11602 - High-resolution imaging of three new UV-bright lensed arcs

Cycle: 17, 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) LRG-3-817	WFC3/UVIS	5	02-Jul-2008 21:54:50.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
04	(1) LRG-3-817	WFC3/IR	2	02-Jul-2008 21:55:03.0	yes
02	(2) LRG-3-757	WFC3/UVIS	5	02-Jul-2008 21:55:11.0	yes
05	(2) LRG-3-757	WFC3/IR	2	02-Jul-2008 21:55:18.0	yes
03	(3) LRG-4-606	WFC3/UVIS	5	02-Jul-2008 21:55:29.0	yes
06	(3) LRG-4-606	WFC3/IR	2	02-Jul-2008 21:55:35.0	yes

21 Total Orbits Used

ABSTRACT

We have identified and spectroscopically confirmed three new strongly lensed, UV-bright star-forming galaxies at z ~ 2 that are similar to the well-studied gravitationally lensed Lyman Break Galaxy (LBG) MS1512-cB58, and are of comparable brightness to the "8 O'Clock Arc" (Allam et al. 2007) and "Clone" systems (Lin et al. 2008). The 8 O'Clock Arc and Clone have already been awarded 20 orbits for deep WFPC2 and NICMOS imaging in five bands (HST cycle 16, Program 11167, PI: Allam). Adding these three recently discovered objects thus completes a unique set of the brightest known strongly lensed galaxies at z ~ 2, with magnitudes of r~20-21, and they provide a new window into the detailed study of the properties of high redshift galaxies. We propose 21 orbits for deep WFC3 imaging in five bands (F475W, F606W, F814W, F110W, and F160W) in order to construct detailed lensing models, to probe the mass and light profiles of the lensing galaxies and their environments, and to constrain the spectral energy distributions, star formation histories, and morphologies of the lensed galaxies.

OBSERVING DESCRIPTION

Deep multi band optical and NIR imaging using WFC3 (F475W, F606W, F814W, F110W, and F160W) for the three bright strongly lensed Lyman Break galaxies.

Visit

Proposal 11602, Visit 01 Thu Jul 03 01:55:39 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.119 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=33.606 Angle Between Sides= Center Pattern=false	(1), (2), (3)

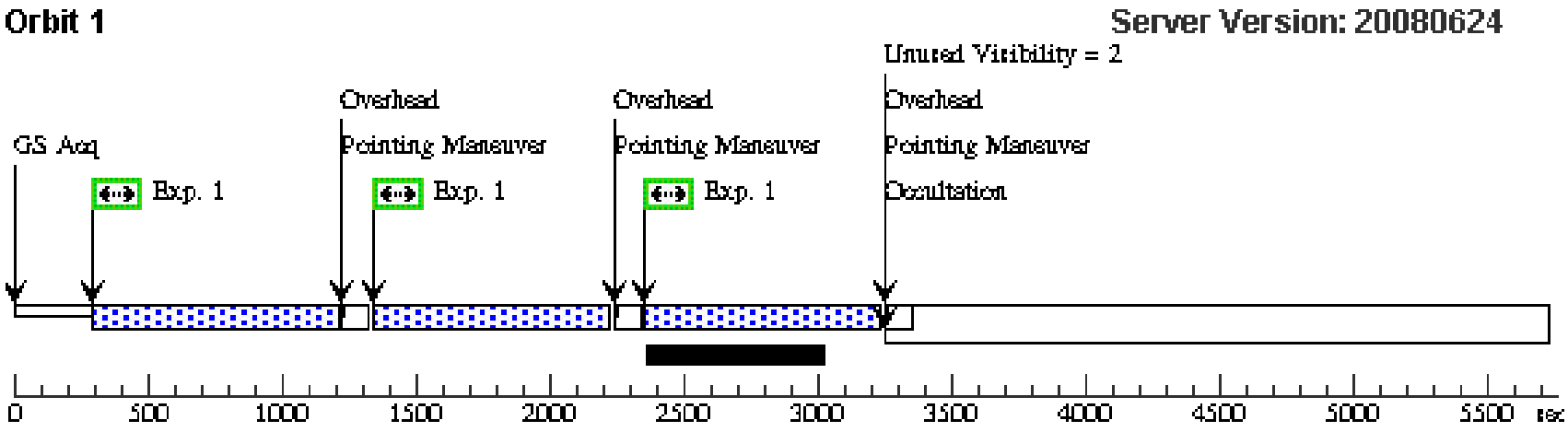
Fixed Targets

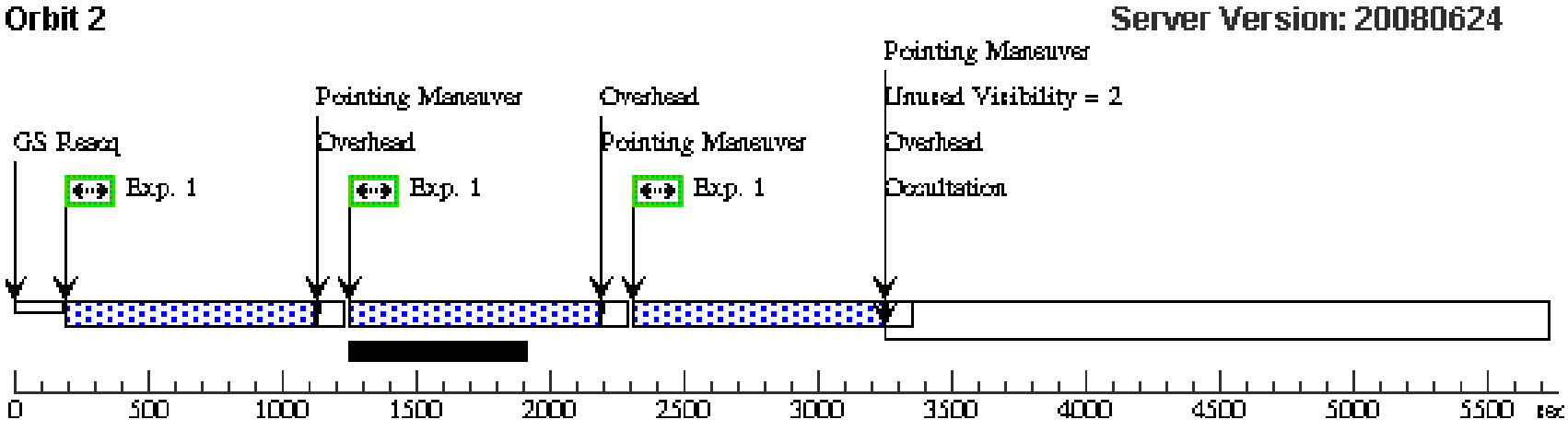
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LRG-3-817	RA: 09 01 21.5400 (135.3397500d) Dec: +18 14 21.60 (18.23933d) Equinox: J2000	Redshift: 2.26	V=21.0 g = 21.5, r = 20.6	Reference Frame: ICRS

