10231 - Tracing the Reionization History of Intergalactic Helium out to Redshift 3.8

Cycle: 13, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:00:50.0	yes
02	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:00:56.0	yes
03	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:00:59.0	yes
04	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:03.0	yes

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:06.0	yes
06	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:09.0	yes
07	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:12.0	yes
08	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:15.0	yes
09	(1) SDSS1711+6052	ACS/SBC	1	23-Jun-2005 21:01:19.0	yes

9 Total Orbits Used

ABSTRACT

We have found He II absorption in a quasar at redshift 3.82 via our Cycle 12 program of UV snapshots. This is the highest redshift yet at which He II absorption has been observed, and we propose a high S/N STIS follow-on spectrum to study helium ionization in the IGM along this new, long, unobscured sightline to high-redshift. The object has UV flux comparable to that of the rare handful of other z>3 quasars known to be suitable for helium studies, and it is also in the Continuous Viewing Zone, permitting a high-quality STIS spectrum in just 8 HST orbits. The proposed spectrum will allow us to study the evolution and properties of the IGM and ionizing radiation from z=3.8 (the IGM environment near the quasar) all the way down to z=2.8. This redshift range may span the epoch of helium reionization, and even extends to high enough redshift to enable improved helium opacity measures using both He II Ly-alpha and Ly-beta. This program is now approved to use ACS prism.

OBSERVING DESCRIPTION

This object was observed in our SNAP program with the same configuration, for 600 sec. We will carry out a longer exposure to improve the S/N.

Visit

Proposal 10231, Visit 01 Fri Jun 24 01:01:20 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

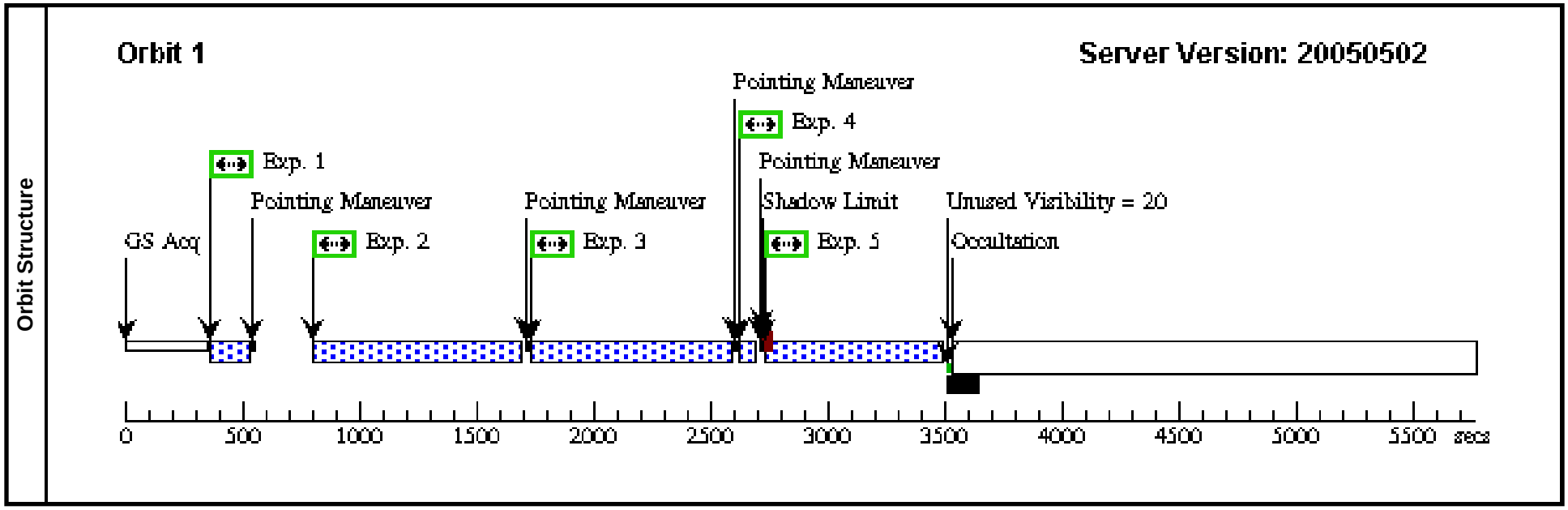
Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs *[==>]*	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		75.0 Secs	
								[==>10.0 Secs]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				700.0 Secs	
								[==>]	***[1]***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GS Acq
Exp. 1
Pointing Maneuver
Exp. 2
Pointing Maneuver
Exp. 3
Pointing Maneuver
Exp. 4
Pointing Maneuver
Shadow Limit
Exp. 5
Unused Visibility = 20
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 02 Fri Jun 24 01:01:21 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

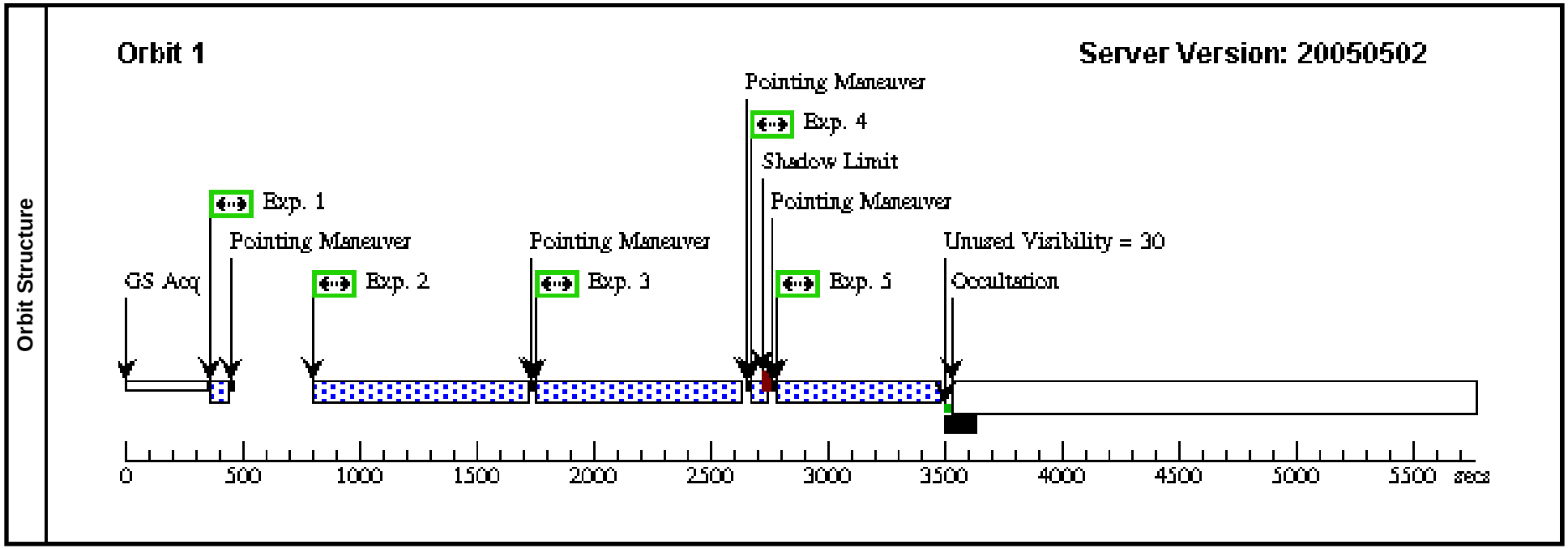
Special Requirements: ORIENT 20.0D TO 180.0D FROM 01

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				10.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		855.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		855.0 Secs *[==>]*	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		10.0 Secs	
								[==>10.0 Secs]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				640.0 Secs	
								[==>]	***[1]***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Pointing Maneuver
Exp. 4
Shadow Limit
Exp. 1
Pointing Maneuver
Pointing Maneuver
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GS Acq
Exp. 2
Exp. 3
Exp. 5
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 03 Fri Jun 24 01:01:21 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

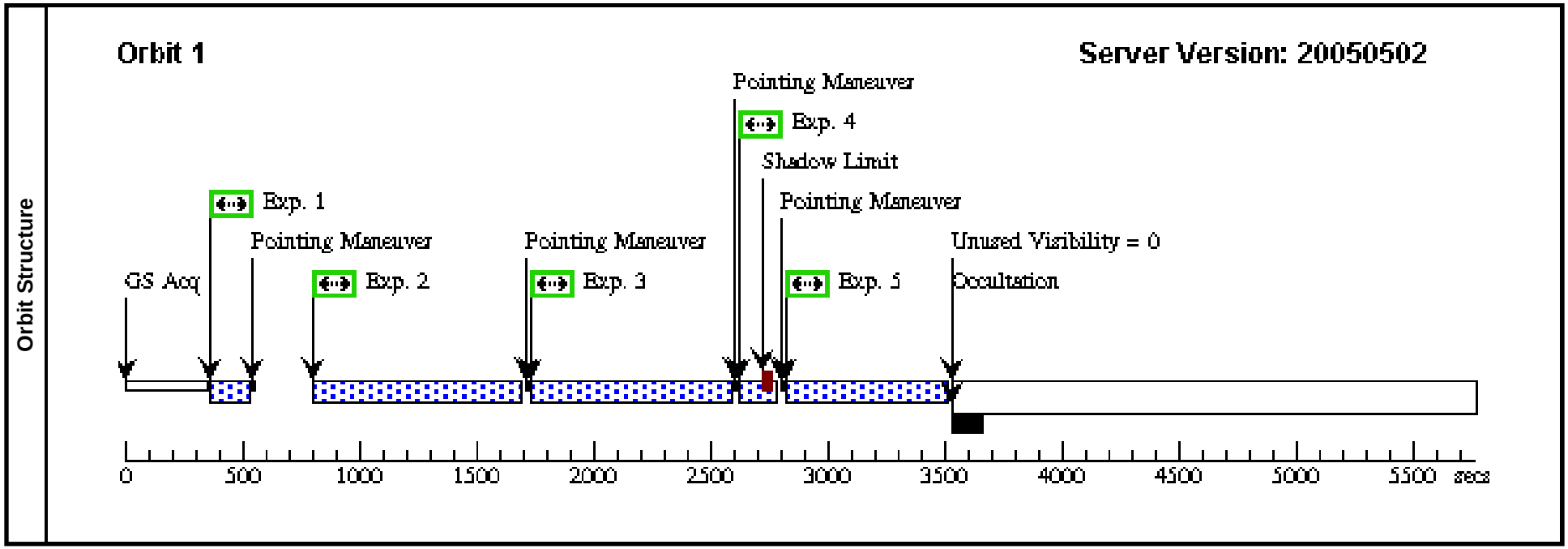
Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs *[==>]*	 ***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		100.0 Secs	
								[==>]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				630.0 Secs	
								[==>]	***[1]***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Server Version: 20050502
Pointing Maneuver
Exp. 4
Shadow Limit
Exp. 1
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Unused Visibility = 0
GS Acq
Exp. 2
Exp. 3
Exp. 5
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 04 Fri Jun 24 01:01:22 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

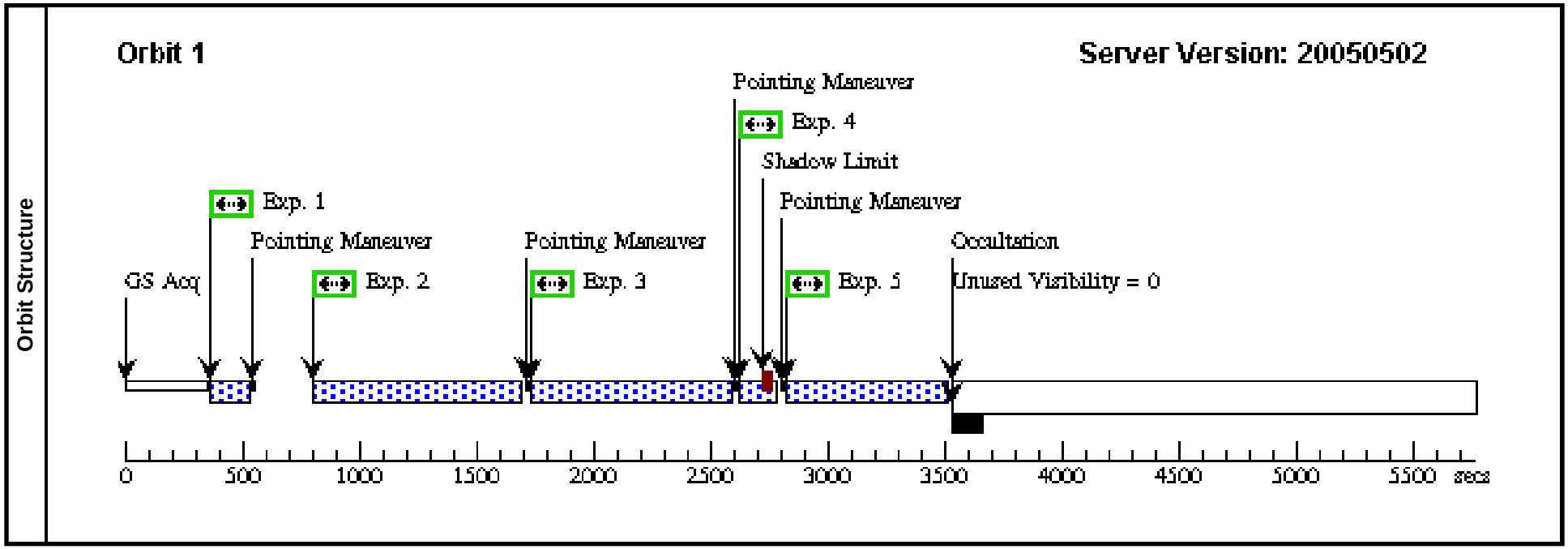
Special Requirements: SAME ORIENT AS 03

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs *[==>]*	 ***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		100.0 Secs	
								[==>]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				630.0 Secs	
								[==>]	***[1]***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Server Version: 20050502
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 1
Pointing Maneuver
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Occultation
GS Acq
Exp. 2
Exp. 3
Exp. 5
Unused Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 05 Fri Jun 24 01:01:22 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

Special Requirements: SAME ORIENT AS 03

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs	
								[==>]	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		100.0 Secs	
								[==>]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				630.0 Secs	
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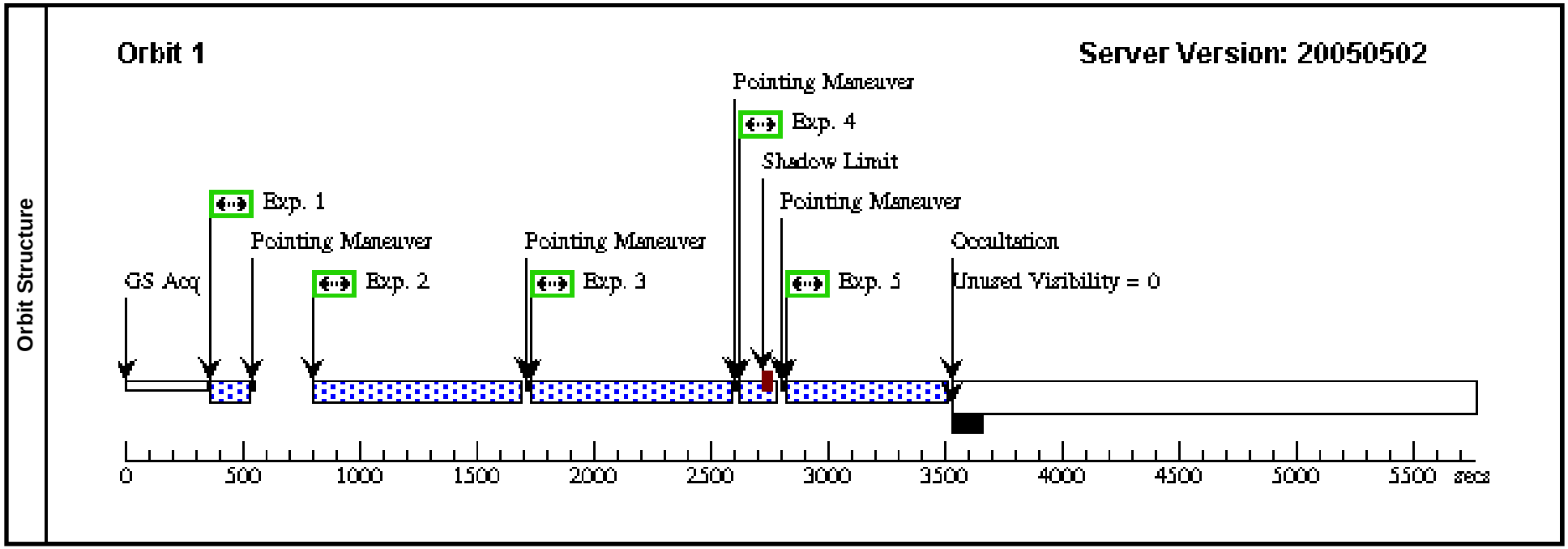
Orbit Structure
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Server Version: 20050502
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 1
Pointing Maneuver
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Occultation
GS Acq
Exp. 2
Exp. 3
Exp. 5
Unused Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
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secs

Visit

Proposal 10231, Visit 06 Fri Jun 24 01:01:23 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

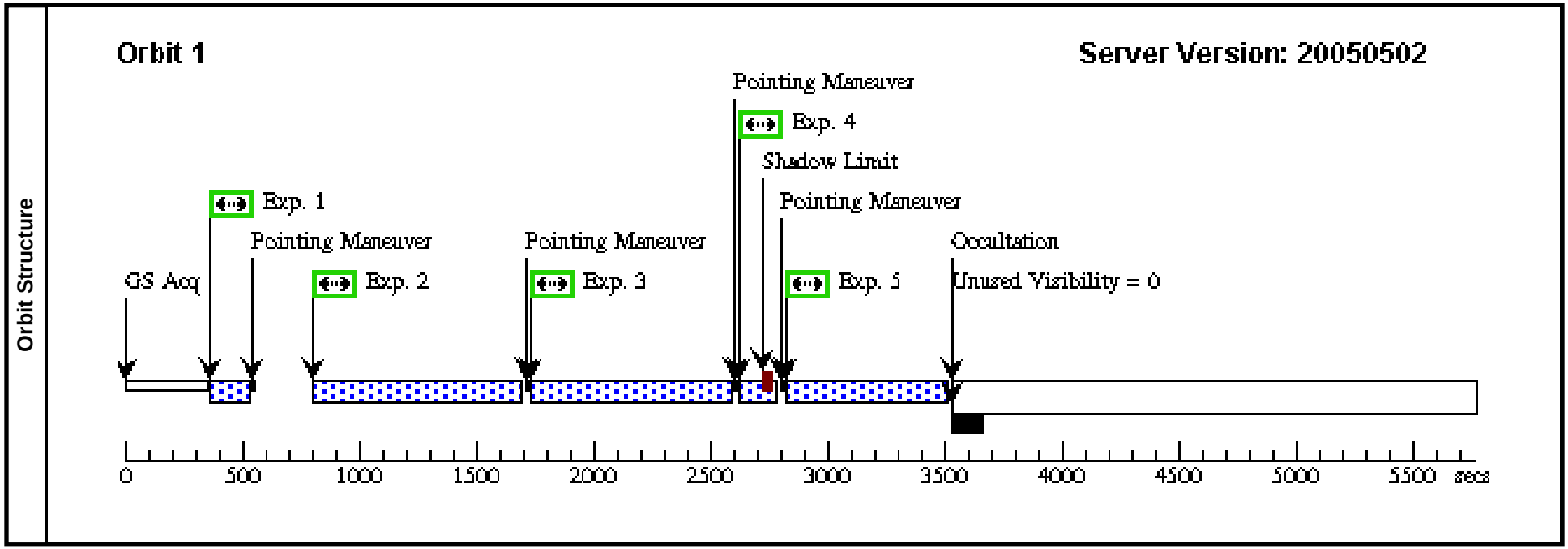
Special Requirements: SAME ORIENT AS 03

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs	
								[==>]	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		100.0 Secs	
								[==>]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				630.0 Secs	
								[==>]	***[1]***


Orbit Structure
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Server Version: 20050502
Pointing Maneuver
Exp. 4
Shadow Limit
Pointing Maneuver
Exp. 1
Pointing Maneuver
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Occultation
GS Acq
Exp. 2
Exp. 3
Exp. 5
Unused Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
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4500
5000
5500
secs

Visit

Proposal 10231, Visit 07 Fri Jun 24 01:01:24 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

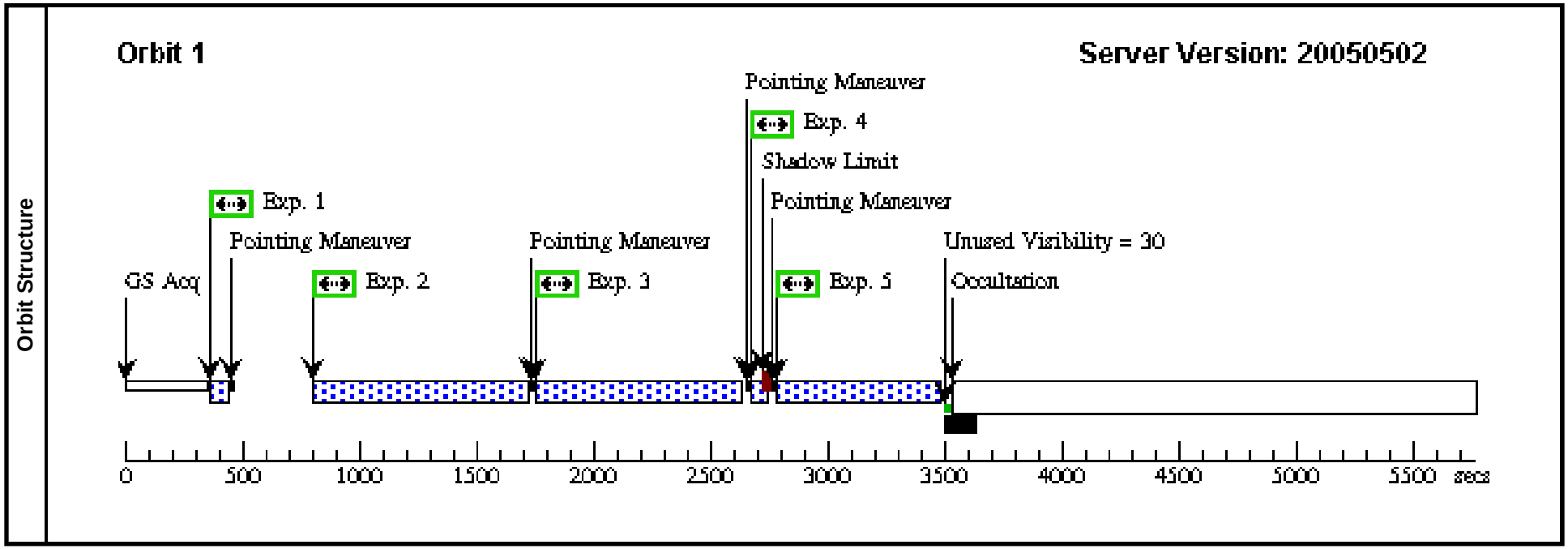
Special Requirements: (none)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				10.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		855.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		855.0 Secs *[==>]*	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		10.0 Secs	
								[==>10.0 Secs]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				640.0 Secs	
								[==>]	***[1]***


Orbit Structure
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Exp. 4
Shadow Limit
Exp. 1
Pointing Maneuver
Pointing Maneuver
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GS Acq
Exp. 2
Exp. 3
Exp. 5
Occultation
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500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 08 Fri Jun 24 01:01:24 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

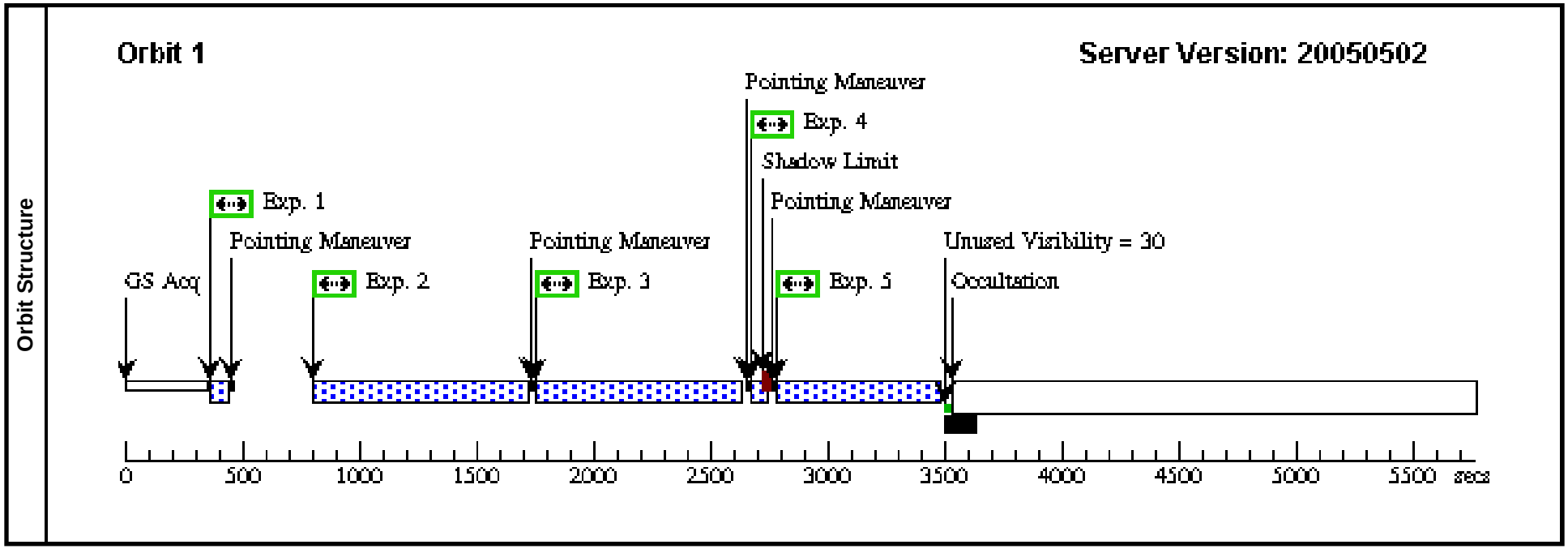
Special Requirements: ORIENT 20.0D TO 180.0D FROM 07

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				10.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		855.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		855.0 Secs *[==>]*	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		10.0 Secs	
								[==>10.0 Secs]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				640.0 Secs	
								[==>]	***[1]***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Shadow Limit
Exp. 1
Pointing Maneuver
Pointing Maneuver
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GS Acq
Exp. 2
Exp. 3
Exp. 5
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs

Visit

Proposal 10231, Visit 09 Fri Jun 24 01:01:24 GMT 2005

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/SBC

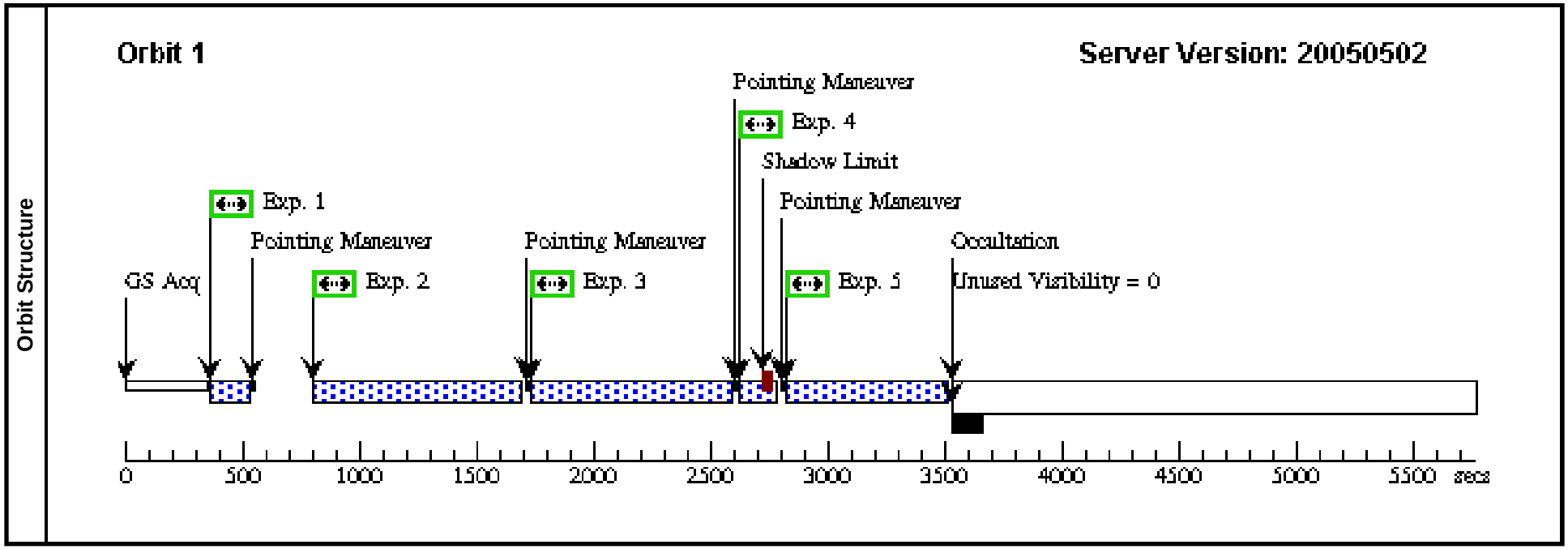
Special Requirements: SAME ORIENT AS 03

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSS1711+6052	RA: 17 11 34.4200 (257.8934167d) Dec: +60 52 40.48 (60.87791d) Equinox: J2000 Plate Id: 00T2	Redshift: 3.8	V=19.4+/-0.3	Coordinate Source: HST_IMAGE

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP				100.0 Secs	
								[==>]	***[1]***
2		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		SHADOW		830.0 Secs	
								[==>]	***[1]***
3		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L		POS TARG 0.017,0; SHADOW		830.0 Secs	
								[==>]	***[1]***
4		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	F150LP		POS TARG 0.017,0		100.0 Secs	
								[==>]	***[1]***
5		(1) SDSS1711+6052	ACS/SBC, ACCUM, SBC	PR130L				630.0 Secs	
								[==>]	***[1]***


Orbit Structure
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Server Version: 20050502
Pointing Maneuver
Exp. 4
Shadow Limit
Exp. 1
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Pointing Maneuver
Pointing Maneuver
Occultation
GS Acq
Exp. 2
Exp. 3
Exp. 5
Unused Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs