13039 - The environment of the z=7.085 QSO ULAS J1120+0641

Cycle: 20, 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) ULASJ1120+0641	WFC3/IR	3	06-Sep-2012 21:49:08.0	yes
14	(1) ULASJ1120+0641	WFC3/IR	3	06-Sep-2012 21:49:28.0	yes
15	(1) ULASJ1120+0641	WFC3/IR	3	06-Sep-2012 21:49:47.0	yes
16	(1) ULASJ1120+0641	WFC3/IR	3	06-Sep-2012 21:50:04.0	yes
09	(1) ULASJ1120+0641	ACS/WFC	3	06-Sep-2012 21:50:17.0	yes
17	(1) ULASJ1120+0641	ACS/WFC	3	06-Sep-2012 21:50:25.0	yes
18	(1) ULASJ1120+0641	ACS/WFC	3	06-Sep-2012 21:50:35.0	yes
19	(1) ULASJ1120+0641	ACS/WFC	3	06-Sep-2012 21:50:43.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
13	(1) ULASJ1120+0641	ACS/WFC	1	06-Sep-2012 21:50:47.0	yes

25 Total Orbits Used

ABSTRACT

We propose to take ACS and WFC3/IR observations of a 1-Mpc region around the recently-discovered redshift z=7.085 quasar ULAS J1120+0641 to test the hypothesis that, while distant active galaxies represent the densest regions in the early Universe, their radiation fields can hinder galaxy formation in the immediate vicinity. Observations of quasars and radio galaxies at z~5 have shown that they are the sites of galaxy overdensities, and revealed a segregration between companion galaxies selected by the Lyman break technique compared to those found via their Lyman-alpha emission. This has been interpreted as due to suppression of star formation in low-mass haloes by ionizing radiation from the central source. Since our target lies within the Epoch of Reionization, the scale over which this process acts is much smaller and more readily accessible to HST. Our observations will detect z~7 Lyman break galaxies as faint as the characteristic galaxy luminosity L* and their surface density can be directly compared to that derived from observations made in deep blank-field surveys, allowing us to quantify the environment around the quasar. Approved deep narrow-band imaging from the ground will measure the number of Lyman-alpha emitters and thus uniquely allow us to test the hypothesis that the ionizing radiation field results in spatial segregation between galaxies in different mass haloes.

OBSERVING DESCRIPTION

We propose to make observations of the field of the z=7.085 quasar ULAS J1120+0641 with ACS/WFC in F814W, and with WFC3/IR in F105W and F125W. These filters are identical to those used in the CANDELS survey, and the deep program covers 120 sq.arcmin, providing excellent statistics for a measurement of the z~7 field galaxy density. We will take a single ACS pointing, but make a 2x2 mosaic of WFC3/IR images to cover a similar-sized field and ensure that we probe a transverse physical scale exceeding 1 Mpc.

From a combination of ultra-deep (in the HUDF) and deep (WFC3 Early Release Science) HST imaging data, the rest-frame UV luminosity function has been well-determined at z~7. Bouwens et al. (2011) and McLure et al. (2010) both measure M*_UV=-20.11+/-0.28 for their sample of z~6.8 z-band dropouts, corresponding to m*_Y=26.9 at z=7.085. We model our galaxies as 100-Myr-old simple stellar populations (from Bruzual & Charlot 2003), normalized to Y=26.9, and attenuated by the IGM according to the prescription of Fan et al. (2006). A galaxy at z=7.085 is expected to have F105W-F125W=0.4 and F814W-F105W=5.2.

Galaxies at z~7 detected in WFC3/IR observations have a median half-light radius of 0.16$" (800 pc), and we assume that 60% of the flux is enclosed in our WFC3/IR images (70% for ACS) in a 0.5-arcsec diameter photometric aperture (as used by Oesch et al. 2010 and others). Our minimum requirement is to obtain S/N=5 in both the Y and J filters for an L* galaxy, and this requires 4700 and 2500 seconds, respectively. Since our target has a visibility of 50 minutes (reduced from 54 to allow increased scheduling flexibility), we can fit each WFC3 Y and J band observation into 2 and 1 orbits, respectively, requiring a total of 12 orbits to produce the four-image mosaic in both filters.

In order to select z~7 galaxies, we require a deep image in F814W, since they will have essentially zero flux shortward of the Lyman break. Statistically, we will be 90% complete for LBGs by selecting objects with S/N<1.3, but the more important requirement is to avoid contamination from other sources if our image is not deep enough. Despite their red colours, stars are not a contaminant because z~7 galaxies will appear extended, even at low signal-to-noise ratios (Bouwens et al. 2011). Furthermore, our target is at high Galactic latitude and a low-mass star would have to be far out of the plane of the Galaxy (>1kpc) to be as faint as a z=7 L* galaxy; we estimate fewer than one such object in our field (N. Deacon, priv. comm.).

The reddest contaminating galaxies will be ellipticals at z>1.5, which have F814W-F105W~1.8 and we must reach a depth such that the F814W photometric error is small enough to not scatter these into our selection box. These factors combine to require a S/N=3 limit of F814W=28.6, needing 32,000 seconds of exposure. We can obtain this with 13 orbits. Our total request for the WFC3 and ACS observations is therefore 25 orbits.

ADDITIONAL COMMENTS

The WFC3 and ACS mosaics both cover approximately square regions on the sky, and should be performed in such a way that the sides of these squares are aligned (a tolerance of 5 degrees has been allowed), although the orientation on the sky is not constrained.

The first ACS visit has a special requirement ORIENT FROM Tile WFC 1 BY -48 TO -38 (the other ACS visits in this mosaic have an ORIENT SAME AS Tile ACS 1) but there is 4-fold rotational symmetry in this arrangement. Other acceptable ORIENT FROM ranges are therefore: -138 TO -128, 42 TO 52, and 132 TO 142.

The Visit Planner suggests that the observations are highly schedulable but, should there be difficulties, the ORIENT FROM range can be changed to one of the other acceptable ranges to ensure that the observations can be performed.

Visit

Proposal 13039, Tile WFC 1 (01), implementation Fri Sep 07 01:50:53 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SCHED 100%

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	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			(1-2)
(3)	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=false	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	(3)

