



12961 - A Cepheid Distance to NGC6814

Cycle: 20, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) NGC-6814	WFC3/UVIS	2	03-Aug-2012 21:30:12.0	yes
02	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:30:20.0	yes
03	(1) NGC-6814	WFC3/UVIS	2	03-Aug-2012 21:30:29.0	yes
04	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:30:35.0	yes
05	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:30:40.0	yes
06	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:30:46.0	yes
07	(1) NGC-6814	WFC3/UVIS	2	03-Aug-2012 21:30:53.0	yes
08	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:31:00.0	yes
09	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:31:05.0	yes
10	(1) NGC-6814	WFC3/UVIS	2	03-Aug-2012 21:31:13.0	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>
11	(1) NGC-6814	WFC3/UVIS	1	03-Aug-2012 21:31:19.0	yes
12	(1) NGC-6814	WFC3/UVIS	2	03-Aug-2012 21:31:26.0	yes
13	(1) NGC-6814	WFC3/IR	2	03-Aug-2012 21:31:39.0	yes

19 Total Orbits Used

ABSTRACT

We propose to obtain multi-epoch imaging of the face-on spiral galaxy NGC6814 with the Wide Field Camera 3 to identify Cepheid variable stars, measure the periods of their lightcurves, and determine the galaxy's distance from the Cepheid period-luminosity relationship. The Cepheid distance will be combined with the spatially resolved spectroscopy we will obtain through Gemini observations in 2012A to determine the dynamical mass of the active supermassive black hole. We already have a reverberation mass for NGC6814, and an accurate distance is required to allow us to obtain a meaningful dynamical mass for comparison with the in-hand reverberation mass. Additionally, an accurate distance is required for any meaningful luminosity measurements in NGC6814. The face-on orientation of the galaxy precludes a Tully-Fisher distance, which is the only other viable distance indicator for spiral galaxies at ~20-30Mpc.

As one of only three galaxies where the supermassive black hole mass may currently be determined through dynamical modeling AND reverberation mapping, NGC6814 acts as a linchpin for the entire active galaxy black hole mass scale (both in the local universe and at cosmological distances). It is also an anchor for the low-luminosity end of the radius-luminosity relationship, which is widely-used for black hole mass estimates out to $z \sim 6$. Furthermore, recent work has shown that quasars out to $z \sim 4$ may soon be used as standard candles, in which case NGC6814 could provide a crucial foundation for observations that test the expansion and the ultimate fate of the universe.

OBSERVING DESCRIPTION

The goal of this proposal is to discover Cepheids in the AGN host galaxy NGC 6814 and measure their periods, allowing us to determine the distance to NGC 6814.

The core of the program is comprised of 12 visits to image NGC 6814 with WFC3/UVIS through the F555W filter. These visits require powerlaw spacing over a period of ~60 days. ORIENT should be fixed to the same value for all 12 visits to aid in the data analysis.

Proposal 12961 (STScI Edit Number: 0, Created: Friday, August 3, 2012 8:31:47 PM EST) - Overview

Given these requirements, the visits should take place in the period of August-November 2012 with ORIENT~90 (the exact ORIENT is not scientifically important, but it will determine the specific range of schedulable dates). The roll ranges report shows another possible window between April-July 2013 with ORIENT~240, but this window did not appear in the visit planner. The spacing of the visits should be as near as possible to the following cadence, listed in DAYS after the first visit:

0.0, 11.0, 17.6, 22.0, 26.1, 28.8, 30.8, 33.1, 40.4, 45.2, 52.5, and 60.0

Each of these observing windows is approximately +/- 1 day in width, and visits should be scheduled as near to the MIDDLE of each window as possible. ORIENT must be fixed to the same value for all of these visits.

During 5 of the above 12 visits (the visits occurring at 0.0, 17.6, 30.8, 45.2, and 60.0 days), a second orbit will be dedicated to imaging through the F814W filter at the same position and ORIENT.

For all WFC3/UVIS orbits, there will be 4 exposures per filter that will be separated by a four-point dither with small maneuvers to increase the PSF sampling and a large maneuver to bridge the detector gap. We have selected the UVIS-FIX aperture to ensure consistent pointing throughout the program and to aid in the data analysis.

The remaining two orbits are reserved for WFC3/IR imaging of NGC 6814 through the F160W filter. ORIENT should again be held fixed at the same value as the other visits. We also request SAA-free orbits, but this visit has no additional timing constraints. We have selected the IR-UVIS-FIX aperture to match the position of the optical images. The STEP50 sequence was chosen to provide the shortest exposure times with the best possible dynamic range while still allowing parallel buffer dumps. Note that there is an AGN at the center of NGC6814 that may cause persistence problems. The AGN is NOT the target of this program, but rather the individual Cepheid stars in the host galaxy, so the loss of information in the center few pixels of the galaxy nucleus will not create a problem for our scientific goals. Because of the potential for persistence in the nucleus of these images, we have chosen to use only the WFC3-IR-DITHER patterns to increase the PSF sampling and assist with the removal of hot and transient pixels.

REAL TIME JUSTIFICATION

The key to success for this program will be power-law scheduling of the 12 visits with the F555W filter over a period of 60 days. The long duration is required to ensure that we obtain sufficient coverage of the light curves for Cepheids with periods in the range 20 - 60 days, while the power-law sampling is required to avoid redundancy of phase coverage and aliasing in the periodograms.

ADDITIONAL COMMENTS

The fixed roll angle of the spacecraft is required to simplify the data analysis, which requires finding the same individual stars in all the images of this galaxy from all of the visits. The actual value at which the roll angle is fixed does not matter. It is only important that it remain the same for ALL visits.

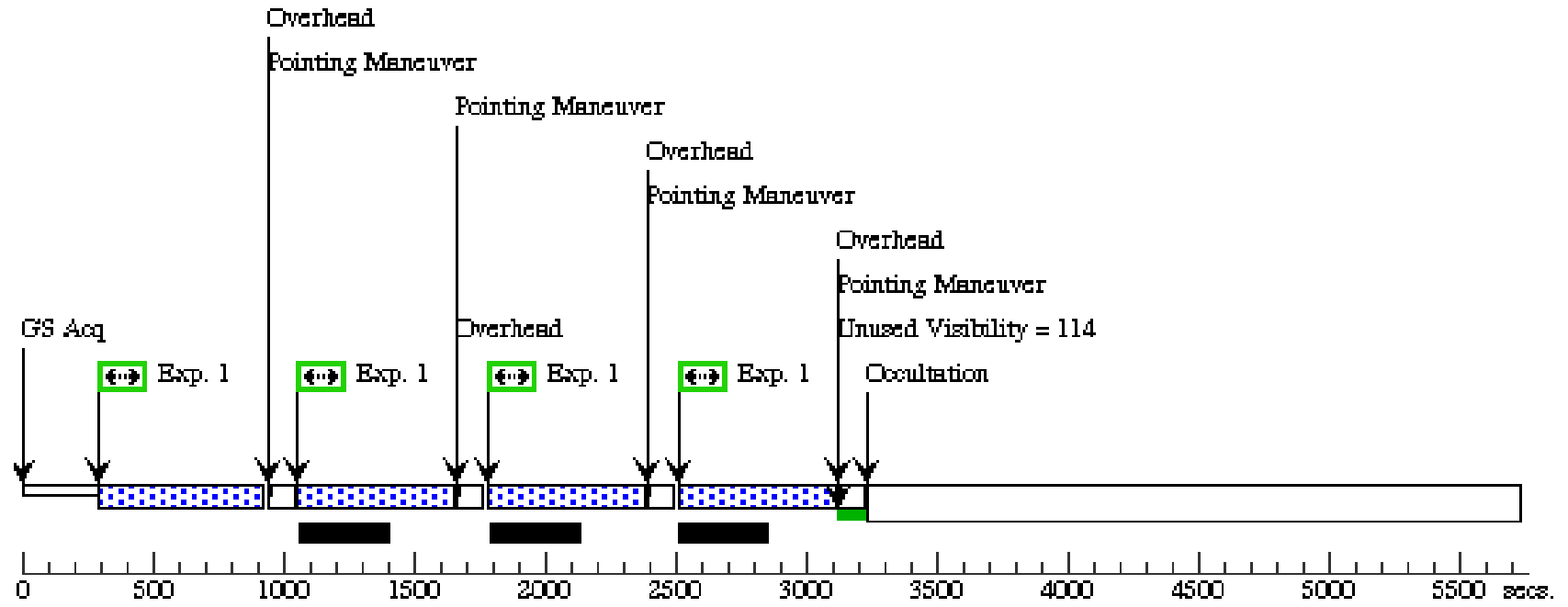
Proposal 12961 - Visit 01 - A Cepheid Distance to NGC6814

