



12292 - SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

Cycle: 18, Proposal Category: GO
(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Prof. Tommaso L. Treu (PI)	University of California - Santa Barbara	tt@physics.ucsb.edu
Dr. Brendon James Brewer (CoI)	University of California - Santa Barbara	brendon.brewer@gmail.com
Dr. Aaron Dutton (CoI)	University of Victoria	dutton@uvic.ca
Dr. Matthew Auger (CoI)	University of California - Santa Barbara	mauger@physics.ucsb.edu
Prof. Leon Koopmans (CoI) (ESA Member)	Kapteyn Astronomical Institute	koopmans@astro.rug.nl
Dr. Adam S. Bolton (CoI)	University of Utah	bolton@ifa.hawaii.edu
Dr. Leonidas Moustakas (CoI)	Jet Propulsion Laboratory	leonidas@jpl.nasa.gov
Dr. Oliver Czoske (CoI) (ESA Member)	Kapteyn Astronomical Institute	O.czoske@astro.rug.nl
Dr. Raphael Gavazzi (CoI) (ESA Member)	CNRS, Institut d'Astrophysique de Paris	gavazzi@iap.fr
Dr. Philip J. Marshall (CoI)	University of California - Santa Barbara	pjm@physics.ucsb.edu

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) J1135+3720	ACS/WFC	1	15-Nov-2010 21:22:31.0	yes
02	(2) J0915+4211	ACS/WFC	1	15-Nov-2010 21:22:36.0	yes
03	(3) J1422+4134	ACS/WFC	1	15-Nov-2010 21:22:40.0	yes
04	(4) J1633+1341	ACS/WFC	1	15-Nov-2010 21:22:43.0	yes
10	(10) J1000+2835	ACS/WFC	1	15-Nov-2010 21:22:46.0	yes

Proposal 12292 (STScI Edit Number: 1, Created: Monday, November 15, 2010 9:23:47 PM EST) - Overview

<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>
11	(11) J2333-1042	ACS/WFC	1	15-Nov-2010 21:22:50.0	yes
12	(12) J1403+1530	ACS/WFC	1	15-Nov-2010 21:22:54.0	yes
14	(14) J1629+4708	ACS/WFC	1	15-Nov-2010 21:22:57.0	yes
15	(15) J1451+2550	ACS/WFC	1	15-Nov-2010 21:23:01.0	yes
16	(16) J1249+0225	ACS/WFC	1	15-Nov-2010 21:23:04.0	yes
17	(17) J0825+2109	ACS/WFC	1	15-Nov-2010 21:23:07.0	yes
19	(6) J0908+2730	WFC3/IR	1	15-Nov-2010 21:23:10.0	yes
20	(7) J0028-0014	WFC3/IR	1	15-Nov-2010 21:23:13.0	yes
21	(9) J0745+3400	WFC3/IR	1	15-Nov-2010 21:23:15.0	yes
22	(12) J1403+1530	WFC3/IR	1	15-Nov-2010 21:23:18.0	yes
61	(19) J0007+0053	ACS/WFC	1	15-Nov-2010 21:23:21.0	yes
62	(20) J0149-0010	ACS/WFC	1	15-Nov-2010 21:23:24.0	yes
63	(21) J0329-0027	ACS/WFC	1	15-Nov-2010 21:23:27.0	yes
64	(22) J0821+1025	ACS/WFC	1	15-Nov-2010 21:23:30.0	yes
65	(23) J0822+1828	ACS/WFC	1	15-Nov-2010 21:23:33.0	yes
66	(24) J0930+2855	ACS/WFC	1	15-Nov-2010 21:23:38.0	yes
67	(25) J1021+2028	ACS/WFC	1	15-Nov-2010 21:23:41.0	yes
68	(26) J1111+2234	ACS/WFC	1	15-Nov-2010 21:23:43.0	yes

23 Total Orbits Used

ABSTRACT

The formation of realistic disk galaxies within the LCDM cosmology is still largely an unsolved problem. Theory is now beginning to make predictions for how dark matter halos respond to galaxy formation, and for the properties of disk galaxies. Measuring the density profiles of dark matter halos on galaxy scales is therefore a strong test for the standard paradigm of galaxy formation, offering great potential for discovery.

However, the degeneracy between the stellar and dark matter contributions to galaxy rotation curves remains a major obstacle. Strong gravitational lensing, when combined with spatially resolved kinematics and stellar population models, can solve this long-standing problem. Unfortunately, this

joint methodology could not be exploited until recently due to the paucity of known edge-on spiral lenses. We have developed and demonstrated an efficient technique to find exactly these systems. During supplemental cycle-16 we discovered five new spiral lens galaxies, suitable for rotation curve measurements. We propose multi-color HST imaging of 16 candidates and 2 partially-imaged confirmed systems, to measure a sample of eight new edge-on spiral lenses. This program will at least double the number of known disk-dominated systems. This is crucial for constraining the relative contribution of the disk, bulge and dark halo to the total density profile.

OBSERVING DESCRIPTION

The goal of our observations is to obtain high signal-to-noise spatially-resolved photometry through three filters, spanning the largest possible wavelength range to correct for dust extinction, identify multiple images by their equal colors, and determine the relative stellar mass-to-light ratio of the bulge and disk components. Precise removal of the lens galaxy contamination, including its differential extinction, is key to the success of the study of spiral lens galaxies. The following strategy with ACS/WFC3 will allow us to meet our goals:

In the optical we choose ACS with filters F435W-F814W because this is the fastest setup (thus maximizing the S/N in the images) covering a long wavelength baseline. For those 4 systems that cannot be observed from the ground with laser guide star adaptive optics in the infrared, we will also observe them with the IR channel of WFC3 through F160W, which is the reddest broad filter with low background.

Based on our previous experience with WFPC2 and ACS, one ACS orbit split between F435W and F814W bands is sufficient to achieve S/N~5 per pixel at the location of the Einstein Ring, sufficient for good lensing modeling; this includes the extra noise caused by removal of foreground structure and differential extinction. The signal-to-noise ratio is also sufficient to determine structural parameters of bulges and disks to a level that is dominated by systematic errors, rather than photon-counting. The ACS observations will be split into two exposures using a 2-point dither pattern, to improve sampling of the PSF and ensure cosmic ray/bad pixel removal. In the infrared, based on our experience with the WFC3-IR images obtained as part of the SLACS survey, we will require a full orbit to reach an equivalent S/N per pixel as in the optical bands and perform accurate dust corrections. The IR observations will be split into four exposures using a 4-point dither pattern. This strategy will allow us to recover most of the resolution lost to the relatively poor sampling of the IR psf.

Proposal 12292 - Visit 01 SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

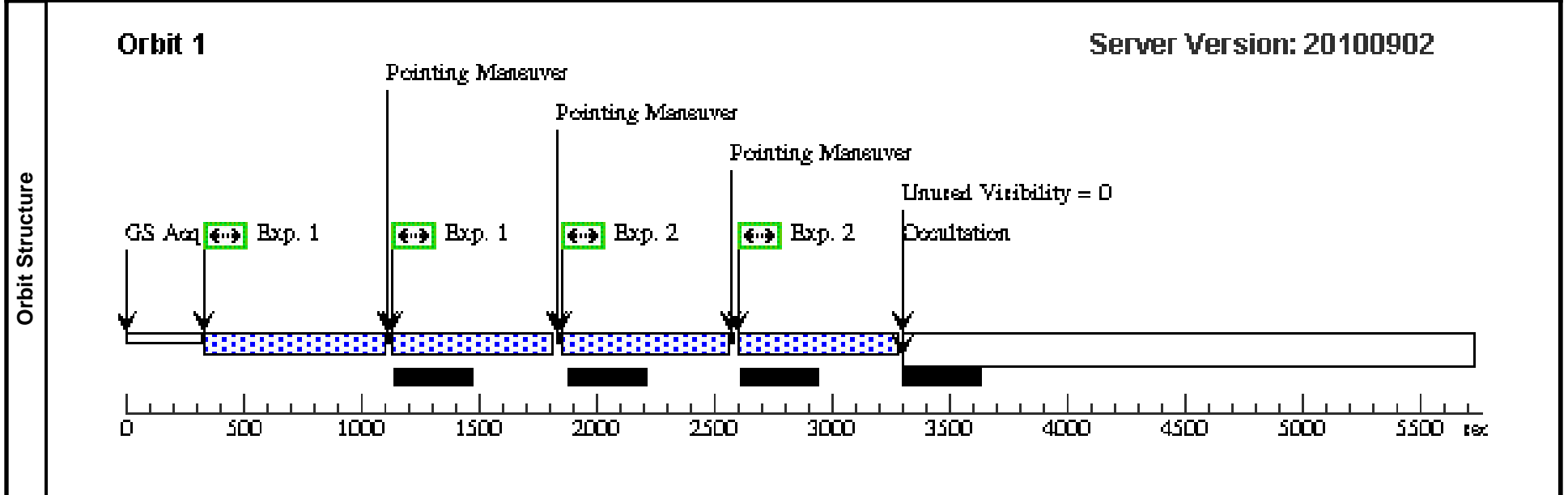
Tue Nov 16 02:23:48 GMT 2010

Visit	Proposal 12292, Visit 01, scheduling		
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	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	J1135+3720	RA: 11 35 6.8800 (173.7786667d) Dec: +37 20 23.80 (37.33994d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(1) J1135+3720	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 01 (1)	500 Secs	
										[=>560.0 Secs (Pattern 1)] [=>560.0 Secs (Pattern 2)]	[1]
2		(1) J1135+3720	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 01 (1)	500 Secs		
									[=>560.0 Secs (Pattern 1)] [=>560.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 02SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

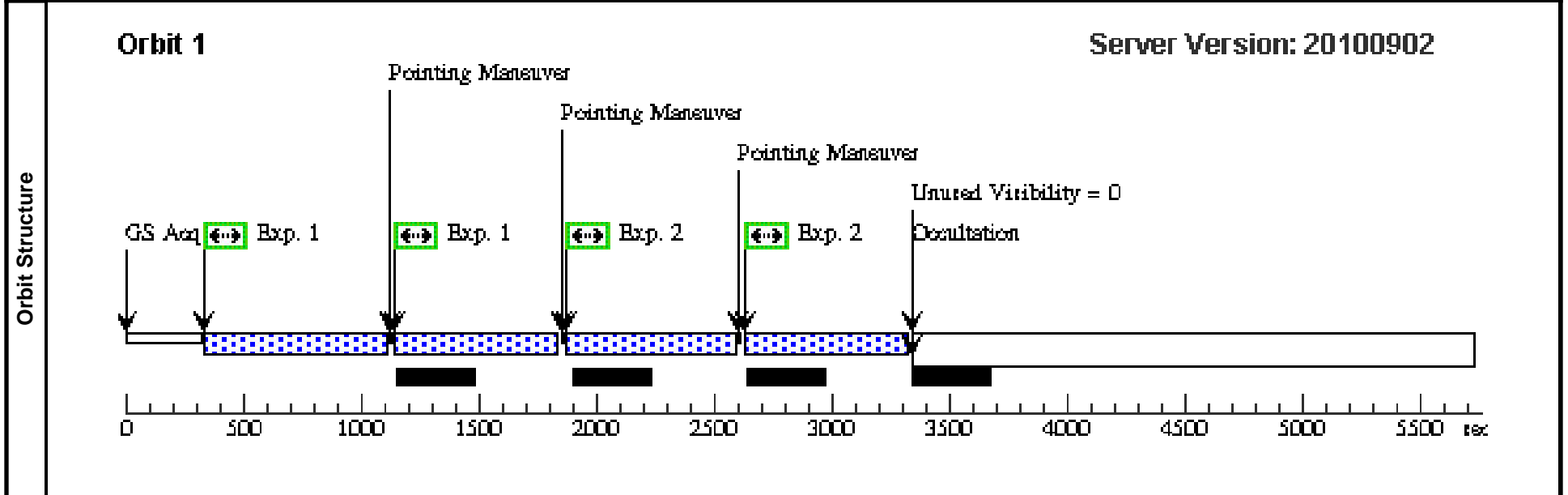
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Visit	Proposal 12292, Visit 02, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	J0915+4211	RA: 09 15 16.2700 (138.8177917d) Dec: +42 11 52.70 (42.19797d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(2) J0915+4211	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 02 (1)	500 Secs	
										[=>570.0 Secs (Pattern 1)] [=>570.0 Secs (Pattern 2)]	[1]
2		(2) J0915+4211	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 02 (1)	500 Secs		
									[=>570.0 Secs (Pattern 1)] [=>570.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 03SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

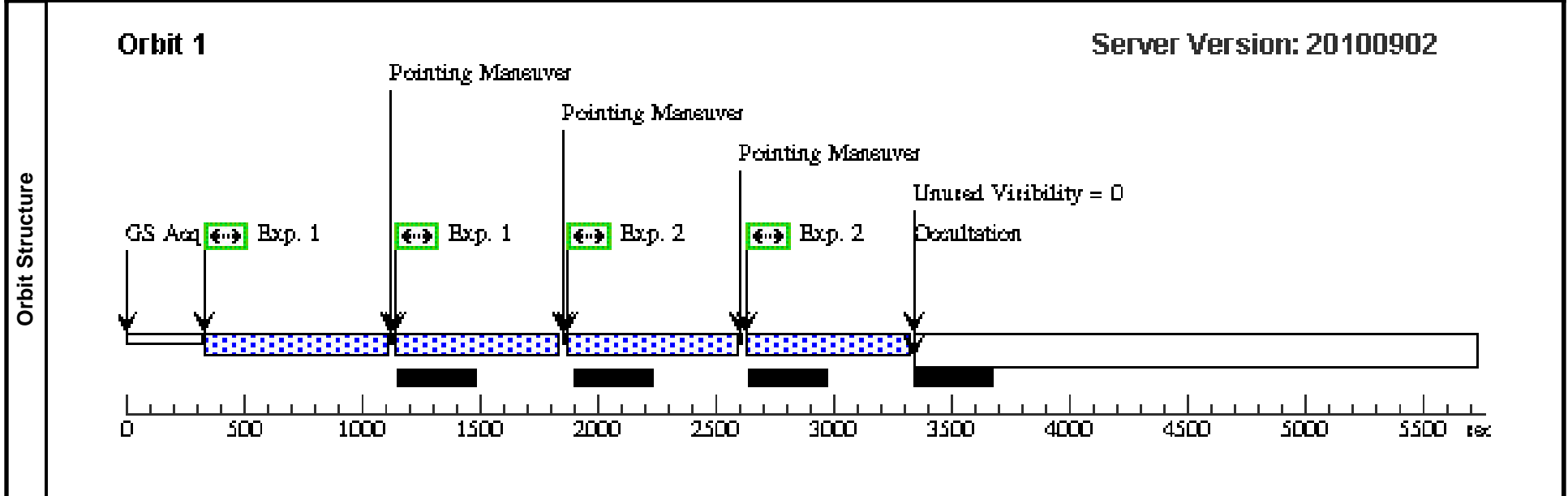
Tue Nov 16 02:23:49 GMT 2010

Visit	Proposal 12292, Visit 03, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(3)	J1422+4134	RA: 14 22 26.1700 (215.6090417d) Dec: +41 34 35.80 (41.57661d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(3) J1422+4134	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 03 (1)	500 Secs	
										[=>570.0 Secs (Pattern 1)] [=>570.0 Secs (Pattern 2)]	[1]
2		(3) J1422+4134	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 03 (1)	500 Secs		
									[=>570.0 Secs (Pattern 1)] [=>570.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 04SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

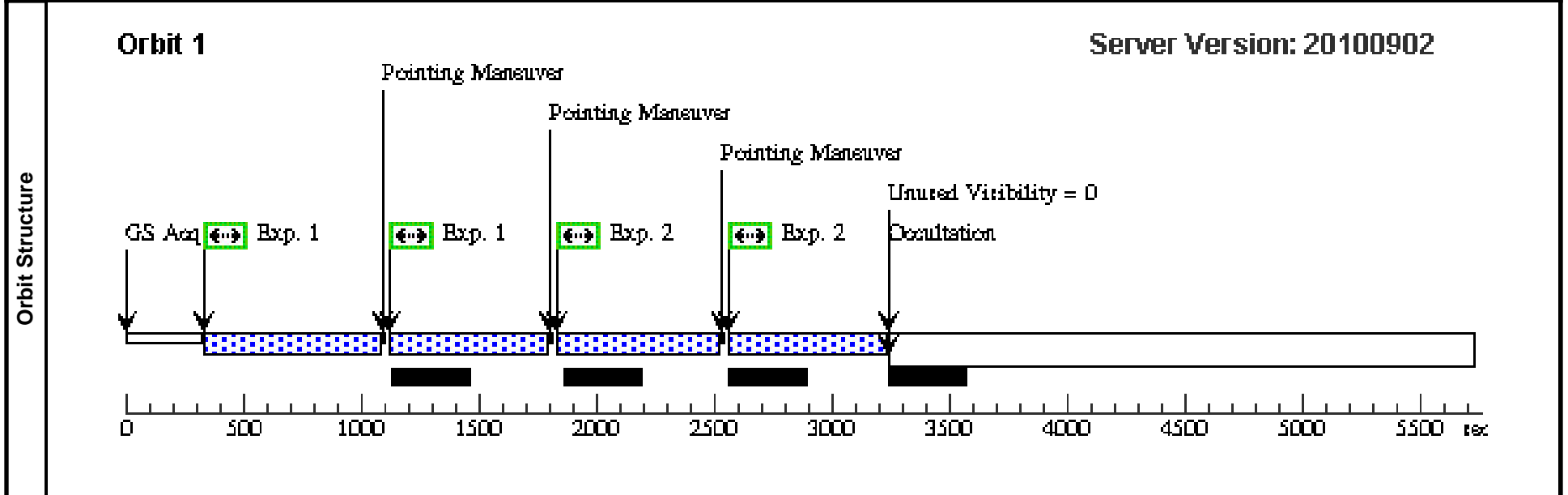
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Visit	Proposal 12292, Visit 04, completed		
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	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	J1633+1341	RA: 16 33 39.5600 (248.4148333d) Dec: +13 41 13.50 (13.68708d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(4) J1633+1341	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 04 (1)	500 Secs	
										[=>546.0 Secs (Pattern 1)] [=>546.0 Secs (Pattern 2)]	[1]
2		(4) J1633+1341	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 04 (1)	500 Secs		
									[=>546.0 Secs (Pattern 1)] [=>546.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 10SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

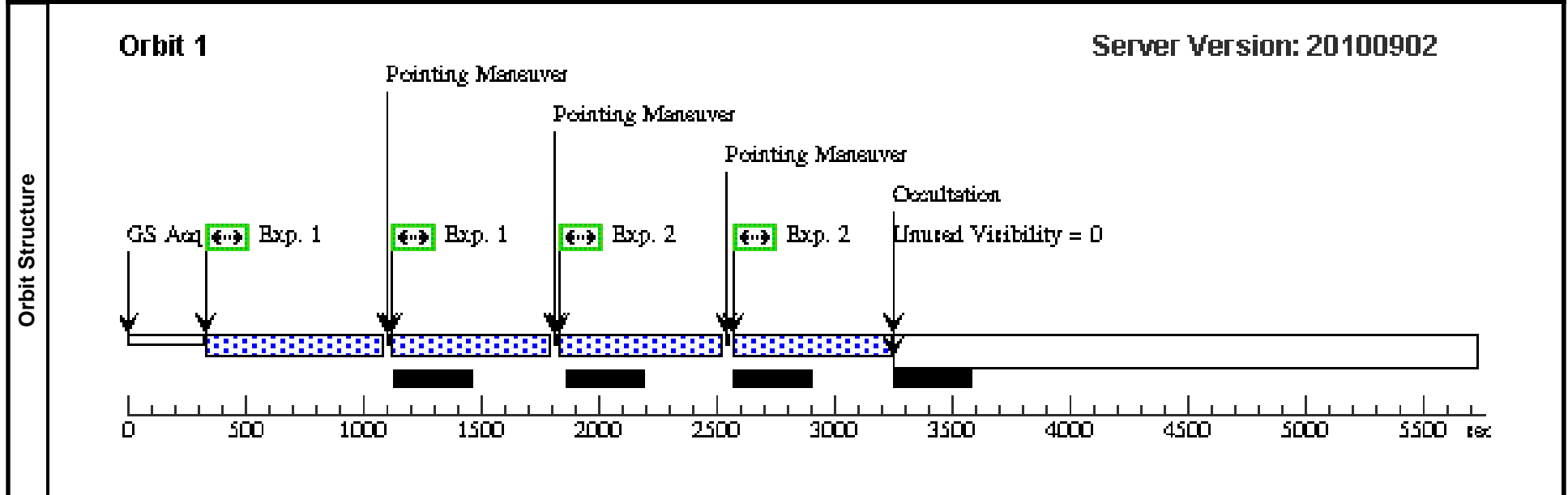
Tue Nov 16 02:23:50 GMT 2010

Visit	Proposal 12292, Visit 10, completed Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(10)	J1000+2835	RA: 10 00 2.6900 (150.0112083d) Dec: +28 35 44.50 (28.59569d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(10) J1000+2835	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 10 (1)	500 Secs [=>549.0 Secs (Pattern 1)] [=>549.0 Secs (Pattern 2)]	[1]
	2		(10) J1000+2835	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 10 (1)	500 Secs [=>549.0 Secs (Pattern 1)] [=>549.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 11 SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

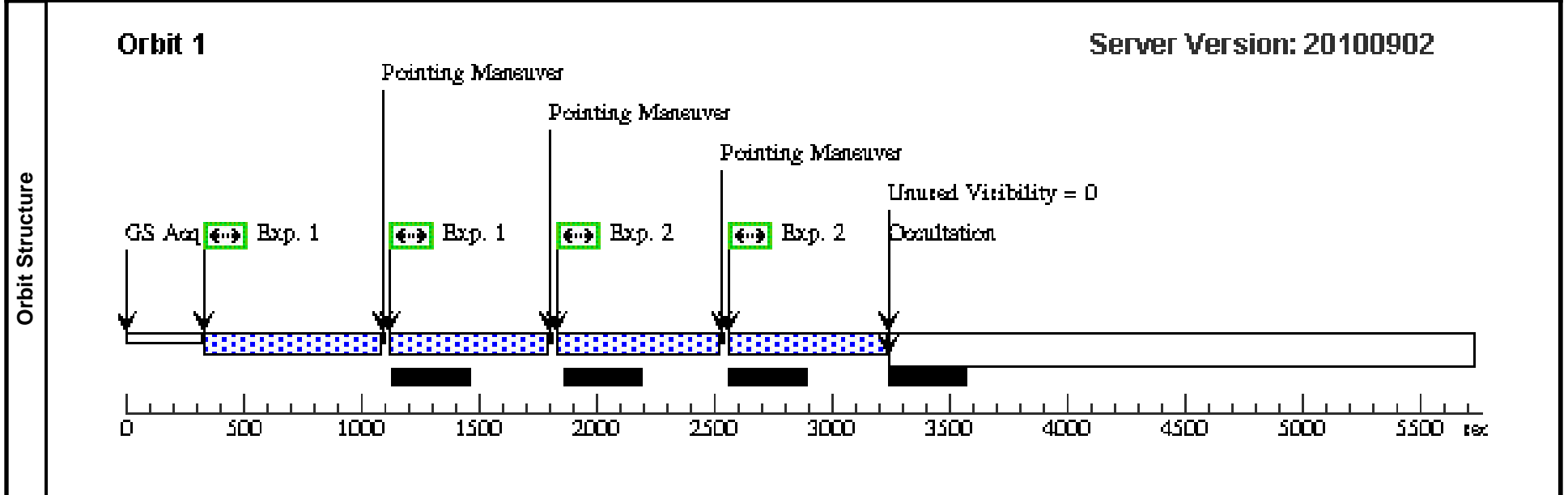
Tue Nov 16 02:23:51 GMT 2010

Visit	Proposal 12292, Visit 11, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(11)	J2333-1042	RA: 23 33 5.2900 (353.2720417d) Dec: -10 42 11.80 (-10.70328d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(11) J2333-1042	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 11 (1)	500 Secs	
										[=>546.0 Secs (Pattern 1)] [=>546.0 Secs (Pattern 2)]	[1]
2		(11) J2333-1042	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 11 (1)	500 Secs		
									[=>546.0 Secs (Pattern 1)] [=>546.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 12SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

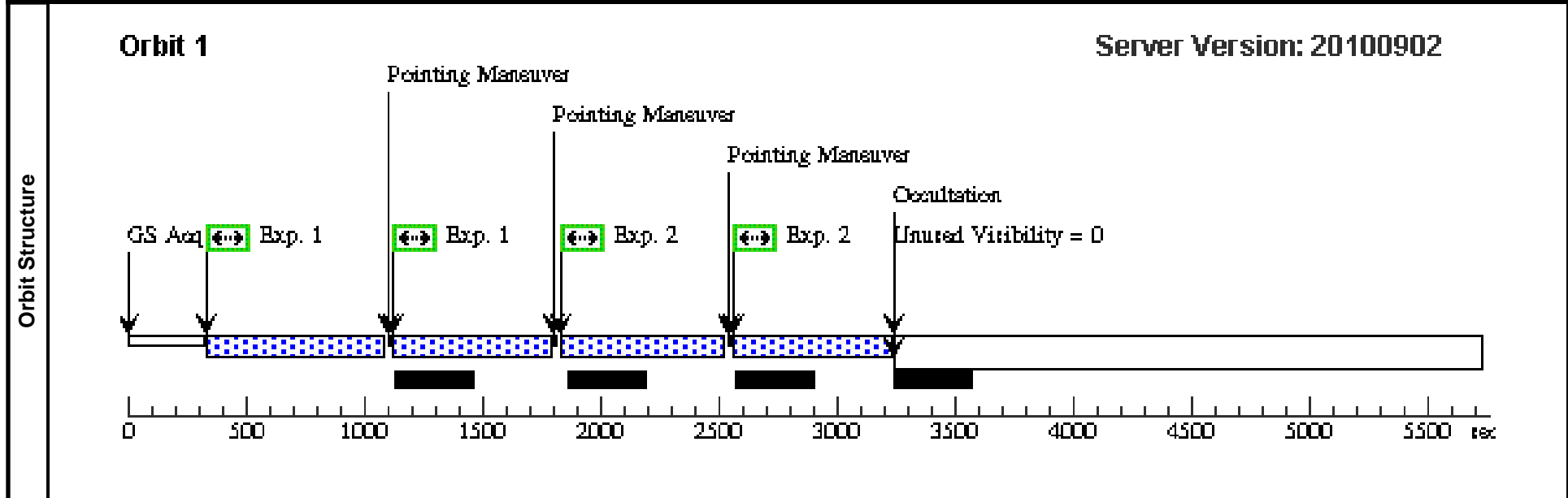
Tue Nov 16 02:23:51 GMT 2010

Visit	Proposal 12292, Visit 12, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	J1403+1530	RA: 14 03 11.7600 (210.7990000d) Dec: +15 30 39.80 (15.51106d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(12) J1403+1530	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 12 (1)	500 Secs [=>547.0 Secs (Pattern 1)] [=>547.0 Secs (Pattern 2)]	[1]
	2		(12) J1403+1530	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 12 (1)	500 Secs [=>547.0 Secs (Pattern 1)] [=>547.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 14SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

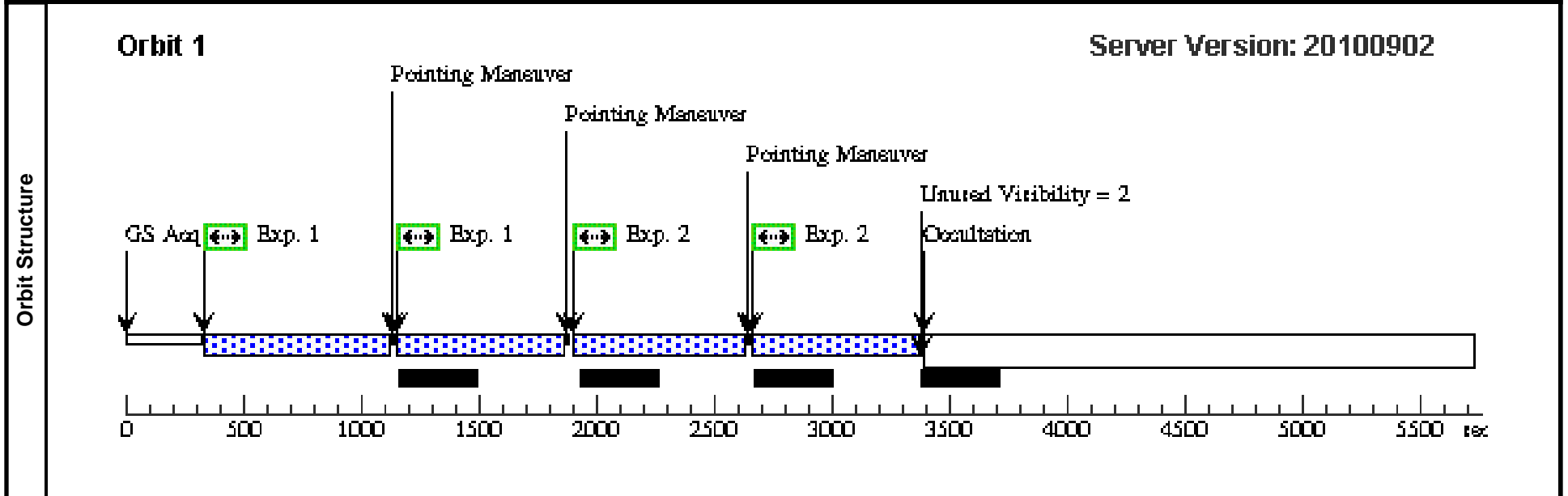
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Visit	Proposal 12292, Visit 14, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(14)	J1629+4708	RA: 16 29 9.9100 (247.2912917d) Dec: +47 08 43.10 (47.14531d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(14) J1629+4708	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 14 (1)	500 Secs	
										[=>582.0 Secs (Pattern 1)] [=>582.0 Secs (Pattern 2)]	[1]
2		(14) J1629+4708	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 14 (1)	500 Secs		
									[=>582.0 Secs (Pattern 1)] [=>582.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 15SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

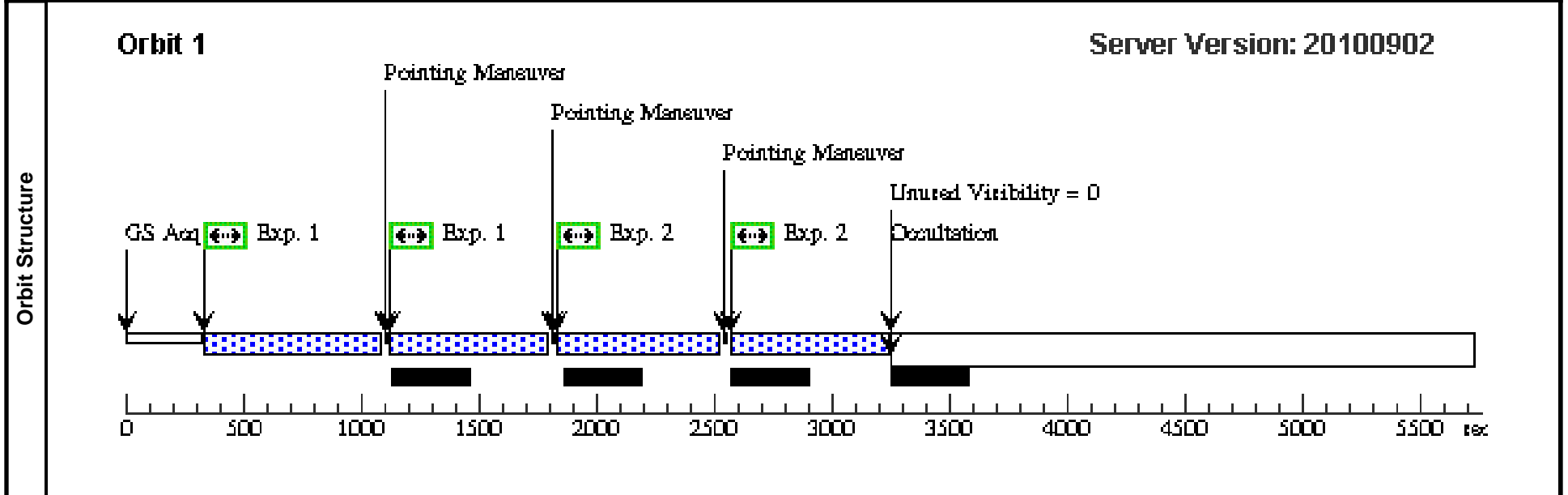
Tue Nov 16 02:23:52 GMT 2010

Visit	Proposal 12292, Visit 15, failed Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(15)	J1451+2550	RA: 14 51 29.4300 (222.8726250d) Dec: +25 50 55.00 (25.84861d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(15) J1451+2550	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 15 (1)	500 Secs [=>549.0 Secs (Pattern 1)] [=>549.0 Secs (Pattern 2)]	[1]
	2		(15) J1451+2550	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 15 (1)	500 Secs [=>549.0 Secs (Pattern 1)] [=>549.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 16SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

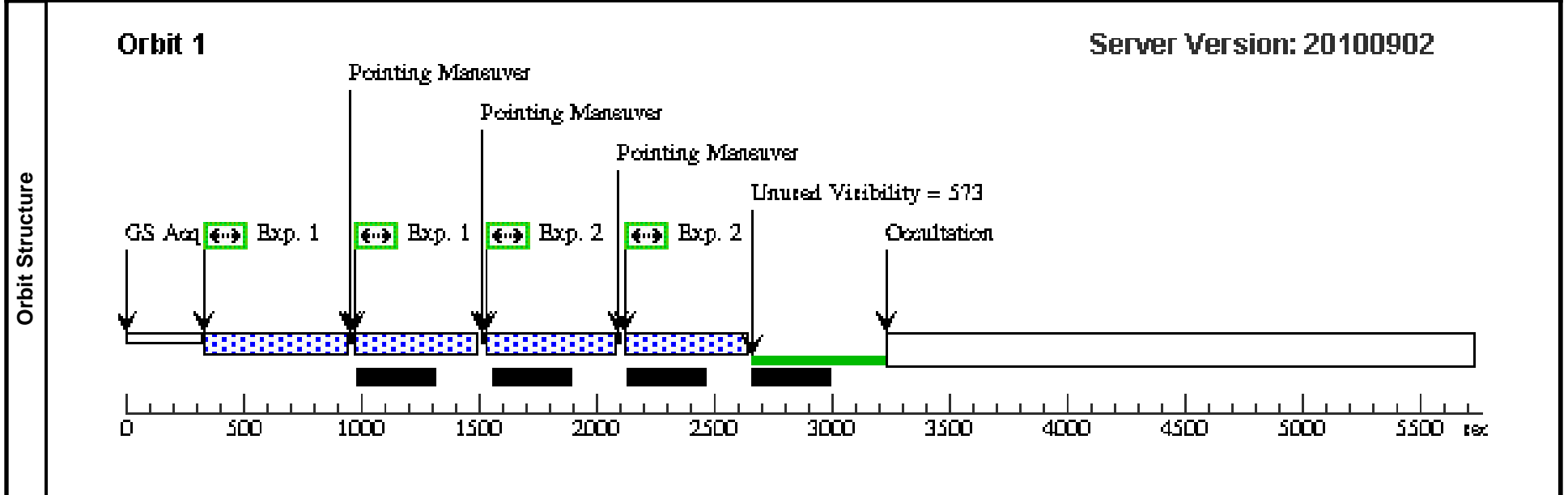
Tue Nov 16 02:23:52 GMT 2010

Visit	Proposal 12292, Visit 16, scheduling		
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	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(16)	J1249+0225	RA: 12 49 52.2400 (192.4676667d) Dec: +02 25 4.60 (2.41794d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(16) J1249+0225	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 16 (1)	400 Secs	
										[==>(Pattern 1)] [==>(Pattern 2)]	[1]
2		(16) J1249+0225	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 16 (1)	400 Secs		
									[==>(Pattern 1)] [==>(Pattern 2)]	[1]	



Proposal 12292 - Visit 17SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

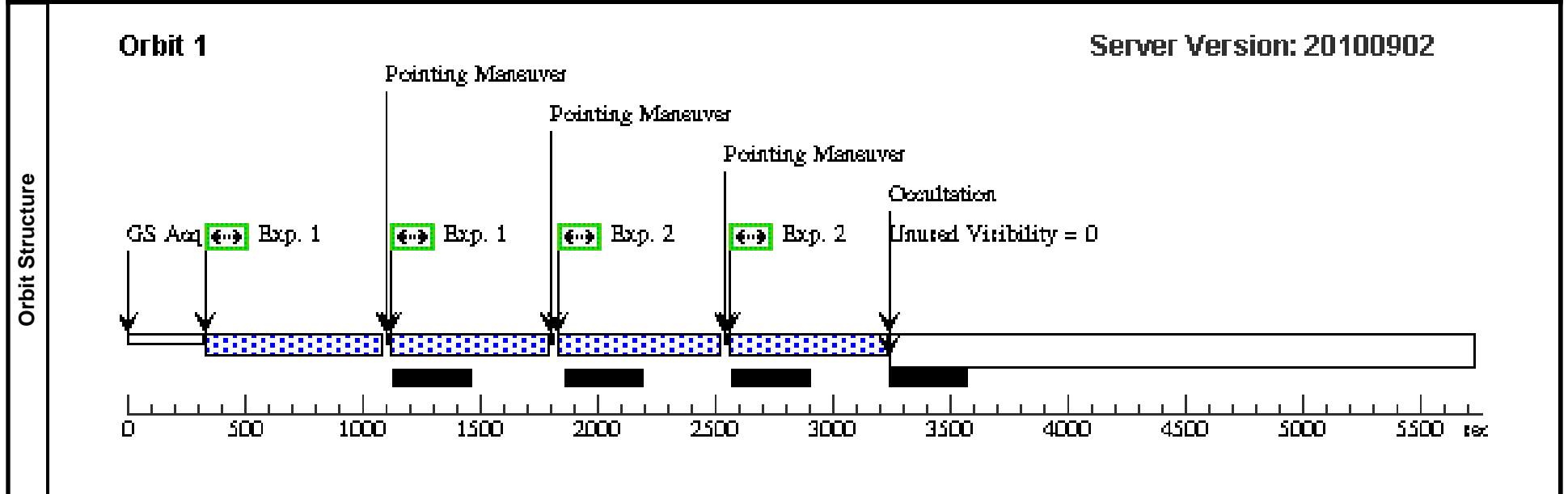
Tue Nov 16 02:23:53 GMT 2010

Visit	Proposal 12292, Visit 17, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(17)	J0825+2109	RA: 08 25 16.9800 (126.3207500d) Dec: +21 09 39.70 (21.16103d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(17) J0825+2109	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 17 (1)	500 Secs	
										[=>547.0 Secs (Pattern 1)] [=>547.0 Secs (Pattern 2)]	[1]
2		(17) J0825+2109	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 17 (1)	500 Secs		
									[=>547.0 Secs (Pattern 1)] [=>547.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 19SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

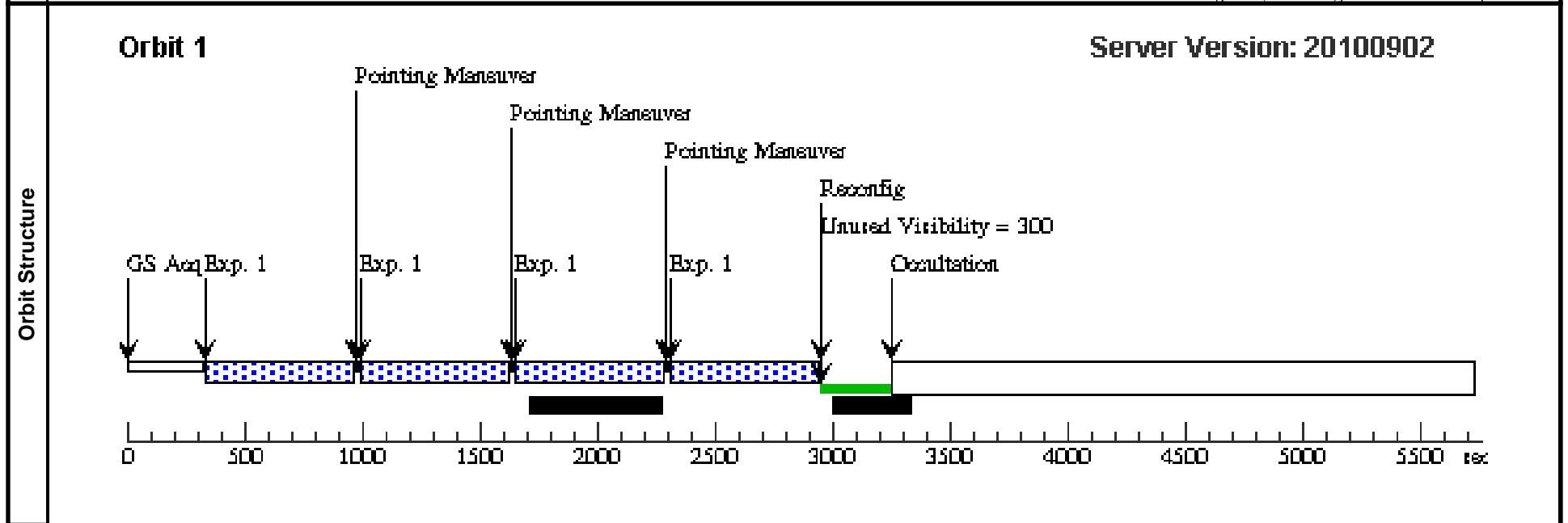
Tue Nov 16 02:23:53 GMT 2010

Visit	Proposal 12292, Visit 19, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)		

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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	J0908+2730	RA: 09 08 56.3500 (137.2347917d) Dec: +27 30 49.80 (27.51383d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) J0908+2730	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP200			Pattern 2, Exps 1-1 in Visit 19 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]



Proposal 12292 - Visit 20SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

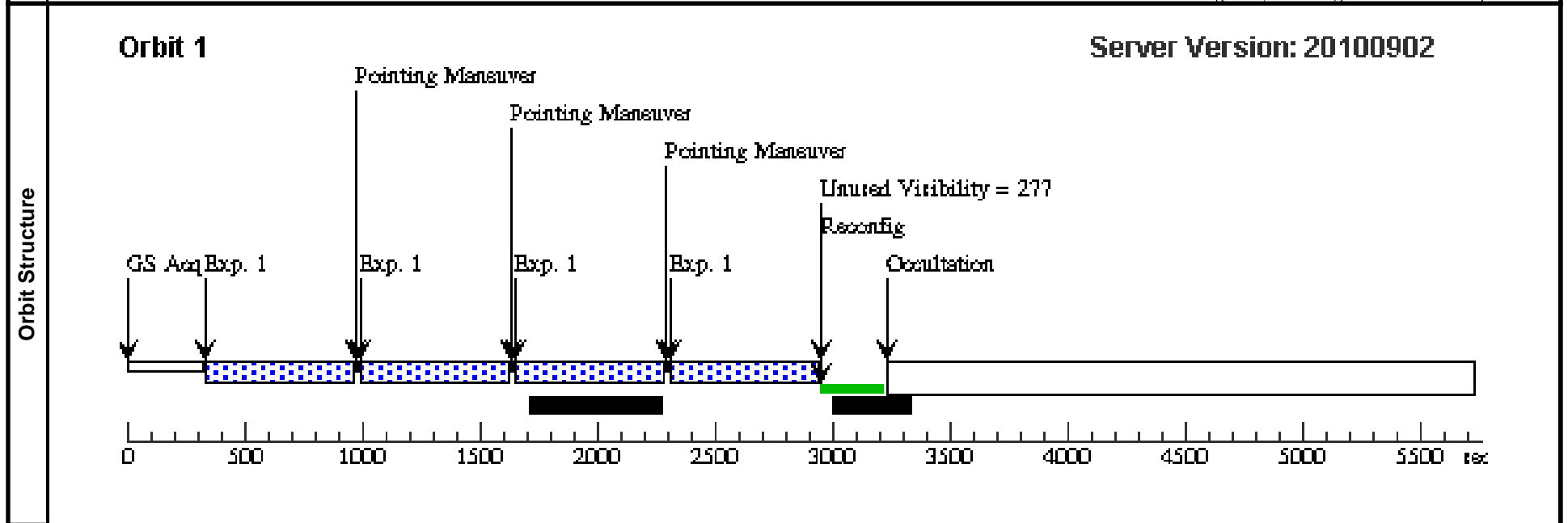
Tue Nov 16 02:23:54 GMT 2010

Visit	Proposal 12292, Visit 20, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)		

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)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(7)	J0028-0014	RA: 00 28 52.8800 (7.2203333d) Dec: -00 14 35.60 (-.24322d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(7) J0028-0014	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP200		Pattern 2, Exps 1-1 in Visit 20 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12292 - Visit 21SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

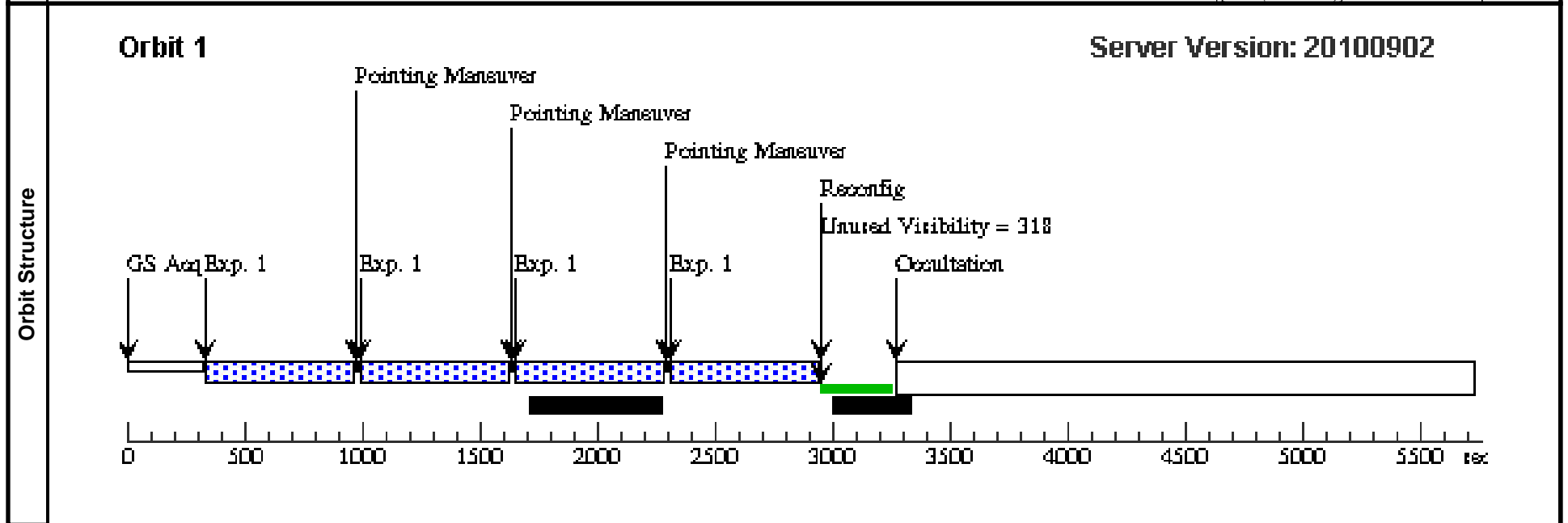
Tue Nov 16 02:23:54 GMT 2010

Visit	Proposal 12292, Visit 21, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)		

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	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(9)	J0745+3400	RA: 07 45 42.8500 (116.4285417d) Dec: +34 00 27.90 (34.00775d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(9) J0745+3400	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP200			Pattern 2, Exps 1-1 in Visit 21 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]



Proposal 12292 - Visit 22SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

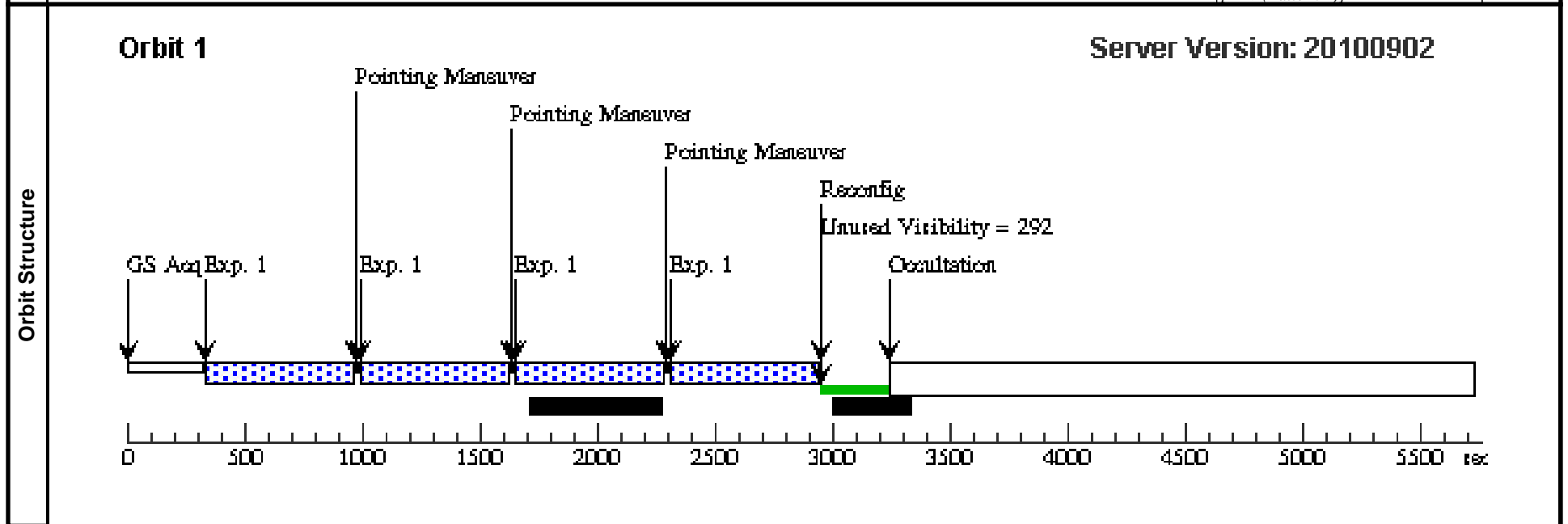
Tue Nov 16 02:23:55 GMT 2010

Visit	Proposal 12292, Visit 22, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)		

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)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(12)	J1403+1530	RA: 14 03 11.7600 (210.7990000d) Dec: +15 30 39.80 (15.51106d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(12) J1403+1530	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP200		Pattern 2, Exps 1-1 in Visit 22 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12292 - Visit 61SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

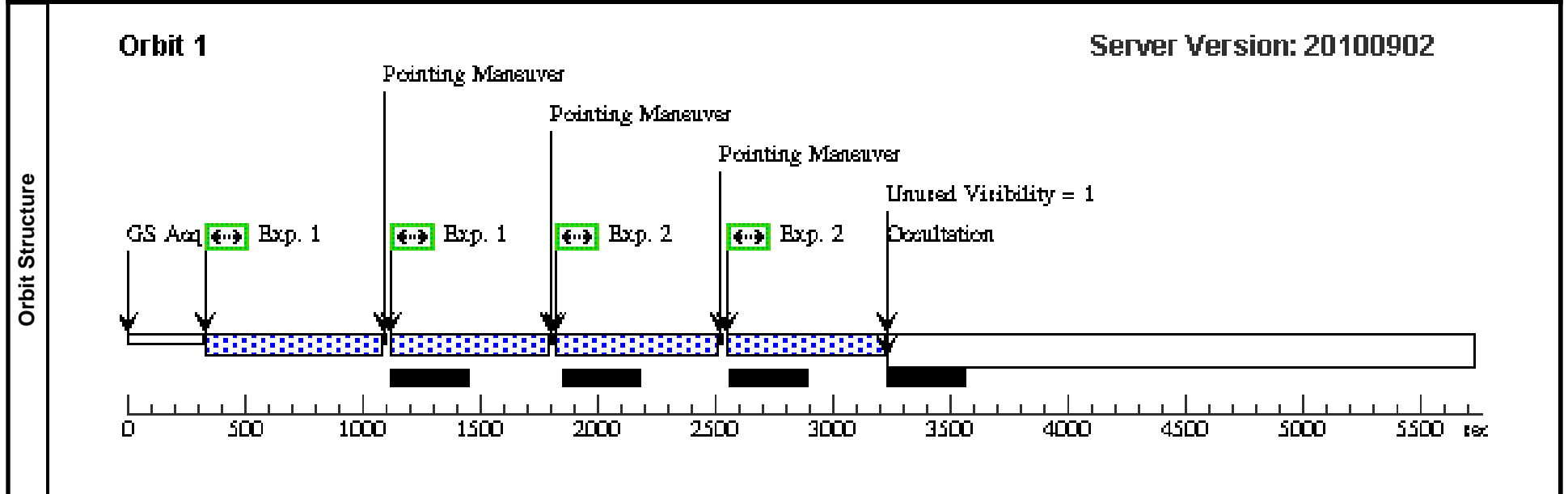
Tue Nov 16 02:23:55 GMT 2010

Visit	Proposal 12292, Visit 61		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(19)	J0007+0053	RA: 00 07 32.7470 (1.8864458d) Dec: +00 53 23.05 (.88974d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(19) J0007+0053	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 61 (1)	500 Secs	
										[=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
2		(19) J0007+0053	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 61 (1)	500 Secs		
									[=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 62SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

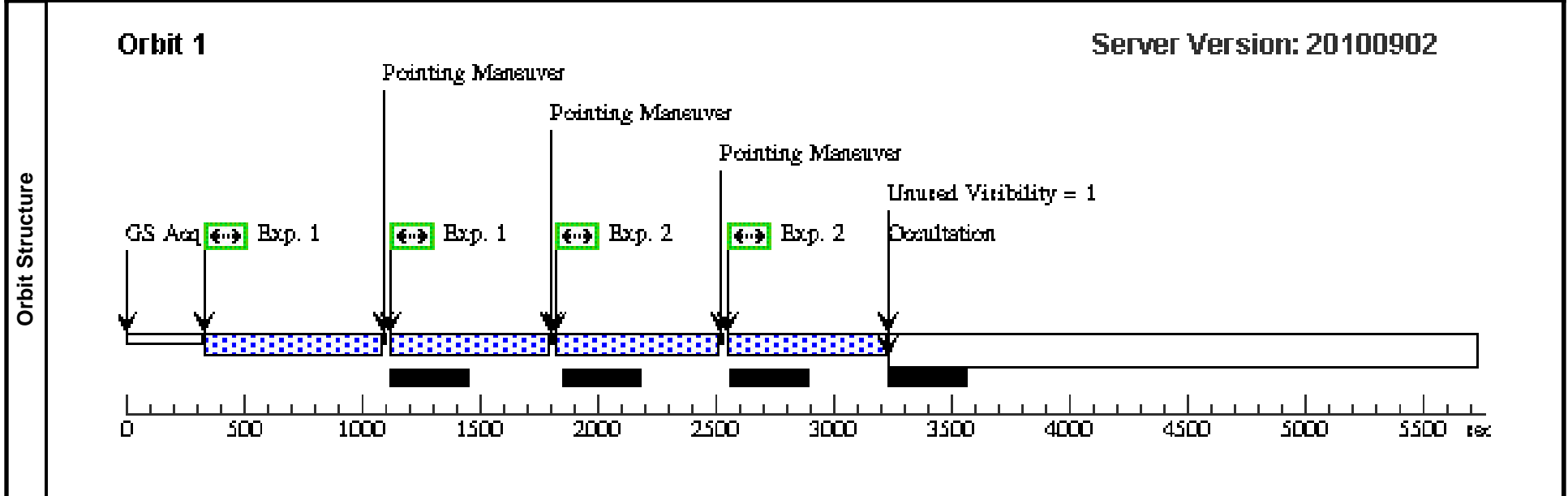
Tue Nov 16 02:23:55 GMT 2010

Visit	Proposal 12292, Visit 62		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: ACS/WFC		
	Special Requirements: (none)		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(20)	J0149-0010	RA: 01 49 36.3340 (27.4013917d) Dec: -00 10 8.81 (-.16911d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1		(20) J0149-0010	ACS/WFC, ACCUM, WFC1	F435W				Pattern 1, Exps 1-1 in Visit 62 (1)	500 Secs	
										[=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
2		(20) J0149-0010	ACS/WFC, ACCUM, WFC1	F814W				Pattern 1, Exps 2-2 in Visit 62 (1)	500 Secs		
									[=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]	



Proposal 12292 - Visit 63SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

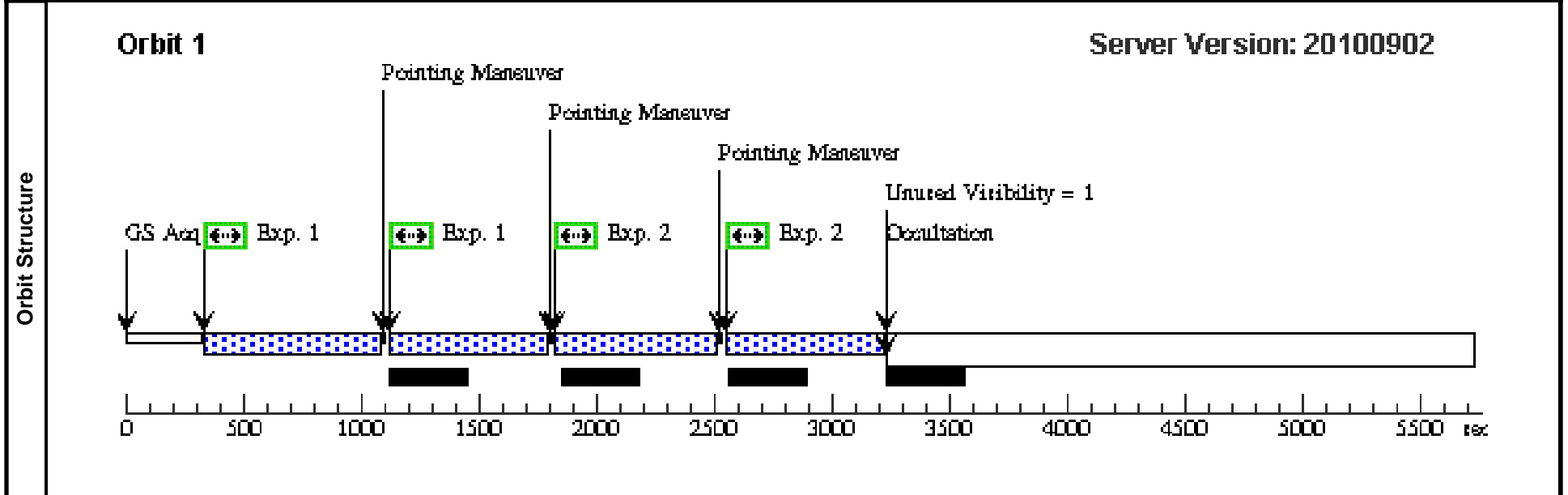
Tue Nov 16 02:23:56 GMT 2010

Visit	Proposal 12292, Visit 63 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(21)	J0329-0027	RA: 03 29 51.7260 (52.4655250d) Dec: -00 27 38.17 (-.46060d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(21) J0329-0027	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 63 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(21) J0329-0027	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 63 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 64SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

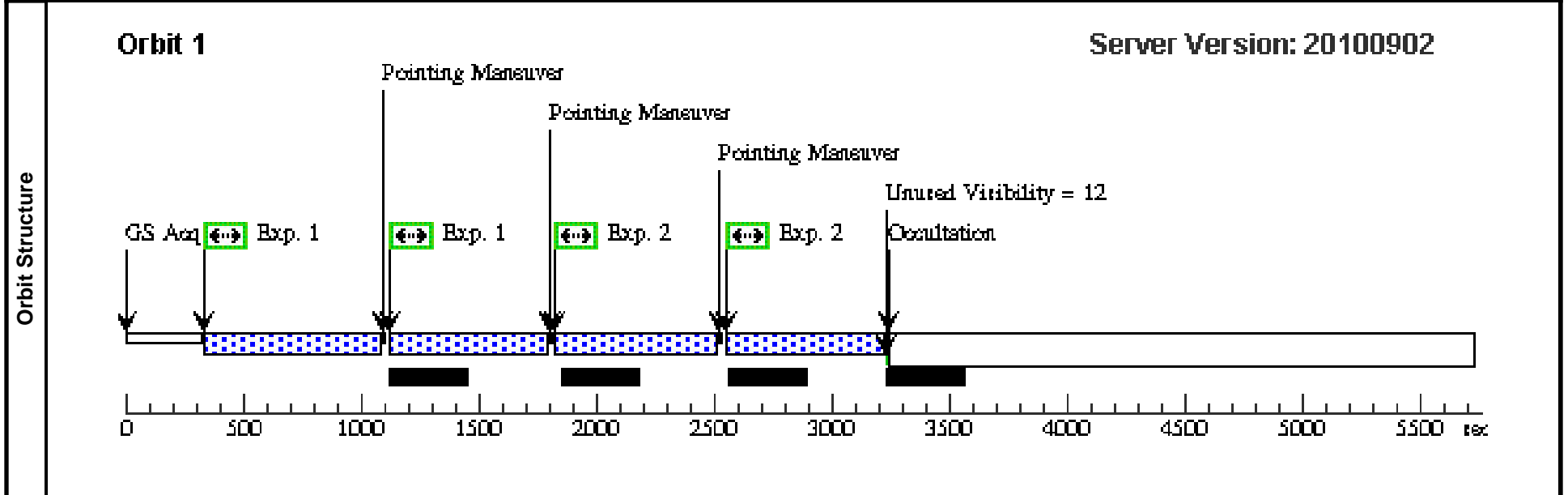
Tue Nov 16 02:23:56 GMT 2010

Visit	Proposal 12292, Visit 64 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(22)	J0821+1025	RA: 08 21 57.2570 (125.4885708d) Dec: +10 25 56.11 (10.43225d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(22) J0821+1025	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 64 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(22) J0821+1025	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 64 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 65SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

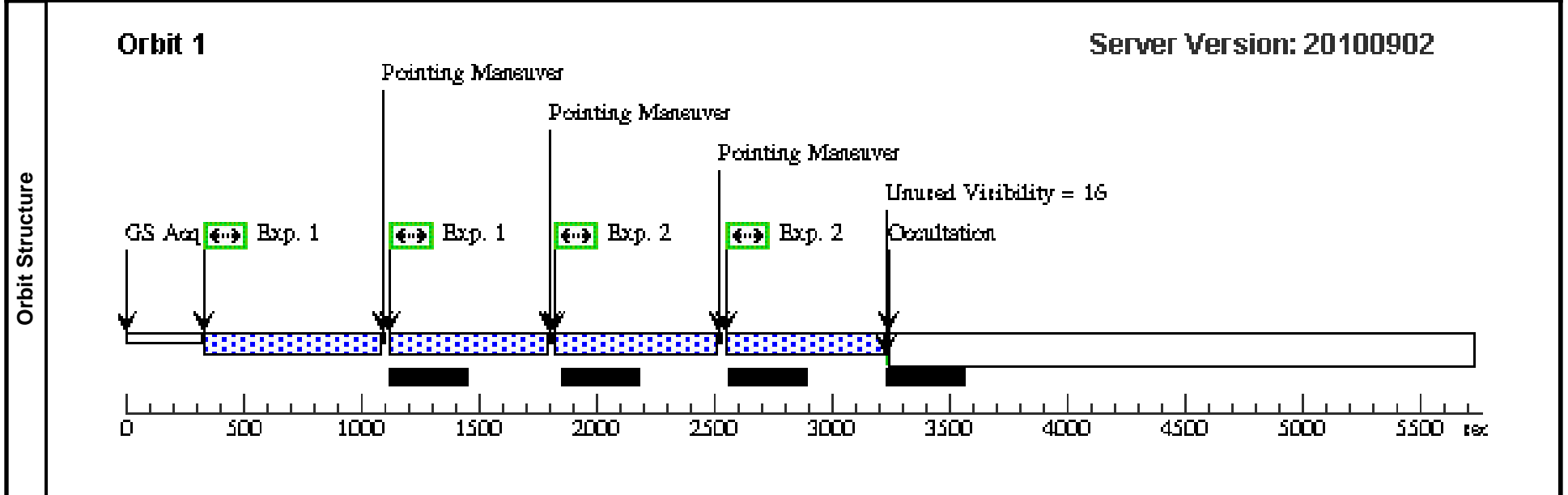
Tue Nov 16 02:23:56 GMT 2010

Visit	Proposal 12292, Visit 65 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(23)	J0822+1828	RA: 08 22 27.4740 (125.6144750d) Dec: +18 28 55.83 (18.48217d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(23) J0822+1828	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 65 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(23) J0822+1828	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 65 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 66SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

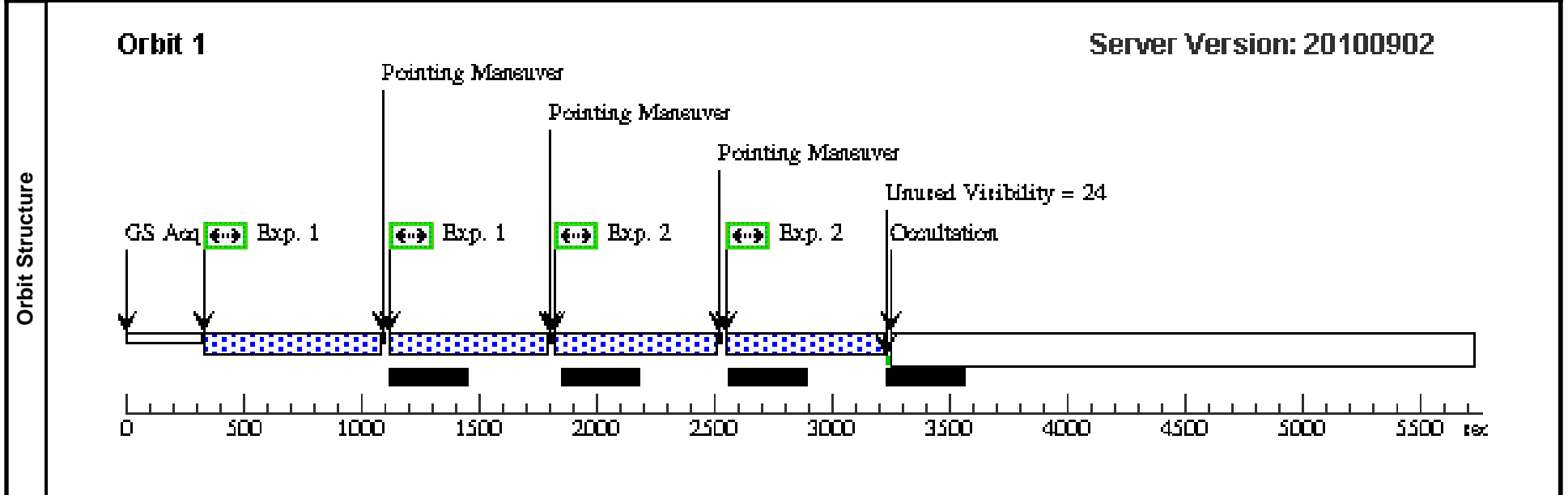
Tue Nov 16 02:23:57 GMT 2010

Visit	Proposal 12292, Visit 66 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(24)	J0930+2855	RA: 09 30 17.4110 (142.5725458d) Dec: +28 55 0.21 (28.91672d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(24) J0930+2855	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 66 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(24) J0930+2855	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 66 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]



Proposal 12292 - Visit 67SWELLS: doubling the number of disk-dominated edge-on spiral lens galaxies

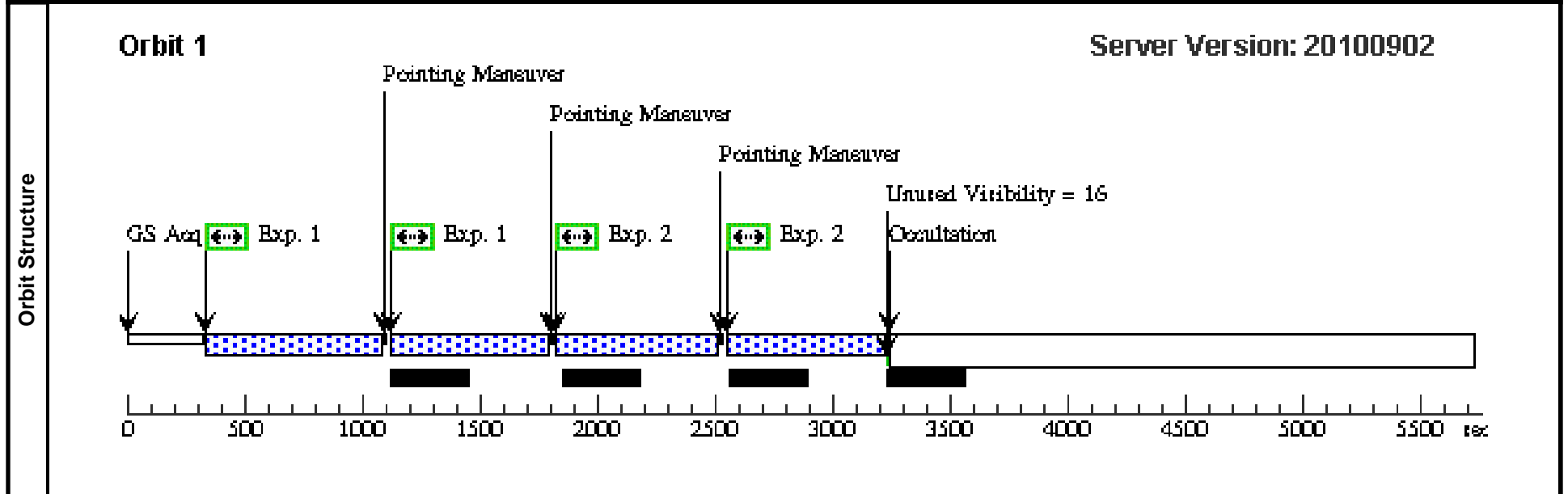
Tue Nov 16 02:23:57 GMT 2010

Visit	Proposal 12292, Visit 67 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(25)	J1021+2028	RA: 10 21 44.4200 (155.4350833d) Dec: +20 28 39.82 (20.47773d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(25) J1021+2028	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 67 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(25) J1021+2028	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 67 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]



Visit	Proposal 12292, Visit 68 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)		
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false	(1), (2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(26)	J1111+2234	RA: 11 11 28.0190 (167.8667458d) Dec: +22 34 50.60 (22.58072d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=17+/-0.5	Reference Frame: SDSS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(26) J1111+2234	ACS/WFC, ACCUM, WFC1	F435W			Pattern 1, Exps 1-1 in Visit 68 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]
	2		(26) J1111+2234	ACS/WFC, ACCUM, WFC1	F814W			Pattern 1, Exps 2-2 in Visit 68 (1)	500 Secs [=>543.0 Secs (Pattern 1)] [=>543.0 Secs (Pattern 2)]	[1]

