



12326 - Hubble Heritage 2.0

Cycle: 18, Proposal Category: GO/DD

(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) SNR-B0509-67.5	WFC3/UVIS	1	23-Dec-2010 21:02:02.0	yes
11	(2) HUBBLE-VARIABLE-1	ACS/WFC WFC3/IR WFC3/UVIS	1	23-Dec-2010 21:02:16.0	yes
12	(2) HUBBLE-VARIABLE-1	ACS/WFC WFC3/IR WFC3/UVIS	1	23-Dec-2010 21:02:26.0	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>
13	(2) HUBBLE-VARIABLE-1	ACS/WFC WFC3/IR WFC3/UVIS	1	23-Dec-2010 21:02:34.0	yes
14	(2) HUBBLE-VARIABLE-1	ACS/WFC WFC3/IR WFC3/UVIS	1	23-Dec-2010 21:02:42.0	yes
21	(3) UGC-1810	WFC3/UVIS	4	23-Dec-2010 21:02:58.0	yes
22	(3) UGC-1810	WFC3/UVIS	4	23-Dec-2010 21:03:13.0	yes
31	(4) HH110	WFC3/UVIS	1	23-Dec-2010 21:03:23.0	yes
32	(4) HH110	WFC3/IR	1	23-Dec-2010 21:03:28.0	yes
41	(5) S106	WFC3/UVIS	2	23-Dec-2010 21:03:36.0	yes
43	(5) S106	WFC3/IR	1	23-Dec-2010 21:03:42.0	yes

18 Total Orbits Used

ABSTRACT

High quality images from Hubble have been the sine qua non in sustaining public support for the mission and astronomy in general. The Hubble Heritage project has been a key source of this imagery through a combination of archival and new images obtained over a decade. The success of Hubble's outreach efforts have spawned many imitators and it is essential for Hubble to invest a small fraction of time in maintaining our leadership in this area. With this proposal we seek to continue and refresh the Hubble Heritage project. We have focused on compelling targets that show off the capabilities of our reinvigorated observatory with an eye to new methods of image display and dissemination that will keep Hubble an iconic element of our culture.

OBSERVING DESCRIPTION

Arp 273 emerged as our top candidate interacting galaxy pair after a search of the Arp catalog (Fig. 1) and we consider it to be of sufficient quality to serve as a potential 21st anniversary release image. The aesthetic appeal of this galaxy pair arises from the dynamic interaction of delicately detailed spiral arms. We propose to observe this target with a single WFC3 pointing in three filters for a total of 8 orbits (2 orbits per dither position). We will

take advantage of the blue sensitivity of WFC3 to use a minimal filter set that highlights the blue star-forming regions in the near-UV and captures redshifted H emission in the “red” broadband filter (obviating the need for a separate H exposure). We will observe with WFC3 UVIS and use the F390W, F475X, and F600LP filters. Each of the filters will be exposed over a four point dither pattern to remove fixed-pattern artifacts and to cover the chip gap.

Supernova remnant SNR 0509 has archival data (Fig. 2) that show it to be a magnificent and stunning example of an unusually symmetrical supernova shell. There is nothing comparable to this object in the current inventory of Hubble imagery. The field of view in figure 2 is approximately one quadrant of the ACS. We will supplement this archival data with relatively short broad-band (F438W, F606W, and F814W) exposures with ACS to obtain star colors. We will use a 1-detector subarray to avoid serial buffer dumps. The existing H data will be layered in as a luminance layer (i.e. black and white). The result will be a striking combination of a colorful starfield with a mostly desaturated luminous shell (some color will be imparted from the broad band filters). HST data can be supplemented, as needed, with existing Chandra images of this SNR.

The Herbig Haro jet, HH 110, is a morphologically complex structure with turbulent eddies that form an evocative image (Fig. 3). We propose to supplement two epochs of archival H data with visible and IR broad band imaging to bring out stellar colors and penetrate ambient dust. We propose two orbits to obtain F438W, F814W, F110W, and F160W. Both of the IR filters include emission from H and Fe. All observations will be fully dithered to cover the chip gap. The two existing epochs from 02/2004 (4920 s total integration) and 11/2005 (2176 s) show small but detectable changes in the jet, allowing for an additional educational component to an image release. Jet motion introduces a possible complication for new imaging. However, by layering the archival data as a luminance layer and controlling the relative levels of the new and archival data we can avoid unnatural artifacts.

Hubble’s Variable 1 is arguably one of the most important stars in the history of modern astronomy. In the well-known plate of M31 annotated by Edwin Hubble, what he originally identified as a nova has the identifying letter N crossed out and replaced with VAR! The discovery of a 21st magnitude Cepheid placed the “Great Andromeda Nebula” at a then unprecedentedly remote distance. Surprisingly, this keystone object has sunk into relative obscurity and has never been observed by the telescope named for its discoverer. We propose to remedy that oversight with a 4-orbit observation to capture the star and its neighboring galactic field in deep broadband UVIS (2 orbits, F475X and F600LP) and IR (1 orbit, F110W) imaging. We will observe a second visit in F600LP at a different phase of the Cepheid lightcurve to be able to show variability. While the image will be of a non-descript star in a relatively ordinary starfield, we believe that the historical significance of this object and the fascinating stories attached to it (e.g. a copy of the plate was flown on the SM4 mission) justify this effort. For this target we will partner with David Soderblom, who proposed this idea, and several other colleagues. We have also contacted the Mt. Wilson 100-inch to inquire about a possible collaboration that would include

new imaging from this historic telescope and access to other historic artifacts (although availability of instrumentation may limit their participation).

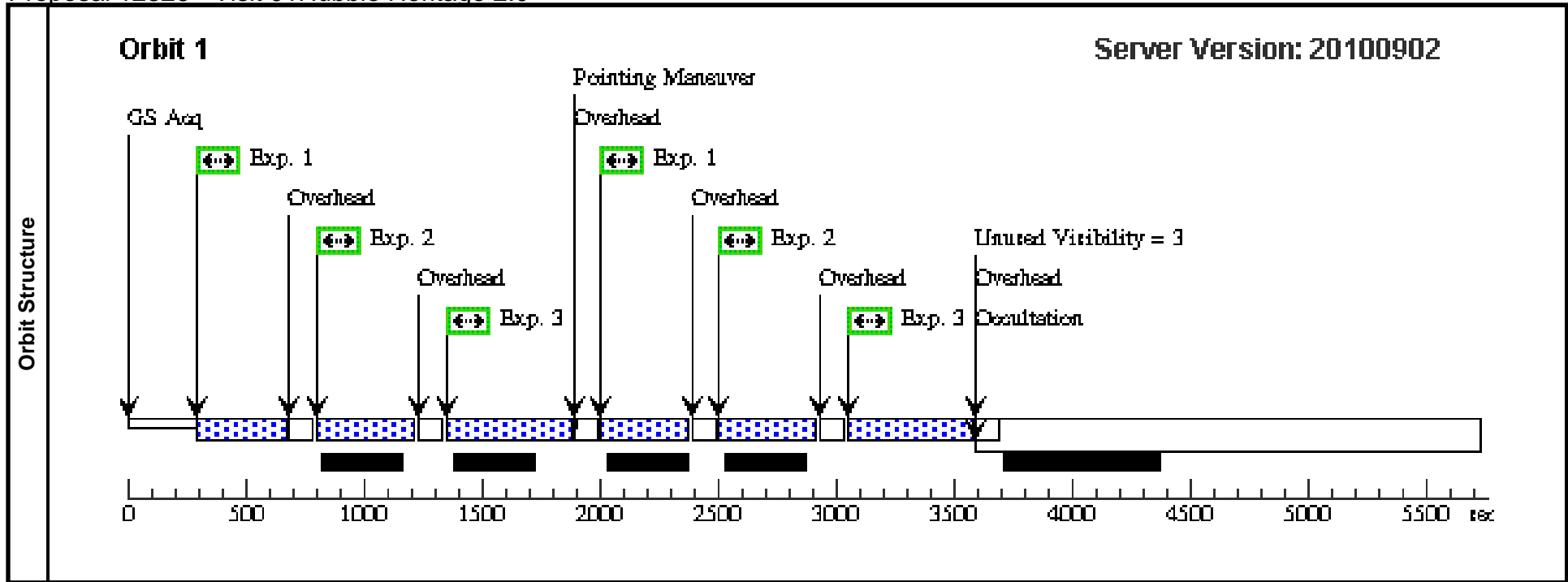
S106 is a well-known nearby HII region with a bipolar architecture. Bally and colleagues obtained H imagery of this region with WFPC2. We are proposing to obtain data in two additional emission lines, O [III] and Paschen to allow rendering this target in color. We will also obtain additional H data to allow for alignment with archival data. Because the lobes have different extinction, the addition of the longer wavelength hydrogen line will allow for a dramatic color visualization of the dust penetrating ability at infrared wavelengths on an extended source. Because the orientation of the target is known and also because of the detailed scalloping of the lobes, this target will be outstanding in 3D. A diagonal orientation fits both lobes into a single WFC3 UVIS frame. In the IR we will dither to cover the same area. Integration times can be estimated from existing data. We propose 2 orbits of UVIS observation and 1 orbit of IR for a total of 3 orbits for this target.

ADDITIONAL COMMENTS

We have run test visits through APT to confirm the schedulability of these observations. As always, we design our phase 2's to minimize the impact on the GO schedule. We do this by breaking long visits into shorter, more schedulable visits and by minimizing constraints. We will work with the PC to ensure we meet this goal.

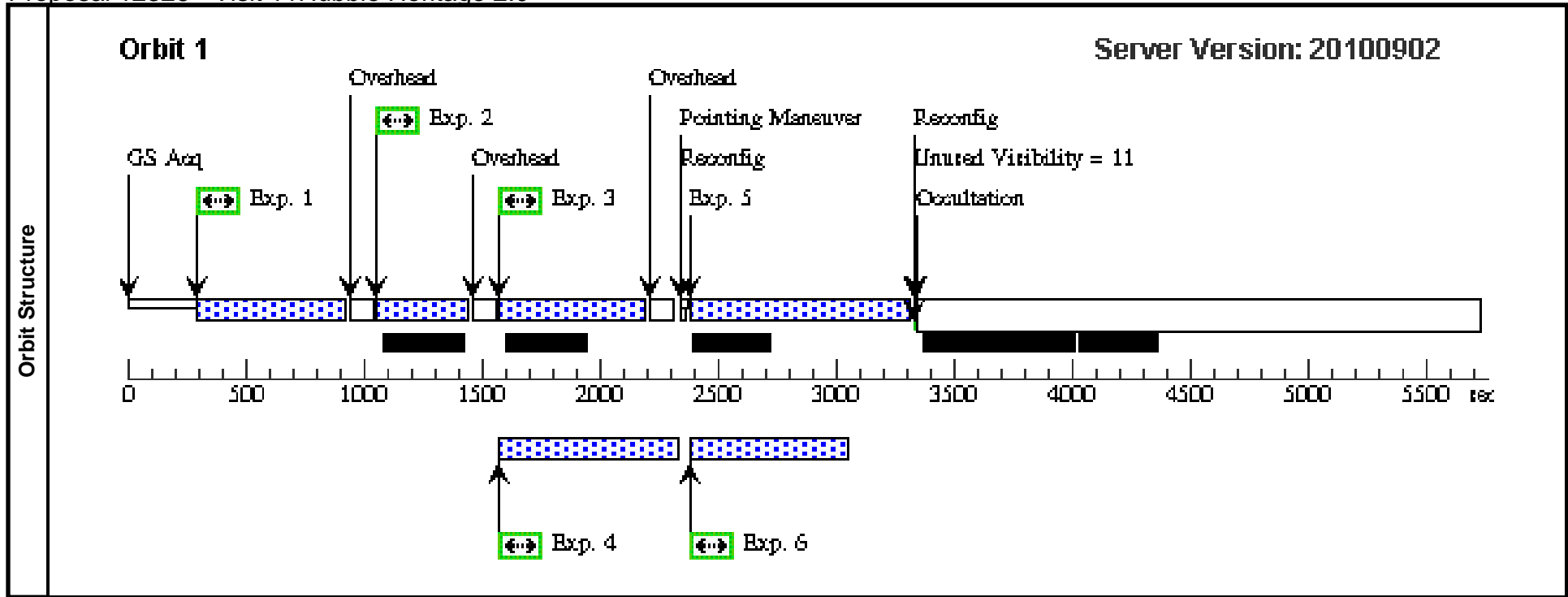
Proposal 12326 - Visit 01 Hubble Heritage 2.0

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	(1)	SNR-B0509-67.5	RA: 05 09 31.0000 (77.3791667d) Dec: -67 31 18.00 (-67.52167d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14+/-3	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		(1) SNR-B0509-67.5	WFC3/UVIS, ACCUM, UVIS2-FIX	F555W	CR-SPLIT=NO	POS TARG -20,0	Pattern 1, Exps 1-3 in Visit 01 (1)	348 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	
2		(1) SNR-B0509-67.5	WFC3/UVIS, ACCUM, UVIS2-FIX	F814W	CR-SPLIT=NO	POS TARG -20,0	Pattern 1, Exps 1-3 in Visit 01 (1)	400 Secs		
								[=>(Pattern 1)]	[1]	
								[=>(Pattern 2)]		
3		(1) SNR-B0509-67.5	WFC3/UVIS, ACCUM, UVIS2-FIX	F475W	CR-SPLIT=NO	POS TARG -20,0	Pattern 1, Exps 1-3 in Visit 01 (1)	505 Secs		
								[=>(Pattern 1)]	[1]	
								[=>(Pattern 2)]		



Proposal 12326 - Visit 11 Hubble Heritage 2.0

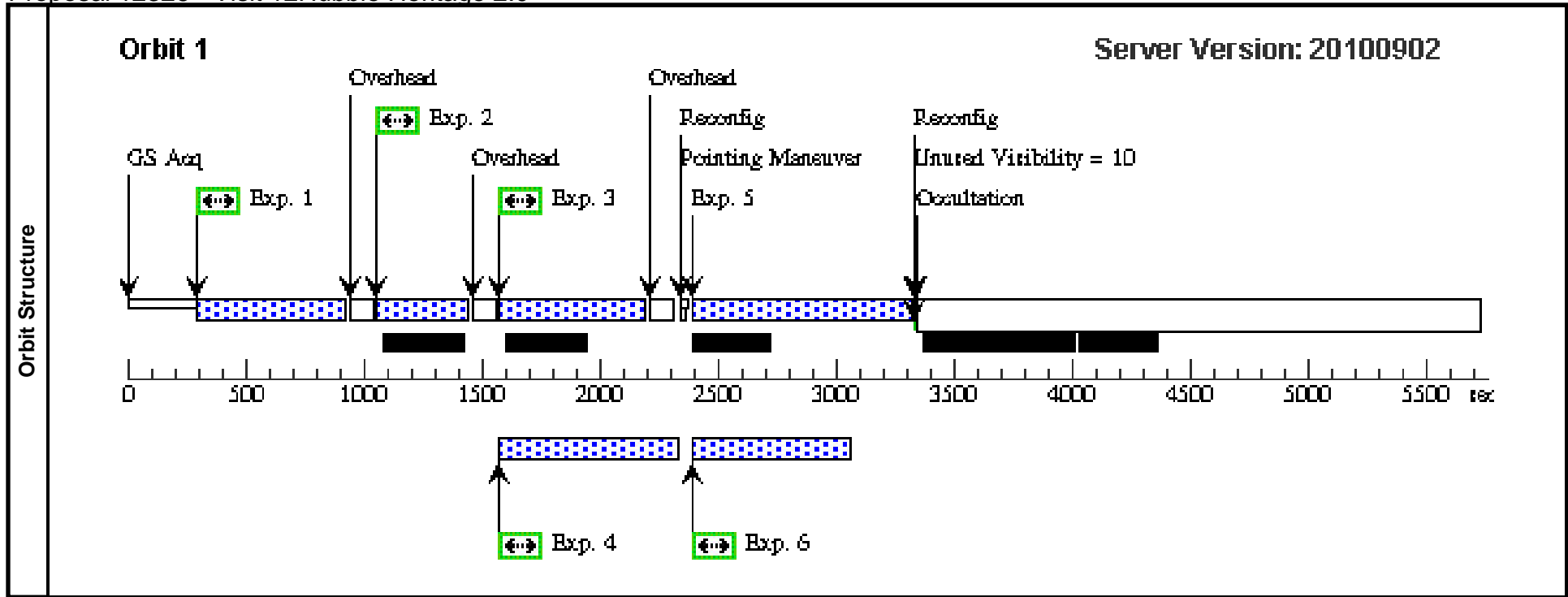
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Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		(2)	HUBBLE-VARIABLE-1	RA: 00 41 27.0000 (10.3625000d) Dec: +41 10 6.00 (41.16833d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=21.0+/-1.0	Reference Frame: ICRS				
		1	(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,-2; GS ACQ SCENARIO BASE1B3		Prime + Parallel Group 3-4 in Visit 11	600 Secs [==>]	[1]
		2	(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F475X	CR-SPLIT=NO	POS TARG -40,-2		Prime + Parallel Group 3-4 in Visit 11	370 Secs [==>]	[1]
		3	(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,-2		Prime + Parallel Group 3-4 in Visit 11	600 Secs [==>]	[1]
		4	(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W				Prime + Parallel Group 3-4 in Visit 11	550 Secs [==>]	[1]
		5	(2) HUBBLE-VARIABLE-1	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=15; SAMP-SEQ=STEP100	POS TARG -35,-25		Prime + Parallel Group 5-6 in Visit 11	[==>]	[1]
		6	(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W				Prime + Parallel Group 5-6 in Visit 11	550 Secs [==>]	[1]



Proposal 12326 - Visit 12Hubble Heritage 2.0

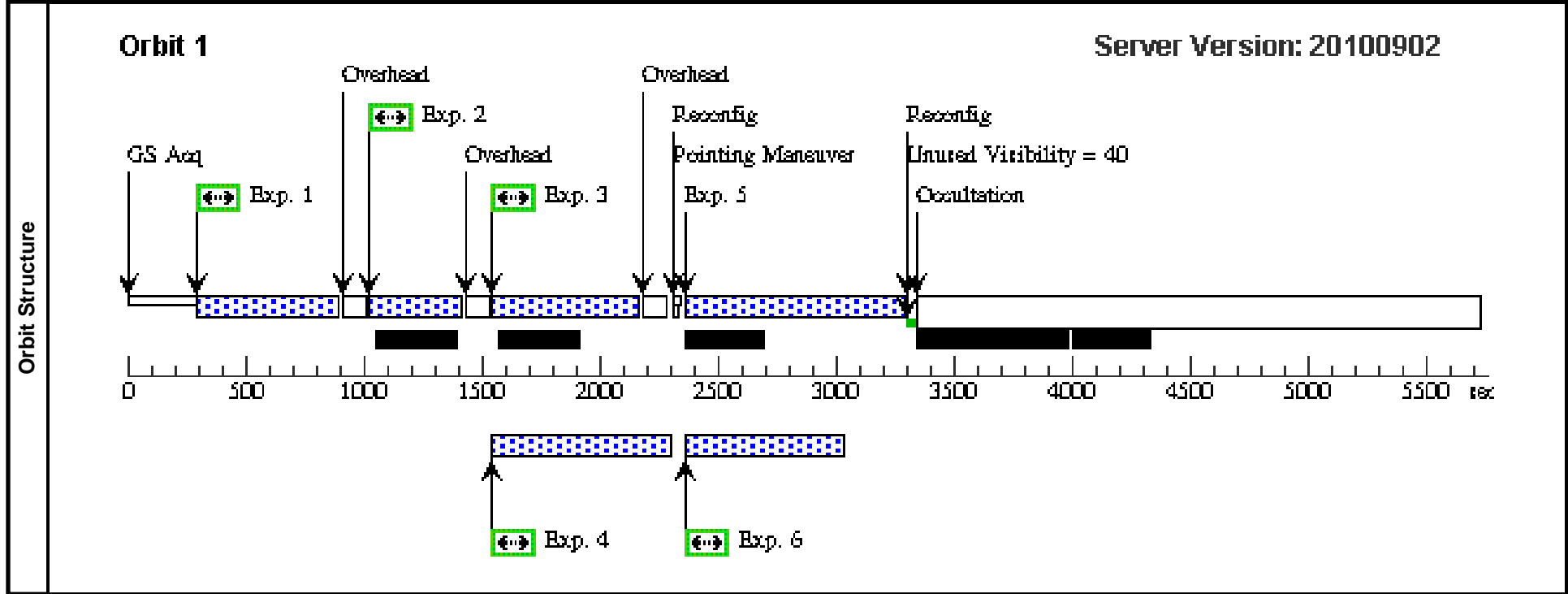
Fri Dec 24 02:03:51 GMT 2010

Visit	Proposal 12326, Visit 12, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 11; BETWEEN 29-DEC-2010:16:00:00 AND 30-DEC-2010:16:00:00									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	HUBBLE-VARIABLE-1	RA: 00 41 27.0000 (10.3625000d) Dec: +41 10 6.00 (41.16833d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=21.0+/-1.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,0; GS ACQ SCENARIO BASE1B3		600 Secs [==>]	[1]
	2		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F475X	CR-SPLIT=NO	POS TARG -40,0		370 Secs [==>]	[1]
	3		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,0	Prime + Parallel Group 3-4 in Visit 12	600 Secs [==>]	[1]
	4		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4 in Visit 12	550 Secs [==>]	[1]
	5		(2) HUBBLE-VARIABLE-1	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=15; SAMP-SEQ=STEP100	POS TARG -35,-20	Prime + Parallel Group 5-6 in Visit 12	[==>]	[1]
	6		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6 in Visit 12	550 Secs [==>]	[1]



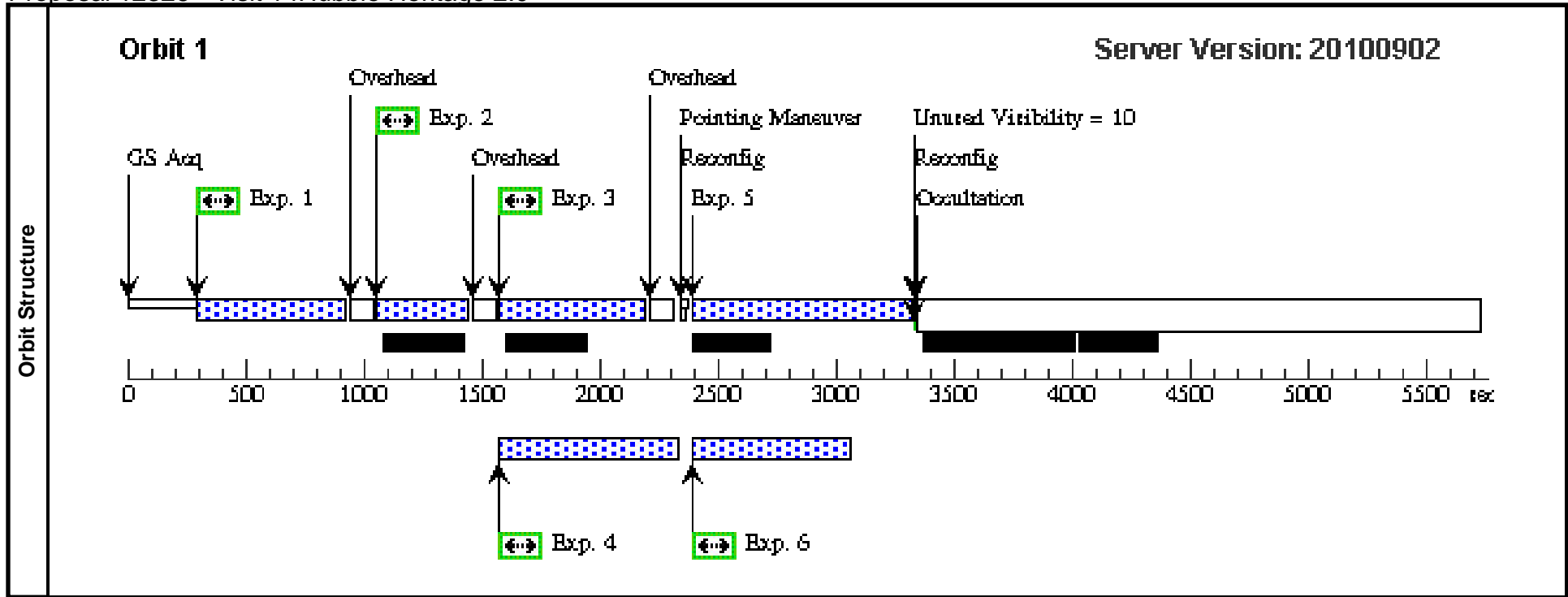
Proposal 12326 - Visit 13Hubble Heritage 2.0

Visit		Proposal 12326, Visit 13, implementation							Fri Dec 24 02:03:53 GMT 2010		
Fixed Targets		Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 11; BETWEEN 26-JAN-2011:00:00:00 AND 27-JAN-2011:00:00:00									
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous						
(2)	HUBBLE-VARIABLE-1	RA: 00 41 27.0000 (10.3625000d) Dec: +41 10 6.00 (41.16833d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=21.0+/-1.0	Reference Frame: ICRS						
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		1		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,2; GS ACQ SCENARIO BASE1B3		570 Secs [==>]	[1]
		2		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F475X	CR-SPLIT=NO	POS TARG -40,2		370 Secs [==>]	[1]
		3		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,2	Prime + Parallel Group 3-4 in Visit 13	600 Secs [==>]	[1]
		4		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4 in Visit 13	550 Secs [==>]	[1]
		5		(2) HUBBLE-VARIABLE-1	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=15; SAMP-SEQ=STEP100	POS TARG -35,-18	Prime + Parallel Group 5-6 in Visit 13	[==>]	[1]
		6		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6 in Visit 13	550 Secs [==>]	[1]



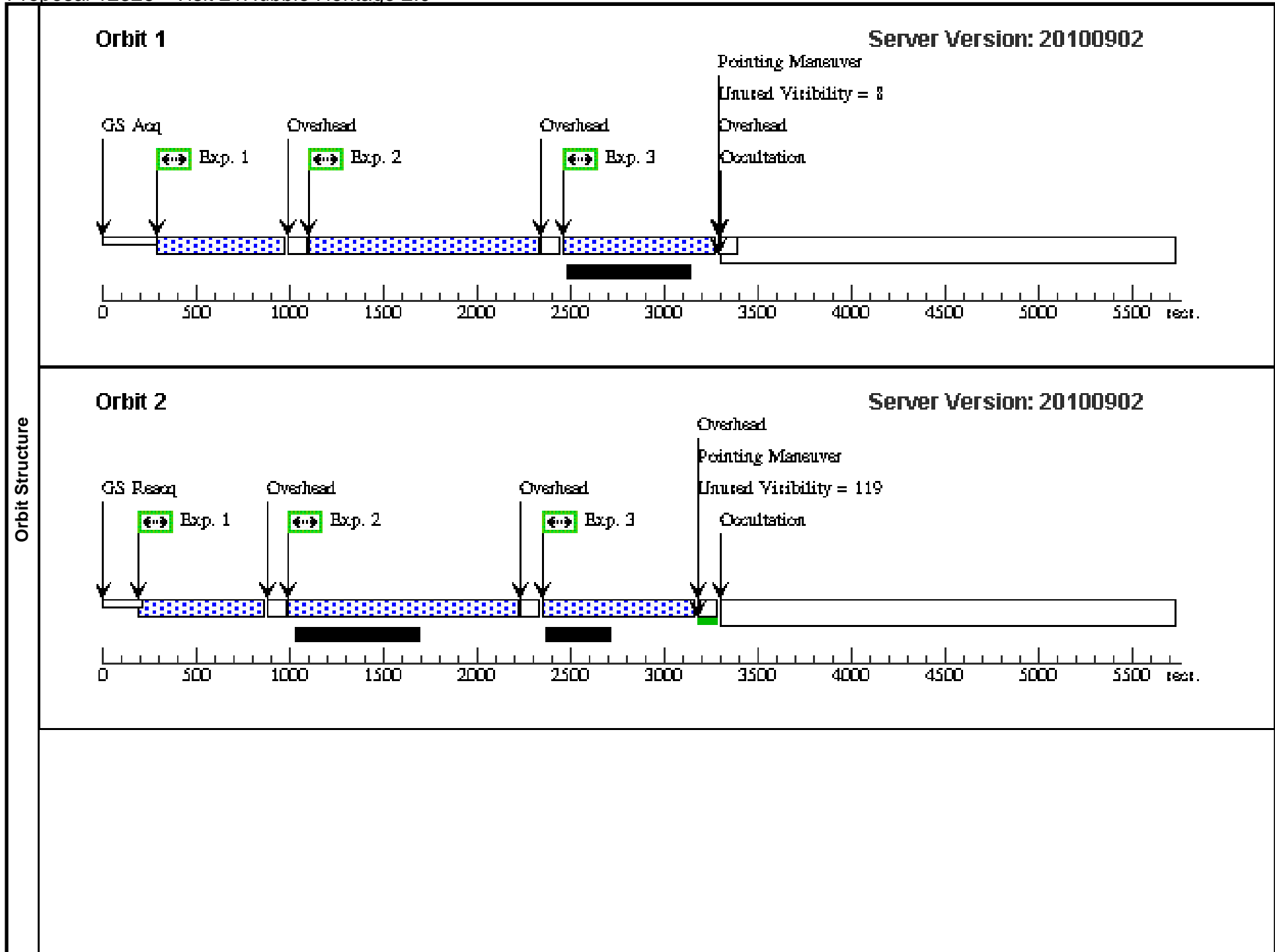
Proposal 12326 - Visit 14Hubble Heritage 2.0

Visit	Proposal 12326, Visit 14, completed Fri Dec 24 02:03:54 GMT 2010 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC, WFC3/UVIS Special Requirements: SAME ORIENT AS 11; BETWEEN 16-DEC-2010:13:00:00 AND 17-DEC-2010:13:00:00									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	HUBBLE-VARIABLE-1	RA: 00 41 27.0000 (10.3625000d) Dec: +41 10 6.00 (41.16833d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=21.0+/-1.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,4; GS ACQ SCENARIO BASE1B3		600 Secs [==>]	[1]
	2		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F475X	CR-SPLIT=NO	POS TARG -40,4		370 Secs [==>]	[1]
	3		(2) HUBBLE-VARIABLE-1	WFC3/UVIS, ACCUM, UVIS2-FIX	F600LP	CR-SPLIT=NO	POS TARG -40,4	Prime + Parallel Group 3-4 in Visit 14	600 Secs [==>]	[1]
	4		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 3-4 in Visit 14	550 Secs [==>]	[1]
	5		(2) HUBBLE-VARIABLE-1	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=15; SAMP-SEQ=STEP100	POS TARG -35,-15	Prime + Parallel Group 5-6 in Visit 14	[==>]	[1]
	6		(2) HUBBLE-VARIABLE-1	ACS/WFC, ACCUM, WFCENTER	F475W			Prime + Parallel Group 5-6 in Visit 14	550 Secs [==>]	[1]



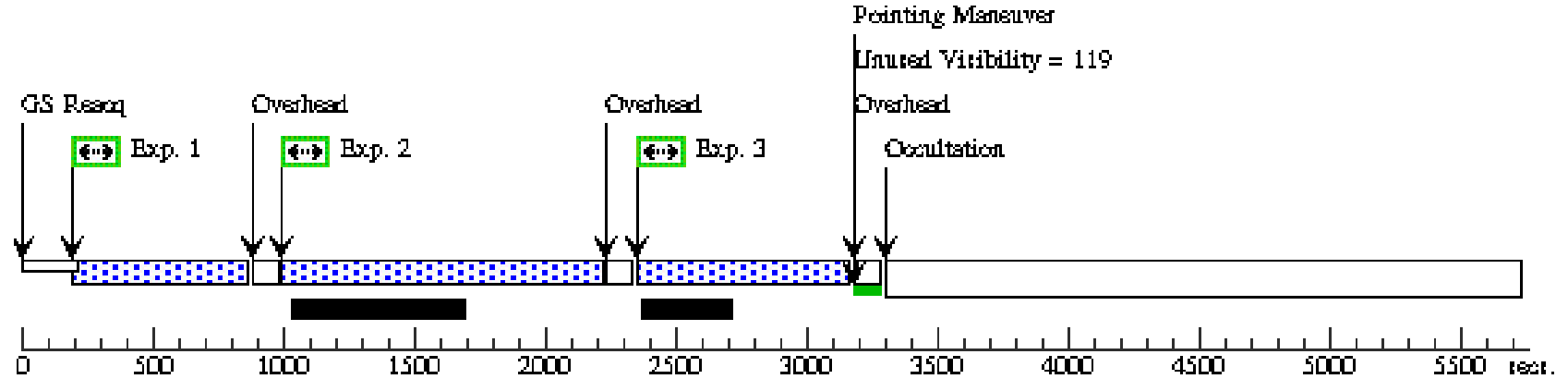
Proposal 12326 - Visit 21Hubble Heritage 2.0

Visit		Proposal 12326, Visit 21, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 90D TO 100 D					Fri Dec 24 02:03:54 GMT 2010			
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	UGC-1810	RA: 02 21 30.4696 (35.3769567d) Dec: +39 21 48.25 (39.36340d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=12.92+/-	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		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F600LP	CR-SPLIT=NO	POS TARG 0,-5	Pattern 6, Exps 1-3 in Visit 21 (6)	650 Secs	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
									[==>(Pattern 4)]	[4]
	2		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 0,-5	Pattern 6, Exps 1-3 in Visit 21 (6)	1200 Secs	
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									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
								[==>(Pattern 4)]	[4]	
3		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F475X	CR-SPLIT=NO	POS TARG 0,-5	Pattern 6, Exps 1-3 in Visit 21 (6)	800 Secs		
								[==>(Pattern 1)]	[1]	
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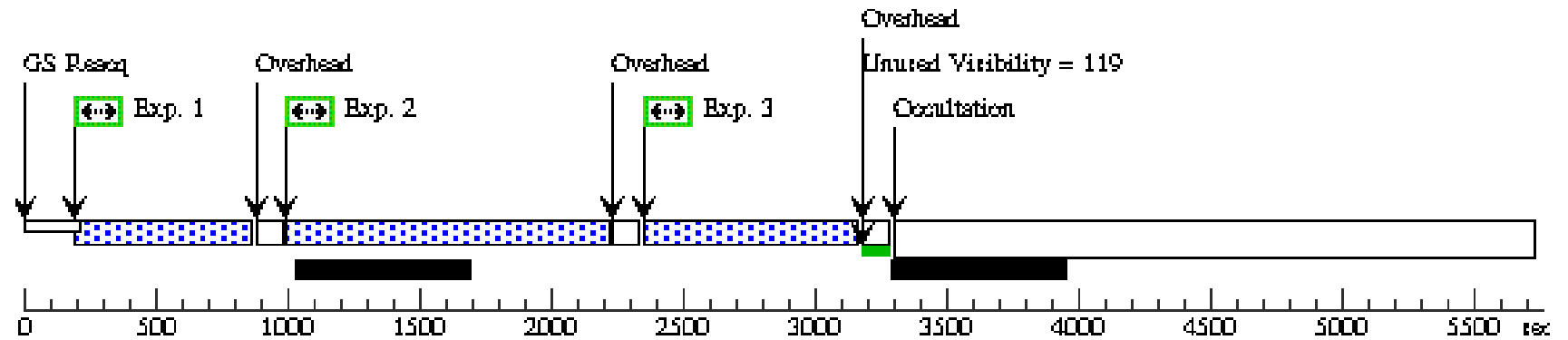
Orbit 3

Server Version: 20100902



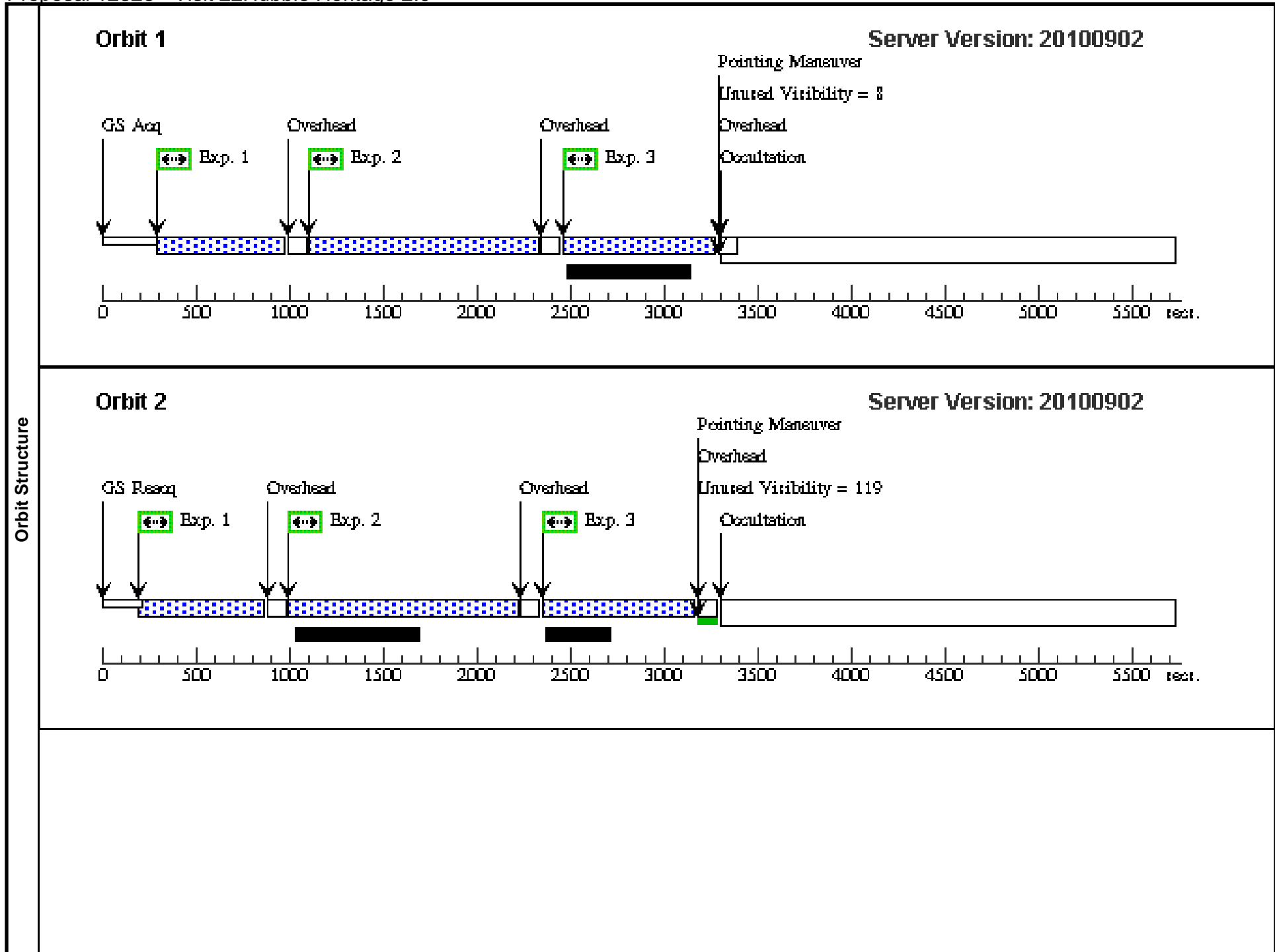
Orbit 4

Server Version: 20100902



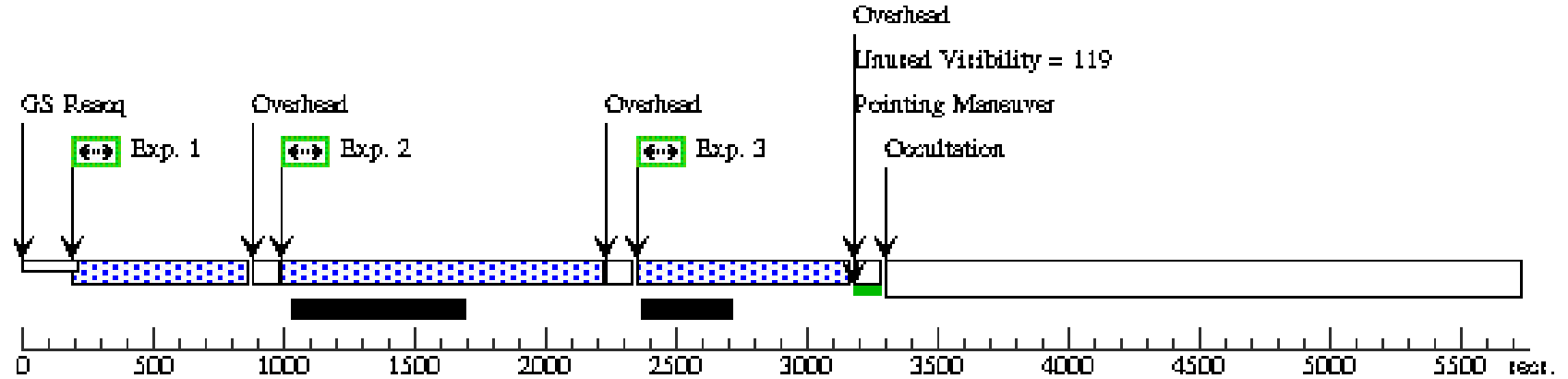
Proposal 12326 - Visit 22Hubble Heritage 2.0

Visit		Proposal 12326, Visit 22, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 21					Fri Dec 24 02:03:56 GMT 2010			
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	UGC-1810	RA: 02 21 30.4696 (35.3769567d) Dec: +39 21 48.25 (39.36340d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=12.92+/-	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		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F600LP	CR-SPLIT=NO	POS TARG 0,0	Pattern 6, Exps 1-3 in Visit 22 (6)	650 Secs	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
									[==>(Pattern 4)]	[4]
	2		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F390W	CR-SPLIT=NO	POS TARG 0,0	Pattern 6, Exps 1-3 in Visit 22 (6)	1200 Secs	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[3]
								[==>(Pattern 4)]	[4]	
3		(3) UGC-1810	WFC3/UVIS, ACCUM, UVIS-CENTER	F475X	CR-SPLIT=NO	POS TARG 0,0	Pattern 6, Exps 1-3 in Visit 22 (6)	800 Secs		
								[==>(Pattern 1)]	[1]	
								[==>(Pattern 2)]	[2]	
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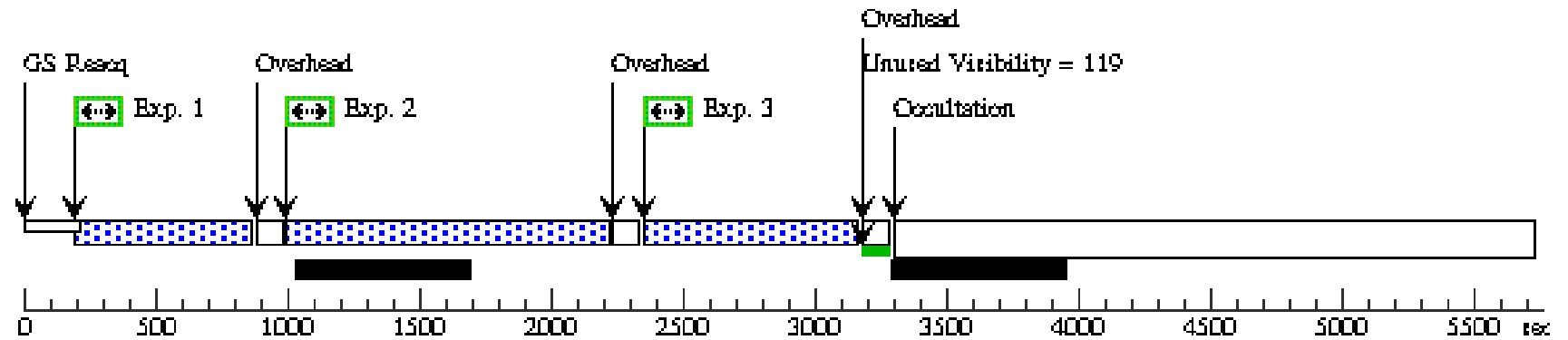
Orbit 3

Server Version: 20100902



Orbit 4

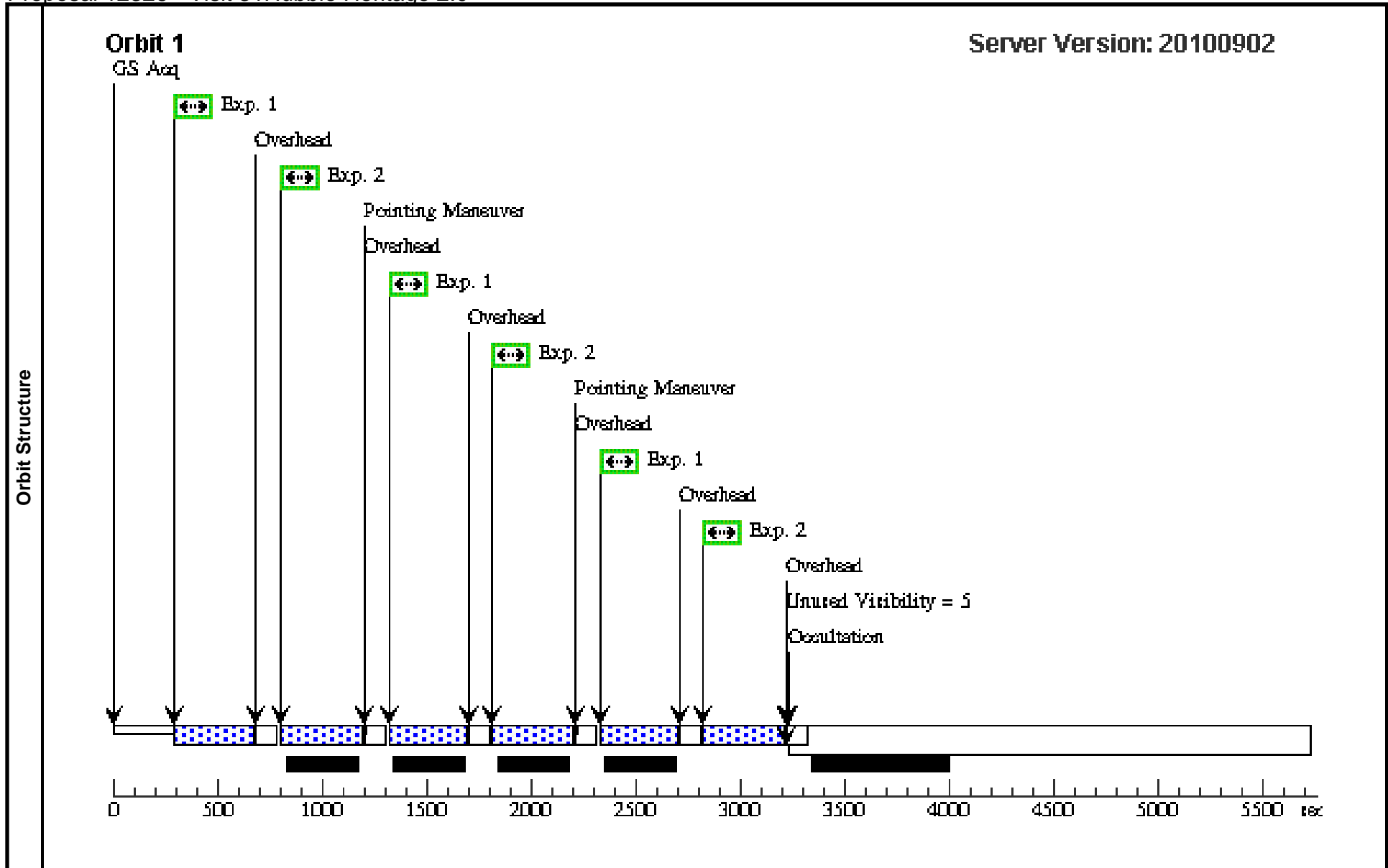
Server Version: 20100902



Proposal 12326 - Visit 31 Hubble Heritage 2.0

Fri Dec 24 02:03:58 GMT 2010

Visit	Proposal 12326, Visit 31, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 80D TO 105 D; SEQ 31.32 WITHIN 1 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(5)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=80 Angle Between Sides= Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	HH110	RA: 05 51 24.5881 (87.8524504d) Dec: +02 54 37.27 (2.91035d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16+/-3	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) HH110	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	CR-SPLIT=NO	GS ACQ SCENARIO BASE1B3	Pattern 5, Exps 1-2 in Visit 31 (5)	348 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
2		(4) HH110	WFC3/UVIS, ACCUM, UVIS-CENTER	F438W	CR-SPLIT=NO		Pattern 5, Exps 1-2 in Visit 31 (5)	362 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]	



Proposal 12326 - Visit 32Hubble Heritage 2.0

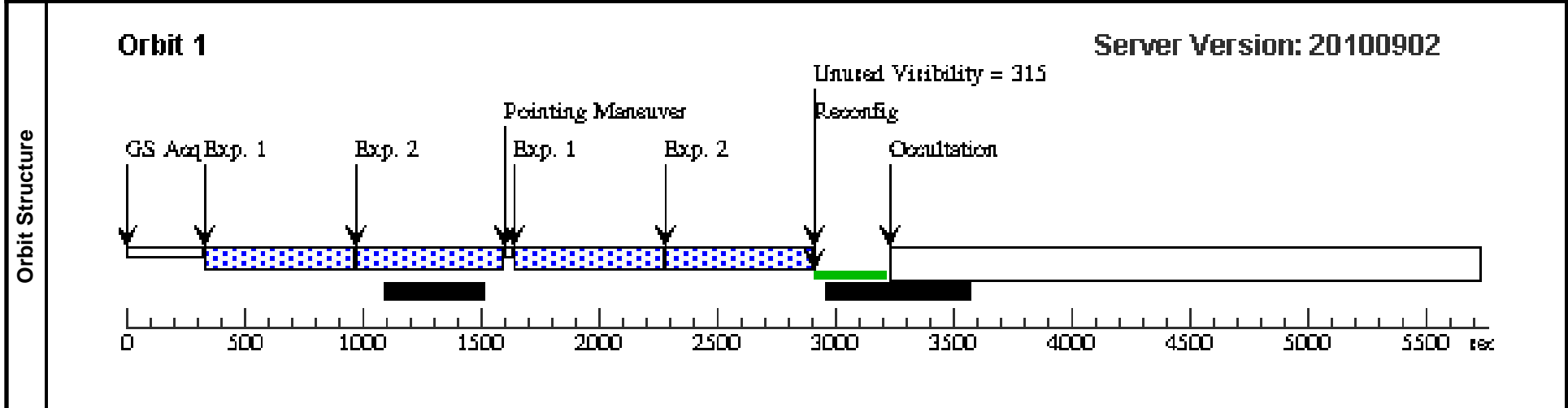
Fri Dec 24 02:03:58 GMT 2010

Visit	Proposal 12326, Visit 32, scheduling		
	Diagnostic Status: No Diagnostics		
	Scientific Instruments: WFC3/IR		
	Special Requirements: SAME ORIENT AS 31; SEQ 31,32 WITHIN 1 D		

