



12975 - Do winds transport magnetic fields out of high redshift galaxies?

Cycle: 20, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Prof. Simon J. Lilly (PI) (ESA Member) (Contact)	Eidgenossische Technische Hochschule (ETH)	simon.lilly@phys.ethz.ch
Dr. Francesco Miniati (CoI) (ESA Member)	Eidgenossische Technische Hochschule (ETH)	fm@phys.ethz.ch
Dr. Martin Bernet (CoI)	Swinburne University of Technology	bernet.martin@gmail.com
Mr. Rongmon Bordoloi (CoI) (ESA Member)	Eidgenossische Technische Hochschule (ETH)	rongmonb@phys.ethz.ch

VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) QSO-J1246-2547	ACS/WFC	1	11-Sep-2012 03:39:50.0	yes
02	(2) QSO-B2155-152	ACS/WFC	1	11-Sep-2012 03:39:58.0	yes
03	(3) 4C-06.69	ACS/WFC	1	11-Sep-2012 03:40:03.0	yes
04	(4) QSO-B0506-612	ACS/WFC	1	11-Sep-2012 03:40:08.0	yes
05	(5) 4C--02.04A	ACS/WFC	1	11-Sep-2012 03:40:13.0	yes
06	(6) QSO-B0839+187	ACS/WFC	1	11-Sep-2012 03:40:18.0	yes
07	(7) 4C-06.41	ACS/WFC	1	11-Sep-2012 03:40:24.0	yes
08	(8) QSO-B1615+028	ACS/WFC	1	11-Sep-2012 03:40:29.0	yes
09	(9) QSO-B0112-0142	ACS/WFC	1	11-Sep-2012 03:40:34.0	yes
10	(10) 3C-446	ACS/WFC	1	11-Sep-2012 03:40:39.0	yes
11	(11) QSO-B2134+0028	ACS/WFC	1	11-Sep-2012 03:40:43.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
12	(12) QSO-B0130-17	ACS/WFC	1	11-Sep-2012 03:40:48.0	yes
13	(13) 4C-01.24B	ACS/WFC	1	11-Sep-2012 03:40:53.0	yes

13 Total Orbits Used

ABSTRACT

The primary goal of this proposal is to use HST observations to identify the location of magnetized plasma around high redshift galaxies, to understand its origin and to test the idea that winds carry substantial magnetic fields out from these galaxies into the circumgalactic medium. We have recently presented evidence for magnetized plasma extending upto 60 kpc from high redshift galaxies, and also for azimuthal (bipolar) asymmetries in the distribution of MgII absorption on the same scales. The two phenomena may be linked via galactic-scale winds. We here propose to observe the fields of thirteen compact radio quasars (supplementing three already observed with HST) that have (a) a Faraday Rotation measurement, (b) a single strong intervening MgII absorption system, and (c) an unambiguously identified parent galaxy for the absorbing system. The goal is to determine the orientations of the parent galaxies, i.e. both the inclination to our line of sight and the projected angle ϕ between the minor axis of the galaxy and the direction to the quasar on the plane of the sky. By correlating ϕ with the observed Faraday Rotation, we hope to see whether the magnetised plasma is above the pole of the galaxy or in an extended disk, and thereby constrain its origin.

OBSERVING DESCRIPTION

These are straightforward single orbit single-filter observations of thirteen quasar fields.

Proposal 12975 - Visit 01 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:00 GMT 2012

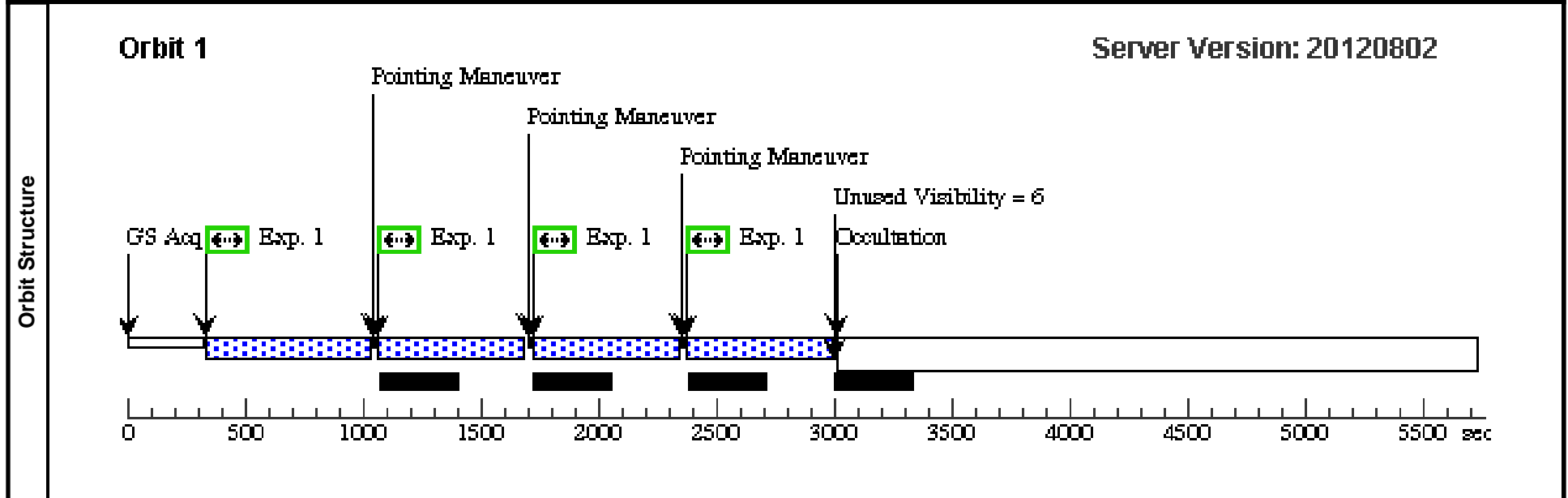
Visit	Proposal 12975, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: SCHED 100%		
--------------	---	--	--

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	QSO-J1246-2547	RA: 12 46 46.8006 (191.6950025d) Dec: -25 47 49.37 (-25.79705d) Equinox: J2000		V=17.41	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) QSO-J1246-2547	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 01 (1)	495 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 02 - Do winds transport magnetic fields out of high redshift galaxies?

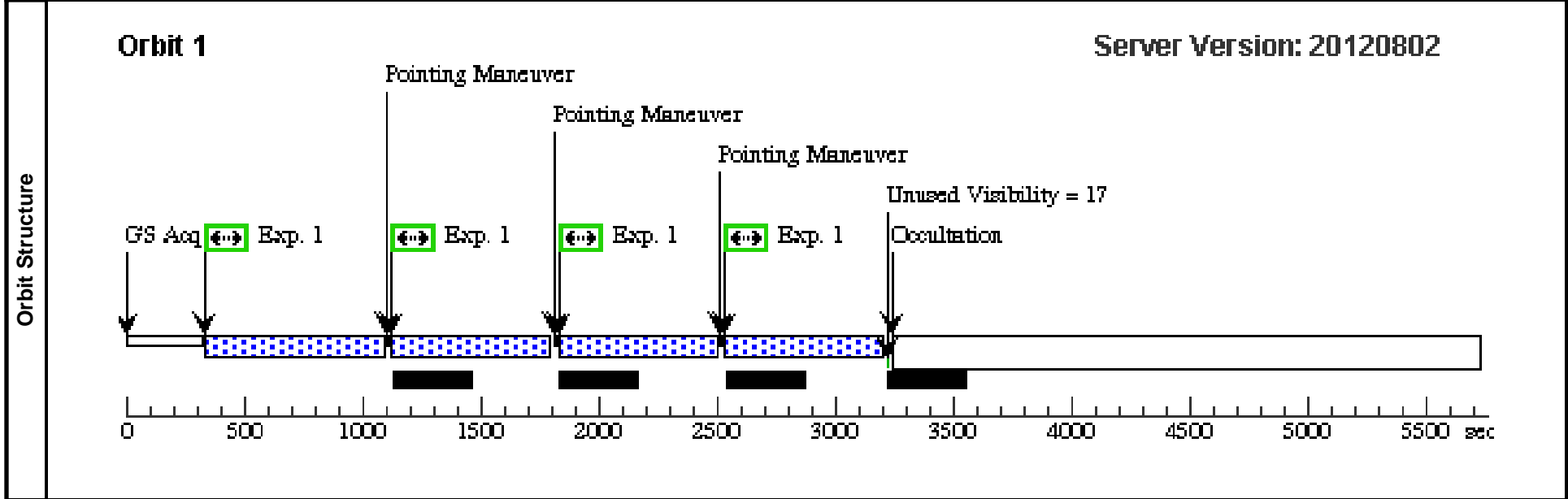
Tue Sep 11 07:41:01 GMT 2012

Visit	Proposal 12975, Visit 02, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

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

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	QSO-B2155-152	RA: 21 58 6.2819 (329.5261746d) Dec: -15 01 9.33 (-15.01926d) Equinox: J2000		V=17.5	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) QSO-B2155-152	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 1-1 i n Visit 02 (1)	550 Secs	
									[==>(Pattern 1)]	
									[==>(Pattern 2)]	
									[==>(Pattern 3)]	
									[==>(Pattern 4)]	[1]



Proposal 12975 - Visit 03 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:02 GMT 2012

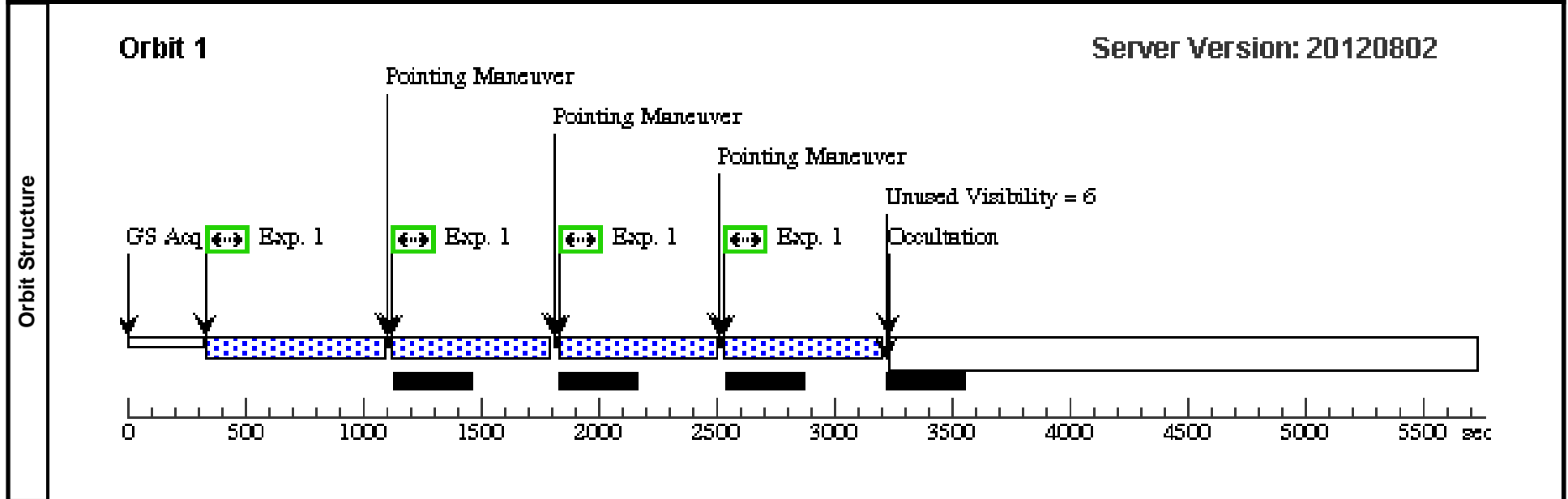
Visit	Proposal 12975, Visit 03, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	4C-06.69	RA: 21 48 5.4619 (327.0227579d) Dec: +06 57 38.56 (6.96071d) Equinox: J2000		V=16.5	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(3) 4C-06.69	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 i n Visit 03 (1)	550 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 04 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:05 GMT 2012

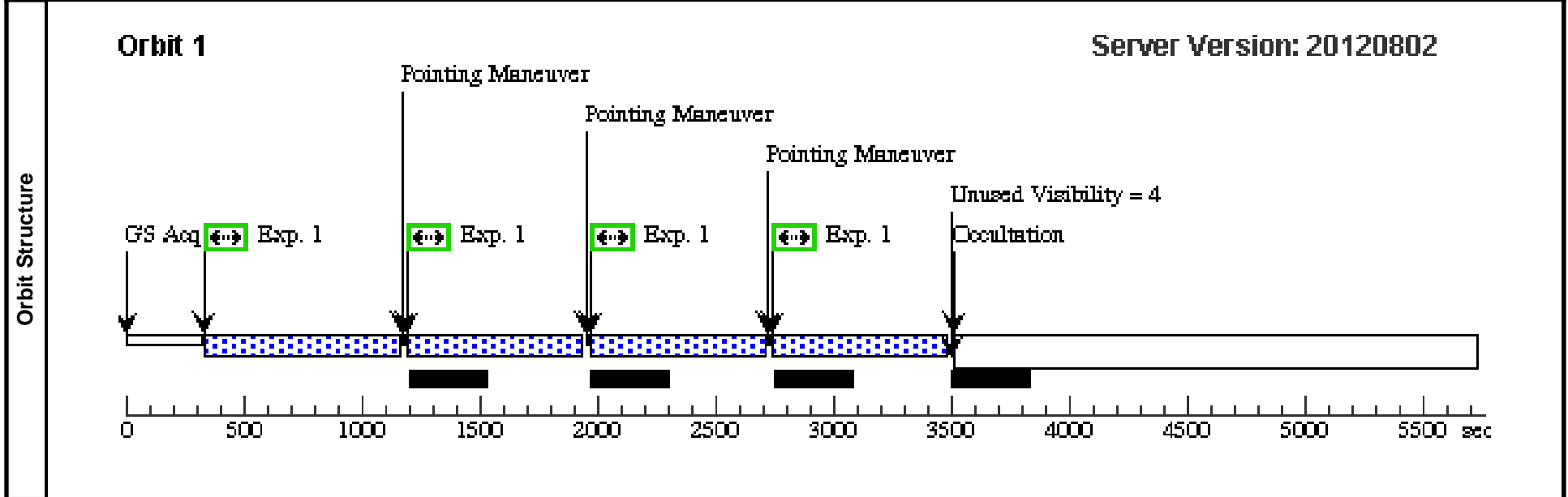
Visit	Proposal 12975, Visit 04, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	QSO-B0506-612	RA: 05 06 43.9897 (76.6832904d) Dec: -61 09 41.03 (-61.16140d) Equinox: J2000		V=16.85	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) QSO-B0506-612	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 04 (1)	620 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 05 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:06 GMT 2012

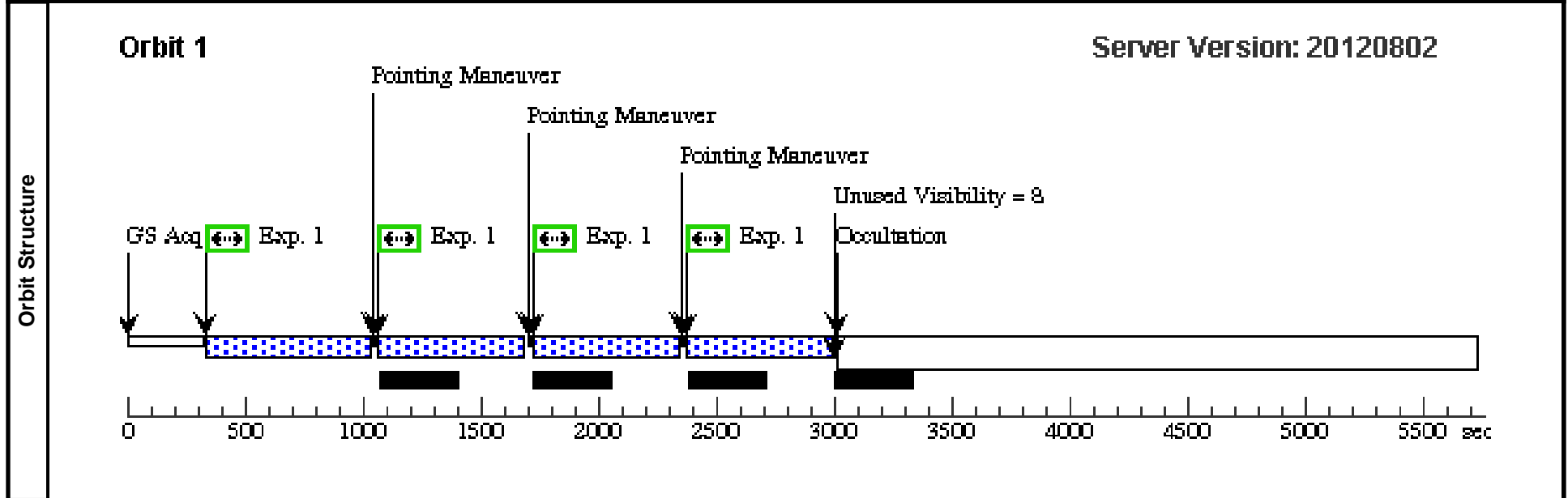
Visit	Proposal 12975, Visit 05, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: SCHED 100%		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	4C--02.04A	RA: 00 40 57.6116 (10.2400483d) Dec: -01 46 32.03 (-1.77556d) Equinox: J2000		V=18.0	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) 4C--02.04A	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 05 (1)	495 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 06 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:07 GMT 2012

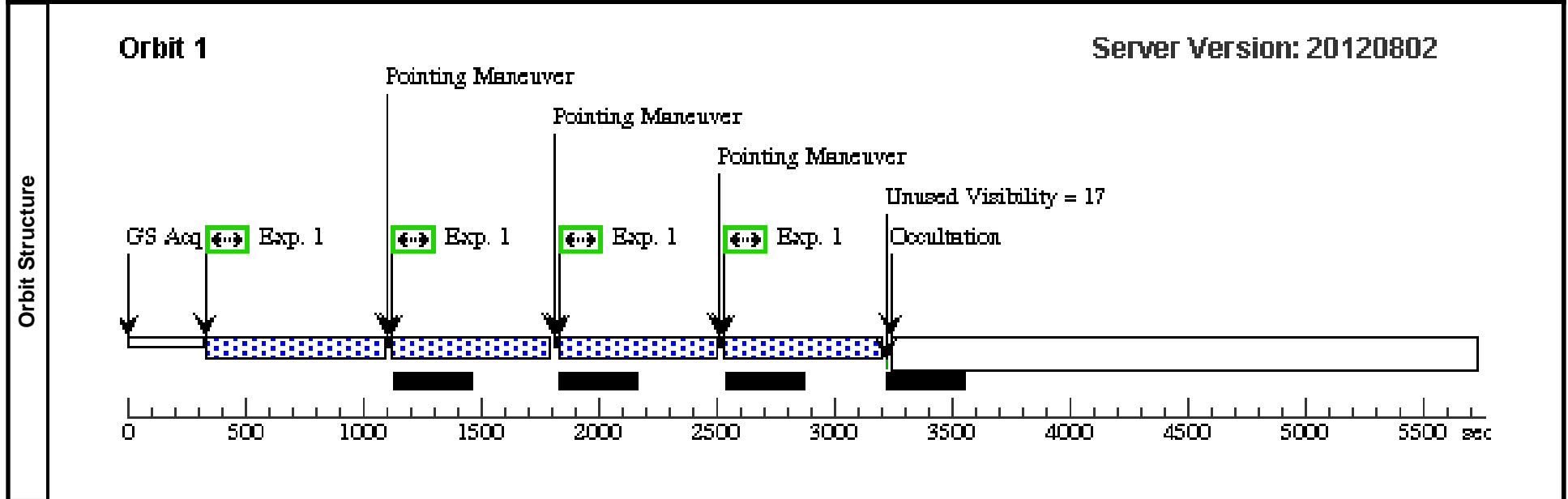
Visit	Proposal 12975, Visit 06, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	QSO-B0839+187	RA: 08 42 5.0884 (130.5212017d) Dec: +18 35 41.07 (18.59474d) Equinox: J2000		V=16.36	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) QSO-B0839+187	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 06 (1)	550 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 07 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:08 GMT 2012

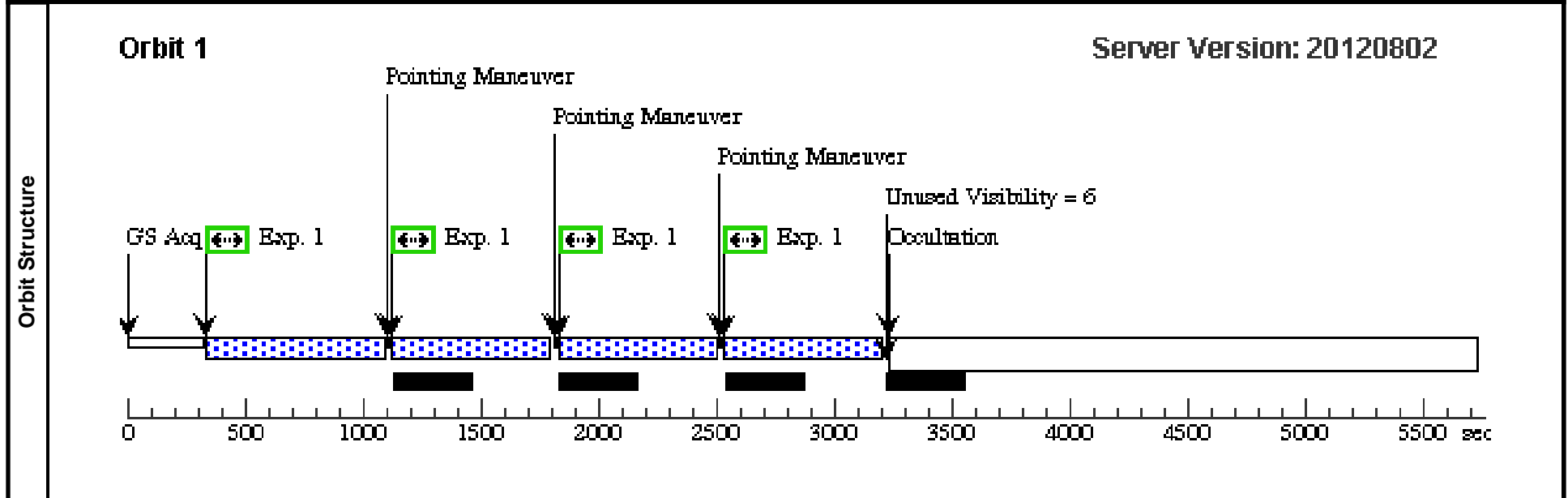
Visit	Proposal 12975, Visit 07, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	4C-06.41	RA: 10 41 17.1625 (160.3215104d) Dec: +06 10 16.92 (6.17137d) Equinox: J2000		V=16.7	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(7) 4C-06.41	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 07 (1)	550 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 08 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:09 GMT 2012

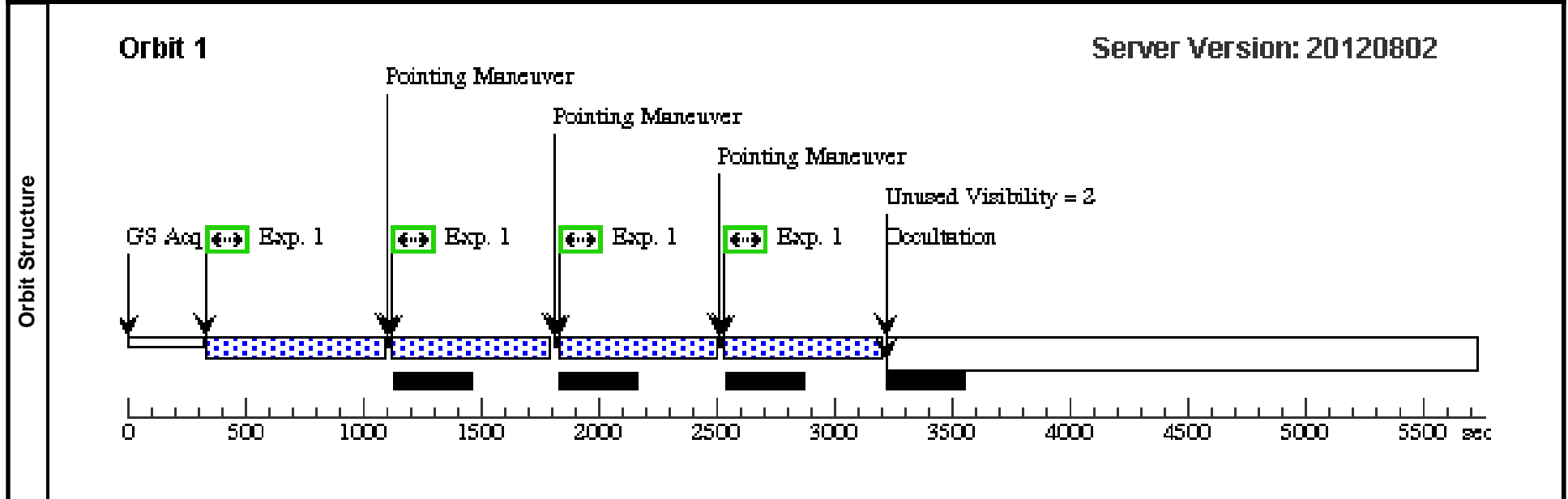
Visit	Proposal 12975, Visit 08, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(8)	QSO-B1615+028	RA: 16 17 49.9050 (244.4579375d) Dec: +02 46 43.05 (2.77862d) Equinox: J2000		V=17.75	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(8) QSO-B1615+028	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 08 (1)	550 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 09 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:09 GMT 2012

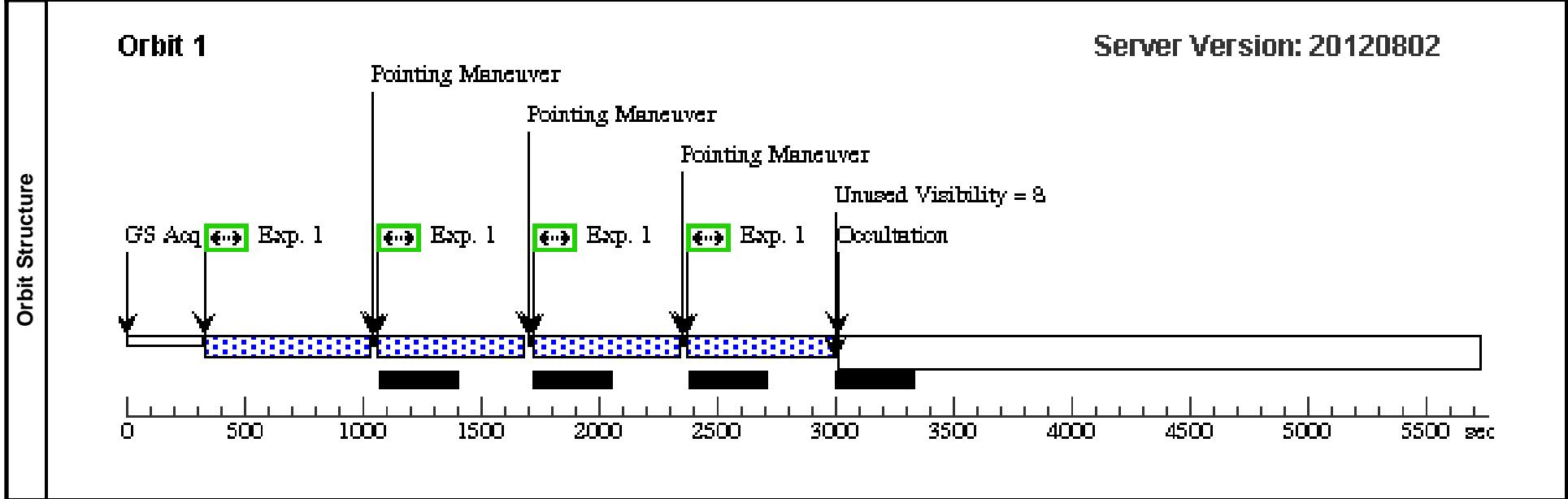
Visit	Proposal 12975, Visit 09, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: SCHED 100%		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	QSO-B0112-0142	RA: 01 15 17.1042 (18.8212675d) Dec: -01 27 4.51 (-1.45125d) Equinox: J2000		V=17.235	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(9) QSO-B0112-0142 2	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 09 (1)	495 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 10 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:10 GMT 2012

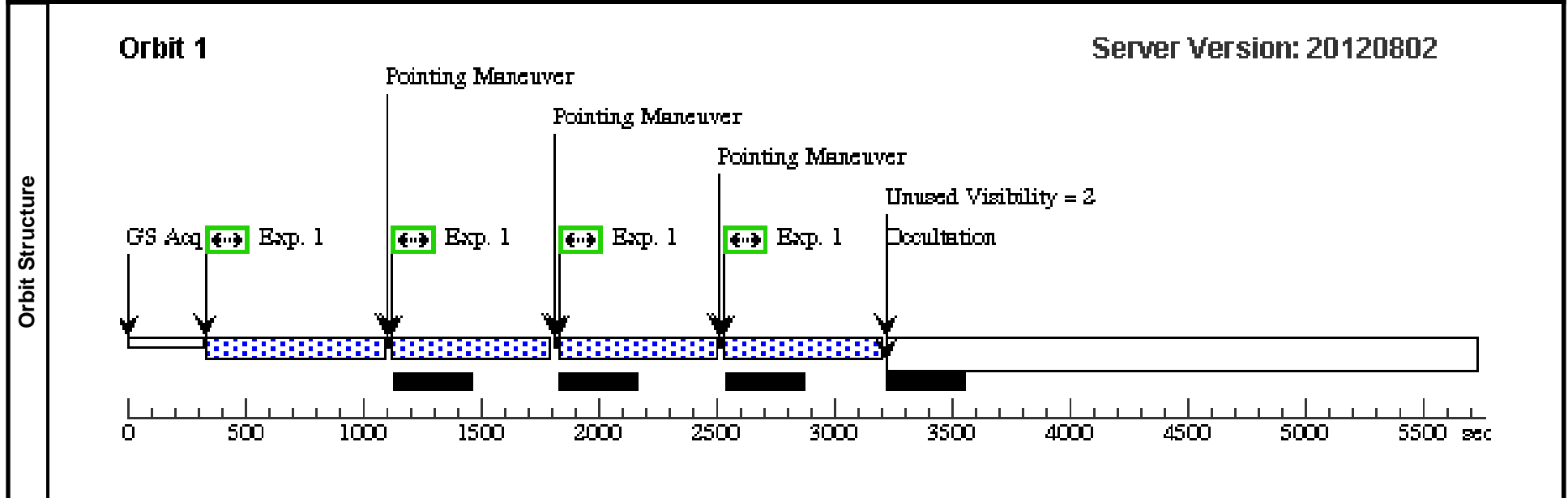
Visit	Proposal 12975, Visit 10, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(10)	3C-446	RA: 22 25 47.2593 (336.4469138d) Dec: -04 57 1.39 (-4.95039d) Equinox: J2000		V=18.4	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(10) 3C-446	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 10 (1)	550 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 11 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:11 GMT 2012

Visit	Proposal 12975, Visit 11, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

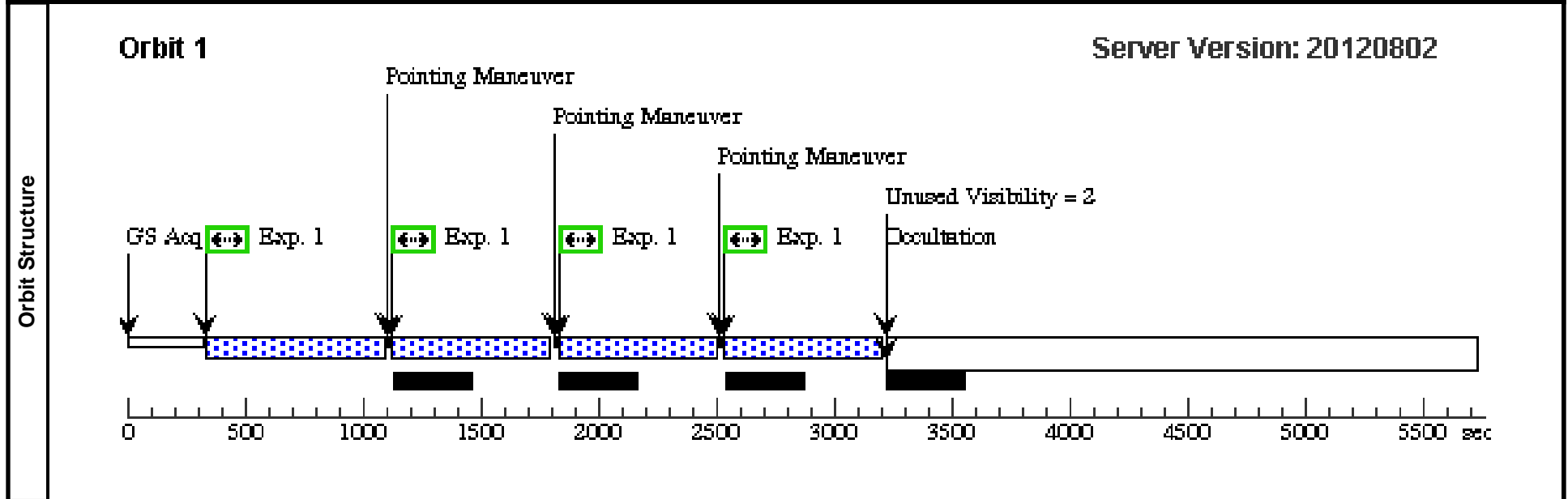
Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(11)	QSO-B2134+0028	RA: 21 36 38.5862 (324.1607758d) Dec: +00 41 54.22 (.69839d) Equinox: J2000		V=16.79	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(11) QSO-B2134+0028	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 11 (1)	550 Secs

[=>(Pattern 1)]
[=>(Pattern 2)]
[=>(Pattern 3)]
[=>(Pattern 4)]



Proposal 12975 - Visit 12 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:12 GMT 2012

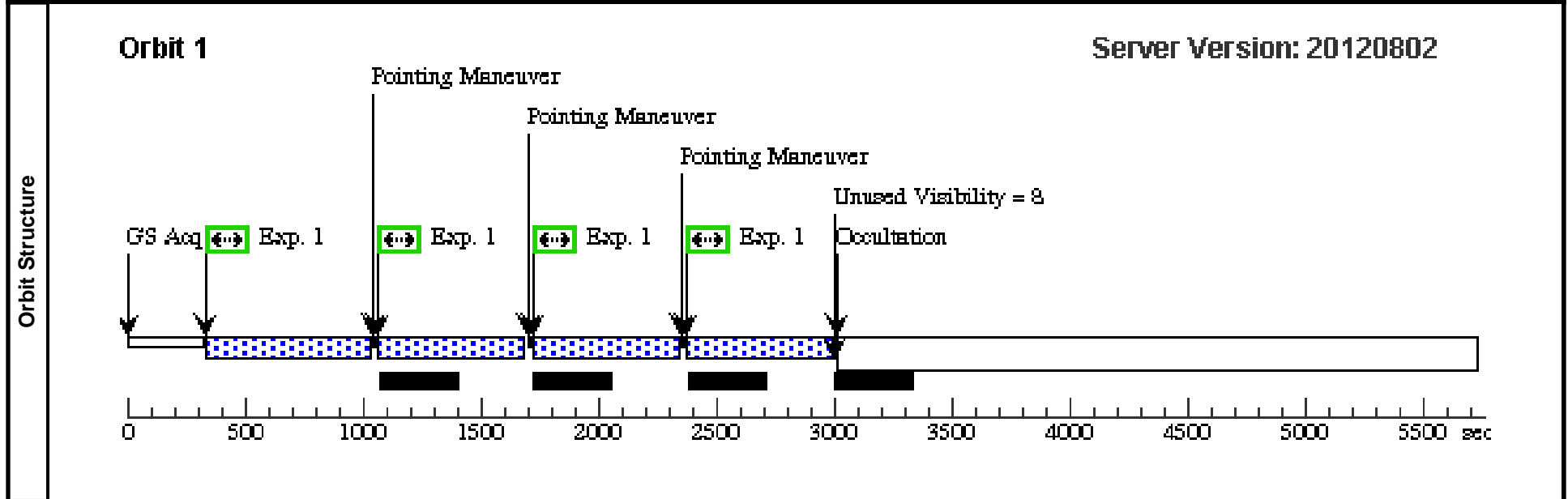
Visit	Proposal 12975, Visit 12, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: SCHED 100%		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	QSO-B0130-17	RA: 01 32 43.4885 (23.1812021d) Dec: -16 54 48.57 (-16.91349d) Equinox: J2000		V=18.44	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(12) QSO-B0130-17	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 in Visit 12 (1)	495 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]



Proposal 12975 - Visit 13 - Do winds transport magnetic fields out of high redshift galaxies?

Tue Sep 11 07:41:12 GMT 2012

Visit	Proposal 12975, Visit 13, implementation		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(13)	4C-01.24B	RA: 09 09 10.0916 (137.2920483d) Dec: +01 21 35.62 (1.35989d) Equinox: J2000		V=17.5	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(13) 4C-01.24B	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 1-1 i n Visit 13 (1)	550 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]

