12659 - Strongly Lensed Dusty Star Forming Galaxies: Probing the Physics of Massive Galaxy Formation

Cycle: 19, Proposal Category: GO

(Availability Mode: SUPPORTED)

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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) 0027-50	WFC3/IR	1	12-Oct-2011 21:45:11.0	yes
02	(2) 0346-52	WFC3/IR	1	12-Oct-2011 21:45:22.0	yes
03	(3) 0103-45	WFC3/IR	1	12-Oct-2011 21:45:30.0	yes
04	(4) 0243-49	WFC3/IR	1	12-Oct-2011 21:45:40.0	yes
05	(5) 0345-47	WFC3/IR	1	12-Oct-2011 21:45:48.0	yes
06	(6) 0538-50	WFC3/IR	1	12-Oct-2011 21:45:57.0	yes
07	(7) 0113-46	WFC3/IR	1	12-Oct-2011 21:46:06.0	yes
08	(8) 0441-46	WFC3/IR	1	12-Oct-2011 21:46:14.0	yes
09	(9) 2134-50	WFC3/IR	1	12-Oct-2011 21:46:23.0	yes
10	(10) 0319-47	WFC3/IR	1	12-Oct-2011 21:46:31.0	yes
11	(11) 0551-50	WFC3/IR	1	12-Oct-2011 21:46:42.0	yes
12	(12) 0020-51	WFC3/IR	1	12-Oct-2011 21:46:50.0	yes
13	(13) 2031-51	WFC3/IR	1	12-Oct-2011 21:47:00.0	yes
14	(14) 2357-51	WFC3/IR	1	12-Oct-2011 21:47:09.0	yes
15	(15) 2353-50	WFC3/IR	1	12-Oct-2011 21:47:15.0	yes
16	(16) 0550-53	WFC3/IR	1	12-Oct-2011 21:47:23.0	yes
17	(17) 2351-57	WFC3/IR	1	12-Oct-2011 21:47:31.0	yes
18	(18) 0532-50	WFC3/IR	1	12-Oct-2011 21:47:39.0	yes

18 Total Orbits Used

ABSTRACT

The South Pole Telescope (SPT) has recently discovered a new population of extraordinarily millimeter-bright objects in a deep, 1300-square-degree survey of the southern sky. Our extensive two-year follow-up campaign to investigate the nature of these objects has demonstrated that they are high-redshift, strongly lensed, dusty, star-forming galaxies (DSFGs). Gravitational lensing magnifies these sources by factors of 10 to 100, providing a unique opportunity to study these objects in greater detail and at lower cost than would otherwise be possible. We propose to obtain two-color WFC3 imaging for a representative sample of 18 SPT sources, all of which have precise positions from millimeter interferometers and deep near-infrared (NIR) imaging with Spitzer/IRAC and/or ground-based facilities. HST imaging is the only way to achieve the angular resolution and sensitivity required to separate NIR emission from the lensed galaxies from the much brighter lenses. These observations are essential to using these objects to probe extreme galaxy formation processes in the early universe---from these data and ground-based redshifts we will construct the lens models needed to determine the intrinsic properties of the sources and the spatial extent of the star formation activity. Only through the unique capabilities of Hubble can we interpret our other observations and fully exploit the magnified view of the early universe afforded by these objects.

OBSERVING DESCRIPTION

We are observing 18 targets for 1 orbit each with WFC3. Each orbit will be split (roughly) equally between F110W and F160W. We will implement dithering optimised for maximum reoslution.

Visit

Proposal 12659, Visit 01, scheduling Thu Oct 13 01:47:47 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

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)

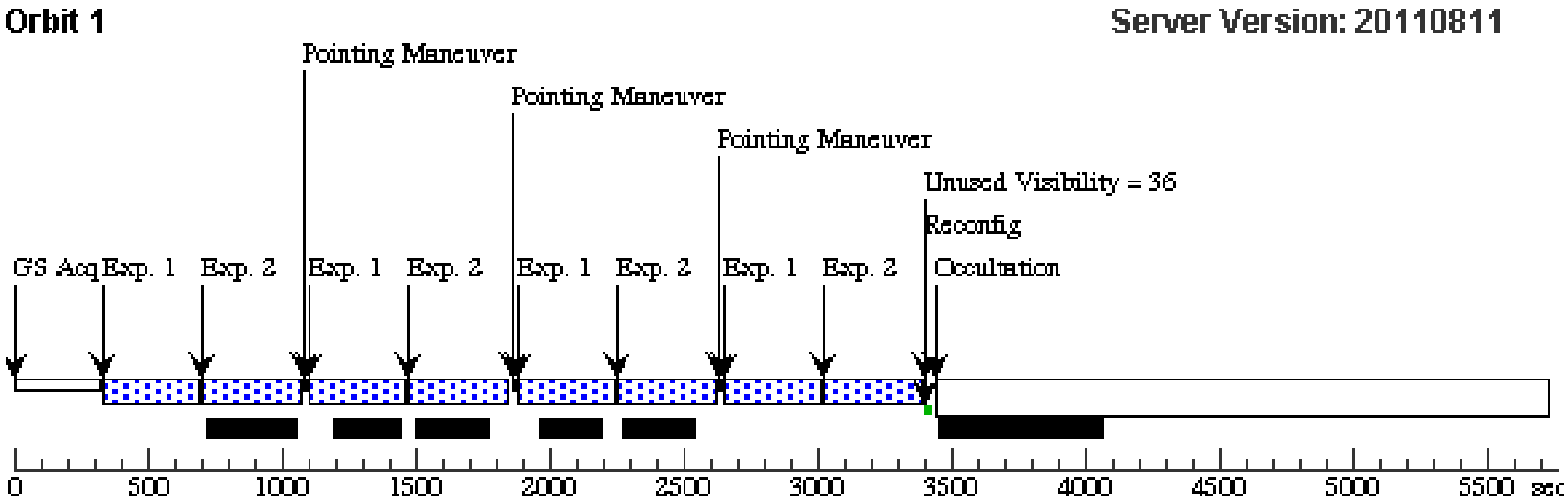
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	0027-50	RA: 00 27 6.8400 (6.7785000d) Dec: -50 07 19.00 (-50.12194d) Equinox: J2000		V=30+/-1 S_1.4mm = 47.9 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) 0027-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 01 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) 0027-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 01 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 12659, Visit 02, scheduling Thu Oct 13 01:47:49 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

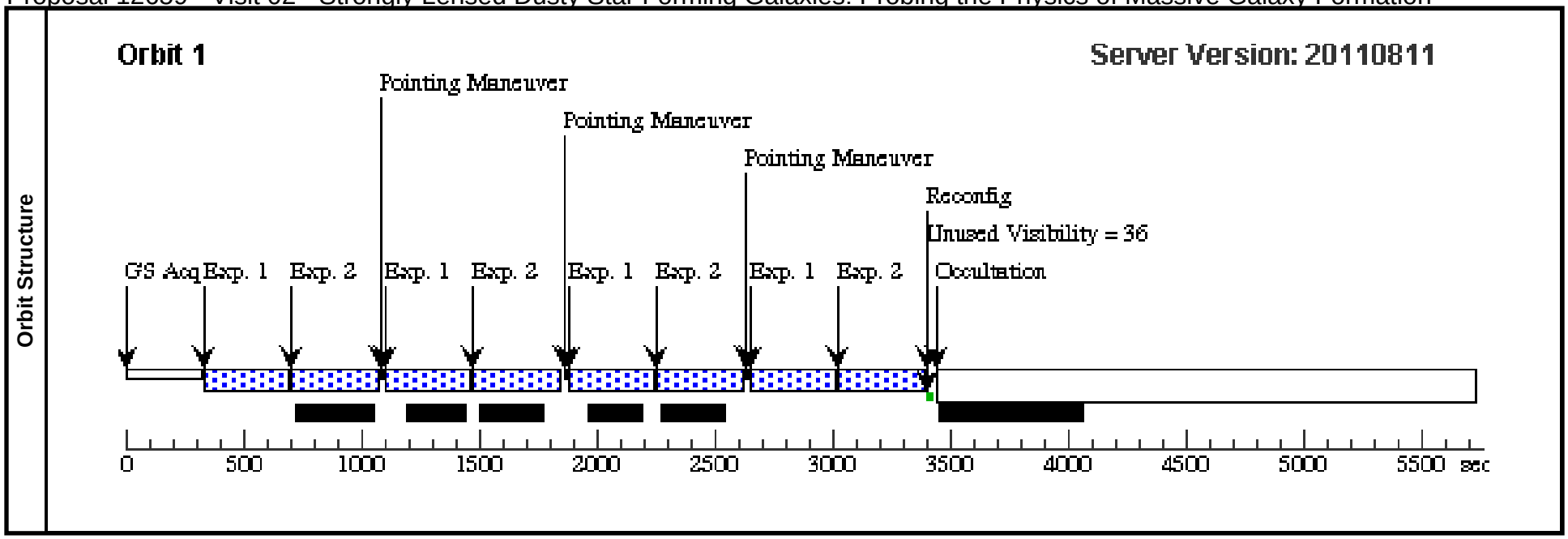
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	0346-52	RA: 03 46 41.1900 (56.6716250d) Dec: -52 05 5.50 (-52.08486d) Equinox: J2000		V=30+/-1 S_1.4mm = 44.5 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) 0346-52	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 02 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(2) 0346-52	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 02 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 36
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 03, scheduling Thu Oct 13 01:47:50 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

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)

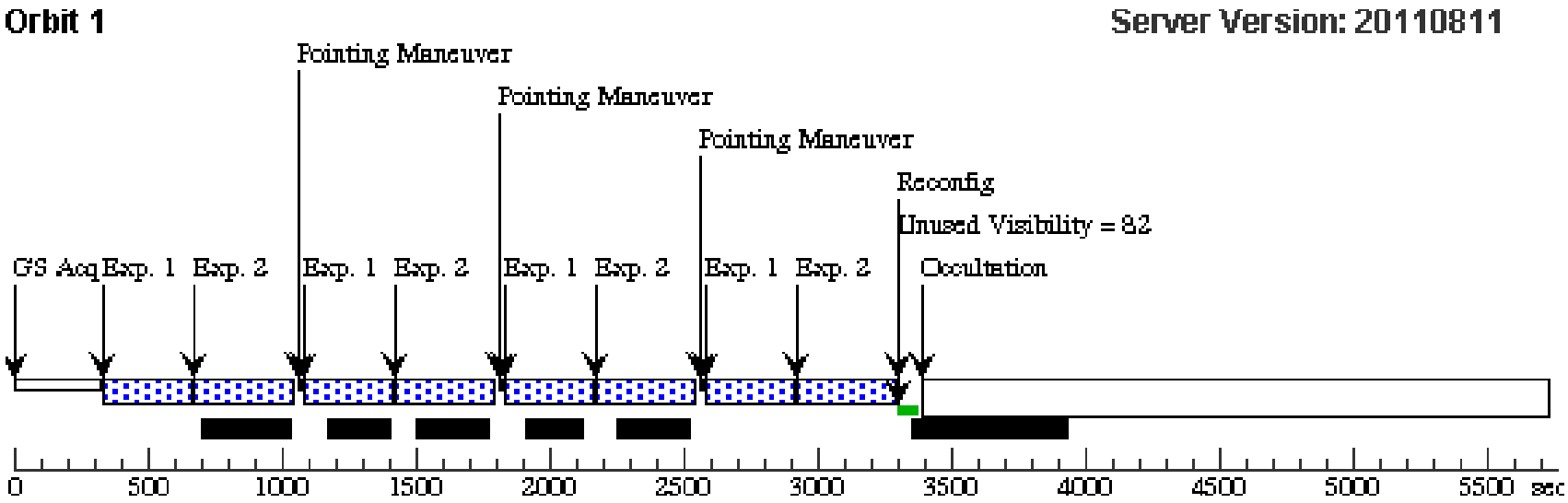
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	0103-45	RA: 01 03 11.5700 (15.7982083d) Dec: -45 38 51.90 (-45.64775d) Equinox: J2000		V=30+/-1 S_1.4mm = 38.6 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(3) 0103-45	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13		Pattern 1, Exps 1-2 in Visit 03 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(3) 0103-45	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 03 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 12659, Visit 04, scheduling Thu Oct 13 01:47:51 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

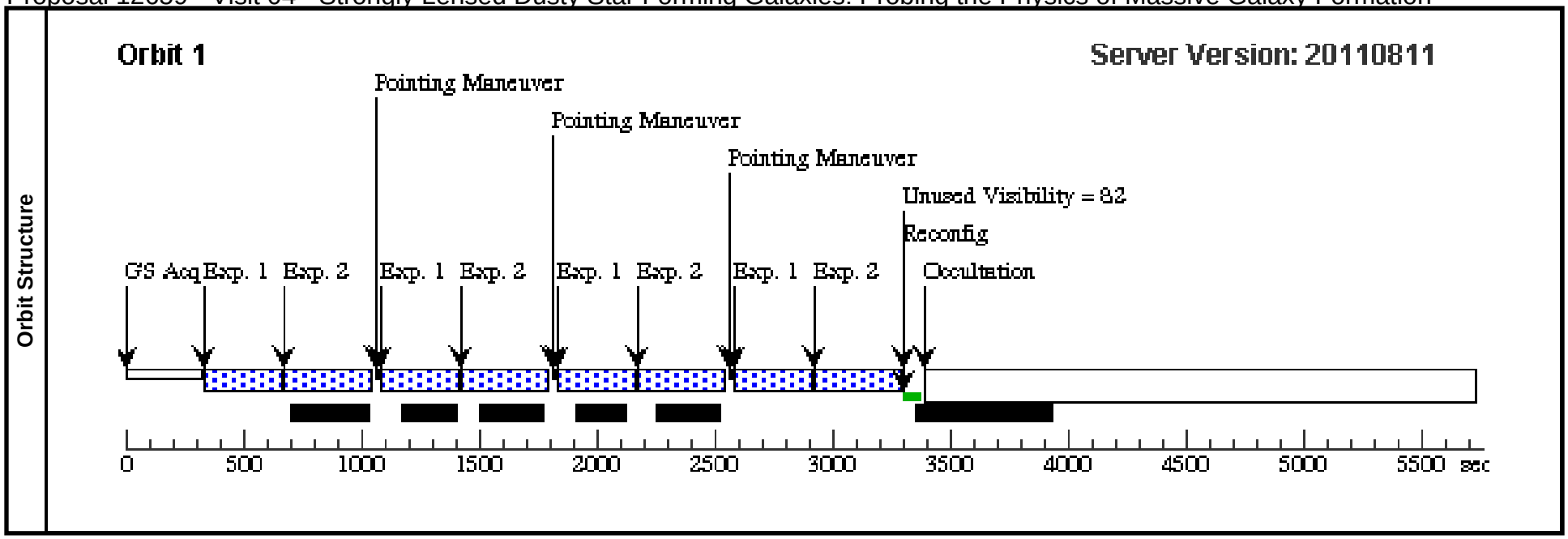
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	0243-49	RA: 02 43 9.0700 (40.7877917d) Dec: -49 15 33.00 (-49.25917d) Equinox: J2000		V=30+/-1 S_1.4mm = 36.3 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(4) 0243-49	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13		Pattern 1, Exps 1-2 in Visit 04 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(4) 0243-49	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 04 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 82
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 05, implementation Thu Oct 13 01:47:52 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 232.88D TO 232.88 D

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)

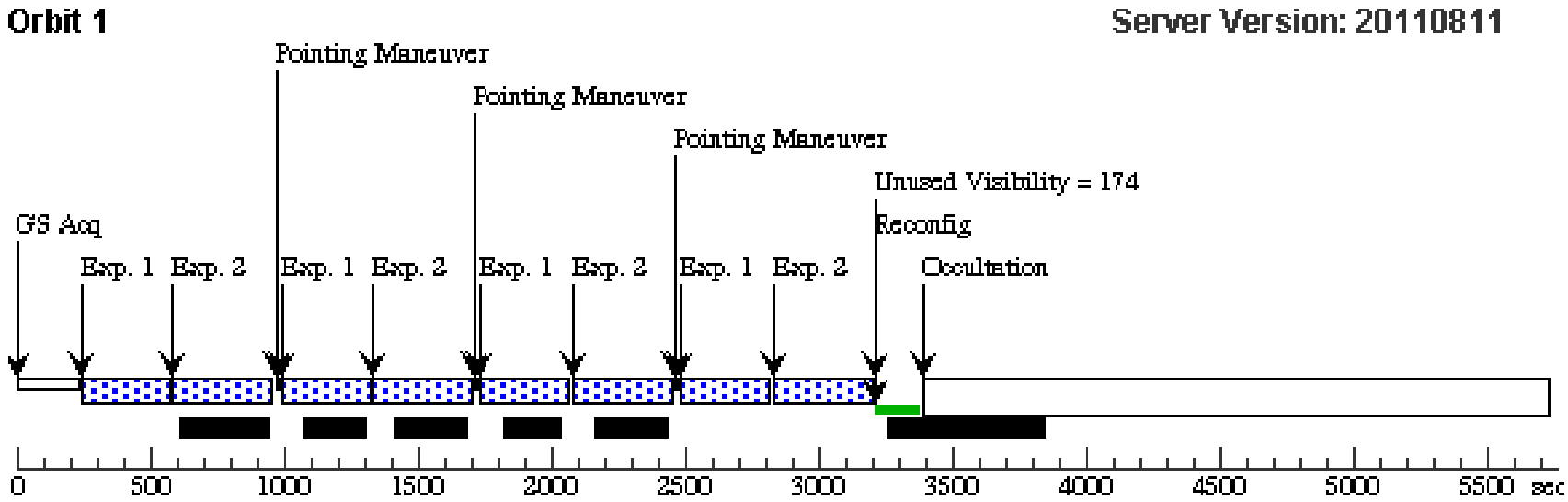
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	0345-47	RA: 03 45 10.9700 (56.2957083d) Dec: -47 25 40.90 (-47.42803d) Equinox: J2000		V=30+/-1 S_1.4mm = 32.8 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(5) 0345-47	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13	GS ACQ SCENARIO SINGLE	Pattern 1, Exps 1-2 in Visit 05 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(5) 0345-47	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 05 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 12659, Visit 06, completed Thu Oct 13 01:47:52 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

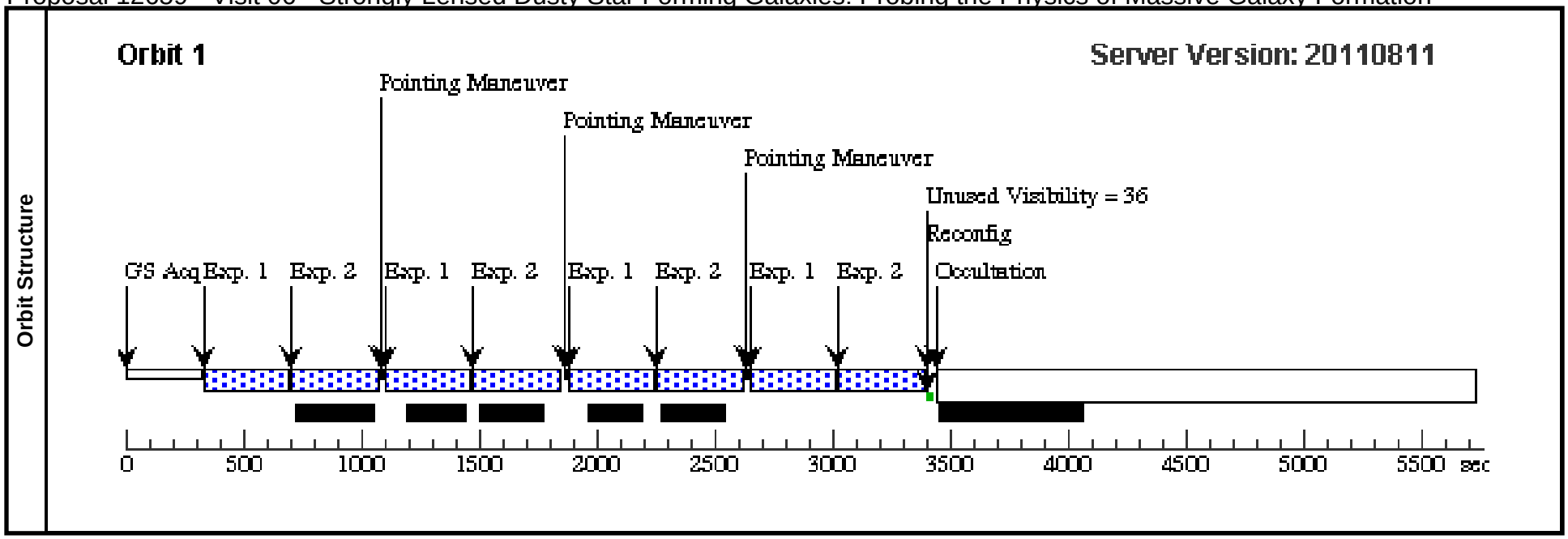
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	0538-50	RA: 05 38 16.8300 (84.5701250d) Dec: -50 30 52.00 (-50.51444d) Equinox: J2000		V=30+/-1 S_1.4mm = 31.3 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(6) 0538-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 06 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(6) 0538-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 06 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 36
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 07, scheduling Thu Oct 13 01:47:53 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

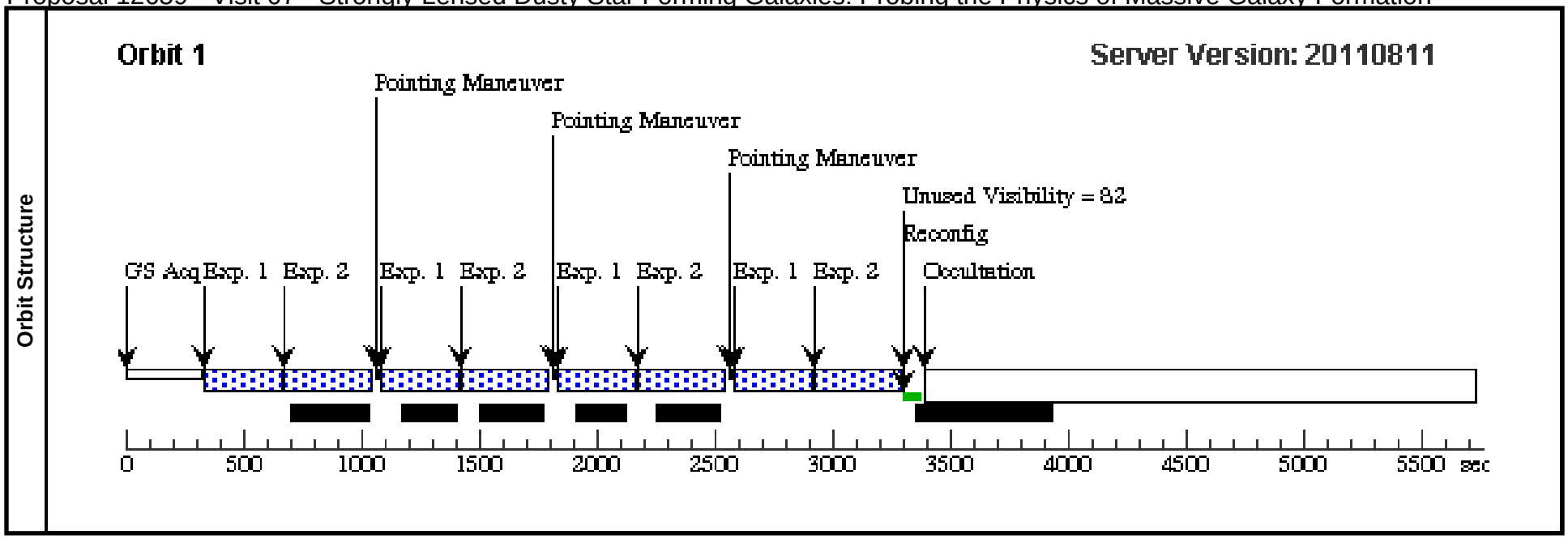
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	0113-46	RA: 01 13 9.8200 (18.2909167d) Dec: -46 17 52.20 (-46.29783d) Equinox: J2000		V=30+/-1 S_1.4mm = 30.8 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(7) 0113-46	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13		Pattern 1, Exps 1-2 in Visit 07 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(7) 0113-46	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 07 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 82
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 08, scheduling Thu Oct 13 01:47:53 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

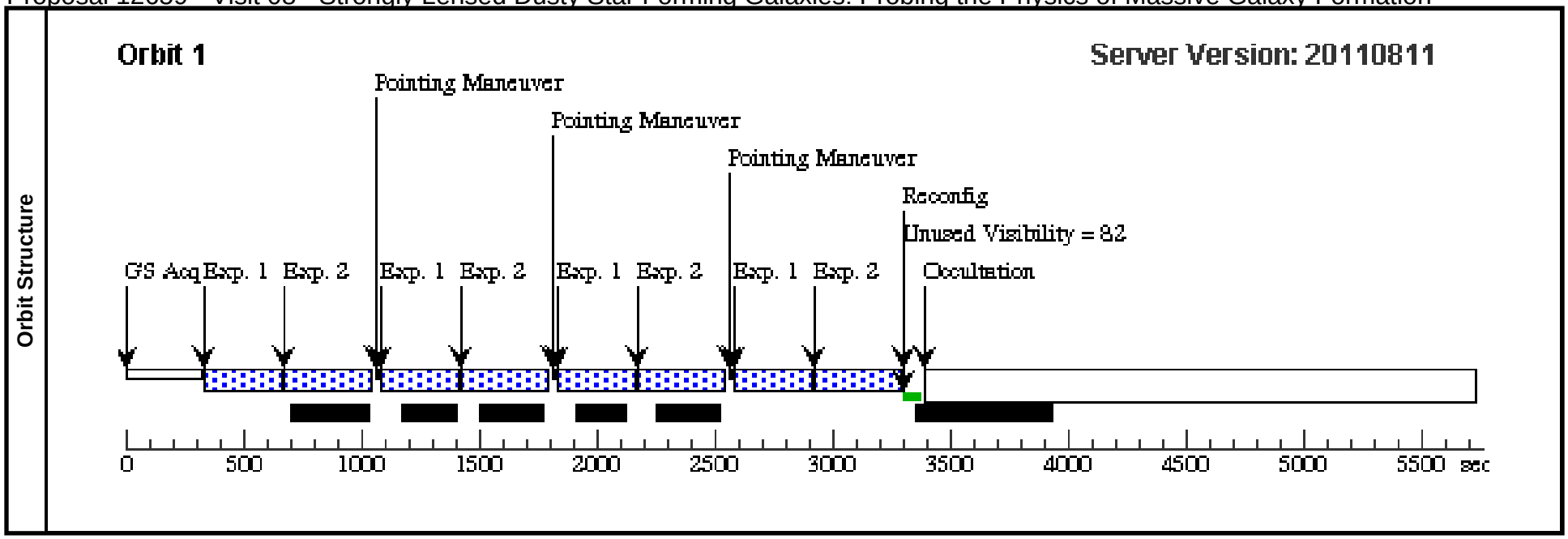
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	0441-46	RA: 04 41 44.1300 (70.4338750d) Dec: -46 05 29.50 (-46.09153d) Equinox: J2000		V=30+/-1 S_1.4mm = 30.6 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(8) 0441-46	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13		Pattern 1, Exps 1-2 in Visit 08 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(8) 0441-46	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 08 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 82
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 09, scheduling Thu Oct 13 01:47:54 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

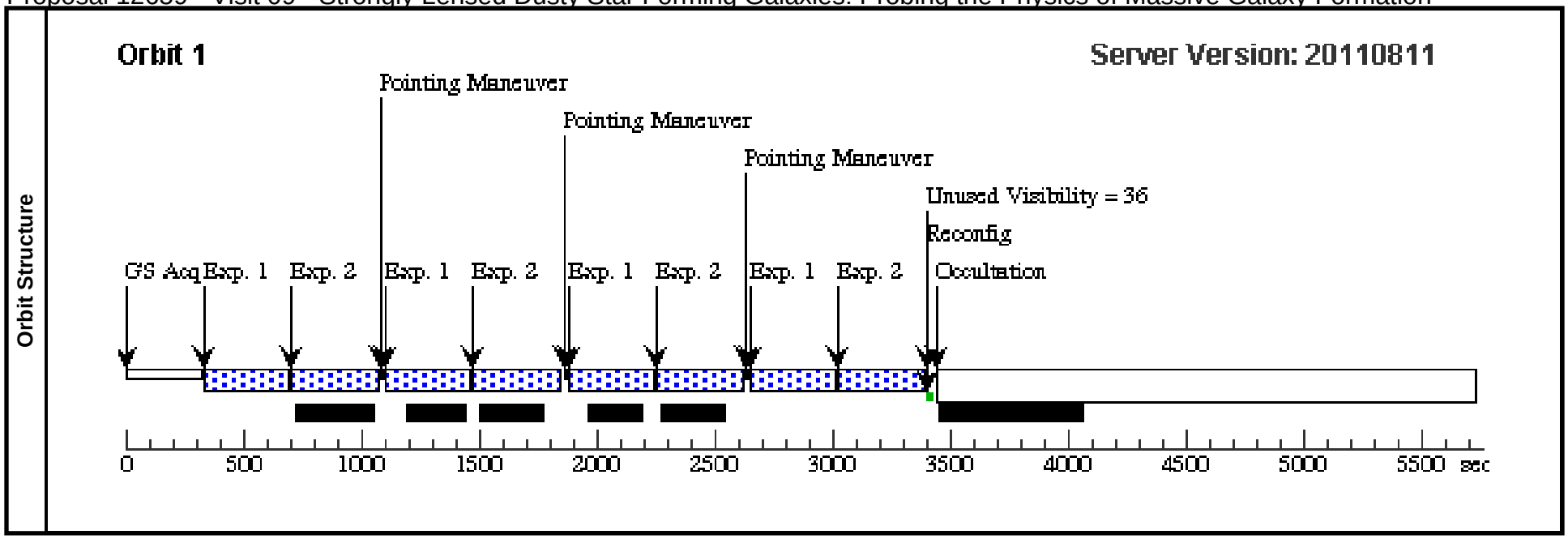
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	2134-50	RA: 21 34 3.8500 (323.5160417d) Dec: -50 13 27.10 (-50.22419d) Equinox: J2000		V=30+/-1 S_1.4mm = 28.4 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(9) 2134-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 09 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(9) 2134-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 09 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 36
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 10, scheduling Thu Oct 13 01:47:54 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

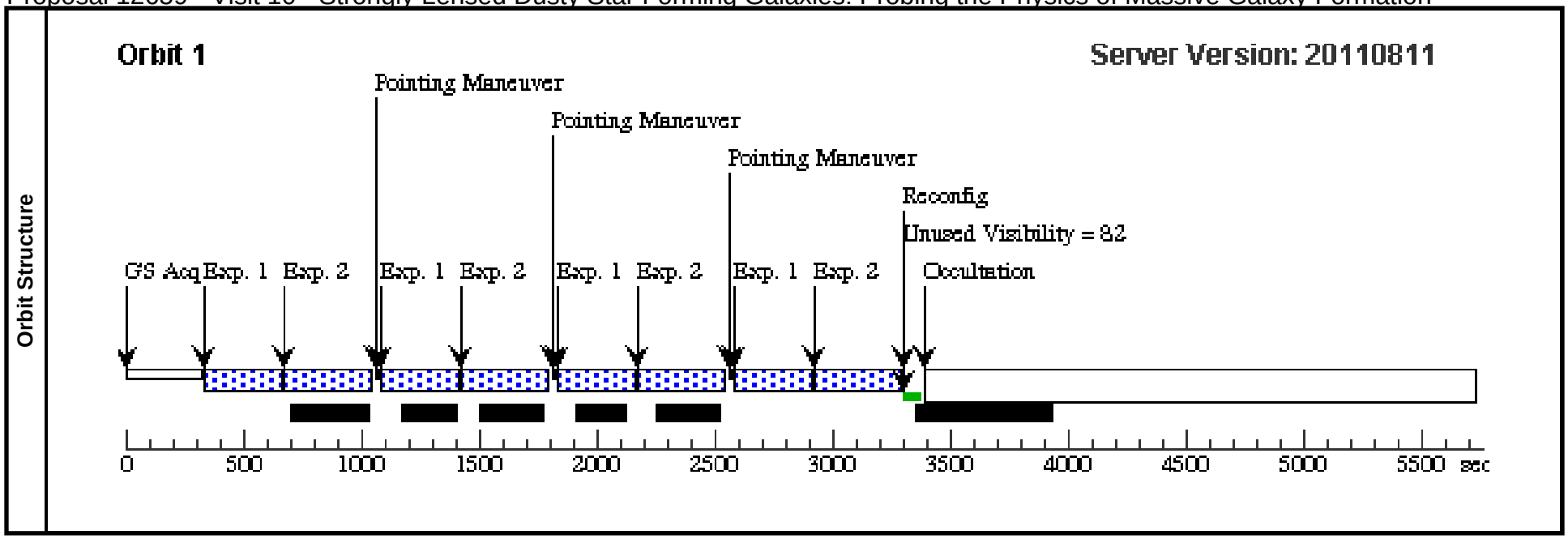
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	0319-47	RA: 03 19 32.3700 (49.8848750d) Dec: -47 24 33.20 (-47.40922d) Equinox: J2000		V=30+/-1 S_1.4mm = 28.4 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(10) 0319-47	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=13		Pattern 1, Exps 1-2 in Visit 10 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(10) 0319-47	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 10 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 82
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 11, completed Thu Oct 13 01:47:55 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

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)

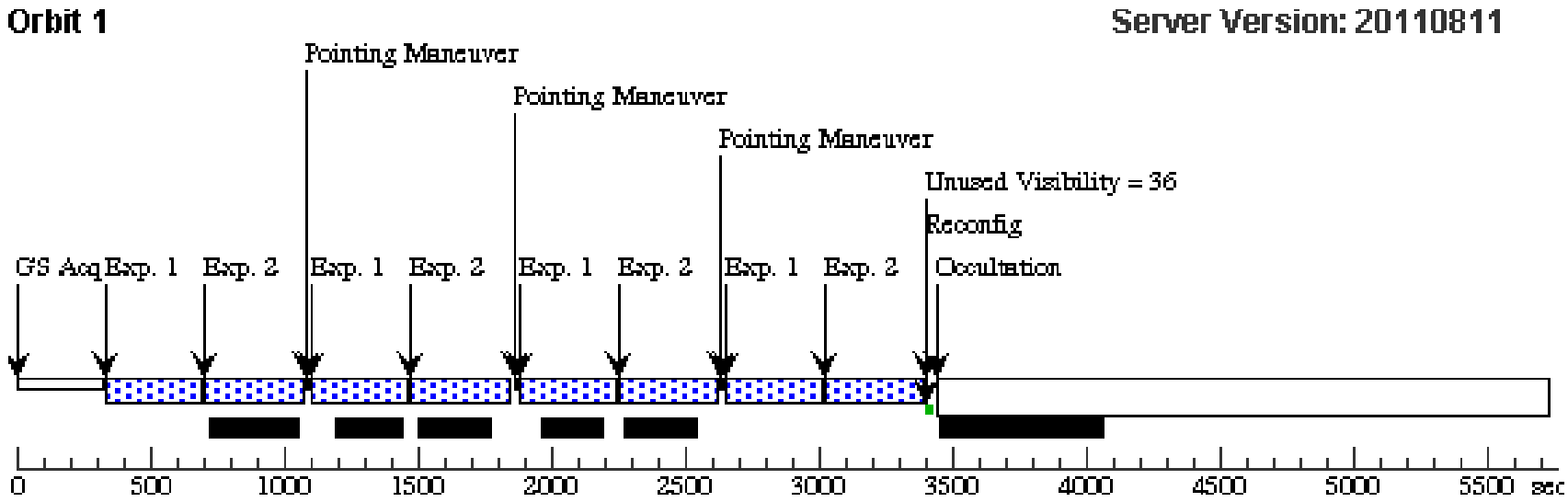
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	0551-50	RA: 05 51 38.9700 (87.9123750d) Dec: -50 58 3.30 (-50.96758d) Equinox: J2000		V=30+/-1 S_1.4mm = 28.1 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(11) 0551-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 11 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(11) 0551-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 11 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 12659, Visit 12, scheduling Thu Oct 13 01:47:56 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

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)

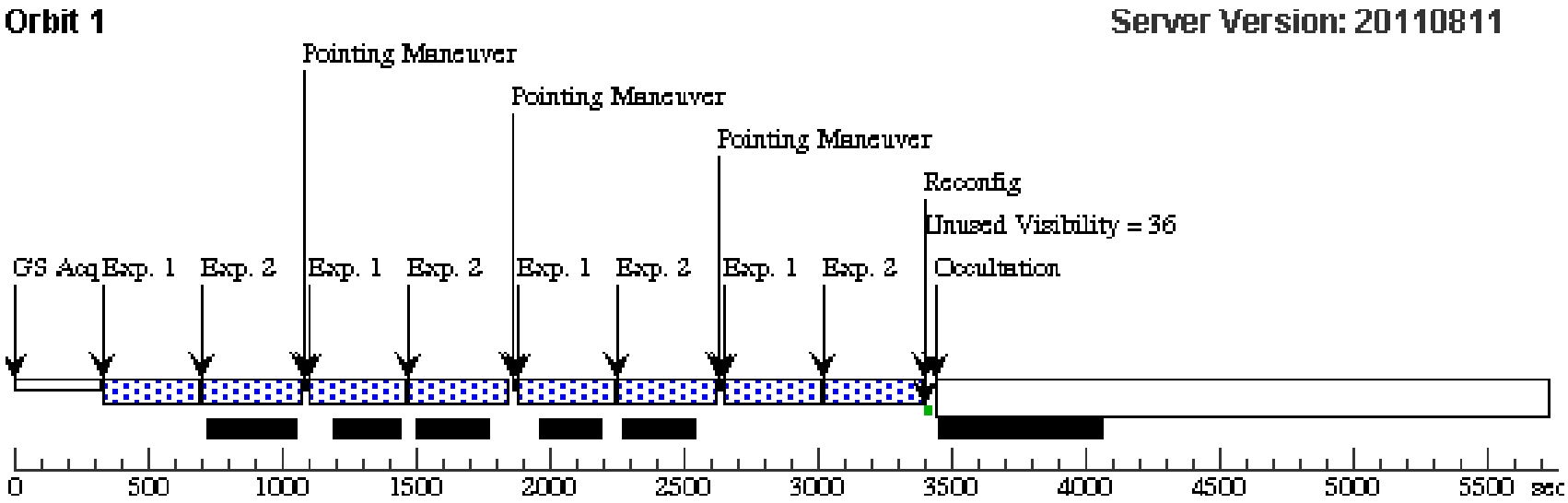
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	0020-51	RA: 00 20 23.4500 (5.0977083d) Dec: -51 46 34.80 (-51.77633d) Equinox: J2000		V=30+/-1 S_1.4mm = 25.3 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(12) 0020-51	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 12 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(12) 0020-51	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 12 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 12659, Visit 13, scheduling Thu Oct 13 01:47:56 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

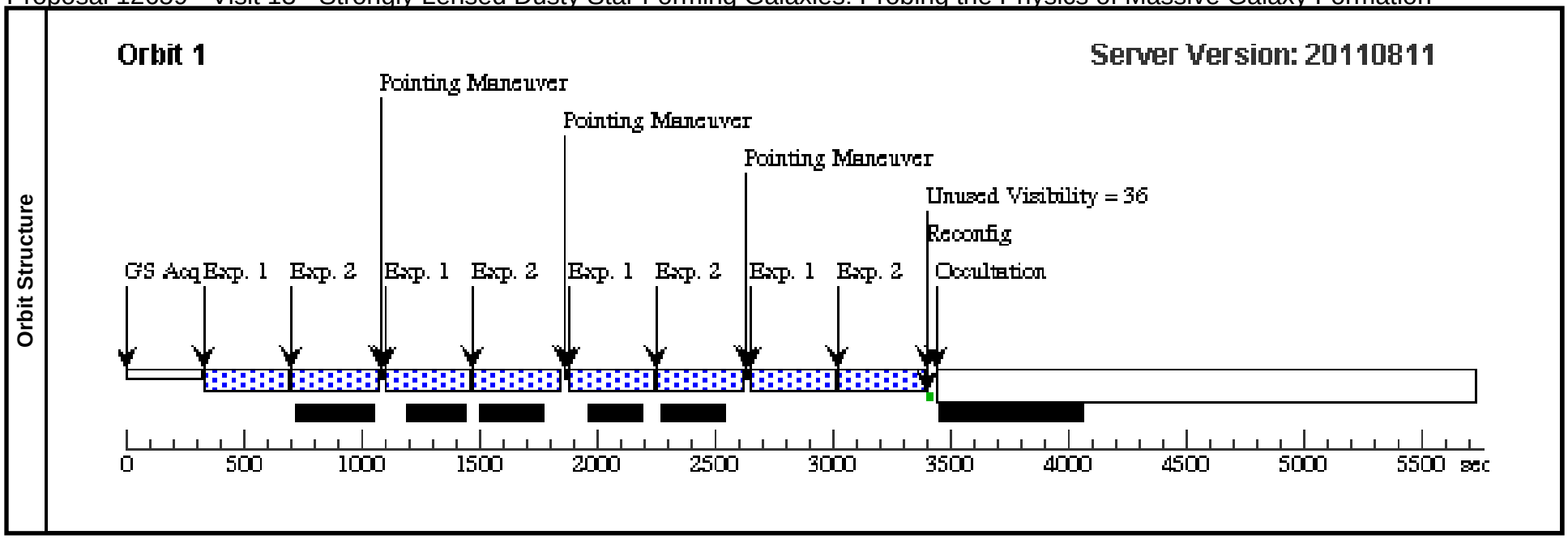
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	2031-51	RA: 20 30 59.3300 (307.7472083d) Dec: -51 12 26.40 (-51.20733d) Equinox: J2000		V=30+/-1 S_1.4mm = 25.0 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(13) 2031-51	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 13 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(13) 2031-51	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 13 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 36
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 14, scheduling Thu Oct 13 01:47:57 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

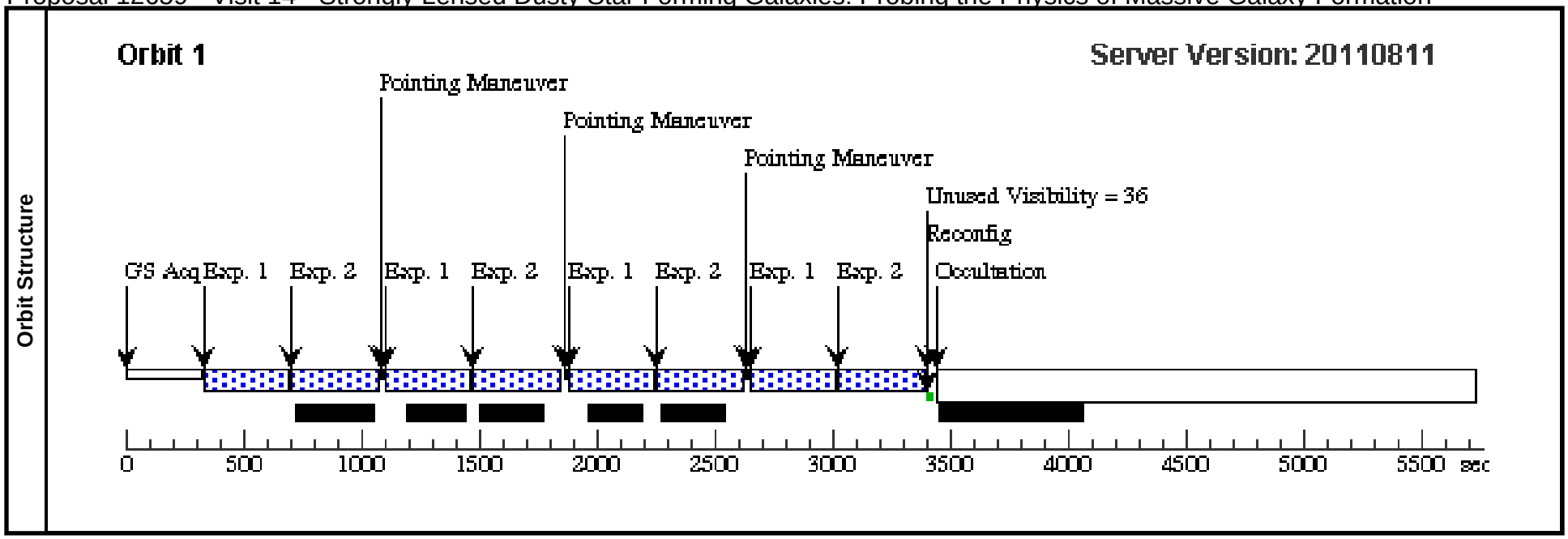
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	2357-51	RA: 23 57 17.6900 (359.3237083d) Dec: -51 53 47.40 (-51.89650d) Equinox: J2000		V=30+/-1 S_1.4mm = 22.6 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(14) 2357-51	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 14 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(14) 2357-51	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 14 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 36
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 15, scheduling Thu Oct 13 01:47:57 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

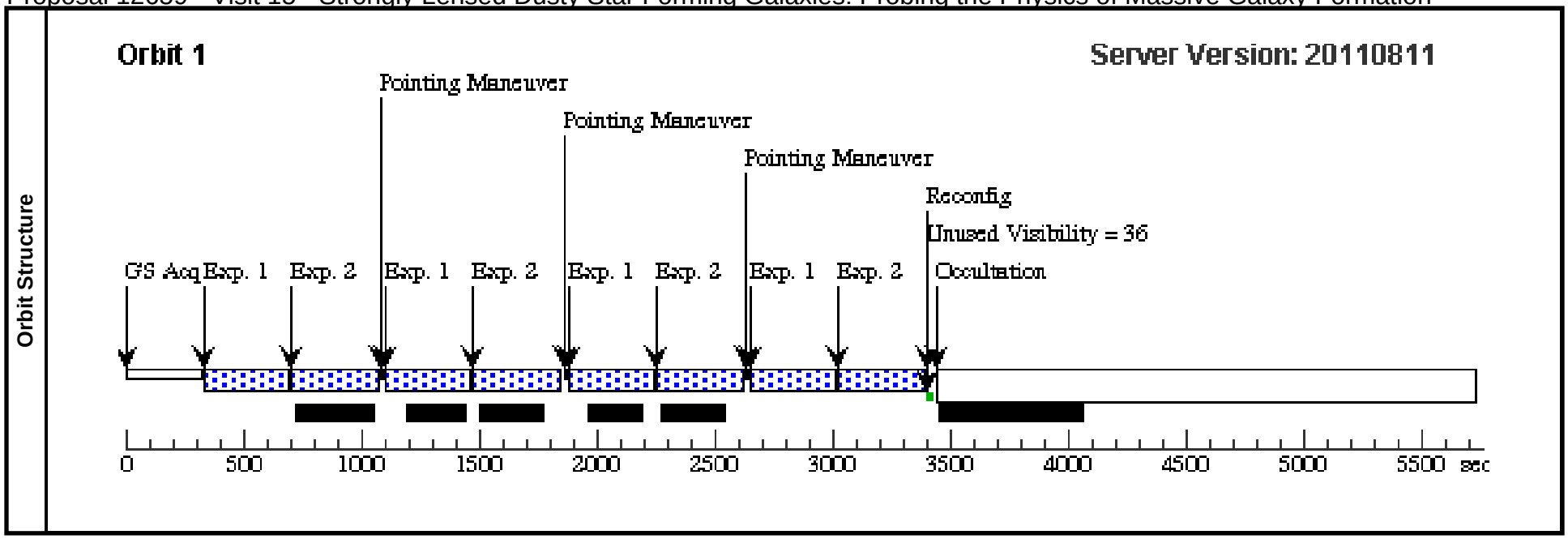
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	2353-50	RA: 23 53 39.5000 (358.4145833d) Dec: -50 10 4.60 (-50.16794d) Equinox: J2000		V=30+/-1 S_1.4mm = 21.7 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(15) 2353-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 15 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(15) 2353-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 15 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 36
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 16, completed Thu Oct 13 01:47:57 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

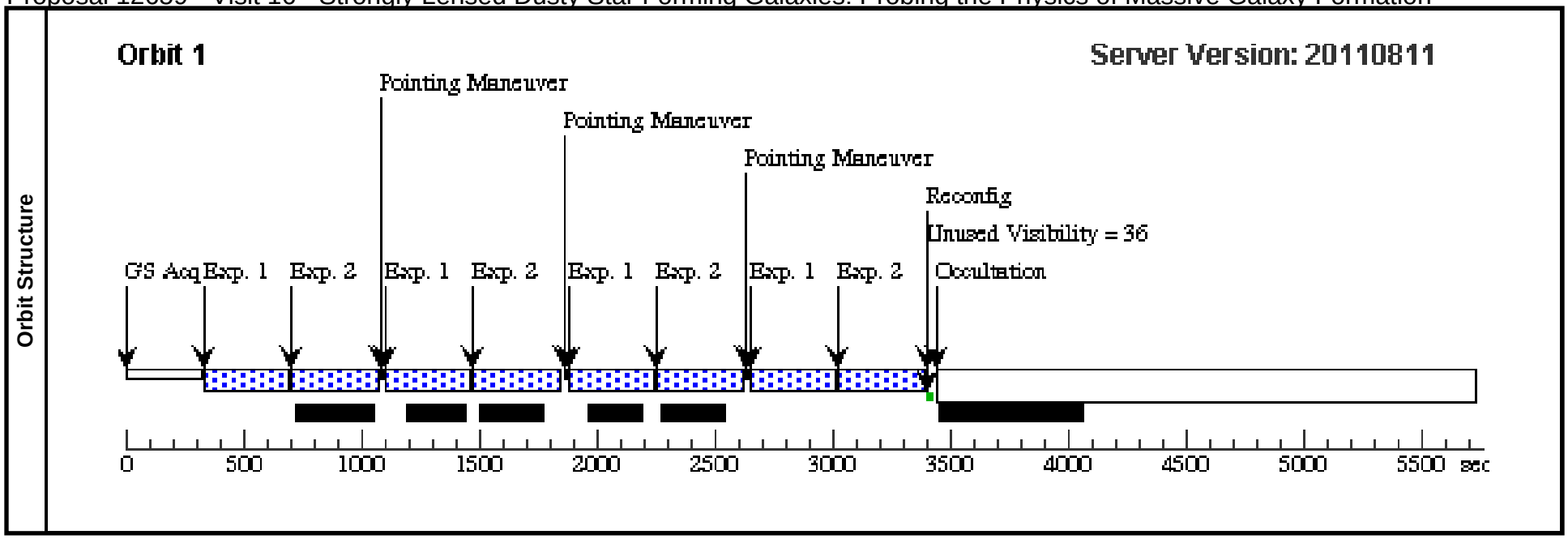
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	0550-53	RA: 05 50 1.0800 (87.5045000d) Dec: -53 56 41.20 (-53.94478d) Equinox: J2000		V=30+/-1 S_1.4mm = 21.0 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(16) 0550-53	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 16 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(16) 0550-53	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 16 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 36
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 17, scheduling Thu Oct 13 01:47:58 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

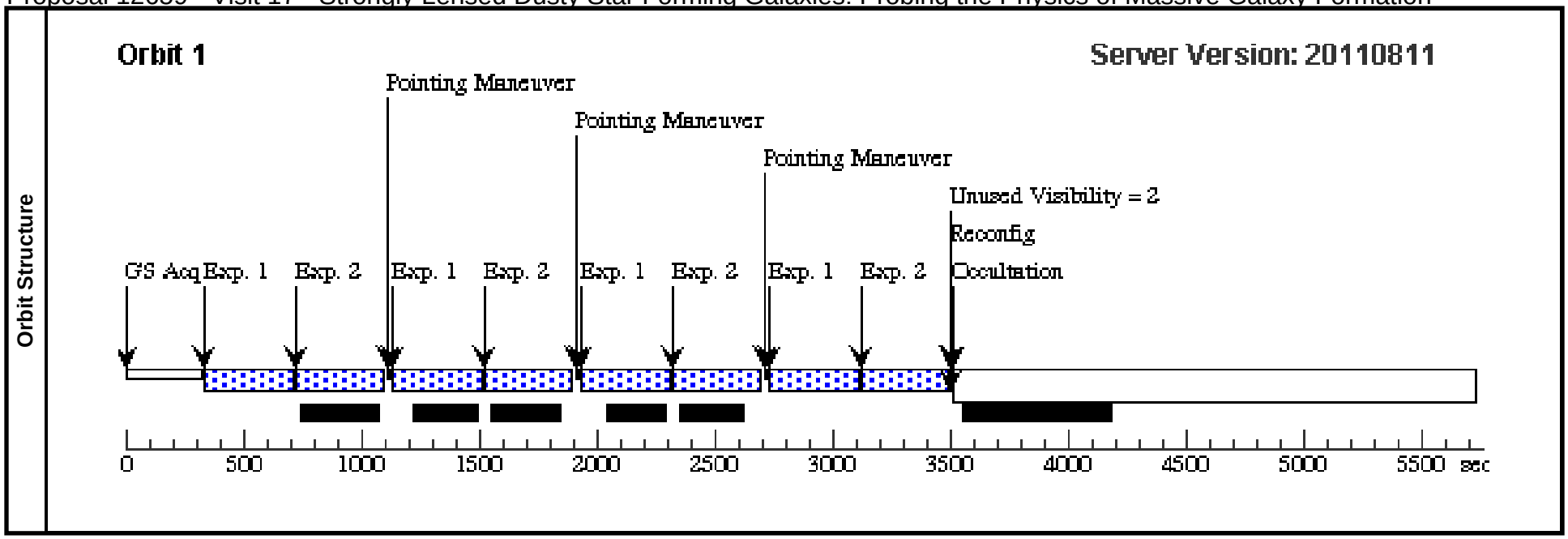
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(17)	2351-57	RA: 23 51 51.0300 (357.9626250d) Dec: -57 22 16.40 (-57.37122d) Equinox: J2000		V=30+/-1 S_1.4mm = 19.5 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(17) 2351-57	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=15		Pattern 1, Exps 1-2 in Visit 17 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(17) 2351-57	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 17 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110811
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 2
Reconfig
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Exp. 1
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12659, Visit 18, completed Thu Oct 13 01:47:58 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

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)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(18)	0532-50	RA: 05 32 51.2700 (83.2136250d) Dec: -50 47 9.50 (-50.78597d) Equinox: J2000		V=30+/-1 S_1.4mm = 42.2 mJy	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(18) 0532-50	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS25; NSAMP=14		Pattern 1, Exps 1-2 in Visit 18 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(18) 0532-50	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS50; NSAMP=8		Pattern 1, Exps 1-2 in Visit 18 (1)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure