



## 12354 - High Contrast Imaging

Cycle: 18, Proposal Category: CAL/WFC3

(Calibration)

(Availability Mode: RESTRICTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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) P041C	WFC3/UVIS	1	13-Oct-2010 21:18:31.0	yes
08	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:18:41.0	yes
09	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:18:44.0	yes
10	(2) HD-165459 DARK	WFC3/IR	1	13-Oct-2010 21:18:47.0	yes
18	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:18:50.0	yes
19	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:18:52.0	yes
20	(2) HD-165459 DARK	WFC3/IR	1	13-Oct-2010 21:18:56.0	yes
28	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:18:58.0	yes
29	(2) HD-165459	WFC3/IR	1	13-Oct-2010 21:19:01.0	yes
30	(2) HD-165459 DARK	WFC3/IR	1	13-Oct-2010 21:19:04.0	yes

10 Total Orbits Used

## **ABSTRACT**

The WFC3/UVIS capability to resolve near by neighbors will be quantified in pairs of narrow, medium and broad-band filters using the 12th mag solar analog P041C.

The WFC3/IR capability to do high contrast imaging on bright stars ( $V \sim 6$  mag) is being tested using a bright A5V star with  $V=6.86$  mag, the star will be imaged in a single narrow band filter.

## **OBSERVING DESCRIPTION**

UVIS:

The target star is P041C -- a well observed with HST solar analog at  $V = 12.00$ . The star is known from extensive FGS observations to be single down to the FGS limits at about 10 mas.

In each of 6 filters (blue and red pairs) 4 dithered exposures are acquired with WFC3-UVIS-DITHER-BOX with each exposure reaching 80% of saturation. A 5th exposure is taken at twice the sum of the dithered exposures -- this will be over-saturated by a factor of about 6 to bring up the wings.

All exposures use the 1Kx1K sub-array UVIS2-C1K1C-SUB. The long exposure for the narrowest filter, F487N needed to be truncated to 100s from desired 226.4s to fit within one orbit.

This will provide in each of filters F487N, F673N, F467M, F680N, F555W, and F775W a sub-pixel sampled dither set for allowing detailed PSF fit analysis to establish limits on faint companions in these  $S/N > 1000$  images. The fifth exposure at a much longer exposure time provides the ability to reach to at least a delta magnitude of 9 outside of an arcsec. The analysis goal will be to establish for each filter a delta-magnitude versus distance companion that could be detected at 2-sigma.

IR:

We are observing HD-165459 a bright A type dwarf ( $V=6.86\text{mag}$ ) in a single IR narrow band filter (F128N). The observing strategy and the filter choice were made keeping two limitations of the IR detector in mind, namely the lack of a shutter and the problem of persistence.

We are primarily interested in exploring the capability of the WFC3/IR detector for detecting companions at greater than 0.5 arcsec from the star. Keeping this in mind we plan to saturate the inner half arcsecond of the psf, increasing the brightness in the wings. We chose a narrow band filter because the exposure time ( $\sim 10\text{s}$ ) needed to saturate the inner half is greater than the  $\sim 2.5\text{s}$  reset time of the IR detector compared to medium band filters with saturation times of  $\sim 2\text{s}$ . This ensures that the persistence caused by the continued exposure of the detector due to lack of a shutter will not blur out the region of interest. We are dithering the observations with very small steps of 0.5 pix to improve the spatial sampling of the psf while concurrently keeping the psf as stable as possible throughout the orbit. We include 2 rolls per orbit and also limit the total roll angle to less than 10 deg to permit flexible scheduling.

### **CALIBRATION JUSTIFICATION**

Establishes WFC3 UVIS and IR capabilities for high resolution imaging to detect faint, nearby companions.

Proposal 12354 (STScI Edit Number: 4, Created: Wednesday, October 13, 2010 8:19:07 PM EST) - Overview

<b>Visit</b>	<b>Proposal 12354, Visit 01, scheduling</b> <span style="float: right;">Thu Oct 14 01:19:07 GMT 2010</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/UVIS Special Requirements: BEFORE 30-NOV-2010:00:00:00 <i>Comments: One orbit of dithered 1Kx1K exposures in 6 filters to high S/N.</i>					
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>	
(1)		Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1), (3), (5), (7), (9), (11)	
<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)	P041C	RA: 14 51 58.1900 (222.9924583d) Dec: +71 43 17.30 (71.72147d) Equinox: J2000		V=12.00+/-0.01 B-V = 0.61	Reference Frame: ICRS

Proposal 12354 (STScI Edit Number: 4, Created: Wednesday, October 13, 2010 8:19:07 PM EST) - Overview

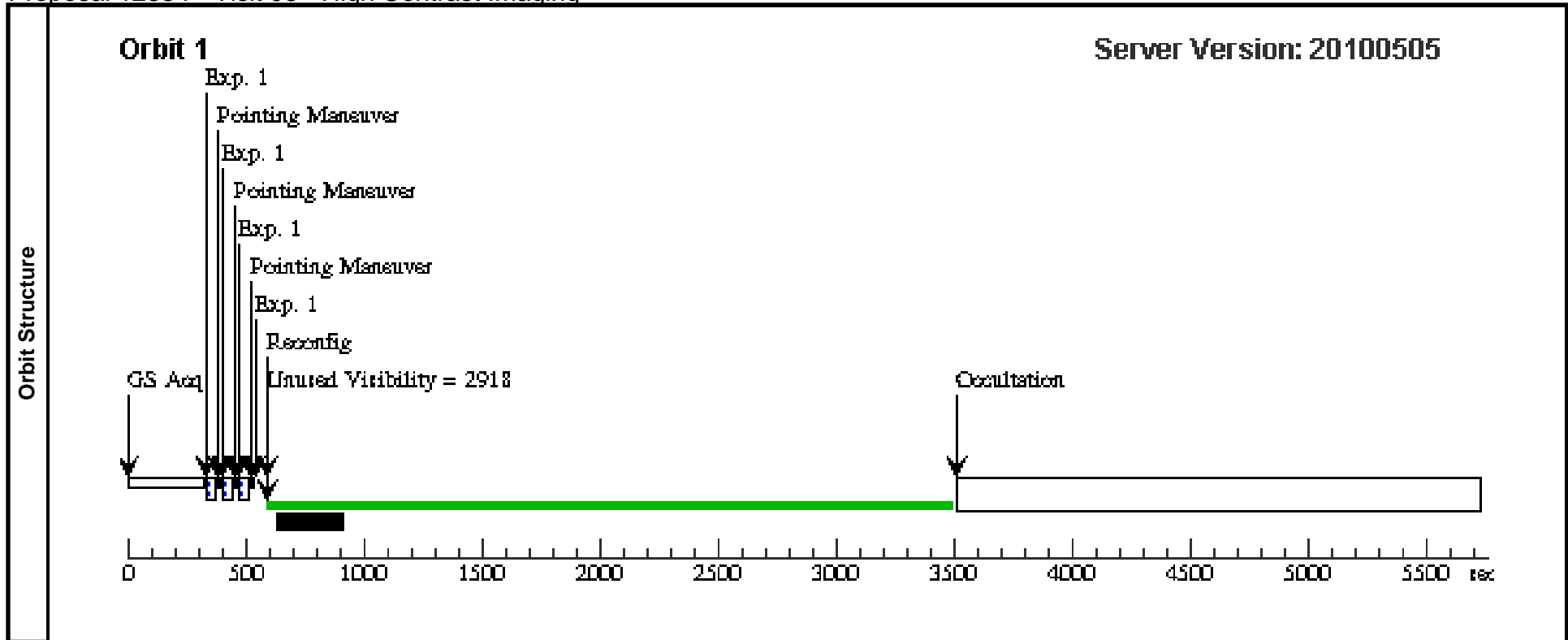
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures	1	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F775W	CR-SPLIT=NO		Pattern 1, Exps 1-1 (1)	1.8 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	2	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F775W				14.4 Secs [=>]	[1]
	3	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F555W			Pattern 1, Exps 3-3 (1)	0.9 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	4	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F555W				7.2 Secs [=>]	[1]
	5	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F680N			Pattern 1, Exps 5-5 (1)	4.5 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	6	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F680N				36.0 Secs [=>]	[1]
	7	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F487N			Pattern 1, Exps 7-7 (1)	28.3 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	8	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F487N				100.0 Secs [=>]	[1]
	9	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F467M			Pattern 1, Exps 9-9 (1)	7.3 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	10	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F467M				58.4 Secs [=>]	[1]
	11	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F673N			Pattern 1, Exps 11-11 (1)	14.1 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	12	(1) P041C	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F673N				112.8 Secs [=>]	[1]



