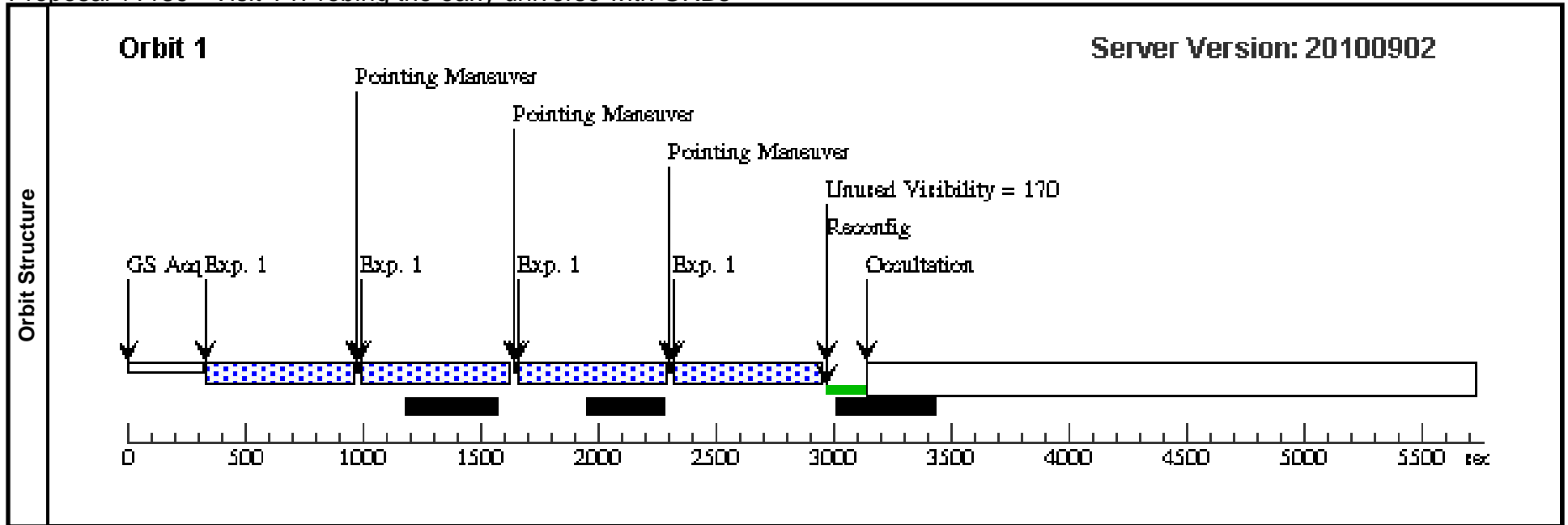
Visit	Proposal 11189, Visit B3, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 11D TO 27.9 D; ORIENT 63.4D TO 71 D; ORIENT 101D TO 117.9 D; ORIENT 153.4D TO 161 D; ORIENT 191D TO 207.9 D; ORIENT 243.4D TO 251 D; ORIENT 281D TO 297.9 D; ORIENT 333.4D TO 341 D; BEFORE 30-APR-2010:00:00:00									
	(Visit B3) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
	(9)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false						(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(7)	GRB090429B	RA: 14 02 40.0500 (210.6668750d) Dec: +32 10 14.32 (32.17064d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28+/-2	Reference Frame: Gemini				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) GRB090429B	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=SPAR S50			Pattern 9, Exps 1-1 in Visit B3 (9)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 11189 - Visit Y1 Probing the early universe with GRBs