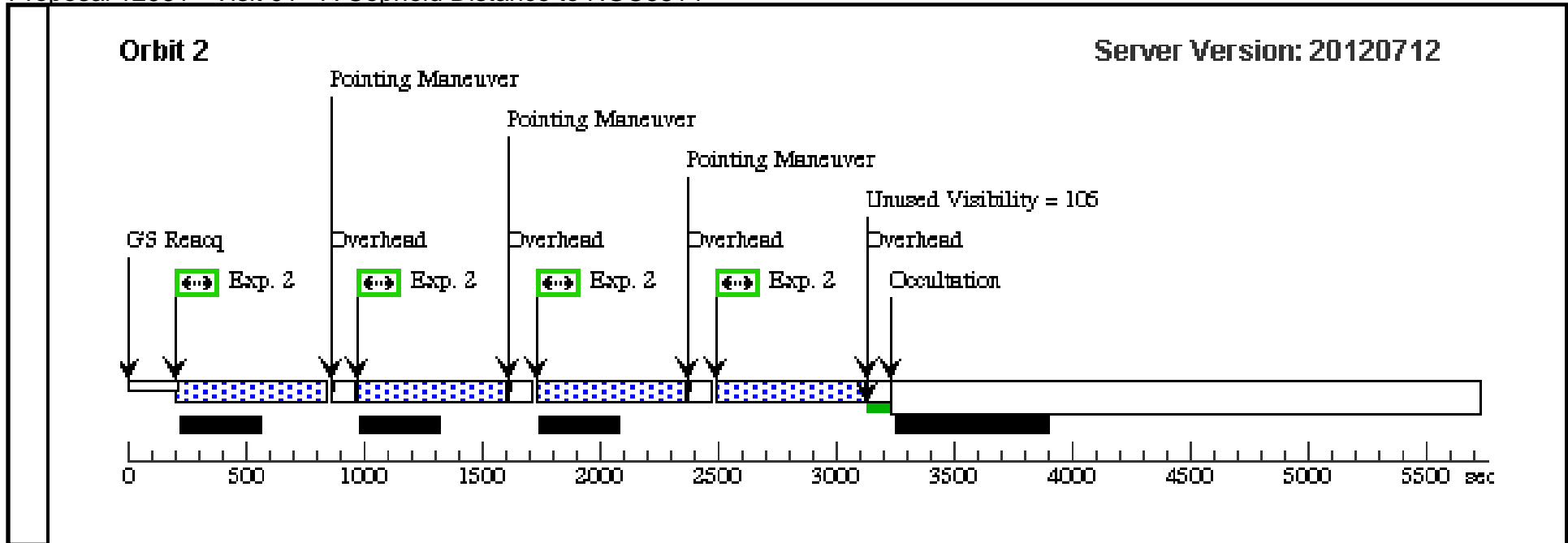
Sat Aug 04 01:31:48 GMT 2012

Visit	Proposal 12961, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none) <i>Comments: Visit 1 of the 12 visits constrained by timing.</i>									
	Patterns	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- Coordinate Frame=POS-TARG LINE Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1), (2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 i n Visit 01 (1)	500 Secs [==>600.0 Secs (Pattern 1,1)] [==>600.0 Secs (Pattern 1,2)] [==>600.0 Secs (Pattern 2,1)] [==>600.0 Secs (Pattern 2,2)]
2		(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F814W				Pattern 1, Exps 2-2 i n Visit 01 (1)	600 Secs [==>630.0 Secs (Pattern 1,1)] [==>630.0 Secs (Pattern 1,2)] [==>630.0 Secs (Pattern 2,1)] [==>630.0 Secs (Pattern 2,2)]	[2]

Orbit 1

Orbit Structure

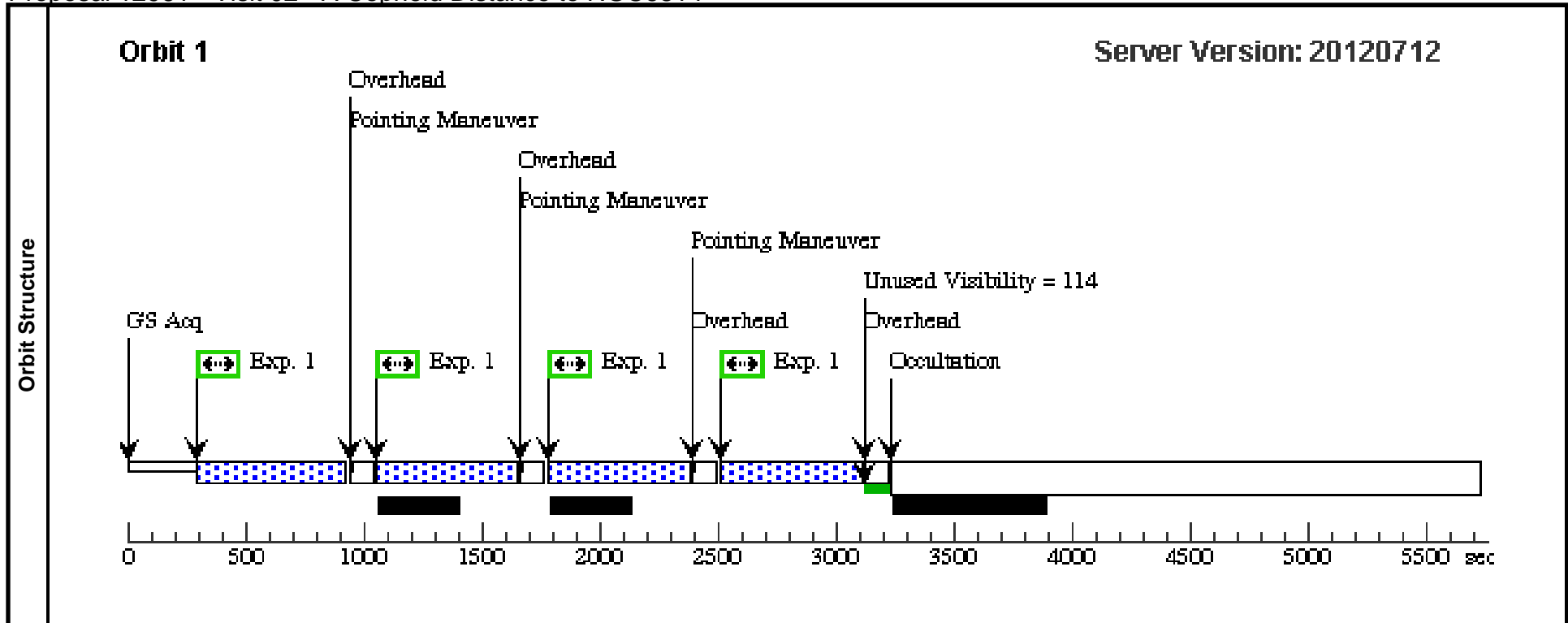




Proposal 12961 - Visit 02 - A Cepheid Distance to NGC6814

Sat Aug 04 01:31:50 GMT 2012

Visit	Proposal 12961, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 10.0 D TO 12.0 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W			Pattern 1, Exps 1-1 i n Visit 02 (1)	500 Secs [==>600.0 Secs (Pattern 1,1)] [==>600.0 Secs (Pattern 1,2)] [==>600.0 Secs (Pattern 2,1)] [==>600.0 Secs (Pattern 2,2)]	[1]

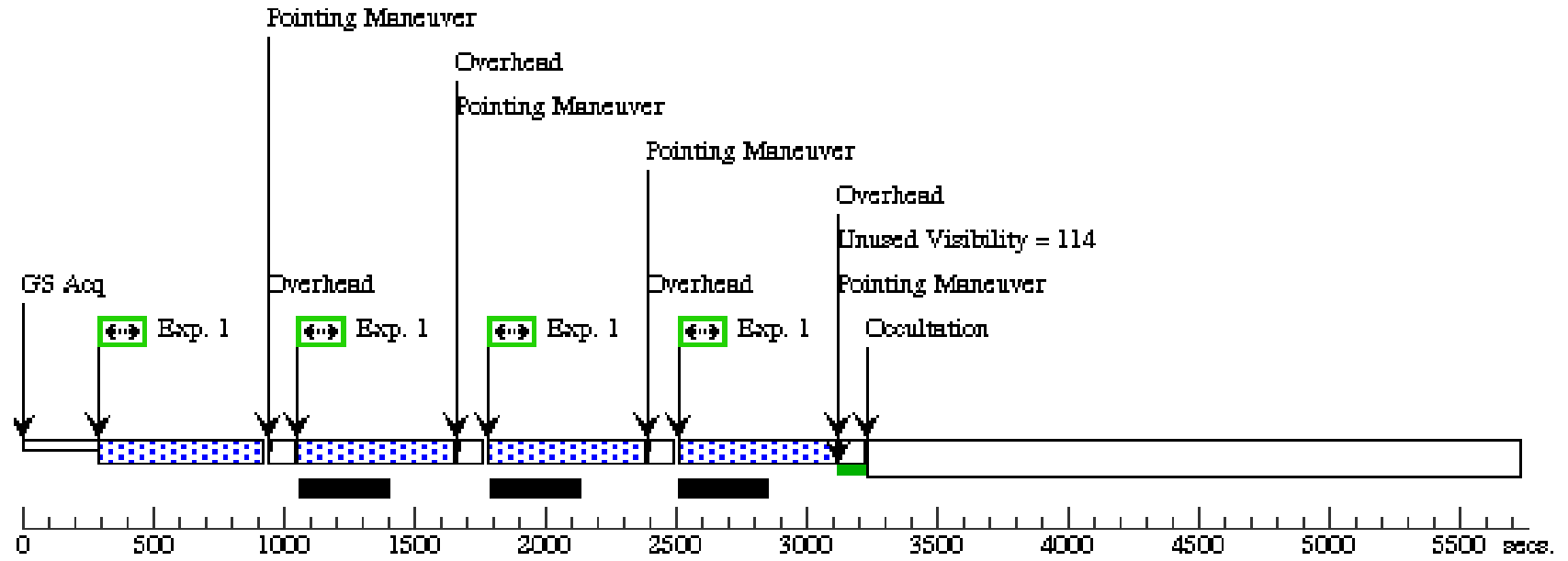


Proposal 12961 - Visit 03 - A Cepheid Distance to NGC6814

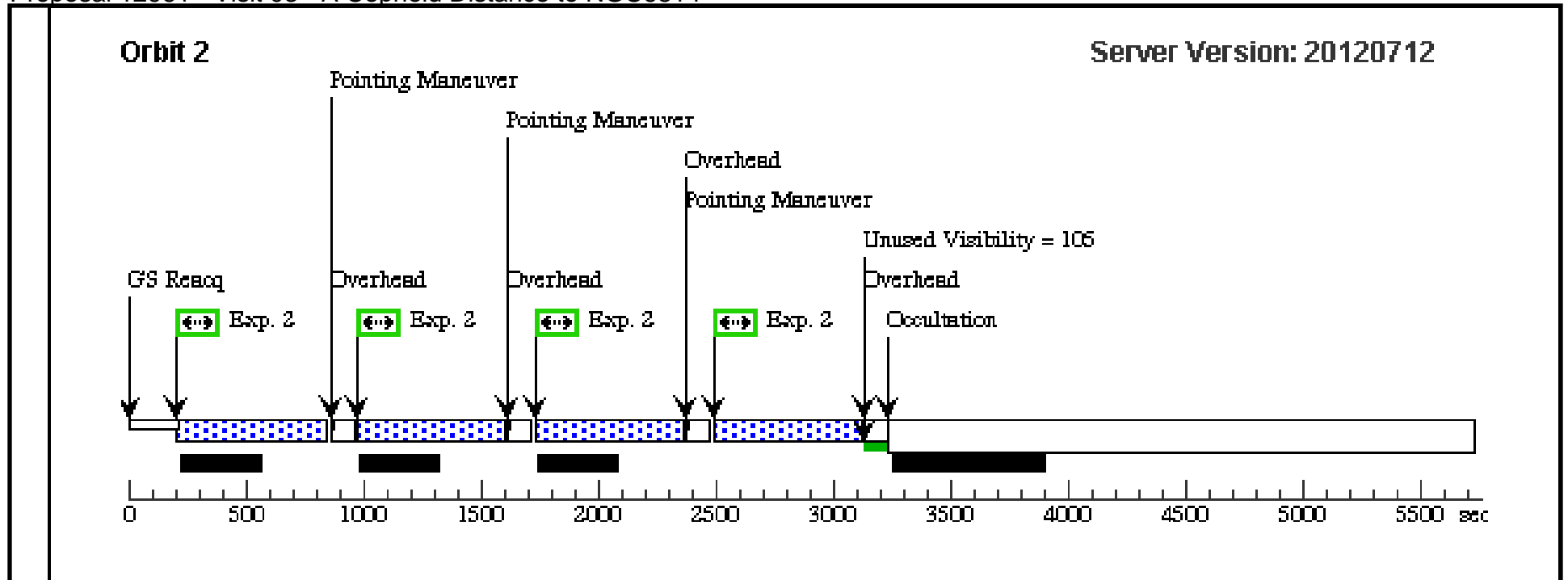
Sat Aug 04 01:31:52 GMT 2012

Visit	Proposal 12961, Visit 03, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 16.6 D TO 18.6 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-GAP-LINE Purpose=MOSAIC Number Of Points=2 Point Spacing=2.414 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.759 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1), (2)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 in Visit 03 (1) 500 Secs [=>600.0 Secs (Pattern 1,1)] [=>600.0 Secs (Pattern 1,2)] [=>600.0 Secs (Pattern 2,1)] [=>600.0 Secs (Pattern 2,2)]	[1]
2		(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F814W				Pattern 1, Exps 2-2 in Visit 03 (1) 600 Secs [=>630.0 Secs (Pattern 1,1)] [=>630.0 Secs (Pattern 1,2)] [=>630.0 Secs (Pattern 2,1)] [=>630.0 Secs (Pattern 2,2)]	[2]	

Orbit 1



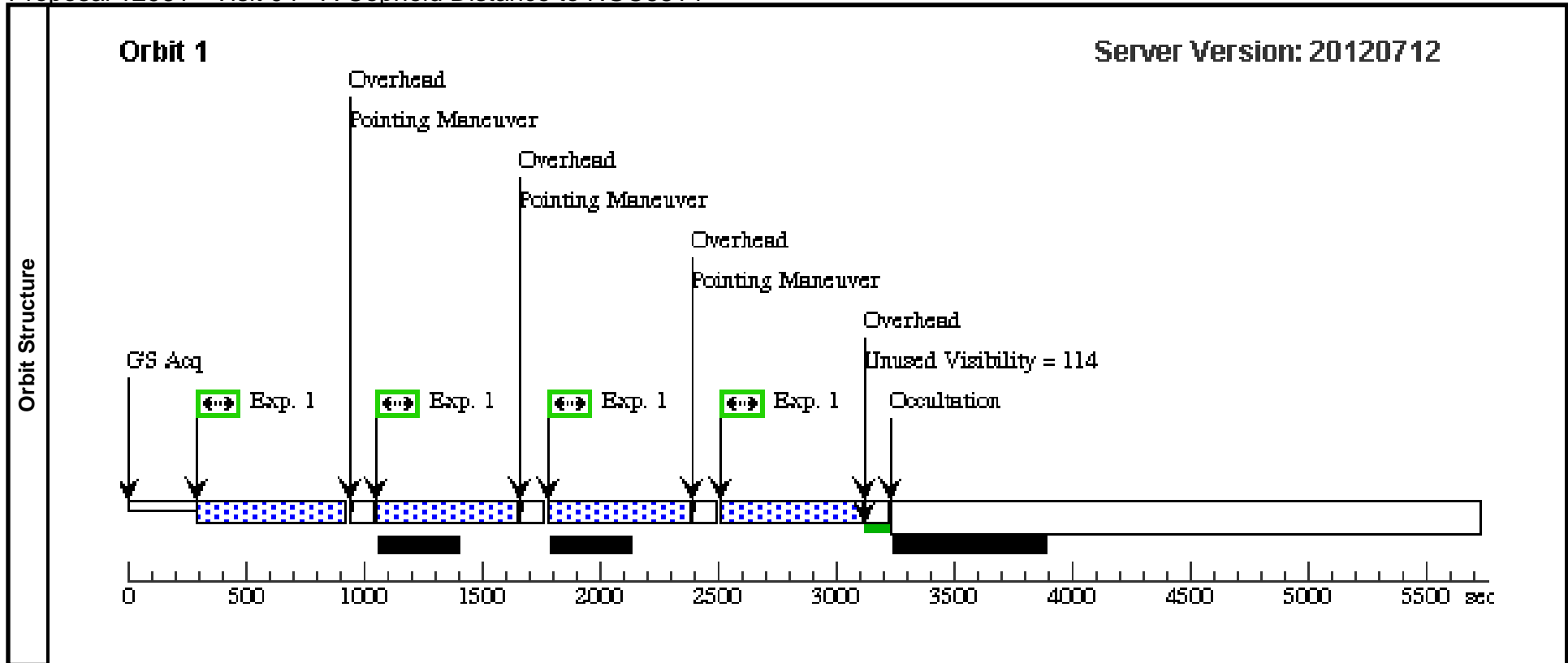
Orbit Structure



Proposal 12961 - Visit 04 - A Cepheid Distance to NGC6814

Sat Aug 04 01:31:55 GMT 2012

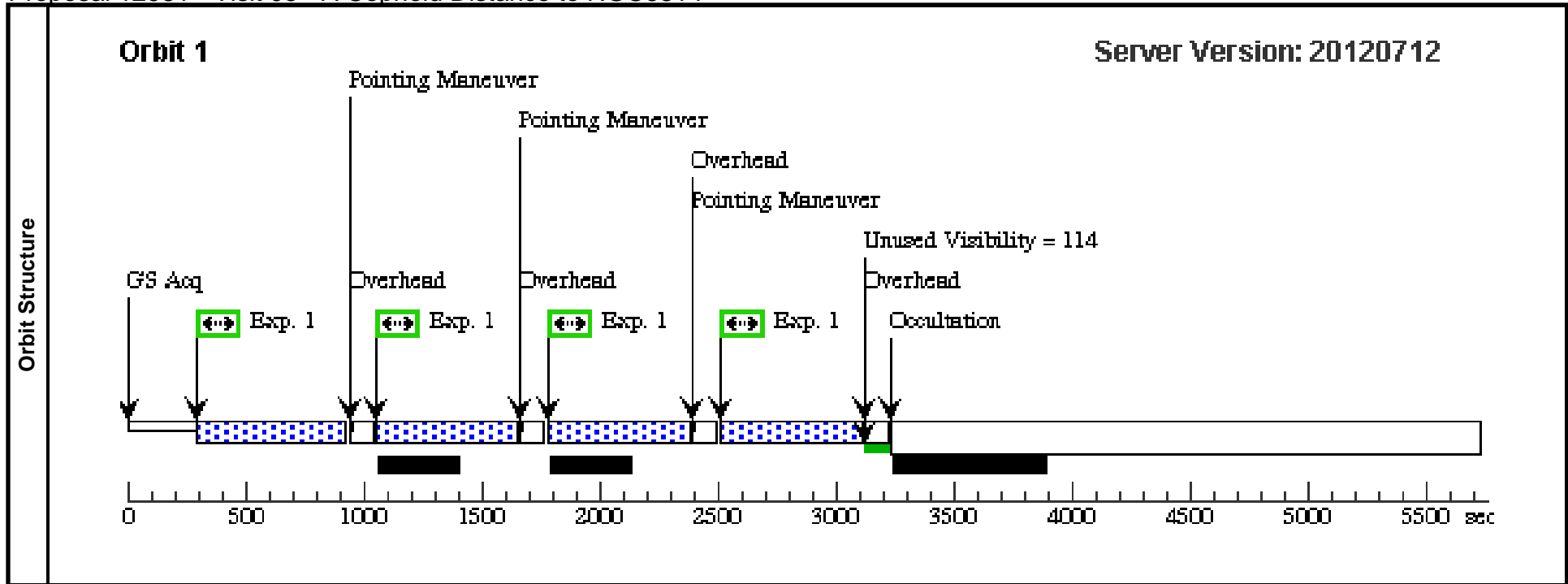
Visit	Proposal 12961, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 21.0 D TO 23.0 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W			Pattern 1, Exps 1-1 i n Visit 04 (1)	500 Secs [==>600.0 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]



Proposal 12961 - Visit 05 - A Cepheid Distance to NGC6814

Sat Aug 04 01:31:56 GMT 2012

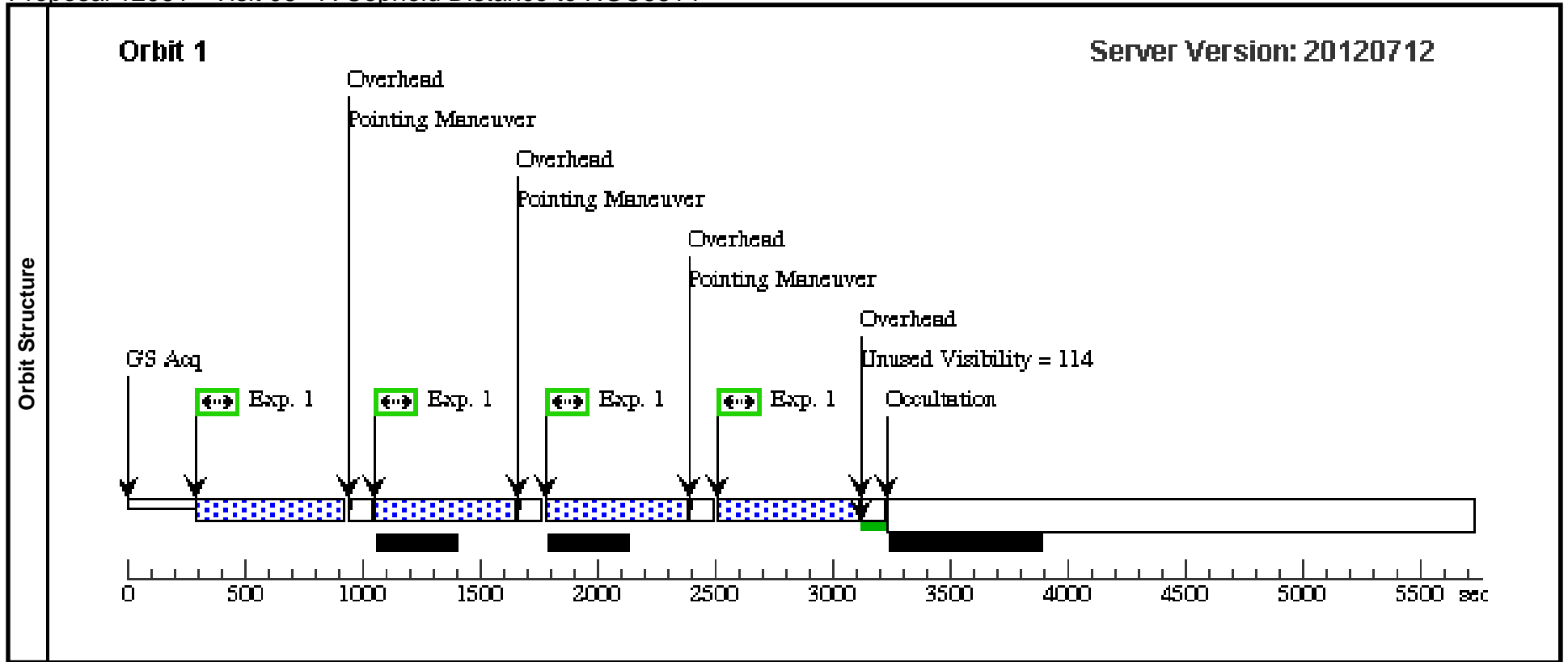
Visit	Proposal 12961, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 25.1 D TO 27.1 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>	Redshift: 0.005214	V=12	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 i n Visit 05 (1)	500 Secs [=>600 Secs (Pattern 1,1)] [=>600 Secs (Pattern 1,2)] [=>600 Secs (Pattern 2,1)] [=>600 Secs (Pattern 2,2)]	[1]



Proposal 12961 - Visit 06 - A Cepheid Distance to NGC6814

Sat Aug 04 01:31:57 GMT 2012

Visit	Proposal 12961, Visit 06, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 27.8 D TO 29.8 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>	Redshift: 0.005214	V=12	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 i n Visit 06 (1)	500 Secs [=>600 Secs (Pattern 1,1)] [=>600 Secs (Pattern 1,2)] [=>600 Secs (Pattern 2,1)] [=>600 Secs (Pattern 2,2)]	[1]

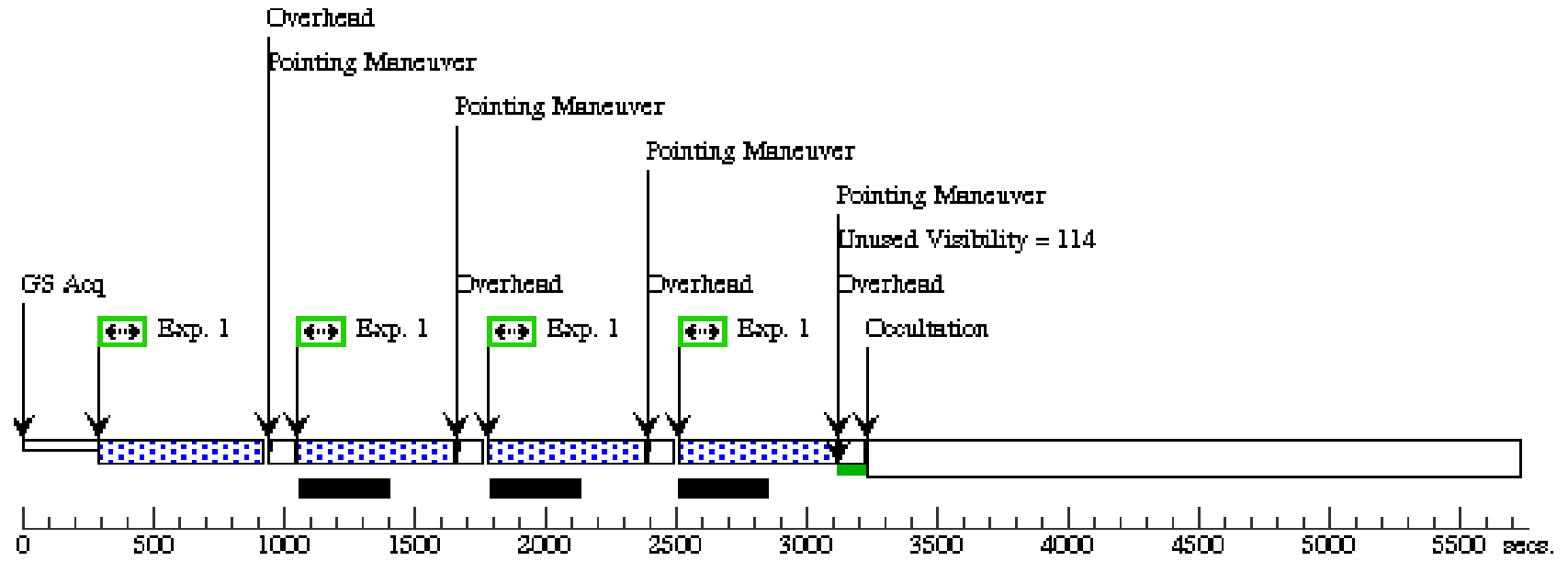


Proposal 12961 - Visit 07 - A Cepheid Distance to NGC6814

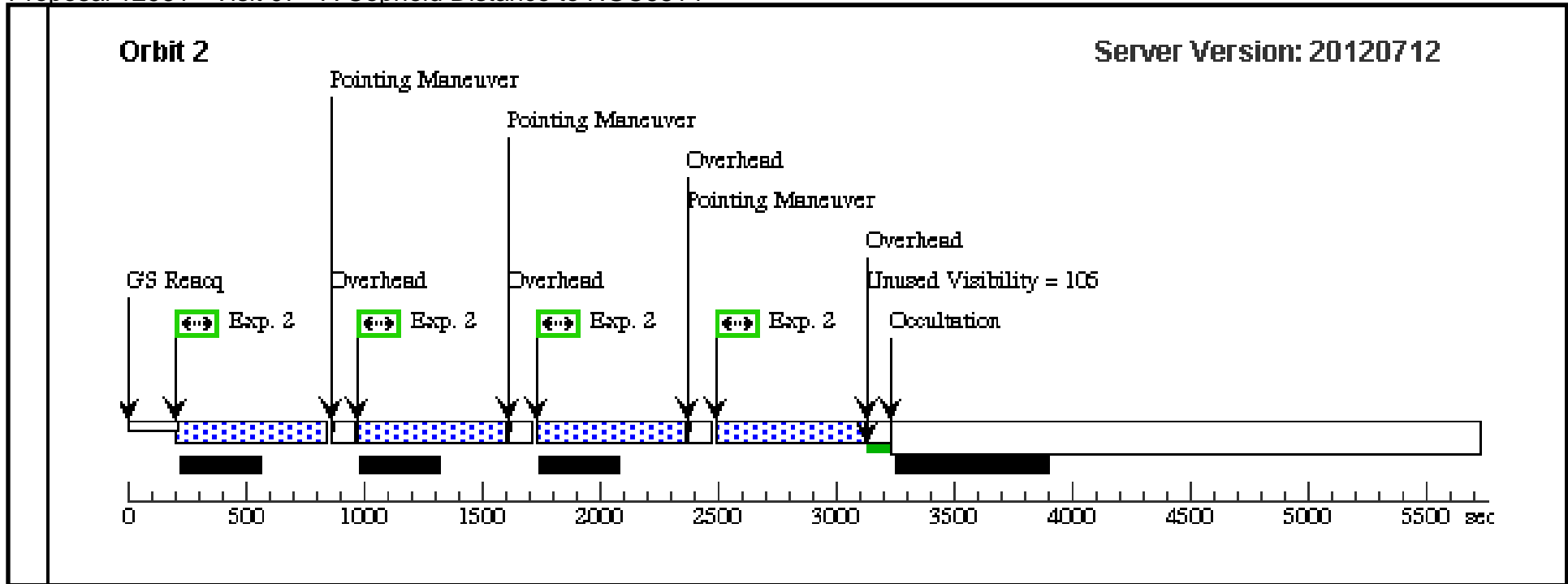
Sat Aug 04 01:31:59 GMT 2012

Visit	Proposal 12961, Visit 07, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 29.8 D TO 31.8 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-GAP-LINE Purpose=MOSAIC Number Of Points=2 Point Spacing=2.414 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.759 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1), (2)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 in Visit 07 (1) 500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]
2		(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F814W				Pattern 1, Exps 2-2 in Visit 07 (1) 600 Secs [==>630 Secs (Pattern 1,1)] [==>630 Secs (Pattern 1,2)] [==>630 Secs (Pattern 2,1)] [==>630 Secs (Pattern 2,2)]	[2]	

Orbit 1



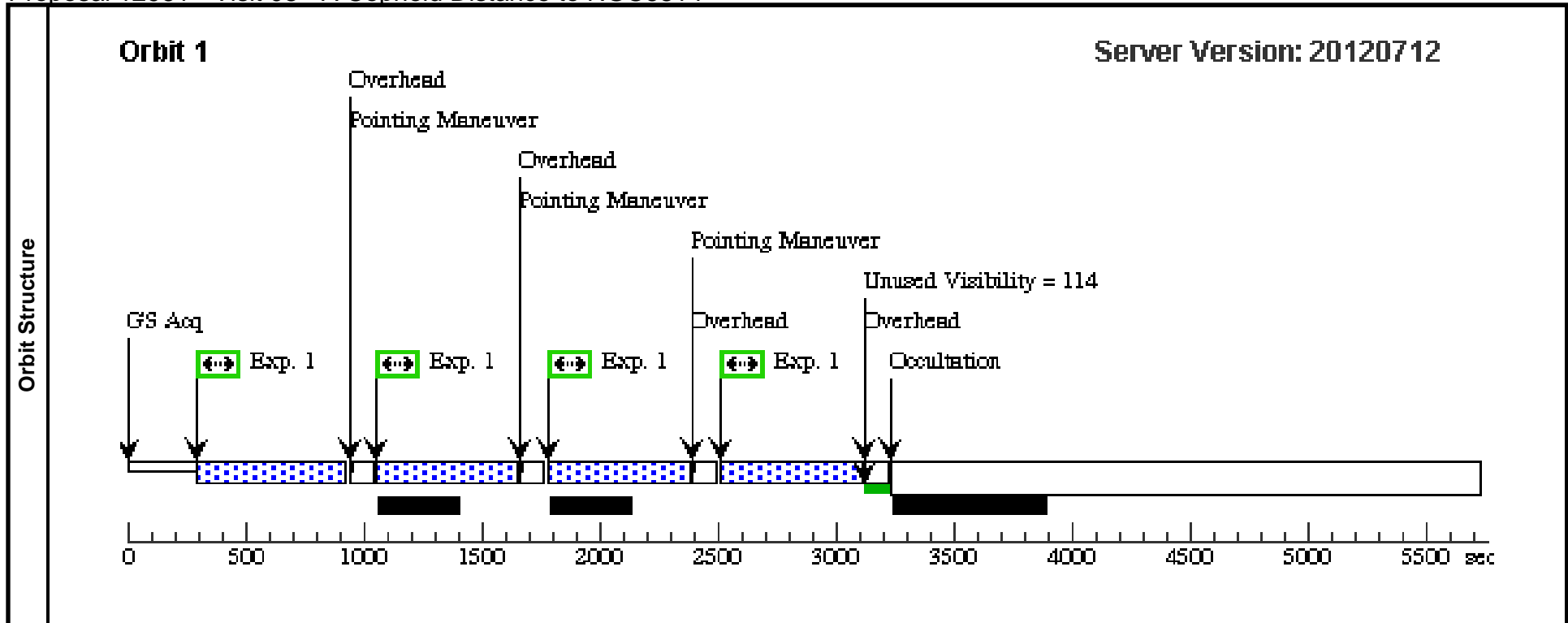
Orbit Structure



Proposal 12961 - Visit 08 - A Cepheid Distance to NGC6814

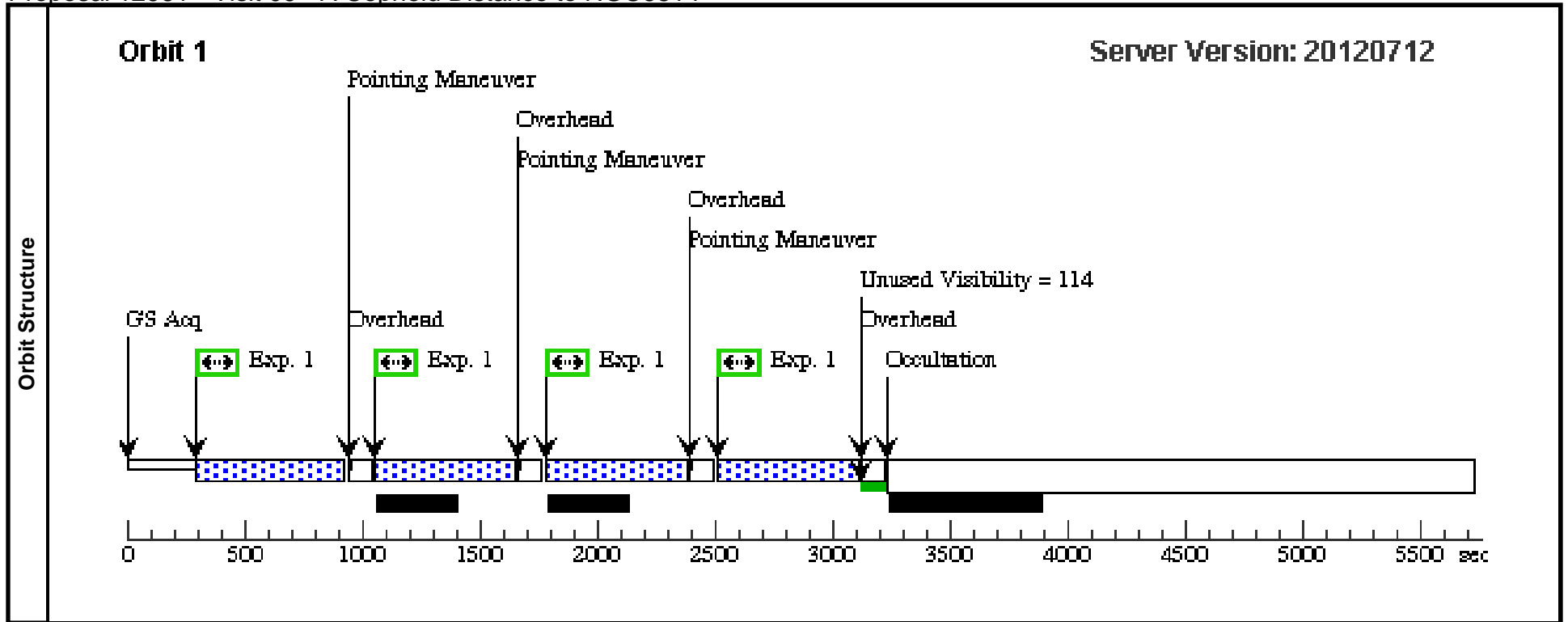
Sat Aug 04 01:32:01 GMT 2012

Visit	Proposal 12961, Visit 08, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 32.1 D TO 34.1 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W			Pattern 1, Exps 1-1 i n Visit 08 (1)	500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]



Proposal 12961 - Visit 09 - A Cepheid Distance to NGC6814

Visit	Proposal 12961, Visit 09, implementation Sat Aug 04 01:32:02 GMT 2012 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 39.4 D TO 41.4 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000 <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>	Redshift: 0.005214	V=12	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 i n Visit 09 (1)	500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]



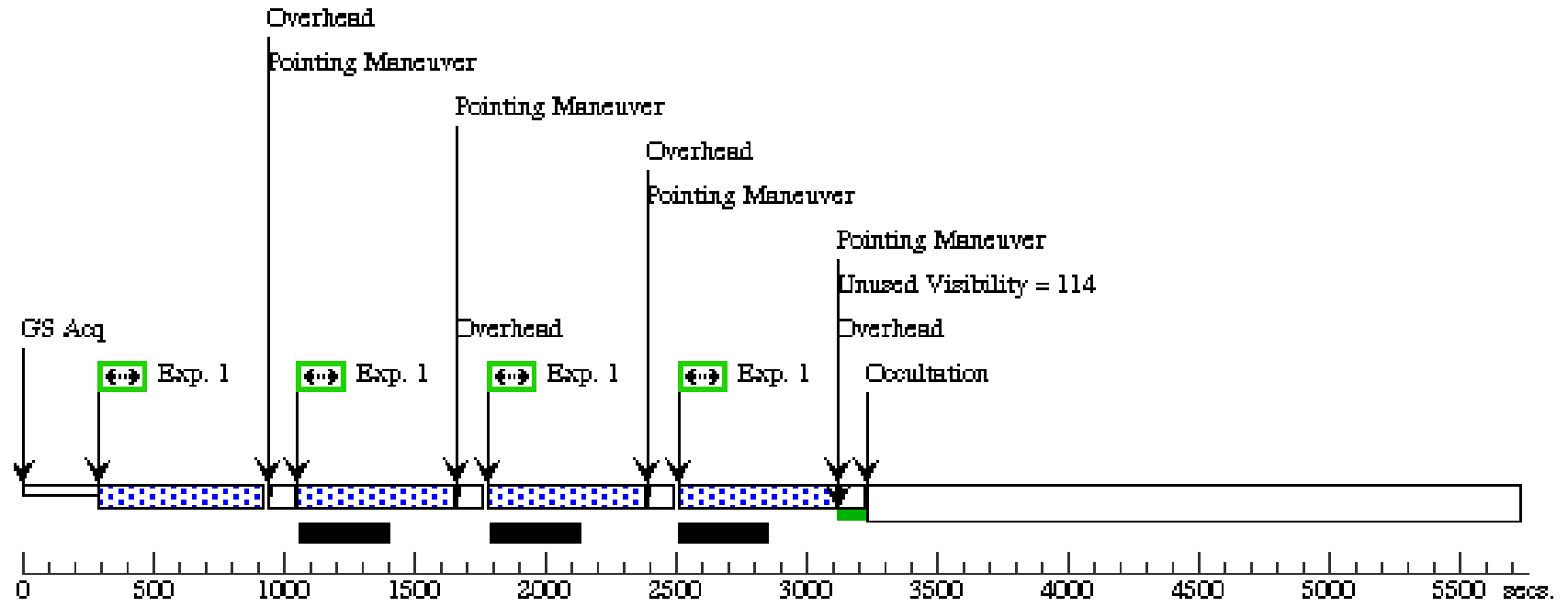
Proposal 12961 - Visit 10 - A Cepheid Distance to NGC6814

