



12977 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy assembly?

Cycle: 20, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) HFLUXHZ.10-1	ACS/WFC	1	05-Apr-2013 21:01:14.0	yes
02	(2) HFLUXHZ.13-1	ACS/WFC	1	05-Apr-2013 21:01:22.0	yes
03	(3) HFLUXHZ.14-3	ACS/WFC	1	05-Apr-2013 21:01:28.0	yes
04	(4) HFLUXHZ.4-1	ACS/WFC	1	05-Apr-2013 21:01:33.0	yes
05	(5) HFLUXLZ.13-5	ACS/WFC	1	05-Apr-2013 21:01:39.0	yes
06	(6) MFLUXHZ.10-1	ACS/WFC	1	05-Apr-2013 21:01:44.0	yes
07	(7) HFLUXHZ.14-1	ACS/WFC	1	05-Apr-2013 21:01:50.0	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>
08	(8) HFLUXHZ.20-2	ACS/WFC	1	05-Apr-2013 21:01:56.0	yes
09	(9) HFLUXHZ.8-5	ACS/WFC	1	05-Apr-2013 21:02:01.0	yes
59	(9) HFLUXHZ.8-5	ACS/WFC	1	05-Apr-2013 21:02:06.0	yes
10	(10) HLUMAZ.10-2	ACS/WFC	1	05-Apr-2013 21:02:11.0	yes
11	(11) ELFLUXLZ.4-3	ACS/WFC	1	05-Apr-2013 21:02:17.0	yes
12	(12) HFLUXLZ.15-3	ACS/WFC	1	05-Apr-2013 21:02:21.0	yes
13	(13) MFLUXLZ.13-1	ACS/WFC	1	05-Apr-2013 21:02:26.0	yes

14 Total Orbits Used

ABSTRACT

Kinematical investigations at redshifts $1 < z < 3$ with Keck and VLT have revealed that star-forming high-redshift galaxies exhibit very high internal velocity dispersions. Dynamical data collected with integral field spectrographs (IFS) suggest that the level of rotational support in these systems follows a trend in mass, with compact dispersion-dominated Lyman Break Galaxies at lower stellar masses and large dynamically unstable turbulent disks at stellar masses larger than 10^{10} solar masses. The high velocity dispersion of these young disks results in a large characteristic scale for star-forming clusters thereby also explaining their 'clump cluster' morphology. Galaxies like these were thought to be absent from the local Universe. As part of a IFS campaign to observe the most H-alpha luminous galaxies in SDSS, we have discovered a sample of very rare objects seemingly identical to these high-z turbulent disks. In this proposal we seek imaging in H-alpha of thirteen local disk galaxies in our sample, using the ACS tunable-wavelength ramp filters. Our goal is to measure the size distribution of the star-forming complexes in these objects, with ten times the typical physical resolution of HST observations of high-z galaxies, in order to test the idea that they are indeed dynamically unstable turbulent disks caught in the process of formation. In synergy with existing high resolution HST imaging of the local analogs of low-mass dispersion-dominated galaxies at high redshift (Lyman Break Analogs), our proposed observations of the local counterparts to large turbulent disks at high redshift will help to paint a complete picture of local analogs of high-z star-forming galaxies.

OBSERVING DESCRIPTION

Sample selection:

Proposal 12977 (STScI Edit Number: 0, Created: Friday, April 5, 2013 8:02:34 PM EST) - Overview

Our ACS targets have been selected from the DYNAMO (Dynamics of Newly Assembled Massive Objects) sample that has been observed using the AAT SPIRAL and Stromlo 2.3m WiFeS integral field spectrographs. DYNAMO targets are the most extreme H α -luminous galaxies in the entire SDSS (excluding AGN) with star formation rates (SFRs) that match the high SFRs of dynamically unstable star-forming disks being studied at high redshift. Redshift windows (within $0.05 < z < 0.15$ range) were chosen to avoid night sky absorption and emission contamination. Our surprising discovery was that all DYNAMO sample galaxies at high H α luminosities have high internal velocity dispersions of up to $\sigma_m = 100$ km/s. While some of high σ_m DYNAMO objects have merger-like large-scale kinematics, at least half the sample have kinematics very similar to high- z disks suggesting we have indeed discovered local turbulent disks.

Since almost all local and high- z surveys aimed to study spatially resolved dynamical and structural properties of star-forming galaxies have been focused on the rest-frame H α observations, we will use narrow-band H α imaging with FR716N and FR782N ACS ramp filters to study the morphology of star-forming clumps at $z \sim 0.1$ and compare it to the structural properties of high- z star-forming systems. In addition, the monochromatic field of view of the ACS ramp filters (equal to or larger than $25'' \times 60''$) is ideal for our purposes, since galaxies in our sample are typically 10 to 15'' in size.

All DYNAMO targets in our ACS sample of ten high velocity dispersion ($\sigma_m > 50$ km/s) galaxies with $0.05 < z < 0.15$ are objects with clear evidence for regular disk rotational motions ($v_{\text{shear}}/\sigma_m > 1$). All these objects have H α luminosity $L(\text{H}\alpha) > 10^{41.9}$ erg/s. This luminosity cut was chosen to match the typical luminosities of the high- z populations of star-forming galaxies reported in Forster Schreiber et al. (2009), Law et al. (2009), Epinat et al. (2009) and Lemoine-Busserolle & Lamareille (2010). The sample covers a factor of ~ 10 in stellar mass ($10^{10.1}$ to $10^{10.9}$ M $_{\text{sun}}$), matching the massive turbulent disks in the $z \sim 2$ SINS sample (Forster Schreiber et al. 2009). The dust extinctions (derived from H α /H β) are also comparable with $A(\text{H}\alpha) \sim 0.8$ mag found at high redshift.

The remaining three objects in our control sample were chosen from the subset of lower luminosity DYNAMO galaxies ($L(\text{H}\alpha) < 10^{41.9}$ erg/s) with low velocity dispersion ($\sigma_m < 50$ km/s) and showing clear evidence for rotation. Our purpose in imaging a control sample is to make sure we have a sample of well-understood objects imaged through the ramp filters, since these filters have not been used very often on $z \sim 0.1$ galaxies with ACS.

Visit set-up, integration times, and the aperture selection:

Our central goal is to measure the sizes of HII regions in the selected sample using narrow-band filter FR716N or FR782N. In addition, short

integration off-band images in FR647M will be used for continuum subtraction. Each visit will consist of four exposures: one pair in a narrow-band and another pair in the broad-band ramp filter. In order to maximize the exposure time, narrow-band imaging in FR716N and FR782N filters consists of two exposures corresponding to two distinct pattern positions (ACS-WFC-DITHER-LINE) that will be used for cosmic ray and hot pixel rejection. Within chosen dither pattern point spacing of $\sim 0.7''$ (~ 10 pixels) has been selected to ensure that the observed object is within the quasi-monochromatic patch at each position. Two shorter exposures in the medium-band FR647M filter mimic the dithering pattern used with the narrow-band filter, since the last exposure of each visit (340 to 355s in FR647M) is taken with an offset ($x=0.07''$, $y=0.72''$). This set-up allows us to minimize the time lost on the overheads for exposures shorter than 340s. The set-up used for the FR647M-FR782N filters combination (visits 01, 03, 08 and 10) features shorter exposure times because two filters cannot be placed on the same WFC chip (and thus require a guide star acquisition when exchanging filters, see below).

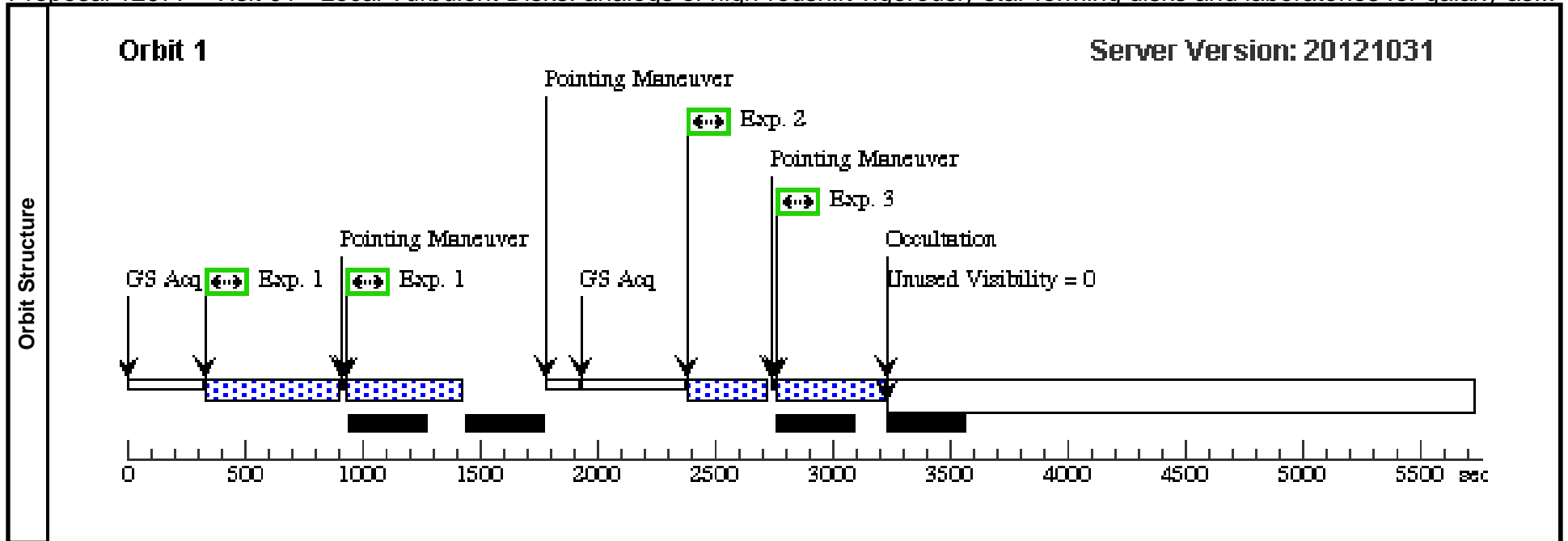
The choice of narrow-band filter is governed by the redshift of each object in our sample, since it will change the observed wavelength of H α line. Majority of galaxies in the sample (9/13) are at redshift $z < 0.14$ and their HII regions will be observed using FR716N, which covers the same aperture as the broad-band filter FR647M used for continuum subtraction (WFC1-IRAMP aperture). This combination of filters allows for the maximum exposure times: ~ 1400 s in FR716N and ~ 700 s in FR647M. Based on the ACS ETC results we expect $\text{SNR} > 5$ in an aperture with the radius of $0.1''$ for both narrow- and broad-band filters for the least luminous galaxy in our sample, ELfluxLz_4 at redshift $z=0.069$ and with H α luminosity of $\log(L(\text{H}\alpha)[\text{ergs/s}])=41.36$. Another four objects in our sample lie at redshift $z \sim 0.15$ and their HII regions will be spatially mapped using the FR782N filter. Since FR782N and FR647M filters do not share the same aperture, exposure times for these targets will be shorter to allow for the guide star acquisition after the exchange of filters: ~ 710 s and ~ 460 s in FR782N and FR647M, respectively. However, these four objects are the most luminous targets in our sample with H α luminosities of $\log(L(\text{H}\alpha)[\text{ergs/s}]) > 42.1$ and thus we will still be able to achieve $\text{SNR} > 5$ in an aperture with the radius of $0.1''$ for both filters.

Although ramp filter apertures cover only a fraction of the full WFC field of view (FoV), we will use full FoV instead of subarrays. Our decision is motivated by the fact that the background in ramp filter images is usually extremely low, producing high charge transfer efficiency (CTE) losses that can compromise the quality of obtained images. For full FoV frames a pixel-based CTE correction is performed as part of the new ACS calibration pipeline (CALACS). Furthermore, full FoV frames can also be corrected for bias striping.

Proposal 12977 - Visit 01 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:34 GMT 2013

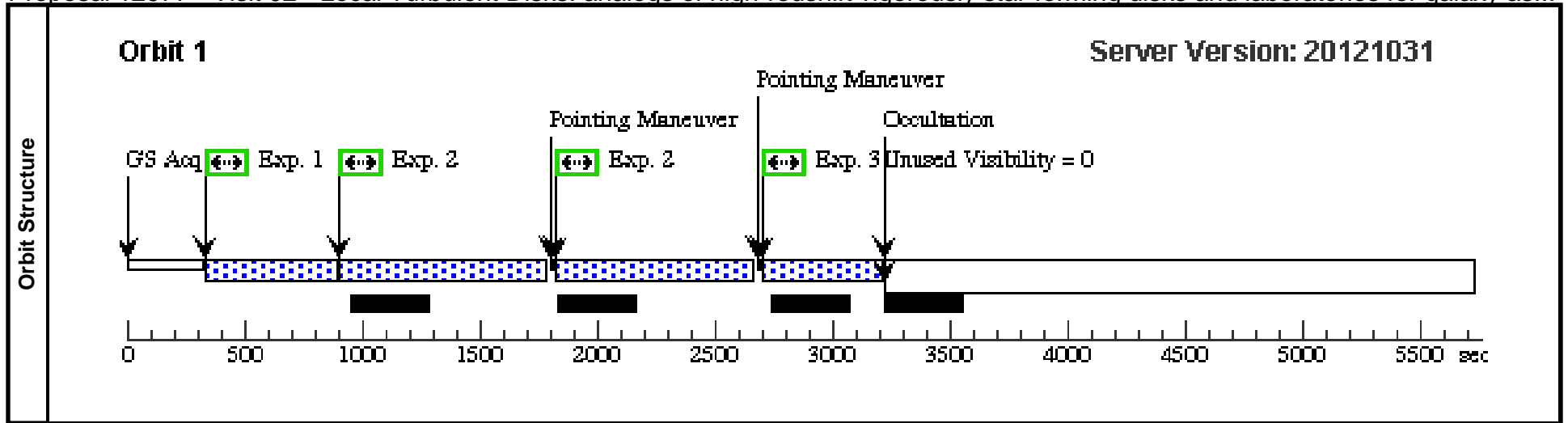
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Diagnosics											
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	(1)	HFLUXHZ.10-1	RA: 10 21 42.4700 (155.4269583d) Dec: +12 45 18.72 (12.75520d) Equinox: J2000		Redshift: 0.14372		V=(?) Halpha luminosity = 10 ^{42.37} ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(1) HFLUXHZ.10-1	(1) HFLUXHZ.10-1	ACS/WFC, ACCUM, WFC2-ORAMP	FR782N 7503.0 A			Pattern 1, Exps 1-1 in Visit 01 (1)	365 Secs	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	(1) HFLUXHZ.10-1	(1) HFLUXHZ.10-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6867 A				129 Secs	[=>]	[1]
	3	(1) HFLUXHZ.10-1	(1) HFLUXHZ.10-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6867 A		POS TARG 0.07,0.7 2		340 Secs	[=>]	[1]



Proposal 12977 - Visit 02 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:36 GMT 2013

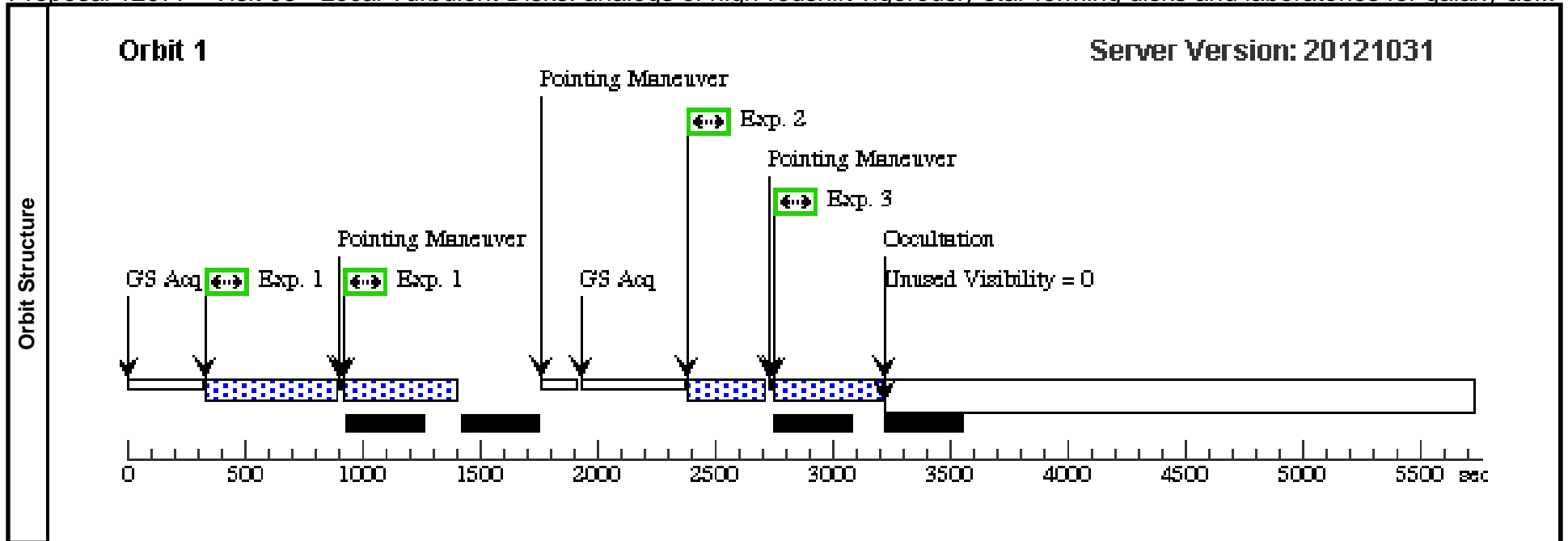
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Diagnosics											
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(2)	HFLUXHZ.13-1	RA: 13 50 22.7500 (207.5947917d) Dec: -02 51 57.53 (-2.86598d) Equinox: J2000		Redshift: 0.13876		V=(?) Halpha luminosity = 10 ^{42.58} ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(2) HFLUXHZ.13-1	(2) HFLUXHZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6837.0 A				350 Secs [==>]	[1]	
	2	(2) HFLUXHZ.13-1	(2) HFLUXHZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7472.0 A			Pattern 1, Exps 2-2 in Visit 02 (1)	720 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[1]	
	3	(2) HFLUXHZ.13-1	(2) HFLUXHZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6837.0 A		POS TARG 0.07,0.7 2		351 Secs [==>]	[1]	



Proposal 12977 - Visit 03 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:40 GMT 2013

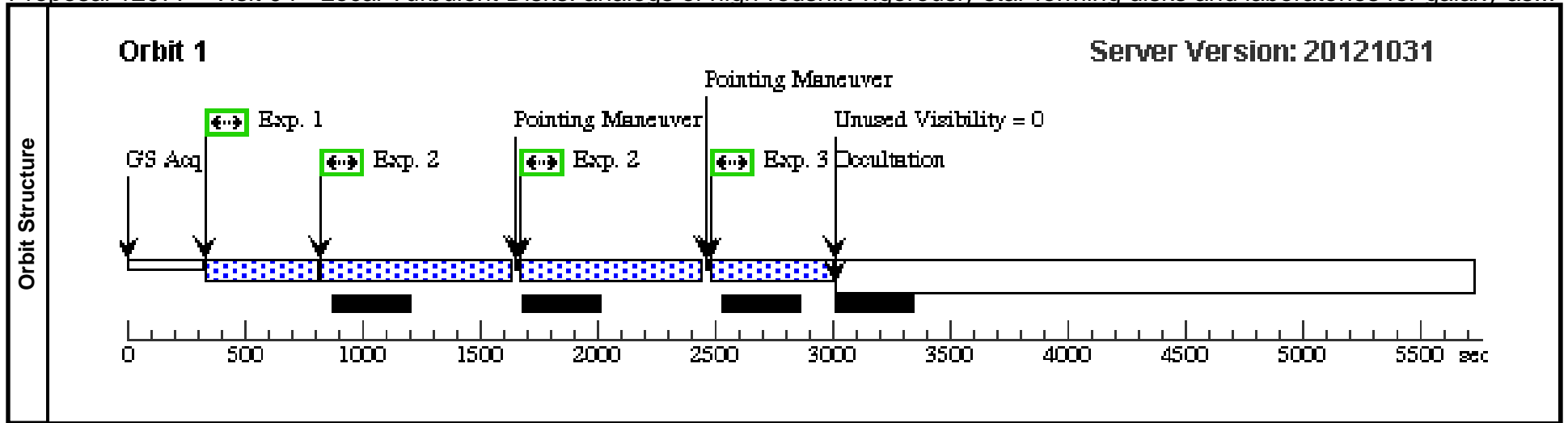
Visit	Proposal 12977, Visit 03, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
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Diagnosics											
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	HFLUXHZ.14-3	RA: 14 54 35.3600 (223.6473333d) Dec: -02 00 49.72 (-2.01381d) Equinox: J2000		Redshift: 0.14464		V=(?) Halpha luminosity = 10^42.16 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(3) HFLUXHZ.14-3	(3) HFLUXHZ.14-3	ACS/WFC, ACCUM, WFC2-ORAMP	FR782N 7510.0 A			Pattern 1, Exps 1-1 in Visit 03 (1)	355 Secs	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	(3) HFLUXHZ.14-3	(3) HFLUXHZ.14-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6873.0 A				124 Secs	[=>]	[1]
	3	(3) HFLUXHZ.14-3	(3) HFLUXHZ.14-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6873.0 A		POS TARG 0.07,0.7 2		340 Secs	[=>]	[1]



Proposal 12977 - Visit 04 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:41 GMT 2013

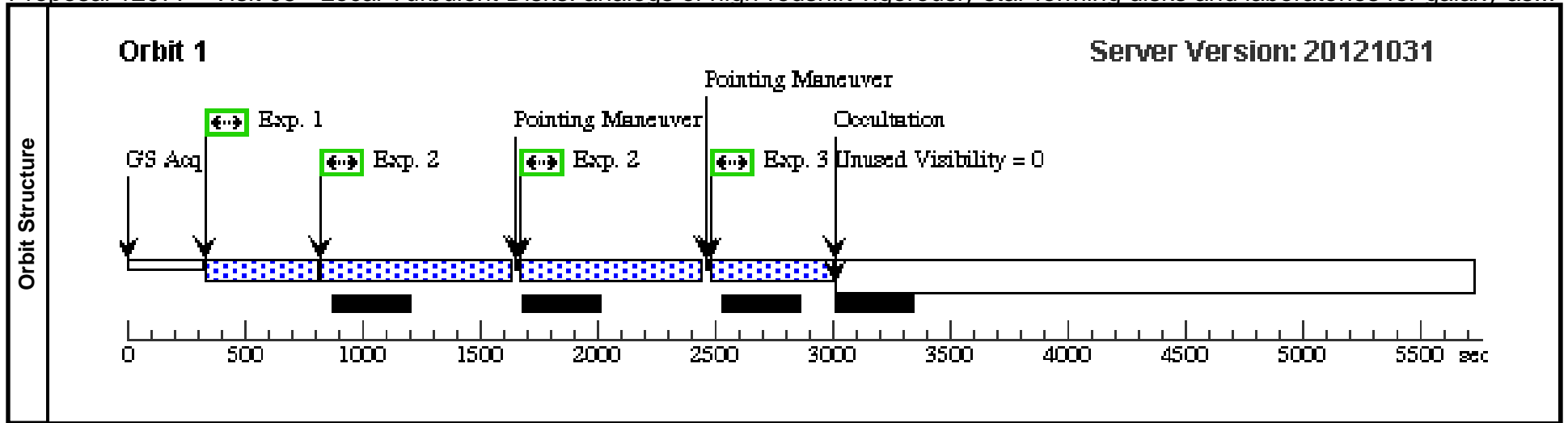
Visit	Proposal 12977, Visit 04, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 100%										
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	HFLUXHZ.4-1	RA: 04 12 19.7400 (63.0822500d) Dec: -05 54 48.67 (-5.91352d) Equinox: J2000		Redshift: 0.12981		V=(?) Halpha luminosity = 10^42.36 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(4) HFLUXHZ.4-1	(4) HFLUXHZ.4-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6783.0 A				272 Secs		
									[==>]		[1]
	2	(4) HFLUXHZ.4-1	(4) HFLUXHZ.4-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7414.0 A			Pattern 1, Exps 2-2 in Visit 04 (1)	650 Secs		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
3	(4) HFLUXHZ.4-1	(4) HFLUXHZ.4-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6783.0 A			POS TARG 0.07,0.7 2	355 Secs			
								[==>]		[1]	



Proposal 12977 - Visit 05 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:42 GMT 2013

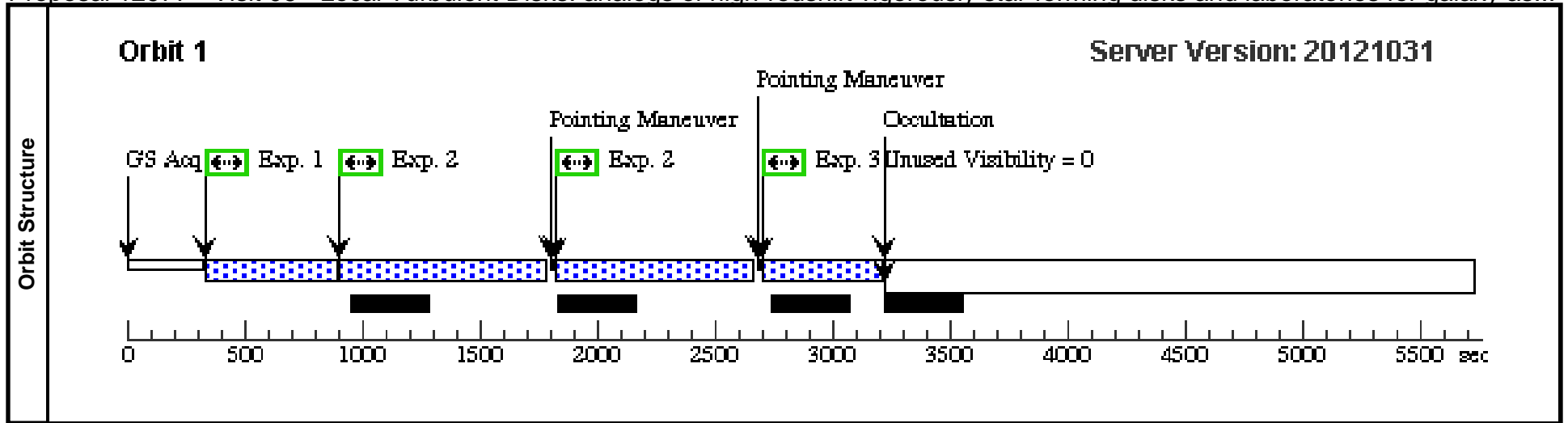
Visit	Proposal 12977, Visit 05, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 100%										
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Diagnosics											
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(5) HFLUXLZ.13-5	(5) HFLUXLZ.13-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6454.0 A				272 Secs		
									[==>]		[1]
	2	(5) HFLUXLZ.13-5	(5) HFLUXLZ.13-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7055.0 A				650 Secs		
								Pattern 1, Exps 2-2 i n Visit 05 (1)	[==>(Pattern 1)] [==>(Pattern 2)]		[1]
3	(5) HFLUXLZ.13-5	(5) HFLUXLZ.13-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6454.0 A			POS TARG 0.07,0.7 2		355 Secs		
									[==>]		[1]



Proposal 12977 - Visit 06 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:43 GMT 2013

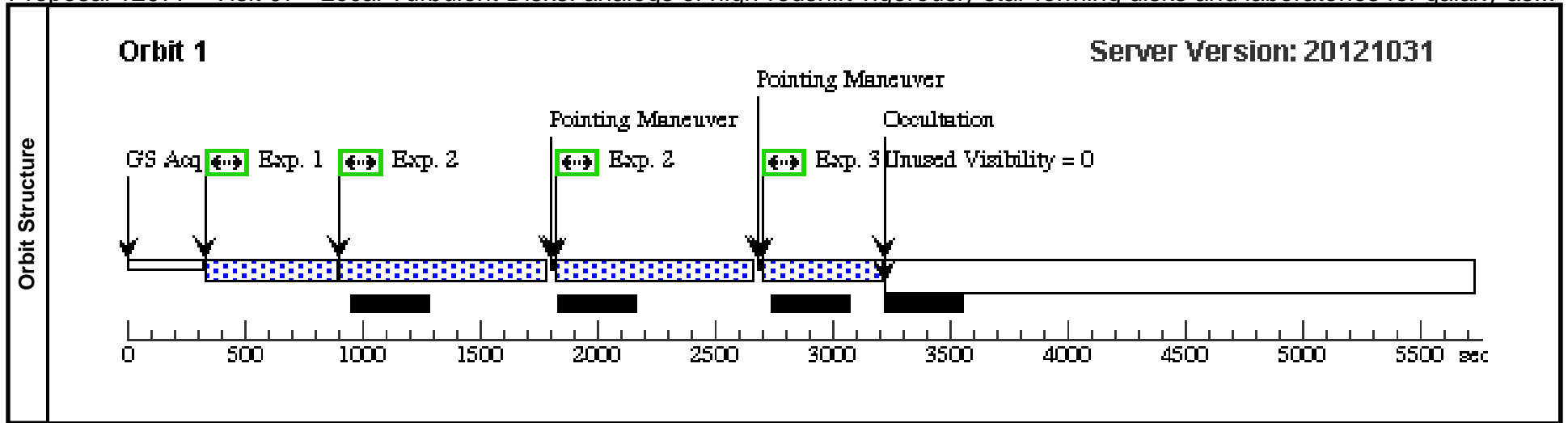
Visit	Proposal 12977, Visit 06, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(6)	MFLUXHZ.10-1	RA: 10 19 40.2900 (154.9178750d) Dec: -00 26 24.75 (-.44021d) Equinox: J2000		Redshift: 0.13897		V=(?) Halpha luminosity = 10^42.23 er gs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(6) MFLUXHZ.10-1	(6) MFLUXHZ.10-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6838.0 A				350 Secs [==>]	[1]	
	2	(6) MFLUXHZ.10-1	(6) MFLUXHZ.10-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7474.0 A			Pattern 1, Exps 2-2 i n Visit 06 (1)	720 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[1]	
	3	(6) MFLUXHZ.10-1	(6) MFLUXHZ.10-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6838.0 A		POS TARG 0.07,0.7 2		351 Secs [==>]	[1]	



Proposal 12977 - Visit 07 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:43 GMT 2013

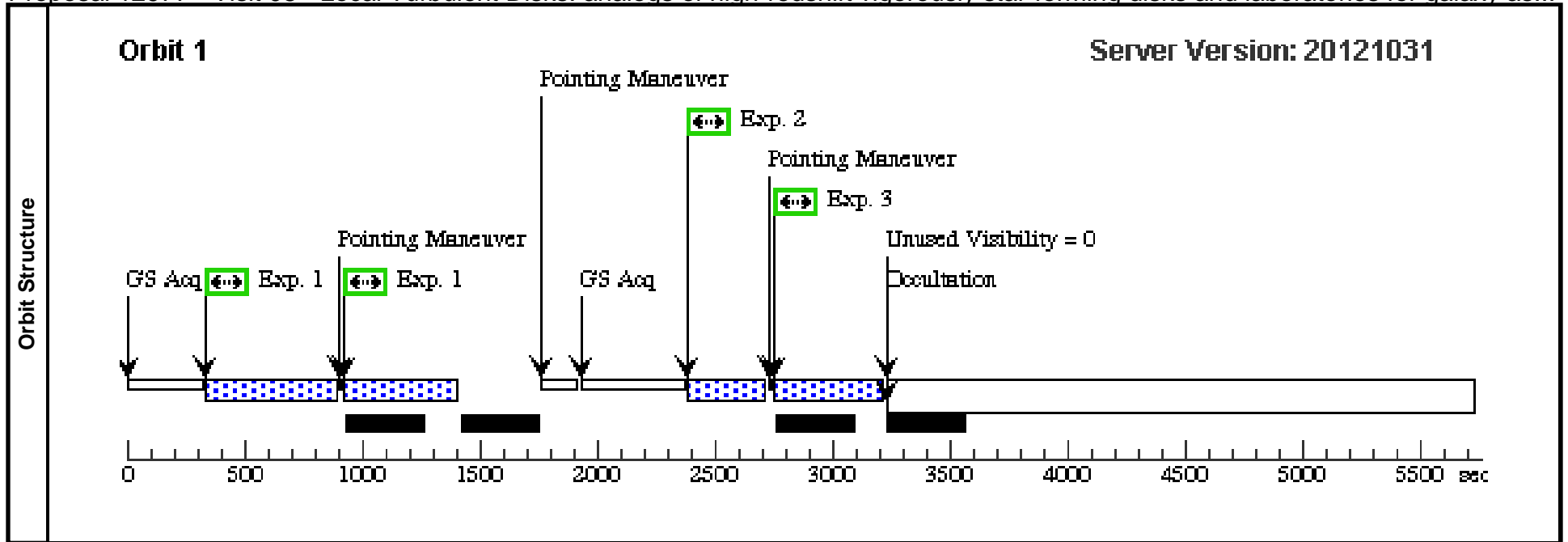
Visit	Proposal 12977, Visit 07, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
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Diagnosics											
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	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(7)	HFLUXHZ.14-1	RA: 14 54 28.3300 (223.6180417d) Dec: +00 44 34.37 (.74288d) Equinox: J2000		Redshift: 0.13233		V=(?) Halpha luminosity = 10^41.93 er gs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(7) HFLUXHZ.14-1	(7) HFLUXHZ.14-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6798.0 A				350 Secs		
									[==>]		[1]
	2	(7) HFLUXHZ.14-1	(7) HFLUXHZ.14-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7431.0 A			Pattern 1, Exps 2-2 i n Visit 07 (1)	720 Secs		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
3	(7) HFLUXHZ.14-1	(7) HFLUXHZ.14-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6798.0 A			POS TARG 0.07,0.7 2	351 Secs			
								[==>]		[1]	



Proposal 12977 - Visit 08 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:44 GMT 2013

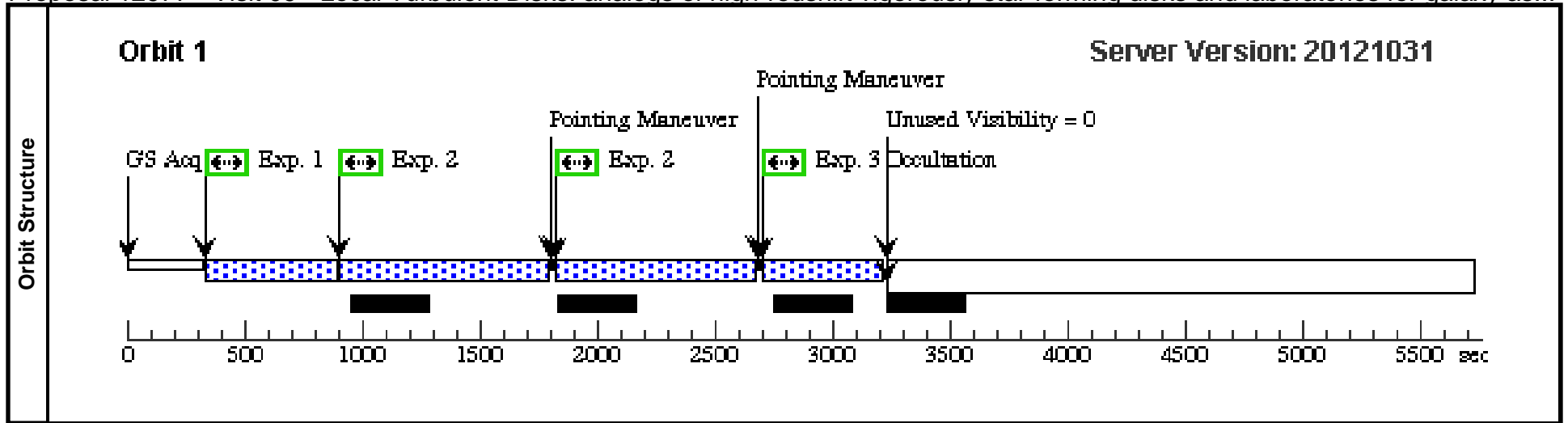
Visit	Proposal 12977, Visit 08, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%									
	(Exposure 1 (Pattern 1, Exps 1-1 in Visit 08)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 08)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.									
Diagnosics										
Patterns	#	Primary Pattern				Secondary Pattern				Exposures
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(1)
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
	(8)	HFLUXHZ.20-2	RA: 20 44 2.9200 (311.0121667d) Dec: -06 46 57.94 (-6.78276d) Equinox: J2000		Redshift: 0.14113		V=(?) Halpha luminosity = 10^42.26 ergs/s		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(8) HFLUXHZ.20-2	(8) HFLUXHZ.20-2	ACS/WFC, ACCUM, WFC2-ORAMP	FR782N 7487.0 A			Pattern 1, Exps 1-1 in Visit 08 (1)	355 Secs [=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	(8) HFLUXHZ.20-2	(8) HFLUXHZ.20-2	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6852.0 A				124 Secs [=>]	[1]
	3	(8) HFLUXHZ.20-2	(8) HFLUXHZ.20-2	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6852.0 A		POS TARG 0.07,0.7 2		340 Secs [=>]	[1]



Proposal 12977 - Visit 09 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:45 GMT 2013

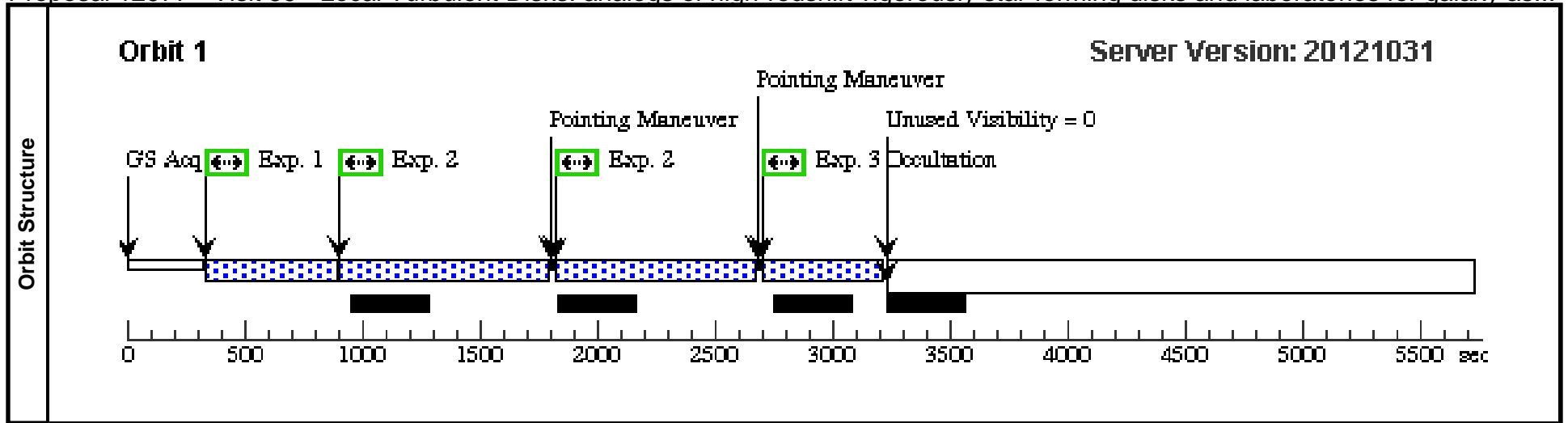
Visit	Proposal 12977, Visit 09, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
	(Exposure 2 (Pattern 1, Exps 2-2 in Visit 09)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 09)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(9)	HFLUXHZ.8-5	RA: 08 54 18.7400 (133.5780833d) Dec: +06 46 20.60 (6.77239d) Equinox: J2000		Redshift: 0.13217		V=(?) Halpha luminosity = 10^42.05 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6797.0 A				350 Secs		
									[==>]		[1]
	2	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7429.0 A			Pattern 1, Exps 2-2 in Visit 09 (1)	722 Secs		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
3	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6797.0 A			POS TARG 0.07,0.7 2	351 Secs			
								[==>]		[1]	



Proposal 12977 - Visit 59 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:46 GMT 2013

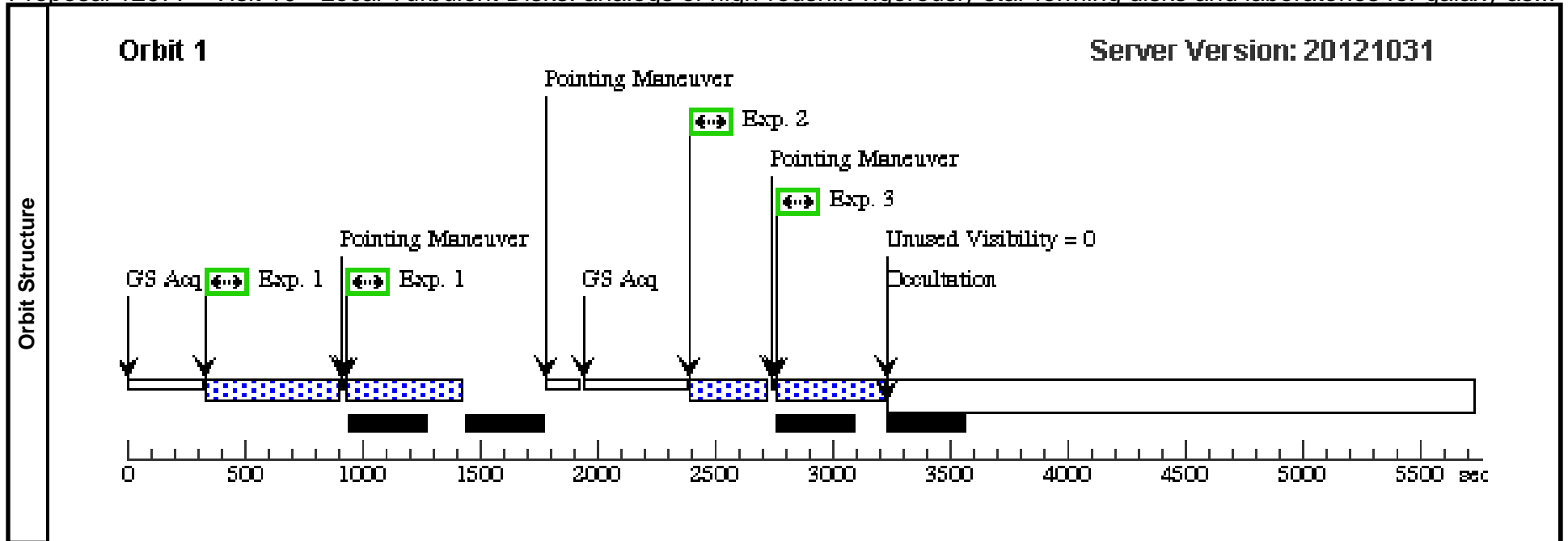
Visit	Proposal 12977, Visit 59 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30% <i>Comments: Repeat of visit 09</i>										
	(Exposure 2 (Pattern 1, Exps 2-2 in Visit 59)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 59)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(9)	HFLUXHZ.8-5	RA: 08 54 18.7400 (133.5780833d) Dec: +06 46 20.60 (6.77239d) Equinox: J2000		Redshift: 0.13217		V=(?) Halpha luminosity = 10 ⁴² .05 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6797.0 A				350 Secs [==>]	[1]	
	2	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7429.0 A			Pattern 1, Exps 2-2 in Visit 59 (1)	722 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[1]	
	3	(9) HFLUXHZ.8-5	(9) HFLUXHZ.8-5	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6797.0 A		POS TARG 0.07,0.7 2		351 Secs [==>]	[1]	



Proposal 12977 - Visit 10 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:47 GMT 2013

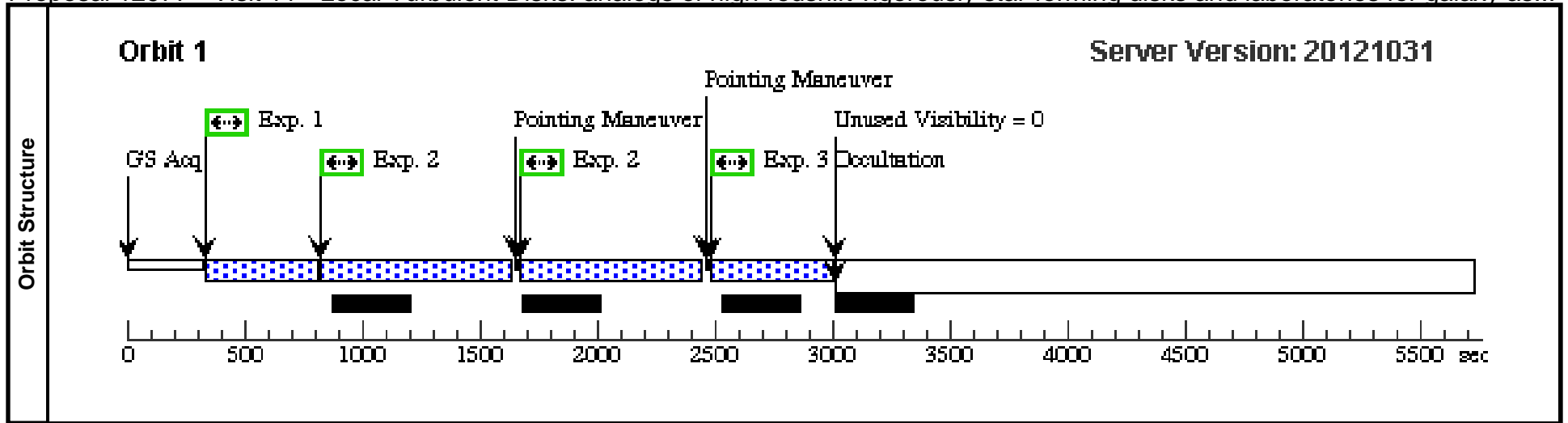
Visit	Proposal 12977, Visit 10, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
	(Exposure 1 (Pattern 1, Exps 1-1 in Visit 10)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 10)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnos											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(10)	HLUMAZ.10-2	RA: 10 44 31.7600 (161.1323333d) Dec: +12 09 25.20 (12.15700d) Equinox: J2000		Redshift: 0.14907		V=(?) Halpha luminosity = 10^42.52 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(10) HLUMAZ.10-2	(10) HLUMAZ.10-2	ACS/WFC, ACCUM, WFC2-ORAMP	FR782N 7540 A			Pattern 1, Exps 1-1 in Visit 10 (1)	365 Secs	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	(10) HLUMAZ.10-2	(10) HLUMAZ.10-2	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6899.0 A				124 Secs	[=>]	[1]
	3	(10) HLUMAZ.10-2	(10) HLUMAZ.10-2	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6899.0 A		POS TARG 0.07,0.7 2		340 Secs	[=>]	[1]



Proposal 12977 - Visit 11 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:48 GMT 2013

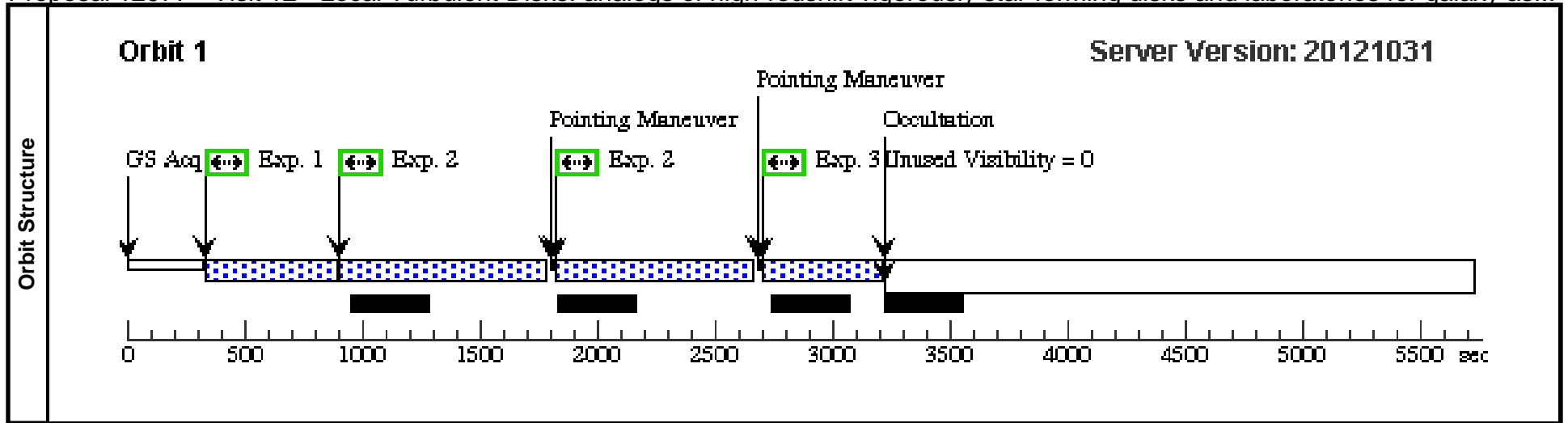
Visit	Proposal 12977, Visit 11, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 100%										
	(Exposure 2 (Pattern 1, Exps 2-2 in Visit 11)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 11)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(11)	ELFLUXLZ.4-3	RA: 04 02 42.5100 (60.6771250d) Dec: -06 44 47.76 (-6.74660d) Equinox: J2000		Redshift: 0.06907		V=(?) Halpha luminosity = 10^41.36 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(11) ELFLUXLZ.4-3	(11) ELFLUXLZ.4-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6416.0 A				272 Secs		
									[==>]		[1]
	2	(11) ELFLUXLZ.4-3	(11) ELFLUXLZ.4-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7014.0 A			Pattern 1, Exps 2-2 in Visit 11 (1)	650 Secs		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
3	(11) ELFLUXLZ.4-3	(11) ELFLUXLZ.4-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6416.0 A			POS TARG 0.07,0.7 2	355 Secs			
								[==>]		[1]	



Proposal 12977 - Visit 12 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:49 GMT 2013

Visit	Proposal 12977, Visit 12, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 30%										
	(Exposure 2 (Pattern 1, Exps 2-2 in Visit 12)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 12)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(12)	HFLUXLZ.15-3	RA: 15 34 35.4000 (233.6475000d) Dec: -00 28 44.50 (-.47903d) Equinox: J2000		Redshift: 0.06712		V=(?) Halpha luminosity = 10^41.76 ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(12) HFLUXLZ.15-3	(12) HFLUXLZ.15-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6403.0 A				350 Secs	[==>]	[1]
	2	(12) HFLUXLZ.15-3	(12) HFLUXLZ.15-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7001.0 A			Pattern 1, Exps 2-2 in Visit 12 (1)	720 Secs	[==>(Pattern 1)] [==>(Pattern 2)]	[1]
	3	(12) HFLUXLZ.15-3	(12) HFLUXLZ.15-3	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6403.0 A		POS TARG 0.07,0.7 2		351 Secs	[==>]	[1]



Proposal 12977 - Visit 13 - Local Turbulent Disks: analogs of high-redshift vigorously star-forming disks and laboratories for galaxy as...

Sat Apr 06 01:02:50 GMT 2013

Visit	Proposal 12977, Visit 13, scheduling Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: SCHED 100%										
	(Exposure 2 (Pattern 1, Exps 2-2 in Visit 13)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures. (Exposure 3 (Visit 13)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-WFC-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.693 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(13)	MFLUXLZ.13-1	RA: 13 26 39.4200 (201.6642500d) Dec: +01 30 1.48 (1.50041d) Equinox: J2000		Redshift: 0.07876		V=(?) Halpha luminosity = 10 ^{41.94} ergs/s		Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(13) MFLUXLZ.13-1	(13) MFLUXLZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6474.0 A				272 Secs		
									[==>]		[1]
	2	(13) MFLUXLZ.13-1	(13) MFLUXLZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR716N 7078.0 A			Pattern 1, Exps 2-2 in Visit 13 (1)	650 Secs		
								[==>(Pattern 1)]		[1]	
								[==>(Pattern 2)]			
3	(13) MFLUXLZ.13-1	(13) MFLUXLZ.13-1	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 6474.0 A			POS TARG 0.07,0.7 2	355 Secs			
								[==>]		[1]	