Proposal 12354 - Visit 01 - High Contrast Imaging

Thu Oct 14 01:19:09 GMT 2010

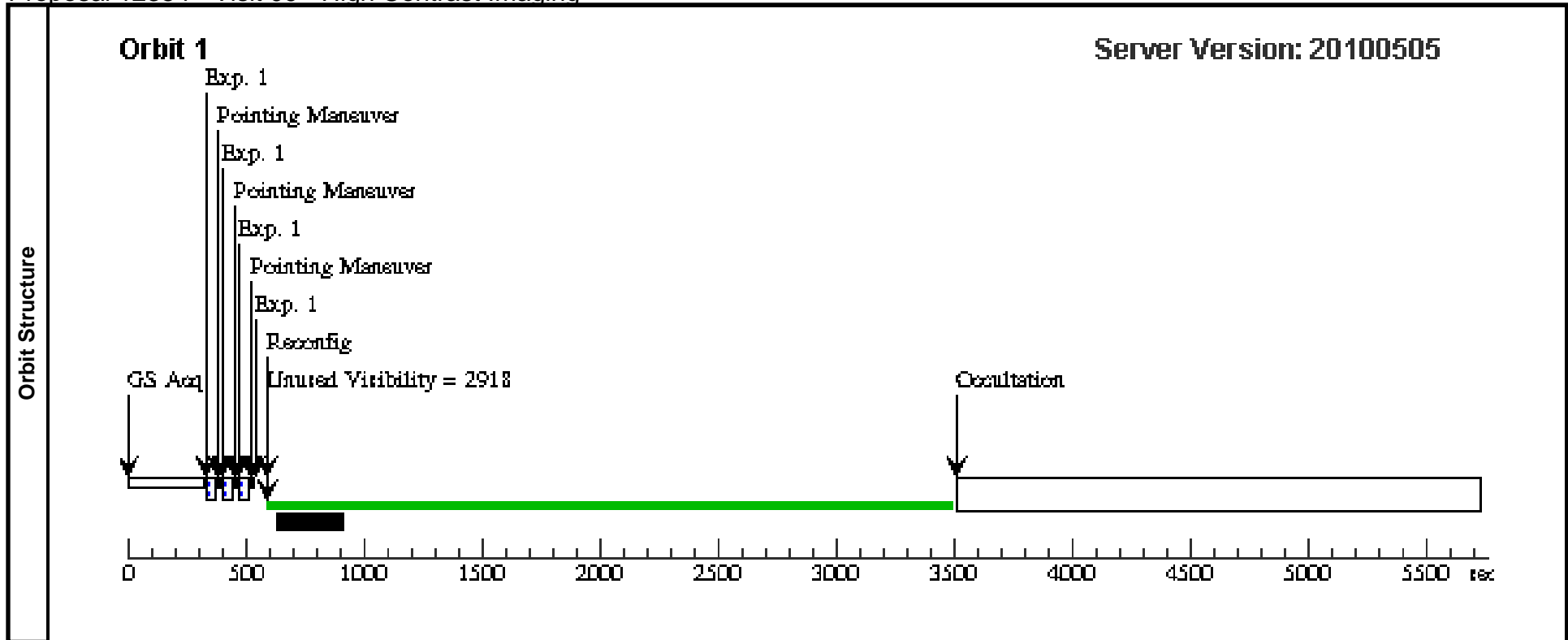
<b>Visit</b>	<b>Proposal 12354, Visit 08, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: BEFORE 30-NOV-2010:00:00:00; SEQ 08,09,10,18,19,20,28,29,30 WITHIN 3.2 Orbits Comments: First IR orbit of the star HD-165459. Visits 9, 10 are part of the first orbit. The 5 deg per roll is based on the scheduling restrictions.									
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)					
<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)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]





Proposal 12354 - Visit 08 - High Contrast Imaging

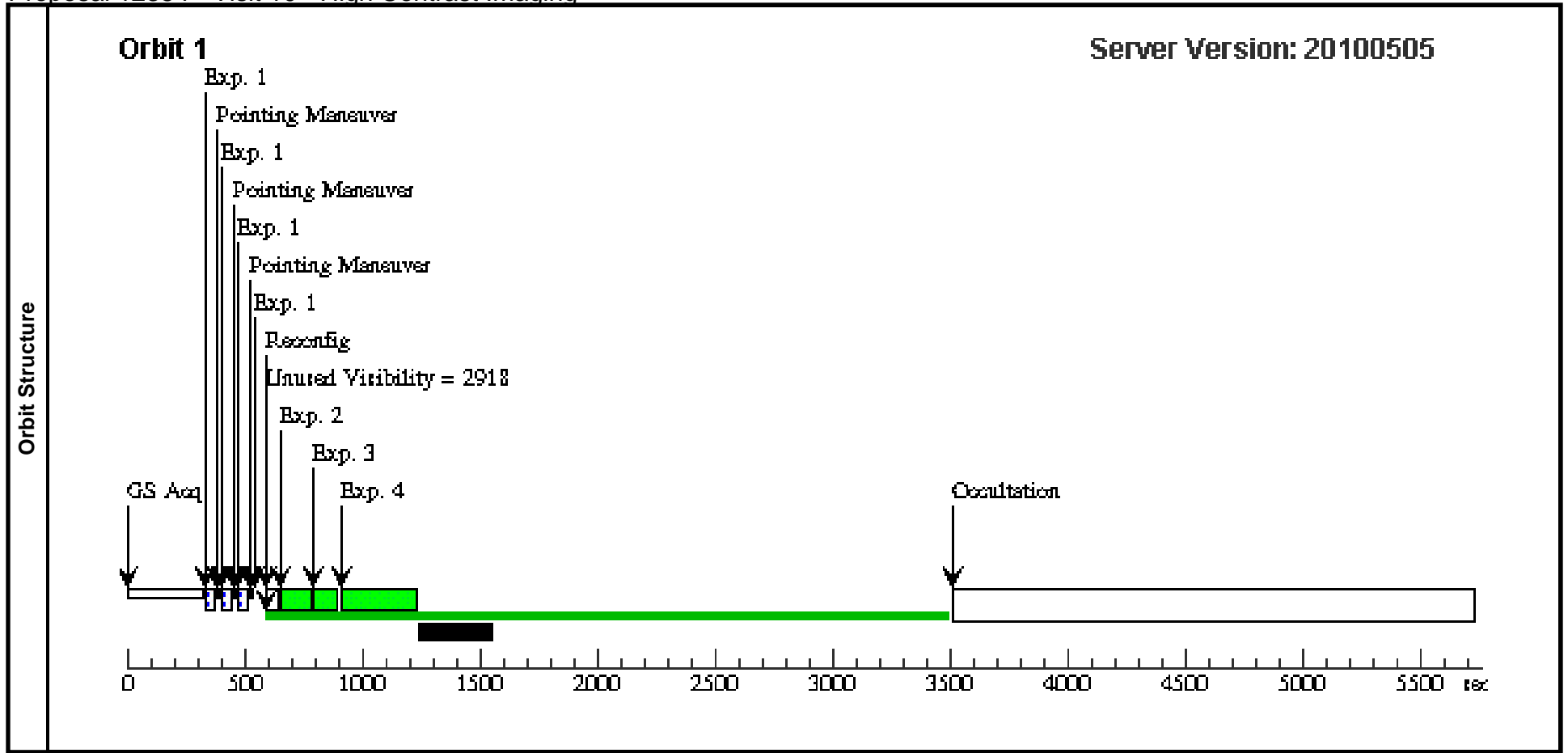
Visit	<b>Proposal 12354, Visit 09, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT -5D TO -4.85D FROM 08: BEFORE 30-NOV-2010:00:00:00						Thu Oct 14 01:19:09 GMT 2010			
Patterns	#	<b>Primary Pattern</b>		<b>Secondary Pattern</b>		<b>Exposures</b>				
Fixed Targets	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
Exposures	#	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060		Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)				
	(2)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
	1	(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 12354 - Visit 09 - High Contrast Imaging

Thu Oct 14 01:19:10 GMT 2010

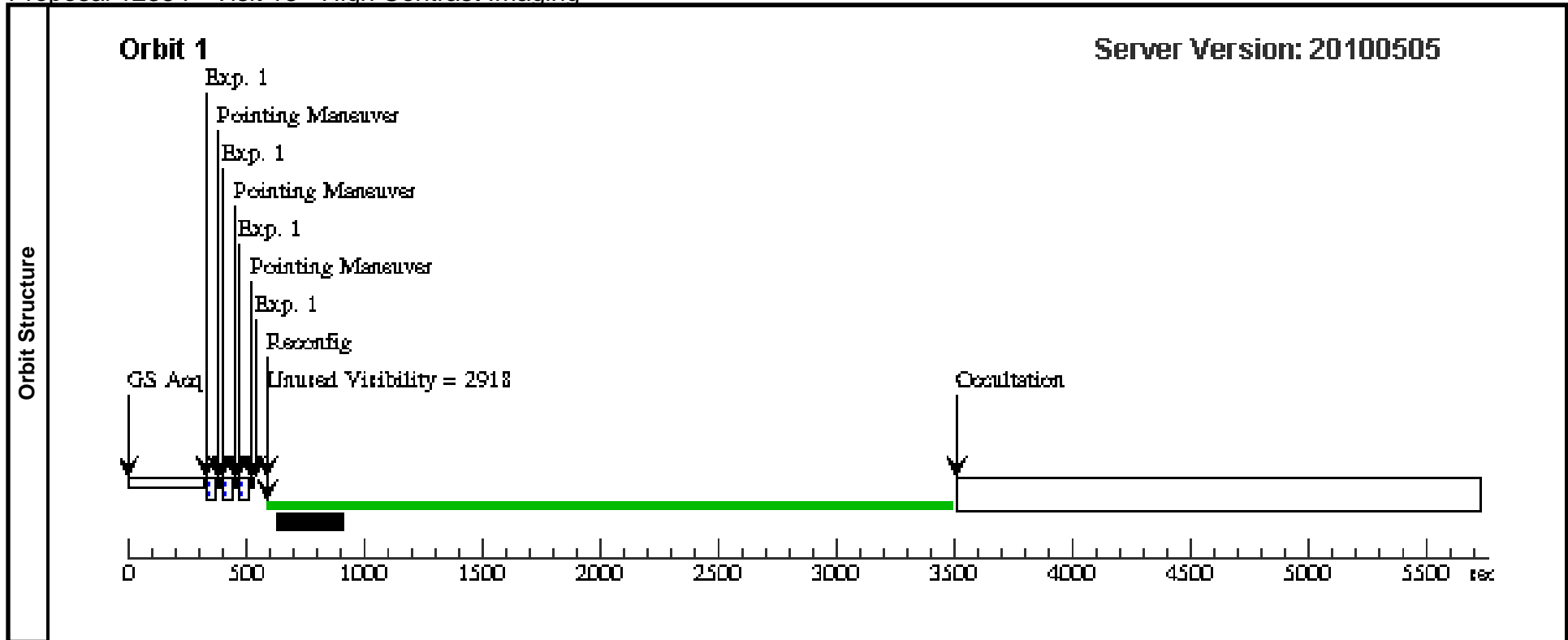
<b>Visit</b>	<b>Proposal 12354, Visit 10, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT 4.85D TO 5D FROM 08: BEFORE 30-NOV-2010:00:00:00									
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)					
<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)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	DARK		WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	3	DARK		WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	4	DARK		WFC3/IR, MULTIACCUM, IRSUB256	BLANK	NSAMP=15; SAMP-SEQ=SPAR S25			[==>]	[1]



Proposal 12354 - Visit 10 - High Contrast Imaging

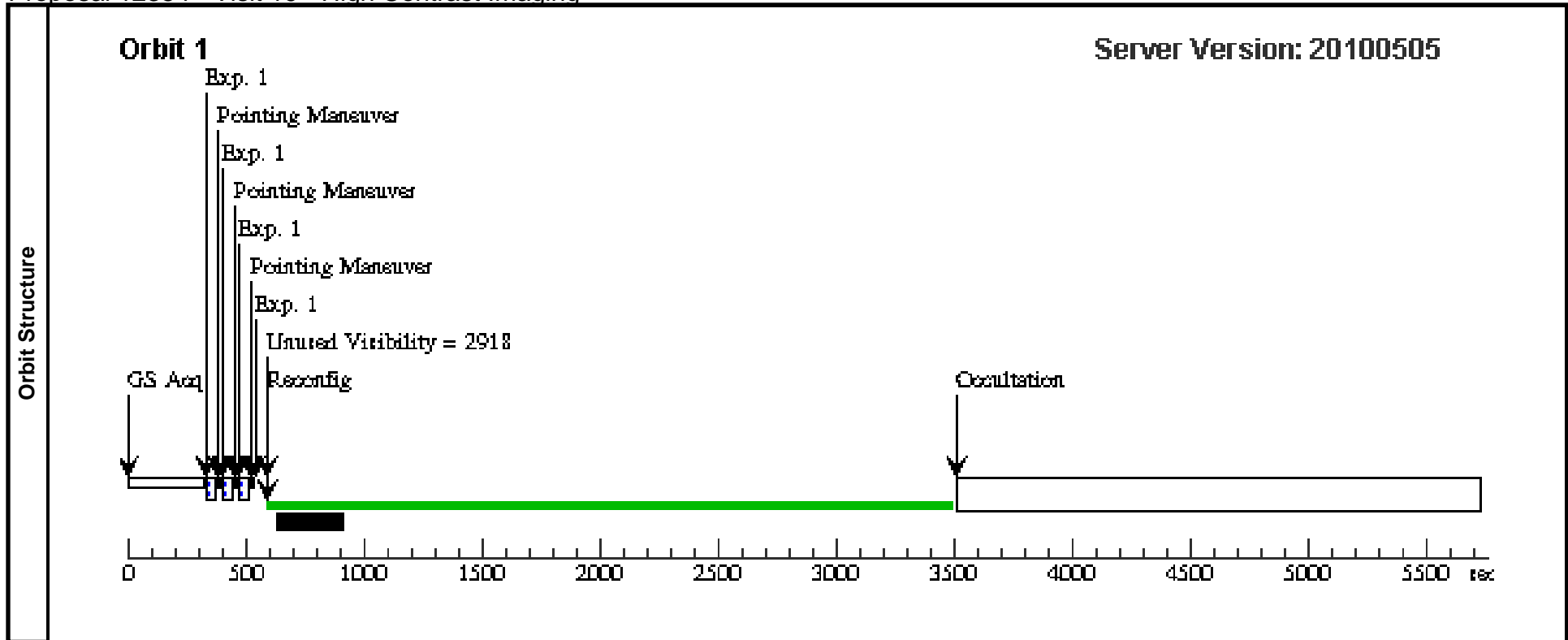
Thu Oct 14 01:19:10 GMT 2010

<b>Visit</b>	<b>Proposal 12354, Visit 18, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: BEFORE 30-NOV-2010:00:00:00 Comments: <i>Second IR orbit starts with this visit. Followed by Visits 19-20.</i>									
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)					
<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)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
Comments: <i>This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	(2) HD-165459		WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12354 - Visit 18 - High Contrast Imaging

Visit	<b>Proposal 12354, Visit 19, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT -5D TO -4.85D FROM 18: BEFORE 30-NOV-2010:00:00:00						Thu Oct 14 01:19:10 GMT 2010			
Patterns	#	<b>Primary Pattern</b>		<b>Secondary Pattern</b>		<b>Exposures</b>				
Fixed Targets	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
Exposures	#	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060		Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)				
	(2)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
	1	(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]

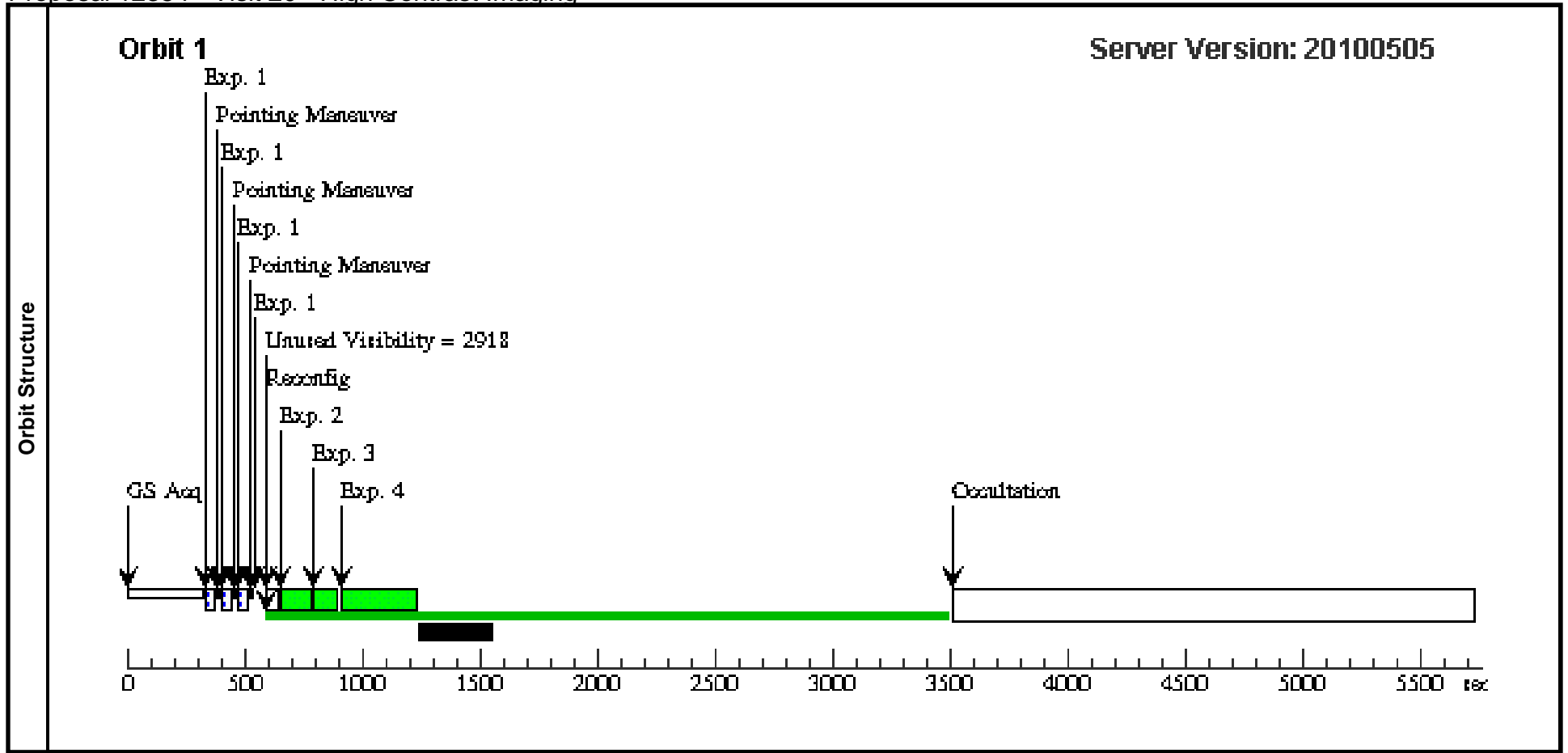




Proposal 12354 - Visit 19 - High Contrast Imaging

Thu Oct 14 01:19:11 GMT 2010

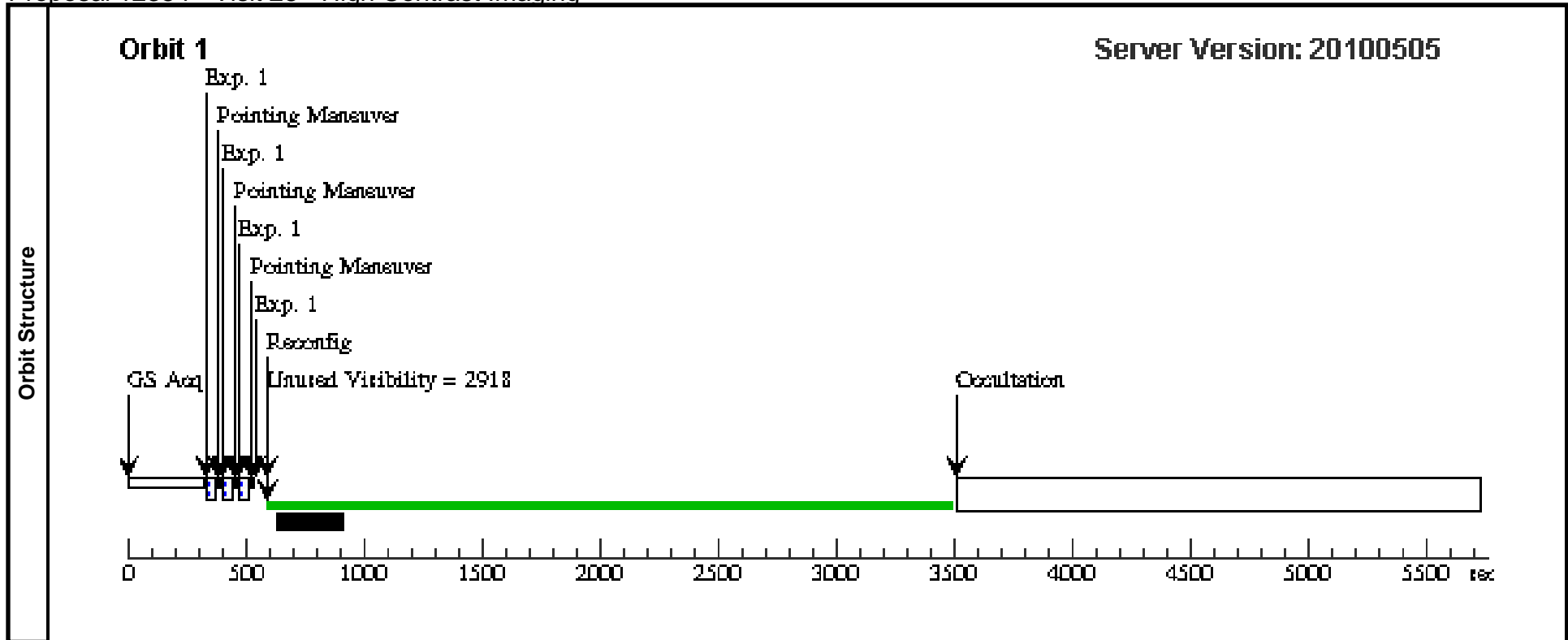
<b>Visit</b>	<b>Proposal 12354, Visit 20, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT 4.85D TO 5D FROM 18: BEFORE 30-NOV-2010:00:00:00									
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)					
<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)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1		(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	DARK		WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	3	DARK		WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	4	DARK		WFC3/IR, MULTIACCUM, IRSUB256	BLANK	NSAMP=15; SAMP-SEQ=SPAR S25			[==>]	[1]



Proposal 12354 - Visit 20 - High Contrast Imaging

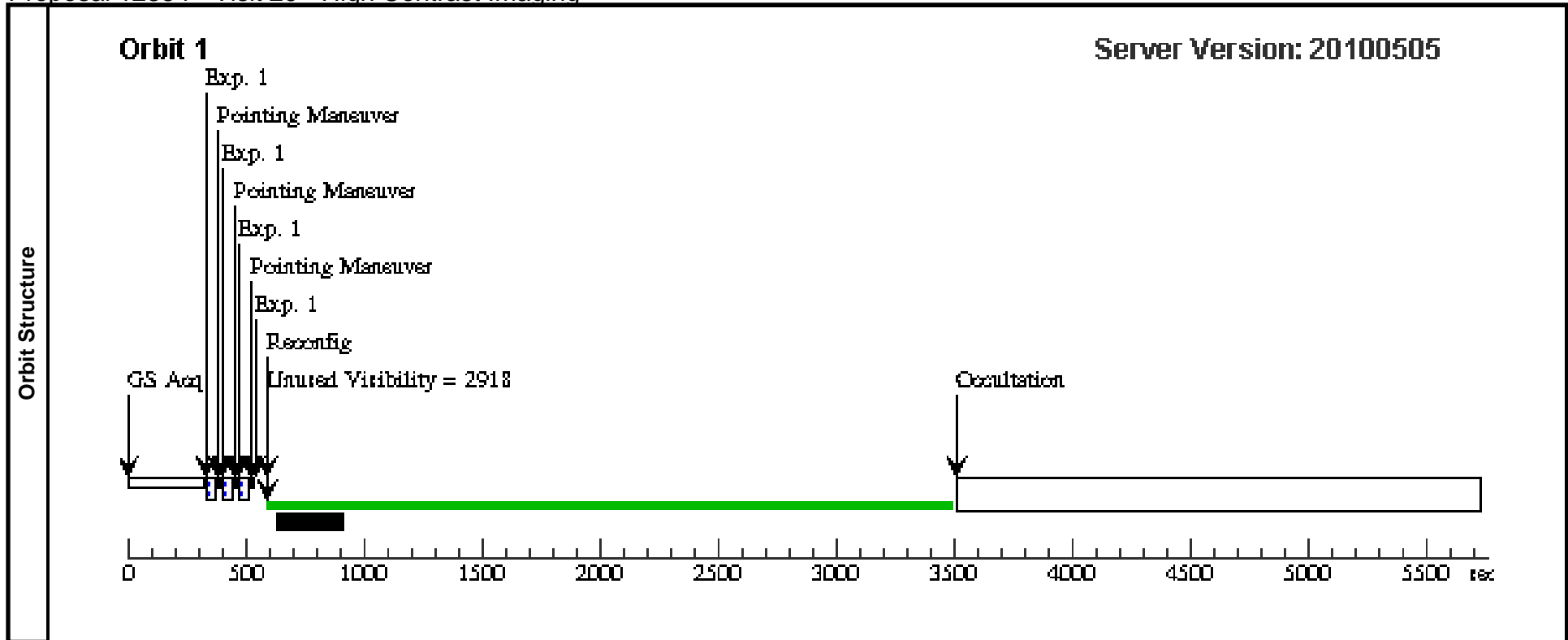
Thu Oct 14 01:19:11 GMT 2010

<b>Visit</b>	<b>Proposal 12354, Visit 28, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: BEFORE 30-NOV-2010:00:00:00 <i>Comments: Third IR orbit starts with this visit. Followed by Visits 29-30.</i>									
	<b>Patterns</b>	# (2)	<b>Primary Pattern</b> Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	<b>Secondary Pattern</b> Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false	<b>Exposures</b> (1)					
<b>Fixed Targets</b>	# (2)	<b>Name</b> HD-165459	<b>Target Coordinates</b> RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b> V=6.864	<b>Miscellaneous</b> Reference Frame: ICRS  <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>				
<b>Exposures</b>	# 1	<b>Label</b> (2) HD-165459	<b>Target</b>	<b>Config,Mode,Aperture</b> WFC3/IR, MULTIACCUM, IRSUB512	<b>Spectral Els.</b> F128N	<b>Opt. Params.</b> NSAMP=12; SAMP-SEQ=RAPID	<b>Special Reqs.</b> POS TARG 2.6,2.6	<b>Groups</b> Pattern 2, Exps 1-1 (2)	<b>Exp. Time/[Actual Dur.]</b> [= =>(Pattern 1)] [= =>(Pattern 2)] [= =>(Pattern 3)] [= =>(Pattern 4)]	<b>Orbit</b> [1]



Proposal 12354 - Visit 28 - High Contrast Imaging

Visit	<b>Proposal 12354, Visit 29, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT -5D TO -4.85D FROM 28; BEFORE 30-NOV-2010:00:00:00						Thu Oct 14 01:19:11 GMT 2010			
Patterns	#	<b>Primary Pattern</b>		<b>Secondary Pattern</b>		<b>Exposures</b>				
Fixed Targets	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
Exposures	#	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060		Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)				
	(2)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
	1	(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 12354 - Visit 29 - High Contrast Imaging

Thu Oct 14 01:19:12 GMT 2010

Visit	<b>Proposal 12354, Visit 30, scheduling</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT 4.85D TO 5D FROM 28: BEFORE 30-NOV-2010:00:00:00									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.0675 Line Spacing=0.060	Coordinate Frame=POS-TARG Pattern Orientation=0.0 Angle Between Sides=90.0 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	HD-165459	RA: 18 02 30.7413 (270.6280888d) Dec: +58 37 38.15 (58.62726d) Equinox: J2000		V=6.864	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) HD-165459	WFC3/IR, MULTIACCUM, IRSUB512	F128N	NSAMP=12; SAMP-SEQ=RAPID	POS TARG 2.6,2.6	Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2		DARK	WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	3		DARK	WFC3/IR, MULTIACCUM, IRSUB128	BLANK	NSAMP=15; SAMP-SEQ=SPAR S10			[==>]	[1]
	4		DARK	WFC3/IR, MULTIACCUM, IRSUB256	BLANK	NSAMP=15; SAMP-SEQ=SPAR S25			[==>]	[1]