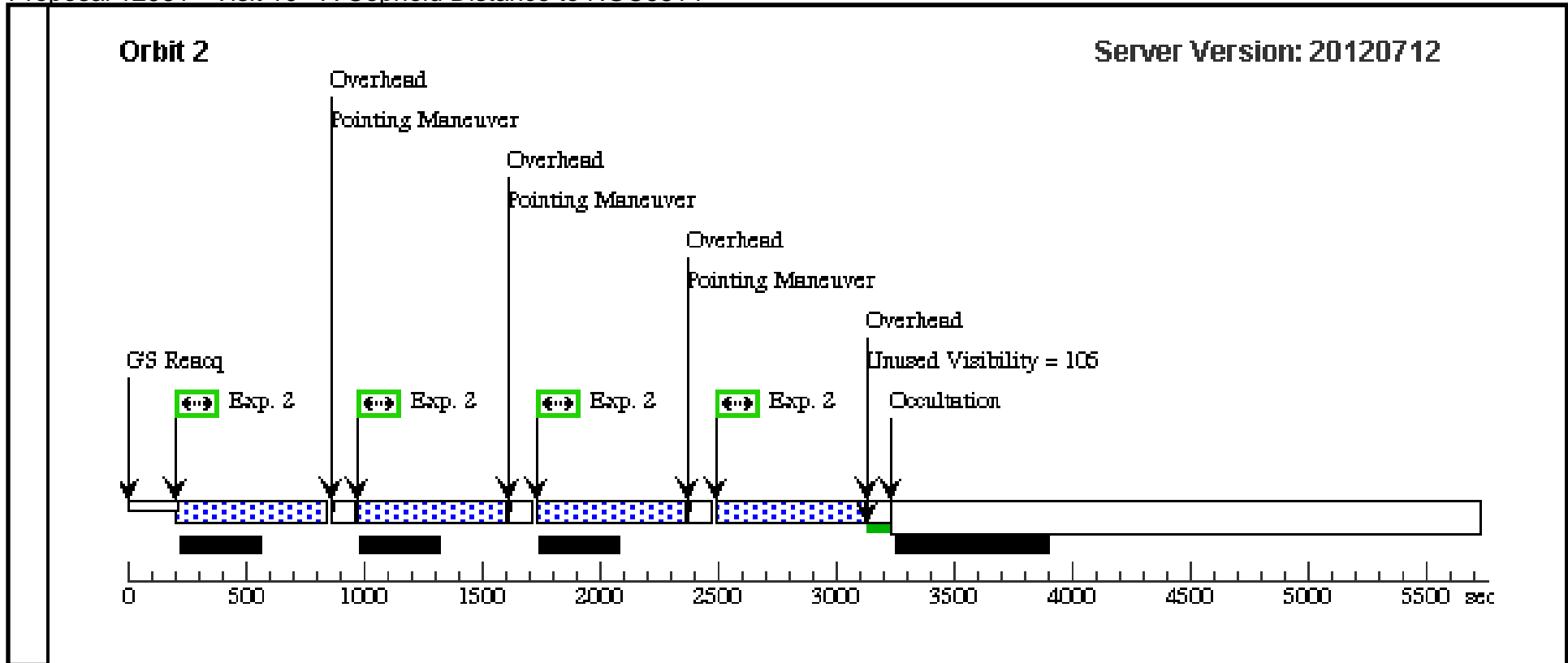
Sat Aug 04 01:32:02 GMT 2012

Visit	Proposal 12961, Visit 10, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 44.2 D TO 46.2 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Coordinate Frame=POS-TARG Pattern Orientation=46.84 Purpose=DITHER Angle Between Sides= Number Of Points=2 Center Pattern=false Point Spacing=0.145 Line Spacing=	(1), (2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W			Pattern 1, Exps 1-1 i n Visit 10 (1)	500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]
	2		(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F814W			Pattern 1, Exps 2-2 i n Visit 10 (1)	600 Secs [==>630 Secs (Pattern 1,1)] [==>630 Secs (Pattern 1,2)] [==>630 Secs (Pattern 2,1)] [==>630 Secs (Pattern 2,2)]	[2]

Orbit 1

Orbit Structure

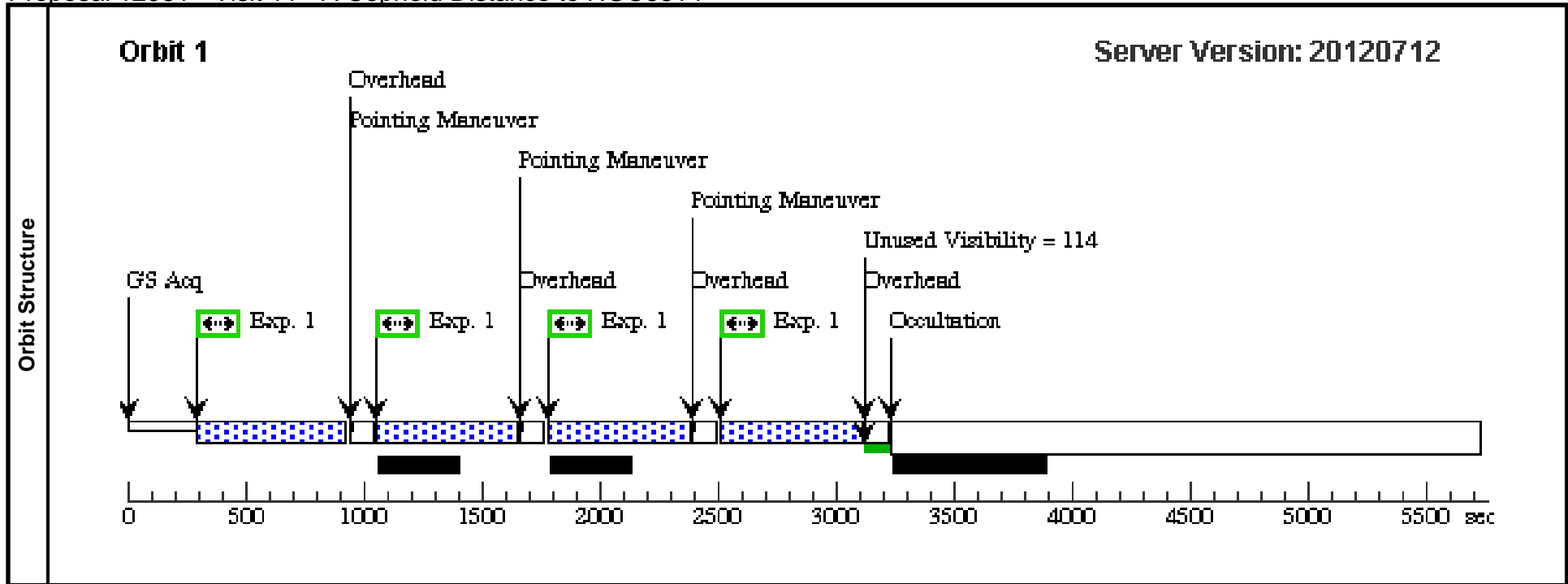




Proposal 12961 - Visit 11 - A Cepheid Distance to NGC6814

Sat Aug 04 01:32:04 GMT 2012

Visit	Proposal 12961, Visit 11, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 51.5 D TO 53.5 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern		Exposures				
(1)		Pattern Type=WFC3-UVIS-GAP-LINE Coordinate Frame=POS-TARG Purpose=MOSAIC Pattern Orientation=85.759 Number Of Points=2 Angle Between Sides= Point Spacing=2.414 Center Pattern=true Line Spacing=	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W			Pattern 1, Exps 1-1 i n Visit 11 (1)	500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]