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(7)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=40 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=true		(1-2)

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	HH110	RA: 05 51 24.5881 (87.8524504d) Dec: +02 54 37.27 (2.91035d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=16+/-3	Reference Frame: ICRS

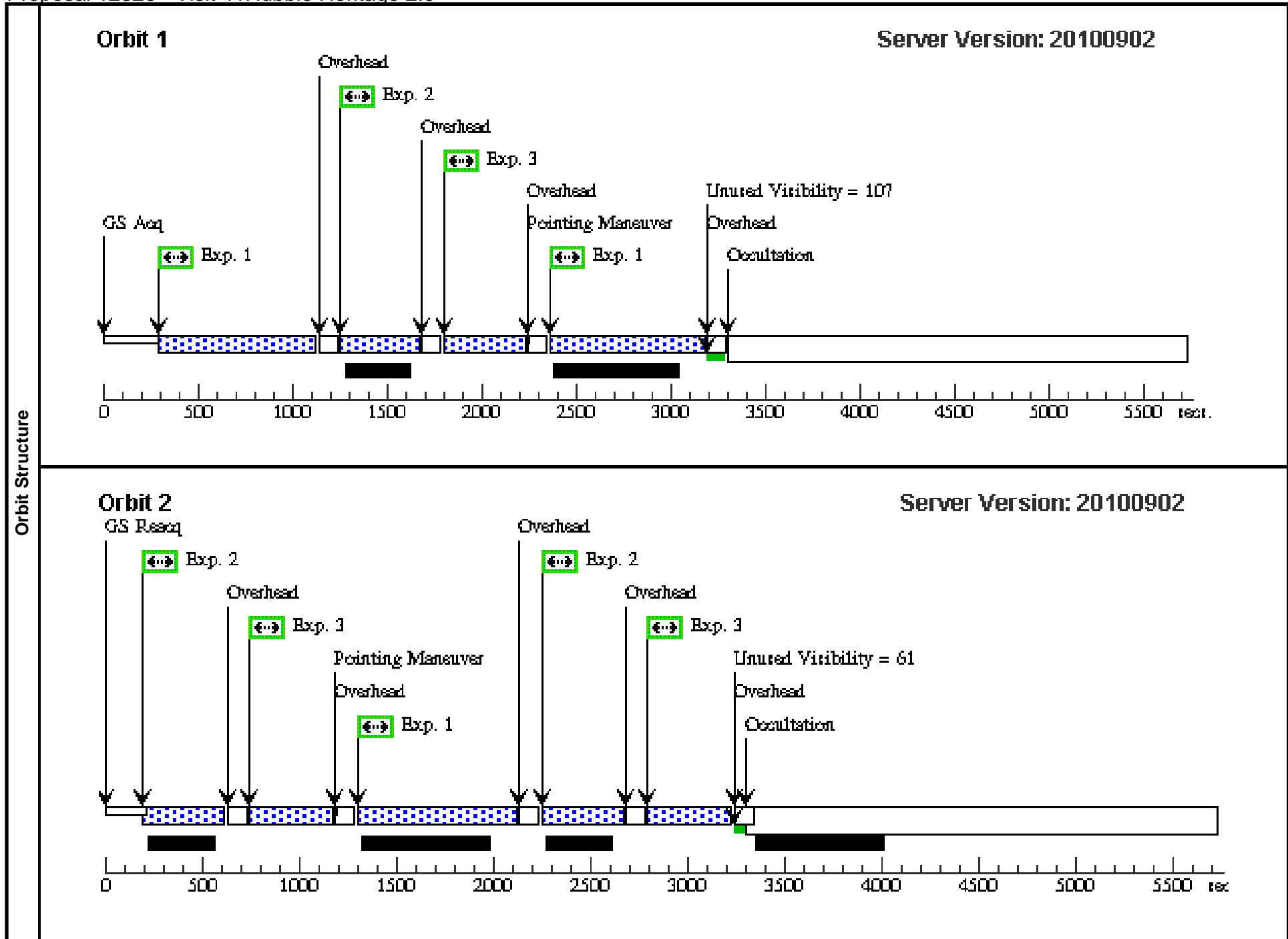
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(4) HH110	WFC3/IR, MULTIACCUM, IR-FIX	F110W	NSAMP=12; SAMP-SEQ=STEP100	GS ACQ SCENARI O BASE1B3	Pattern 7, Exps 1-2 in Visit 32 (7)	[=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2		(4) HH110	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=STEP100		Pattern 7, Exps 1-2 in Visit 32 (7)	[=>(Pattern 1)] [=>(Pattern 2)]	[1]



Proposal 12326 - Visit 41 Hubble Heritage 2.0

Fri Dec 24 02:03:59 GMT 2010

Visit	Proposal 12326, Visit 41, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 313D TO 333 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(5)	Pattern Type=WFC3-UVIS-MOSAIC-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=80 Angle Between Sides= Center Pattern=false		(1-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	S106	RA: 20 27 26.2900 (306.8595417d) Dec: +37 22 33.01 (37.37584d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14+/-3	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) S106	WFC3/UVIS, ACCUM, UVIS-CENTER	F658N	CR-SPLIT=NO	POS TARG 0,0	Pattern 5, Exps 1-3 in Visit 41 (5)	800 Secs	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[2]
	2		(5) S106	WFC3/UVIS, ACCUM, UVIS-CENTER	F469N	CR-SPLIT=NO	POS TARG 0,0	Pattern 5, Exps 1-3 in Visit 41 (5)	400 Secs	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	[2]
									[==>(Pattern 3)]	[2]
	3		(5) S106	WFC3/UVIS, ACCUM, UVIS-CENTER	F502N	CR-SPLIT=NO	POS TARG 0,0	Pattern 5, Exps 1-3 in Visit 41 (5)	400 Secs	
								[==>(Pattern 1)]	[1]	
								[==>(Pattern 2)]	[2]	
								[==>(Pattern 3)]	[2]	



Visit	Proposal 12326, Visit 43, scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SAME ORIENT AS 41
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Diagnostics	(Exposure 1 (Pattern 7, Exps 1-2 in Visit 43) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes
	(Exposure 2 (Pattern 7, Exps 1-2 in Visit 43) special requirements) Warning (Form): Be very careful mixing POS TARG and Center_Pattern = Yes

Patterns	#	Primary Pattern	Secondary Pattern	Exposures
	(7)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=40 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=true	

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(5)	S106	RA: 20 27 26.2900 (306.8595417d) Dec: +37 22 33.01 (37.37584d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14+/-3	Reference Frame: ICRS

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) S106	WFC3/IR, MULTIACCUM, IR-FIX	F110W	NSAMP=12; SAMP-SEQ=STEP100	POS TARG 0,10	Pattern 7, Exps 1-2 in Visit 43 (7)	[==>(Pattern 1)] [==>(Pattern 2)]	[1]
2		(5) S106	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=12; SAMP-SEQ=STEP100	POS TARG 0,10	Pattern 7, Exps 1-2 in Visit 43 (7)	[==>(Pattern 1)] [==>(Pattern 2)]	[1]	

