



# 12187 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

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

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
<b>Dr. Luis C. Ho (PI)</b>	<b>Carnegie Institution of Washington</b>	<b>lho@obs.carnegiescience.edu</b>
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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) IC-356	STIS/CCD	4	18-Aug-2010 15:32:14.0	yes
02	(2) NGC-2985	STIS/CCD	4	18-Aug-2010 15:32:19.0	yes
03	(3) NGC-3675	STIS/CCD	4	18-Aug-2010 15:32:22.0	yes
04	(4) NGC-4800	STIS/CCD	4	18-Aug-2010 15:32:25.0	yes
05	(5) NGC-5377	STIS/CCD	4	18-Aug-2010 15:32:28.0	yes
06	(6) NGC-5806	STIS/CCD	4	18-Aug-2010 15:32:31.0	yes

24 Total Orbits Used

## ABSTRACT

The correlation between central black hole (BH) mass and bulge stellar velocity dispersion has become a fundamental tool to investigate the link between BH growth and galaxy formation. However, the current BH census in nearby galaxies is highly biased toward early-type galaxies. It is

important to increase the number of direct BH mass measurements along the spiral sequence, not only to better delineate the M-sigma relation but also to verify tentative claims that the scatter and zero point of the relation may vary with galaxy morphology and the formation history of the bulge. With these goals in mind, we carried out an ACS/WFC narrow-band (F658N) imaging survey of nearby S0-Sbc galaxies to identify circumnuclear H $\alpha$  disks suitable for follow-up STIS spectroscopy. Past experience indicates that such a pre-selection strategy significantly improves the chances of obtaining successful dynamical models to measure BH masses. We found 6 good new candidates of circumnuclear gas disks in spiral galaxies. STIS G750M spectra will be obtained for each source using three parallel slits to map out the gas kinematics in the inner portion of the nuclear disks: a 52X0.1 slit centered on the nucleus and one flanking 52X0.2 slit positioned on each side of the nucleus. We will perform dynamical modeling to measure the central BH masses. If successful, this study will provide a significant increase in the current sample of spirals with secure BH masses, with important ramifications for improving and refining the M-sigma relation.

#### **OBSERVING DESCRIPTION**

We will use the G750M grating with central wavelength set to 6581 Ang. Each galaxy will be observed with three slit positions, all aligned within +/- 5 deg of the major axis of the galaxy. The central position will use the 52X0.1 slit, which will be exposed for 2 orbits. Each flanking slit position will be offset by +/- 0.15", will use the 52X0.2 slit, and will be exposed for 1 orbit each. Each orbit will consist of 3 dithered exposures along the slit.

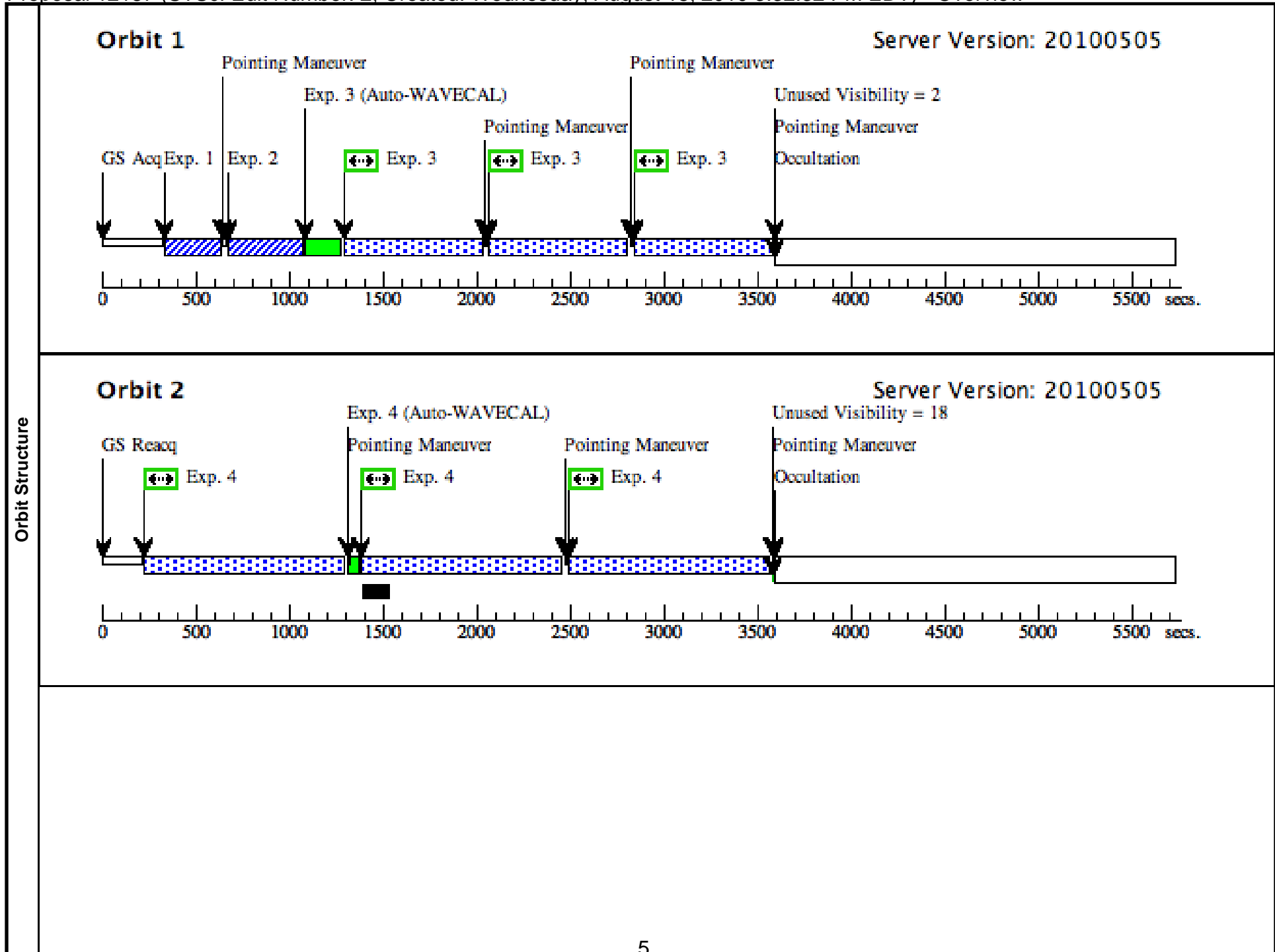
We will use the nucleus for diffuse-source acquisition with flux-centering method and checkbox of 7 pixels. The nucleus will be placed at the E1 aperture position.

Proposal 12187 (STScI Edit Number: 2, Created: Wednesday, August 18, 2010 3:32:32 PM EDT) - Overview

<b>Visit</b>	<b>Proposal 12187, Visit 01, implementation</b> <span style="float: right;">Wed Aug 18 19:32:32 GMT 2010</span> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 130D TO 140 D; ORIENT 310D TO 320 D					
	(Visit 01) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 01) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	IC-356	RA: 04 07 46.9100 (61.9454583d) Dec: +69 48 44.80 (69.81244d) Equinox: J2000		V=(?) B=11.4	Reference Frame: ICRS

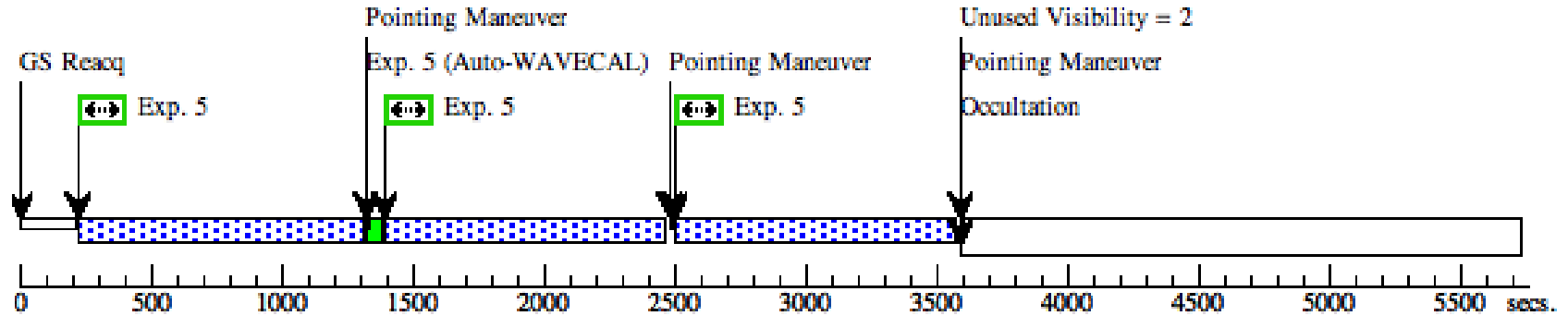
Proposal 12187 (STScI Edit Number: 2, Created: Wednesday, August 18, 2010 3:32:32 PM EDT) - Overview

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ	(1) IC-356	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ; CHECKBOX=7			15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>									
	2	ACQ/PEAK	(1) IC-356	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR				15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposure 4</i>									
	3	NUCLEUS	(1) IC-356	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)	704 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	4	NUCLEUS	(1) IC-356	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)	1039 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
5	OFFSET-0.15	(1) IC-356	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)	1039 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]	
6	OFFSET+0.15	(1) IC-356	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)	1039 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]	



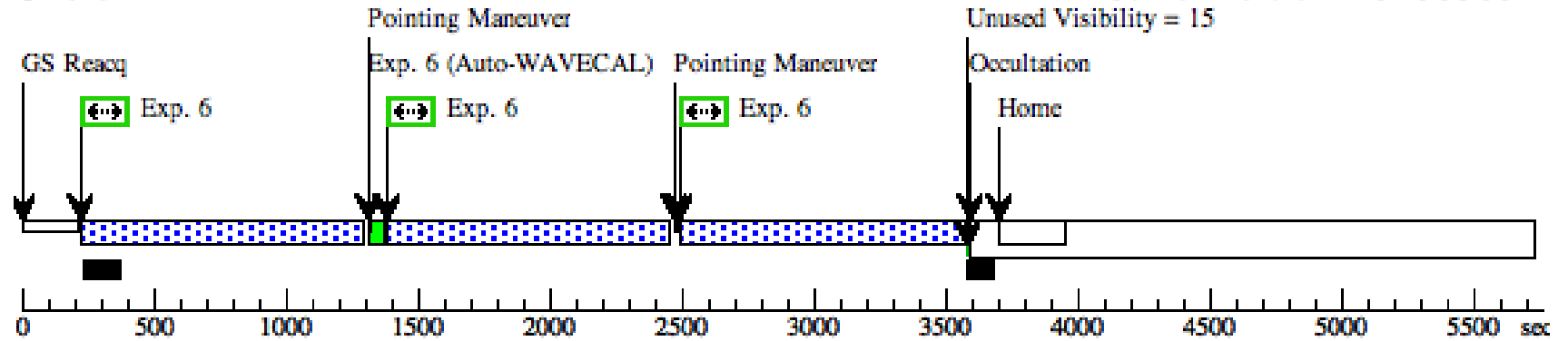
**Orbit 3**

Server Version: 20100505



**Orbit 4**

Server Version: 20100505



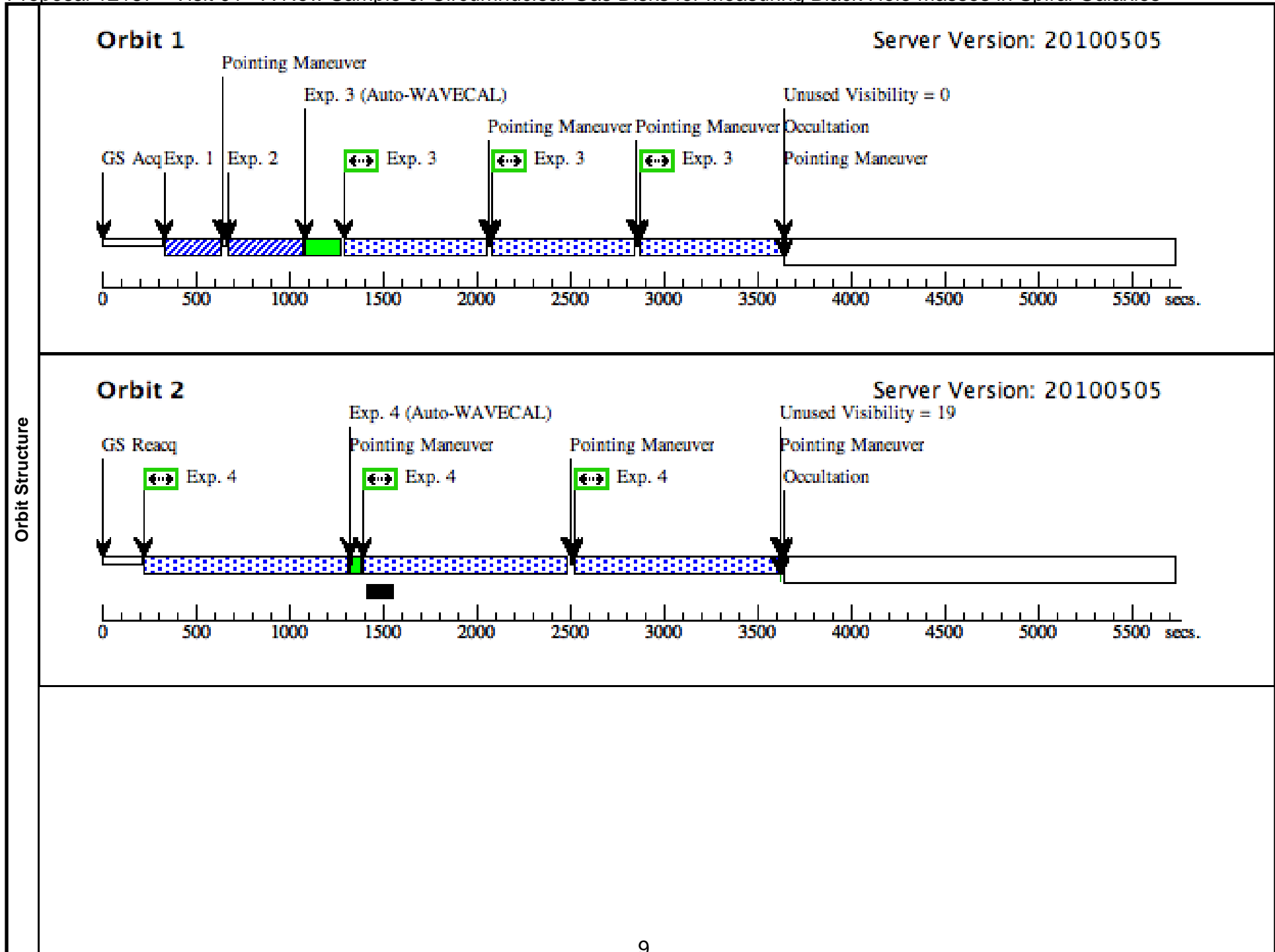
Proposal 12187 - Visit 01 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Wed Aug 18 19:32:33 GMT 2010

<b>Visit</b>	<b>Proposal 12187, Visit 02, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 40D TO 50 D; ORIENT 220D TO 230 D					
	(Visit 02) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 02) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(2)	NGC-2985	RA: 09 50 22.2300 (147.5926250d) Dec: +72 16 43.10 (72.27864d) Equinox: J2000		V=(?) B=11.2	Reference Frame: ICRS

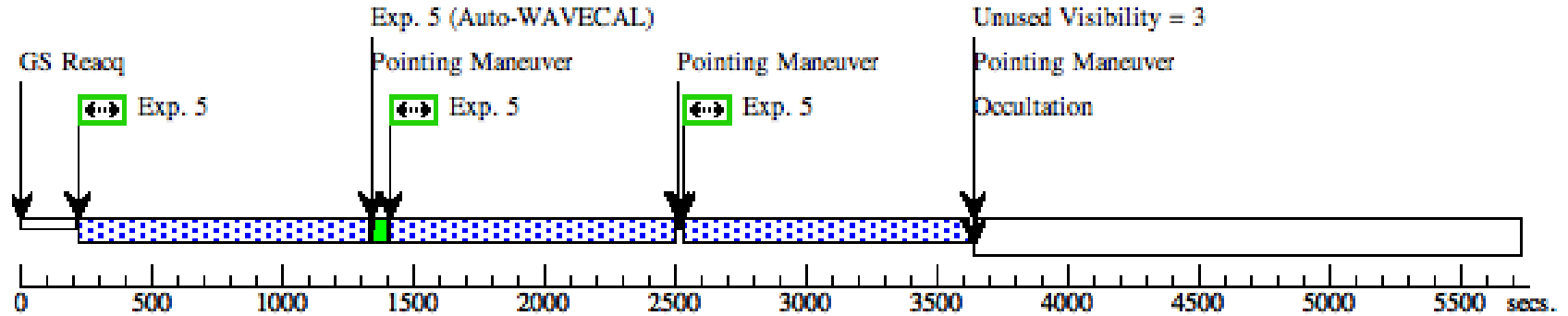
Proposal 12187 - Visit 01 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	ACQ	(2) NGC-2985	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ;	CHECKBOX=7			15 Secs	
										[==>]	[1]
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>										
	2	ACQ/PEAK	(2) NGC-2985	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR					15 Secs	
										[==>]	[1]
<i>Comments: Onboard ACQ for Exposure 4</i>											
3	NUCLEUS	(2) NGC-2985	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)		720 Secs		
									[==>(Pattern 1)]	[1]	
									[==>(Pattern 2)]		
									[==>(Pattern 3)]		
4	NUCLEUS	(2) NGC-2985	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)		1054 Secs		
									[==>(Pattern 1)]	[2]	
									[==>(Pattern 2)]		
									[==>(Pattern 3)]		
5	OFFSET-0.15	(2) NGC-2985	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)		1054 Secs		
									[==>(Pattern 1)]	[3]	
									[==>(Pattern 2)]		
									[==>(Pattern 3)]		
6	OFFSET+0.15	(2) NGC-2985	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)		1054 Secs		
									[==>(Pattern 1)]	[4]	
									[==>(Pattern 2)]		
									[==>(Pattern 3)]		



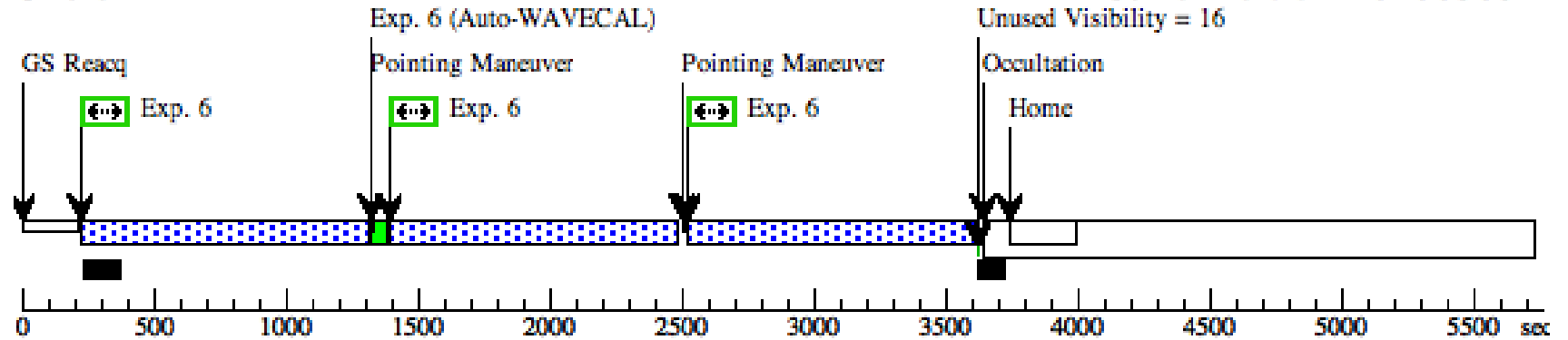
**Orbit 3**

Server Version: 20100505



**Orbit 4**

Server Version: 20100505



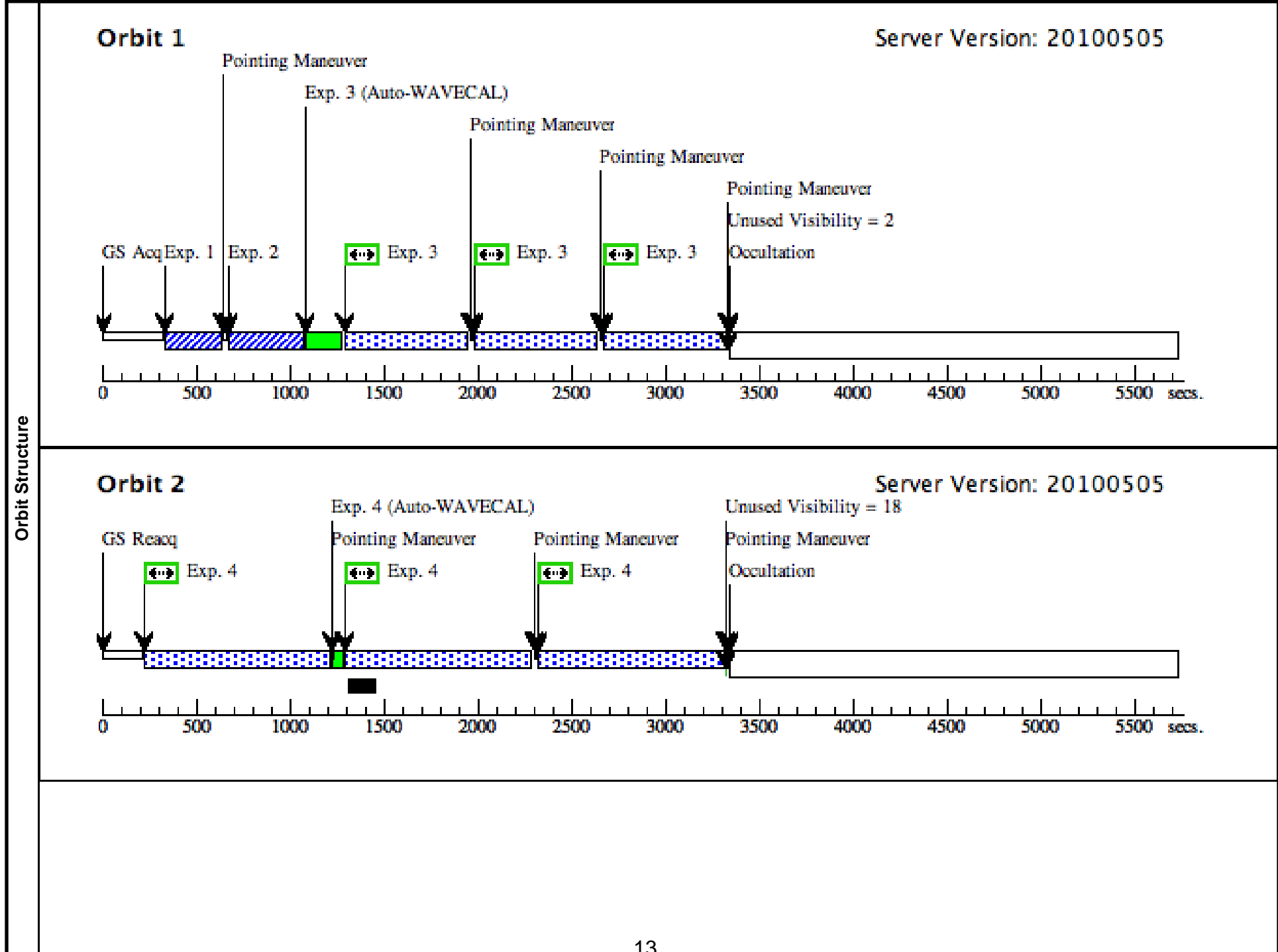
Proposal 12187 - Visit 02 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Wed Aug 18 19:32:33 GMT 2010

<b>Visit</b>	<b>Proposal 12187, Visit 03, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 53D TO 63 D; ORIENT 233D TO 243 D					
	(Visit 03) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 03) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(3)	NGC-3675	RA: 11 26 8.5800 (171.5357500d) Dec: +43 35 9.30 (43.58592d) Equinox: J2000		V=(?) B=11.0	Reference Frame: ICRS

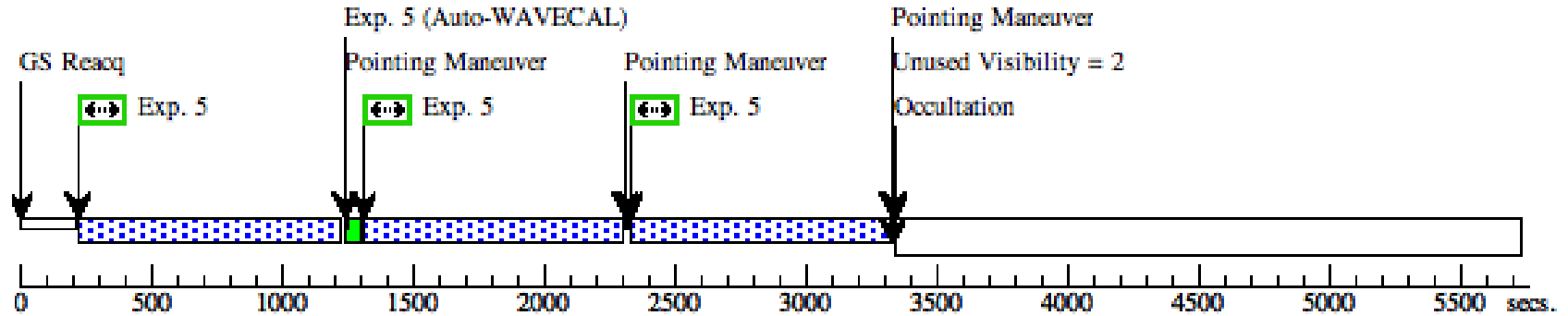
Proposal 12187 - Visit 02 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ	(3) NGC-3675	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ; CHECKBOX=7			15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>									
	2	ACQ/PEAK	(3) NGC-3675	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR				15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposure 4</i>									
	3	NUCLEUS	(3) NGC-3675	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)	618 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
4	NUCLEUS	(3) NGC-3675	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)	953 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]	
5	OFFSET-0.15	(3) NGC-3675	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)	953 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]	
6	OFFSET+0.15	(3) NGC-3675	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)	953 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]	



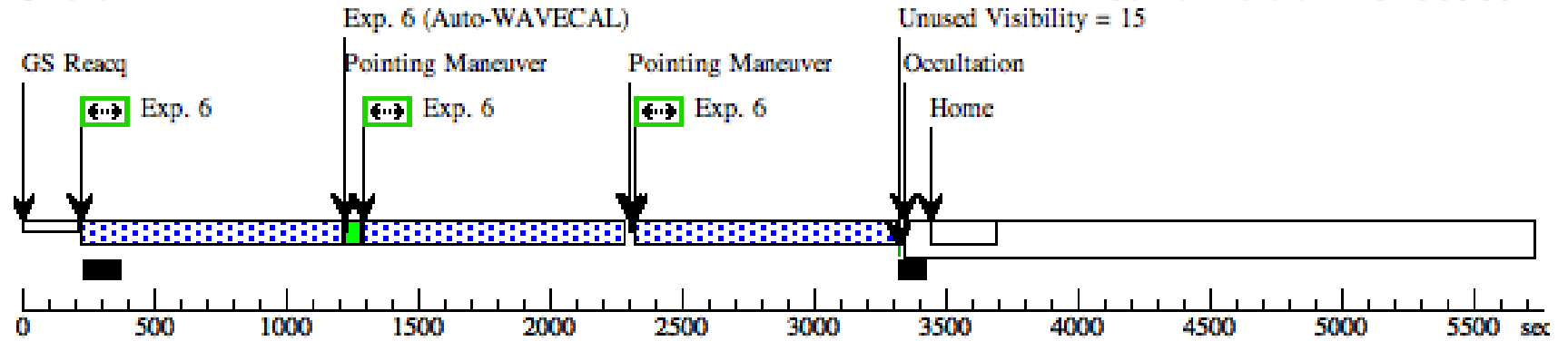
**Orbit 3**

Server Version: 20100505



**Orbit 4**

Server Version: 20100505



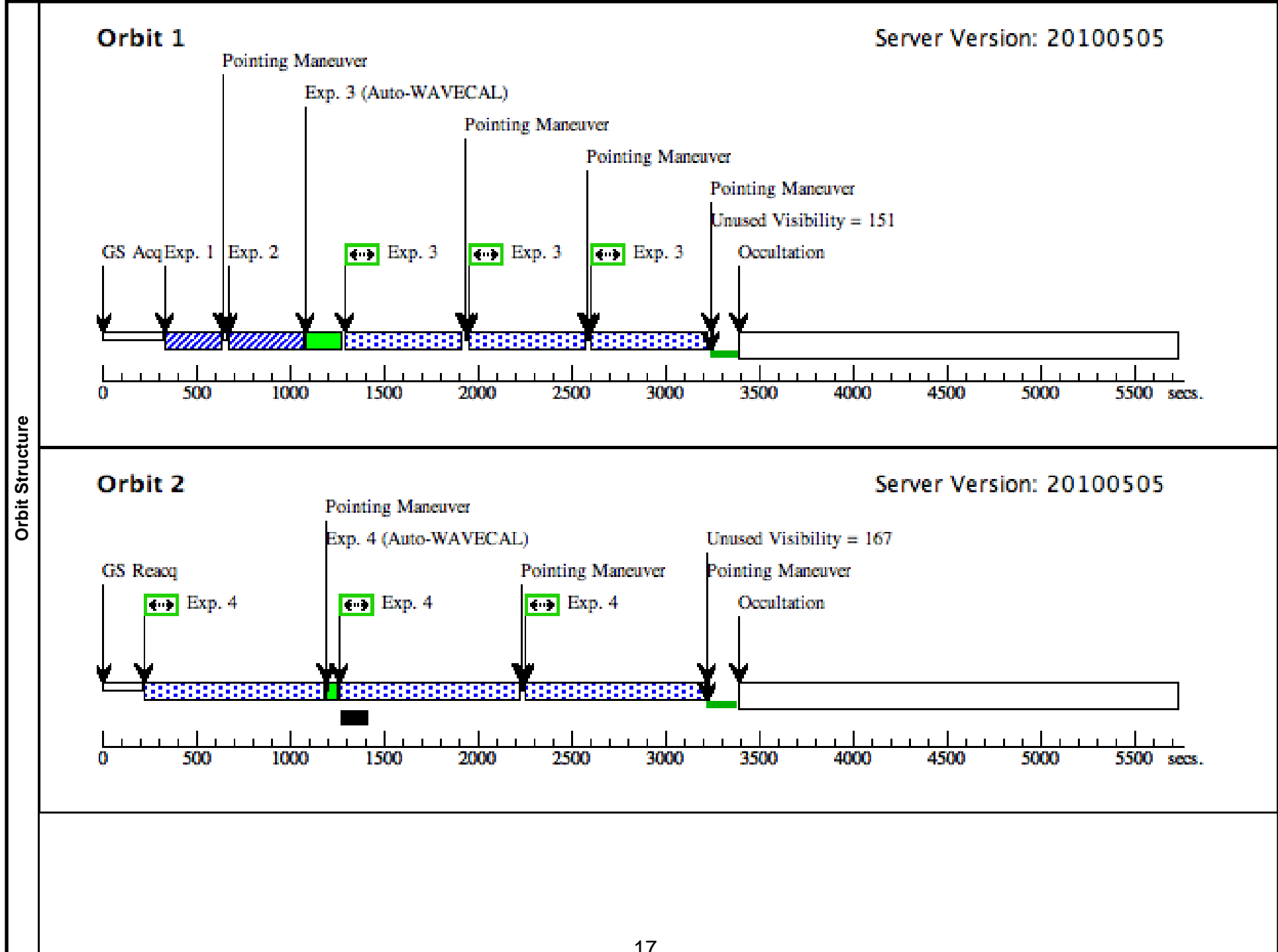
Proposal 12187 - Visit 03 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Wed Aug 18 19:32:33 GMT 2010

<b>Visit</b>	<b>Proposal 12187, Visit 04, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 65D TO 75 D; ORIENT 245D TO 255 D					
	(Visit 04) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 04) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(4)	NGC-4800	RA: 12 54 37.7900 (193.6574583d) Dec: +46 31 52.20 (46.53117d) Equinox: J2000		V=(?) B=12.3	Reference Frame: ICRS

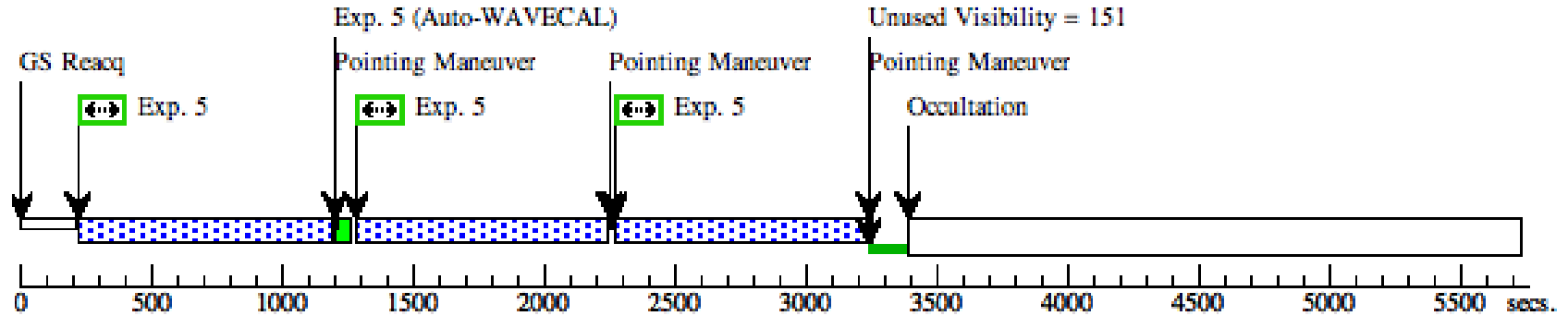
Proposal 12187 - Visit 03 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	ACQ	(4) NGC-4800	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ; CHECKBOX=7		15 Secs [==>]	[1]	
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>									
	2	ACQ/PEAK	(4) NGC-4800	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR			15 Secs [==>]	[1]	
	<i>Comments: Onboard ACQ for Exposure 4</i>									
	3	NUCLEUS	(4) NGC-4800	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)	585 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	4	NUCLEUS	(4) NGC-4800	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
5	OFFSET-0.15	(4) NGC-4800	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]	
6	OFFSET+0.15	(4) NGC-4800	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]	



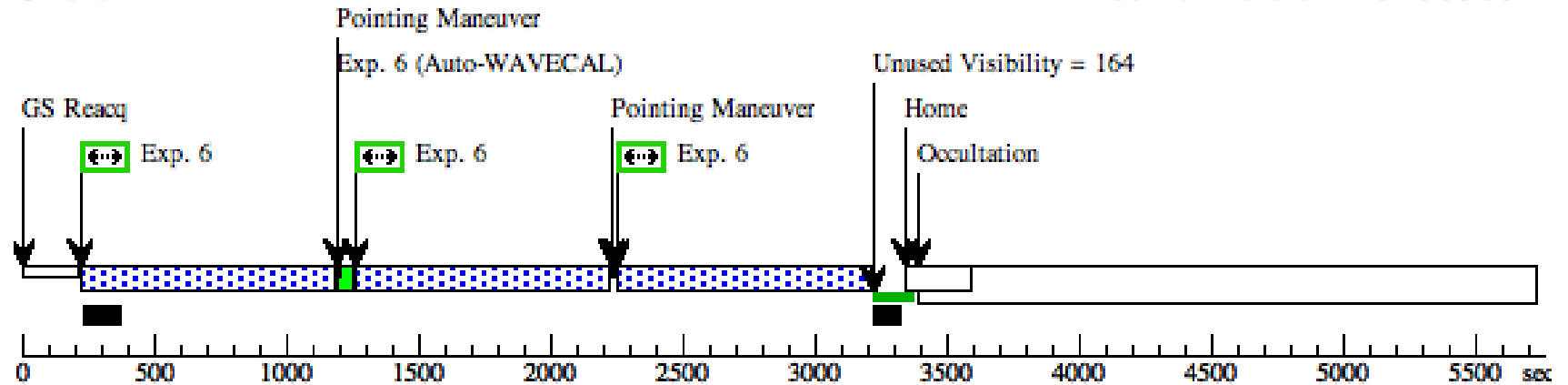
### Orbit 3

Server Version: 20100505



### Orbit 4

Server Version: 20100505



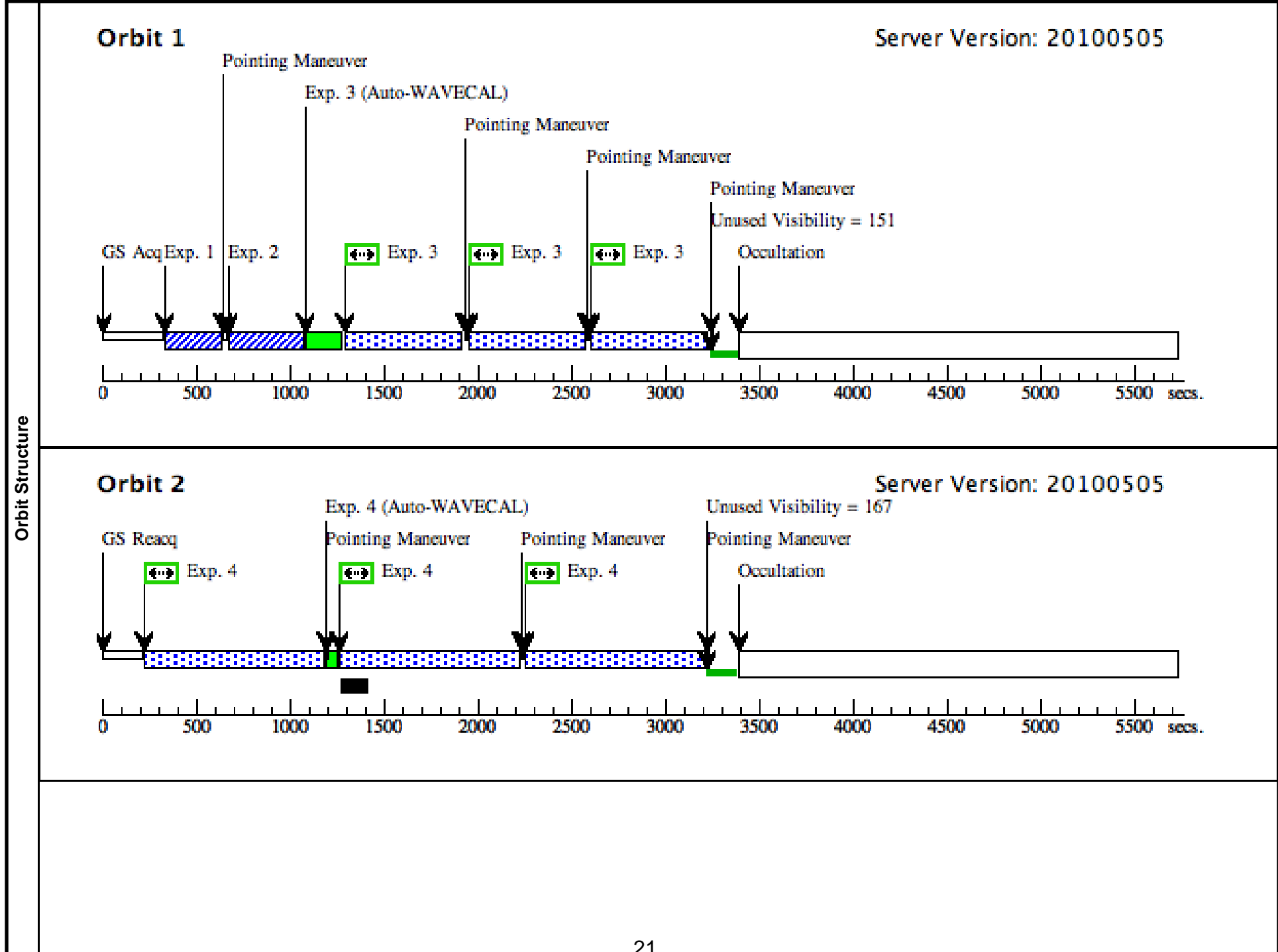
Proposal 12187 - Visit 04 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Wed Aug 18 19:32:33 GMT 2010

<b>Visit</b>	<b>Proposal 12187, Visit 05, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 60D TO 70 D; ORIENT 240D TO 250 D					
	(Visit 05) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 05) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(5)	NGC-5377	RA: 13 56 16.6700 (209.0694583d) Dec: +47 14 8.50 (47.23569d) Equinox: J2000		V=(?) B=12.2	Reference Frame: ICRS

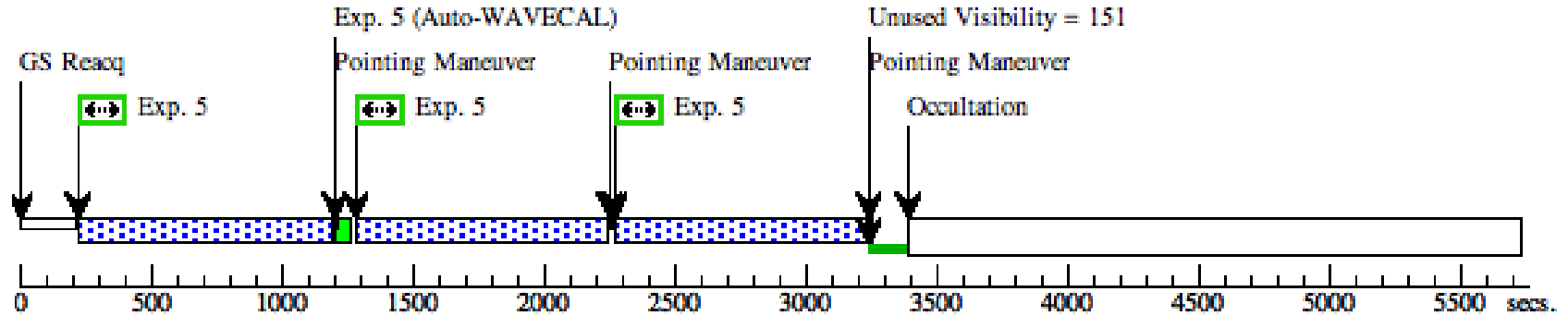
Proposal 12187 - Visit 04 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ	(5) NGC-5377	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ; CHECKBOX=7			15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>									
	2	ACQ/PEAK	(5) NGC-5377	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR				15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposure 4</i>									
	3	NUCLEUS	(5) NGC-5377	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)	585 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
4	NUCLEUS	(5) NGC-5377	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]	
5	OFFSET-0.15	(5) NGC-5377	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]	
6	OFFSET+0.15	(5) NGC-5377	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)	920 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]	



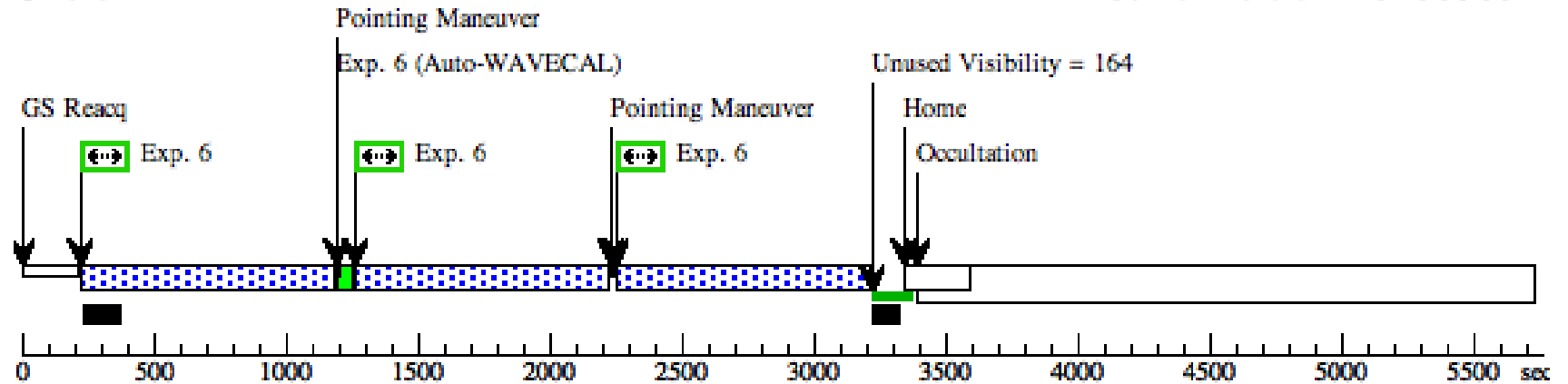
**Orbit 3**

Server Version: 20100505



**Orbit 4**

Server Version: 20100505



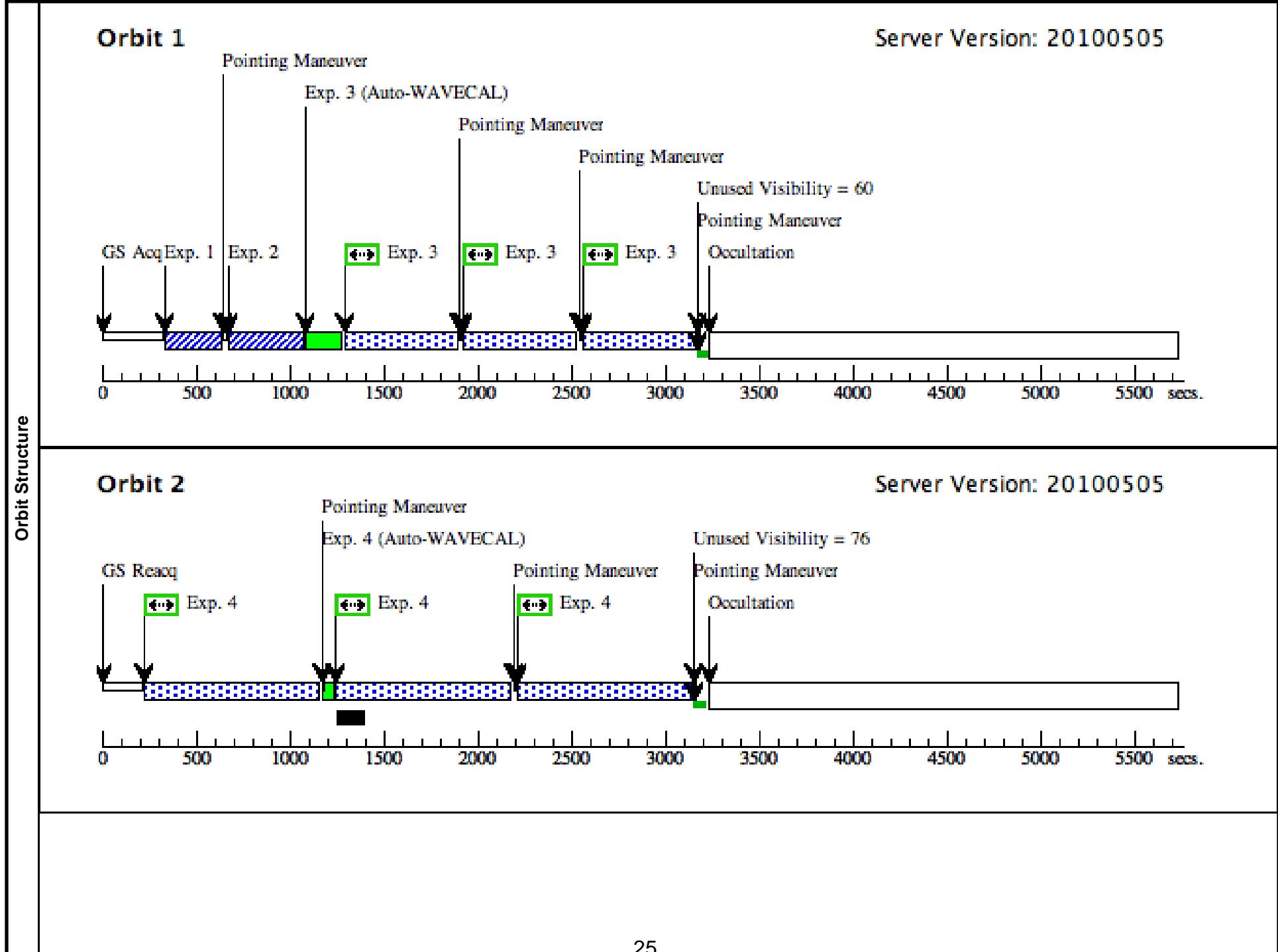
Proposal 12187 - Visit 05 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Wed Aug 18 19:32:33 GMT 2010

<b>Visit</b>	<b>Proposal 12187, Visit 06, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: STIS/CCD Special Requirements: ORIENT 219D TO 229 D; ORIENT 39D TO 49 D					
	(Visit 06) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE (Visit 06) Warning (Orbit Planner): PATTERN POSITION OUTSIDE APERTURE					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(1)	Pattern Type=STIS-ALONG-SLIT      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=3                  Angle Between Sides= Point Spacing=0.15                  Center Pattern=false Line Spacing=		(3), (4), (5), (6)		
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(6)	NGC-5806	RA: 15 00 0.3900 (225.0016250d) Dec: +01 53 28.80 (1.89133d) Equinox: J2000		V=(?) B=12.4	Reference Frame: ICRS

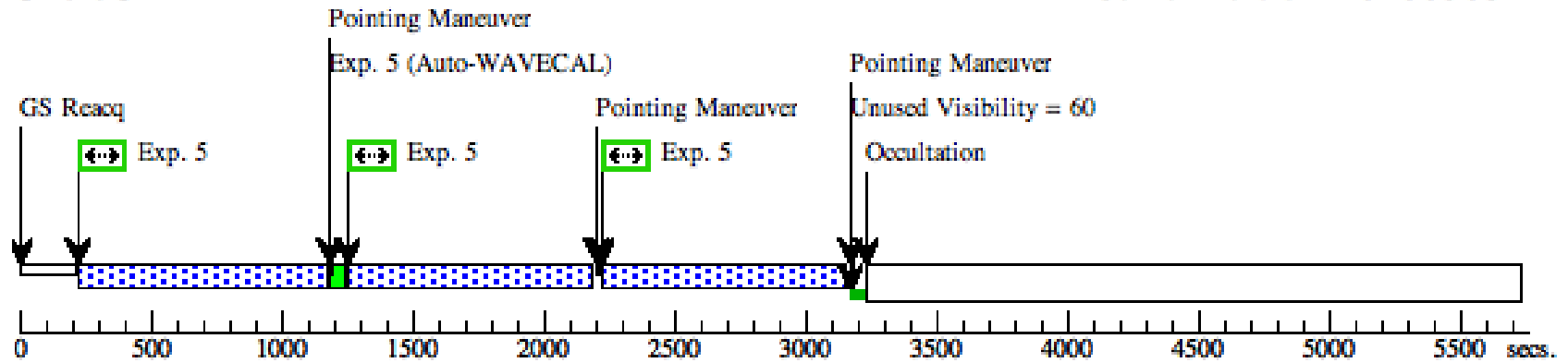
Proposal 12187 - Visit 05 - A New Sample of Circumnuclear Gas Disks for Measuring Black Hole Masses in Spiral Galaxies

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ	(6) NGC-5806	STIS/CCD, ACQ, F28X50LP	MIRROR	ACQTYPE=DIFFUSE; SE; DIFFUSE-CENTER=FLUX-CENTROID; ; CHECKBOX=7			15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposures 3 and 4</i>									
	2	ACQ/PEAK	(6) NGC-5806	STIS/CCD, ACQ/PEAK, 52X0.1E1	MIRROR				15 Secs [==>]	[1]
	<i>Comments: Onboard ACQ for Exposure 4</i>									
	3	NUCLEUS	(6) NGC-5806	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 3-3 (1)	563 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
4	NUCLEUS	(6) NGC-5806	STIS/CCD, ACCUM, 52X0.1E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0,0	Pattern 1, Exps 4-4 (1)	898 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]	
5	OFFSET-0.15	(6) NGC-5806	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG -0.15,0	Pattern 1, Exps 5-5 (1)	898 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]	
6	OFFSET+0.15	(6) NGC-5806	STIS/CCD, ACCUM, 52X0.2E1	G750M 6581 A	CR-SPLIT=NO	POS TARG 0.15,0	Pattern 1, Exps 6-6 (1)	898 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]	



**Orbit 3**

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**Orbit 4**

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