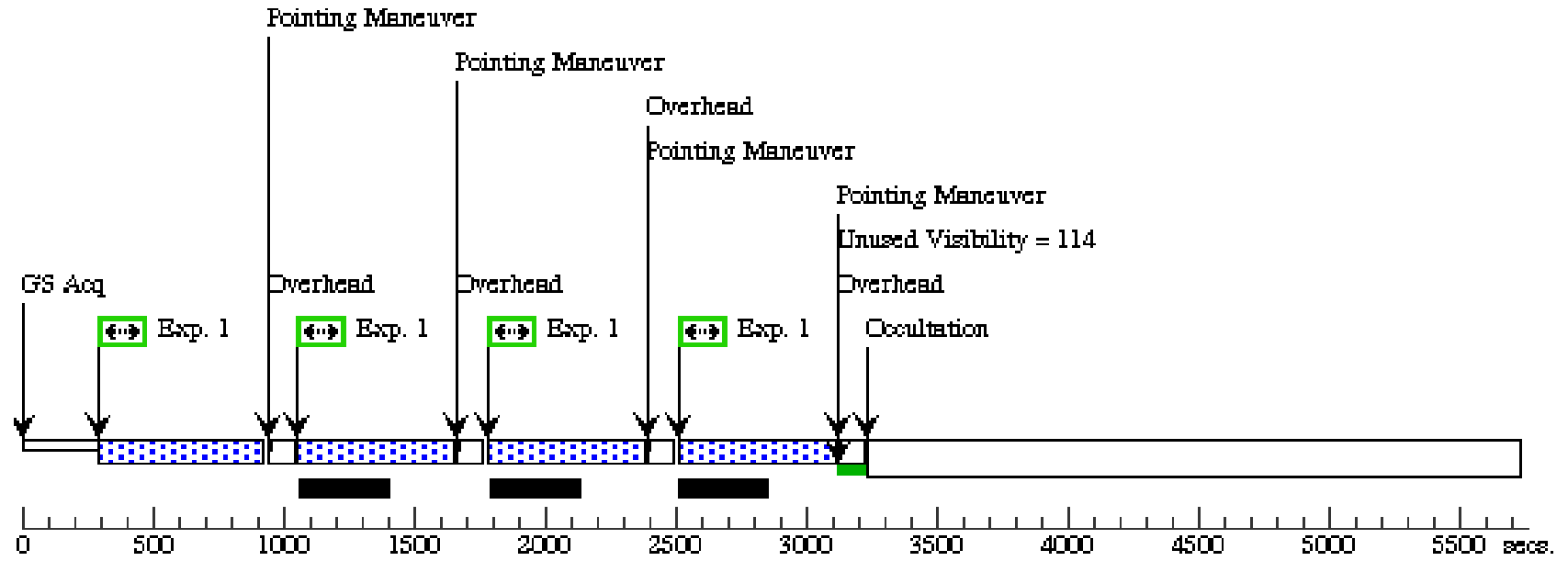


Proposal 12961 - Visit 12 - A Cepheid Distance to NGC6814

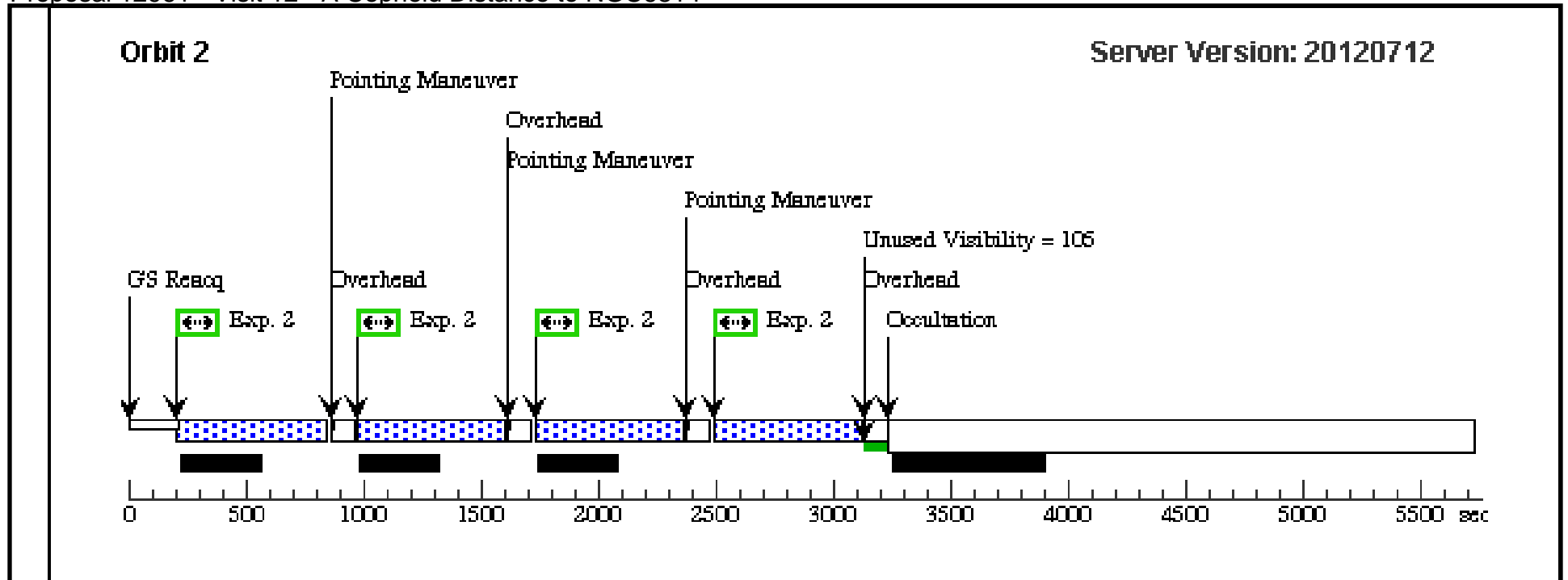
Sat Aug 04 01:32:05 GMT 2012

Visit	Proposal 12961, Visit 12, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01; AFTER 01 BY 59.0 D TO 61.0 D <i>Comments: Please schedule as near to the middle of this observing window as possible. Timing is key to this program's success.</i>									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-UVIS-GAP-LINE Purpose=MOSAIC Number Of Points=2 Point Spacing=2.414 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.759 Angle Between Sides= Center Pattern=true	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false	(1), (2)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	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) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F555W				Pattern 1, Exps 1-1 in Visit 12 (1) 500 Secs [==>600 Secs (Pattern 1,1)] [==>600 Secs (Pattern 1,2)] [==>600 Secs (Pattern 2,1)] [==>600 Secs (Pattern 2,2)]	[1]
2		(1) NGC-6814	WFC3/UVIS, ACCUM, UVIS-FIX	F814W				Pattern 1, Exps 2-2 in Visit 12 (1) 600 Secs [==>630 Secs (Pattern 1,1)] [==>630 Secs (Pattern 1,2)] [==>630 Secs (Pattern 2,1)] [==>630 Secs (Pattern 2,2)]	[2]	

Orbit 1



Orbit Structure



Proposal 12961 - Visit 13 - A Cepheid Distance to NGC6814

Sat Aug 04 01:32:07 GMT 2012

Visit	Proposal 12961, Visit 13, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: SAME ORIENT AS 01 Comments: <i>We require SAA-free orbits for this visit.</i>									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=true		(1), (2)						
	(3)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-6814	RA: 19 42 40.5760 (295.6690667d) Dec: -10 19 25.50 (-10.32375d) Equinox: J2000	Redshift: 0.005214	V=12	Reference Frame: ICRS				
Comments: <i>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) NGC-6814	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F160W	SAMP-SEQ=STEP50; NSAMP=15		Pattern 2, Exps 1-1 in Visit 13 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2		(1) NGC-6814	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F160W	SAMP-SEQ=STEP50; NSAMP=15		Pattern 2, Exps 2-2 in Visit 13 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[2]
	3		(1) NGC-6814	WFC3/IR, MULTIACCUM, IR-UVIS-FIX	F160W	SAMP-SEQ=STEP50; NSAMP=12		Pattern 3, Exps 3-3 in Visit 13 (3)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]

