



13117 - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Cycle: 20, 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	(1) GRB130803A	WFC3/IR WFC3/UVIS	1	16-Apr-2014 21:01:25.0	yes
05	(3) GRB130131A	WFC3/IR WFC3/UVIS	1	16-Apr-2014 21:01:34.0	yes
06	(5) GRB131229A	WFC3/IR WFC3/UVIS	1	16-Apr-2014 21:01:42.0	yes
02	(2) GRB130502B	WFC3/IR WFC3/UVIS	2	16-Apr-2014 21:01:51.0	yes

<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>
04	(4) GRB130427A	WFC3/IR WFC3/UVIS	3	16-Apr-2014 21:02:07.0	yes

8 Total Orbits Used

ABSTRACT

Dark gamma-ray bursts (GRBs) -- where the optical emission is apparently suppressed -- can only be reliably localized by their X-ray afterglows. Here we propose to continue a survey using the sensitivity and point spread function of Chandra to precisely pinpoint the GRB locations, and HST to locate and study the host galaxies. Our results to date are suggestive of most dark GRBs originating in more luminous galaxies than "bright" GRBs. Our new observations will increase the statistical certainty of this result, while simultaneously allowing us to more precisely identify the minority of dark GRBs which most likely originate from the highest redshifts.

OBSERVING DESCRIPTION

We propose to obtain optical and IR observations of a sample of the host galaxies of dark gamma-ray bursts, where the optical light was suppressed relative to the X-ray afterglow. Formally we require that the X-ray to optical spectral slope (β_{OX}) be less than 0.5.

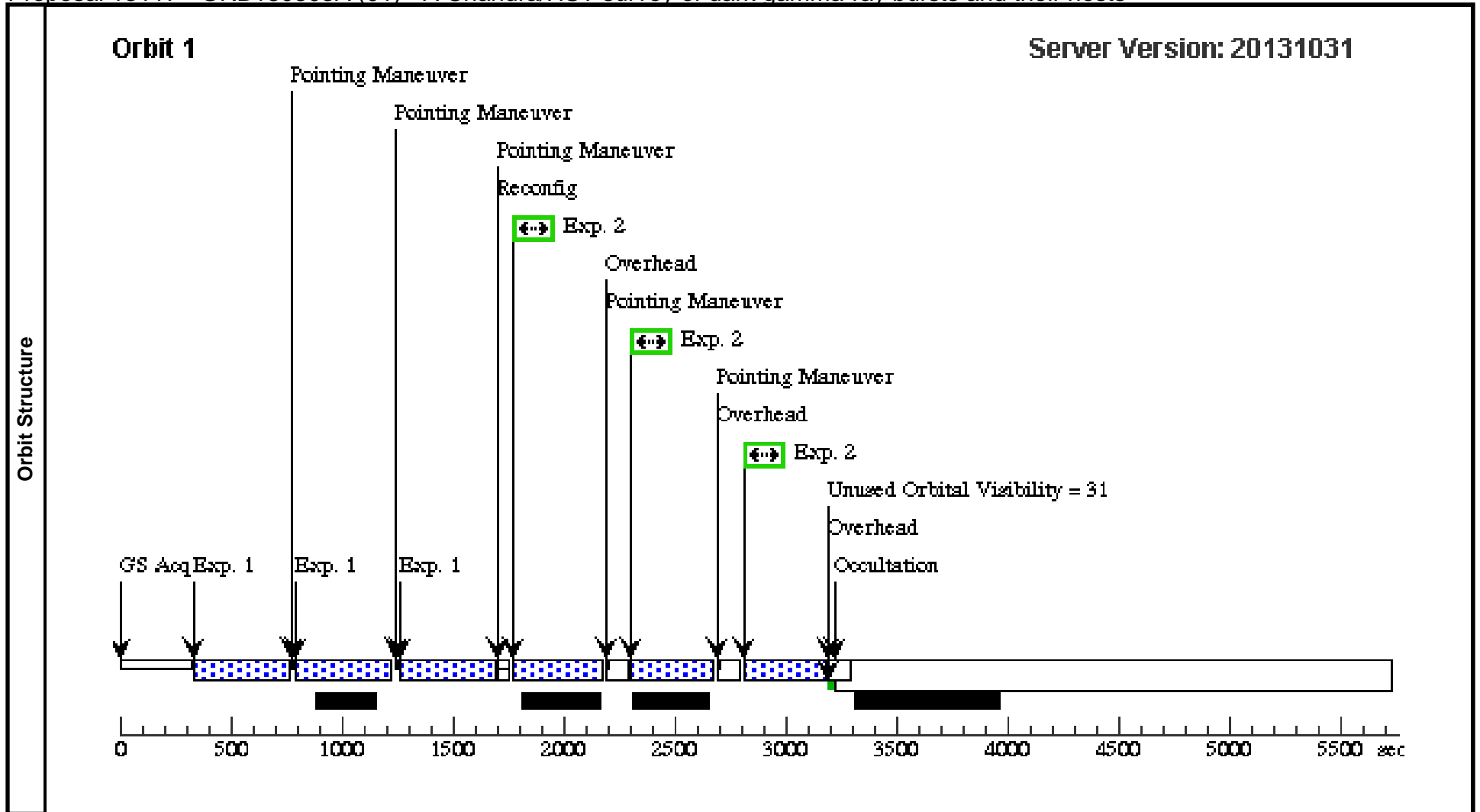
Depending on information available from the ground we will use either a one or two orbit observation per host. For brighter galaxies we will use a 3-point dither in each of WFC3 UVIS(F606W) and IR(F160W) channels, split over a single orbit. For fainter targets we will use one orbit in each of F606W and F160W with a four point dither pattern executed in each orbit.

At present we do not know the locations of the bursts as they will become available during the coming ~year. We will remove the on-hold status and implement the final targets as they become available.

Proposal 13117 - GRB130803A (01) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Thu Apr 17 01:02:18 GMT 2014

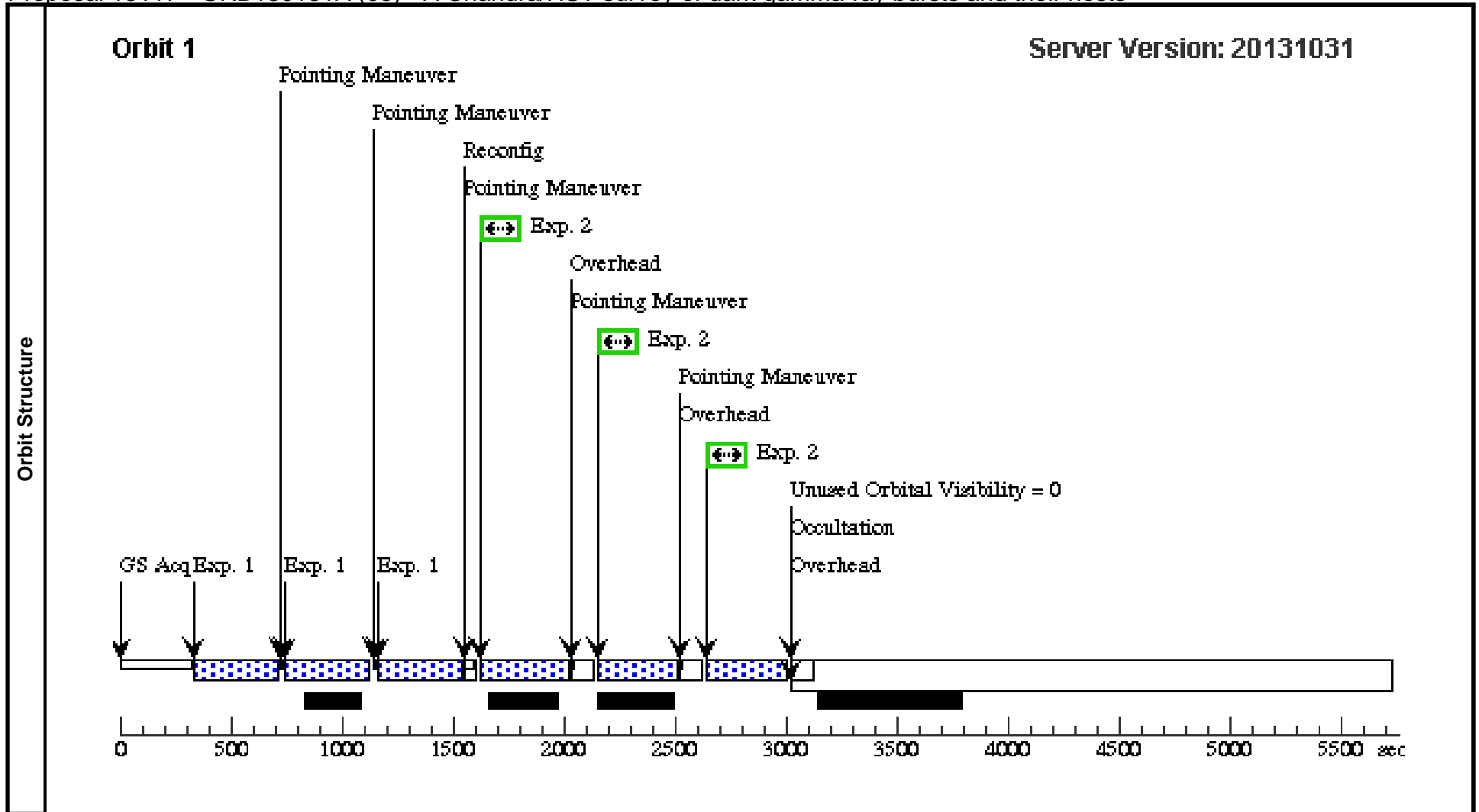
Visit	Proposal 13117, GRB130803A (01), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 120D TO 125 D; ORIENT 30D TO 35 D; ORIENT 210D TO 215 D; ORIENT 300D TO 305 D; ON HOLD <i>On Hold Comments: Awaiting GRB positio</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(7)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1)				
	(8)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	GRB130803A	RA: 14 41 0.6500 (220.2527083d) Dec: -02 29 31.20 (-2.49200d) Equinox: J2000		V=25+/-3	Reference Frame: XRT postion				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) GRB130803A	(1) GRB130803A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			Pattern 7, Exps 1-1 i n GRB130803A (01) (7)	402.935899 Secs (1208.808 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]
2	(1) GRB130803A	(1) GRB130803A	WFC3/UVIS, ACCUM, UVIS	F606W			POS TARG -61,-77	Pattern 8, Exps 2-2 i n GRB130803A (01) (8)	375 Secs (1125 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]



Proposal 13117 - GRB130131A (05) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Thu Apr 17 01:02:20 GMT 2014

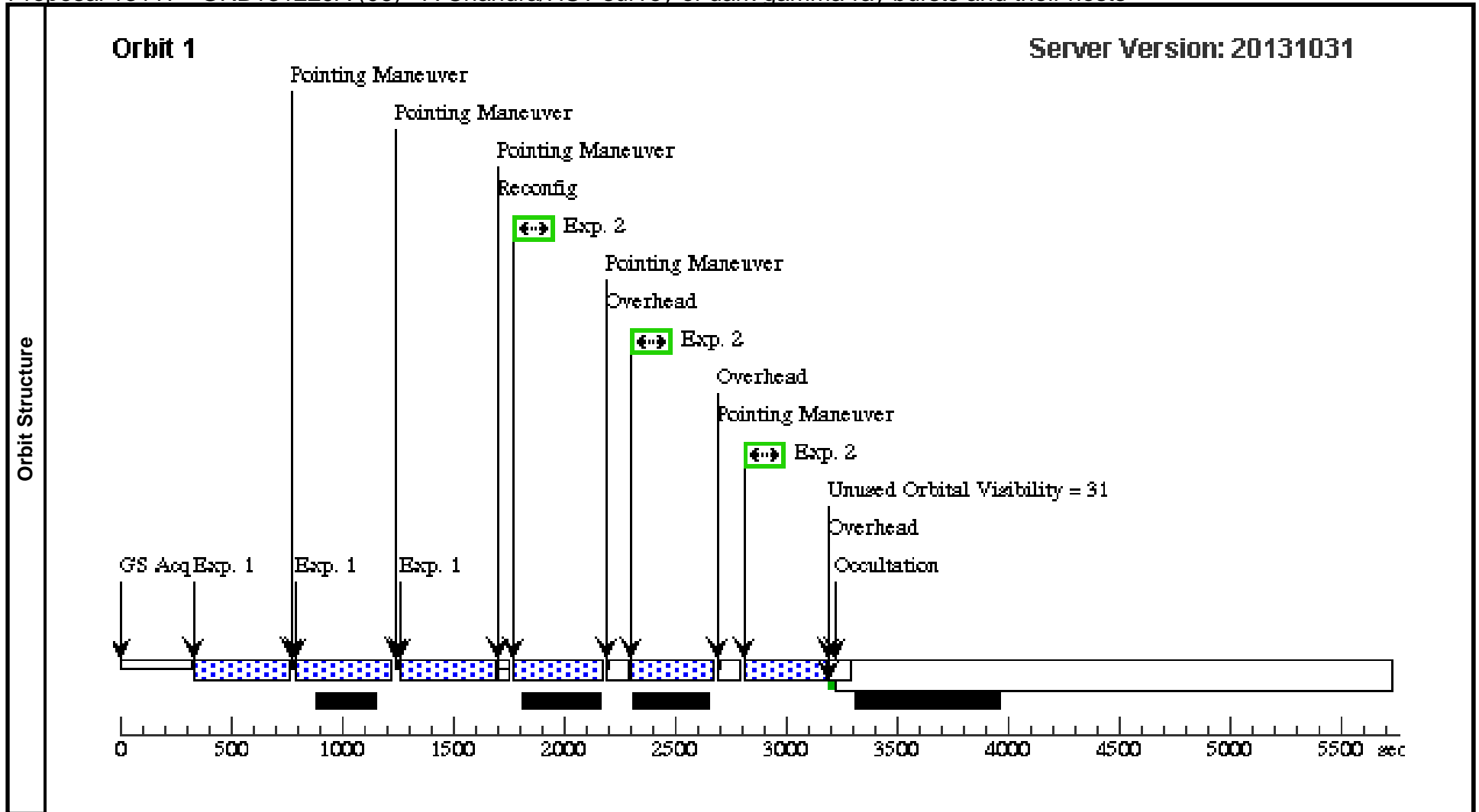
Visit	Proposal 13117, GRB130131A (05) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 317D TO 330 D; ON HOLD <i>On Hold Comments: Awaiting GRB positio</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(7)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1)				
	(8)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	GRB130131A	RA: 11 24 30.3800 (171.1265833d) Dec: +48 04 33.50 (48.07597d) Equinox: J2000		V=25+/-3	Reference Frame: XRT Postion				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) GRB130131A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=8; SAMP-SEQ=SPAR S50			Pattern 7, Exps 1-1 i n GRB130131A (05) (7)	352.935448 Secs (1058.806 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]
2		(3) GRB130131A	WFC3/UVIS, ACCUM, UVIS		F606W		POS TARG 61,-77	Pattern 8, Exps 2-2 i n GRB130131A (05) (8)	360 Secs (1101 Secs) [==>367.0 Secs (Pattern 1)] [==>367.0 Secs (Pattern 2)] [==>367.0 Secs (Pattern 3)]	[1]



Proposal 13117 - GRB131229A (06) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Thu Apr 17 01:02:21 GMT 2014

Visit	Proposal 13117, GRB131229A (06) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ON HOLD <i>On Hold Comments: Awaiting GRB positio</i>									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(7)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(1)						
	(8)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	GRB131229A	RA: 05 40 55.6200 (85.2317500d) Dec: -04 23 46.80 (-4.39633d) Equinox: J2000		V=25+/-1	Reference Frame: Chandra				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(5) GRB131229A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=SPAR S50			Pattern 7, Exps 1-1 i n GRB131229A (06) (7)	402.935899 Secs (1208.808 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]
2		(5) GRB131229A	WFC3/UVIS, ACCUM, UVIS		F606W		POS TARG -61,-77	Pattern 8, Exps 2-2 i n GRB131229A (06) (8)	375 Secs (1125 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]



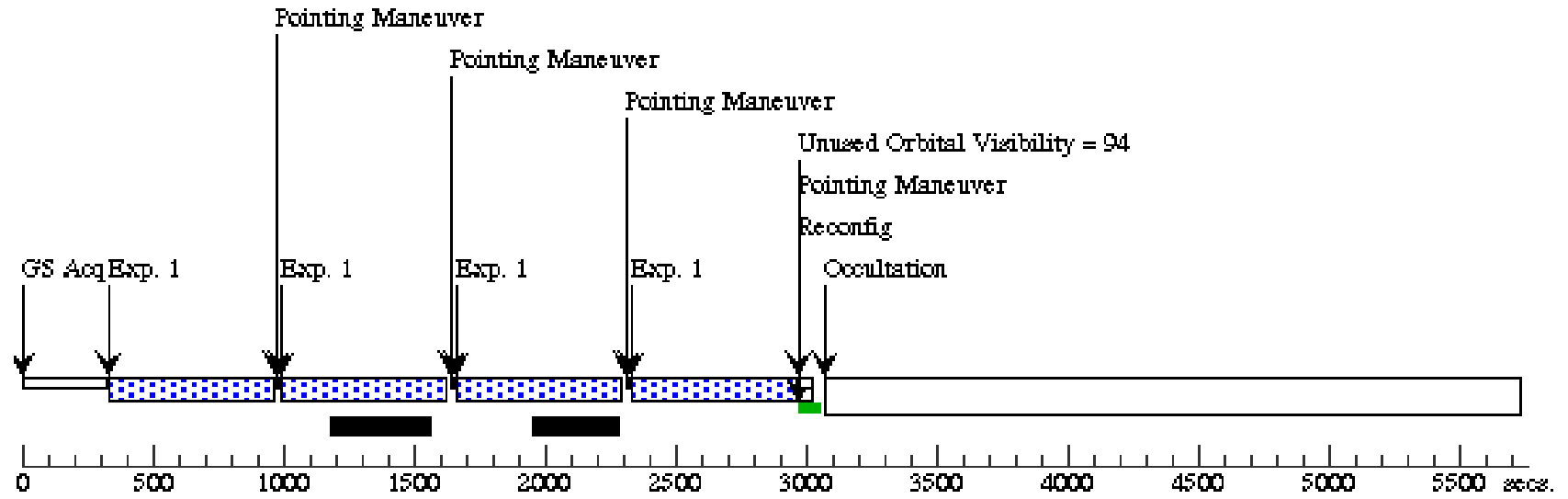
Proposal 13117 - GRB130502B (02) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Thu Apr 17 01:02:22 GMT 2014

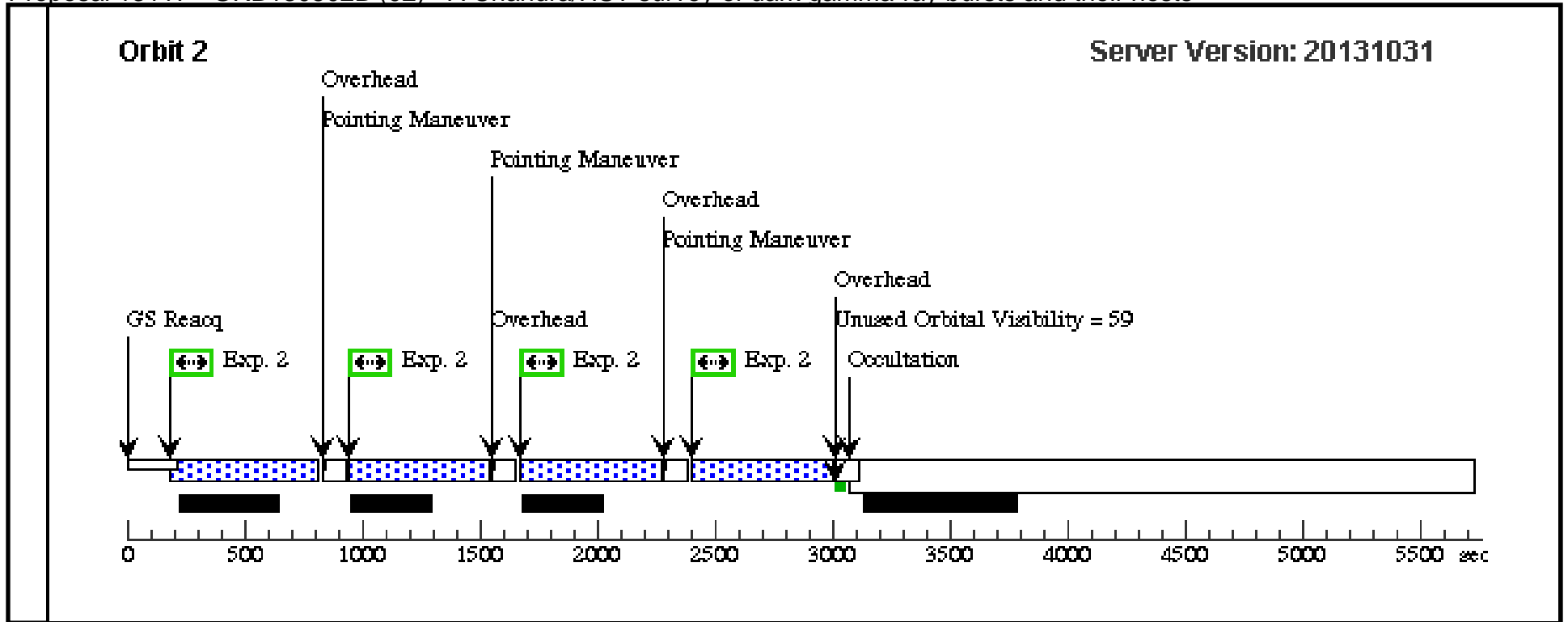
Visit	Proposal 13117, GRB130502B (02), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 322D TO 330 D; ORIENT 232D TO 240 D; ORIENT 142D TO 146 D; ORIENT 52D TO 60 D; ON HOLD <i>On Hold Comments: Awaiting GRB position</i>									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(2)						
	(6)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true	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				
	(2)	GRB130502B	RA: 04 27 2.8900 (66.7620417d) Dec: +71 03 38.30 (71.06064d) Equinox: J2000		V=25+/-3	Reference Frame: XRT Postion				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) GRB130502B	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=SPAR S50			Pattern 6, Exps 1-1 in GRB130502B (02) (6) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)]	[1]
2		(2) GRB130502B	WFC3/UVIS, ACCUM, UVIS	F606W		POS TARG -61,-77		Pattern 5, Exps 2-2 in GRB130502B (02) (5) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[2]	

Orbit 1

Server Version: 20131031



Orbit Structure



Proposal 13117 - GRB130427A (04) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

Thu Apr 17 01:02:24 GMT 2014

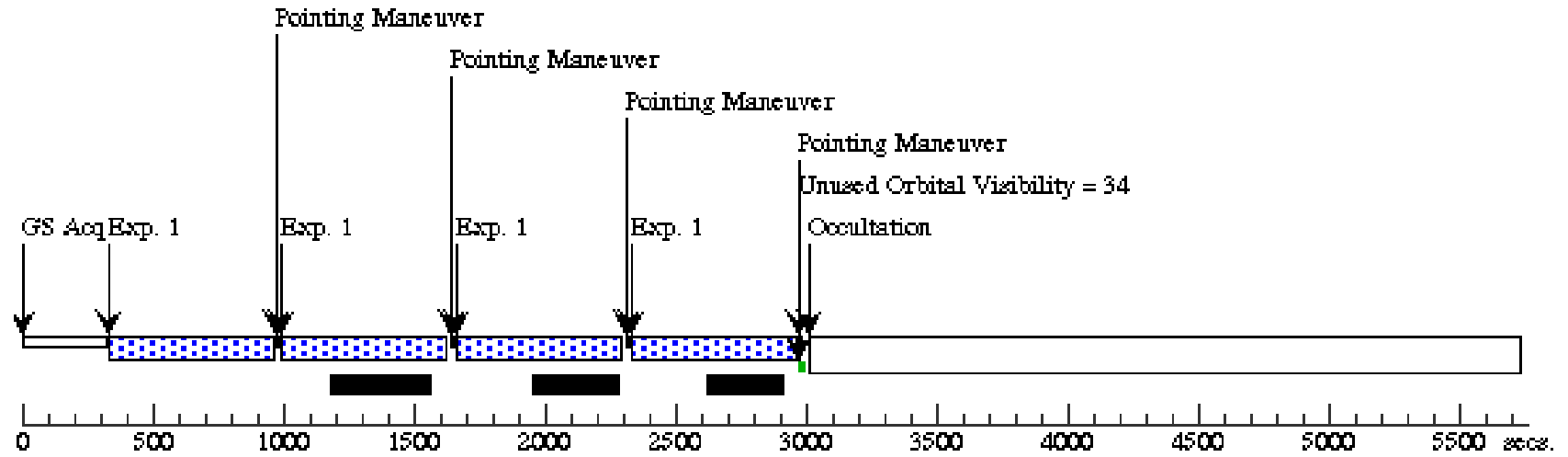
Visit	Proposal 13117, GRB130427A (04), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: SCHED 100%; ORIENT 95D TO 105 D; BETWEEN 01-MAY-2014:00:00:00 AND 31-MAY-2014:00:00:00						
	(Exposure 1 (Pattern 6, Exps 1-1 in GRB130427A (04)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes						
Diagnosics							
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
		(5)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(4)	
		(6)	Pattern Type=WFC3-IR-DITHER-BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true	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)
		(7)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)	
(8)		Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(3)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	
	(4)	GRB130427A	RA: 11 32 32.8400 (173.1368333d) Dec: +27 41 56.20 (27.69894d) Equinox: J2000		V=25+/-3	Reference Frame: XRT Postion	

Proposal 13117 - GRB130427A (04) - A Chandra/HST survey of dark gamma-ray bursts and their hosts

	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1		(4) GRB130427A	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG 40,30	Pattern 6, Exps 1-1 i n GRB130427A (04) (6)	602.937703 Secs (2411.751 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)]	[1]
	2		(4) GRB130427A	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=9; SAMP-SEQ=SPAR S50	POS TARG 40,30	Pattern 7, Exps 2-2 i n GRB130427A (04) (7)	402.935899 Secs (1208.808 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	3		(4) GRB130427A	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,30	Pattern 8, Exps 3-3 i n GRB130427A (04) (8)	350 Secs (1050 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	4		(4) GRB130427A	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,30	Pattern 5, Exps 4-4 i n GRB130427A (04) (5)	500 Secs (2396 Secs) [==>599.0 Secs (Pattern 1)] [==>599.0 Secs (Pattern 2)] [==>599.0 Secs (Pattern 3)] [==>599.0 Secs (Pattern 4)]	[3]

Orbit 1

Server Version: 20131031



Orbit Structure

Orbit 2

Server Version: 20131031