Exposures

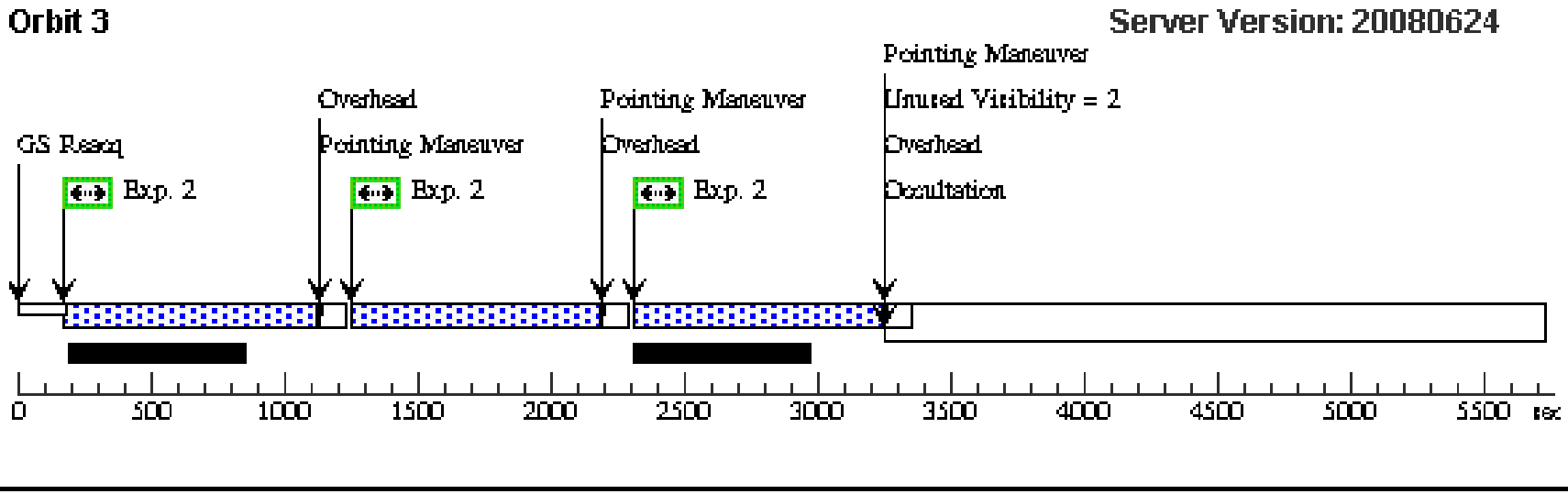
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	obj1-1	(1) LRG-3-817	WFC3/UVIS, ACCUM, UVIS2-FIX	F475W	CR-SPLIT=NO		Pattern 1-1 (1)	450 Secs	
								[==>886.0 Secs (Pattern 1,1)] *[==>886.0 Secs (Pattern 1,2)]* *[==>886.0 Secs (Pattern 2,1)]*	***[1]***
								[==>932.0 Secs (Pattern 2,2)] *[==>932.0 Secs (Pattern 3,1)]* *[==>932.0 Secs (Pattern 3,2)]*	***[2]***
2	obj1-2	(1) LRG-3-817	WFC3/UVIS, ACCUM, UVIS2-FIX	F814W	CR-SPLIT=NO		Pattern 2-2 (1)	450 Secs	
								[==>932.0 Secs (Pattern 1,1)] *[==>932.0 Secs (Pattern 1,2)]* *[==>932.0 Secs (Pattern 2,1)]*	***[3]***
								[==>932.0 Secs (Pattern 2,2)] *[==>932.0 Secs (Pattern 3,1)]* *[==>932.0 Secs (Pattern 3,2)]*	***[4]***
3	obj1-3	(1) LRG-3-817	WFC3/UVIS, ACCUM, UVIS2-FIX	F606W	CR-SPLIT=NO		Pattern 3-3 (1)	450 Secs	
								[==>402.0 Secs (Pattern 1,1)] *[==>402.0 Secs (Pattern 1,2)]* *[==>402.0 Secs (Pattern 2,1)]* *[==>402.0 Secs (Pattern 2,2)]* *[==>402.0 Secs (Pattern 3,1)]* *[==>402.0 Secs (Pattern 3,2)]*	***[5]***

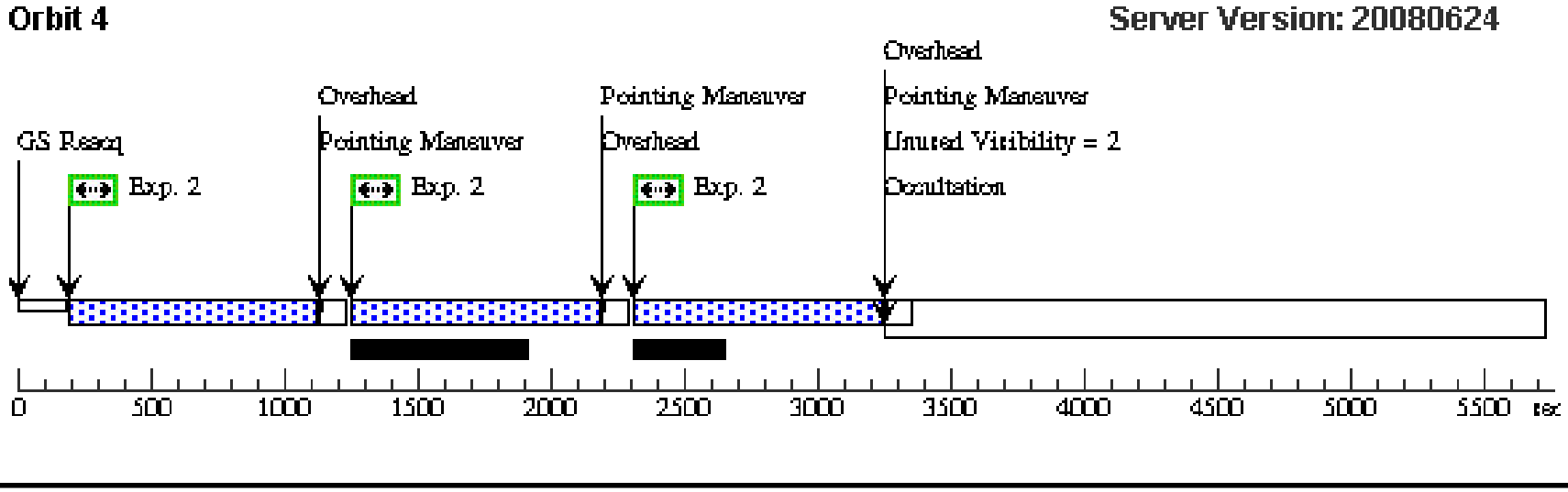
Orbit Structure



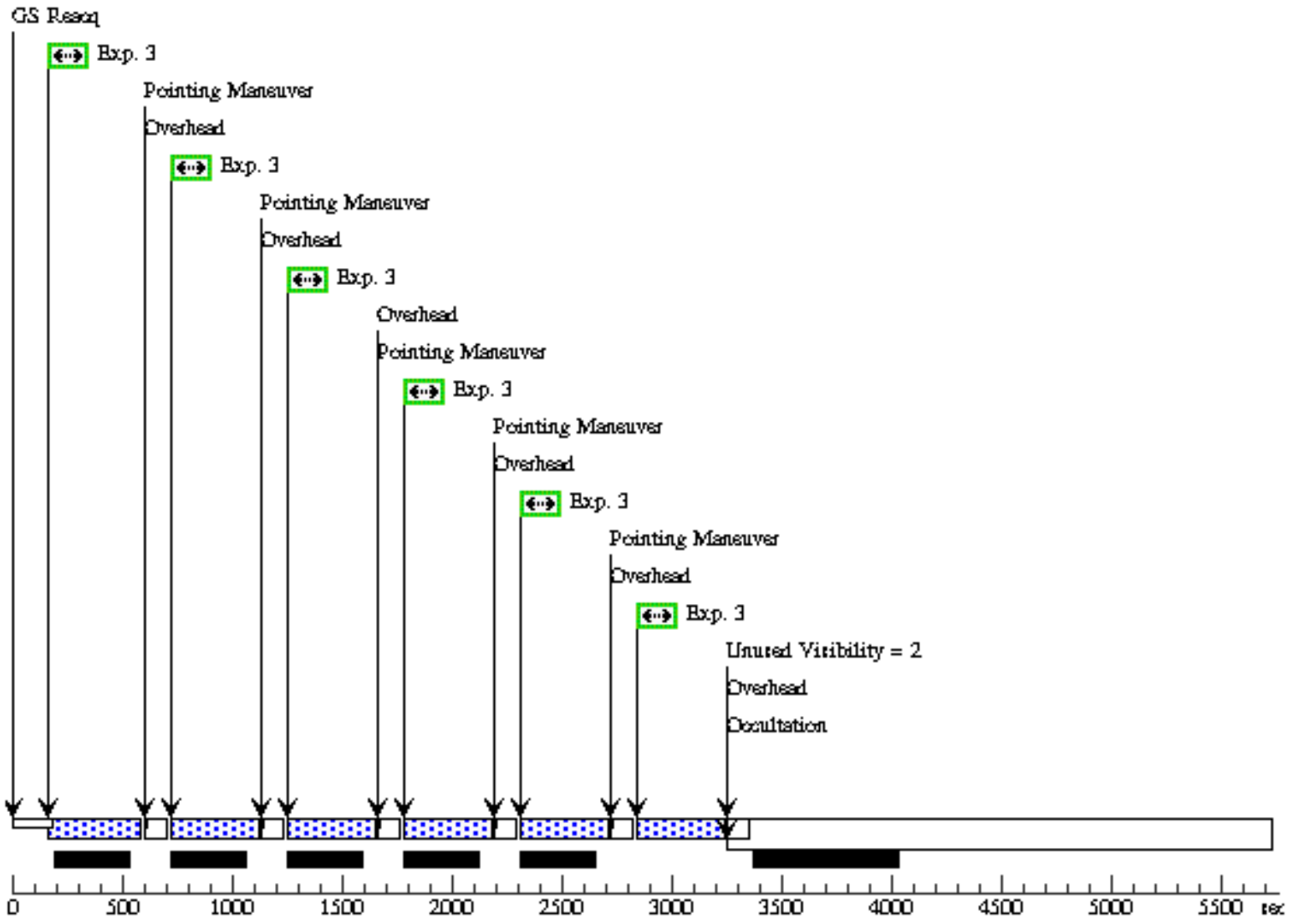


Orbit Structure (continued)





