



10630 - The Fine Structure of Elliptical Galaxies in Voids

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(3) SGP77302	ACS/WFC	1	20-Jun-2005 11:30:01.0	yes
02	(4) SGP80462	ACS/WFC	1	20-Jun-2005 11:30:11.0	yes
03	(5) SGP84196	ACS/WFC	1	20-Jun-2005 11:30:14.0	yes
04	(6) SGP97484	ACS/WFC	1	20-Jun-2005 11:30:18.0	yes
05	(7) SGP97508	ACS/WFC	1	20-Jun-2005 11:30:21.0	yes
06	(8) SGP99769	ACS/WFC	1	20-Jun-2005 11:30:24.0	yes
07	(9) SGP112848	ACS/WFC	1	20-Jun-2005 11:30:27.0	yes

Proposal 10630 - Overview

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
08	(10) SGP126512	ACS/WFC	1	20-Jun-2005 11:30:30.0	yes
09	(1) SGP16449	ACS/WFC	1	20-Jun-2005 11:30:33.0	yes
10	(2) SGP46069	ACS/WFC	1	20-Jun-2005 11:30:36.0	yes

10 Total Orbits Used

ABSTRACT

Elliptical galaxies constitute a remarkably homogeneous class of objects with a tight color-magnitude relation and a well-defined Fundamental Plane. In spite of their bland and symmetrical morphology, they are characterized by a wealth of structural features (such as nuclear disks, dust lanes, shells, blue cores, etc.) which contain important clues to their formation history. Little is known about how and if these sub-structures vary as a function of environment; in fact, due to the morphology density relation, our knowledge of ellipticals is strongly biased towards overdense regions such as clusters. But what of the fine structure of ellipticals in voids? According to theoretical predictions, void galaxies should have different merger histories than those in clusters, which may imply that their fine structure also differs. We address these issues using the exquisite angular resolution of HST/ACS to resolve sub-structures in the most accurately classified sample, to date, of truly isolated ellipticals, identified using the 2dFGRS.

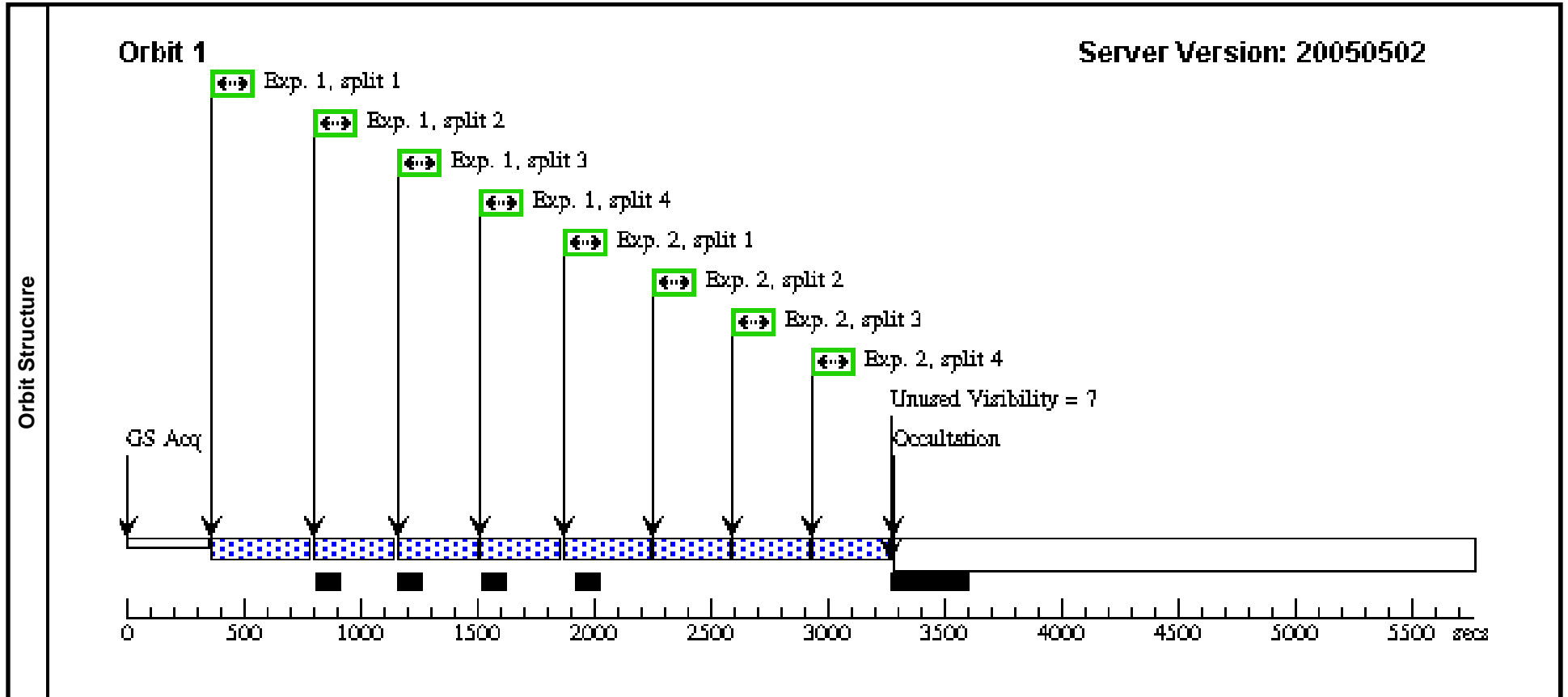
OBSERVING DESCRIPTION

The observations aim to describe the isophotal structure of elliptical galaxies in voids. They consist of ACS/WFC imaging in the F555W and F814W filters. Previous experience with HST imaging of nearby ellipticals (Program IDs: 6107, 6357, 8667) has shown that power-law and core galaxies reach a surface brightness of 14.5 and 16.4 mag/arcsec² respectively, at a distance of 1" from their centre, in the V band. Reaching a S/N > 50 at this radius resulted in a S/N ~ 20 in the isophote at the half-light radius and ensured an accurate measurement of the galaxies structure. Since our sample ellipticals are at $z \sim 0.1$, a radius of 1" corresponds already to about the half-light radius of the targets. The above S/N requirements translate into an exposure time of 500 s in the F555W filter and 400 s in the F814W band for each target (assuming CRSPLIT=4 and GAIN=2).

Proposal 10630 - Visit 01 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:38 GMT 2005

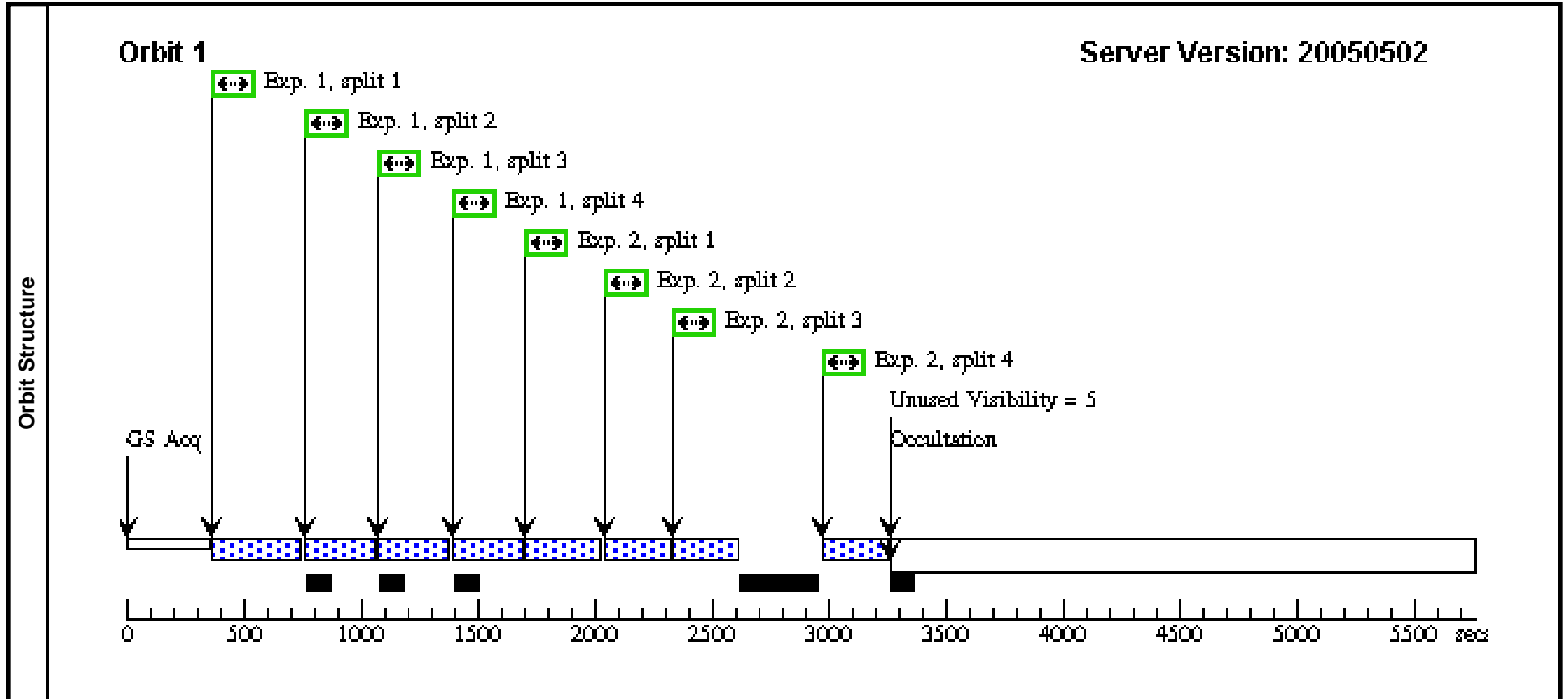
Visit	Proposal 10630, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(3)	SGP77302	RA: 00 50 52.8500 (12.7202083d) Dec: -31 23 23.19 (-31.38977d) Equinox: J2000 Plate Id: (?)			V=18.21+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP77302V	(3) SGP77302	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			664.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP77302I	(3) SGP77302	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			604.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]



Proposal 10630 - Visit 02 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:39 GMT 2005

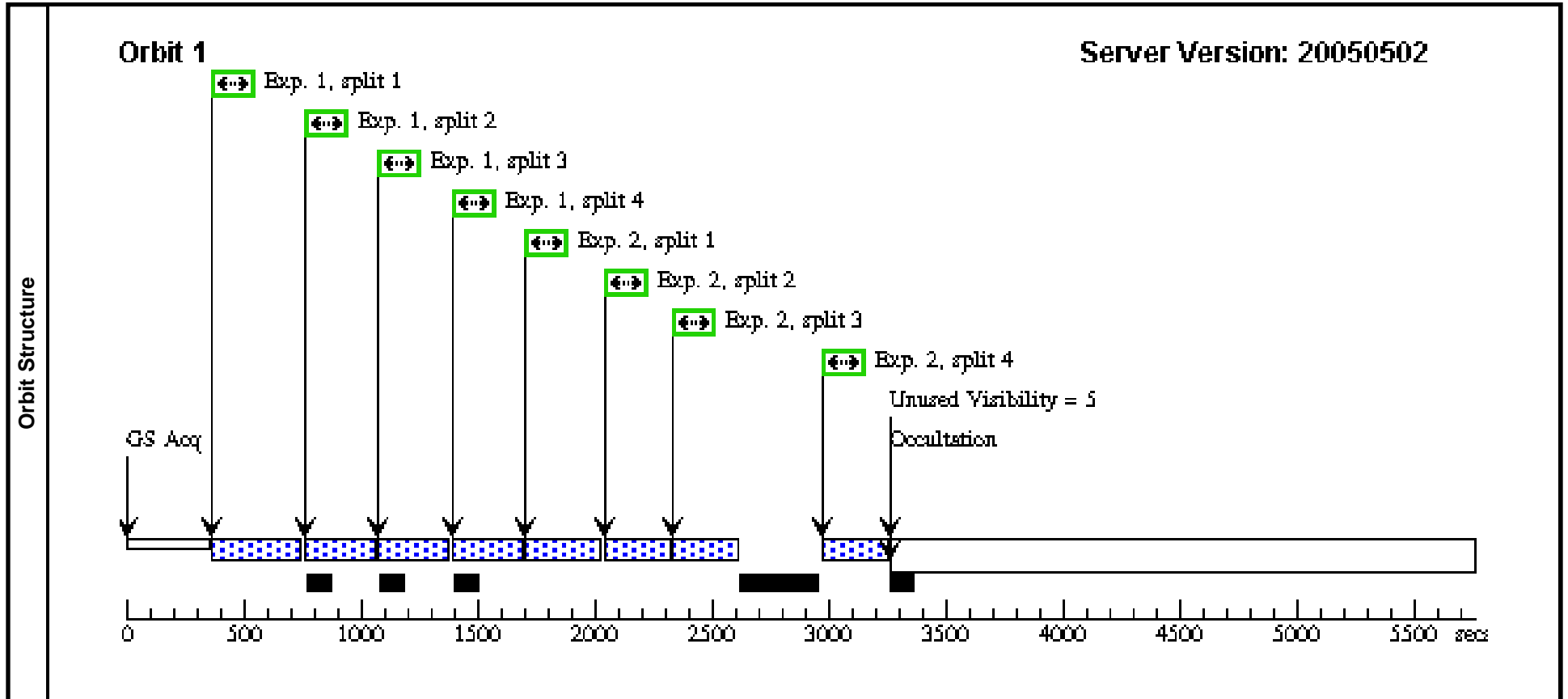
Visit	Proposal 10630, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	SGP80462	RA: 01 10 35.4300 (17.6476250d) Dec: -29 35 10.35 (-29.58621d) Equinox: J2000 Plate Id: (?)			V=18.32+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP80462V	(4) SGP80462	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			498.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
2	SGP80462I	(4) SGP80462	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			408.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]	



Proposal 10630 - Visit 03 - The Fine Structure of Elliptical Galaxies in Voids

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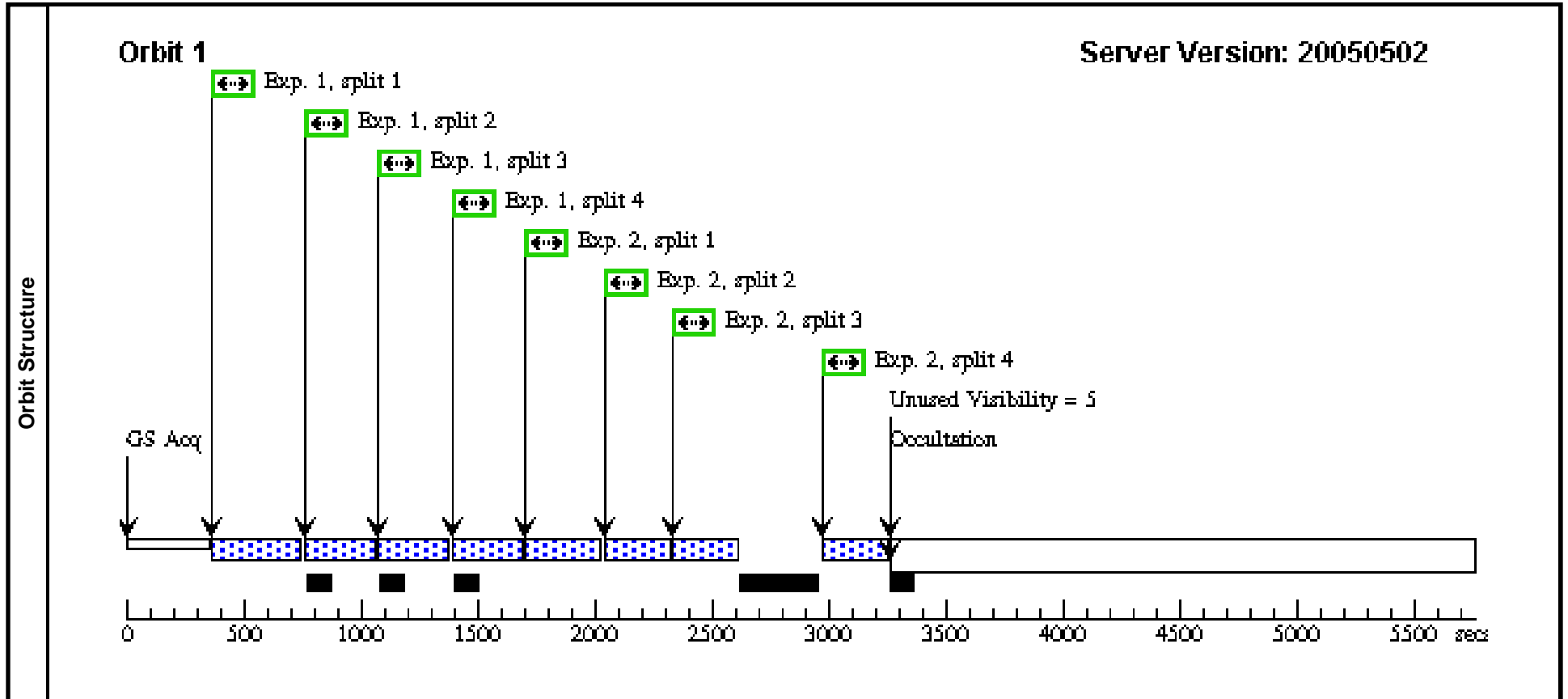
Visit	Proposal 10630, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	SGP84196	RA: 01 42 2.8000 (25.5116667d) Dec: -29 11 1.51 (-29.18375d) Equinox: J2000 Plate Id: (?)			V=18.32+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP84196V	(5) SGP84196	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			498.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP84196I	(5) SGP84196	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			408.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]



Proposal 10630 - Visit 04 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:42 GMT 2005

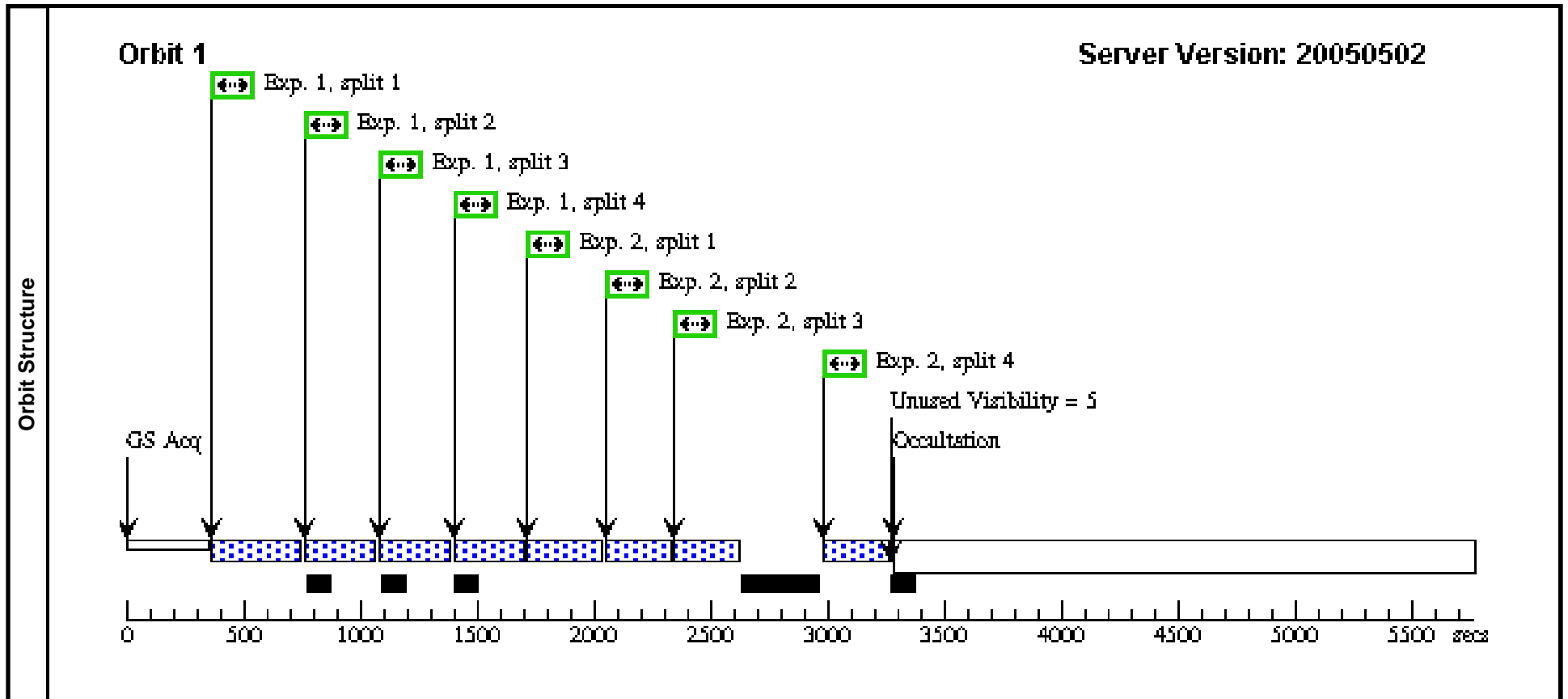
Visit	Proposal 10630, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(6)	SGP97484	RA: 02 31 48.4500 (37.9518750d) Dec: -29 52 11.18 (-29.86977d) Equinox: J2000 Plate Id: (?)			V=18.0+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP97484V	(6) SGP97484	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			498.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
2	SGP97484I	(6) SGP97484	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			408.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]	



Proposal 10630 - Visit 05 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:44 GMT 2005

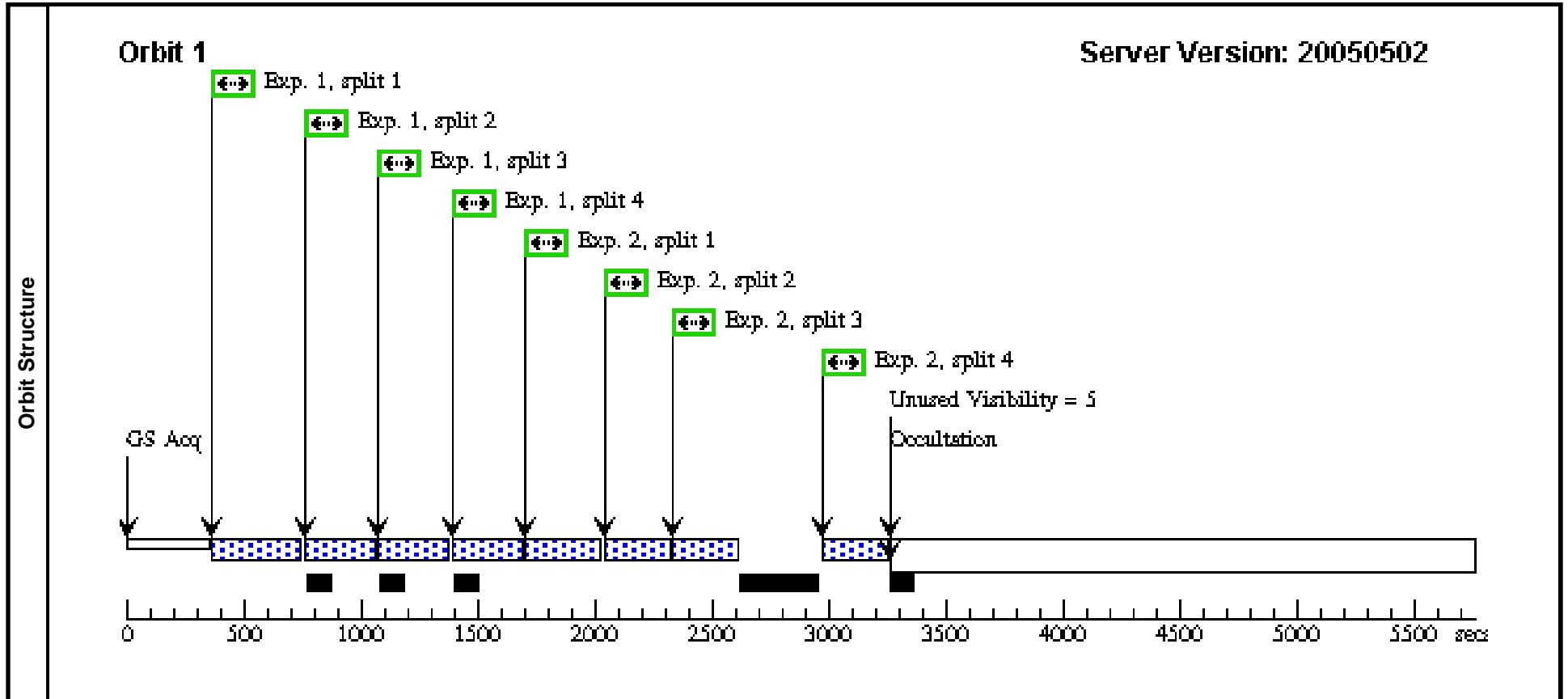
Visit	Proposal 10630, Visit 05 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(7)	SGP97508	RA: 02 53 36.5100 (43.4021250d) Dec: -31 36 45.77 (-31.61271d) Equinox: J2000 Plate Id: (?)			V=18.38+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP97508V	(7) SGP97508	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			506.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
2	SGP97508I	(7) SGP97508	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			416.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]	



Proposal 10630 - Visit 06 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:45 GMT 2005

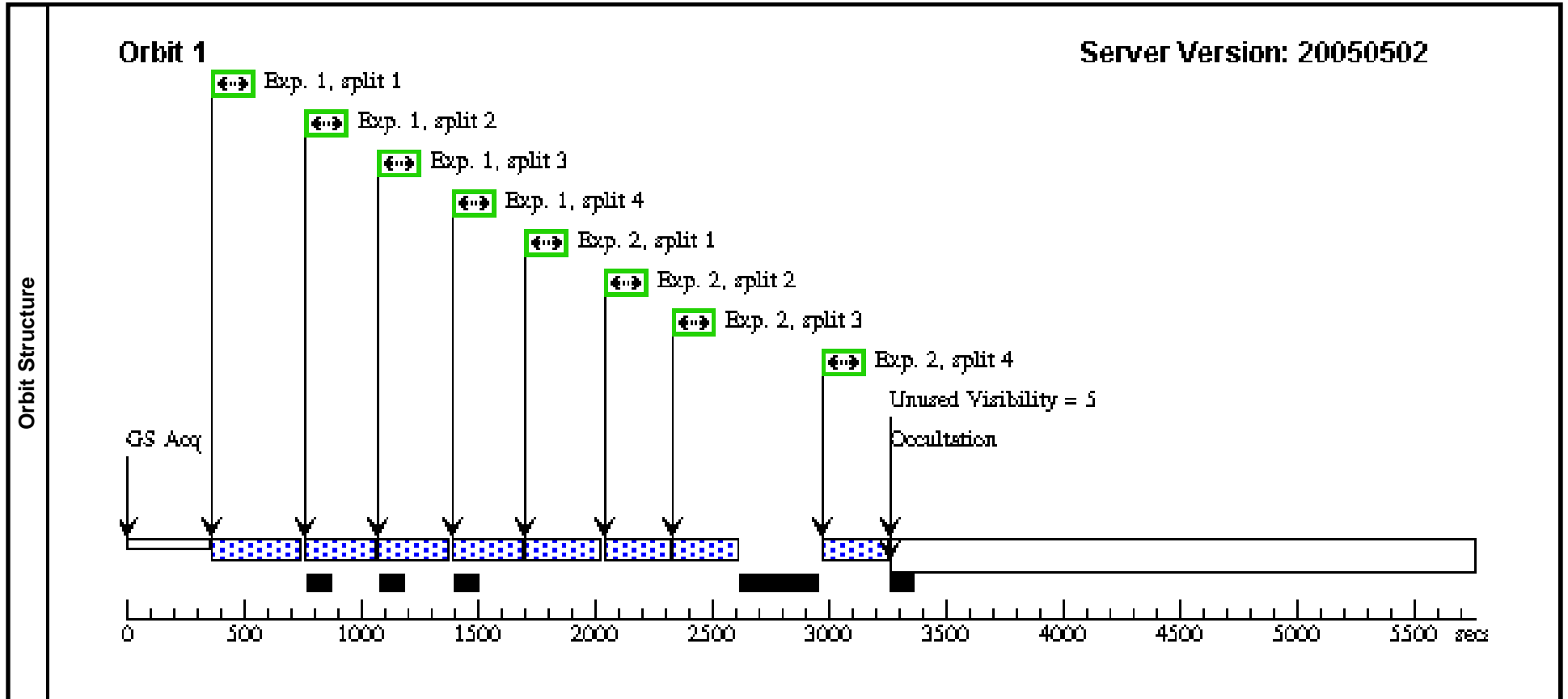
Visit	Proposal 10630, Visit 06 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(8)	SGP99769	RA: 03 07 7.6900 (46.7820417d) Dec: -29 32 9.33 (-29.53593d) Equinox: J2000 Plate Id: (?)			V=17.7+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP99769V	(8) SGP99769	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			498.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
2	SGP99769I	(8) SGP99769	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			408.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]	



Proposal 10630 - Visit 07 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:46 GMT 2005

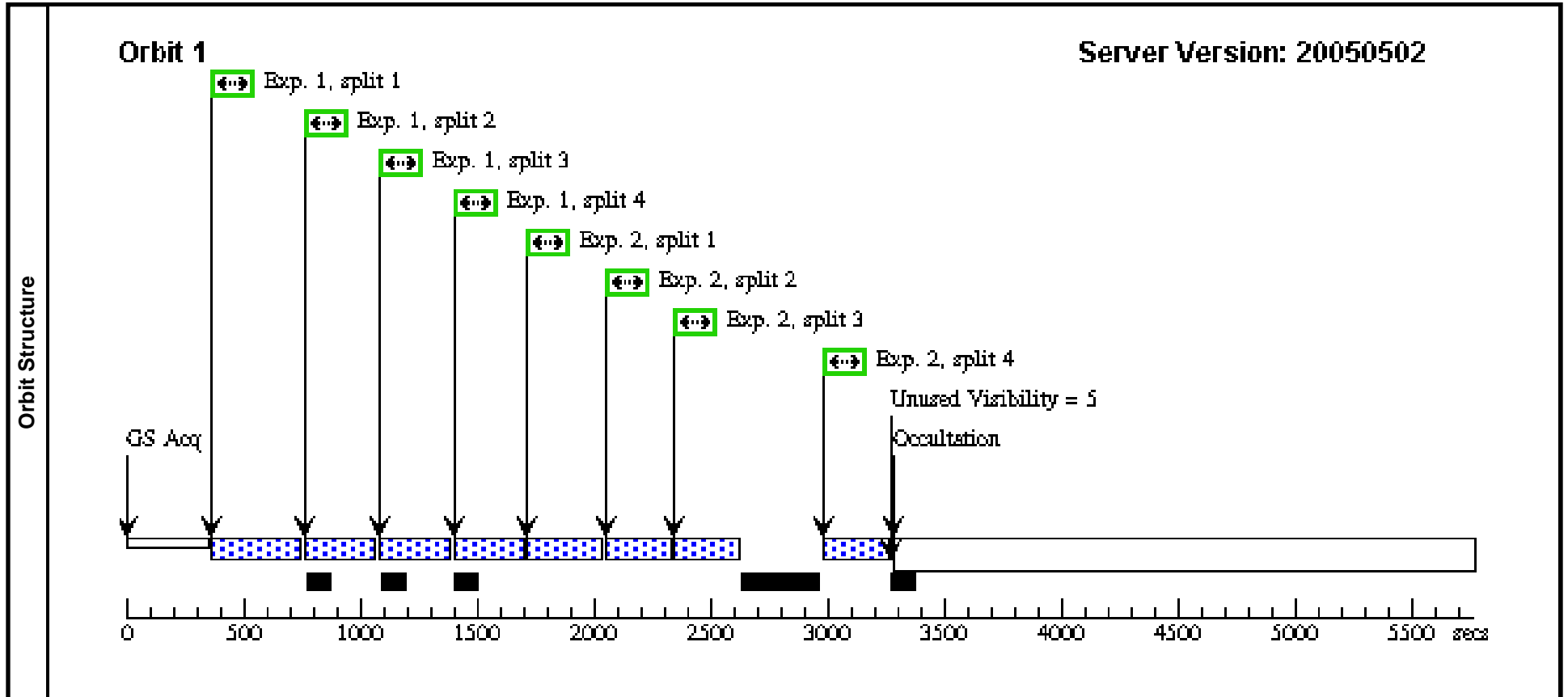
Visit	Proposal 10630, Visit 07 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(9)	SGP112848	RA: 22 20 57.9300 (335.2413750d) Dec: -29 06 43.88 (-29.11219d) Equinox: J2000 Plate Id: (?)			V=17.8+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP112848 V	(9) SGP112848	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			498.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP112848I	(9) SGP112848	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			408.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]



Proposal 10630 - Visit 08 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:47 GMT 2005

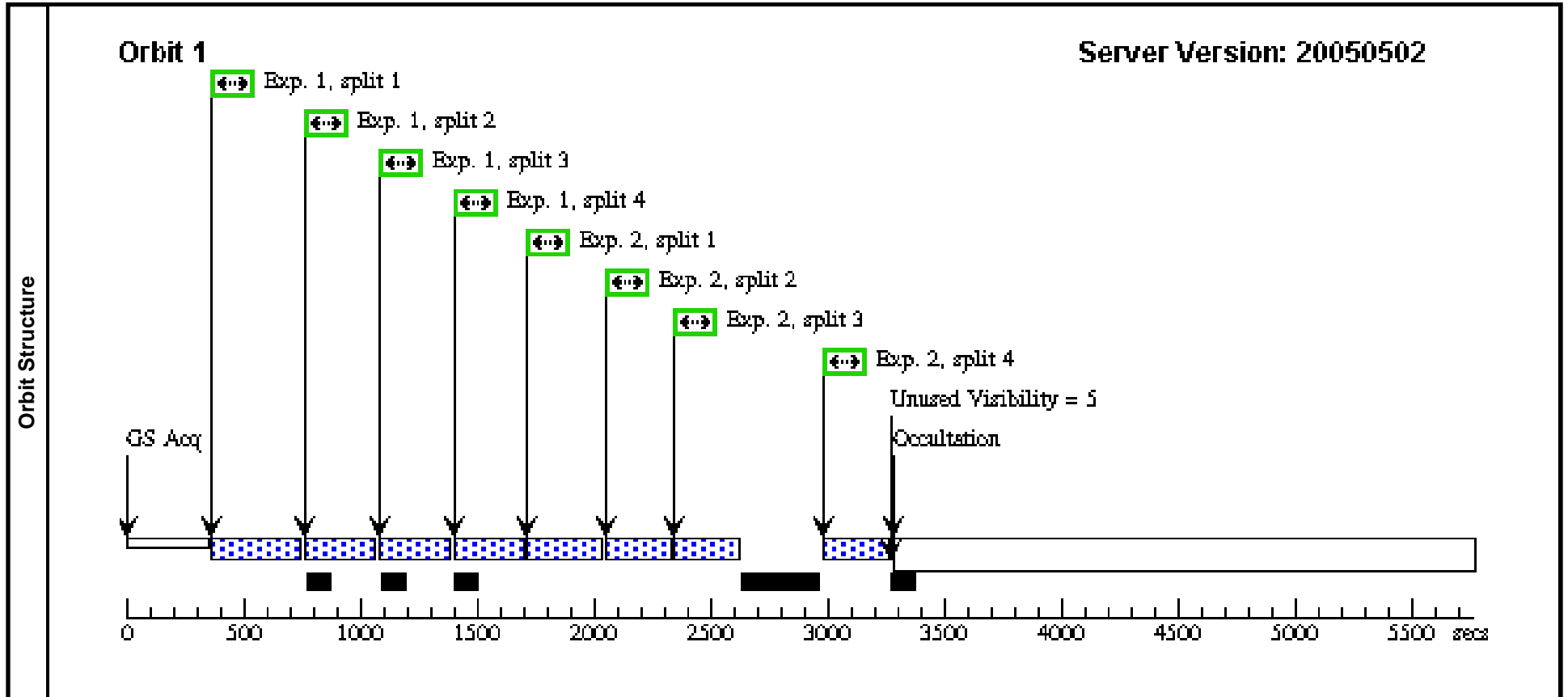
Visit	Proposal 10630, Visit 08 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(10)	SGP126512	RA: 23 24 10.1300 (351.0422083d) Dec: -31 09 29.29 (-31.15814d) Equinox: J2000 Plate Id: (?)			V=16.71+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP126512 V	(10) SGP126512	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			506.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP126512I	(10) SGP126512	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			416.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]



Proposal 10630 - Visit 09 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:49 GMT 2005

Visit	Proposal 10630, Visit 09 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	SGP16449	RA: 01 07 48.9600 (16.9540000d) Dec: -32 28 45.31 (-32.47925d) Equinox: J2000 Plate Id: (?)			V=18.33+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP16449V	(1) SGP16449	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			506.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP16449I	(1) SGP16449	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			416.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]



Proposal 10630 - Visit 10 - The Fine Structure of Elliptical Galaxies in Voids

Mon Jun 20 15:30:50 GMT 2005

Visit	Proposal 10630, Visit 10 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	SGP46069	RA: 22 16 54.4200 (334.2267500d) Dec: -32 53 6.60 (-32.88517d) Equinox: J2000 Plate Id: (?)			V=17.83+/-0.2	Coordinate Source: 2dFGRS (Colless et al. 2001, 2003)			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	SGP46069V	(2) SGP46069	ACS/WFC, ACCUM, WFC1-2K	F555W	CR-SPLIT=4; GAIN=2			506.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]
	2	SGP46069I	(2) SGP46069	ACS/WFC, ACCUM, WFC1-2K	F814W	CR-SPLIT=4; GAIN=2			416.0 Secs [=>(Split 1)] [=>(Split 2)] [=>(Split 3)] [=>(Split 4)]	[1]

