



12196 - Disk Truncations: Probing Galaxy Formation at the Limits

Cycle: 18, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. David J. Radburn-Smith (PI)	University of Washington	david@astro.washington.edu
Dr. Stephane Courteau (CoI)	Queen's University	courteau@astro.queensu.ca
Dr. Julianne Dalcanton (CoI) (AdminUSPI)	University of Washington	jd@astro.washington.edu
Dr. Roelof S. de Jong (CoI) (ESA Member)	Astrophysikalisches Institut Potsdam	rdejong@aip.de
Dr. Victor P. Debattista (CoI) (ESA Member)	University of Central Lancashire	vpdebattista@uclan.ac.uk
Ms. Kelly Foyle (CoI) (ESA Member)	Max-Planck-Institut fur Astronomie, Heidelberg	foyle@mpia.de
Dr. Benne W. Holwerda (CoI)	University of Cape Town	holwerda@ast.uct.ac.za
Mr. Rok Roškar (CoI)	University of Washington	roskar@astro.washington.edu
Dr. Pieter C. Van Der Kruit (CoI) (ESA Member)	Kapteyn Astronomical Institute	p.c.van.der.kruit@astro.rug.nl

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) NGC-891-TRUNC1	ACS/WFC WFC3/UVIS	3	03-Sep-2010 21:18:01.0	yes
02	(2) NGC-891-TRUNC2	ACS/WFC WFC3/UVIS	3	03-Sep-2010 21:18:20.0	yes
03	(3) NGC-4244-TRUNC1	ACS/WFC WFC3/UVIS	1	03-Sep-2010 21:18:28.0	yes
04	(4) NGC-4244-TRUNC2	ACS/WFC WFC3/UVIS	1	03-Sep-2010 21:18:33.0	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>
05	(5) NGC-4565-WARP	ACS/WFC WFC3/UVIS	3	03-Sep-2010 21:18:39.0	yes
06	(5) NGC-4565-WARP	ACS/WFC WFC3/UVIS	3	03-Sep-2010 21:18:47.0	yes
07	(6) IC-5052-TRUNC	ACS/WFC WFC3/UVIS	2	03-Sep-2010 21:18:55.0	yes
08	(7) NGC-7793-TRUNC	ACS/WFC WFC3/UVIS	1	03-Sep-2010 21:19:01.0	yes

17 Total Orbits Used

ABSTRACT

Traditionally, the radial surface-brightness profile of a galaxy disk has been modelled by a single exponential profile. However, the vast majority of disk galaxies actually show signs of a disk truncation, where the profile suddenly breaks to a steeper second exponential profile. The cause of this break remains poorly understood.

In Lambda-CDM cosmology, the radii at which disk truncations are found are also the most recently formed. Disk truncations may therefore be a direct result of the disk-galaxy assembly process. Many theories have thus been proposed to connect the truncations to theories of disk galaxy formation. Generally, break formation models either form the stars in the observed distribution (e.g., a star formation threshold) or employ dynamical effects to redistribute them into the current configuration (e.g., tidal stripping). These models need to be constrained observationally to probe the underlying mechanism of outer-disk formation responsible for creating the truncations.

Using our previous experience with deep CMDs from HST observations of resolved extragalactic stellar populations, we propose a comprehensive survey of disk truncations across a variety of disk morphologies and sizes. With resolved stellar populations we are able to map the truncations as a function of age to a very low equivalent surface brightness. Additionally, we will carry out simulations of different truncation formation scenarios for each galaxy (based on disk type and mass) to compare directly with the observations. Combining the two will prove crucial to understanding the mechanism for creating disk truncations and the ongoing processes in disk formation. HST is the only observatory capable of discriminating the formation models due the unique resolution and depth of the ACS and WFC3 instruments.

OBSERVING DESCRIPTION

We will obtain WFC3/UVIS and ACS/WFC coordinated parallel observations to map disk truncations across five nearby disk galaxies. These observations will help reveal the cause of the phenomenon. The work will build upon the GHOSTS survey, which has in place extensive tools to analyze resolved stellar populations from HST observations. Simulations of the various formation scenarios will be carried out in coordination with the observations.

To differentiate the various models, we will measure the radial stellar profiles as a function of stellar population. GHOSTS have demonstrated that the various populations can be easily extracted from a color-magnitude diagram using the F606W ($\sim V$ -band) and F814W ($\sim I$ -band) filters. These two filters sufficiently separate the various populations, have good throughput and relatively little extinction compared to shorter wavelength filters. As we will use the existing GHOSTS fields to match the inner and outer profiles we will continue to observe in F606W and F814W.

HST is the only observatory capable of resolving extragalactic stellar populations and removing contaminating background galaxies. One field will be placed on the disk of each galaxy where crowding can be high. However, for a galaxy surface brightness of $\mu_V = 25.5$ at a distance modulus of $m - M \sim 28$, we expect ~ 1200 stars/arcmin² brighter than $V = 26.8$ mag. For WFC3/UVIS this is about 450 resolution elements per star. This is

more than sufficient for reliable photometry. At the lower surface brightnesses of the non-disk fields, we are only limited by unresolved background galaxies ($\sim 2/\text{arcmin}^2$ from GOODS) and foreground Milky Way stars ($\sim 2/\text{arcmin}^2$ from Besancon models, Robin et al. 2003). To resolve enough stars for each stellar population requires us to reach about 1 mag below the tip of the Red Giant Branch. This occurs almost independent of metallicity at $M_I = -4$ mag, with $V - I \sim 1$. In one orbit, ACS and WFC3 in parallel can both observe two filters, each filter taking 1200s (400+800s). For NGC7793 and NGC4244 at an average $m - M \sim 28$ and low extinction ($A_V = 0.02 - 0.07$ mag), the WFC3 ETC calculates an average $S/N=10$ for one orbit. We thus request one orbit per field with two dithered exposures per passband for cosmic ray and bad pixel removal. Similar calculations show IC 5052 ($m - M = 28.8$, $A_V \sim 0.12$) requires two orbits, NGC891 ($m - M = 29.6$, $A_V \sim 0.24$) requires 3 orbits for both fields and NGC4565 ($m - M = 30.5$, $A_V = 0.02$) requires 6 orbits. These results agree with the observed S/N of the existing GHOSTS ACS fields in the respective galaxies.

Where appropriate, WFC3 fields are primarily placed on the disk truncation (as the higher resolution is of benefit in crowded regions), whilst the ACS parallel is situated on the outer profile (where the greater sensitivity of ACS is more important). Orientations have been chosen to maximize schedulability.

ADDITIONAL COMMENTS

POS-TARGs for visits 3, 4, 7 and 8 are placed between the ACS and WFC3 apertures to maximise the range of orientations available.

Proposal 12196 (STScI Edit Number: 2, Created: Friday, September 3, 2010 8:19:05 PM EST) - Overview

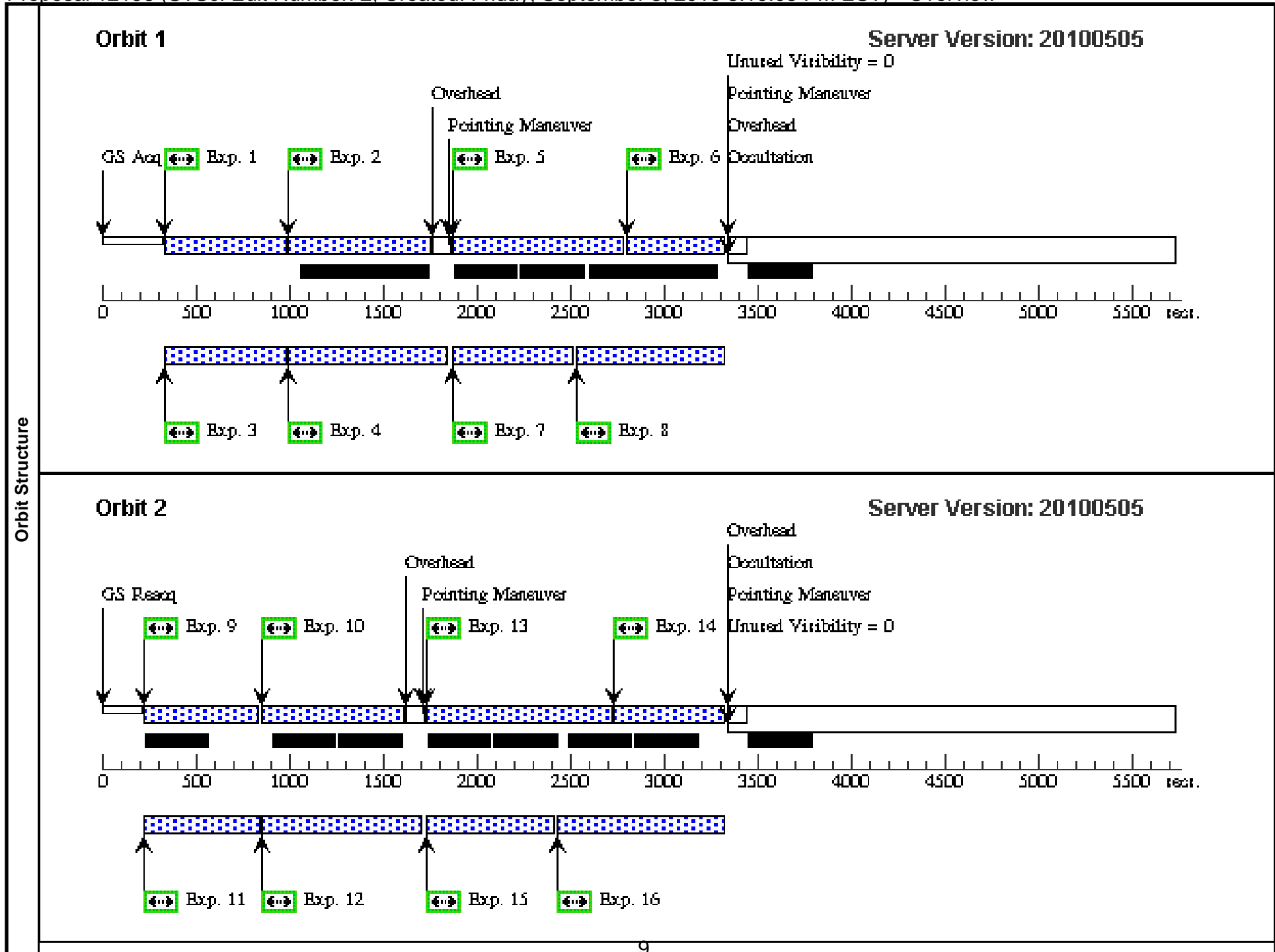
Visit	Proposal 12196, Visit 01, implementation Sat Sep 04 01:19:05 GMT 2010 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 158D TO 158 D					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(1)		NGC-891-TRUNC1	RA: 02 22 38.6982 (35.6612425d) Dec: +42 23 38.57 (42.39405d) Equinox: J2000	Redshift: 0.001761	V=(?) 26 I-mag	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

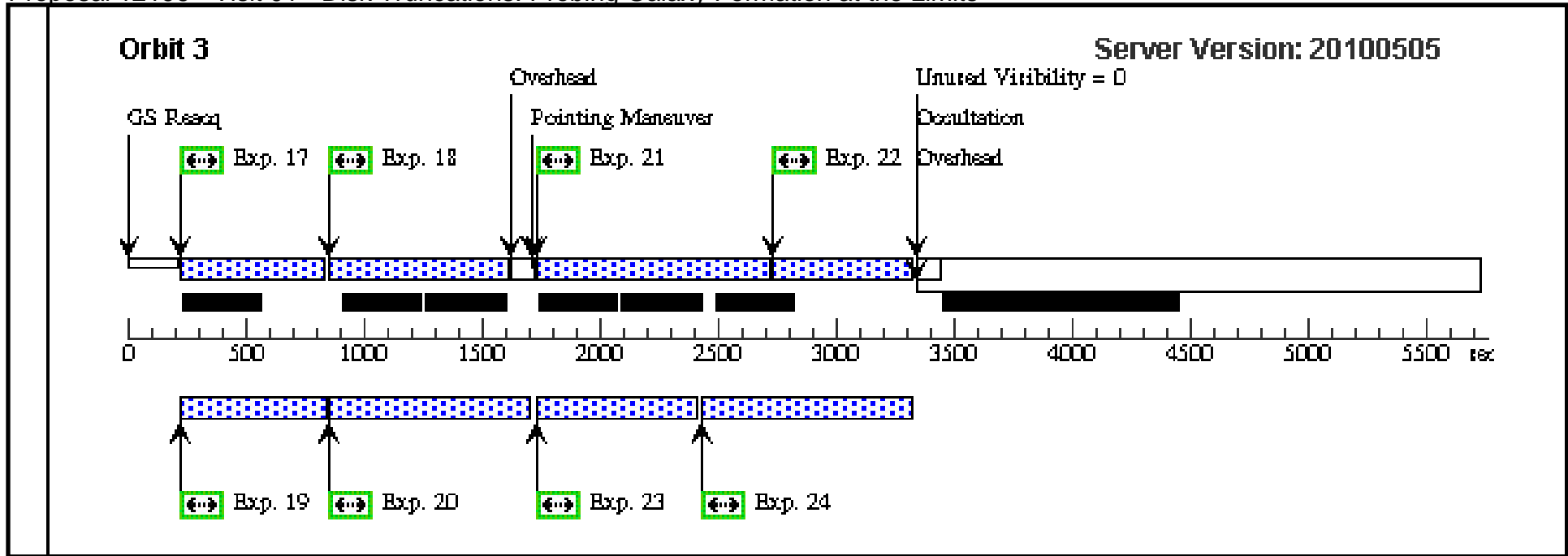
Proposal 12196 (STScI Edit Number: 2, Created: Friday, September 3, 2010 8:19:05 PM EST) - Overview

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
Exposures	1	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 0,0	Prime + Parallel Gro up 1-4	500 Secs [==>]	[1]
	2	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	735 Secs [==>]	[1]
	3	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	444 Secs [==>]	[1]
	4	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	669 Secs [==>]	[1]
	5	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 0.17168 7,-0.183083	Prime + Parallel Gro up 5-8	799 Secs [==>]	[1]
	6	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	500 Secs [==>]	[1]
	7	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	520 Secs [==>]	[1]
	8	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	611 Secs [==>]	[1]
	9	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 1.0607,1 .0607	Prime + Parallel Gro up 9-12	500 Secs [==>]	[2]
	10	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 9	Prime + Parallel Gro up 9-12	735 Secs [==>]	[2]
	11	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	494 Secs [==>]	[2]
	12	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	669 Secs [==>]	[2]
	13	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 0.96165, 0.96166334	Prime + Parallel Gro up 13-16	875 Secs [==>]	[2]
	14	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 13	Prime + Parallel Gro up 13-16	567 Secs [==>]	[2]
	15	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	560 Secs [==>]	[2]
	16	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	714 Secs [==>]	[2]
	17	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 2.1214,2 .1214	Prime + Parallel Gro up 17-20	500 Secs [==>]	[3]
	18	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 17	Prime + Parallel Gro up 17-20	735 Secs [==>]	[3]
	19	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	494 Secs [==>]	[3]
	20	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	669 Secs [==>]	[3]
	21	WFC3-F814 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 2.72,1.7	Prime + Parallel Gro up 21-24	875 Secs [==>]	[3]
	22	WFC3-F606 W	(1) NGC-891-TRUN C1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 21	Prime + Parallel Gro up 21-24	567 Secs [==>]	[3]

Proposal 12196 (STScI Edit Number: 2, Created: Friday, September 3, 2010 8:19:05 PM EST) - Overview

23	ACS-F814 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	Prime + Parallel Gro up 21-24	560 Secs	
							[==>]	[3]
24	ACS-F606 W	(1) NGC-891-TRUN C1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	Prime + Parallel Gro up 21-24	714 Secs	
							[==>]	[3]





Proposal 12196 - Visit 01 - Disk Truncations: Probing Galaxy Formation at the Limits

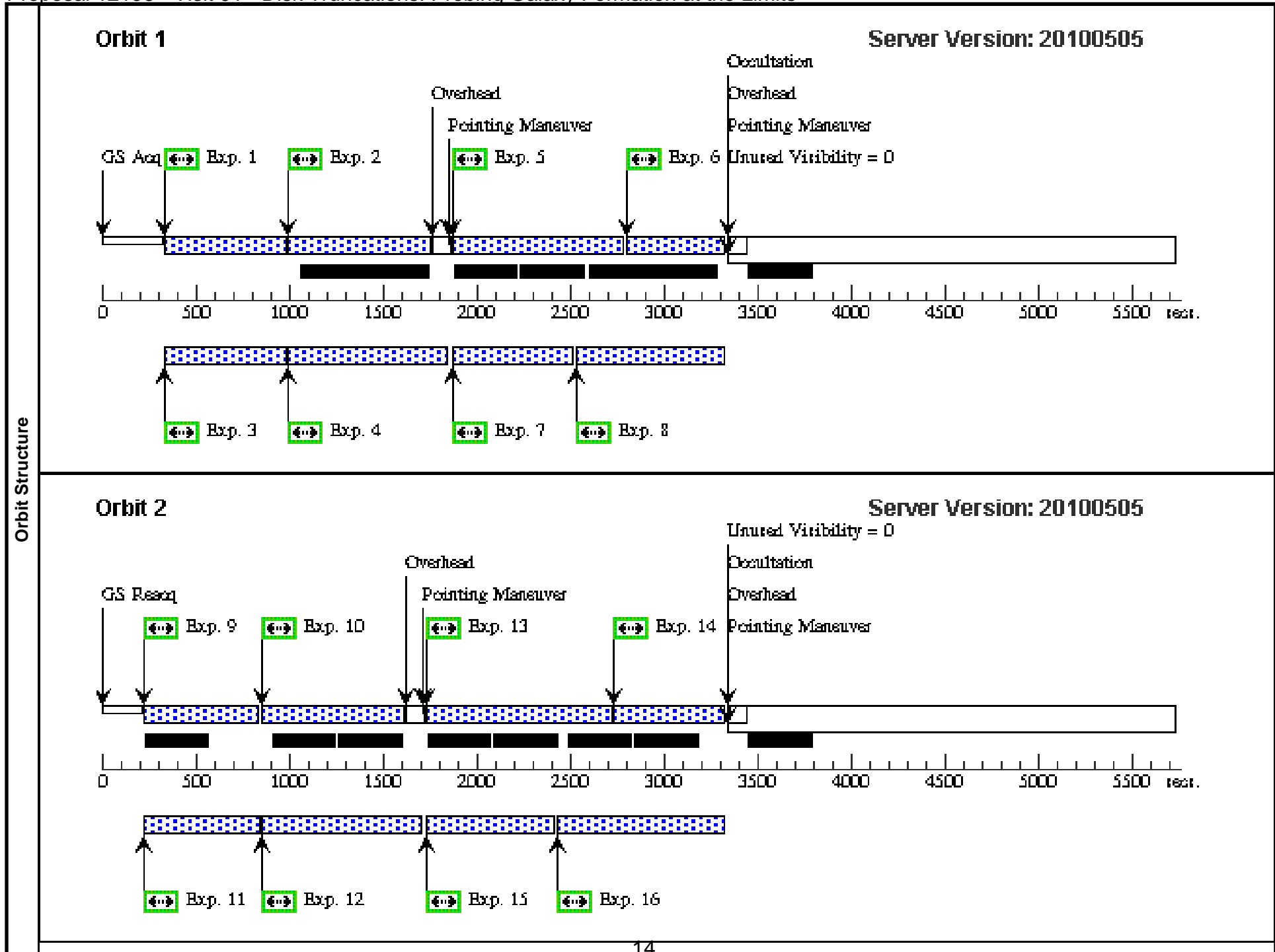
Visit	Proposal 12196, Visit 02, implementation Sat Sep 04 01:19:07 GMT 2010					
	Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 01					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	NGC-891-TRUNC2	RA: 02 22 44.2800 (35.6845000d) Dec: +42 26 9.33 (42.43592d) Equinox: J2000	Redshift: 0.001761	V=(?) 26 I-mag	Reference Frame: ICRS
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>						

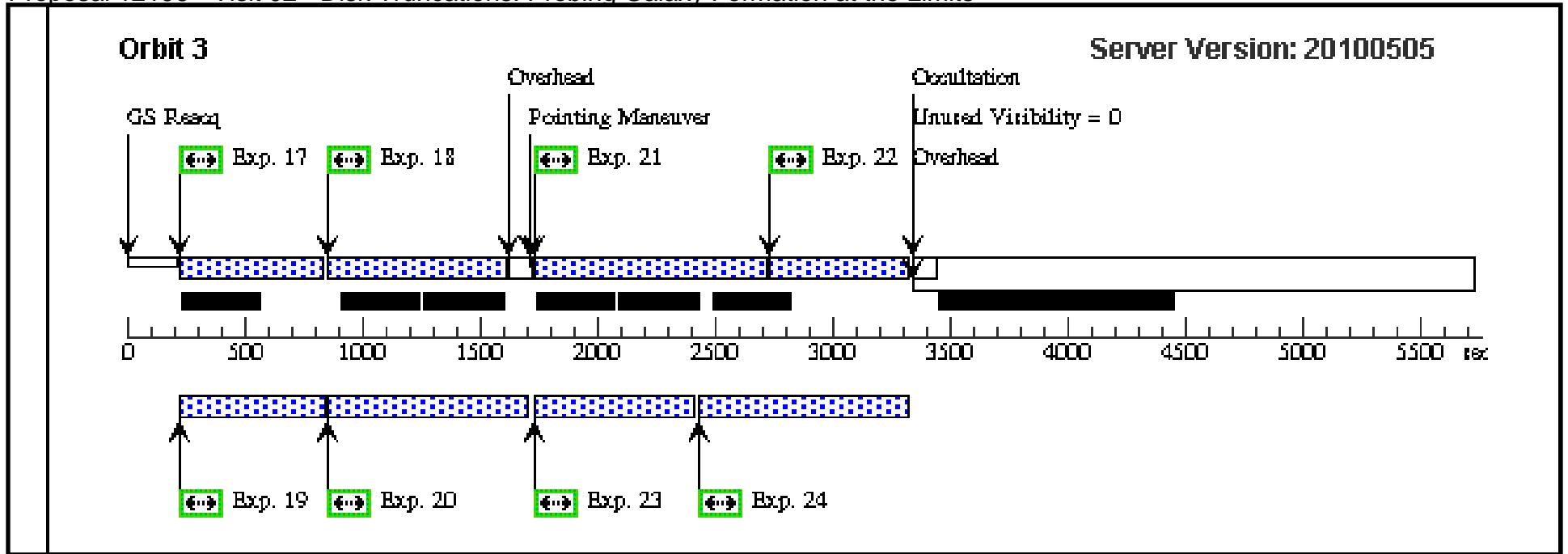
Proposal 12196 - Visit 01 - Disk Truncations: Probing Galaxy Formation at the Limits

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
Exposures	1	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 0,0	Prime + Parallel Gro up 1-4	500 Secs [==>]	[1]
	2	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	735 Secs [==>]	[1]
	3	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	444 Secs [==>]	[1]
	4	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	669 Secs [==>]	[1]
	5	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 0.17168 7,-0.183083	Prime + Parallel Gro up 5-8	799 Secs [==>]	[1]
	6	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	500 Secs [==>]	[1]
	7	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	520 Secs [==>]	[1]
	8	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	611 Secs [==>]	[1]
	9	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 1.0607,1 .0607	Prime + Parallel Gro up 9-12	500 Secs [==>]	[2]
	10	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 9	Prime + Parallel Gro up 9-12	735 Secs [==>]	[2]
	11	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	494 Secs [==>]	[2]
	12	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	669 Secs [==>]	[2]
	13	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 0.96165, 0.96166334	Prime + Parallel Gro up 13-16	875 Secs [==>]	[2]
	14	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 13	Prime + Parallel Gro up 13-16	567 Secs [==>]	[2]
	15	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	560 Secs [==>]	[2]
	16	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	714 Secs [==>]	[2]
	17	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	POS TARG 2.1214,2 .1214	Prime + Parallel Gro up 17-20	500 Secs [==>]	[3]
	18	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	SAME POS AS 17	Prime + Parallel Gro up 17-20	735 Secs [==>]	[3]
	19	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	494 Secs [==>]	[3]
	20	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 17-20	669 Secs [==>]	[3]
	21	WFC3-F814 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO	POS TARG 2.72,1.7	Prime + Parallel Gro up 21-24	875 Secs [==>]	[3]
	22	WFC3-F606 W	(2) NGC-891-TRUN C2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO	SAME POS AS 21	Prime + Parallel Gro up 21-24	567 Secs [==>]	[3]

Proposal 12196 - Visit 01 - Disk Truncations: Probing Galaxy Formation at the Limits

23	ACS-F814 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	Prime + Parallel Gro up 21-24	560 Secs	
							[==>]	[3]
24	ACS-F606 W	(2) NGC-891-TRUN C2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	Prime + Parallel Gro up 21-24	714 Secs	
							[==>]	[3]

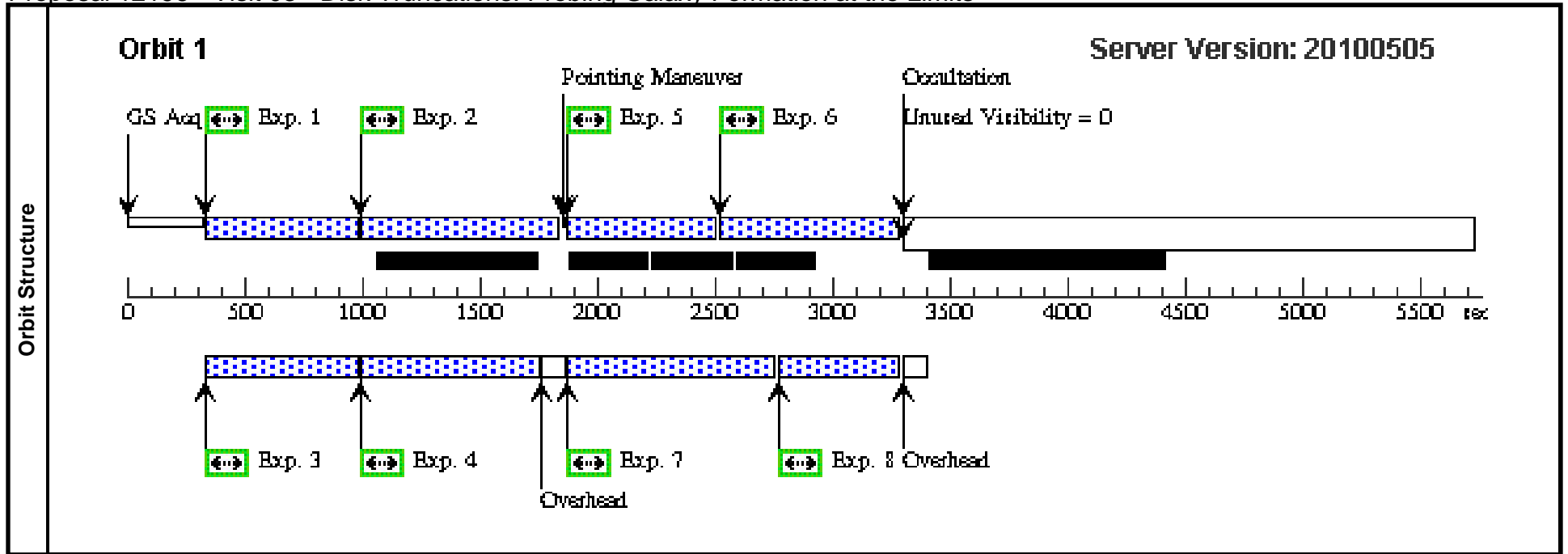




Proposal 12196 - Visit 02 - Disk Truncations: Probing Galaxy Formation at the Limits

Sat Sep 04 01:19:08 GMT 2010

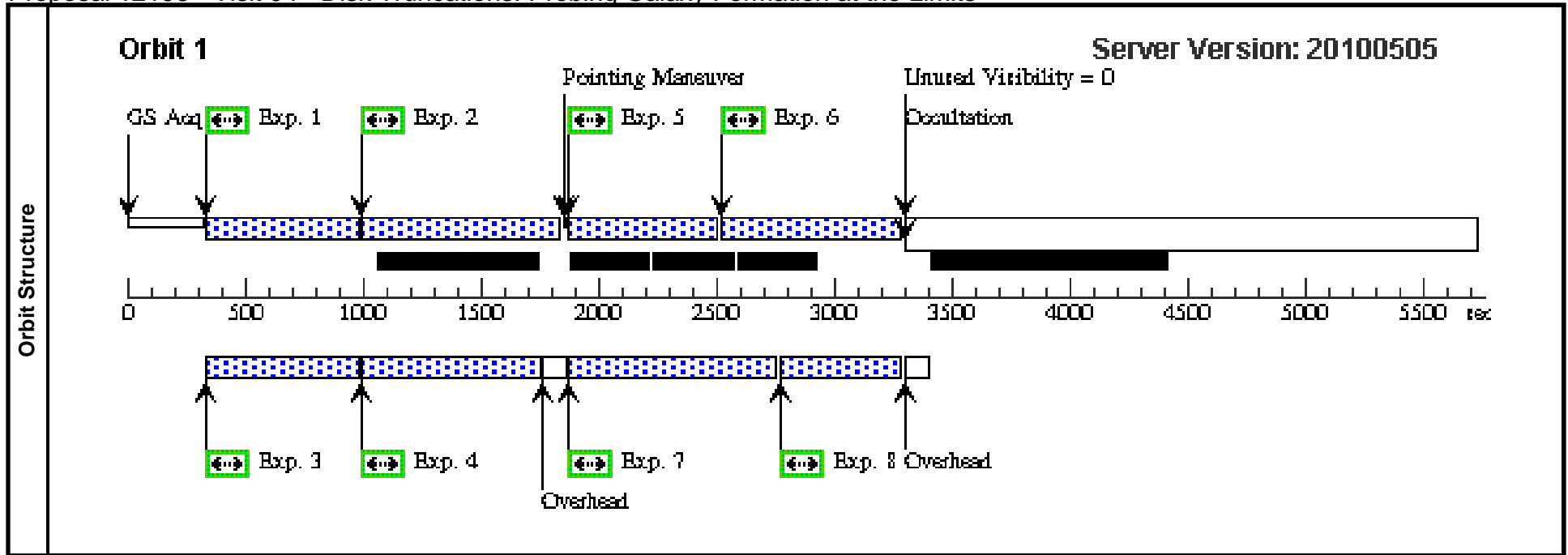
Visit	Proposal 12196, Visit 03, implementation Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 181D TO 189 D <i>Comments: POS-TARGs outside aperture to increase range of possible orientations.</i>									
	(Visit 03) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Visit 03) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	NGC-4244-TRUNC1	RA: 12 18 15.8712 (184.5661300d) Dec: +37 56 16.34 (37.93787d) Equinox: J2000		V=27.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACS-F606 W	(3) NGC-4244-TRU NC1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -127,12 7	Prime + Parallel Gro up 1-4	444 Secs [==>]	[1]
	2	ACS-F814 W	(3) NGC-4244-TRU NC1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	665 Secs [==>]	[1]
	3	WFC3-F606 W	(3) NGC-4244-TRU NC1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	500 Secs [==>]	[1]
	4	WFC3-F814 W	(3) NGC-4244-TRU NC1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	735 Secs [==>]	[1]
	5	ACS-F814 W	(3) NGC-4244-TRU NC1	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	POS TARG -126.67 89,129.9715	Prime + Parallel Gro up 5-8	510 Secs [==>]	[1]
	6	ACS-F606 W	(3) NGC-4244-TRU NC1	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	581 Secs [==>]	[1]
	7	WFC3-F814 W	(3) NGC-4244-TRU NC1	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	769 Secs [==>]	[1]
	8	WFC3-F606 W	(3) NGC-4244-TRU NC1	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	490 Secs [==>]	[1]



Proposal 12196 - Visit 03 - Disk Truncations: Probing Galaxy Formation at the Limits

Sat Sep 04 01:19:09 GMT 2010

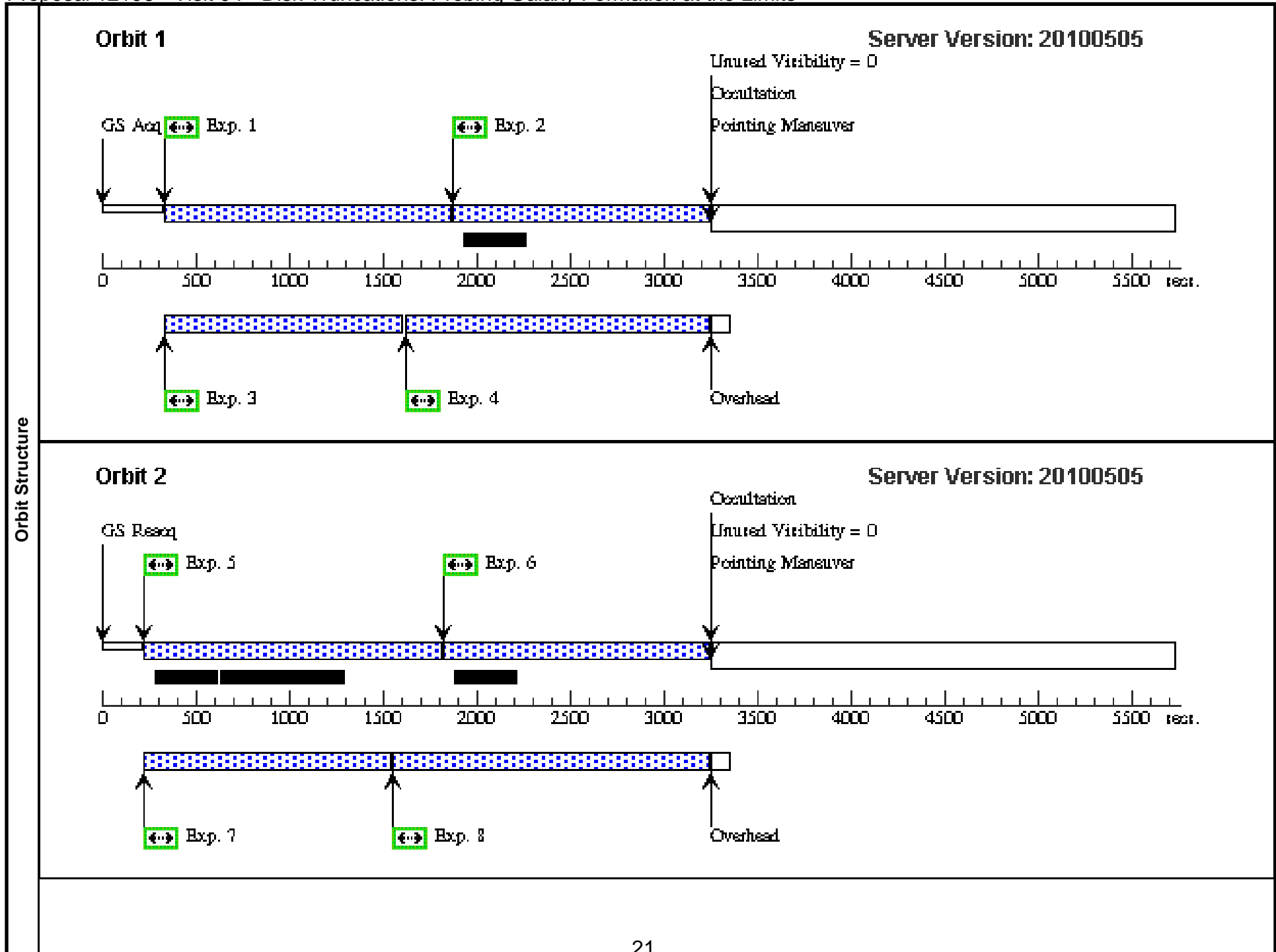
Visit	Proposal 12196, Visit 04, implementation Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 180D TO 186 D <i>Comments: POS-TARGs outside aperture to increase range of possible orientations.</i>									
	(Visit 04) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Visit 04) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE									
Diagnosics										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	NGC-4244-TRUNC2	RA: 12 17 6.9563 (184.2789846d) Dec: +37 44 24.46 (37.74013d) Equinox: J2000		V=27.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACS-F606 W	(4)NGC-4244-TRU NC2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -127,12 7	Prime + Parallel Gro up 1-4	444 Secs [==>]	[1]
	2	ACS-F814 W	(4)NGC-4244-TRU NC2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	665 Secs [==>]	[1]
	3	WFC3-F606 W	(4)NGC-4244-TRU NC2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	500 Secs [==>]	[1]
	4	WFC3-F814 W	(4)NGC-4244-TRU NC2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	735 Secs [==>]	[1]
	5	ACS-F814 W	(4)NGC-4244-TRU NC2	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	POS TARG -126.67 89,129.9715	Prime + Parallel Gro up 5-8	510 Secs [==>]	[1]
	6	ACS-F606 W	(4)NGC-4244-TRU NC2	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	581 Secs [==>]	[1]
	7	WFC3-F814 W	(4)NGC-4244-TRU NC2	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	769 Secs [==>]	[1]
	8	WFC3-F606 W	(4)NGC-4244-TRU NC2	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	490 Secs [==>]	[1]



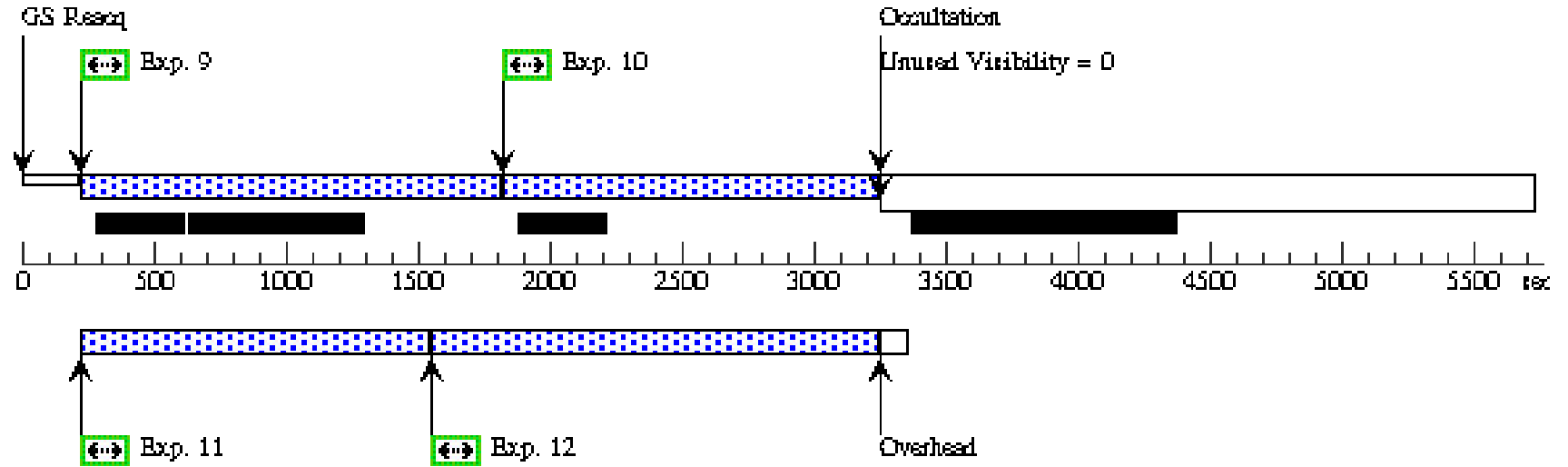
Proposal 12196 - Visit 04 - Disk Truncations: Probing Galaxy Formation at the Limits

Sat Sep 04 01:19:09 GMT 2010

Visit	Proposal 12196, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 276D TO 285 D									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	NGC-4565-WARP	RA: 12 35 54.6262 (188.9776092d) Dec: +26 06 5.82 (26.10162d) Equinox: J2000	Redshift: 0.0041	V=25.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 0,0; GS ACQ SCENARI O BASE1B3	Prime + Parallel Gro up 1-4	1321 Secs [==>]	[1]
	2	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	1190 Secs [==>]	[1]
	3	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	1129 Secs [==>]	[1]
	4	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	1600 Secs [==>]	[1]
	5	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -0.2223, 0.0921	Prime + Parallel Gro up 5-8	1409 Secs [==>]	[2]
	6	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	1240 Secs [==>]	[2]
	7	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	1179 Secs [==>]	[2]
	8	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	1670 Secs [==>]	[2]
	9	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 1.6,1.5	Prime + Parallel Gro up 9-12	1409 Secs [==>]	[3]
	10	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 9	Prime + Parallel Gro up 9-12	1240 Secs [==>]	[3]
	11	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	1179 Secs [==>]	[3]
12	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	1670 Secs [==>]	[3]	



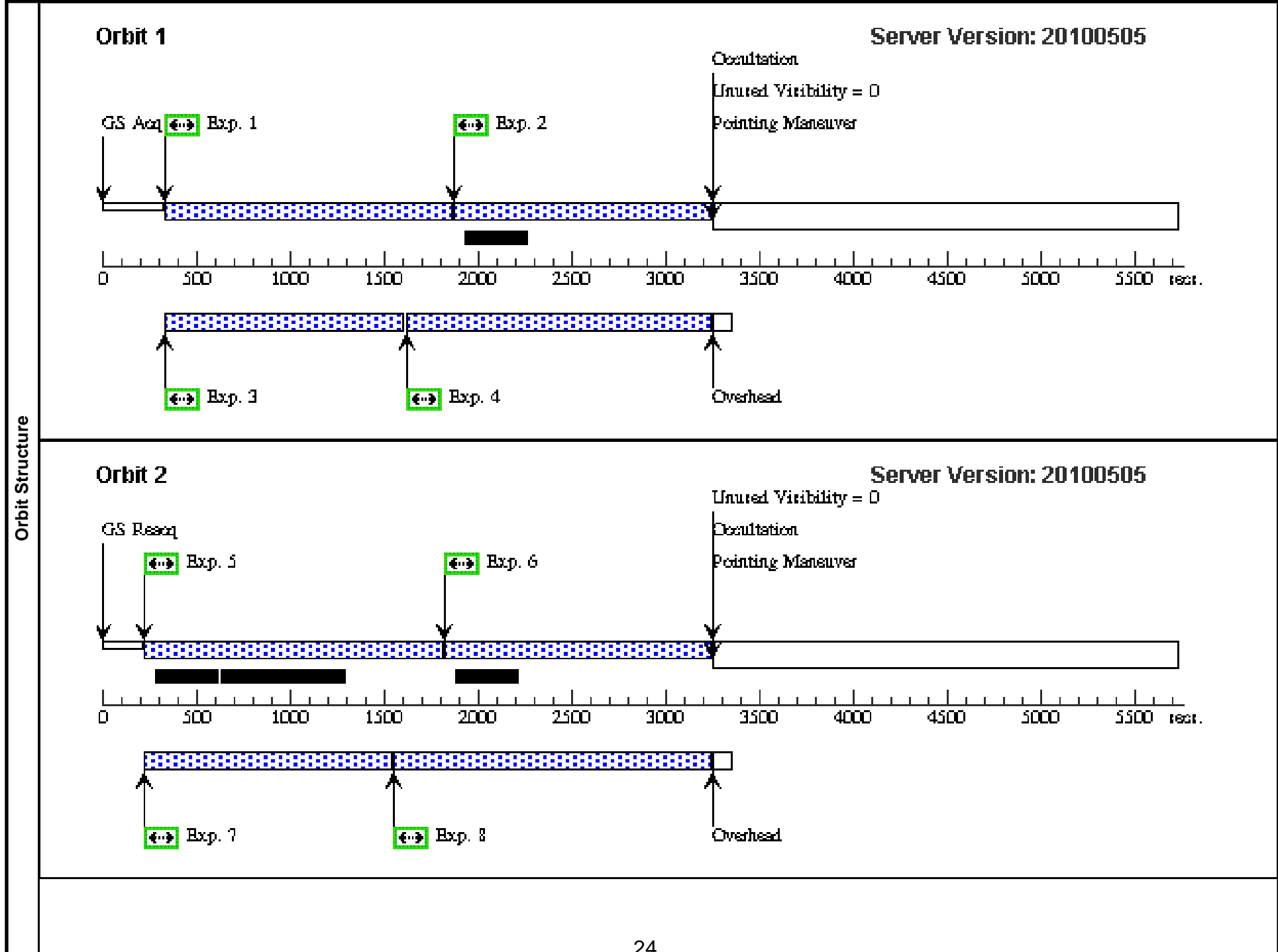
Orbit 3



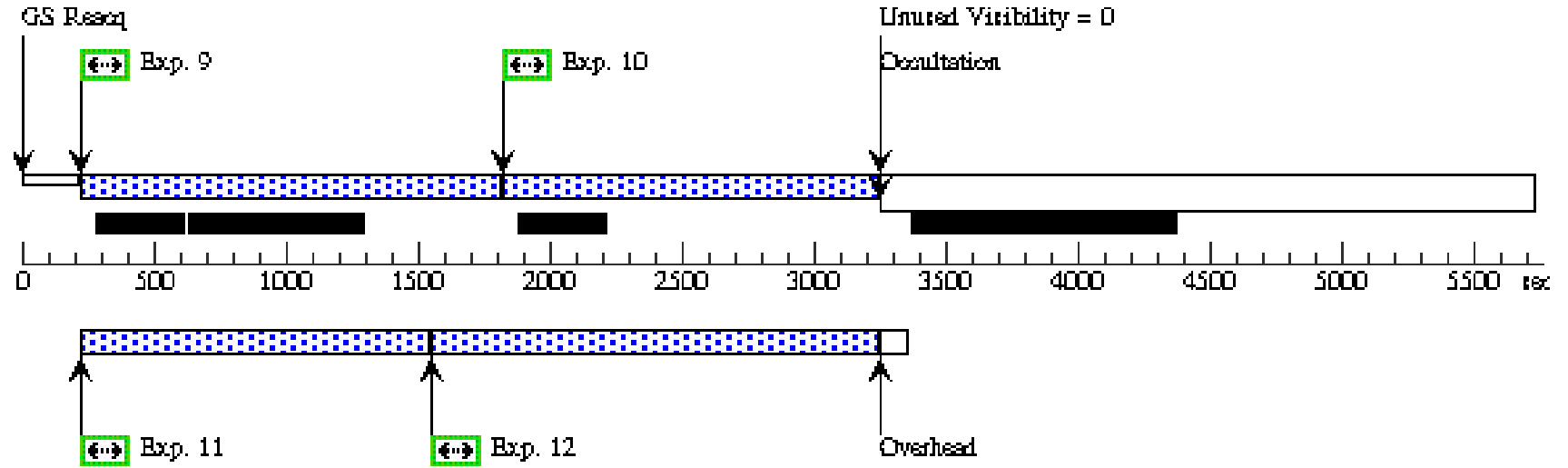
Proposal 12196 - Visit 05 - Disk Truncations: Probing Galaxy Formation at the Limits

Sat Sep 04 01:19:10 GMT 2010

Visit	Proposal 12196, Visit 06, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 05									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(5)	NGC-4565-WARP	RA: 12 35 54.6262 (188.9776092d) Dec: +26 06 5.82 (26.10162d) Equinox: J2000	Redshift: 0.0041	V=25.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 1.41886 7,1.3042; GS ACQ SCENARI O BASE1B3	Prime + Parallel Gro up 1-4	1321 Secs [==>]	[1]
	2	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	1190 Secs [==>]	[1]
	3	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	1129 Secs [==>]	[1]
	4	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	1600 Secs [==>]	[1]
	5	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 0.8,3.0	Prime + Parallel Gro up 5-8	1409 Secs [==>]	[2]
	6	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	1240 Secs [==>]	[2]
	7	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	1179 Secs [==>]	[2]
	8	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	1670 Secs [==>]	[2]
	9	ACS-F606 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG 0.4259,2 .8128668	Prime + Parallel Gro up 9-12	1409 Secs [==>]	[3]
	10	ACS-F814 W	(5) NGC-4565-WAR P	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 9	Prime + Parallel Gro up 9-12	1240 Secs [==>]	[3]
	11	WFC3-F606 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	1179 Secs [==>]	[3]
12	WFC3-F814 W	(5) NGC-4565-WAR P	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	1670 Secs [==>]	[3]	



Orbit 3

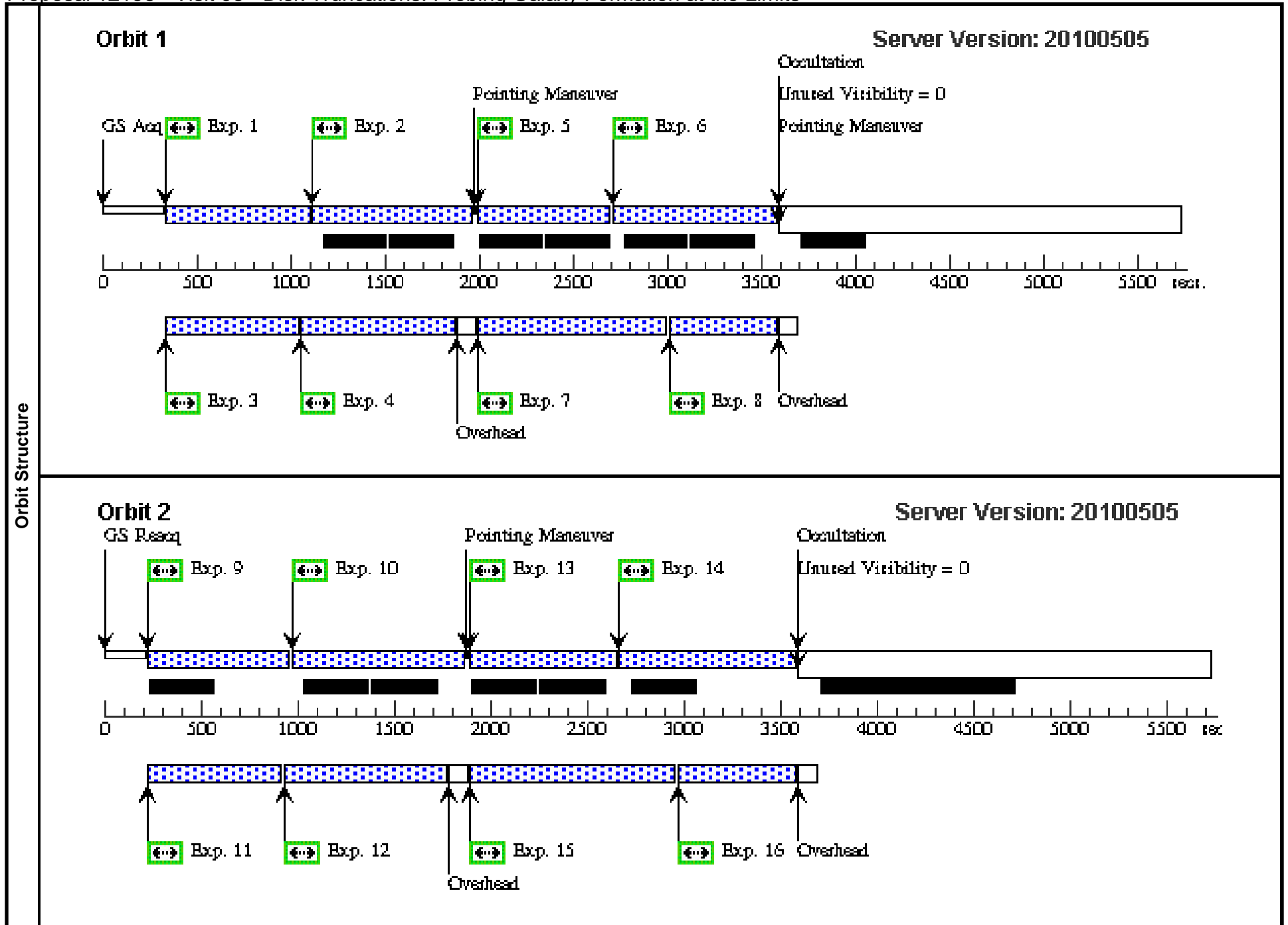


Proposal 12196 - Visit 06 - Disk Truncations: Probing Galaxy Formation at the Limits

Visit	Proposal 12196, Visit 07, implementation Sat Sep 04 01:19:11 GMT 2010 Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 273D TO 281 D <i>Comments: POS-TARGs outside aperture to increase range of possible orientations.</i>					
	Diagnostics	(Visit 07) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE				
(Visit 07) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(Visit 07) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
(Visit 07) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(6)	IC-5052-TRUNC	RA: 20 52 3.9810 (313.0165875d) Dec: -69 12 4.96 (-69.20138d) Equinox: J2000		V=27.0	Reference Frame: ICRS

Proposal 12196 - Visit 06 - Disk Truncations: Probing Galaxy Formation at the Limits

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
Exposures	1	ACS-F606 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -127,12 7	Prime + Parallel Gro up 1-4	560 Secs [==>]	[1]
	2	ACS-F814 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Gro up 1-4	673 Secs [==>]	[1]
	3	WFC3-F606 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	560 Secs [==>]	[1]
	4	WFC3-F814 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 1-4	795 Secs [==>]	[1]
	5	ACS-F814 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	POS TARG -126.62 95,126.8587333	Prime + Parallel Gro up 5-8	578 Secs [==>]	[1]
	6	ACS-F606 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Gro up 5-8	691 Secs [==>]	[1]
	7	WFC3-F814 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	887 Secs [==>]	[1]
	8	WFC3-F606 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 5-8	550 Secs [==>]	[1]
	9	ACS-F606 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -127.0,1 24.4	Prime + Parallel Gro up 9-12	610 Secs [==>]	[2]
	10	ACS-F814 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 9	Prime + Parallel Gro up 9-12	713 Secs [==>]	[2]
	11	WFC3-F606 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	580 Secs [==>]	[2]
	12	WFC3-F814 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 9-12	815 Secs [==>]	[2]
	13	ACS-F814 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	POS TARG -127.36 226667,124.168367	Prime + Parallel Gro up 13-16	635 Secs [==>]	[2]
	14	ACS-F606 W	(6) IC-5052-TRUNC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	SAME POS AS 13	Prime + Parallel Gro up 13-16	737 Secs [==>]	[2]
	15	WFC3-F814 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	950 Secs [==>]	[2]
	16	WFC3-F606 W	(6) IC-5052-TRUNC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Gro up 13-16	590 Secs [==>]	[2]



Proposal 12196 - Visit 07 - Disk Truncations: Probing Galaxy Formation at the Limits

Sat Sep 04 01:19:12 GMT 2010

Visit	Proposal 12196, Visit 08, implementation Diagnostic Status: Warning Scientific Instruments: ACS/WFC, WFC3/UVIS Special Requirements: ORIENT 85D TO 85 D <i>Comments: POS-TARGs outside aperture to increase range of possible orientations.</i>									
	Diagnostics	(Visit 08) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (Visit 08) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(7)	NGC-7793-TRUNC	RA: 23 58 0.4325 (359.5018021d) Dec: -32 33 55.61 (-32.56545d) Equinox: J2000		V=25.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACS-F606 W	(7) NGC-7793-TRU NC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	POS TARG -127,12 7	Prime + Parallel Group up 1-4	444 Secs [==>]	[1]
	2	ACS-F814 W	(7) NGC-7793-TRU NC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	SAME POS AS 1	Prime + Parallel Group up 1-4	665 Secs [==>]	[1]
	3	WFC3-F606 W	(7) NGC-7793-TRU NC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Group up 1-4	500 Secs [==>]	[1]
	4	WFC3-F814 W	(7) NGC-7793-TRU NC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Group up 1-4	735 Secs [==>]	[1]
	5	ACS-F814 W	(7) NGC-7793-TRU NC	ACS/WFC, ACCUM, WFCENTER	F814W	CR-SPLIT=NO	POS TARG -126.67 89,129.9715	Prime + Parallel Group up 5-8	510 Secs [==>]	[1]
	6	ACS-F606 W	(7) NGC-7793-TRU NC	ACS/WFC, ACCUM, WFCENTER	F606W	CR-SPLIT=NO	SAME POS AS 5	Prime + Parallel Group up 5-8	555 Secs [==>]	[1]
	7	WFC3-F814 W	(7) NGC-7793-TRU NC	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Prime + Parallel Group up 5-8	753 Secs [==>]	[1]
	8	WFC3-F606 W	(7) NGC-7793-TRU NC	WFC3/UVIS, ACCUM, UVIS-FIX	F606W	CR-SPLIT=NO		Prime + Parallel Group up 5-8	480 Secs [==>]	[1]