Fri Dec 17 02:04:39 GMT 2010

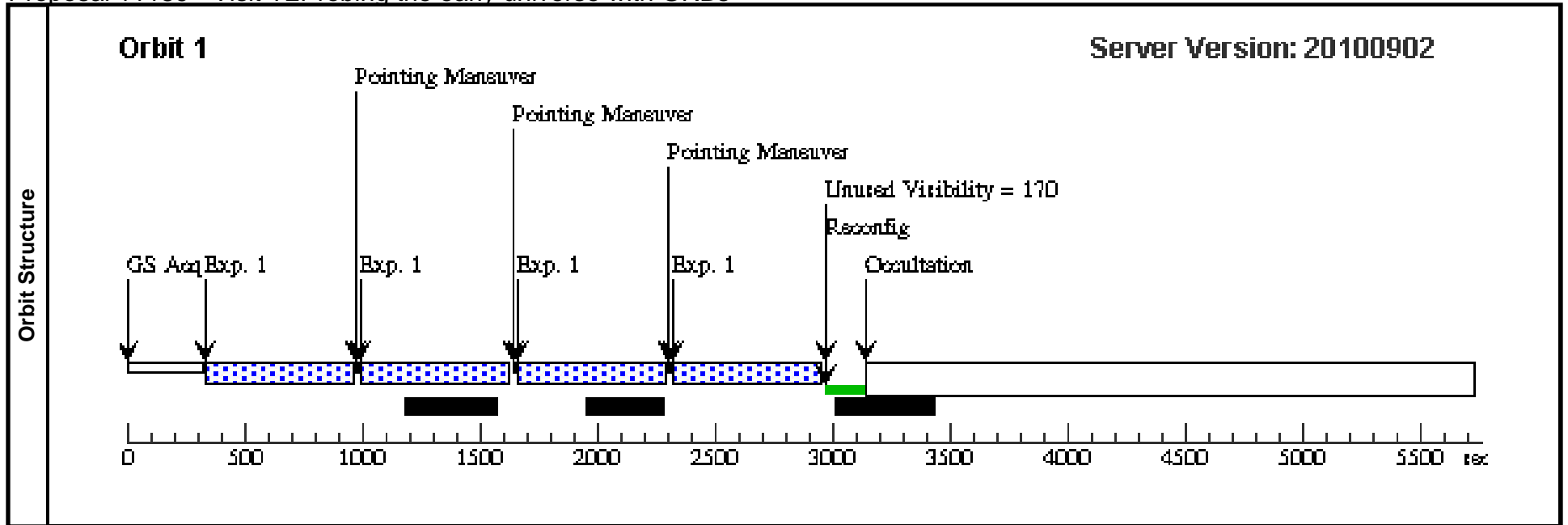
Visit	Proposal 11189, Visit Y1, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 11D TO 27.9 D; ORIENT 63.4D TO 71 D; ORIENT 101D TO 117.9 D; ORIENT 153.4D TO 161 D; ORIENT 191D TO 207.9 D; ORIENT 243.4D TO 251 D; ORIENT 281D TO 297.9 D; ORIENT 333.4D TO 341 D; BEFORE 30-APR-2010:00:00:00									
	(Visit Y1) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(9)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false			(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	GRB090429B	RA: 14 02 40.0500 (210.6668750d) Dec: +32 10 14.32 (32.17064d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28+/-2	Reference Frame: Gemini				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) GRB090429B		WFC3/IR, MULTIACCUM, IR	F105W	NSAMP=13; SAMP-SEQ=SPAR S50		Pattern 9, Exps 1-1 in Visit Y1 (9)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 11189 - Visit Y2 Probing the early universe with GRBs

Fri Dec 17 02:04:40 GMT 2010

Visit	Proposal 11189, Visit Y2, completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: GYRO MODE 3GOBAD; ORIENT 11D TO 27.9 D; ORIENT 63.4D TO 71 D; ORIENT 101D TO 117.9 D; ORIENT 153.4D TO 161 D; ORIENT 191D TO 207.9 D; ORIENT 243.4D TO 251 D; ORIENT 281D TO 297.9 D; ORIENT 333.4D TO 341 D; BEFORE 30-APR-2010:00:00:00									
	(Visit Y2) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnos										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(9)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false			(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	GRB090429B	RA: 14 02 40.0500 (210.6668750d) Dec: +32 10 14.32 (32.17064d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28+/-2	Reference Frame: Gemini				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) GRB090429B		WFC3/IR, MULTIACCUM, IR	F105W	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG 0.5,0.5	Pattern 9, Exps 1-1 in Visit Y2 (9)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 11189 - Visit B1 Probing the early universe with GRBs

Fri Dec 17 02:04:40 GMT 2010

Visit	Proposal 11189, Visit B1, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: GYRO MODE 3GOBAD; ORIENT 11D TO 27.9 D; ORIENT 63.4D TO 71 D; ORIENT 101D TO 117 D; ORIENT 153.4D TO 161 D; ORIENT 191D TO 207.9 D; ORIENT 243.4D TO 251 D; ORIENT 281D TO 297.9 D; ORIENT 333.4D TO 341 D									
	(Visit B1) Warning (Form): Gyro Mode overrides default value of 2G.									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(8)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false			(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	GRB090429B	RA: 14 02 40.0500 (210.6668750d) Dec: +32 10 14.32 (32.17064d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=28+/-2	Reference Frame: Gemini				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) GRB090429B	ACS/WFC, ACCUM, WFC1	F606W				Pattern 8, Exps 1-1 i n Visit B1 (8)	525 Secs [==>525.0 Secs (Pattern 1)] [==>525.0 Secs (Pattern 2)] [==>525.0 Secs (Pattern 3)] [==>525.0 Secs (Pattern 4)]	[1]