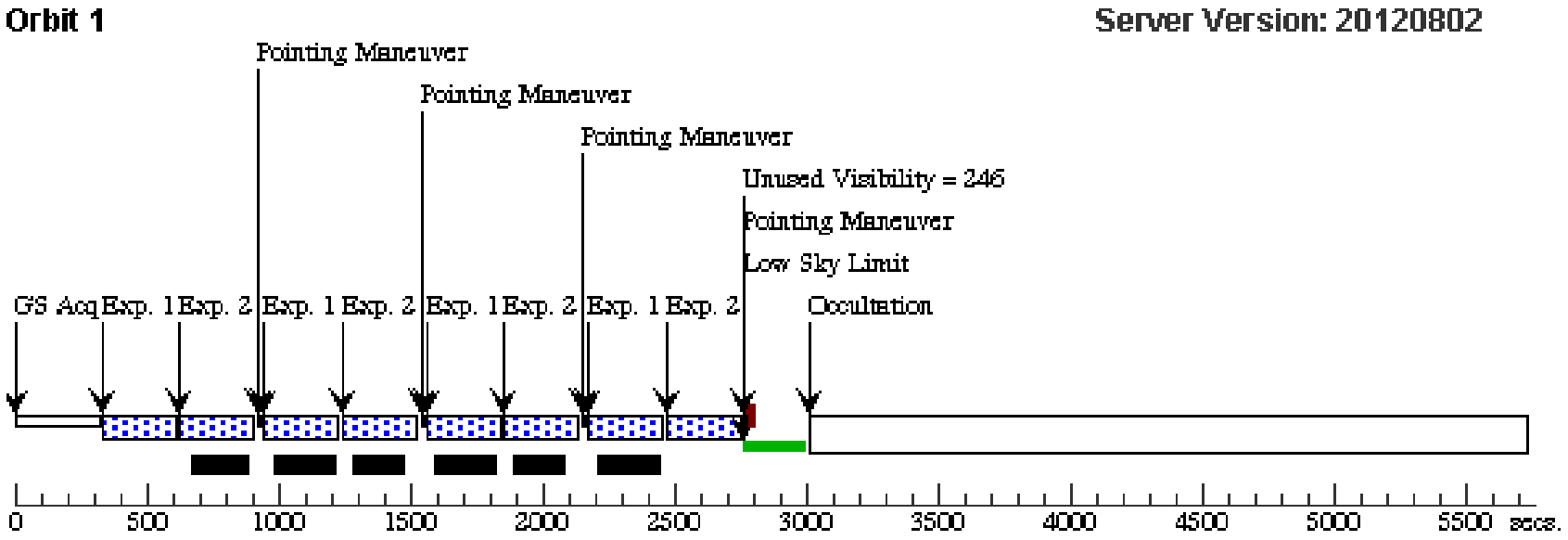
Fixed Targets

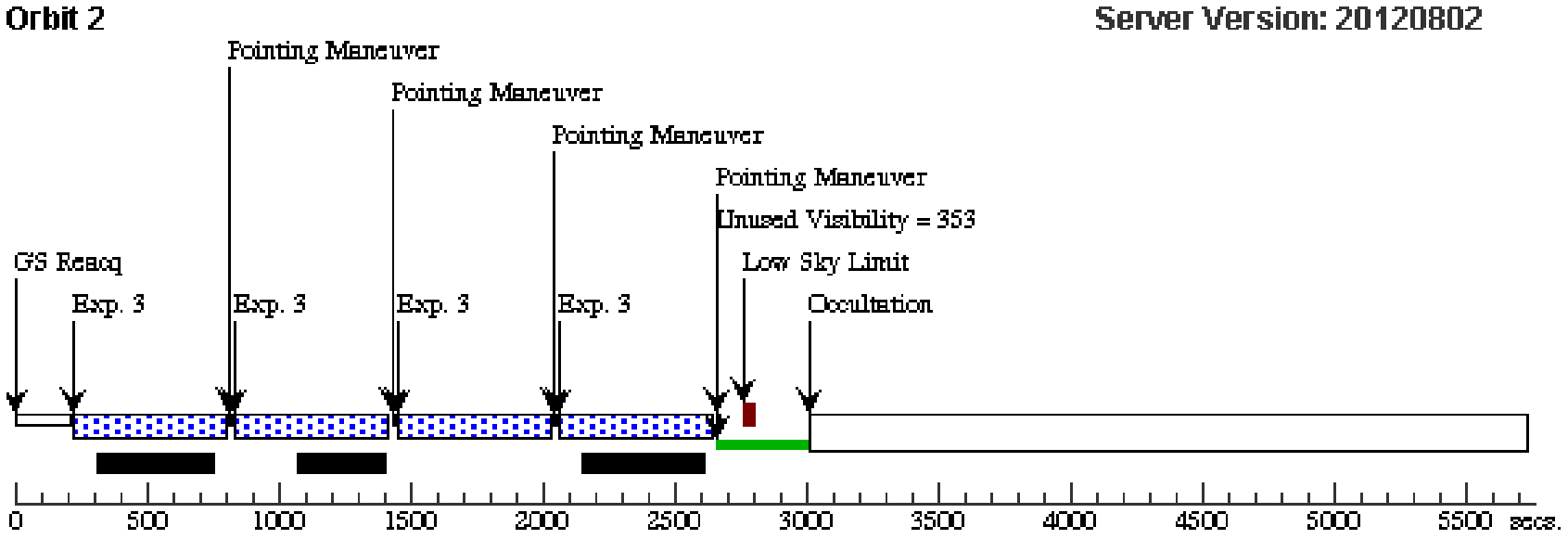
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

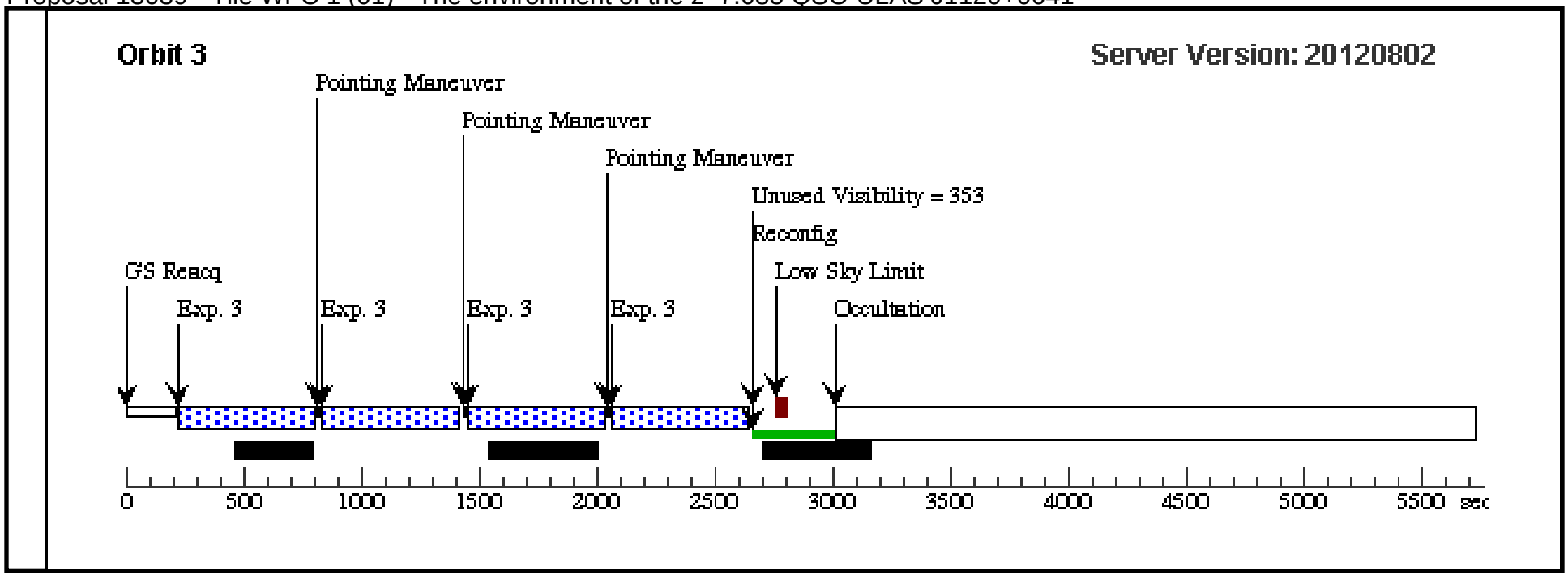
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F125W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS50; NSAMP=6	POS TARG -62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (01) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W 2	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (01) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F105W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS50; NSAMP=12	POS TARG -62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 3, Exps 3-3 in Tile WFC 1 (01) (3)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 353
Reconfig
GS Reacq
Low Sky Limit
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Occultation
0
500
1000
1500
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Visit

Proposal 13039, Tile WFC 1 (14), implementation Fri Sep 07 01:50:57 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	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			(1-2)
(3)	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=false	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	(3)

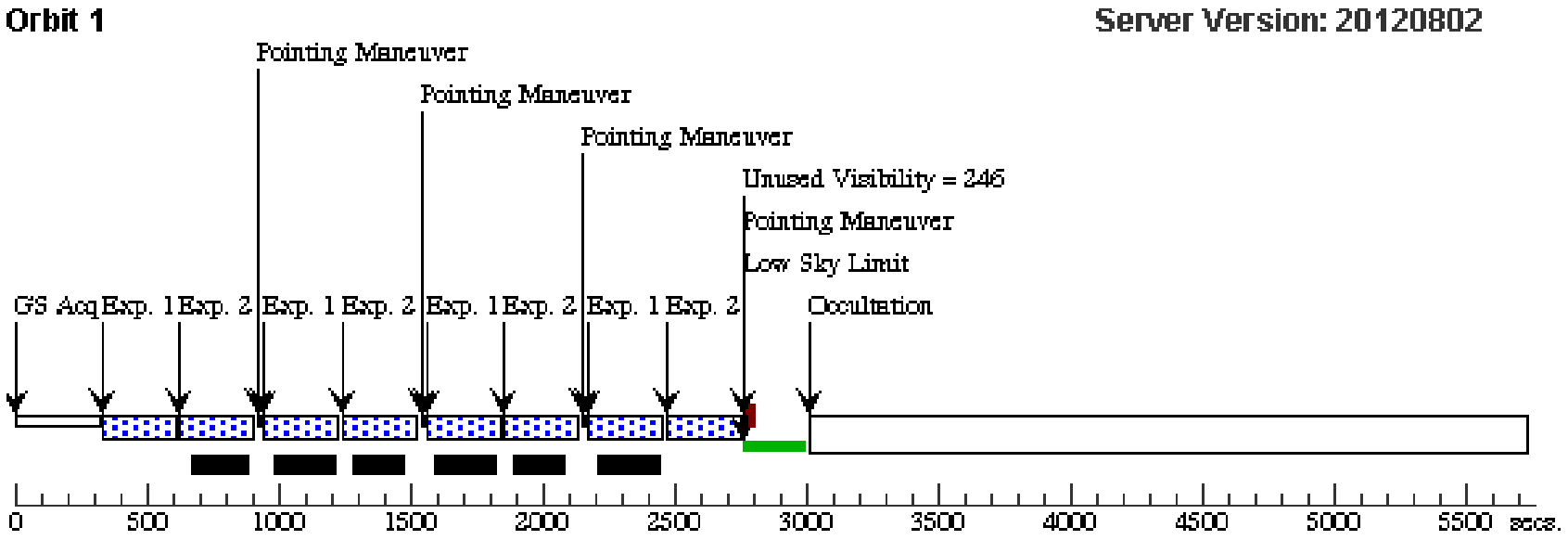
Fixed Targets

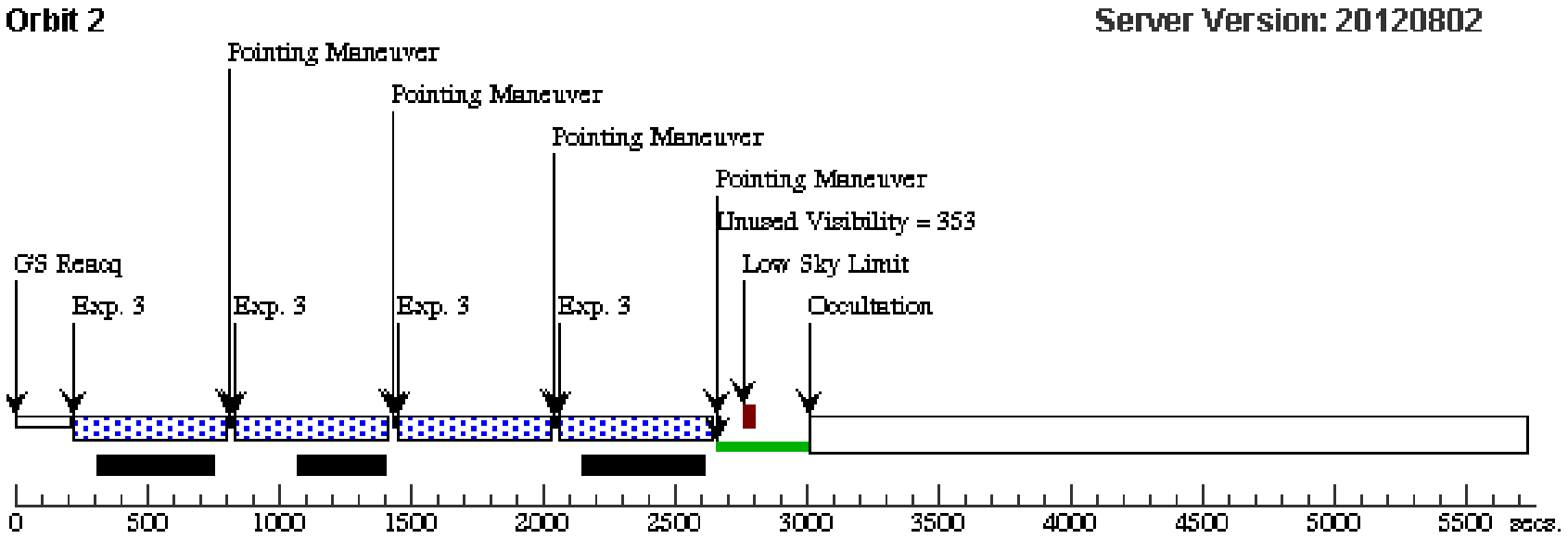
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

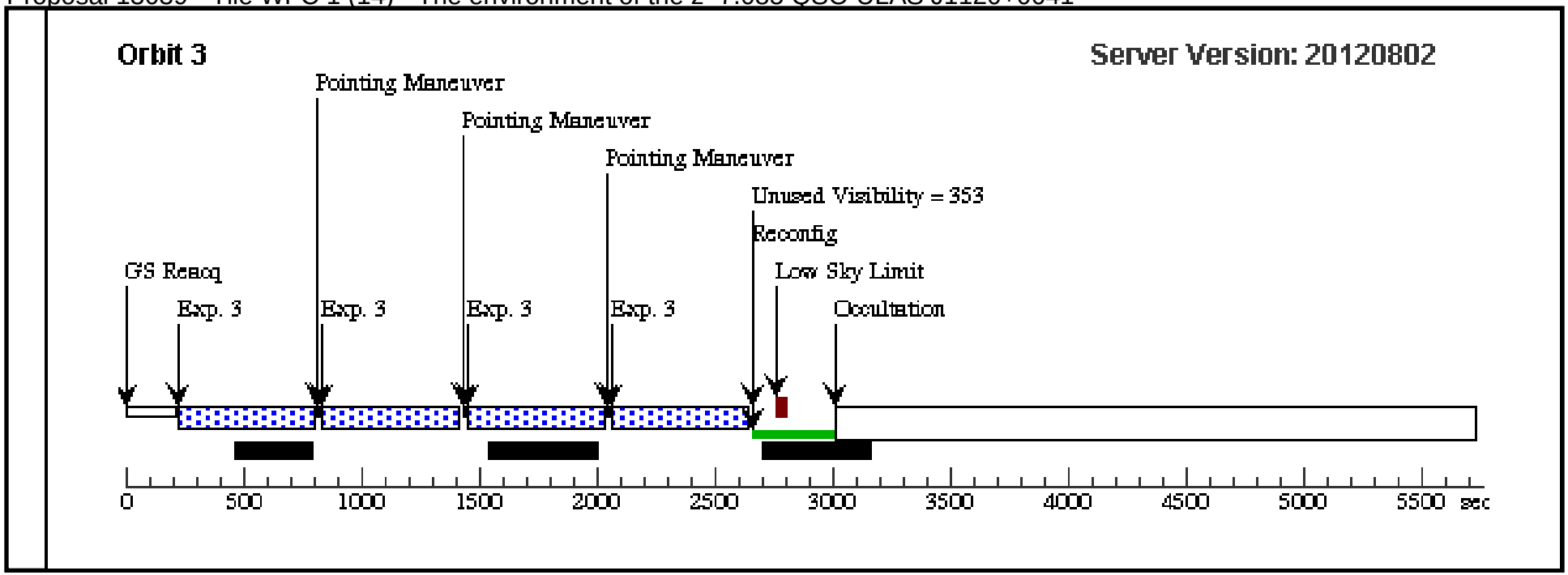
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F125W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS50; NSAMP=6	POS TARG 62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (14) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W 2	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (14) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F105W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS50; NSAMP=12	POS TARG 62.56638000000001,-55.37128500000001; LOW-SKY	Pattern 3, Exps 3-3 in Tile WFC 1 (14) (3)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[3]***

Orbit Structure



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Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 353
Reconfig
GS Reacq
Low Sky Limit
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Occultation
0
500
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Visit

Proposal 13039, Tile WFC 1 (15), implementation Fri Sep 07 01:51:00 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	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			(1-2)
(3)	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=false	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	(3)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F125W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS50; NSAMP=6	POS TARG -62.566380000000001,55.37128499999999; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (15) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W 2	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG -62.566380000000001,55.37128499999999; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (15) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F105W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS50; NSAMP=12	POS TARG -62.566380000000001,55.37128499999999; LOW-SKY	Pattern 3, Exps 3-3 in Tile WFC 1 (15) (3)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[2]***
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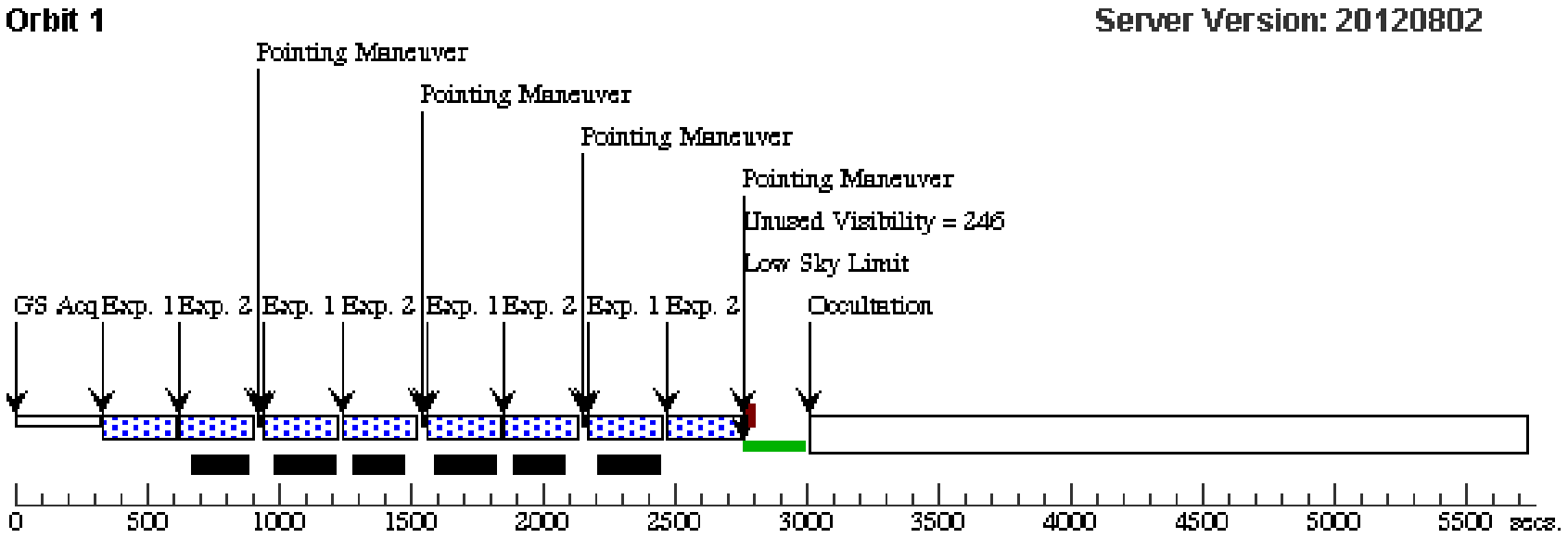
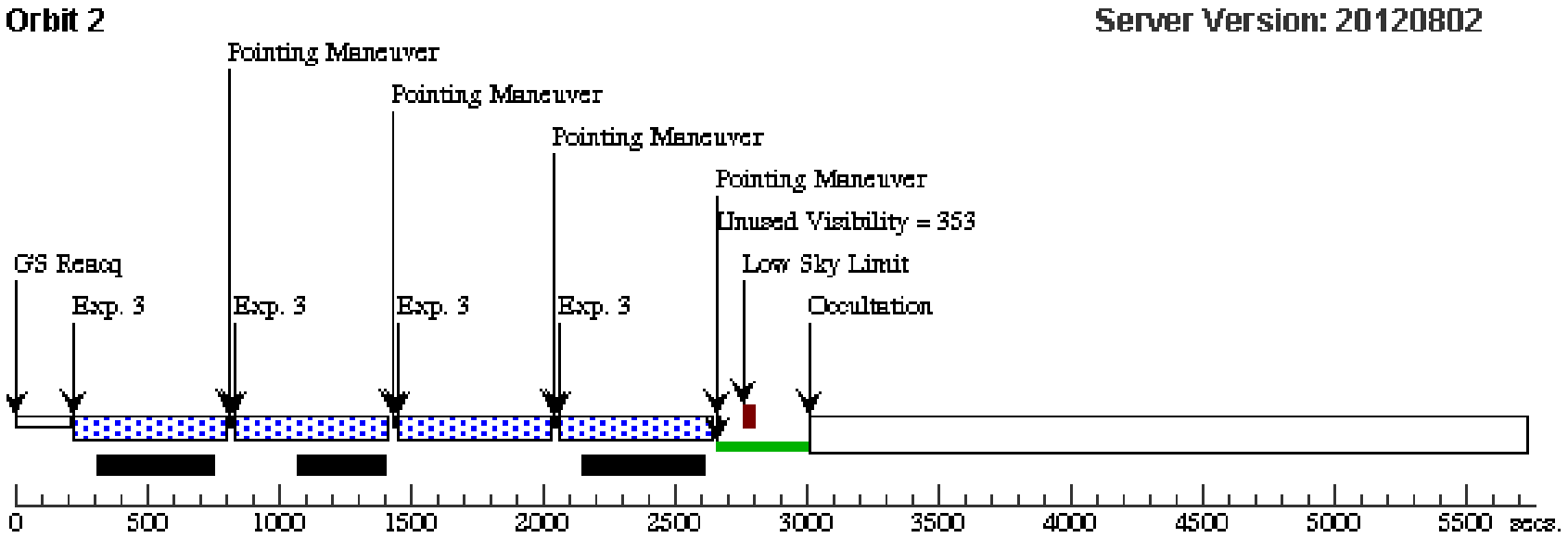
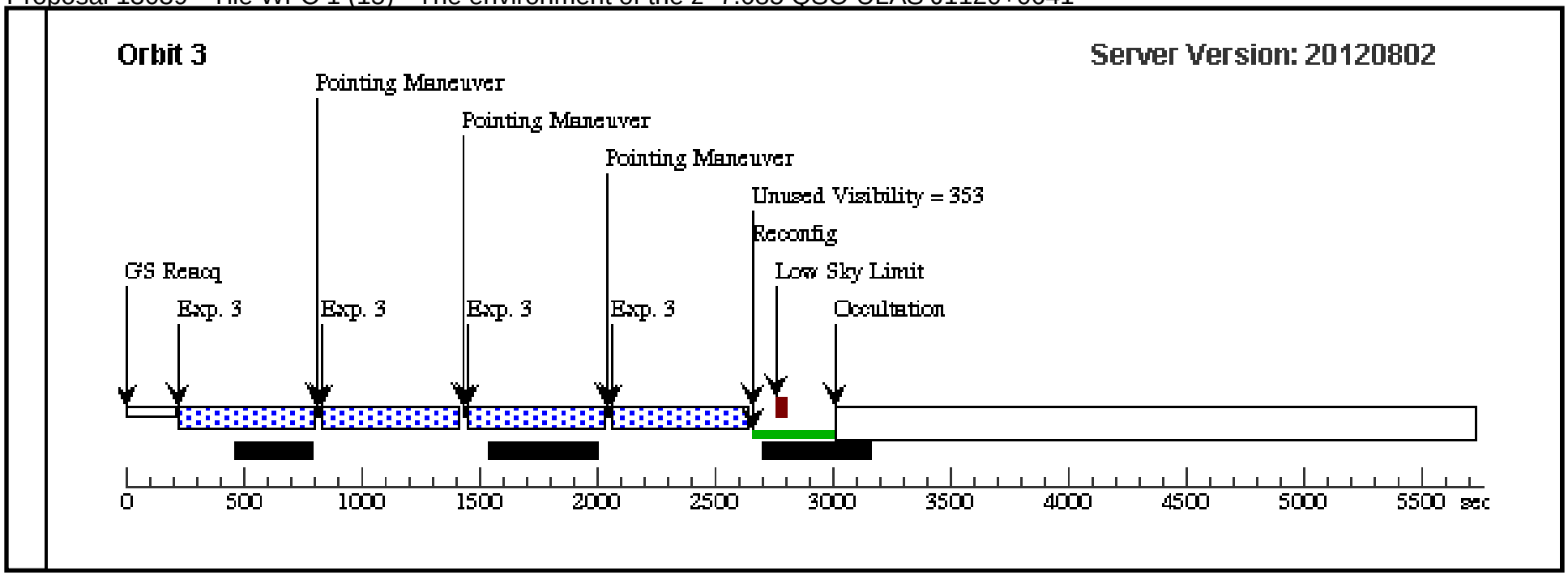
Orbit Structure






Orbit 3
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Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 353
Reconfig
GS Reacq
Low Sky Limit
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Occultation
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Visit

Proposal 13039, Tile WFC 1 (16), implementation Fri Sep 07 01:51:03 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SCHED 100%; SAME ORIENT AS 01

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	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			(1-2)
(3)	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=false	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	(3)

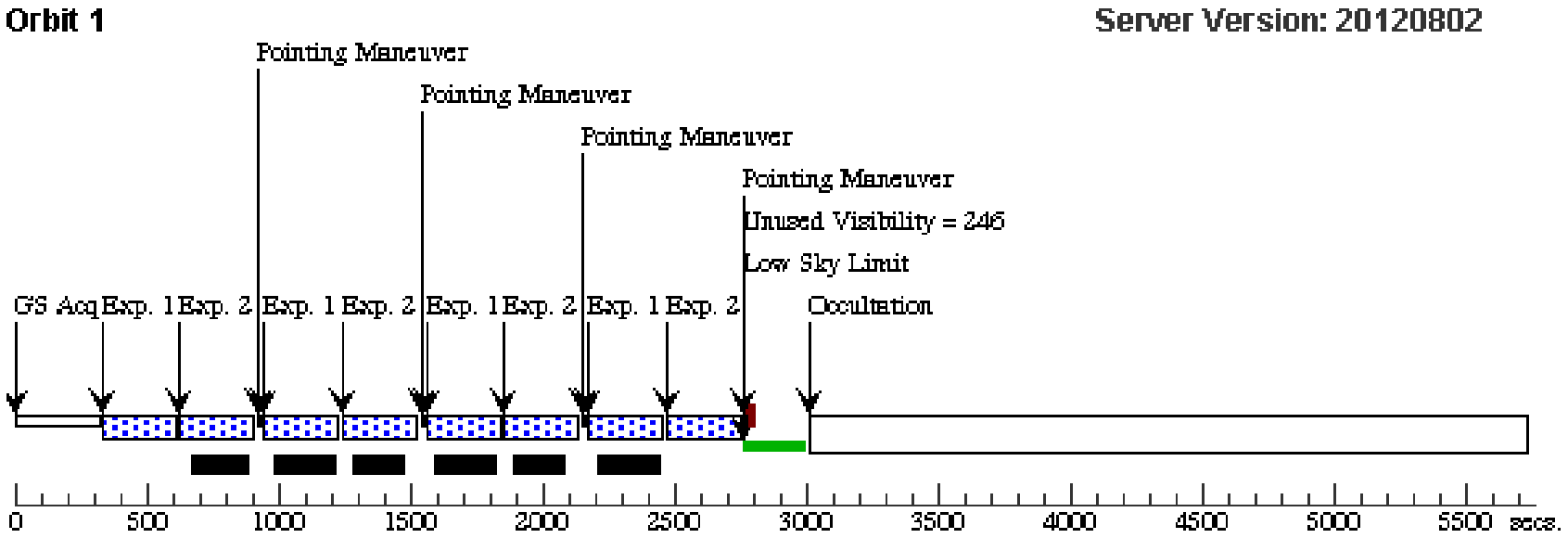
Fixed Targets

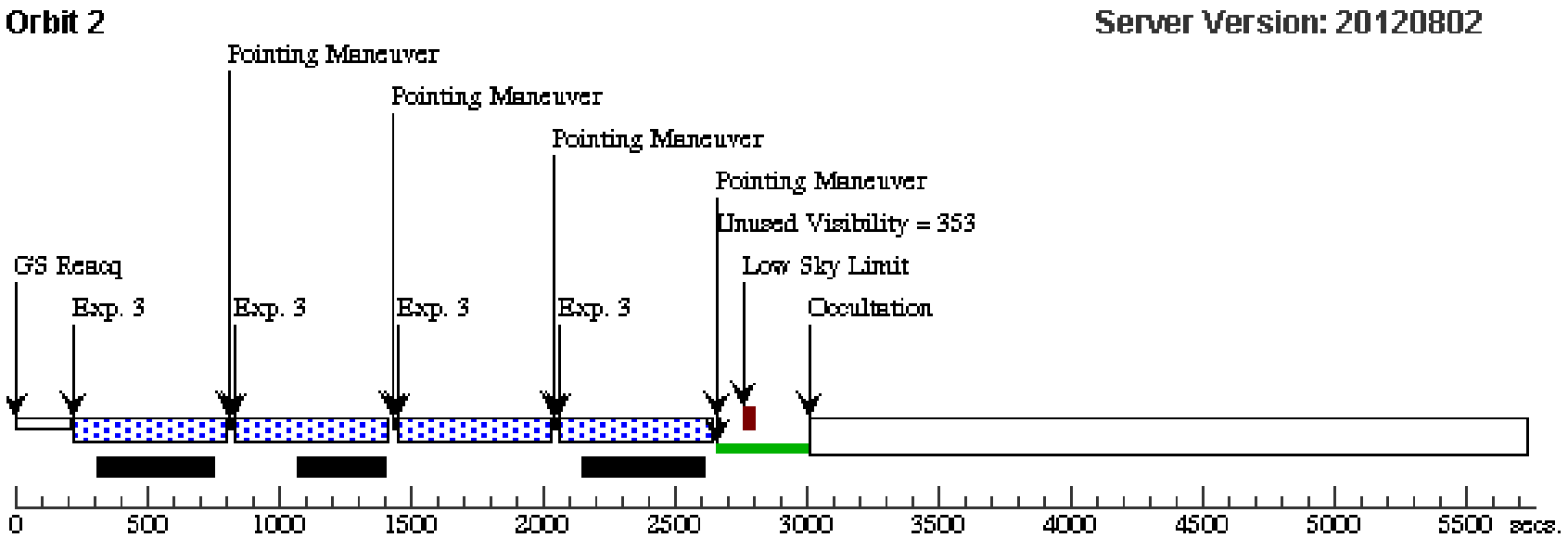
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

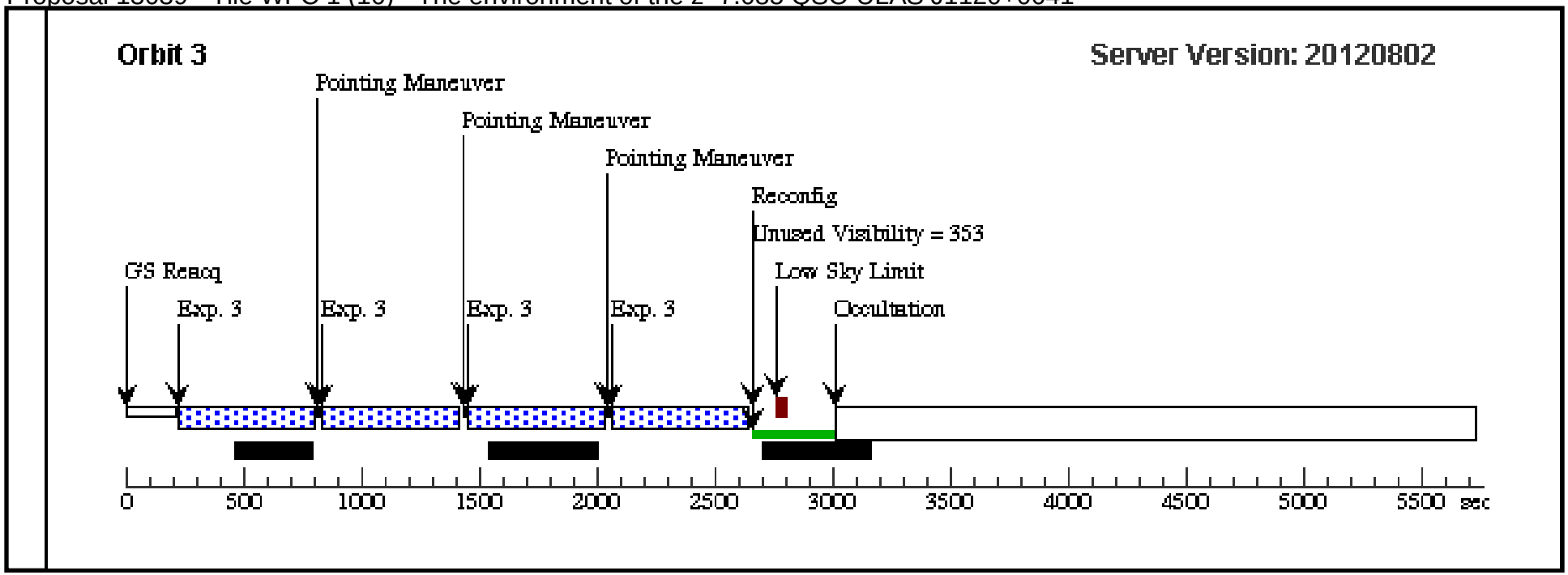
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F125W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS50; NSAMP=6	POS TARG 62.56638000000001,55.371284999999999; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (16) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W 2	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F125W	SAMP-SEQ=SPARS25; NSAMP=12	POS TARG 62.56638000000001,55.371284999999999; LOW-SKY	Pattern 1, Exps 1-2 in Tile WFC 1 (16) (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F105W 1	(1) ULASJ1120+0641	WFC3/IR, MULTIACCUM, IR-FIX	F105W	SAMP-SEQ=SPARS50; NSAMP=12	POS TARG 62.56638000000001,55.371284999999999; LOW-SKY	Pattern 3, Exps 3-3 in Tile WFC 1 (16) (3)	*[==>(Pattern 1,1)]* *[==>(Pattern 1,2)]* *[==>(Pattern 1,3)]* *[==>(Pattern 1,4)]*	***[2]***
								[==>(Pattern 2,1)] *[==>(Pattern 2,2)]* *[==>(Pattern 2,3)]* *[==>(Pattern 2,4)]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 353
GS Reacq
Low Sky Limit
Exp. 3
Exp. 3
Exp. 3
Exp. 3
Occultation
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5500
sec

Visit

Proposal 13039, Tile ACS 1 (09), implementation Fri Sep 07 01:51:06 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SCHED 100%; ORIENT -48D TO -38D FROM 01

Comments: The WFC3 and ACS mosaics both cover approximately square regions on the sky, and should be performed in such a way that the sides of these squares are aligned (a tolerance of 5 degrees has been allowed), although the orientation on the sky is not constrained.

This visit has a special requirement ORIENT FROM Tile WFC 1 BY -48 TO -38 (the other ACS visits in this mosaic have an ORIENT SAME AS Tile ACS 1) but there is 4-fold rotational symmetry in this arrangement. Other acceptable ORIENT FROM ranges are therefore: -138 TO -128, 42 TO 52, and 132 TO 142.

The Visit Planner suggests that the observations are highly schedulable but, should there be difficulties, the ORIENT FROM range can be changed to one of the other acceptable ranges to ensure that the observations can be performed.

Diagnostics

(Exposure 1 (Pattern 5, Exps 1-1 in Tile ACS 1 (09)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.546 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.23 Angle Between Sides= Center Pattern=true		(1)
(6)	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		(2)

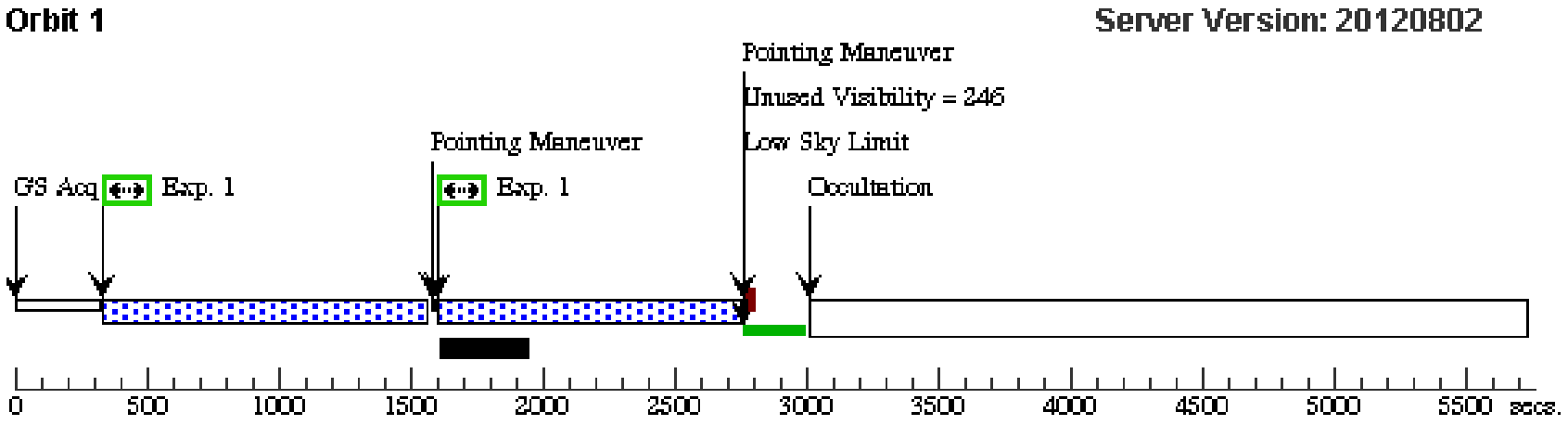
Fixed Targets

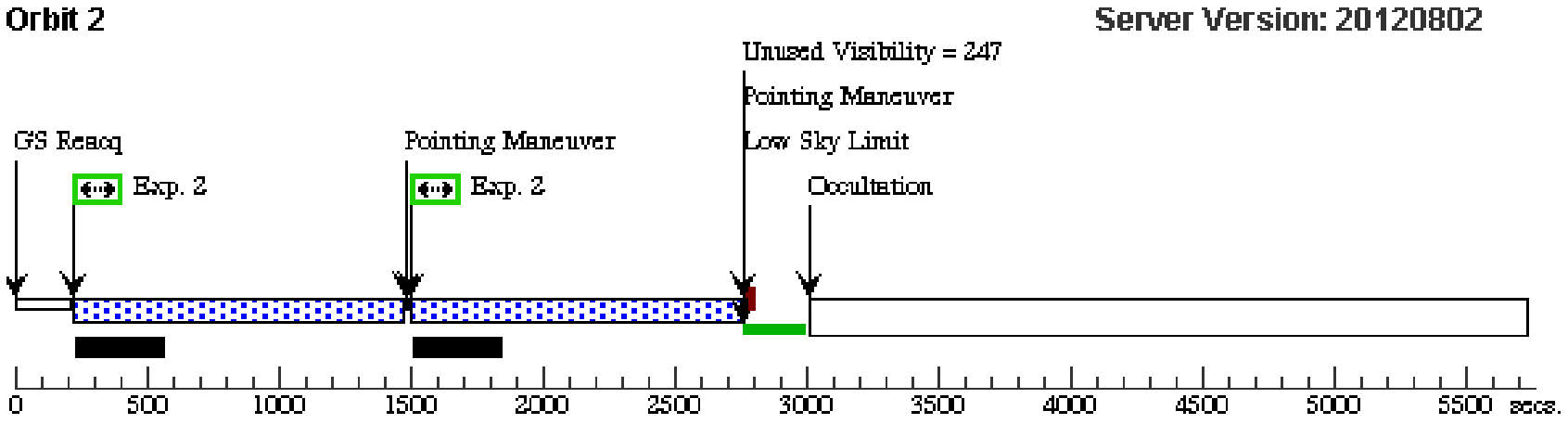
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

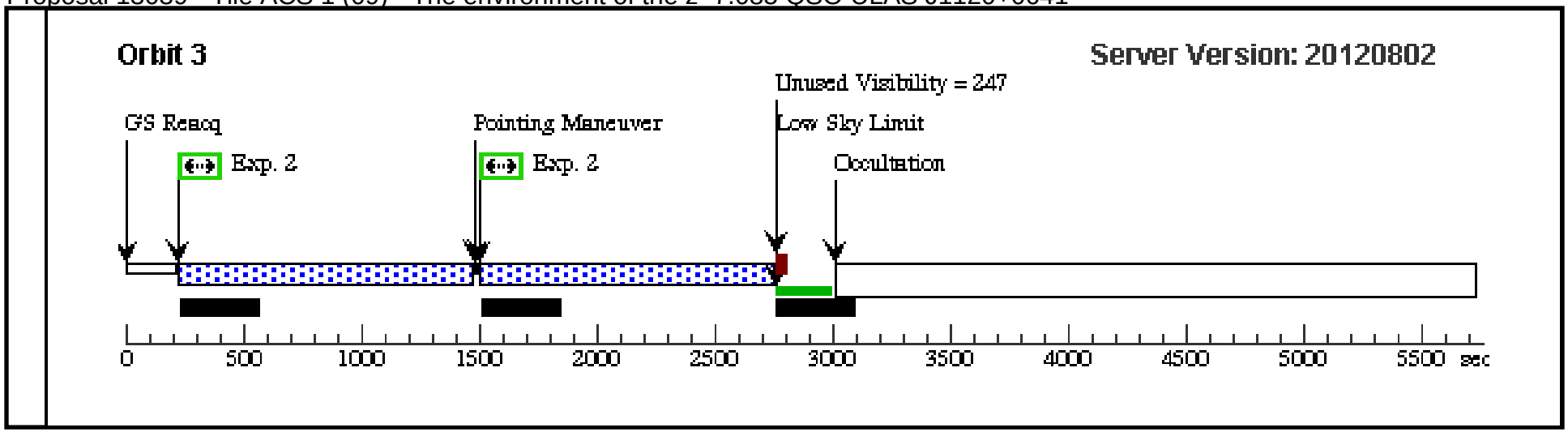
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.057818333842960 24,-6.625324827790584; LOW-SKY	Pattern 5, Exps 1-1 in Tile ACS 1 (09) (5)	1029 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.057818333842960 24,-6.625324827790584; LOW-SKY	Pattern 6, Exps 2-2 in Tile ACS 1 (09) (6)	1125 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]*** ***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Unused Visibility = 247
GS Reacq
Pointing Maneuver
Low Sky Limit
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13039, Tile ACS 1 (17) Fri Sep 07 01:51:08 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SCHED 100%; SAME ORIENT AS 09

Comments: The WFC3 and ACS mosaics both cover approximately square regions on the sky, and should be performed in such a way that the sides of these squares are aligned (a tolerance of 5 degrees has been allowed), although the orientation on the sky is not constrained.

This visit has a special requirement ORIENT FROM Tile WFC 1 BY -48 TO -38 (the other ACS visits in this mosaic have an ORIENT SAME AS Tile ACS 1) but there is 4-fold rotational symmetry in this arrangement. Other acceptable ORIENT FROM ranges are therefore: -138 TO -128, 42 TO 52, and 132 TO 142.

The Visit Planner suggests that the observations are highly schedulable but, should there be difficulties, the ORIENT FROM range can be changed to one of the other acceptable ranges to ensure that the observations can be performed.

Diagnostics

(Exposure 1 (Pattern 5, Exps 1-1 in Tile ACS 1 (17)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.546 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.23 Angle Between Sides= Center Pattern=true		(1)
(6)	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		(2)

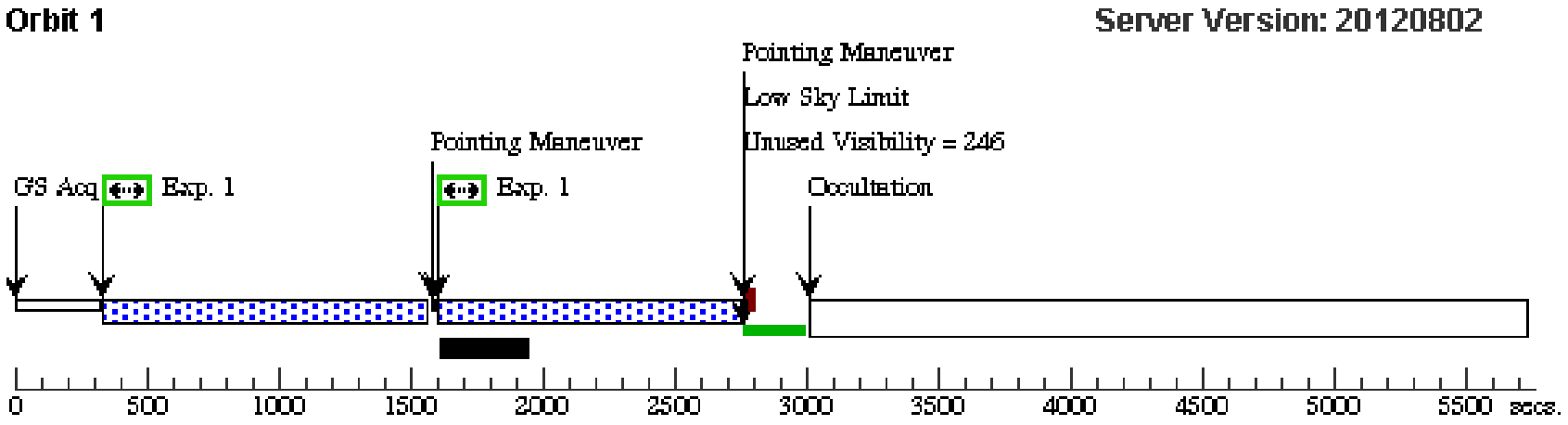
Fixed Targets

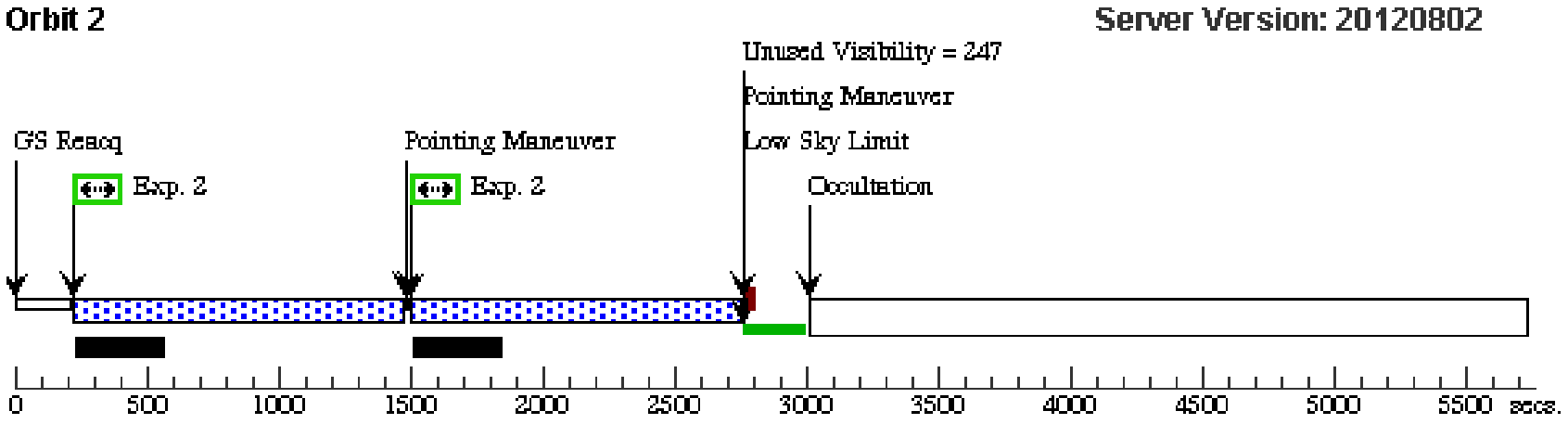
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

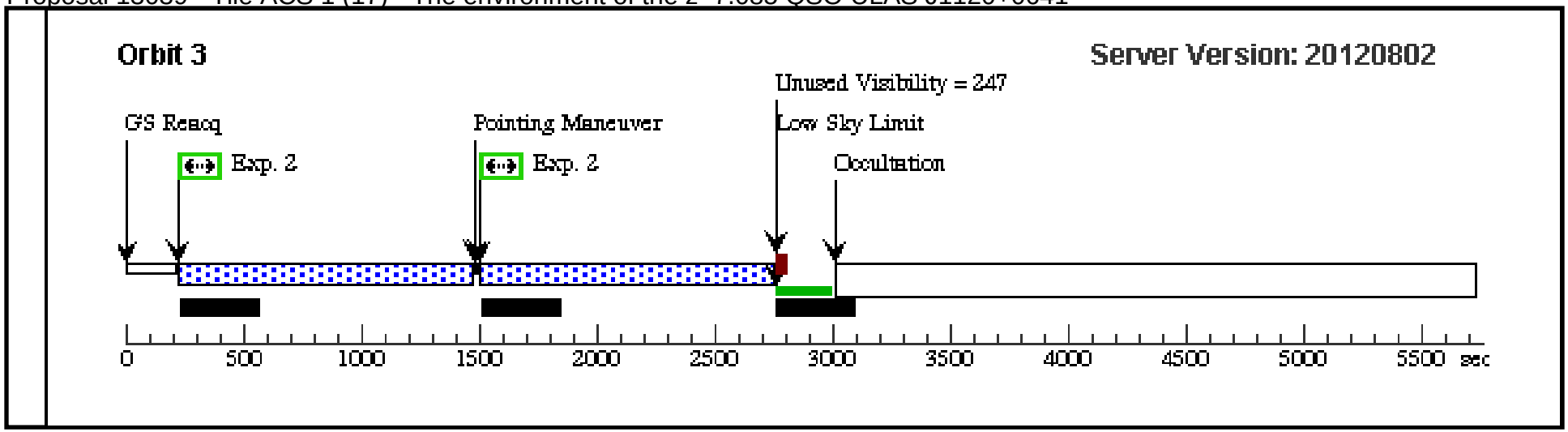
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.01927 2777947653412,-2.208441609263522; LOW-SKY	Pattern 5, Exps 1-1 in Tile ACS 1 (17) (5)	1029 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.01927 2777947653412,-2.208441609263522; LOW-SKY	Pattern 6, Exps 2-2 in Tile ACS 1 (17) (6)	1125 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]*** ***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Unused Visibility = 247
GS Reacq
Pointing Maneuver
Low Sky Limit
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13039, Tile ACS 1 (18) Fri Sep 07 01:51:11 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SCHED 100%; SAME ORIENT AS 09

Comments: The WFC3 and ACS mosaics both cover approximately square regions on the sky, and should be performed in such a way that the sides of these squares are aligned (a tolerance of 5 degrees has been allowed), although the orientation on the sky is not constrained.

This visit has a special requirement ORIENT FROM Tile WFC 1 BY -48 TO -38 (the other ACS visits in this mosaic have an ORIENT SAME AS Tile ACS 1) but there is 4-fold rotational symmetry in this arrangement. Other acceptable ORIENT FROM ranges are therefore: -138 TO -128, 42 TO 52, and 132 TO 142.

The Visit Planner suggests that the observations are highly schedulable but, should there be difficulties, the ORIENT FROM range can be changed to one of the other acceptable ranges to ensure that the observations can be performed.

Diagnostics

(Exposure 1 (Pattern 5, Exps 1-1 in Tile ACS 1 (18)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.546 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.23 Angle Between Sides= Center Pattern=true		(1)
(6)	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		(2)

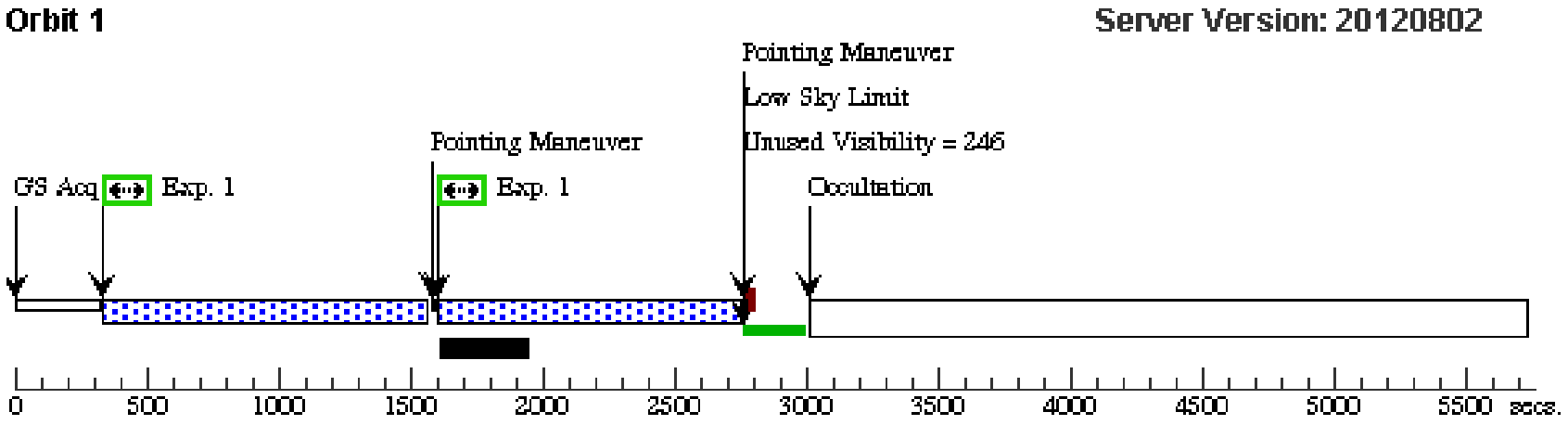
Fixed Targets

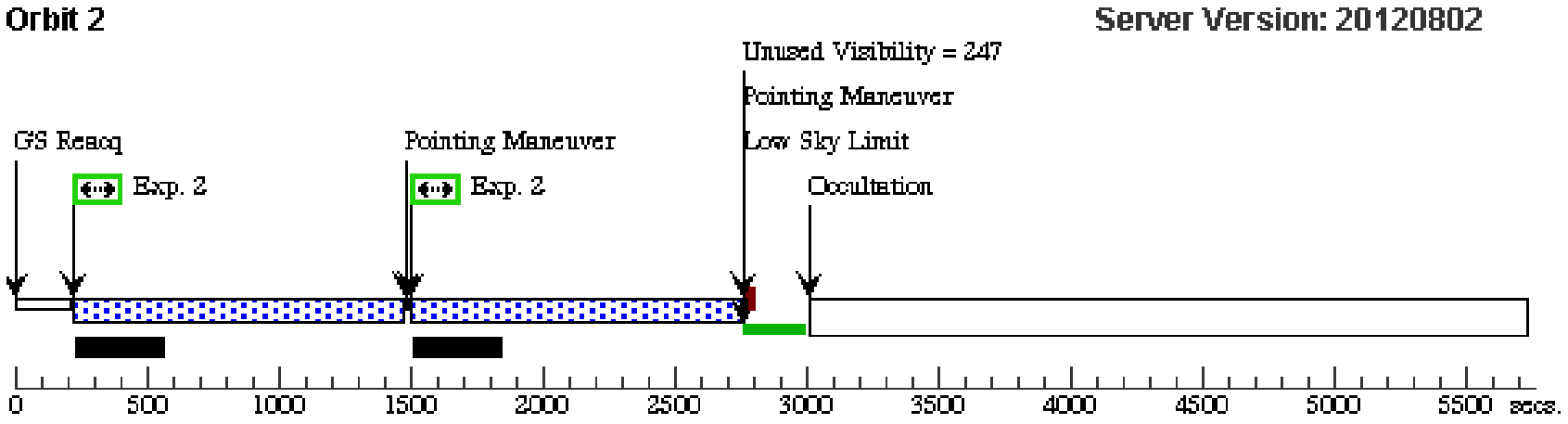
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

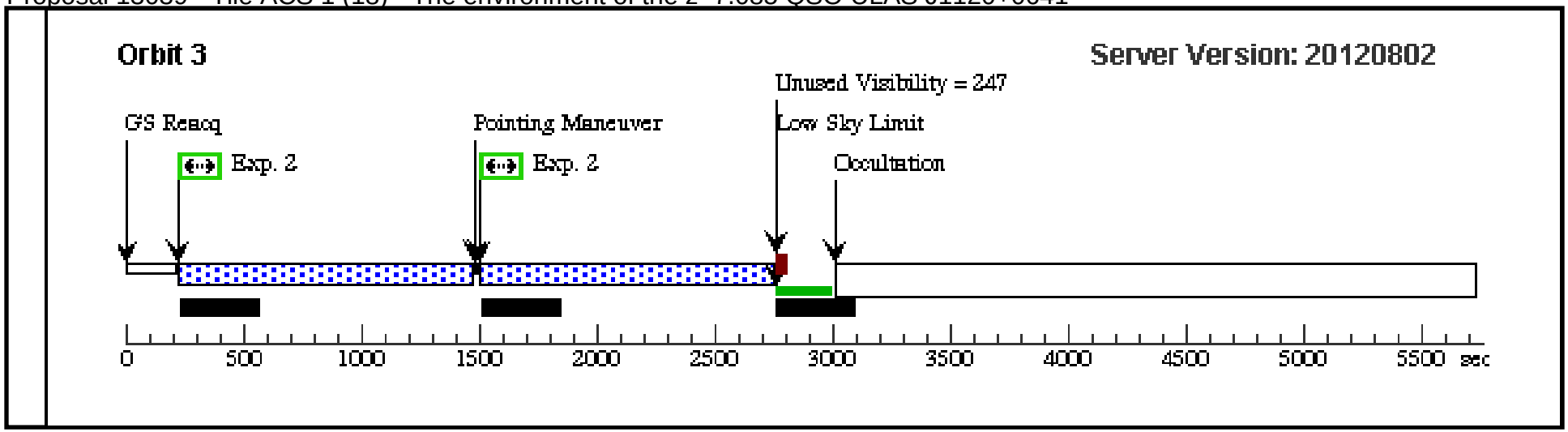
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -0.0192 7277794765342,2.2084416092635397; LOW-SKY	Pattern 5, Exps 1-1 in Tile ACS 1 (18) (5)	1029 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -0.0192 7277794765342,2.2084416092635397; LOW-SKY	Pattern 6, Exps 2-2 in Tile ACS 1 (18) (6)	1125 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]*** ***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Unused Visibility = 247
GS Reacq
Pointing Maneuver
Low Sky Limit
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13039, Tile ACS 1 (19) Fri Sep 07 01:51:13 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: SCHED 100%; SAME ORIENT AS 09

Comments: The WFC3 and ACS mosaics both cover approximately square regions on the sky, and should be performed in such a way that the sides of these squares are aligned (a tolerance of 5 degrees has been allowed), although the orientation on the sky is not constrained.

This visit has a special requirement ORIENT FROM Tile WFC 1 BY -48 TO -38 (the other ACS visits in this mosaic have an ORIENT SAME AS Tile ACS 1) but there is 4-fold rotational symmetry in this arrangement. Other acceptable ORIENT FROM ranges are therefore: -138 TO -128, 42 TO 52, and 132 TO 142.

The Visit Planner suggests that the observations are highly schedulable but, should there be difficulties, the ORIENT FROM range can be changed to one of the other acceptable ranges to ensure that the observations can be performed.

Diagnostics

(Exposure 1 (Pattern 5, Exps 1-1 in Tile ACS 1 (19)) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.546 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=47.23 Angle Between Sides= Center Pattern=true		(1)
(6)	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		(2)

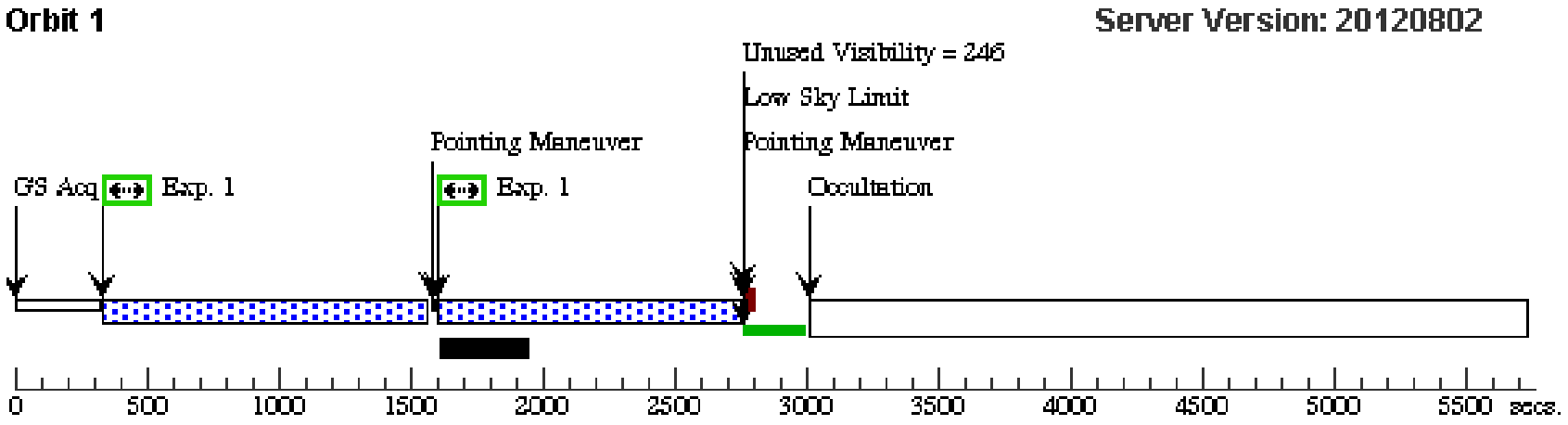
Fixed Targets

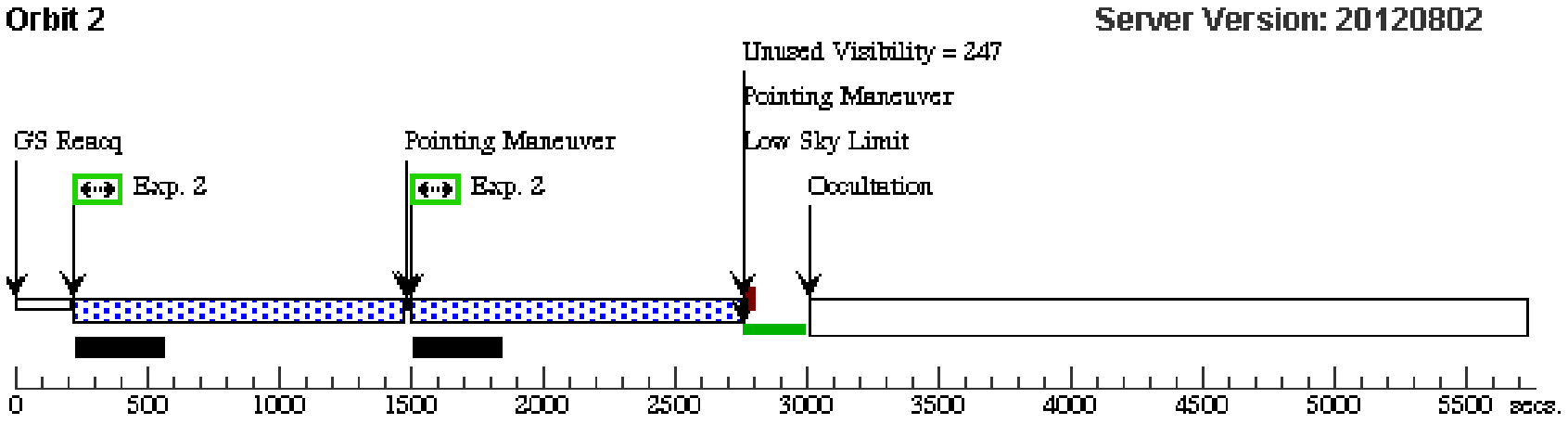
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

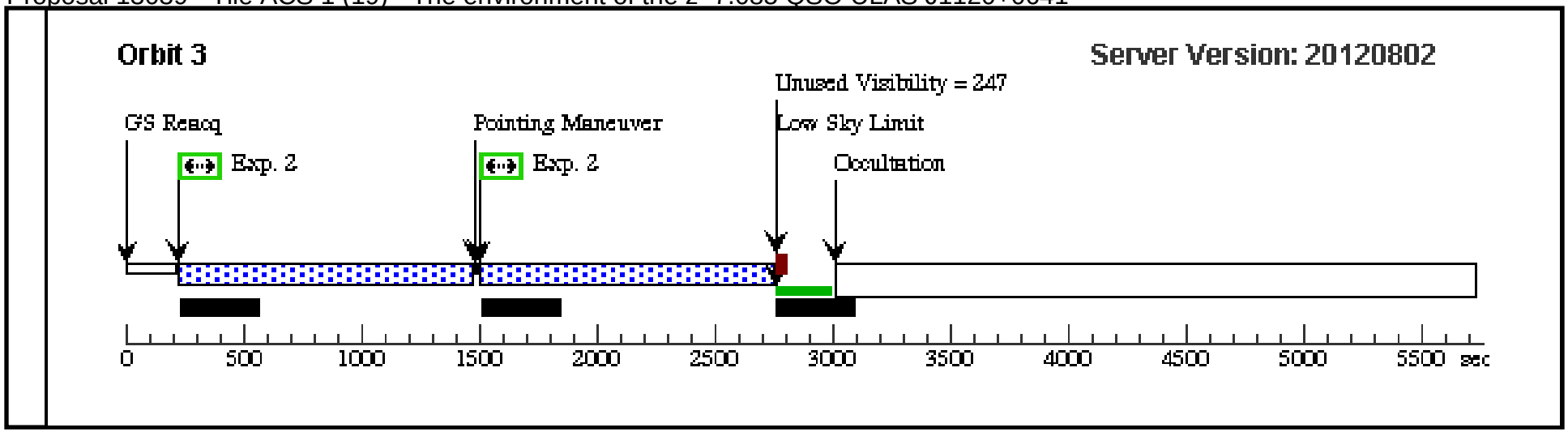
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -0.0578 1833384296024,6.625324827790601; LOW-SKY	Pattern 5, Exps 1-1 in Tile ACS 1 (19) (5)	1029 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG -0.0578 1833384296024,6.625324827790601; LOW-SKY	Pattern 6, Exps 2-2 in Tile ACS 1 (19) (6)	1125 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]*** ***[3]***

Orbit Structure






Orbit 3
Server Version: 20120802
Unused Visibility = 247
GS Reacq
Pointing Maneuver
Low Sky Limit
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 13039, Final ACS pointing (13), implementation Fri Sep 07 01:51:16 GMT 2012

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: SCHED 100%; SAME ORIENT AS 09

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	ULASJ1120+0641	RA: 11 20 1.4830 (170.0061792d) Dec: +06 41 24.36 (6.69010d) Equinox: J2000		V=(?) J(AB)=20.34	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) ULASJ1120+0641	ACS/WFC, ACCUM, WFCENTER	F814W		LOW-SKY		2216 Secs *[==>]*	*[1]*

Orbit Structure