Orbit Structure (continued)



Visit

Proposal 11602, Visit 04 Thu Jul 03 01:55:40 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 01

Patterns

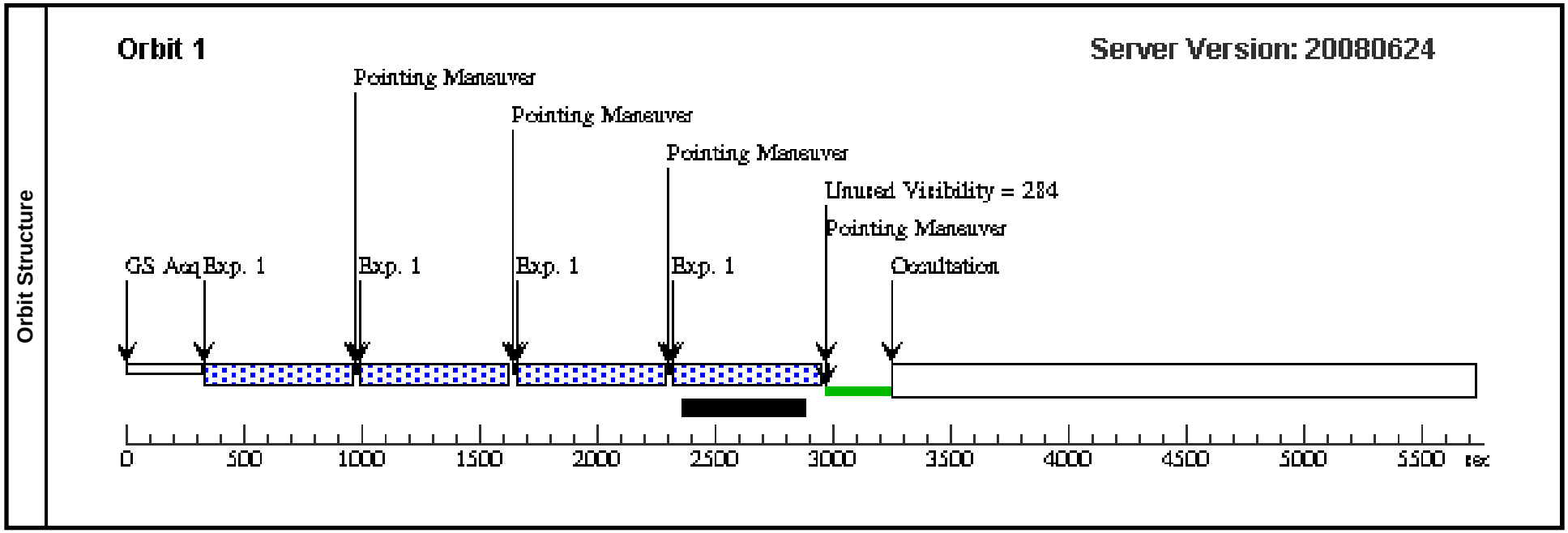
#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1), (2)

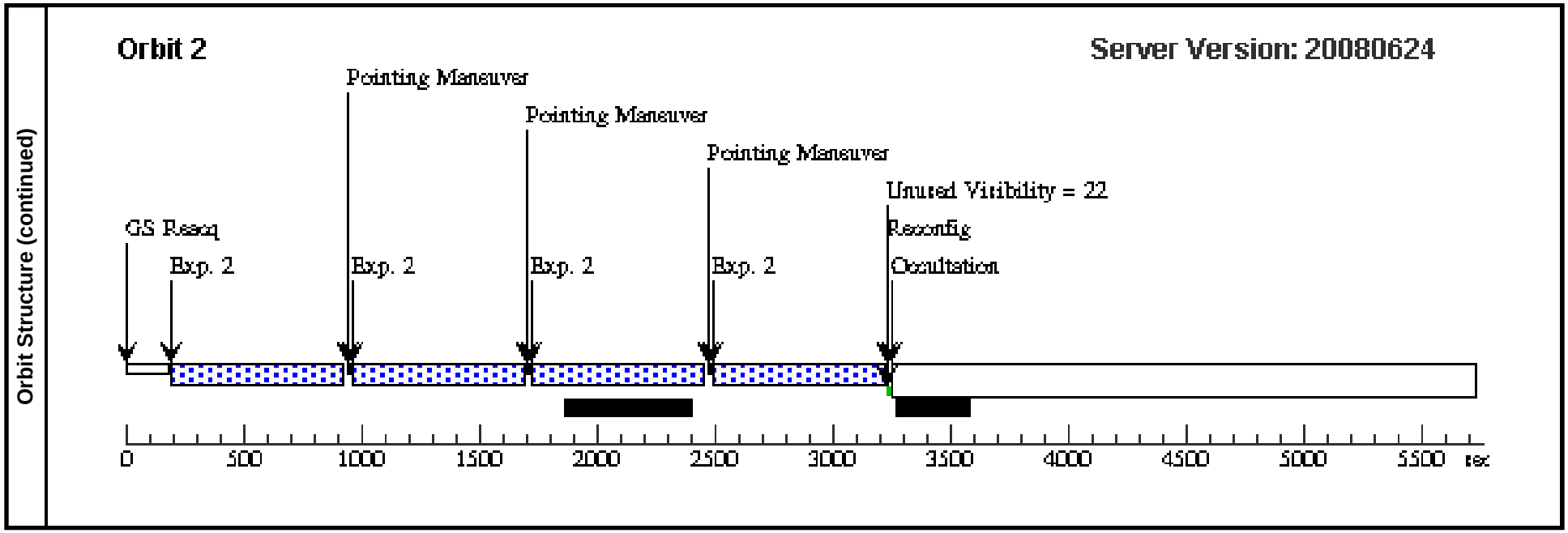
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	LRG-3-817	RA: 09 01 21.5400 (135.3397500d) Dec: +18 14 21.60 (18.23933d) Equinox: J2000	Redshift: 2.26	V=21.0 g = 21.5, r = 20.6	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	IRObj1-1	(1) LRG-3-817	WFC3/IR, MULTIACCUM, IR-FIX	F110W	NSAMP=7; SAMP-SEQ=SPARS100	POS TARG -4.7084480269589095,-26.66772541119039	Pattern 1-1 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	IRObj1-1	(1) LRG-3-817	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=8; SAMP-SEQ=SPARS100	POS TARG -4.7084480269589095,-26.66772541119039	Pattern 2-2 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***


Orbit Structure
Orbit 1
Server Version: 20080624
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 284
Pointing Maneuver
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec


Orbit Structure (continued)
Orbit 2
Server Version: 20080624
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Vitibility = 22
GS Reacq
Exp. 2
Exp. 2
Exp. 2
Exp. 2
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11602, Visit 02 Thu Jul 03 01:55:40 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.119 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=33.606 Angle Between Sides= Center Pattern=false	(1), (2), (3)

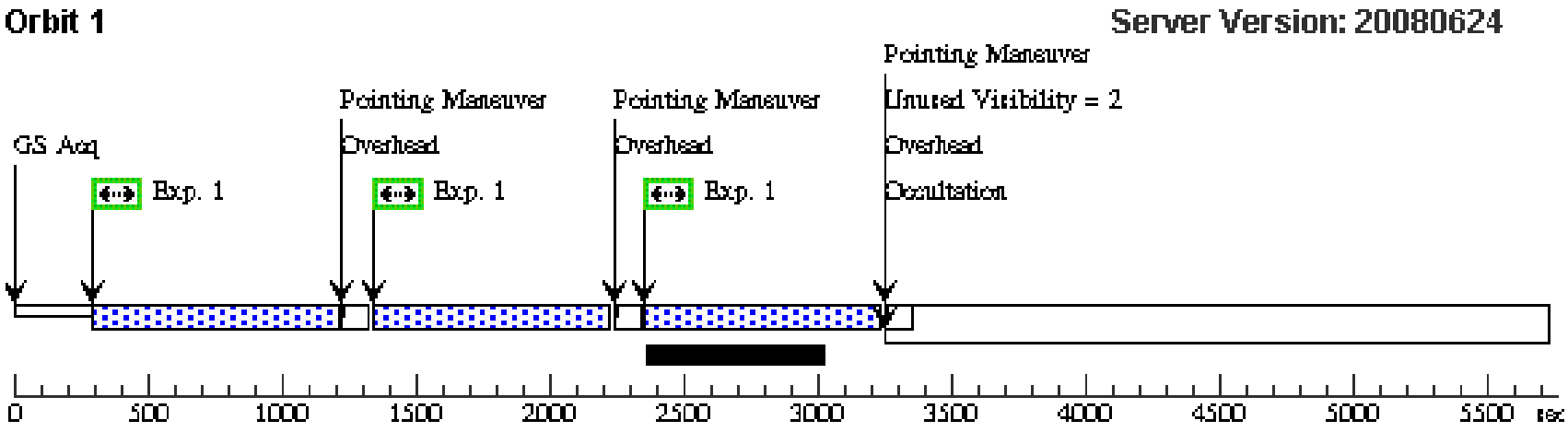
Fixed Targets

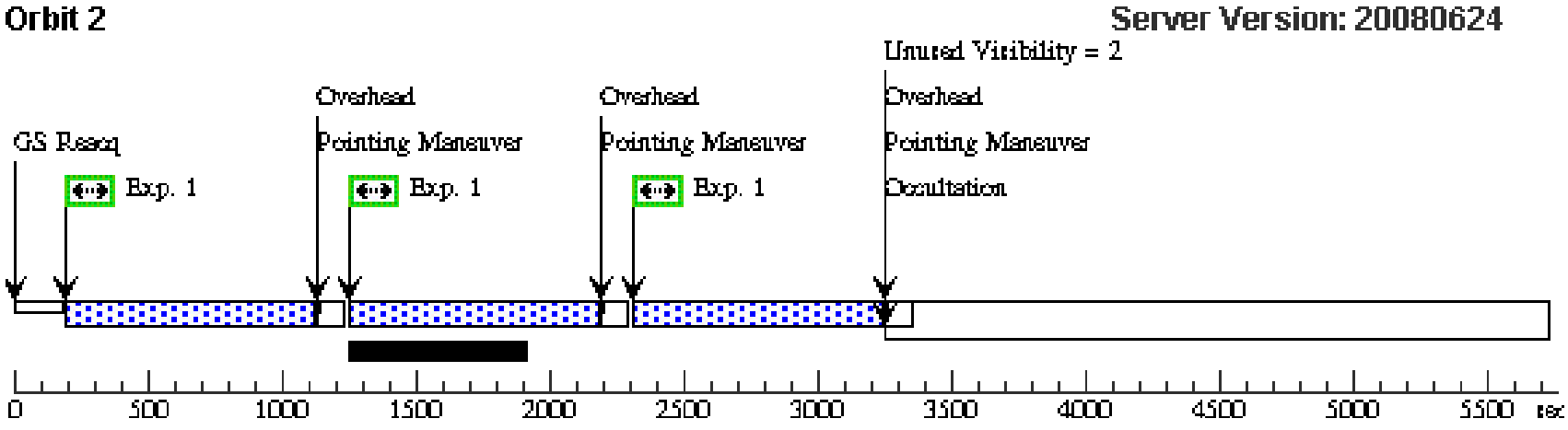
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	LRG-3-757	RA: 11 48 33.3300 (177.1388750d) Dec: +19 30 3.20 (19.50089d) Equinox: J2000	Redshift: 2.38	V=19.90 g = 20.1, r = 19.8	Reference Frame: ICRS

Exposures

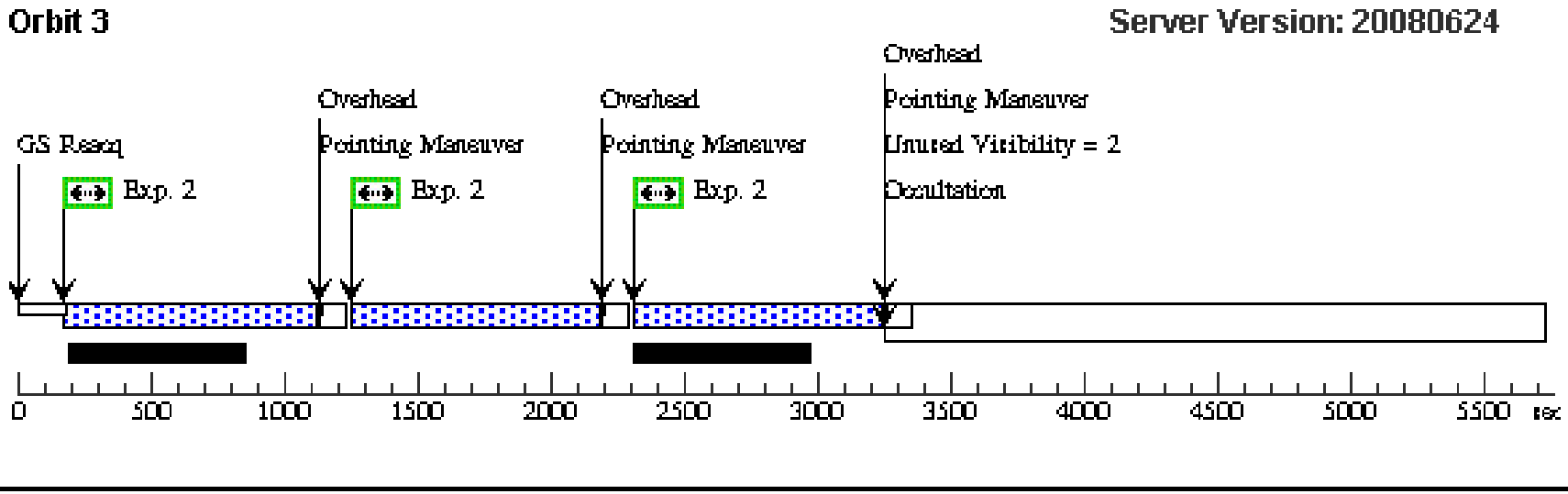
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	obj2-1	(2) LRG-3-757	WFC3/UVIS, ACCUM, UVIS1-FIX	F475W	CR-SPLIT=NO		Pattern 1-1 (1)	450 Secs	
								[==>886.0 Secs (Pattern 1,1)] *[==>886.0 Secs (Pattern 1,2)]* *[==>886.0 Secs (Pattern 2,1)]*	***[1]***
								[==>932.0 Secs (Pattern 2,2)] *[==>932.0 Secs (Pattern 3,1)]* *[==>932.0 Secs (Pattern 3,2)]*	***[2]***
2	obj2-2	(2) LRG-3-757	WFC3/UVIS, ACCUM, UVIS1-FIX	F814W	CR-SPLIT=NO		Pattern 2-2 (1)	450 Secs	
								[==>932.0 Secs (Pattern 1,1)] *[==>932.0 Secs (Pattern 1,2)]* *[==>932.0 Secs (Pattern 2,1)]*	***[3]***
								[==>932.0 Secs (Pattern 2,2)] *[==>932.0 Secs (Pattern 3,1)]* *[==>932.0 Secs (Pattern 3,2)]*	***[4]***
3	obj2-3	(2) LRG-3-757	WFC3/UVIS, ACCUM, UVIS1-FIX	F606W	CR-SPLIT=NO		Pattern 3-3 (1)	450 Secs	
								[==>402.0 Secs (Pattern 1,1)] *[==>402.0 Secs (Pattern 1,2)]* *[==>402.0 Secs (Pattern 2,1)]* *[==>402.0 Secs (Pattern 2,2)]* *[==>402.0 Secs (Pattern 3,1)]* *[==>402.0 Secs (Pattern 3,2)]*	***[5]***

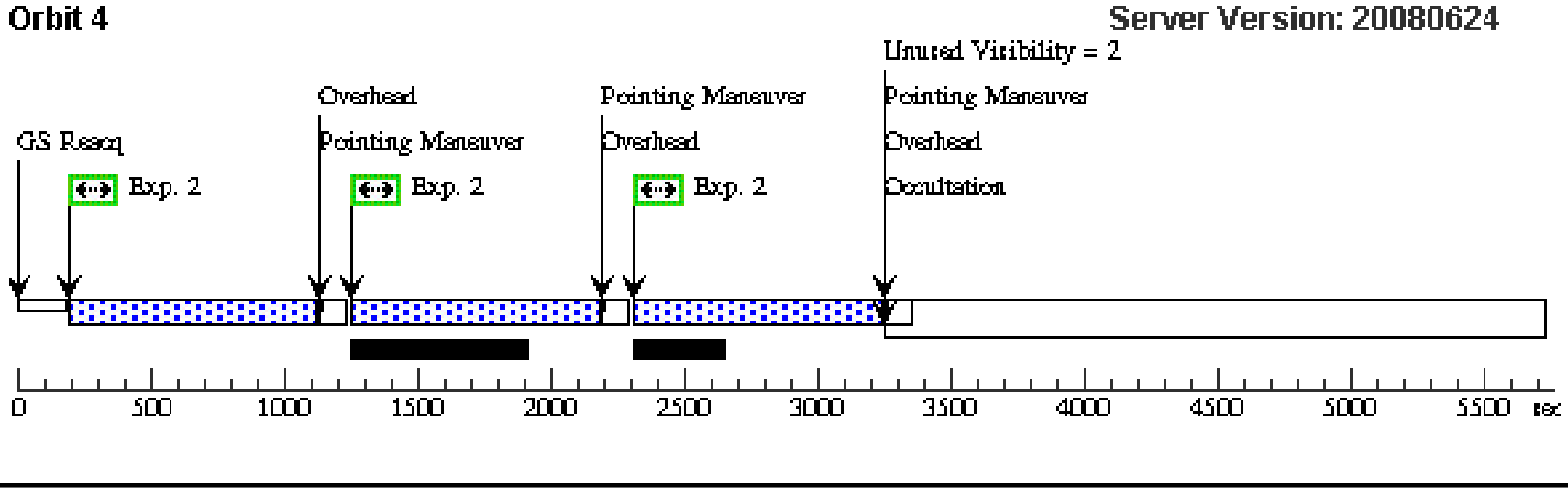
Orbit Structure



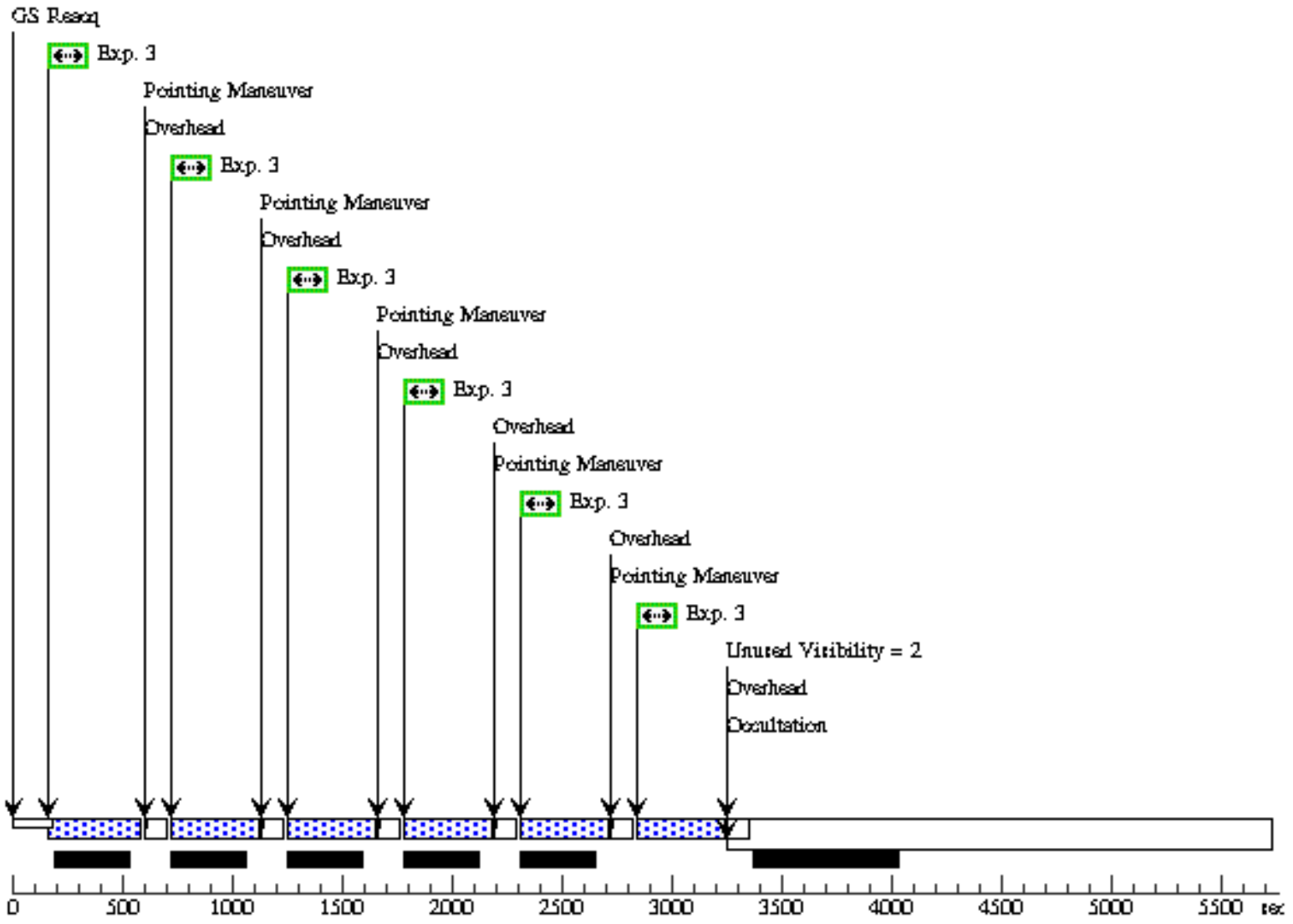


Orbit Structure (continued)





Orbit Structure (continued)



Visit

Proposal 11602, Visit 05 Thu Jul 03 01:55:42 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 02

Patterns

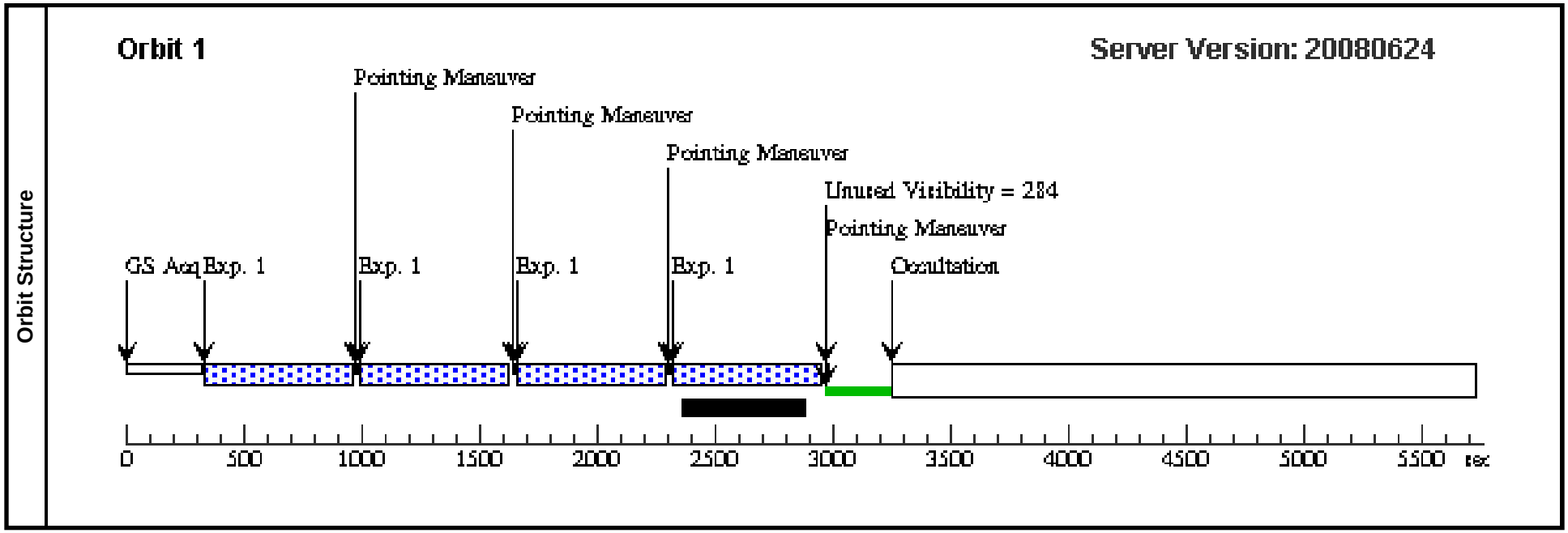
#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	LRG-3-757	RA: 11 48 33.3300 (177.1388750d) Dec: +19 30 3.20 (19.50089d) Equinox: J2000	Redshift: 2.38	V=19.90 g = 20.1, r = 19.8	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	IRObj2-1	(2) LRG-3-757	WFC3/IR, MULTIACCUM, IR-FIX	F110W	NSAMP=7; SAMP-SEQ=SPARS100	POS TARG 5.62092 5058580571,26.9985 0851741845	Pattern 1-1 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	IRObj2-1	(2) LRG-3-757	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=8; SAMP-SEQ=SPARS100	POS TARG 5.62092 5058580571,26.9985 0851741845	Pattern 2-2 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***


Orbit Structure
Orbit 1
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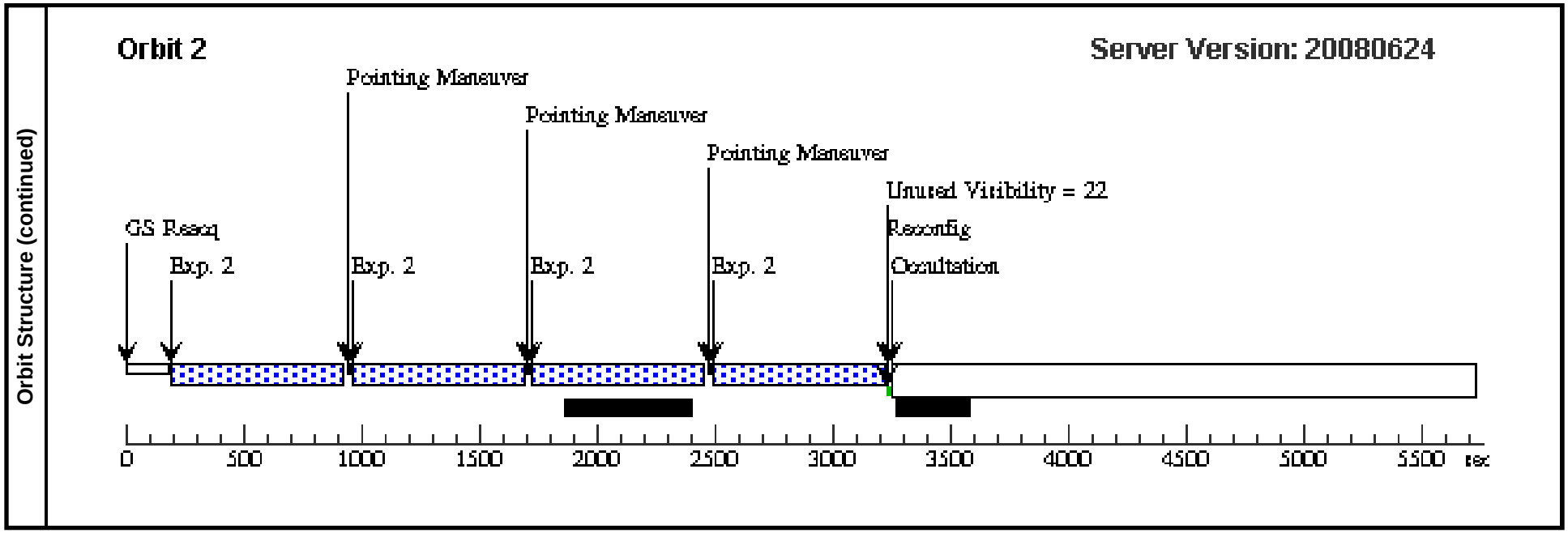
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 284
Pointing Maneuver
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec


Orbit Structure (continued)
Orbit 2
Server Version: 20080624
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Vitibility = 22
GS Reacq
Exp. 2
Exp. 2
Exp. 2
Exp. 2
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 11602, Visit 03 Thu Jul 03 01:55:42 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.119 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=33.606 Angle Between Sides= Center Pattern=false	(1), (2), (3)

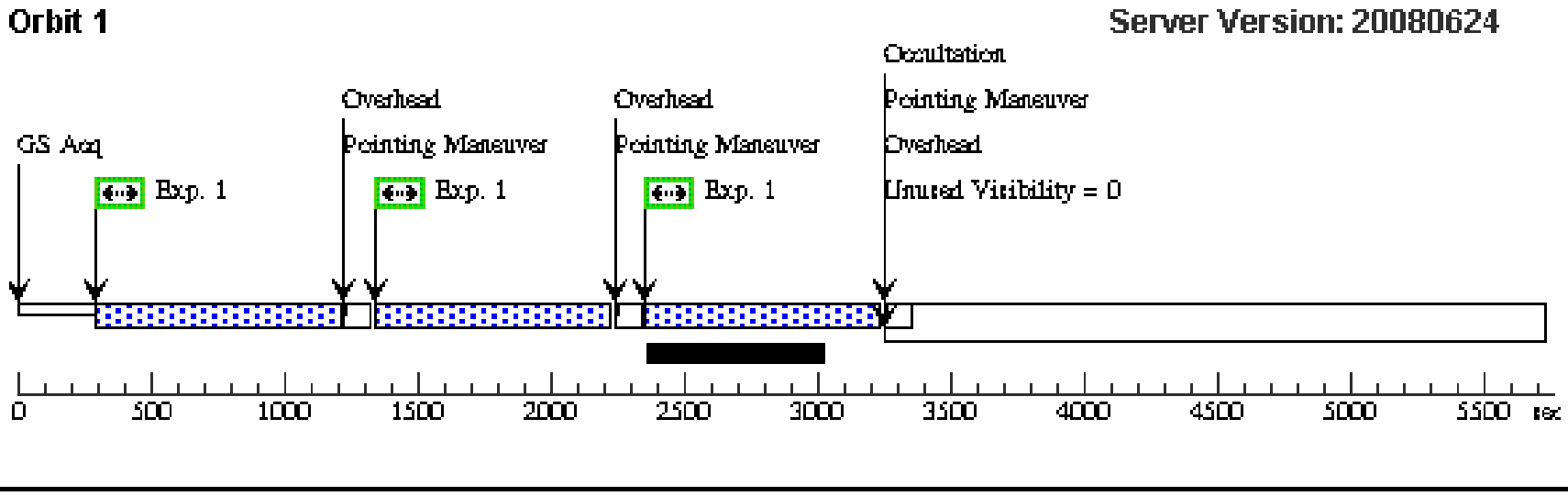
Fixed Targets

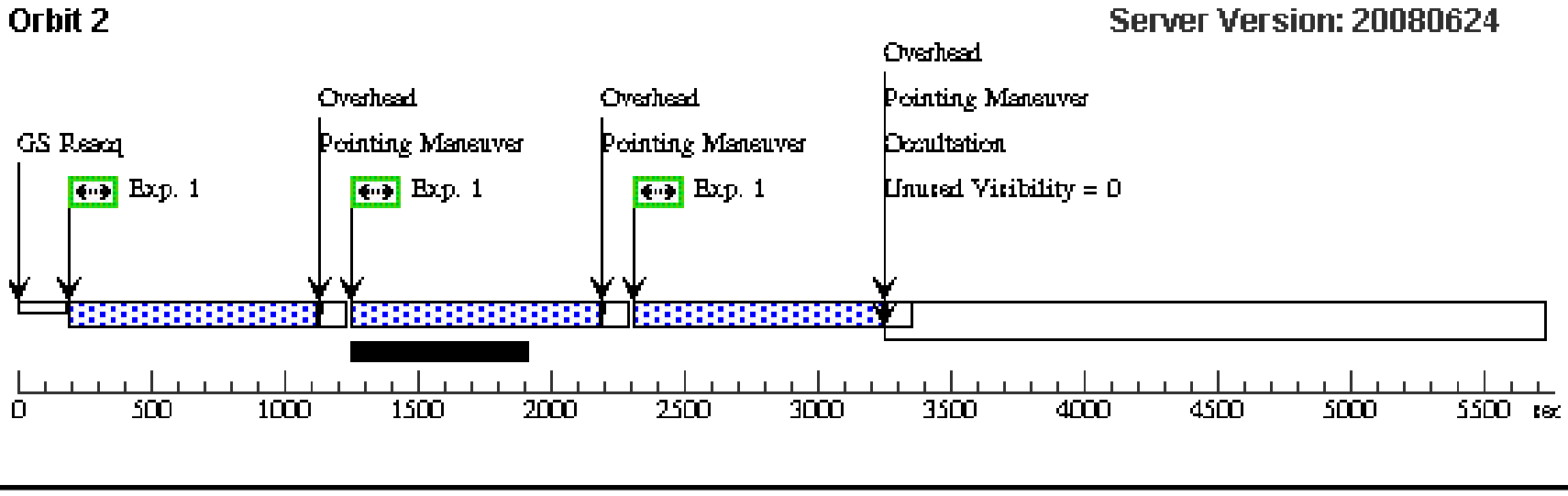
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	LRG-4-606	RA: 09 00 2.7900 (135.0116250d) Dec: +22 34 3.60 (22.56767d) Equinox: J2000	Redshift: 2.03	V=20.6 g = 20.6, r = 20.5	Reference Frame: ICRS

Exposures

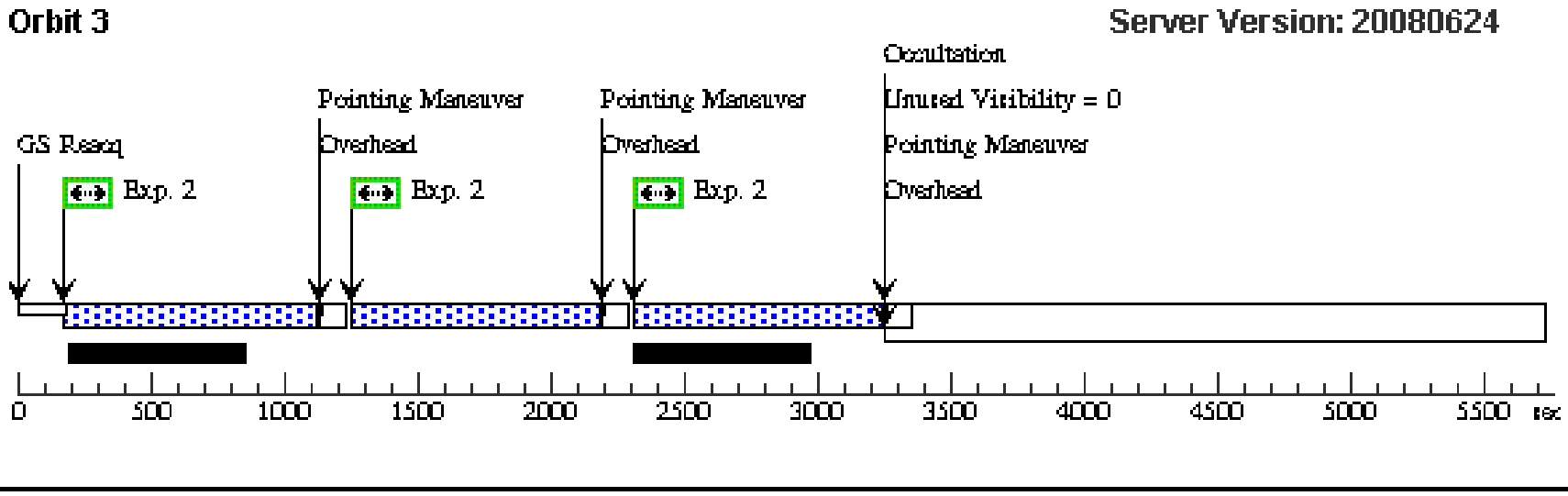
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	obj3-1	(3) LRG-4-606	WFC3/UVIS, ACCUM, UVIS1-FIX	F475W	CR-SPLIT=NO		Pattern 1-1 (1)	450 Secs	
								[==>887.0 Secs (Pattern 1,1)] *[==>887.0 Secs (Pattern 1,2)]* *[==>887.0 Secs (Pattern 2,1)]*	***[1]***
								[==>933.0 Secs (Pattern 2,2)] *[==>933.0 Secs (Pattern 3,1)]* *[==>933.0 Secs (Pattern 3,2)]*	***[2]***
2	obj3-2	(3) LRG-4-606	WFC3/UVIS, ACCUM, UVIS1-FIX	F814W	CR-SPLIT=NO		Pattern 2-2 (1)	450 Secs	
								[==>933.0 Secs (Pattern 1,1)] *[==>933.0 Secs (Pattern 1,2)]* *[==>933.0 Secs (Pattern 2,1)]*	***[3]***
								[==>933.0 Secs (Pattern 2,2)] *[==>933.0 Secs (Pattern 3,1)]* *[==>933.0 Secs (Pattern 3,2)]*	***[4]***
3	obj3-3	(3) LRG-4-606	WFC3/UVIS, ACCUM, UVIS1-FIX	F606W	CR-SPLIT=NO		Pattern 3-3 (1)	450 Secs	
								[==>402.0 Secs (Pattern 1,1)] *[==>402 Secs (Pattern 1,2)]* *[==>402 Secs (Pattern 2,1)]* *[==>402 Secs (Pattern 2,2)]* *[==>402 Secs (Pattern 3,1)]* *[==>402 Secs (Pattern 3,2)]*	***[5]***

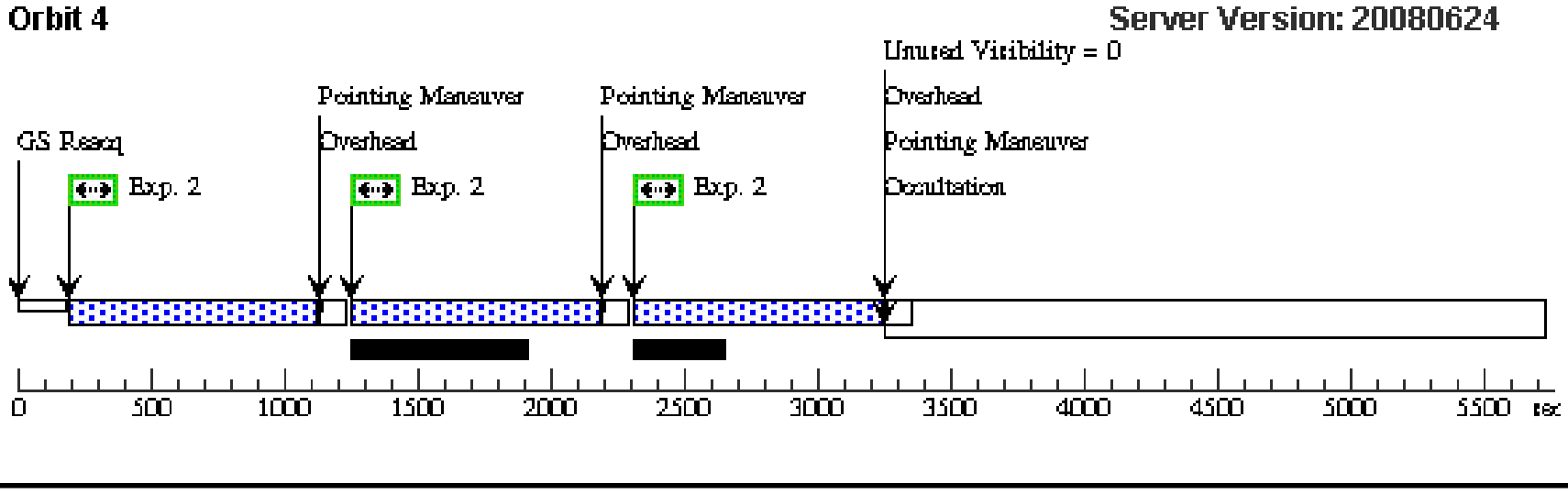
Orbit Structure



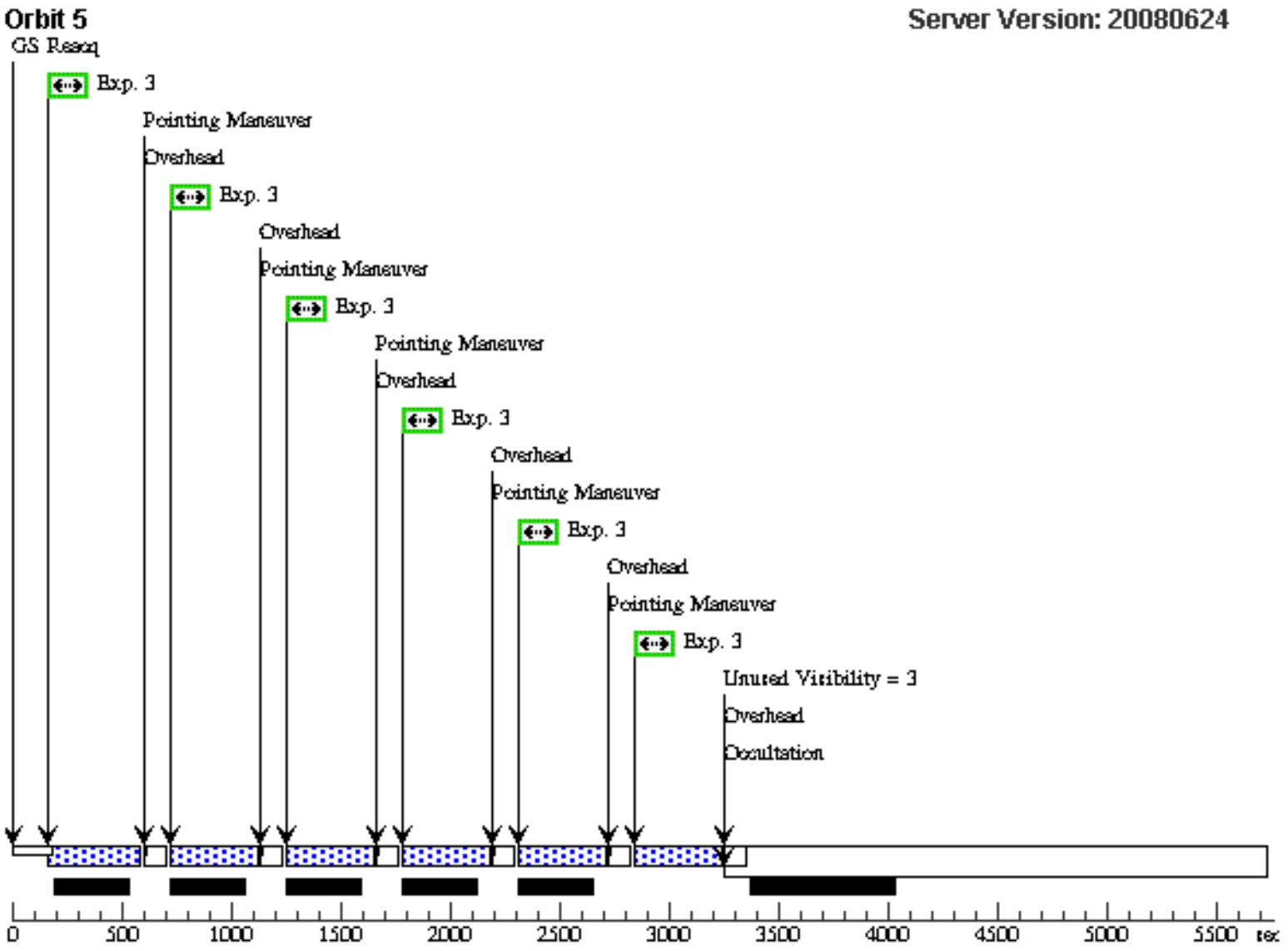


Orbit Structure (continued)





Orbit Structure (continued)



Visit

Proposal 11602, Visit 06 Thu Jul 03 01:55:43 GMT 2008

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: SAME ORIENT AS 03

Patterns

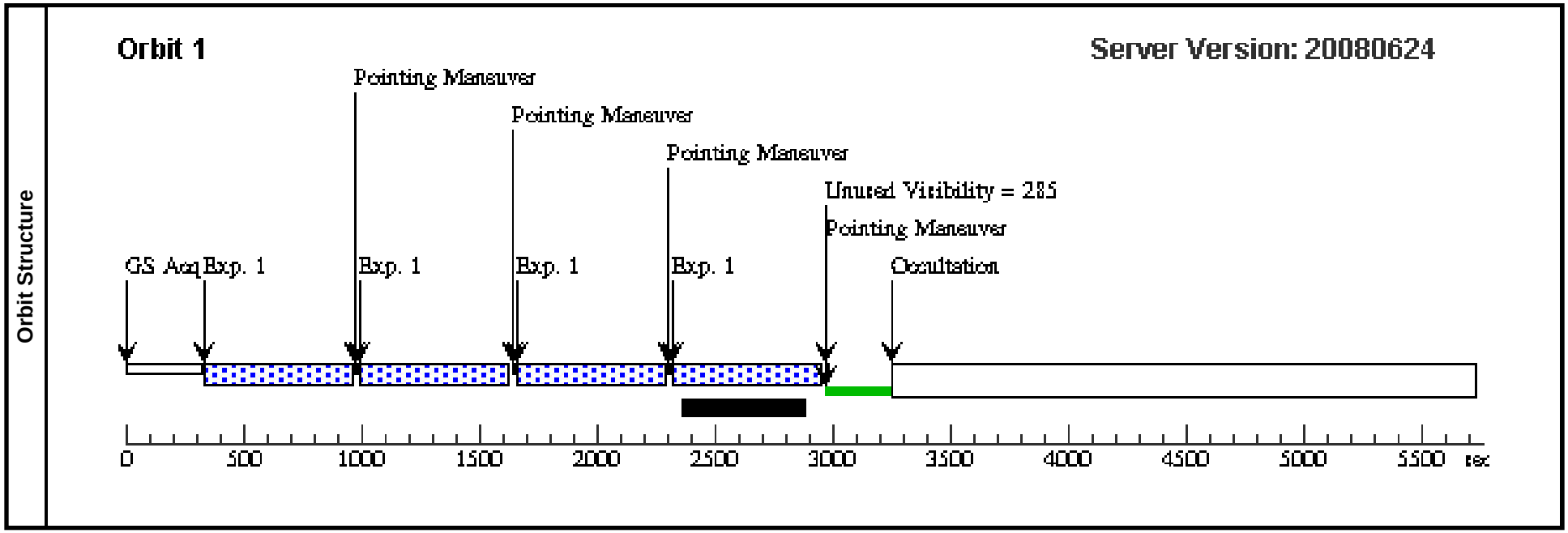
#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1), (2)

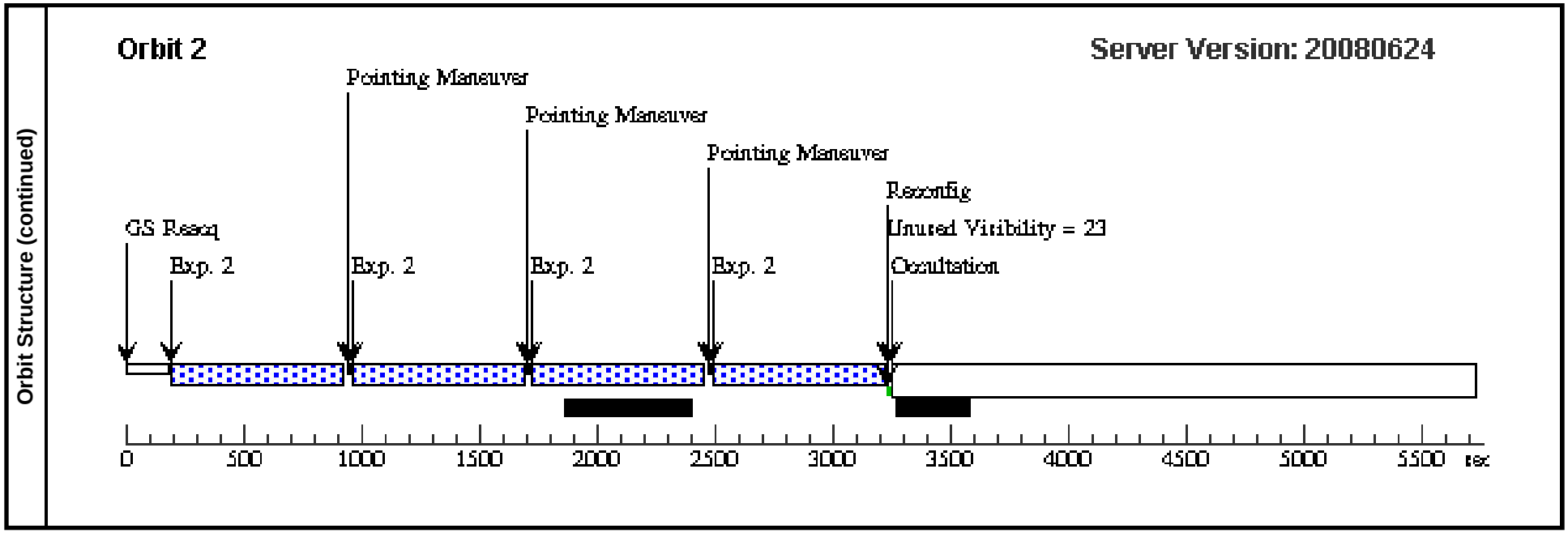
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	LRG-4-606	RA: 09 00 2.7900 (135.0116250d) Dec: +22 34 3.60 (22.56767d) Equinox: J2000	Redshift: 2.03	V=20.6 g = 20.6, r = 20.5	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	IRObj3-1	(3) LRG-4-606	WFC3/IR, MULTIACCUM, IR-FIX	F110W	NSAMP=7; SAMP-SEQ=SPARS100	POS TARG -1.1503 839977489108,18.974793654283065	Pattern 1-1 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	IRObj3-1	(3) LRG-4-606	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=8; SAMP-SEQ=SPARS100	POS TARG -1.1503 839977489108,18.974793654283065	Pattern 2-2 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***


Orbit Structure
Orbit 1
Server Version: 20080624
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 285
Pointing Maneuver
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec


Orbit Structure (continued)
Orbit 2
Server Version: 20080624
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
GS Reacq
Unused Visibility = 23
Exp. 2
Exp. 2
Exp. 2
Exp. 2
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec