14353 - The Astrophysics of the Most Energetic Gamma-Ray Bursts

Cycle: 23, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) LAT-BURST	WFC3/IR WFC3/UVIS	1	23-Oct-2017 17:01:08.0	yes
02	(1) LAT-BURST	WFC3/IR WFC3/UVIS	2	23-Oct-2017 17:01:09.0	yes
03	(1) LAT-BURST	WFC3/IR WFC3/UVIS	2	23-Oct-2017 17:01:11.0	yes
04	(1) LAT-BURST	WFC3/IR WFC3/UVIS	3	23-Oct-2017 17:01:12.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(1) LAT-BURST	WFC3/IR WFC3/UVIS	3	23-Oct-2017 17:01:13.0	yes
10	(2) GRB-160509A	WFC3/IR	2	23-Oct-2017 17:01:14.0	yes
11	(2) GRB-160509A	WFC3/IR	2	23-Oct-2017 17:01:16.0	yes
20	(3) GRB-160625B	WFC3/UVIS	1	23-Oct-2017 17:01:17.0	yes
21	(3) GRB-160625B	WFC3/UVIS	2	23-Oct-2017 17:01:18.0	yes
22	(3) GRB-160625B	WFC3/UVIS	2	23-Oct-2017 17:01:19.0	yes
23	(3) GRB-160625B	WFC3/UVIS	2	23-Oct-2017 17:01:20.0	yes

22 Total Orbits Used

ABSTRACT

The Large Area Telescope (LAT) of Fermi has found a sample of highly relativistic gamma-ray bursts (GRBs), which may be among the most energetic bursts ever discovered. Here we propose to use Chandra and HST to follow the late time X-ray and optical light curves of a LAT detected burst that also has excellent early multiwavelength coverage. Our observations, in conjunction with the Fermi data, will allow us to measure the energy and the bulk Lorentz factor of the explosion. Recent work on some of the most powerful GRBs begins to substantially constrain physical models of the progenitors. The energetics of the highly relativistic LAT bursts may greatly strengthen these constraints and provide new insight into the currently unknown mechanism that determines the energy of a GRB.

OBSERVING DESCRIPTION

We plan five visits with HST: the first an orbit long, the second and third each two orbits long, with the fourth and fith three orbits long. The first visit will occur about around twenty days after outburst. The second will be around forty days after outburst. The third 80 days and the fourth 160. The exact times will be scaled according to the decay seen from the ground. The fith visit will be taken at least nine months after the burst to allow an accurate host subtraction. We will use the UVIS camera on WFC3 because WFC3 easily has as good sensitivity on point sources as ACS with smaller detector-induced noise sources (CTE, bias-striping, etc). We will choose the filter at the time of the ToO to match the best observed band from the ground (most likely a red band) and to avoid a SN contribution if possible.

Visit

Proposal 14353, Epoch 1 (01), withdrawn Mon Oct 23 21:01:21 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ON HOLD

On Hold Comments: ToO

Diagnostics

(Epoch 1 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Patterns

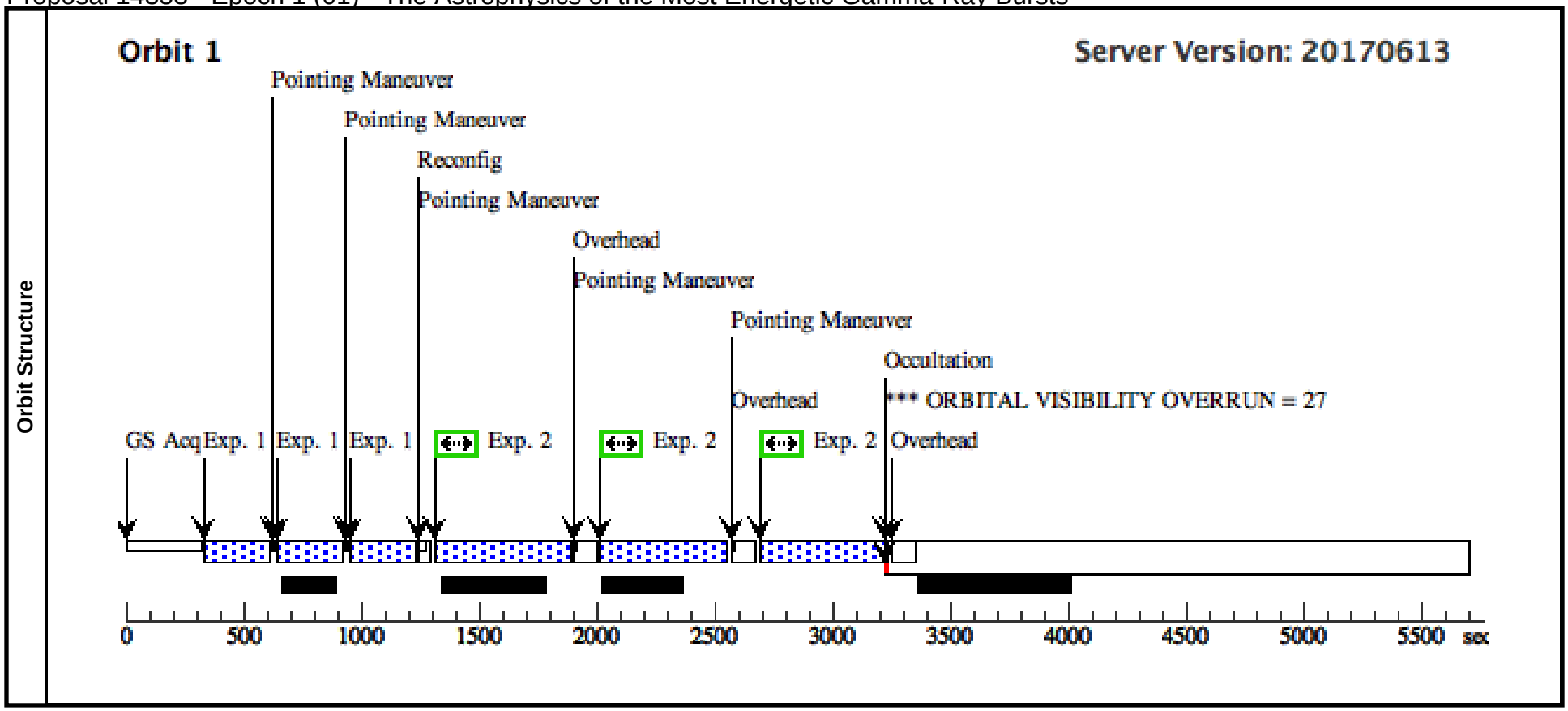
#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)
(4)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER 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)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LAT-BURST	RA: 00 00 0.0000 (.0000000d) Dec: -30 00 0.00 (-30.00000d) Equinox: J2000		V=20	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) LAT-BURST	WFC3/IR, MULTIACCUM, IR-UVIS	F160W	SAMP-SEQ=STEP50; NSAMP=10		Pattern 4, Exps 1-1 in Epoch 1 (01) (4)	249.23203 Secs (747.696 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	 ***[1]***
2	F606W	(1) LAT-BURST	WFC3/UVIS, ACCUM, UVIS2	F606W			Pattern 3, Exps 2-2 in Epoch 1 (01) (3)	250 Secs (1641 Secs) *[==>547.0 Secs (Pattern 1)]* *[==>547.0 Secs (Pattern 2)]* *[==>547.0 Secs (Pattern 3)]*	 ***[1]***


Orbit Structure
Orbit 1
Server Version: 20170613
Pointing Maneuver
Pointing Maneuver
Reconfig
Pointing Maneuver
Overhead
Pointing Maneuver
Pointing Maneuver
Occultation
Overhead
*** ORBITAL VISIBILITY OVERRUN = 27
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 2
Exp. 2
Exp. 2
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14353, Epoch 2 (02), withdrawn Mon Oct 23 21:01:21 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ON HOLD

On Hold Comments: ToO

Diagnostics

(Epoch 2 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	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)
(2)	Pattern Type=WFC3-IR-DITHER-BOX-UVIS Purpose=DITHER Number Of Points=4 Point Spacing=23.02 Line Spacing=35.212	Coordinate Frame=POS-TARG Pattern Orientation=0.713 Angle Between Sides=89.287 Center Pattern=true		(1)

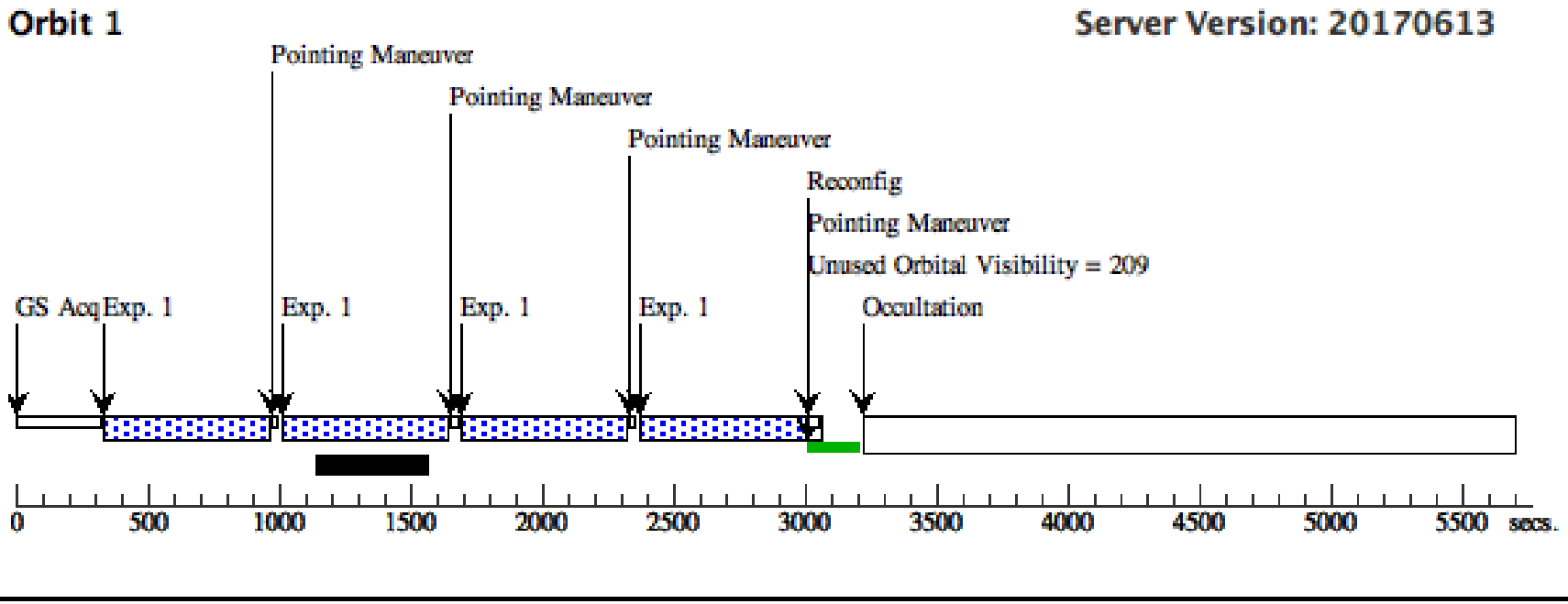
Fixed Targets

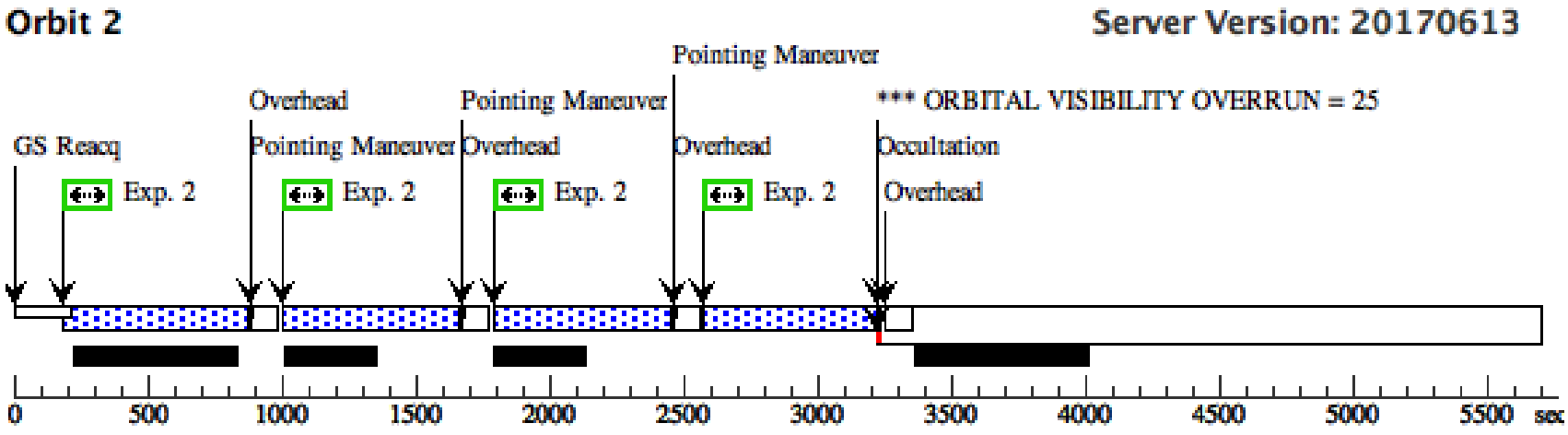
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LAT-BURST	RA: 00 00 0.0000 (.0000000d) Dec: -30 00 0.00 (-30.00000d) Equinox: J2000		V=20	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) LAT-BURST	WFC3/IR, MULTIACCUM, IR-UVIS	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 1-1 in Epoch 2 (02) (2)	599.232292 Secs (2396.929 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F606W	(1) LAT-BURST	WFC3/UVIS, ACCUM, UVIS2	F606W			Pattern 1, Exps 2-2 in Epoch 2 (02) (1)	600 Secs (2636 Secs) *[==>659.0 Secs (Pattern 1)]* *[==>659.0 Secs (Pattern 2)]* *[==>659.0 Secs (Pattern 3)]* *[==>659.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure





Visit

Proposal 14353, Epoch 3 (03), withdrawn Mon Oct 23 21:01:21 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ON HOLD

On Hold Comments: ToO

Diagnostics

(Epoch 3 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	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)
(2)	Pattern Type=WFC3-IR-DITHER-BOX-UVIS Purpose=DITHER Number Of Points=4 Point Spacing=23.02 Line Spacing=35.212	Coordinate Frame=POS-TARG Pattern Orientation=0.713 Angle Between Sides=89.287 Center Pattern=true		(1)

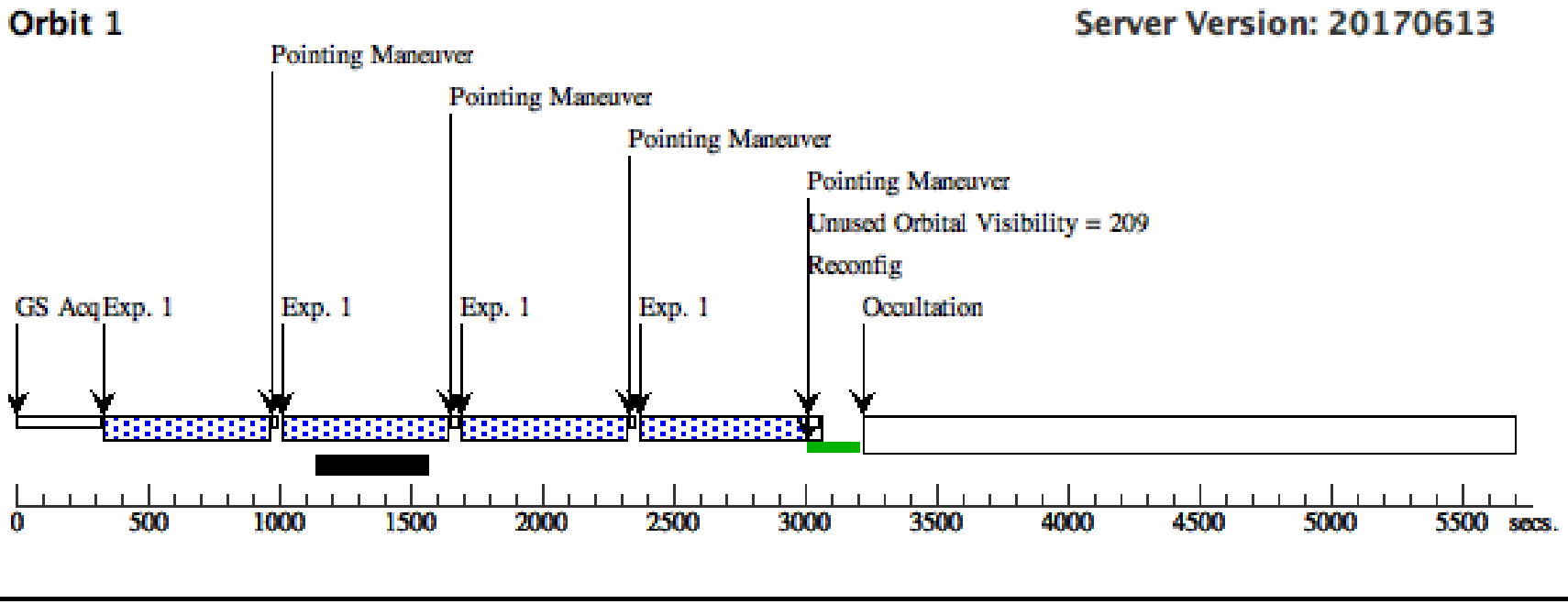
Fixed Targets

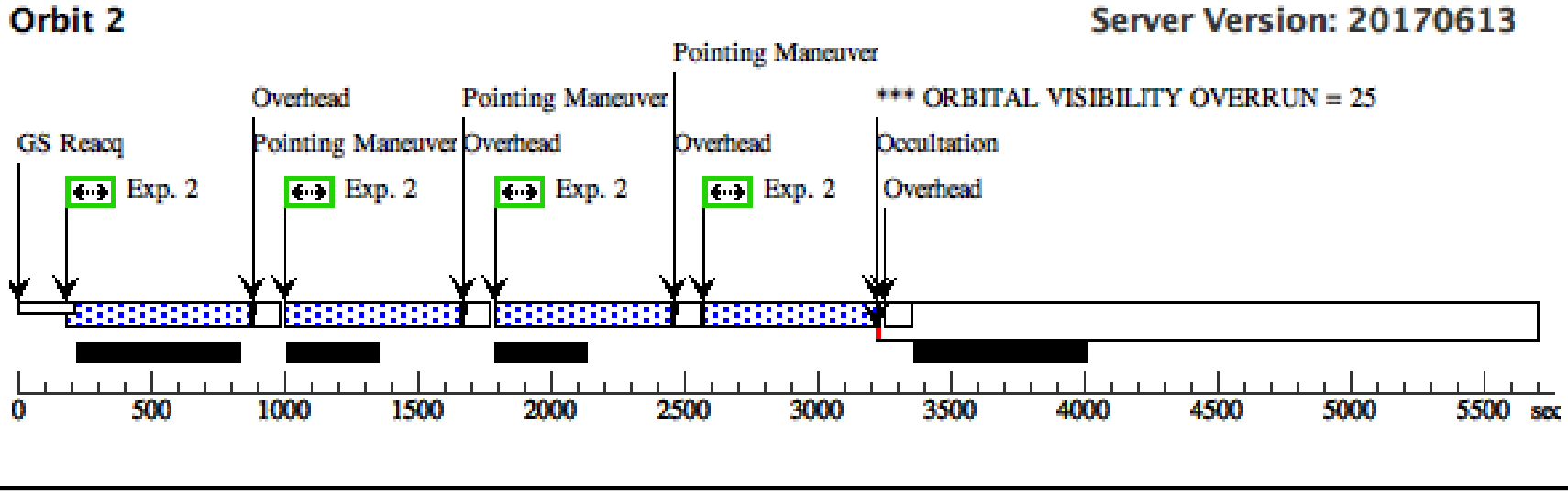
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LAT-BURST	RA: 00 00 0.0000 (.0000000d) Dec: -30 00 0.00 (-30.00000d) Equinox: J2000		V=20	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) LAT-BURST	WFC3/IR, MULTIACCUM, IR-UVIS	F160W	SAMP-SEQ=STEP100; NSAMP=12		Pattern 2, Exps 1-1 in Epoch 3 (03) (2)	599.232292 Secs (2396.929 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F606W	(1) LAT-BURST	WFC3/UVIS, ACCUM, UVIS2	F606W			Pattern 1, Exps 2-2 in Epoch 3 (03) (1)	600 Secs (2636 Secs) *[==>659.0 Secs (Pattern 1)]* *[==>659.0 Secs (Pattern 2)]* *[==>659.0 Secs (Pattern 3)]* *[==>659.0 Secs (Pattern 4)]*	***[2]***

Orbit Structure





Visit

Proposal 14353, Epoch 4 (04), withdrawn Mon Oct 23 21:01:21 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ON HOLD

Comments: The F606W dither pattern is a place holder. If we use these exposure lengths we will want more dithers in F606W.

On Hold Comments: ToO

Diagnostics

(Epoch 4 (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Epoch 4 (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Epoch 4 (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	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)
(4)	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)

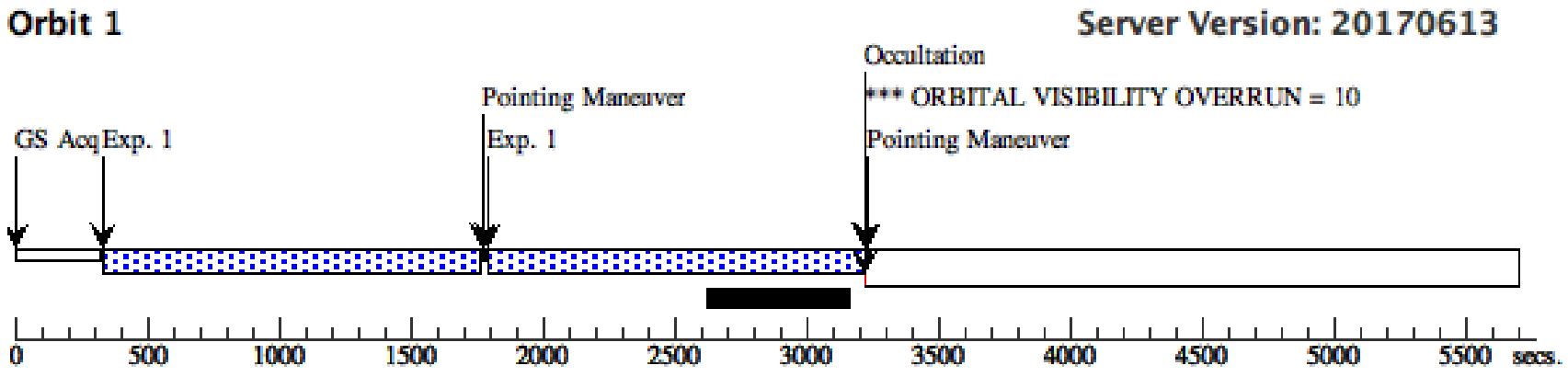
Fixed Targets

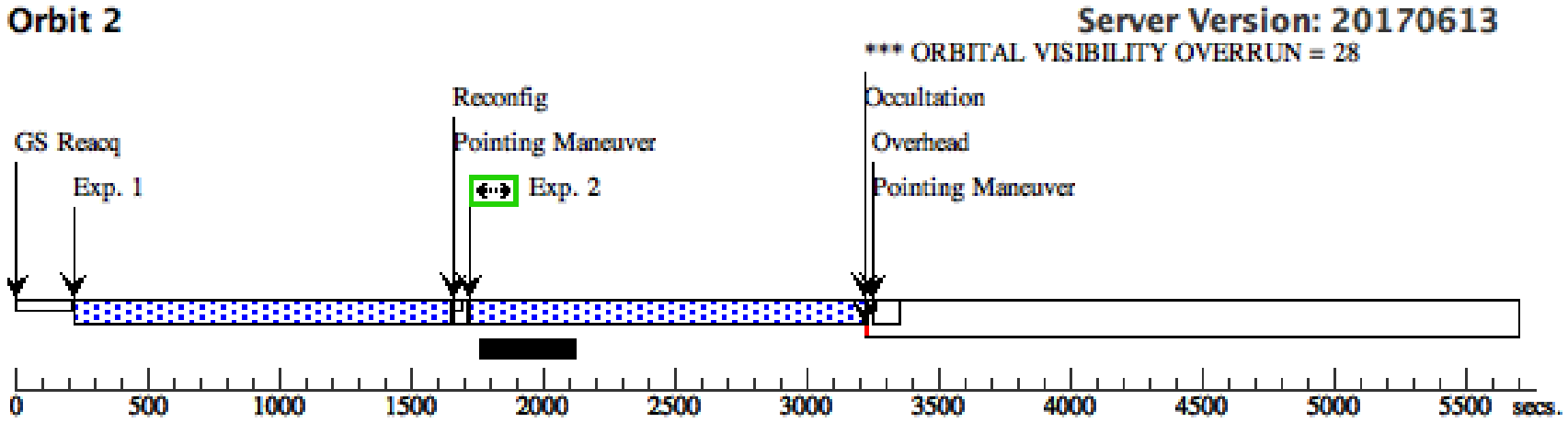
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LAT-BURST	RA: 00 00 0.0000 (.0000000d) Dec: -30 00 0.00 (-30.00000d) Equinox: J2000		V=20	Reference Frame: ICRS

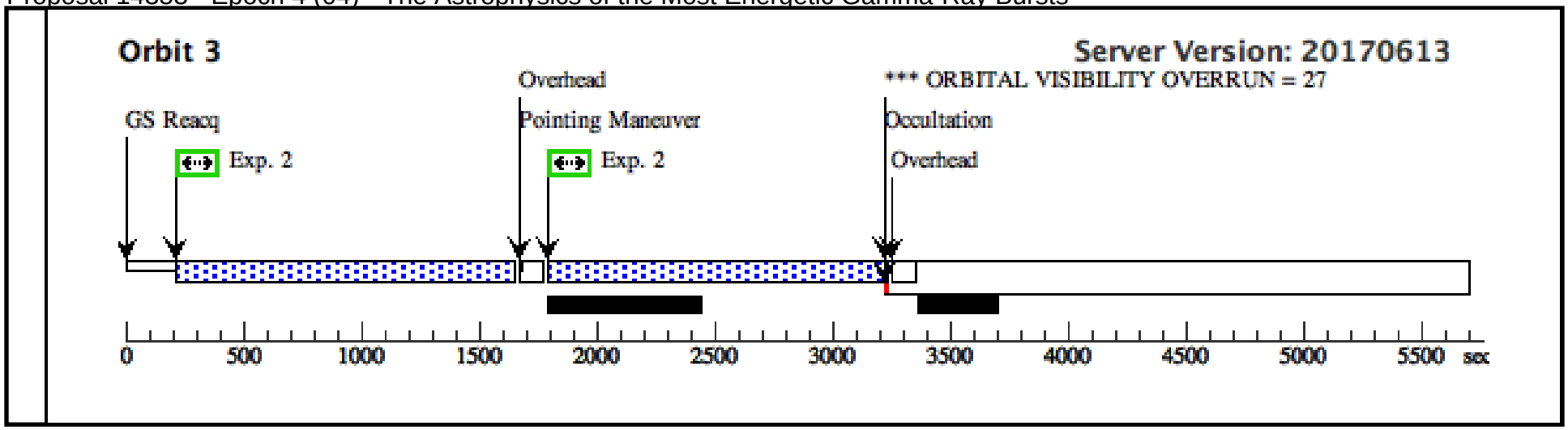
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) LAT-BURST	WFC3/IR, MULTIACCUM, IR-UVIS	F160W	NSAMP=14; SAMP-SEQ=STEP200		Pattern 4, Exps 1-1 in Epoch 4 (04) (4)	1399.231402 Secs (4197.694 Secs)	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)]	***[2]***
2	F606W	(1) LAT-BURST	WFC3/UVIS, ACCUM, UVIS2	F606W			Pattern 3, Exps 2-2 in Epoch 4 (04) (3)	900 Secs (4375 Secs)	
								[==>1481.0 Secs (Pattern 1)]	***[2]***
								[==>1447.0 Secs (Pattern 2)] *[==>1447.0 Secs (Pattern 3)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20170613
Overhead
*** ORBITAL VISIBILITY OVERRUN = 27
GS Reacq
Pointing Maneuver
Occultation
Exp. 2
Exp. 2
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14353, Epoch 5 (05), withdrawn Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ON HOLD

Comments: The F606W dither pattern is a place holder. If we use these exposure lengths we will want more dithers in F606W.

On Hold Comments: ToO

Diagnostics

(Epoch 5 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Epoch 5 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Epoch 5 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	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)
(4)	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)

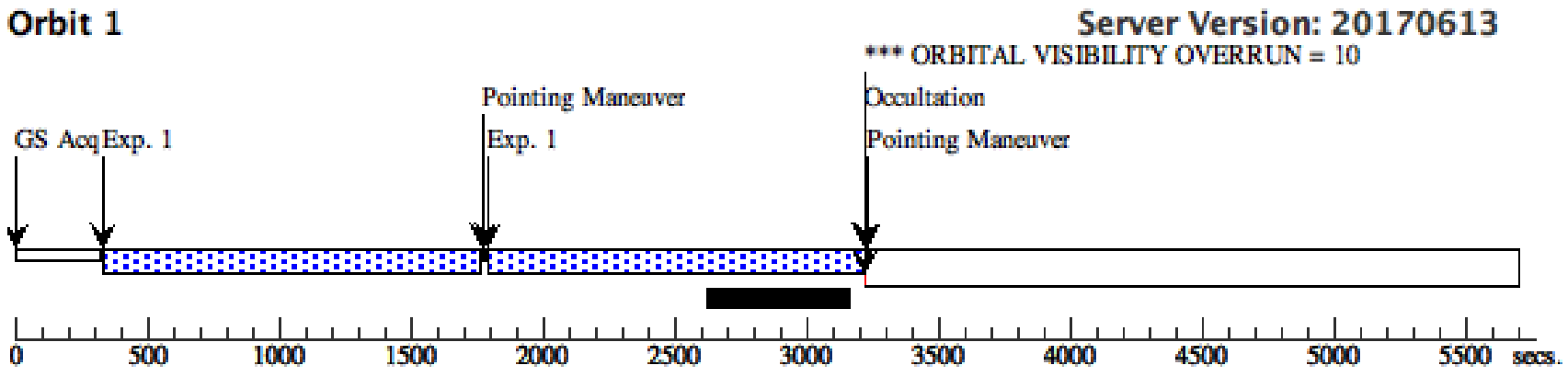
Fixed Targets

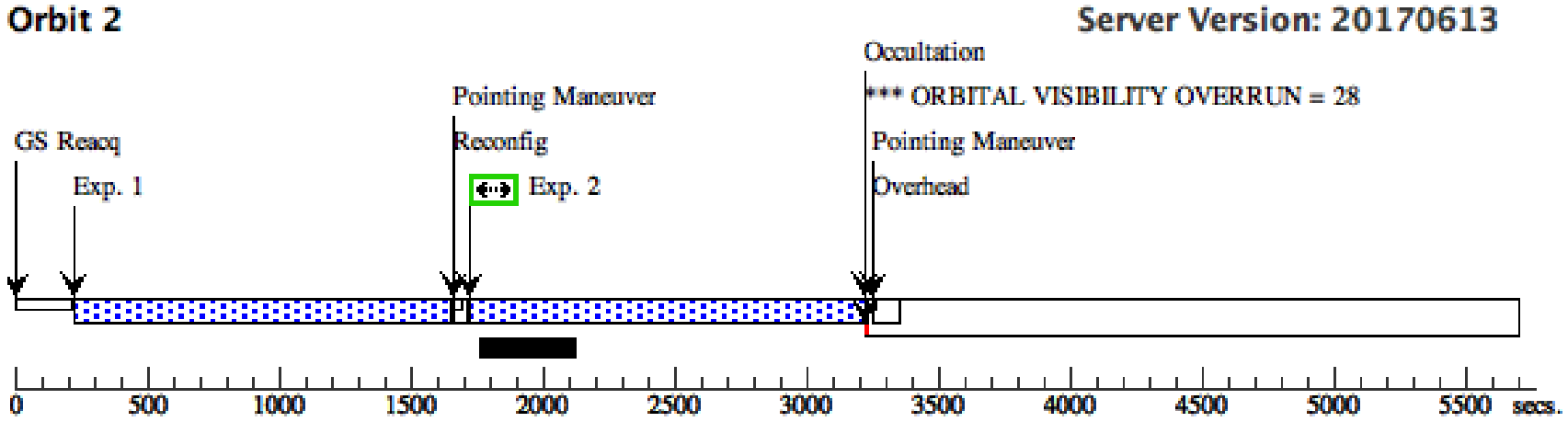
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LAT-BURST	RA: 00 00 0.0000 (.0000000d) Dec: -30 00 0.00 (-30.00000d) Equinox: J2000		V=20	Reference Frame: ICRS

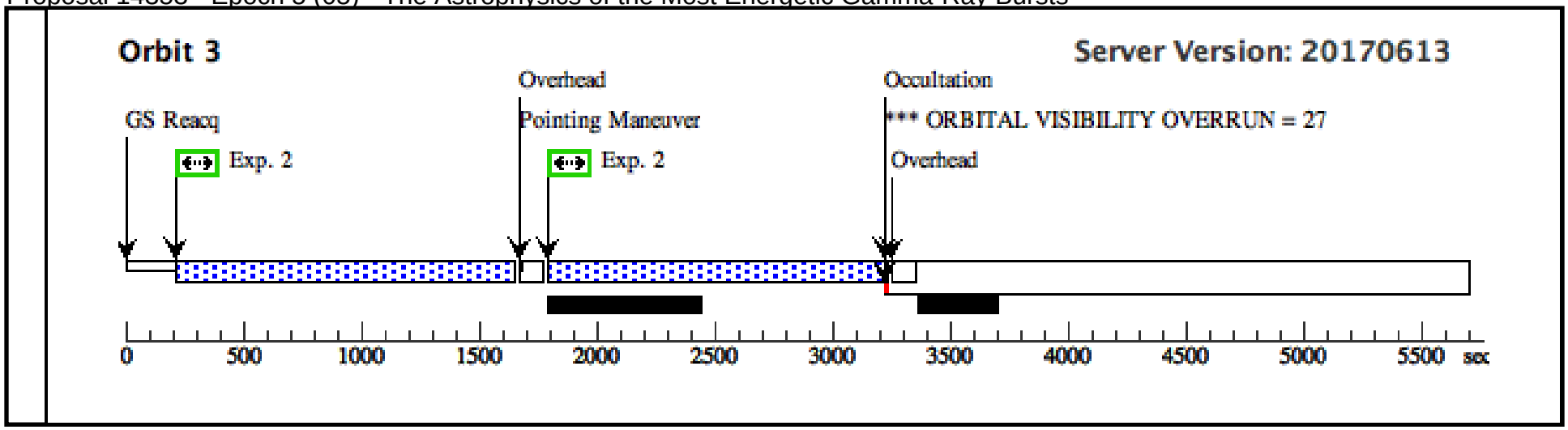
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W	(1) LAT-BURST	WFC3/IR, MULTIACCUM, IR-UVIS	F160W	NSAMP=14; SAMP-SEQ=STEP200		Pattern 4, Exps 1-1 in Epoch 5 (05) (4)	1399.231402 Secs (4197.694 Secs)	
								[==>(Pattern 1)] *[==>(Pattern 2)]*	***[1]***
								[==>(Pattern 3)]	***[2]***
2	F606W	(1) LAT-BURST	WFC3/UVIS, ACCUM, UVIS2	F606W			Pattern 3, Exps 2-2 in Epoch 5 (05) (3)	1200 Secs (4375 Secs)	
								[==>1481.0 Secs (Pattern 1)]	***[2]***
								[==>1447.0 Secs (Pattern 2)] *[==>1447.0 Secs (Pattern 3)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20170613
Overhead
Occultation
GS Reacq
Pointing Maneuver
*** ORBITAL VISIBILITY OVERRUN = 27
Exp. 2
Exp. 2
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14353, Visit 10, completed Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: BEFORE 19-JUN-2016:00:00:00

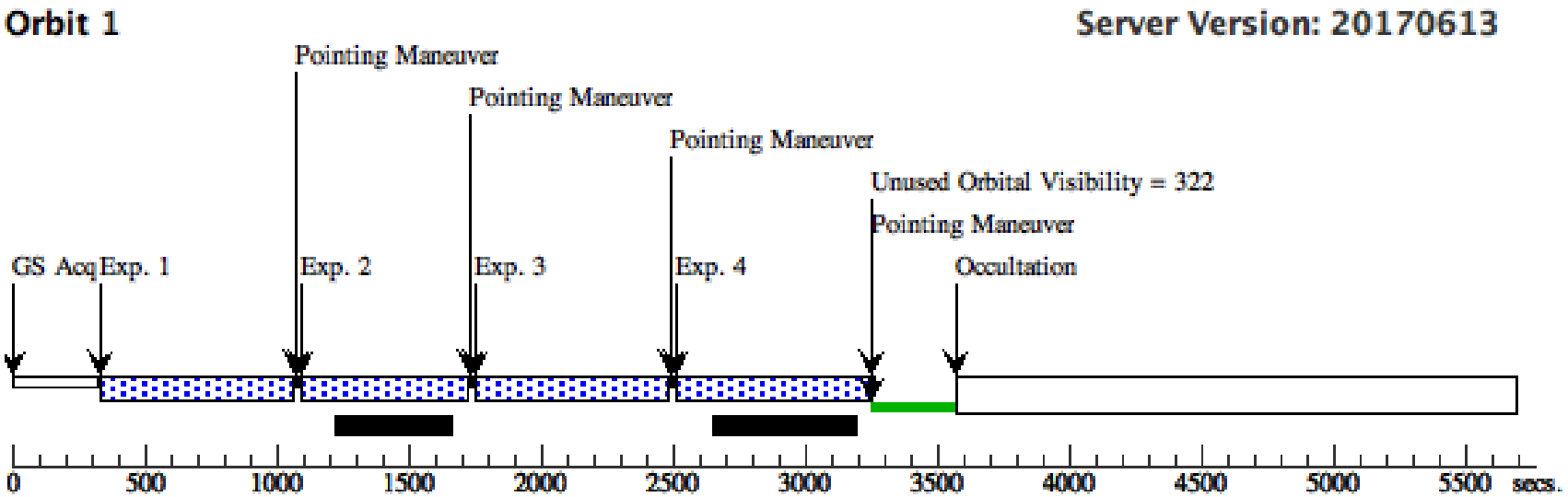
Fixed Targets

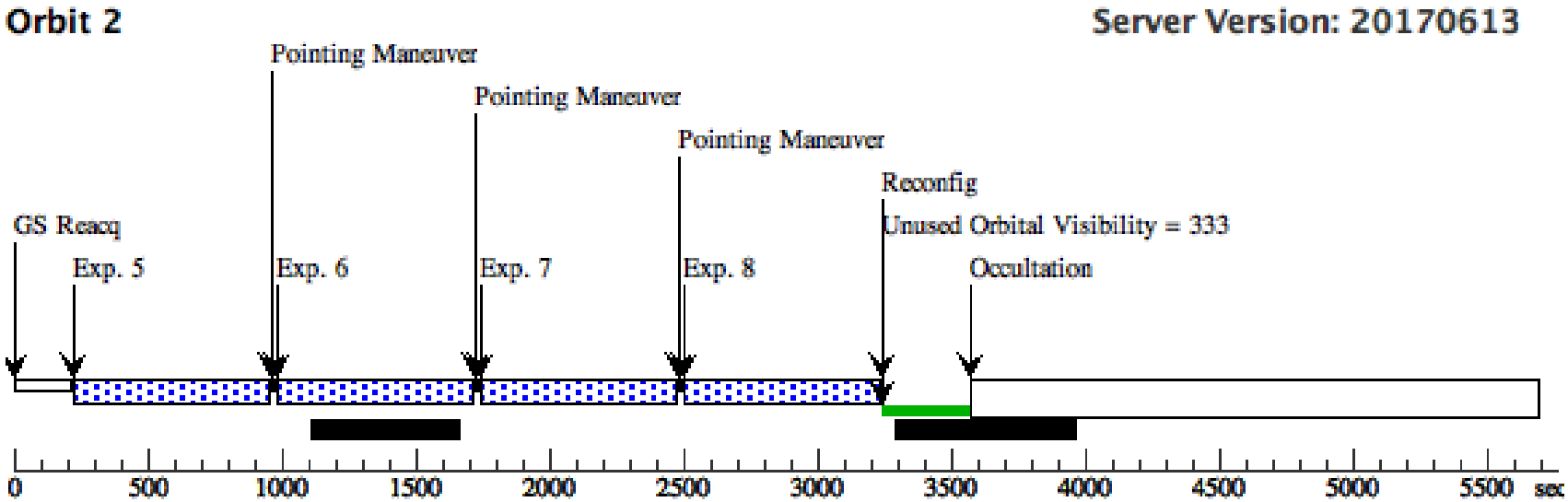
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GRB-160509A	RA: 20 47 0.9300 (311.7538750d) Dec: +76 06 29.20 (76.10811d) Equinox: J2000	Epoch of Position: 2000	V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0,0	Sequence 1-4 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
2		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=12	POS TARG 0.542,0.182	Sequence 1-4 Non-Int in Visit 10	599.232292 Secs (599.232 Secs) *[==>]*	*[1]*
3		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0,0	Sequence 1-4 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
4		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.542,0.182	Sequence 1-4 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
5		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG -0.203,0.303	Sequence 5-8 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
6		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
7		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG -0.203,0.303	Sequence 5-8 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
8		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in Visit 10	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 14353, Visit 11, completed Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 209D TO 209 D; BETWEEN 05-JUL-2017 AND 06-JUL-2017

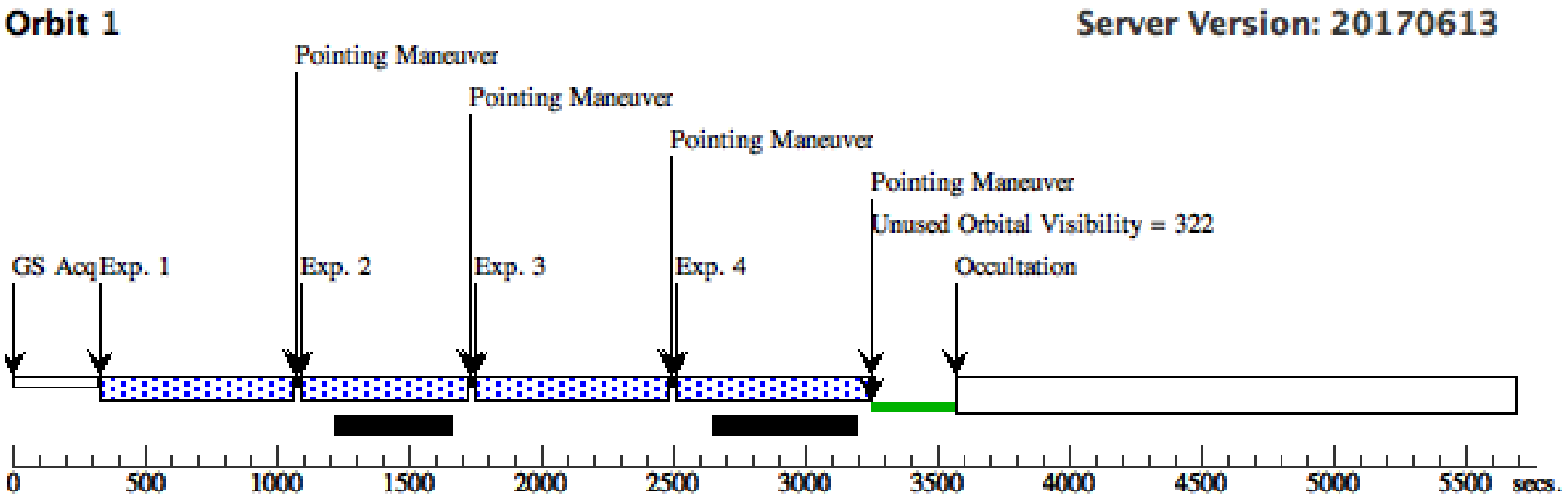
Fixed Targets

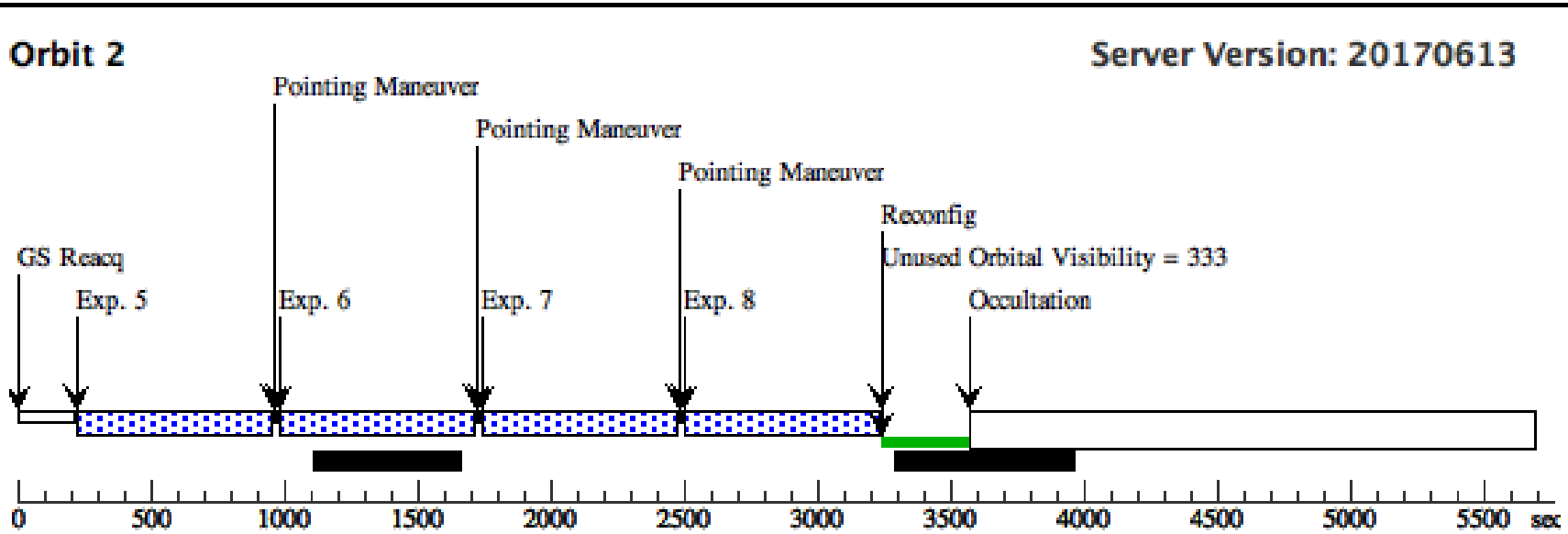
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	GRB-160509A	RA: 20 47 0.9300 (311.7538750d) Dec: +76 06 29.20 (76.10811d) Equinox: J2000	Epoch of Position: 2000	V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0,0	Sequence 1-4 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
2		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=12	POS TARG 0.542,0.182	Sequence 1-4 Non-Int in Visit 11	599.232292 Secs (599.232 Secs) *[==>]*	*[1]*
3		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0,0	Sequence 1-4 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
4		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.542,0.182	Sequence 1-4 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[1]*
5		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG -0.203,0.303	Sequence 5-8 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
6		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
7		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG -0.203,0.303	Sequence 5-8 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*
8		(2) GRB-160509A	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP100; NSAMP=13	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in Visit 11	699.232615 Secs (699.233 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 14353, GRB 160625B Epoch 1 (20), completed Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 100D TO 115 D; BETWEEN 05-SEP-2016:00:00:00 AND 08-SEP-2016:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	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		(1)

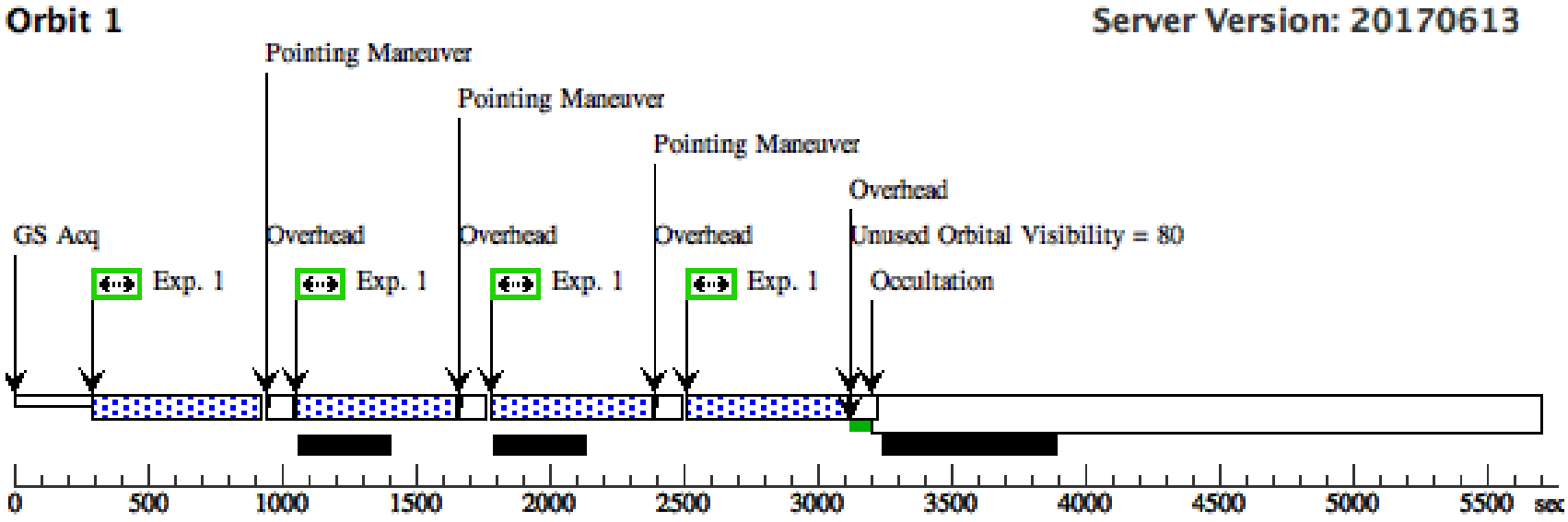
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GRB-160625B	RA: 20 34 23.5070 (308.5979458d) Dec: +06 55 7.89 (6.91886d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) GRB-160625B	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,35	Pattern 1, Exps 1-1 in GRB 160625B Epoch 1 (20) (1)	600 Secs (2400 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14353, GRB 160625B Epoch 2 (21), completed Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 70D TO 75 D; BETWEEN 13-NOV-2016:00:00:00 AND 20-NOV-2016:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(7)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=.0725 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	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	(1)

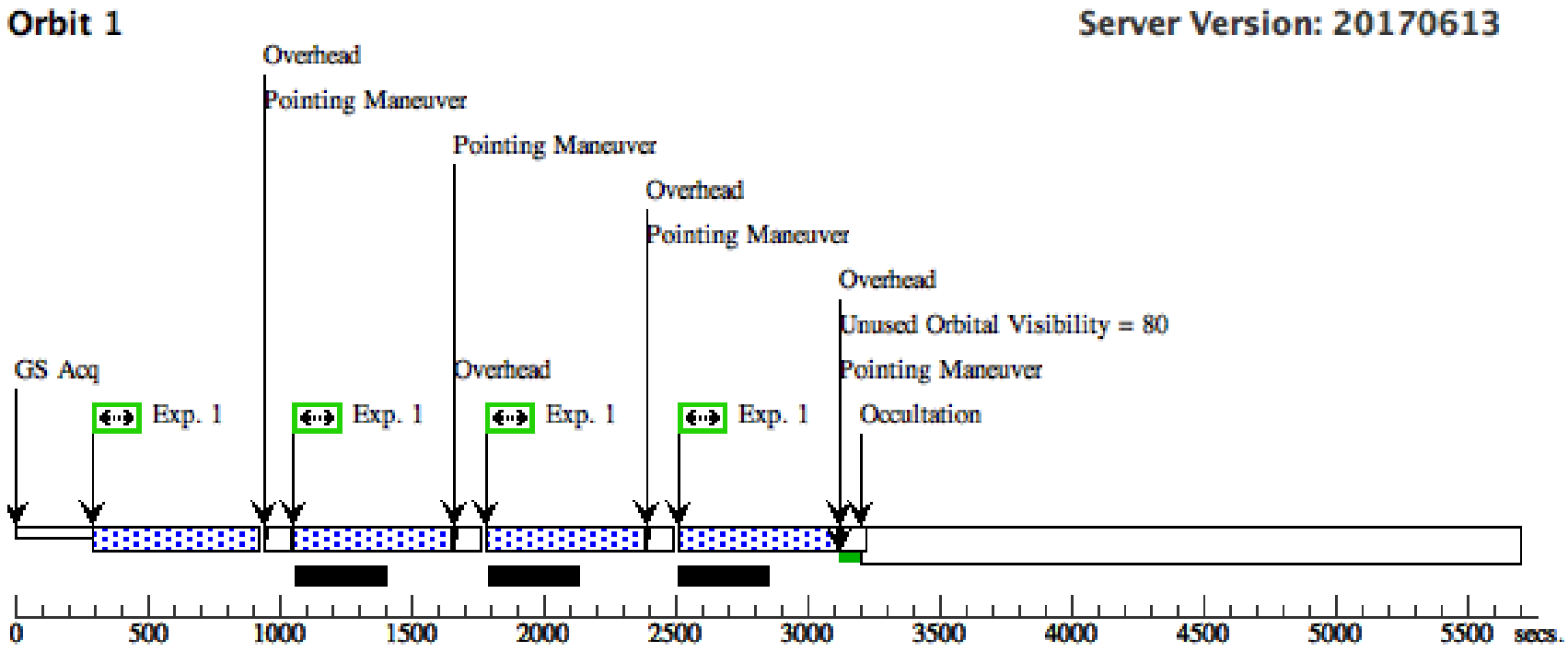
Fixed Targets

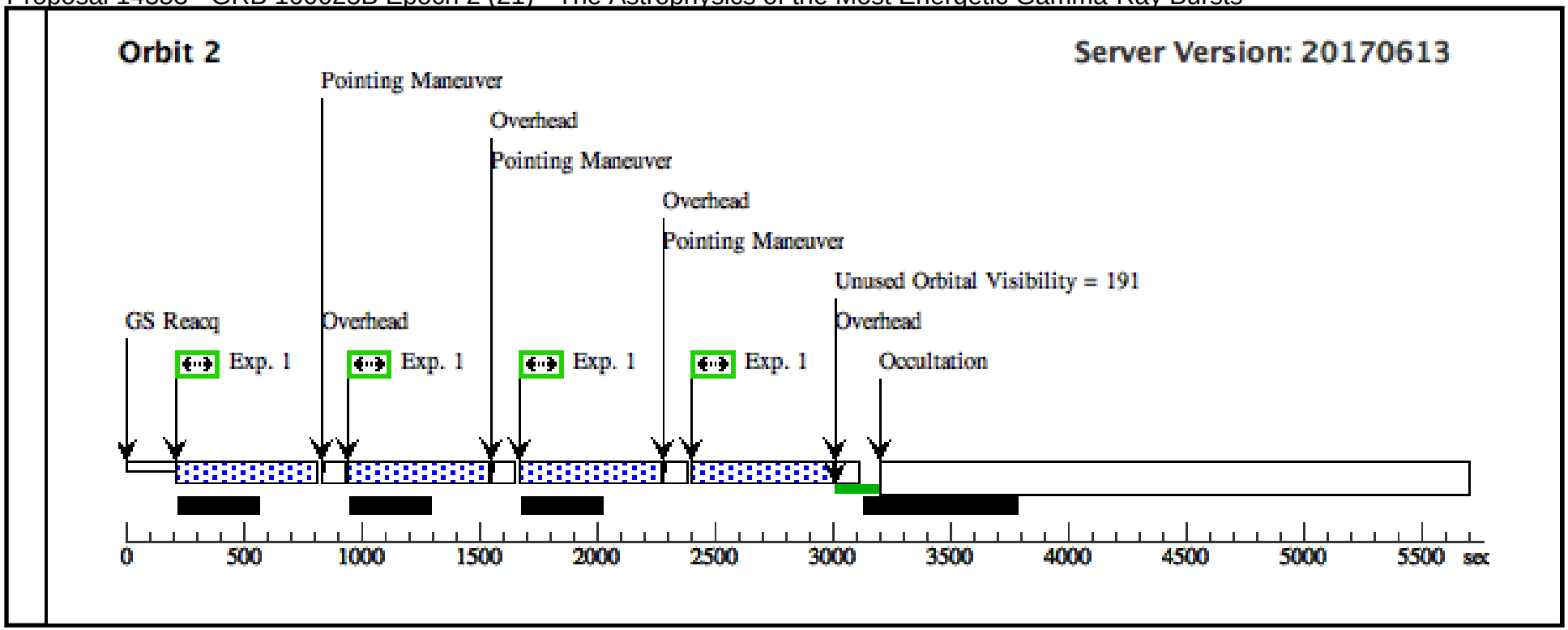
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GRB-160625B	RA: 20 34 23.5070 (308.5979458d) Dec: +06 55 7.89 (6.91886d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) GRB-160625B	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,35	Pattern 7, Exps 1-1 in GRB 160625B Epoch 2 (21) (7)	600 Secs (4800 Secs)	
								[==>(Pattern 1,1)] *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[1]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Pointing Maneuver
Overhead
Pointing Maneuver
Overhead
Pointing Maneuver
Unused Orbital Visibility = 191
GS Reacq
Overhead
Overhead
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14353, GRB 160625B Epoch 3A (22) Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 70D TO 75 D; BEFORE 25-NOV-2017:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(7)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=.0725 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	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	(1)

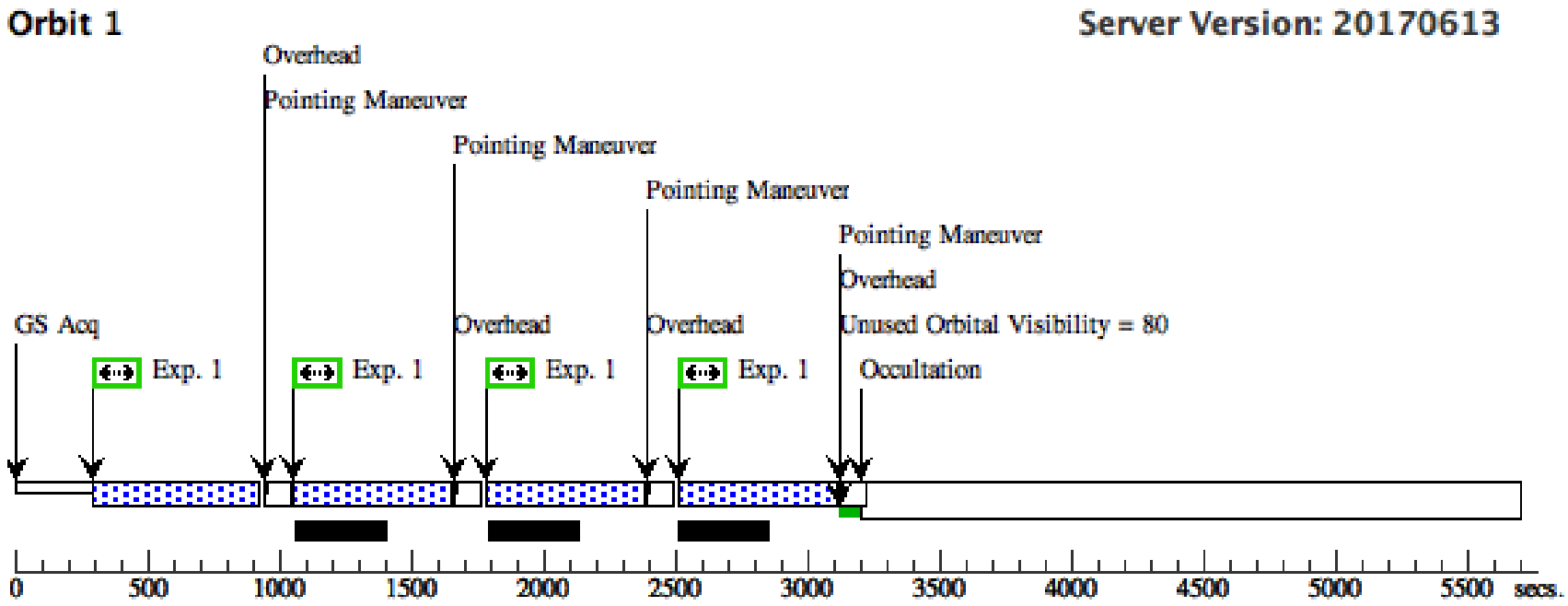
Fixed Targets

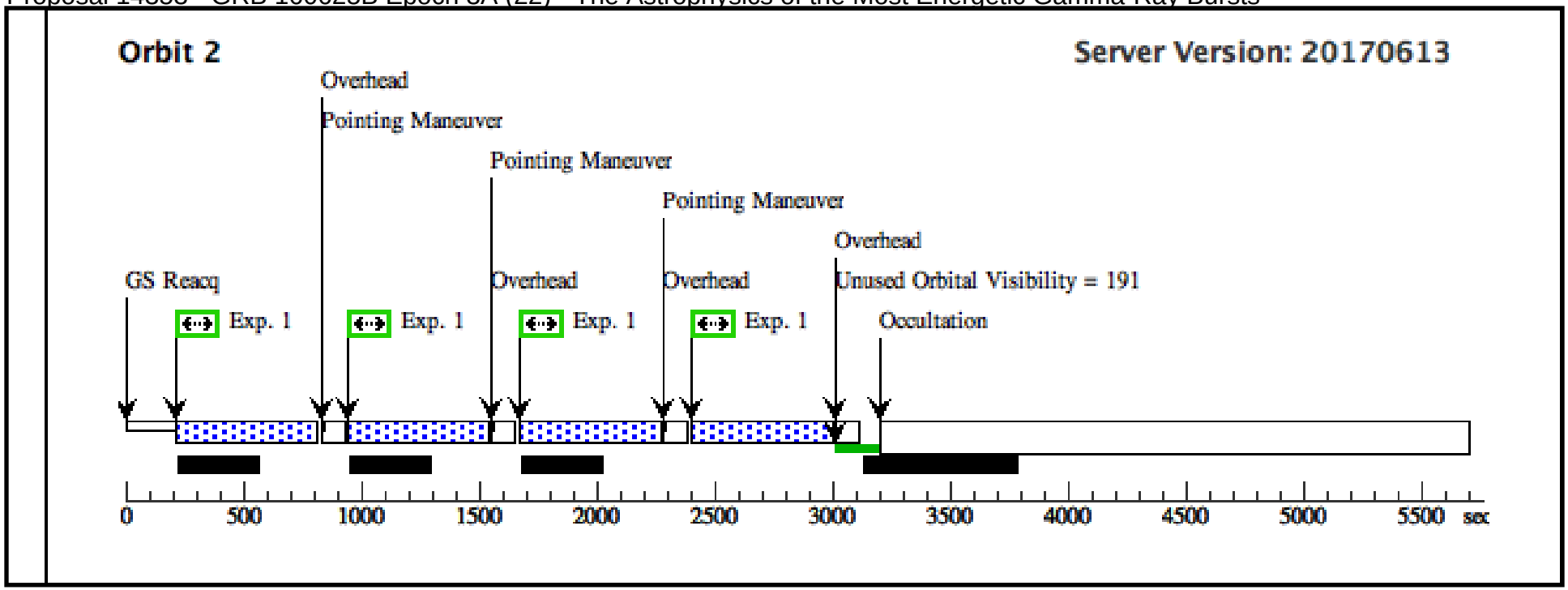
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GRB-160625B	RA: 20 34 23.5070 (308.5979458d) Dec: +06 55 7.89 (6.91886d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) GRB-160625B	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,35	Pattern 7, Exps 1-1 in GRB 160625B Epoch 3A (22) (7)	600 Secs (4800 Secs)	
								[==>(Pattern 1,1)] *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[1]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Overhead
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Overhead
GS Reacq
Overhead
Overhead
Unused Orbital Visibility = 191
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 14353, GRB 160625B Epoch 3B (23) Mon Oct 23 21:01:22 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 22; BEFORE 25-NOV-2017:00:00:00

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(7)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=.0725 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	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	(1)

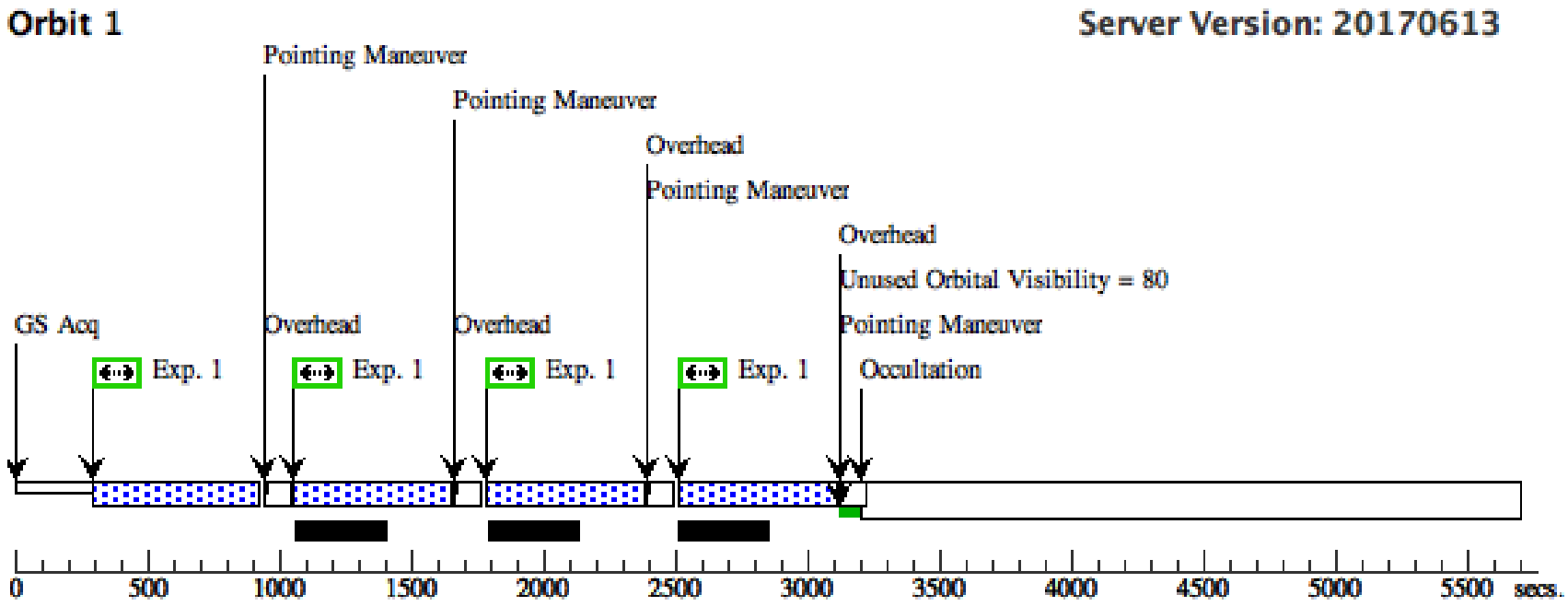
Fixed Targets

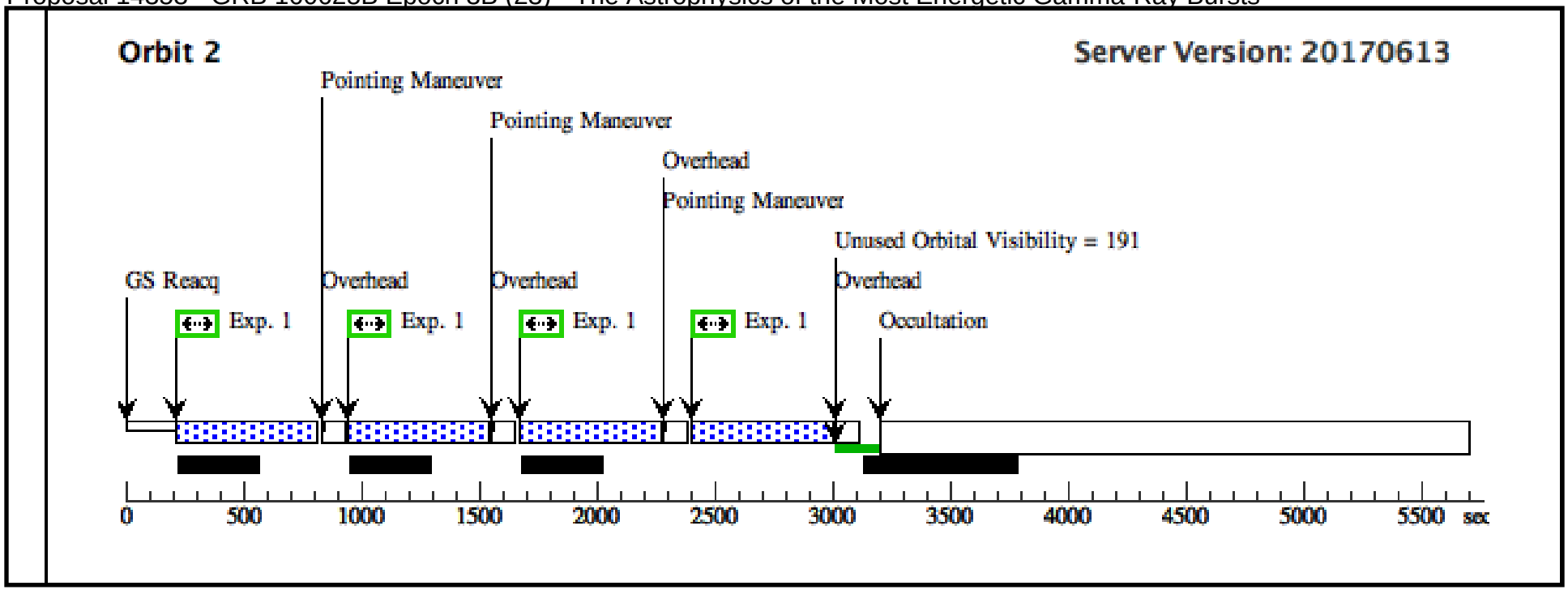
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	GRB-160625B	RA: 20 34 23.5070 (308.5979458d) Dec: +06 55 7.89 (6.91886d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(3) GRB-160625B	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 40,35	Pattern 7, Exps 1-1 in GRB 160625B Epoch 3B (23) (7)	600 Secs (4800 Secs)	
								[==>(Pattern 1,1)] *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[1]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20170613
Pointing Maneuver
Pointing Maneuver
Overhead
Pointing Maneuver
Unused Orbital Visibility = 191
GS Reacq
Overhead
Overhead
Overhead
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec