



# 11962 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Cycle: 16, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

## 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) ANTENNAE	WFPC2	4	19-May-2009 21:19:28.0	yes
02	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:33.0	yes
03	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:35.0	yes
04	(1) ANTENNAE	WFPC2	4	19-May-2009 21:19:39.0	yes
05	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:43.0	yes
06	(1) ANTENNAE	WFPC2	4	19-May-2009 21:19:46.0	yes
07	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:51.0	yes
08	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:53.0	yes
09	(1) ANTENNAE	WFPC2	2	19-May-2009 21:19:55.0	yes
10	(1) ANTENNAE	WFPC2	4	19-May-2009 21:19:59.0	yes

Proposal 11962 (STScI Edit Number: 16, Created: Tuesday, May 19, 2009 8:20:54 PM EST) - Overview

<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) ANTENNAE	WFPC2	4	19-May-2009 21:20:08.0	yes
12	(1) ANTENNAE	WFPC2	2	19-May-2009 21:20:12.0	yes
13	(2) NIC2-ANTENNAE-1	NIC2	1	19-May-2009 21:20:14.0	yes
14	(2) NIC2-ANTENNAE-1	NIC2	1	19-May-2009 21:20:16.0	yes
15	(2) NIC2-ANTENNAE-1	NIC2	1	19-May-2009 21:20:18.0	yes
16	(2) NIC2-ANTENNAE-1	NIC2	1	19-May-2009 21:20:20.0	yes
17	(3) NIC2-ANTENNAE-2	NIC2	1	19-May-2009 21:20:22.0	yes
18	(3) NIC2-ANTENNAE-2	NIC2	1	19-May-2009 21:20:24.0	yes
19	(3) NIC2-ANTENNAE-2	NIC2	1	19-May-2009 21:20:26.0	yes
20	(3) NIC2-ANTENNAE-2	NIC2	1	19-May-2009 21:20:28.0	yes
21	(4) NIC2-ANTENNAE-3	NIC2	1	19-May-2009 21:20:30.0	yes
22	(4) NIC2-ANTENNAE-3	NIC2	1	19-May-2009 21:20:32.0	yes
23	(4) NIC2-ANTENNAE-3	NIC2	1	19-May-2009 21:20:34.0	yes
24	(4) NIC2-ANTENNAE-3	NIC2	1	19-May-2009 21:20:36.0	yes
25	(5) NIC2-ANTENNAE-4	NIC2	1	19-May-2009 21:20:38.0	yes
26	(5) NIC2-ANTENNAE-4	NIC2	1	19-May-2009 21:20:40.0	yes
27	(5) NIC2-ANTENNAE-4	NIC2	1	19-May-2009 21:20:42.0	yes
28	(5) NIC2-ANTENNAE-4	NIC2	1	19-May-2009 21:20:44.0	yes
44	(6) ANTENNAE-WFC3	WFC3/IR WFC3/UVIS	3	19-May-2009 21:20:50.0	yes

53 Total Orbits Used

## **ABSTRACT**

A measurement of the Hubble constant to a precision of a few percent would be a powerful aid to the investigation of the nature of dark energy and a potent "end-to-end" test of the present cosmological model. In Cycle 15 we constructed a new, streamlined distance ladder utilizing high-quality type Ia supernova data and observations of Cepheids with HST in the near-IR to minimize the dominant sources of systematic uncertainty in past measurements of the Hubble constant and reduce its total uncertainty to a little under 5%. Here we propose to exploit this new route with a rare opportunity to begin reducing the remaining uncertainty. SN 2007sr in the Antennae (NGC 4038/9) is the rare SN Ia

which is suitable for increasing the precision of small calibration sample of SNe Ia. Even rarer is that it is close enough that its Cepheids are within range of observing with WFPC2 (and NICMOS, should it return to life). But we need to act fast as the window of long visibility and fixed orientation runs from mid-early December 2008 to early March 2009. We request 34 orbits with WFPC2 to find the Cepheids in the SN host. We also request 16 orbits to observe the Cepheids we find with Camera 2, F160W if NICMOS becomes available by April 2009. (If NICMOS does not return we would forgo these observations and ask the TTRB to let us make them with our own WFC3-IR allocation, though we much prefer the smaller pixel size of NIC2).

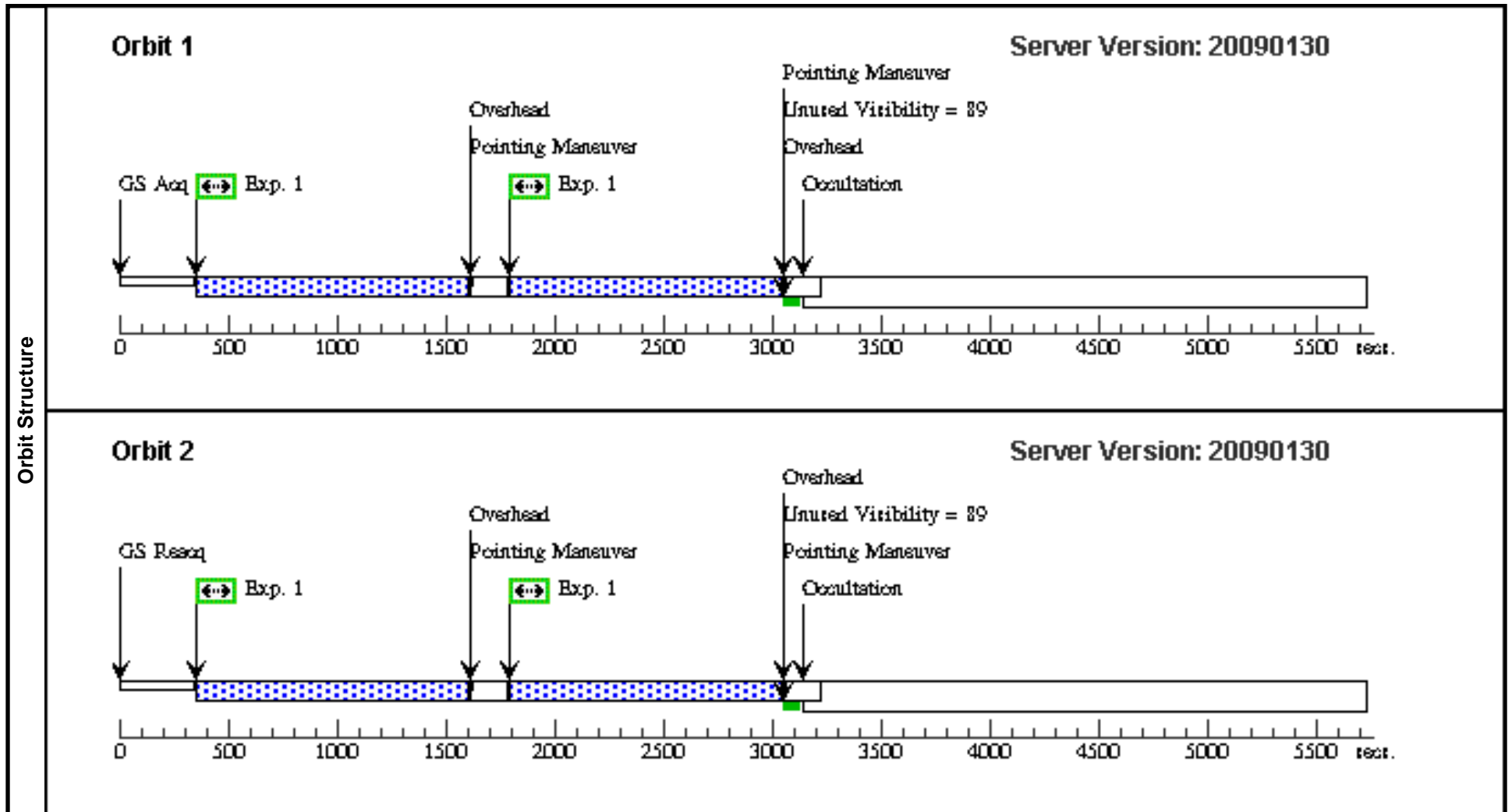
## **OBSERVING DESCRIPTION**

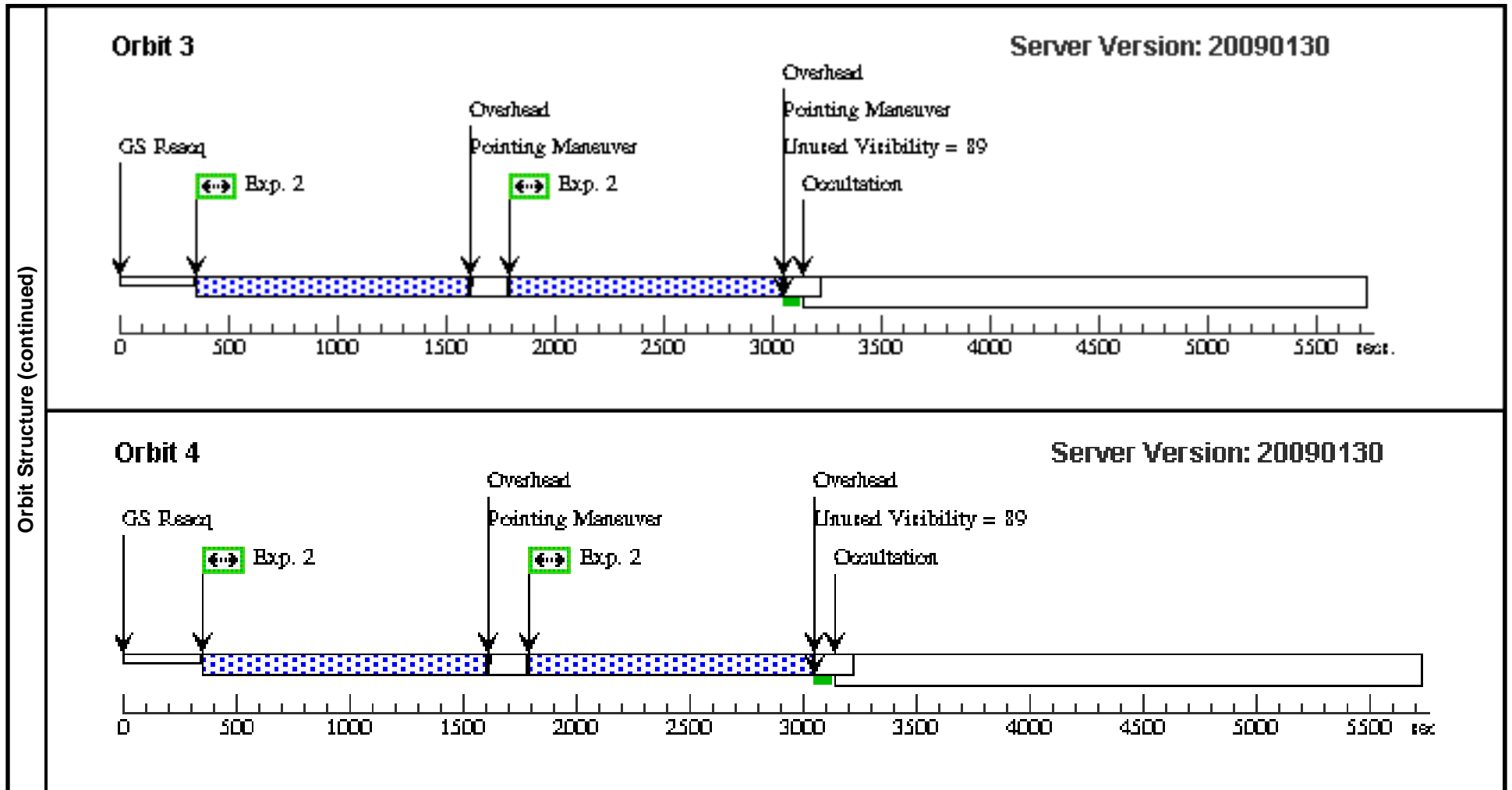
We will conduct observations of a field in NGC 4038/9 (The Antennae) using WFPC2 in F555W and F814W.

Proposal 11962 - Visit 01 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:54 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 01, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 286.0D TO 296 D; BETWEEN 01-DEC-2008:00:35:41 AND 04-DEC-2008:23:35:41									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false					(1), (2)		
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000				V=10	Reference Frame: ICRS		
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	[2]
									[=>(Pattern 4)]	[2]
2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F814W	CR-SPLIT=NO				Pattern 1, Exps 2-2 (1)	1100 Secs	
								[=>(Pattern 1)]	[3]	
								[=>(Pattern 2)]	[3]	
								[=>(Pattern 3)]	[4]	
								[=>(Pattern 4)]	[4]	

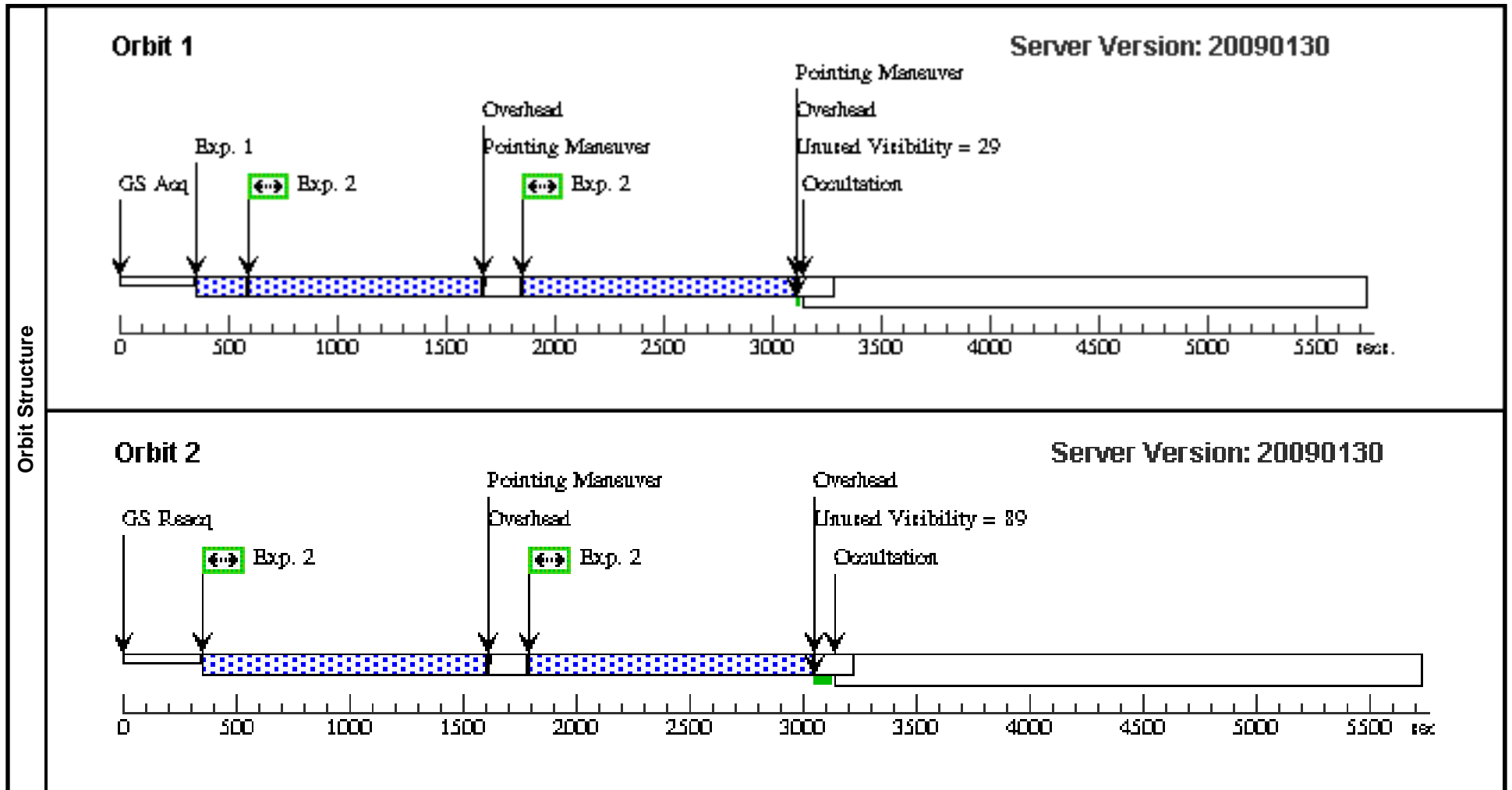




Proposal 11962 - Visit 02 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:56 GMT 2009

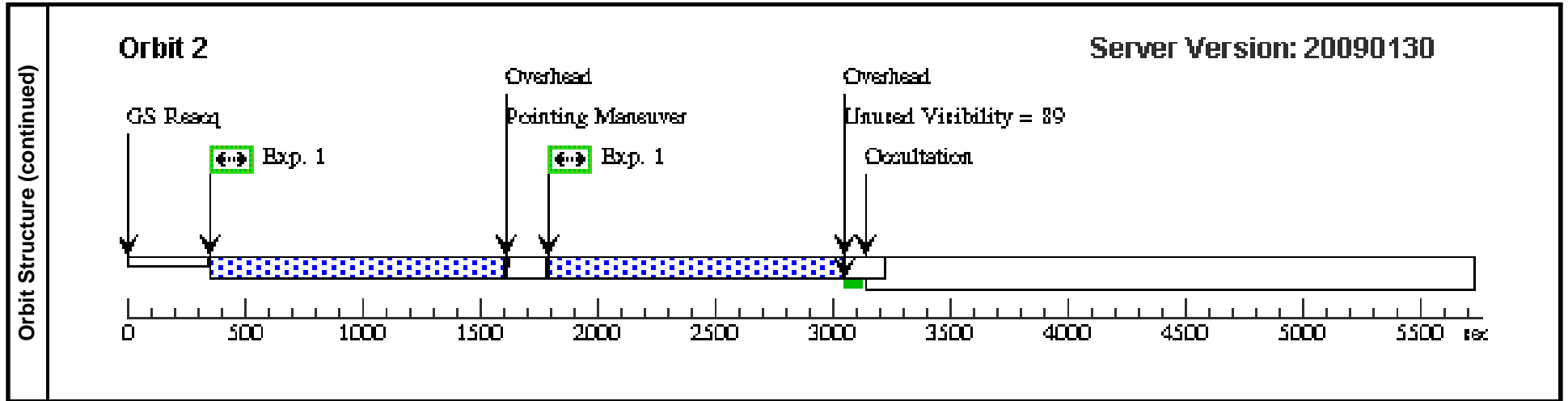
<b>Visit</b>	<b>Proposal 11962, Visit 02, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 7 D TO 8 D										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			<b>Exposures</b>	
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false						(2)		
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000				V=10	Reference Frame: ICRS			
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F165LP	CR-SPLIT=NO				40 Secs		
									[==>]		[1]
	2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 2-2 (1)	1100 Secs		
									[==>1000.0 Secs (Pattern 1)] [==>1100.0 Secs (Pattern 2)]		[1]
								[==>(Pattern 3)] [==>(Pattern 4)]		[2]	



Proposal 11962 - Visit 03 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:56 GMT 2009

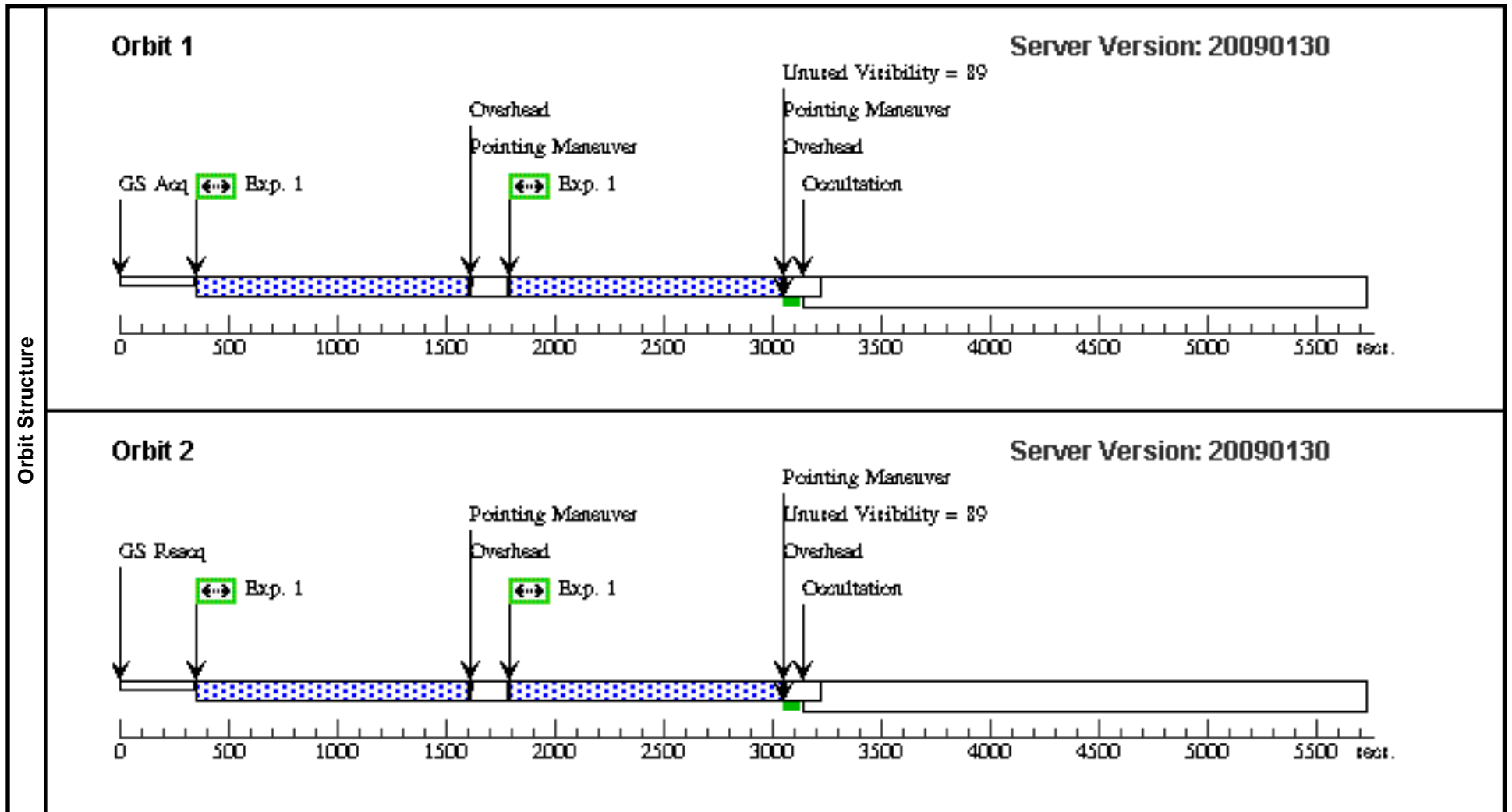
<b>Visit</b>	Proposal 11962, Visit 03, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 12 D TO 13 D									
	<b>Patterns</b>	#	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>					
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false		(1)					
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS				
<b>Exposures</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	(1) ANTENNAE	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO		Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
								[=>(Pattern 2)]		
								[=>(Pattern 3)]		[2]
								[=>(Pattern 4)]		
<b>Orbit Structure</b>	<b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20090130</b></span>									
	<p>                 GS Acq → Exp. 1 → Overhead → Pointing Maneuver → Exp. 1 → Overhead → Pointing Maneuver → Occultation → Unused Visibility = 89             </p> <p>Timeline: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec.</p>									

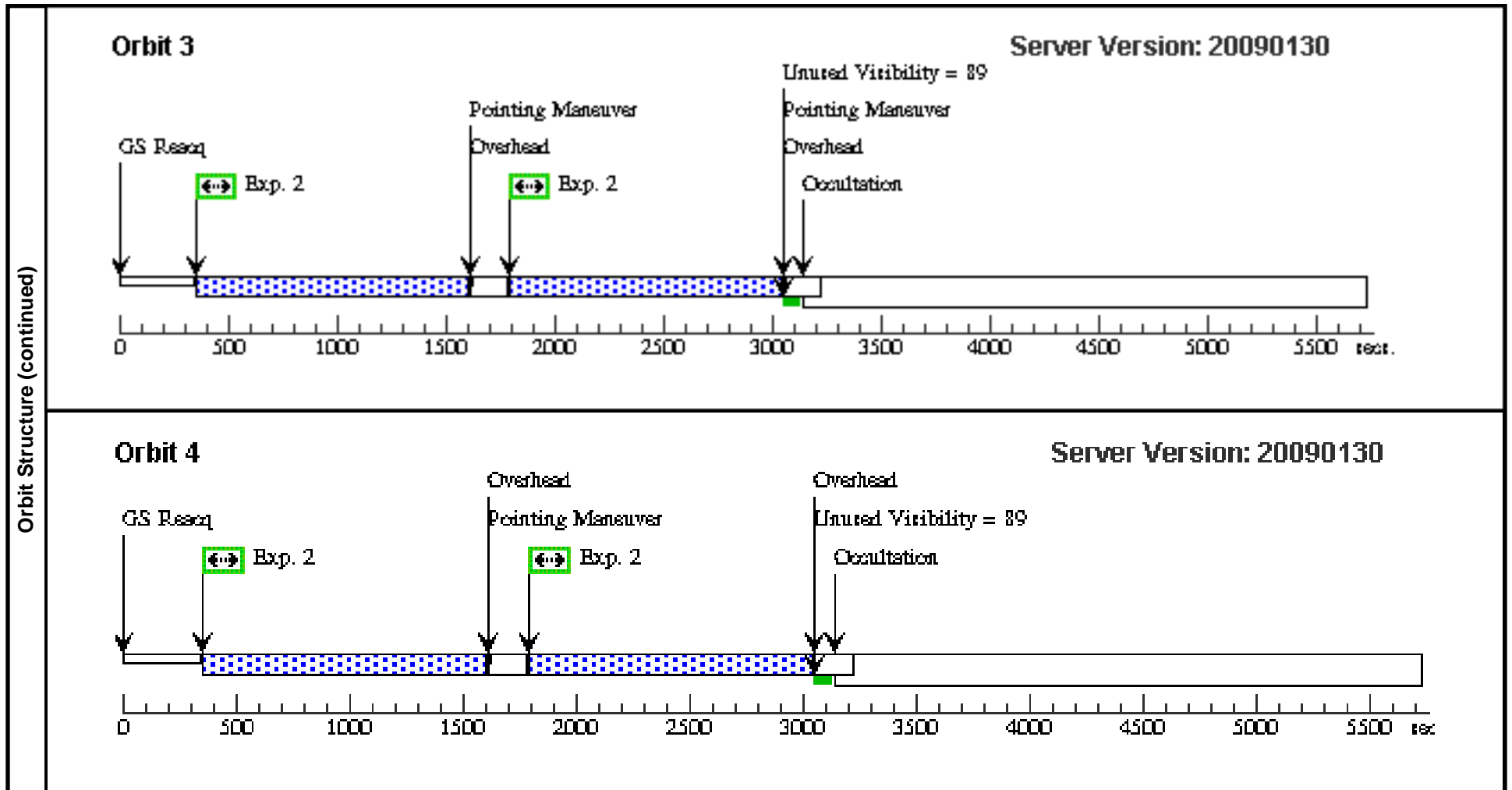


Proposal 11962 - Visit 04 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:56 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 04, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 19.5 D TO 21 D									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false					(1), (2)		
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000				V=10	Reference Frame: ICRS		
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	
									[=>(Pattern 4)]	
2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F814W	CR-SPLIT=NO				Pattern 1, Exps 2-2 (1)	1100 Secs	
									[=>(Pattern 1)]	[3]
									[=>(Pattern 2)]	[4]
									[=>(Pattern 3)]	
									[=>(Pattern 4)]	

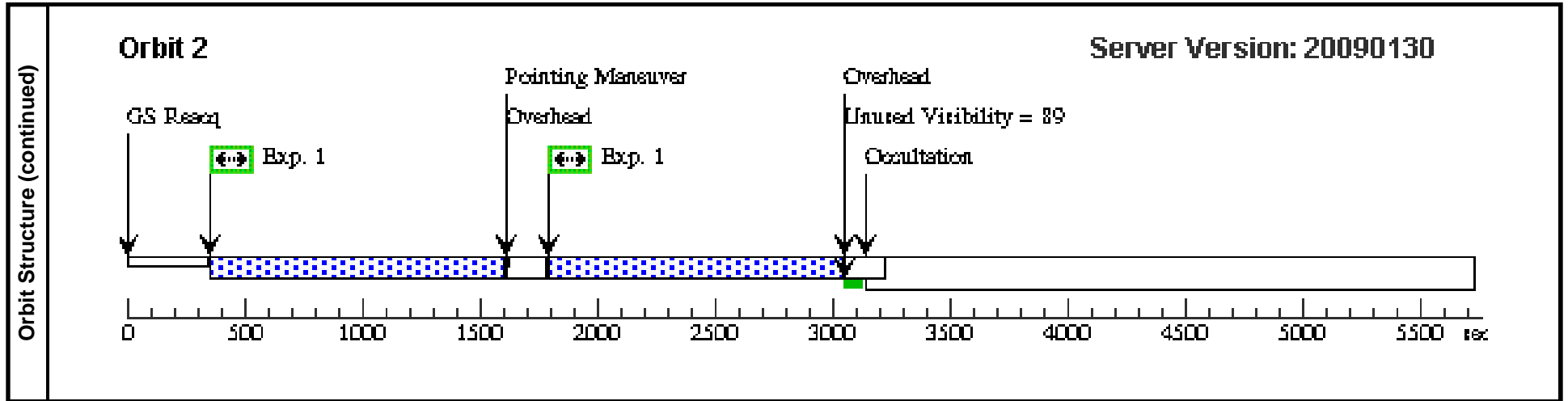




Proposal 11962 - Visit 05 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:57 GMT 2009

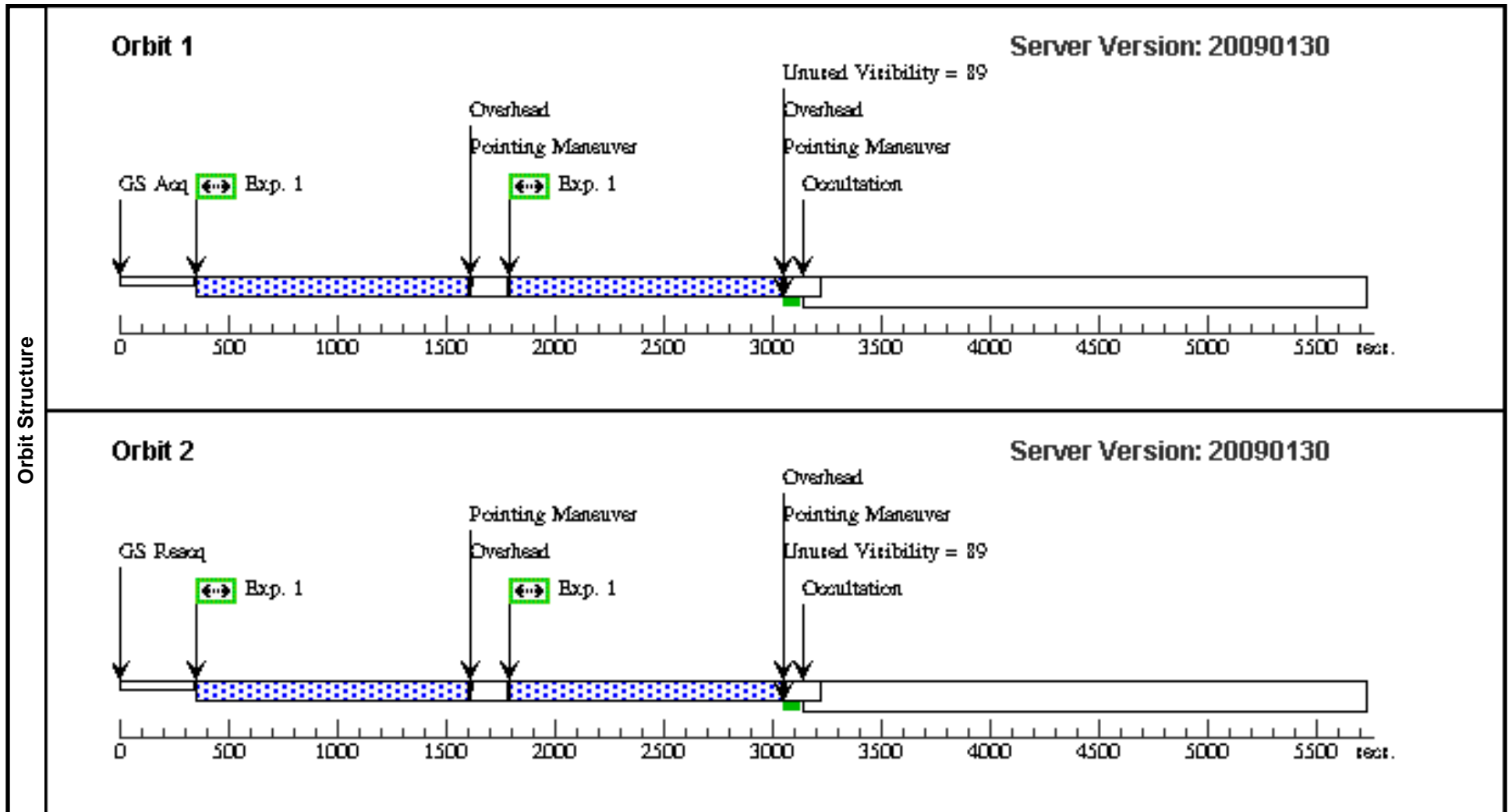
<b>Visit</b>	Proposal 11962, Visit 05, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 30 D TO 32 D									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>					
	(1)	Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 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>				
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS				
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	[2]
									[=>(Pattern 4)]	[2]
<b>Orbit Structure</b>	<p><b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20090130</b></span></p> <p>Timeline labels: GS Acq, Exp. 1, Overhead, Pointing Maneuver, Occultation, Unused Visibility = 89.</p> <p>X-axis: 0, 500, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 4500, 5000, 5500 sec.</p>									

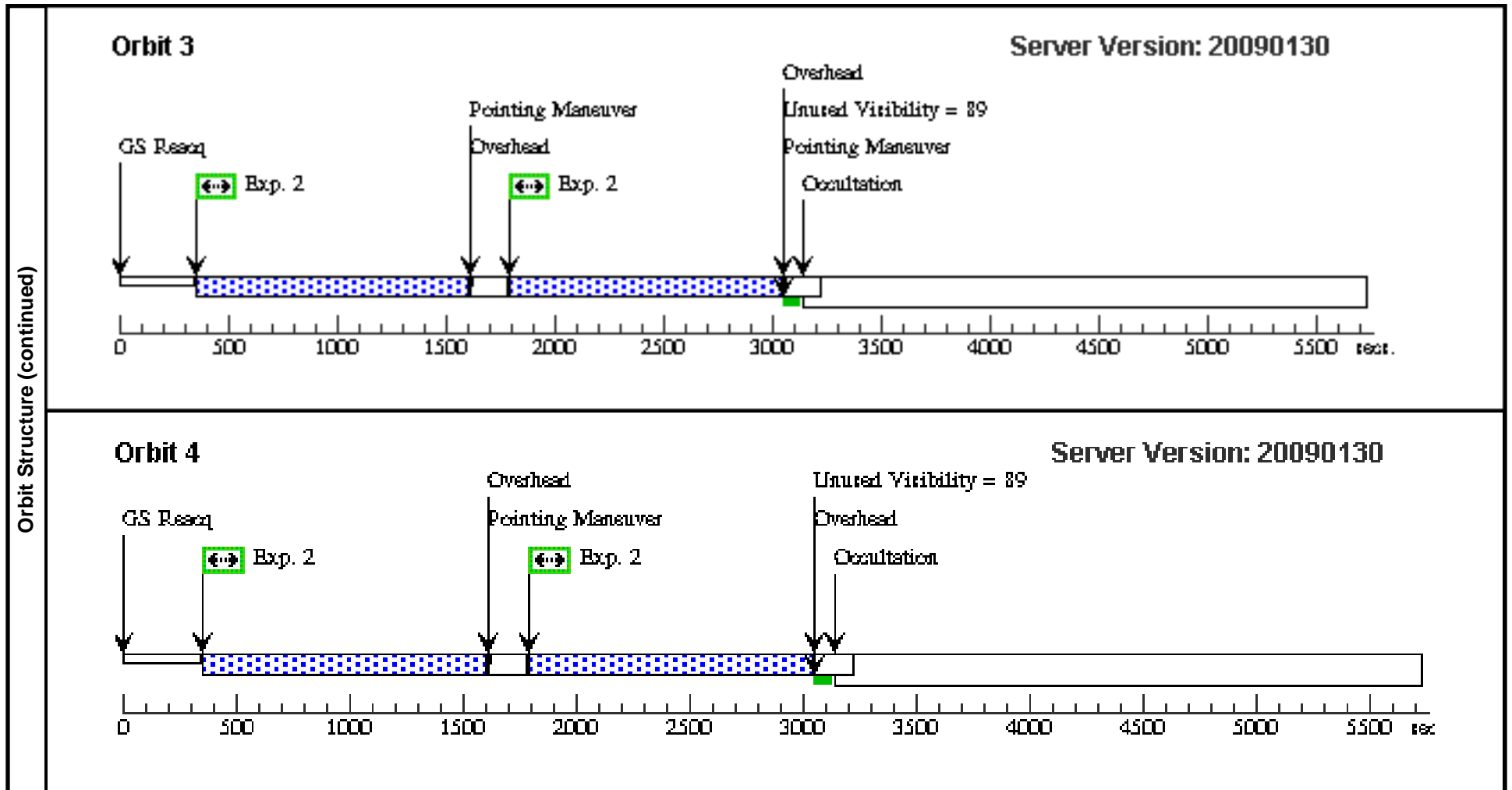


Proposal 11962 - Visit 06 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:57 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 06, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 33.9 D TO 34.9 D									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false					(1), (2)		
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000				V=10	Reference Frame: ICRS		
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	
									[=>(Pattern 4)]	
2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F814W	CR-SPLIT=NO				Pattern 1, Exps 2-2 (1)	1100 Secs	
								[=>(Pattern 1)]	[3]	
								[=>(Pattern 2)]	[4]	
								[=>(Pattern 3)]		
								[=>(Pattern 4)]		

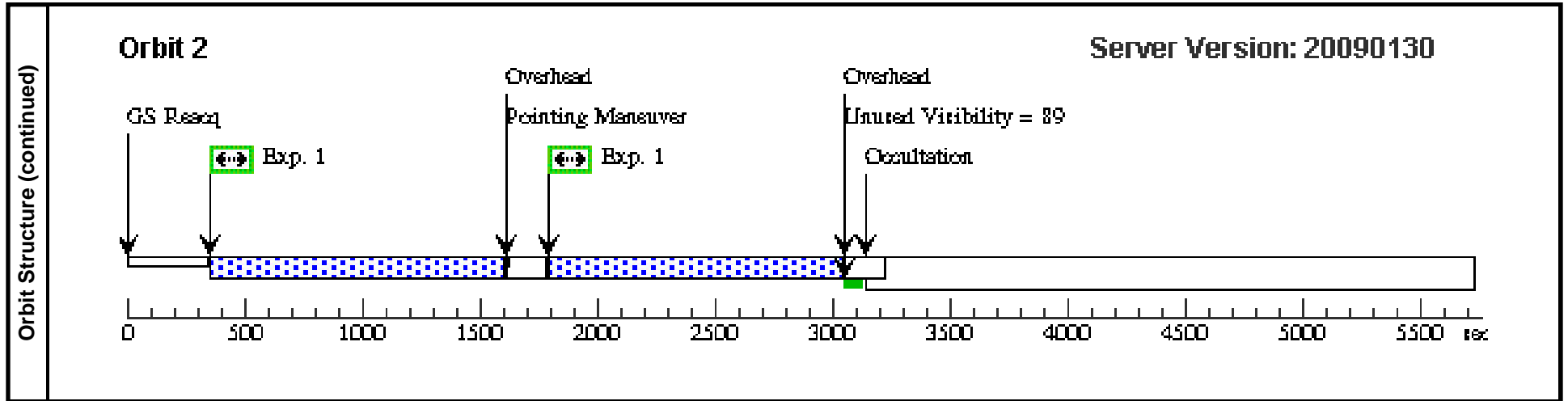




Proposal 11962 - Visit 07 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:58 GMT 2009

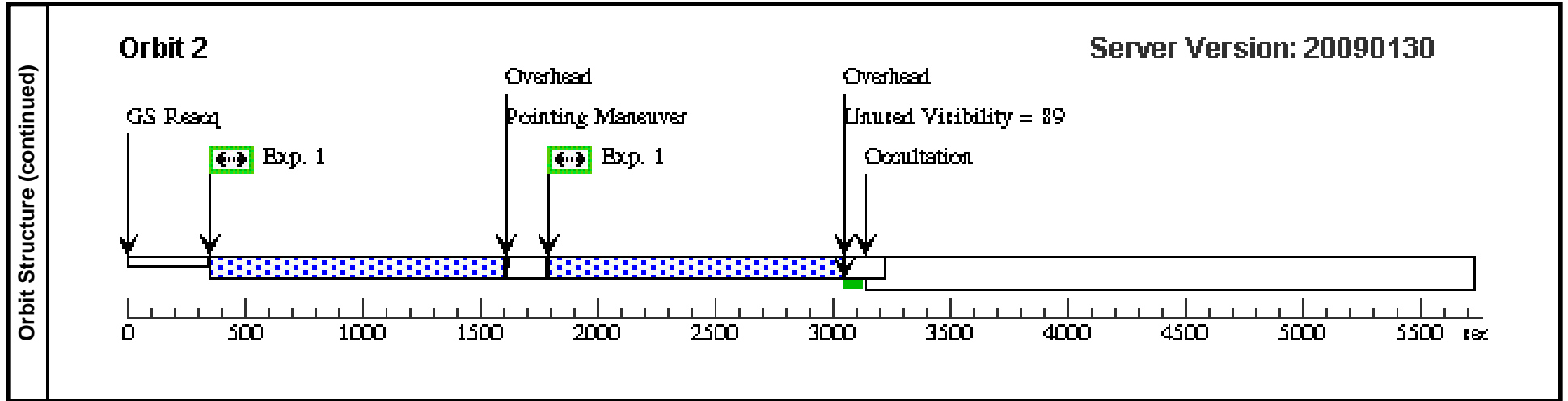
<b>Visit</b>	Proposal 11962, Visit 07, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 38.9 D TO 39.9 D									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>					
	(1)	Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 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>				
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS				
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	
									[=>(Pattern 3)]	[2]
									[=>(Pattern 4)]	
<b>Orbit Structure</b>	<b>Orbit 1</b> <span style="float: right;">Server Version: 20090130</span>									
	<p>                 GS Acq    Exp. 1    Pointing Maneuver    Overhead    Unused Visibility = 89    Occultation    Exp. 1    Pointing Maneuver    Overhead             </p> <p>0    500    1000    1500    2000    2500    3000    3500    4000    4500    5000    5500 sec.</p>									



Proposal 11962 - Visit 08 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:58 GMT 2009

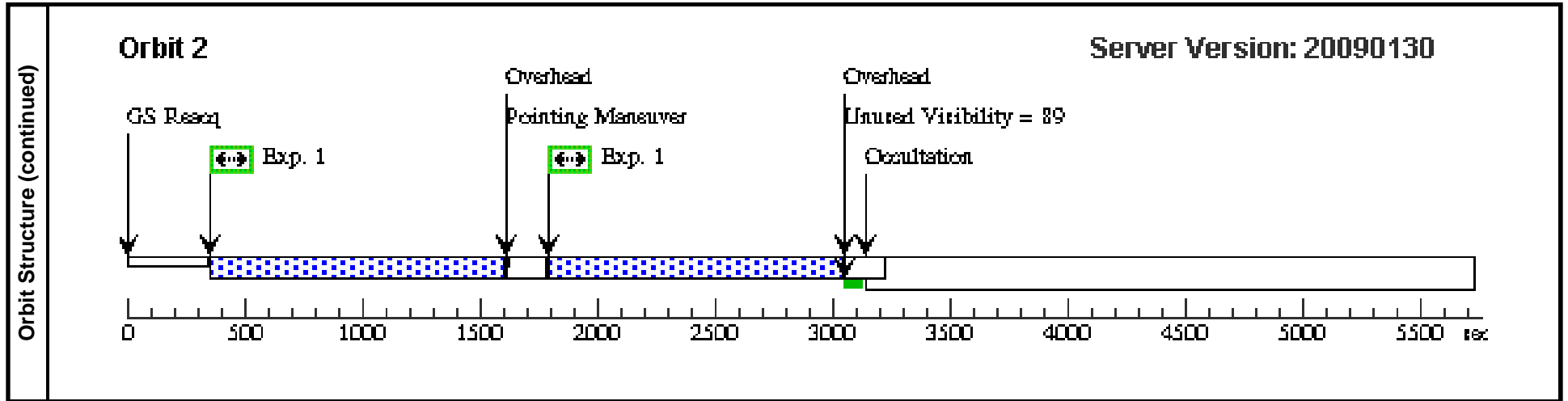
<b>Visit</b>	Proposal 11962, Visit 08, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 45.4 D TO 46.4 D									
	<b>Patterns</b>	#	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>					
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false		(1)					
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS				
<b>Exposures</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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]
<b>Orbit Structure</b>	<b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20090130</b></span>									
	<p>The diagram illustrates the orbit structure for Orbit 1, spanning from 0 to 5500 seconds. Key events are marked with arrows: GS Acq at approximately 200 seconds, the first exposure (Exp. 1) at 400 seconds, a pointing maneuver at 1600 seconds, the second exposure (Exp. 1) at 1800 seconds, another pointing maneuver at 3000 seconds, occultation at 3100 seconds, and a final overhead period. A blue dotted bar represents the primary observation period. The unused visibility is noted as 89.</p>									



Proposal 11962 - Visit 09 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:59 GMT 2009

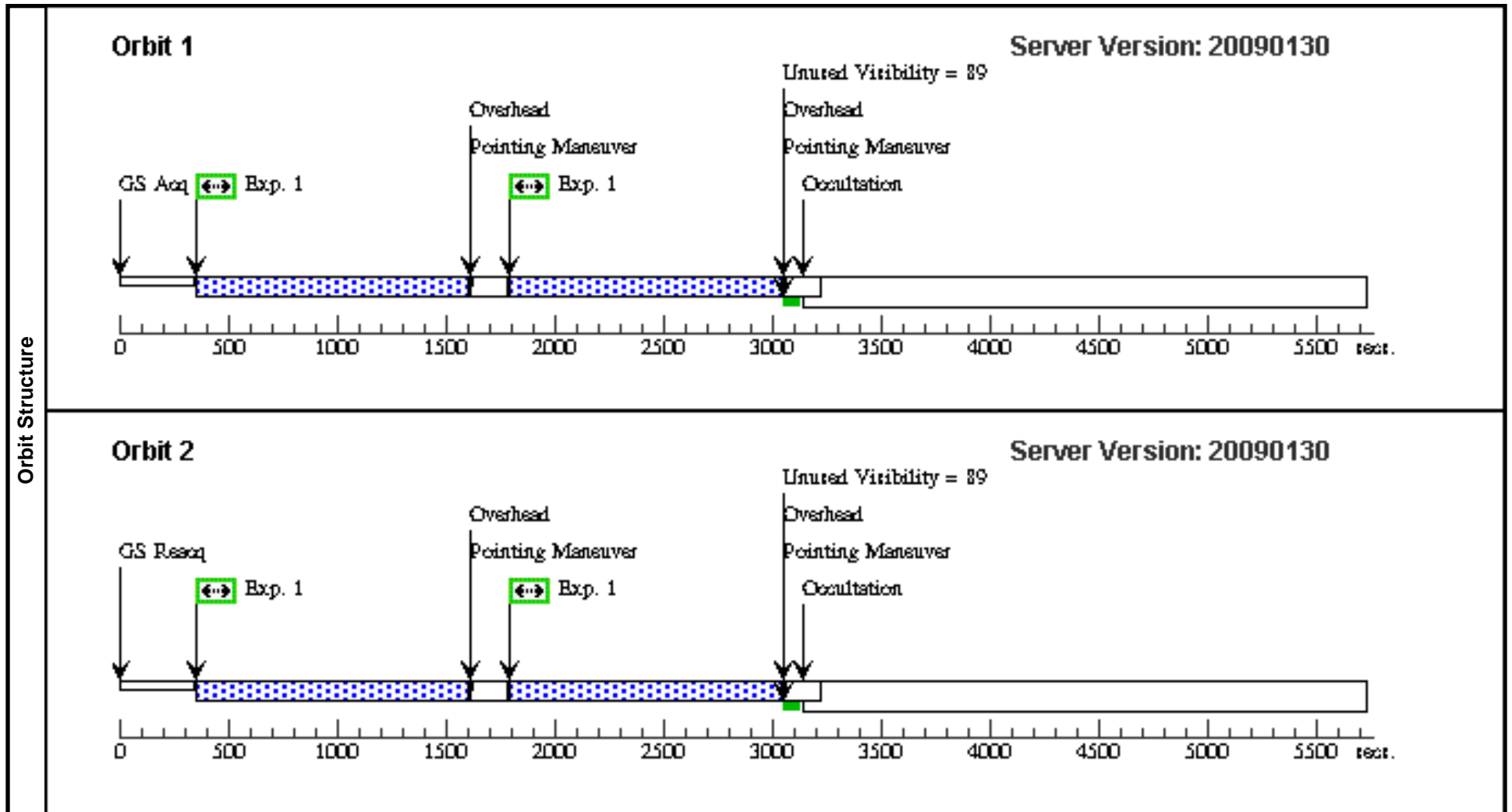
<b>Visit</b>	Proposal 11962, Visit 09, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 49.4 D TO 50.4 D										
	<b>Patterns</b>	#	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false		(1)						
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>					
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS					
<b>Exposures</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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]	
<b>Orbit Structure</b>	<b>Orbit 1</b> <span style="float: right;"><b>Server Version: 20090130</b></span>										
	<p>Unused Visibility = 89</p>										

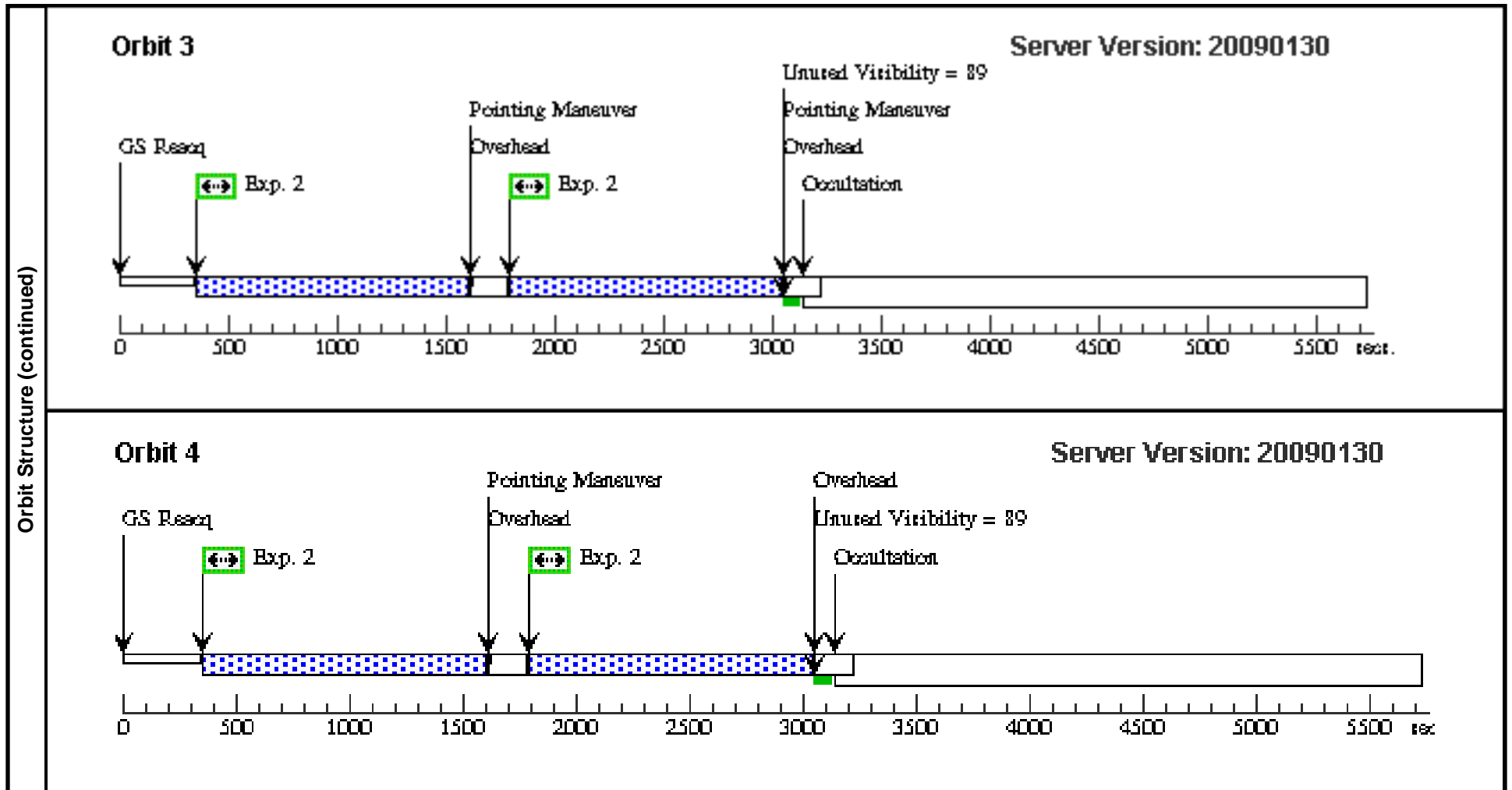


Proposal 11962 - Visit 10 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:20:59 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 10, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 54.7 D TO 58.7 D										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			<b>Exposures</b>	
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false						(1), (2)		
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000				V=10	Reference Frame: ICRS			
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs		
									[=>(Pattern 1)]		[1]
									[=>(Pattern 2)]		[2]
									[=>(Pattern 3)]		[2]
									[=>(Pattern 4)]		[2]
2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F814W	CR-SPLIT=NO				Pattern 1, Exps 2-2 (1)	1100 Secs		
									[=>(Pattern 1)]		[3]
									[=>(Pattern 2)]		[3]
									[=>(Pattern 3)]		[4]
									[=>(Pattern 4)]		[4]

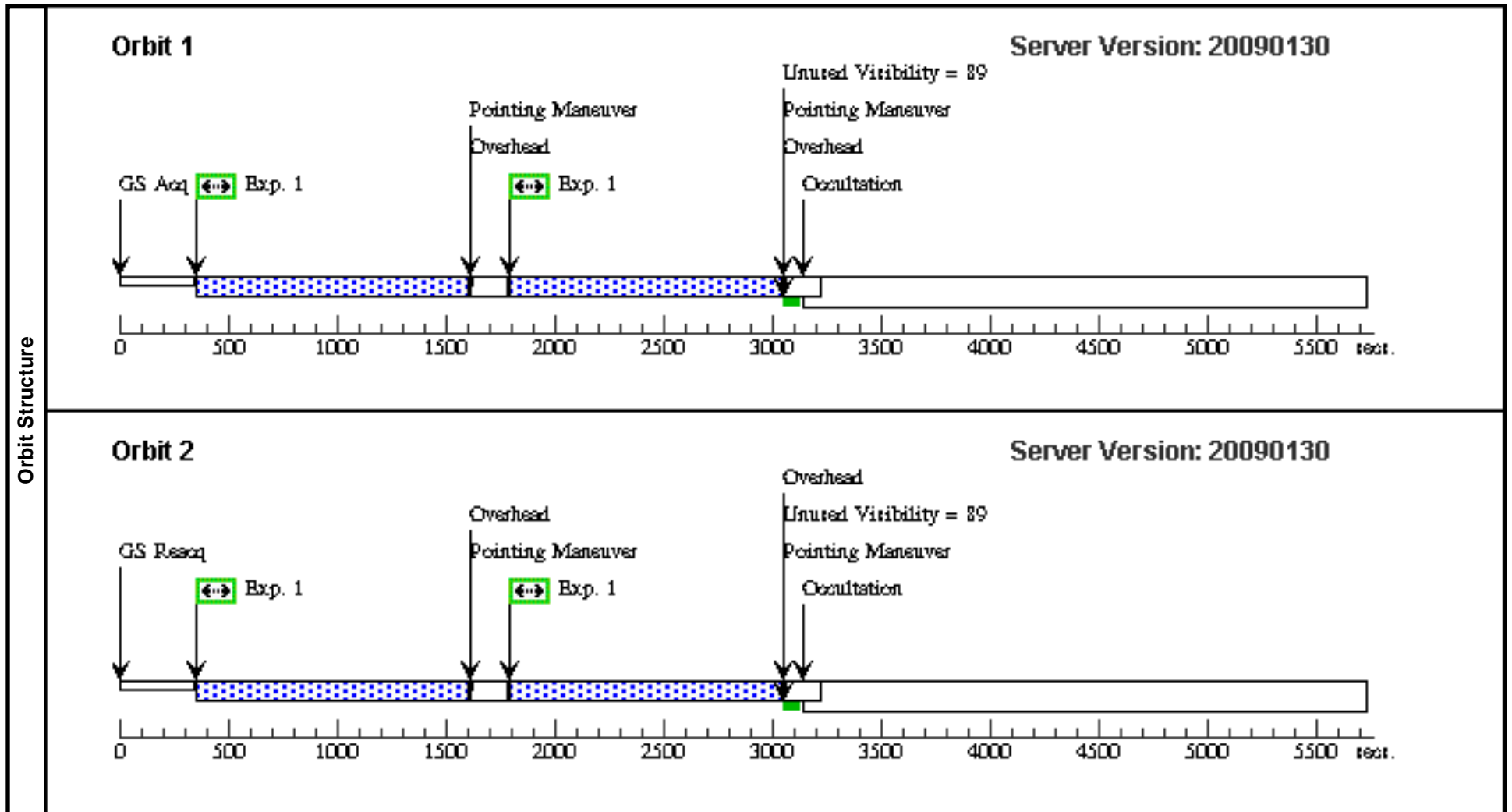


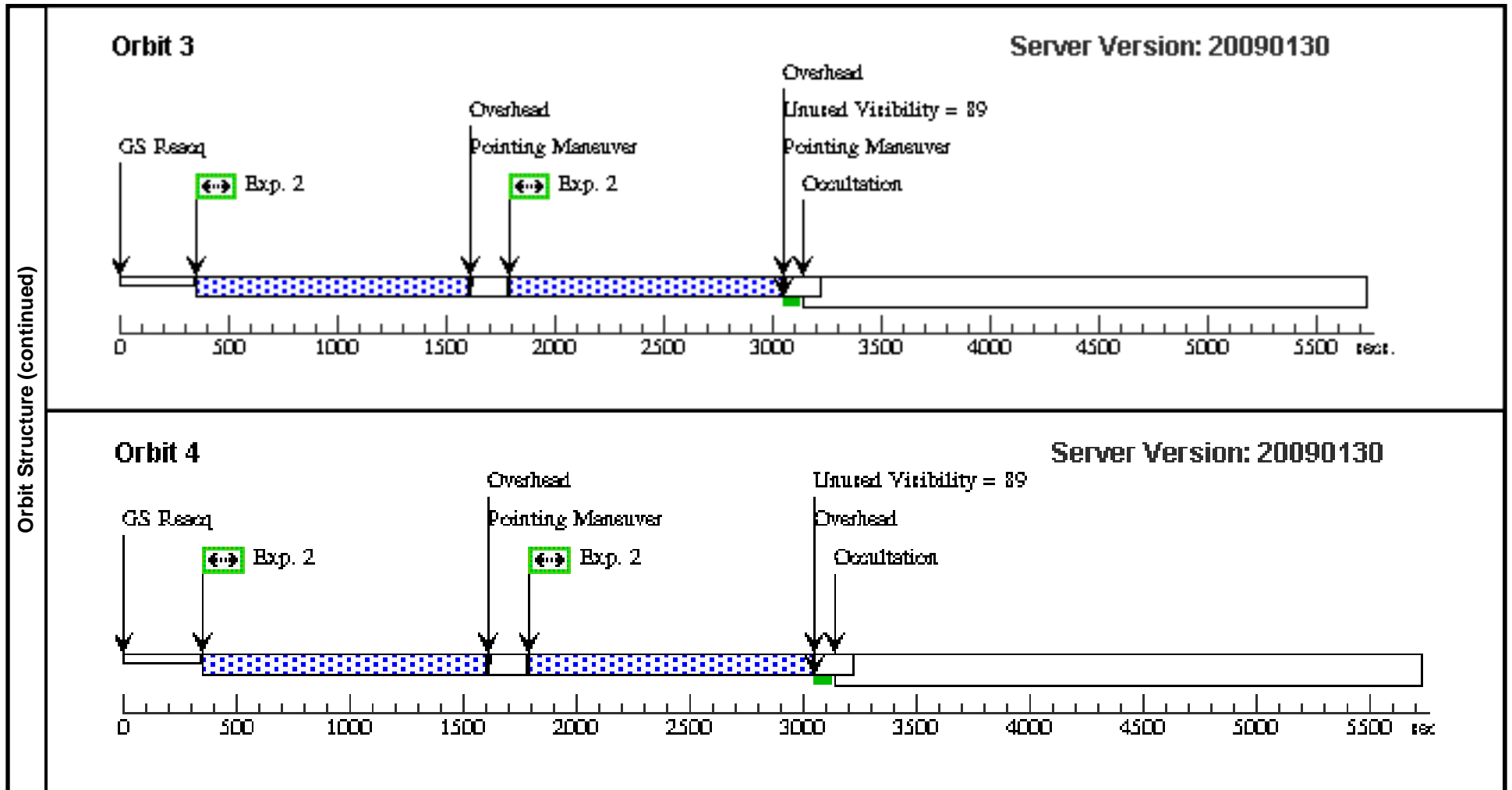


Proposal 11962 - Visit 11 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:21:00 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 11, completed</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 62.0 D TO 63 D										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(1)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 Center Pattern=false					(1), (2)			
<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)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000			V=10	Reference Frame: ICRS				
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs		
									[=>(Pattern 1)]		[1]
									[=>(Pattern 2)]		[2]
									[=>(Pattern 3)]		
									[=>(Pattern 4)]		
2	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F814W	CR-SPLIT=NO				Pattern 1, Exps 2-2 (1)	1100 Secs		
								[=>(Pattern 1)]		[3]	
								[=>(Pattern 2)]		[4]	
								[=>(Pattern 3)]			
								[=>(Pattern 4)]			

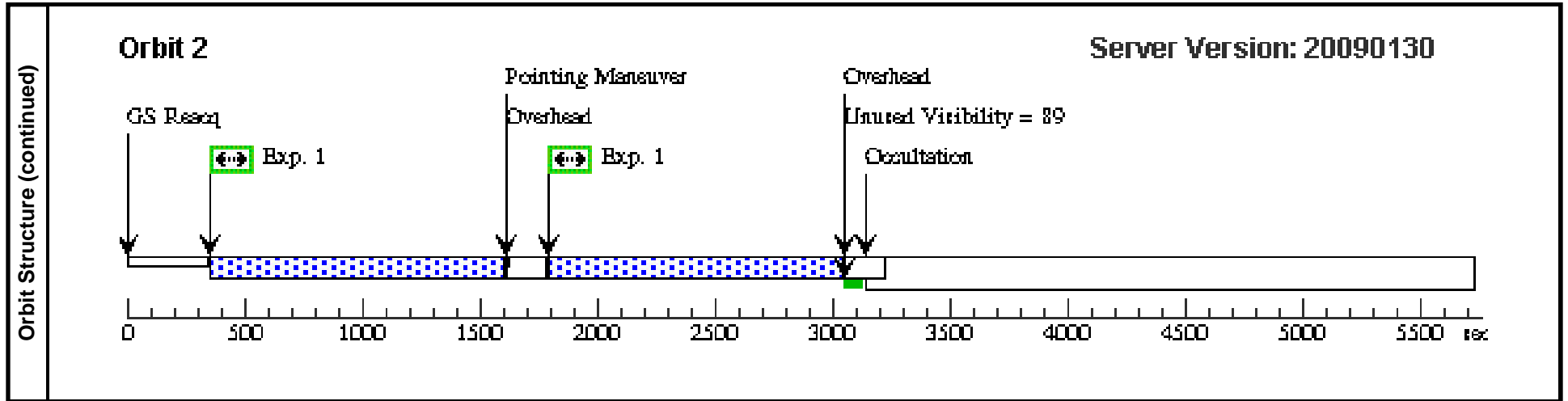




Proposal 11962 - Visit 12 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

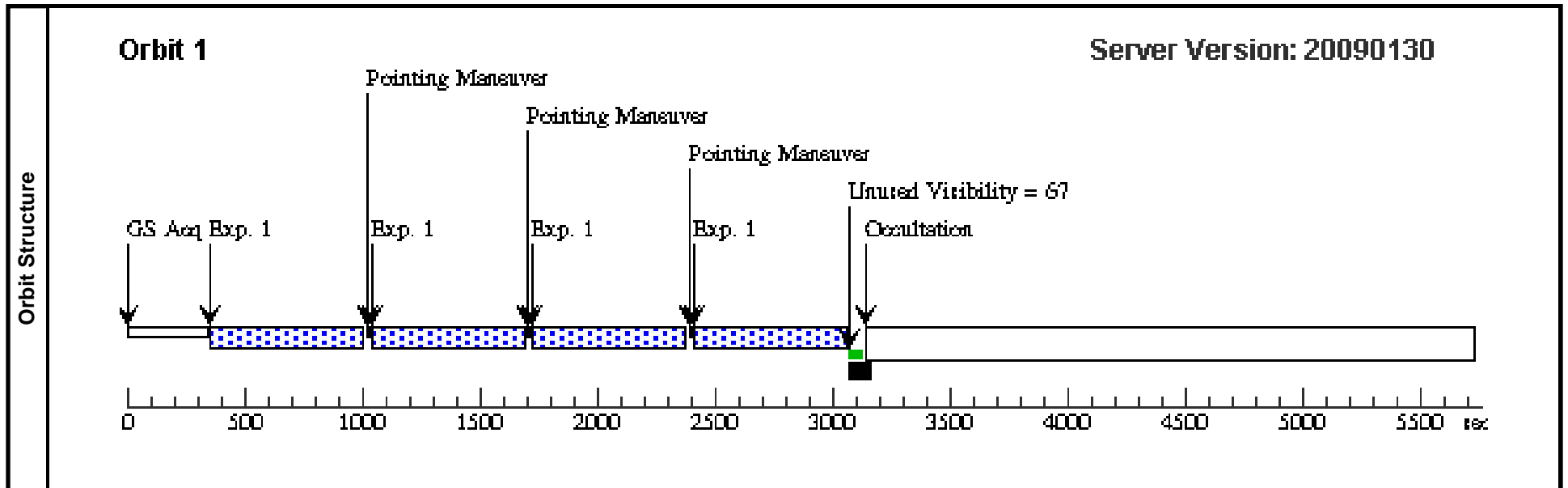
Wed May 20 01:21:00 GMT 2009

<b>Visit</b>	Proposal 11962, Visit 12, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: ORIENT 290D TO 290 D; AFTER 01 BY 68.5 D TO 70.5 D									
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>					
	(1)	Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559017 Line Spacing=0.559017	Coordinate Frame=POS-TARG Pattern Orientation=26.56505 Angle Between Sides=143.130102 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>				
	(1)	ANTENNAE	RA: 12 01 52.9275 (180.4705312d) Dec: -18 52 30.65 (-18.87518d) Equinox: J2000		V=10	Reference Frame: ICRS				
<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	(1) ANTENNAE	WFPC2, IMAGE, WFALL-FIX	F555W	CR-SPLIT=NO			Pattern 1, Exps 1-1 (1)	1100 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	
									[=>(Pattern 4)]	
<b>Orbit Structure</b>	<div style="display: flex; justify-content: space-between;"> <span><b>Orbit 1</b></span> <span><b>Server Version: 20090130</b></span> </div> <p>The diagram illustrates the orbit structure over a 5500-second period. It shows the timing of various activities: GS Acq (Green Start Acquisition) at approximately 300 seconds, followed by the first exposure (Exp. 1) at 400 seconds. A pointing maneuver occurs at 1600 seconds, followed by a second exposure (Exp. 1) at 1800 seconds. Another pointing maneuver is scheduled at 3000 seconds, with occultation beginning at 3100 seconds. The orbit ends with an overhead period. The total unused visibility is 89%.</p>									



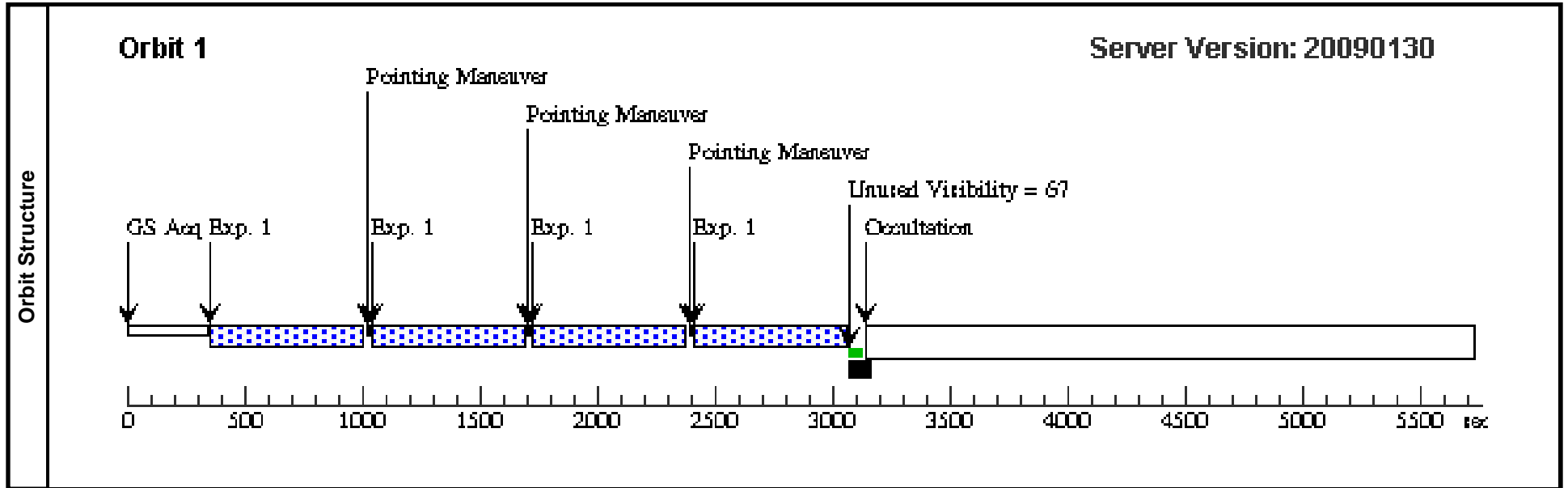
Proposal 11962 - Visit 13 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 13, withdrawn <span style="float: right;">Wed May 20 01:21:01 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: ORIENT 310D TO 30 D; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45									
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			
(2)		Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG							(1)
		Purpose=DITHER	Pattern Orientation=90.0							
		Number Of Points=4	Angle Between Sides=							
		Point Spacing=0.41445	Center Pattern=false							
		Line Spacing=								
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>		
	(2)	NIC2-ANTENNAE-1	RA: 12 01 55.3454 (180.4806058d)				V=11	Reference Frame: ICRS		
			Dec: -18 51 44.36 (-18.86232d)							
			Equinox: J2000							
<b>Exposures</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) NIC2-ANTENN AE-1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



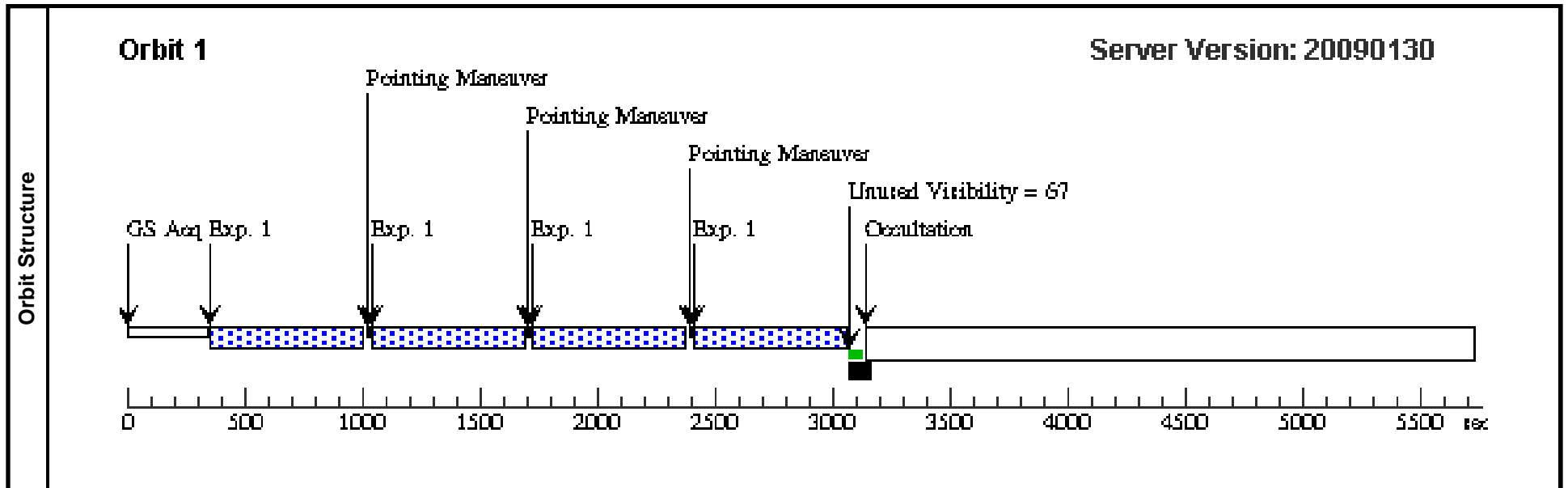
Proposal 11962 - Visit 14 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 14, withdrawn <span style="float: right;">Wed May 20 01:21:01 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 13; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=4                  Angle Between Sides= Point Spacing=0.41445              Center Pattern=false Line Spacing=						(1)			
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(2)	NIC2-ANTENNAE-1	RA: 12 01 55.3454 (180.4806058d) Dec: -18 51 44.36 (-18.86232d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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) NIC2-ANTENN AE-1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



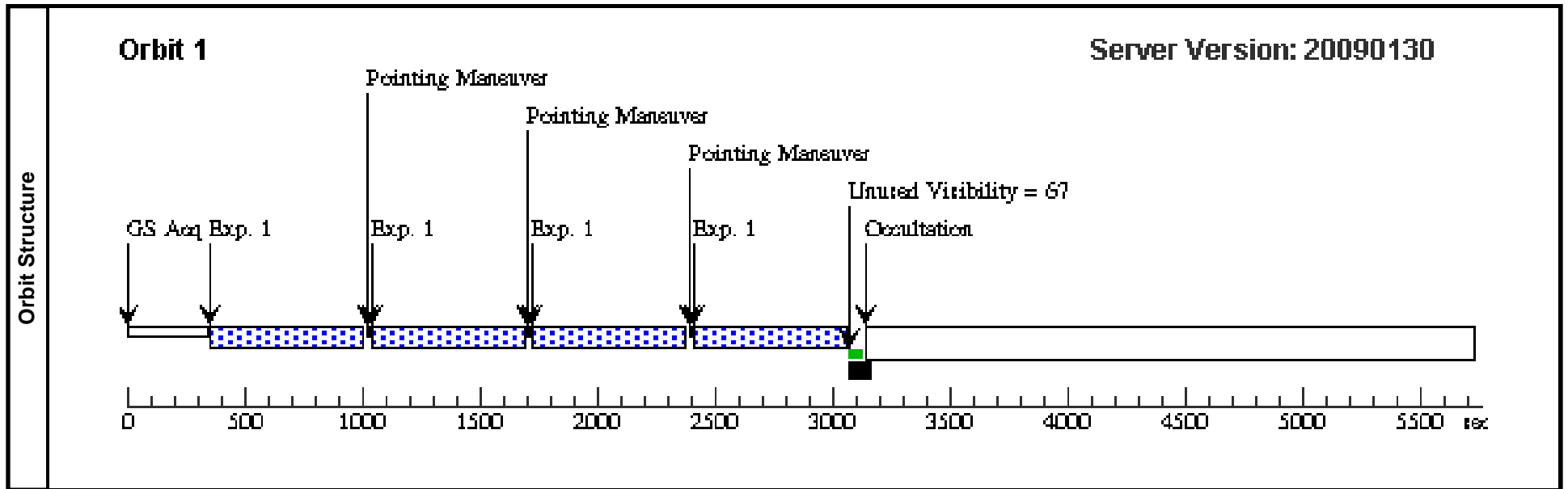
Proposal 11962 - Visit 15 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	<b>Proposal 11962, Visit 15, withdrawn</b> <span style="float: right;">Wed May 20 01:21:01 GMT 2009</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 13; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                          Pattern Orientation=90.0 Number Of Points=4                      Angle Between Sides= Point Spacing=0.41445                  Center Pattern=false Line Spacing=						(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)	NIC2-ANTENNAE-1	RA: 12 01 55.3454 (180.4806058d) Dec: -18 51 44.36 (-18.86232d) Equinox: J2000				V=11	Reference Frame: ICRS			
<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) NIC2-ANTENN AE-1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



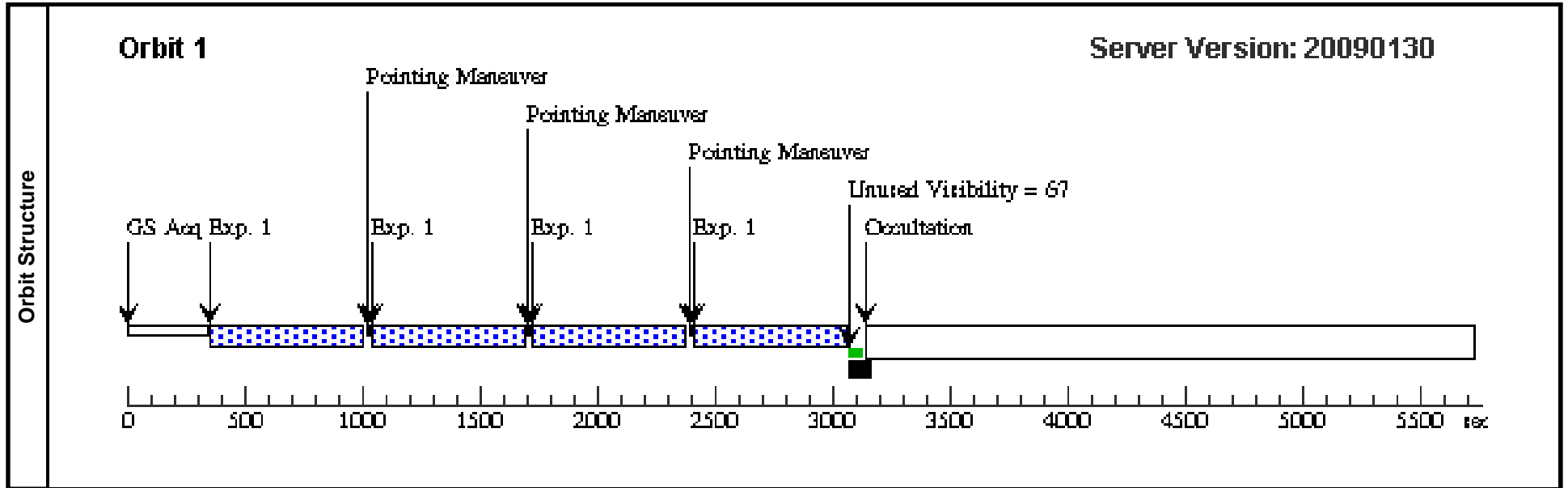
Proposal 11962 - Visit 16 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	<b>Proposal 11962, Visit 16, withdrawn</b> <span style="float: right;">Wed May 20 01:21:01 GMT 2009</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 13; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=0.41445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= 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)	NIC2-ANTENNAE-1	RA: 12 01 55.3454 (180.4806058d) Dec: -18 51 44.36 (-18.86232d) Equinox: J2000			V=11	Reference Frame: ICRS				
<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) NIC2-ANTENN AE-1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



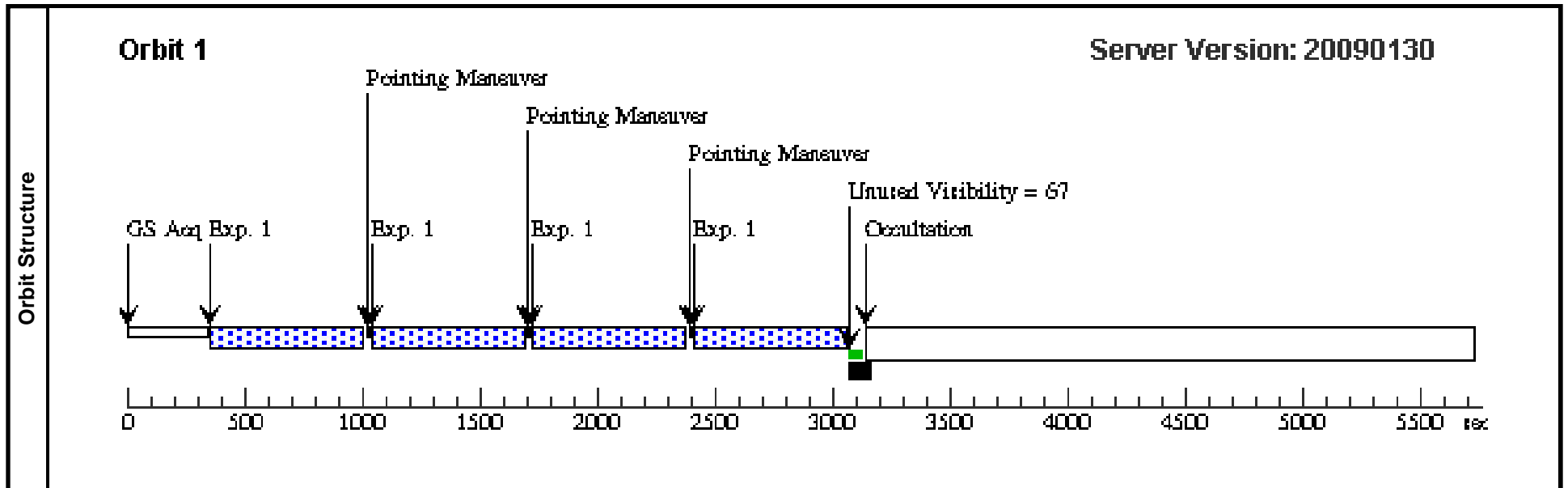
Proposal 11962 - Visit 17 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 17, withdrawn <span style="float: right;">Wed May 20 01:21:01 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: ORIENT 310D TO 30 D; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                          Pattern Orientation=90.0 Number Of Points=4                      Angle Between Sides= Point Spacing=0.41445                  Center Pattern=false Line Spacing=						(1)			
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(3)	NIC2-ANTENNAE-2	RA: 12 01 50.4951 (180.4603962d) Dec: -18 52 19.53 (-18.87209d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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		(3) NIC2-ANTENN AE-2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



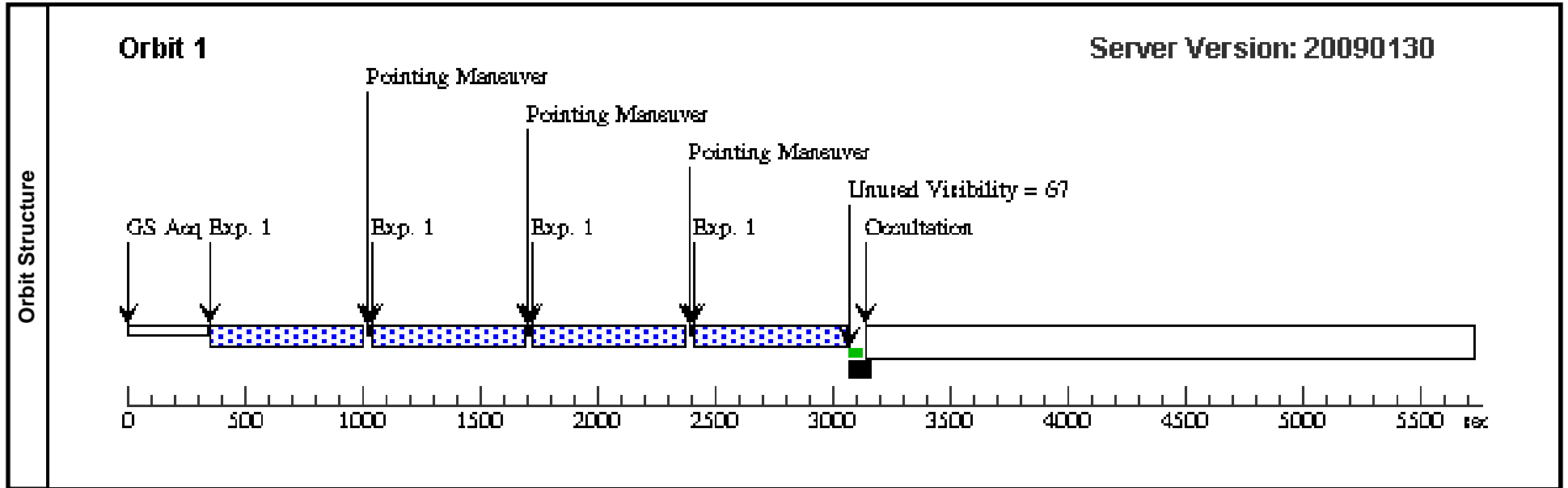
Proposal 11962 - Visit 18 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 18, withdrawn <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 17; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=4                  Angle Between Sides= Point Spacing=0.41445              Center Pattern=false Line Spacing=						(1)			
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(3)	NIC2-ANTENNAE-2	RA: 12 01 50.4951 (180.4603962d) Dec: -18 52 19.53 (-18.87209d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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		(3) NIC2-ANTENN AE-2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



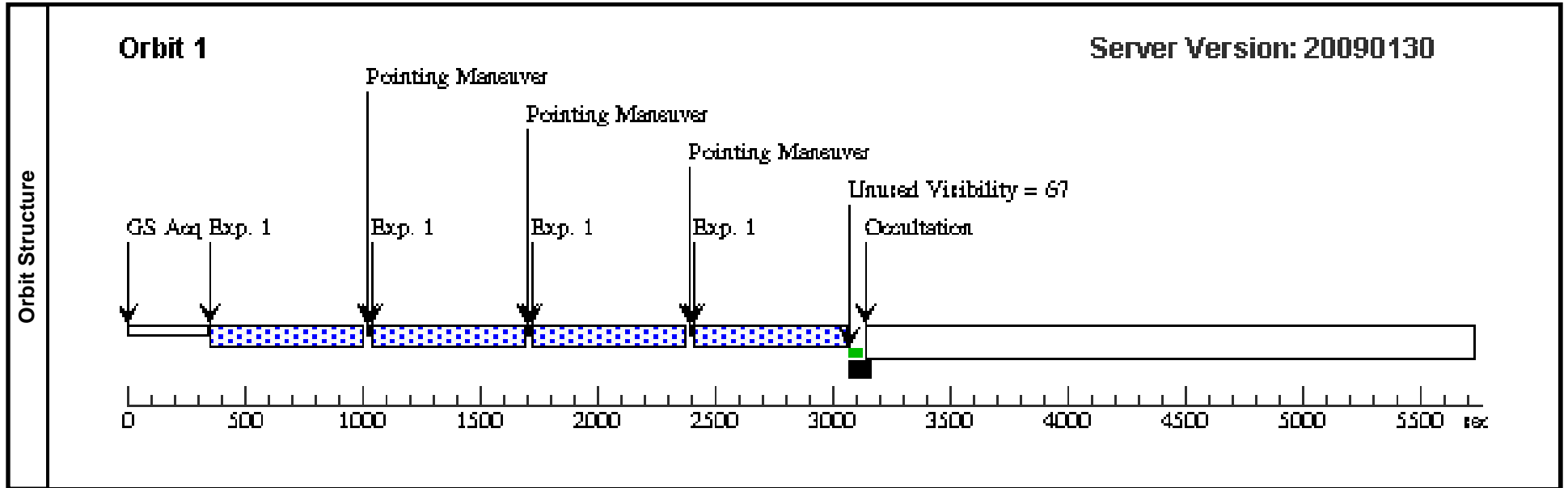
Proposal 11962 - Visit 19 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 19, withdrawn <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 17; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=90.0								
		Number Of Points=4	Angle Between Sides=								
		Point Spacing=0.41445	Center Pattern=false								
		Line Spacing=									
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>		<b>Miscellaneous</b>		
	(3)	NIC2-ANTENNAE-2	RA: 12 01 50.4951 (180.4603962d)	Dec: -18 52 19.53 (-18.87209d)	Equinox: J2000		V=11		Reference Frame: ICRS		
<b>Exposures</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		(3) NIC2-ANTENNAE-2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



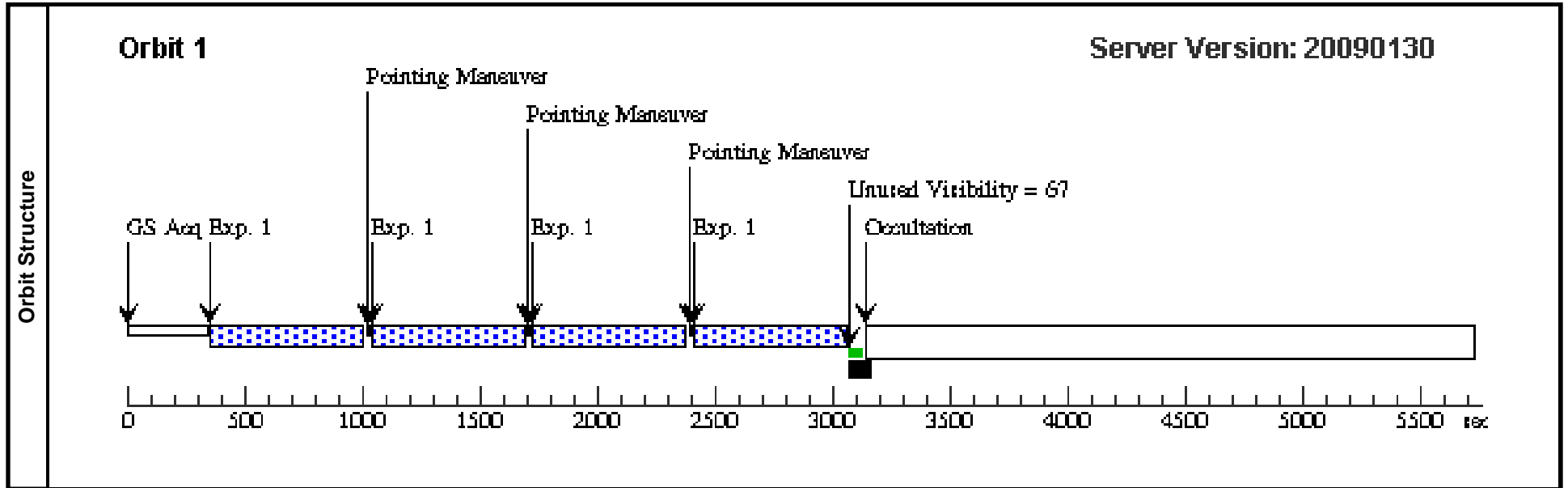
Proposal 11962 - Visit 20 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 20, withdrawn <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 17; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=90.0								
		Number Of Points=4	Angle Between Sides=								
		Point Spacing=0.41445	Center Pattern=false								
		Line Spacing=									
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(3)	NIC2-ANTENNAE-2	RA: 12 01 50.4951 (180.4603962d)	Dec: -18 52 19.53 (-18.87209d)			V=11	Reference Frame: ICRS			
			Equinox: J2000								
<b>Exposures</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		(3) NIC2-ANTENNAE-2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



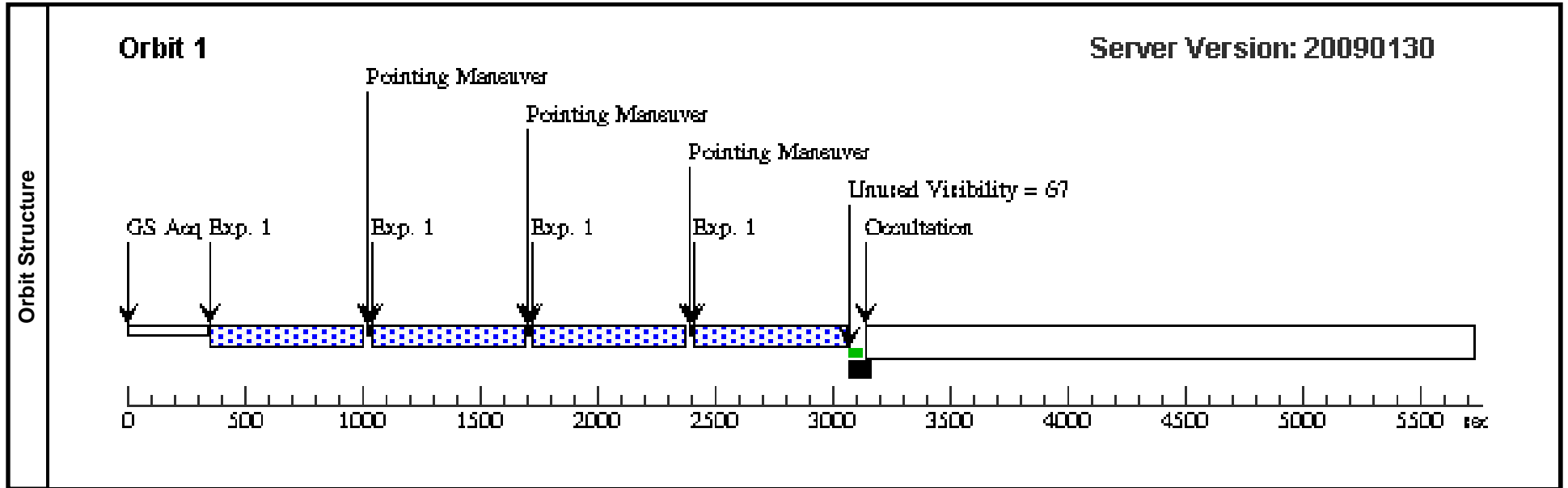
Proposal 11962 - Visit 21 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 21, withdrawn <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: ORIENT 310D TO 30 D; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=90.0								
		Number Of Points=4	Angle Between Sides=								
		Point Spacing=0.41445	Center Pattern=false								
		Line Spacing=									
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(4)	NIC2-ANTENNAE-3	RA: 12 01 54.5370 (180.4772375d)				V=11	Reference Frame: ICRS			
			Dec: -18 53 5.73 (-18.88493d)								
			Equinox: J2000								
<b>Exposures</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		(4) NIC2-ANTENN AE-3	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



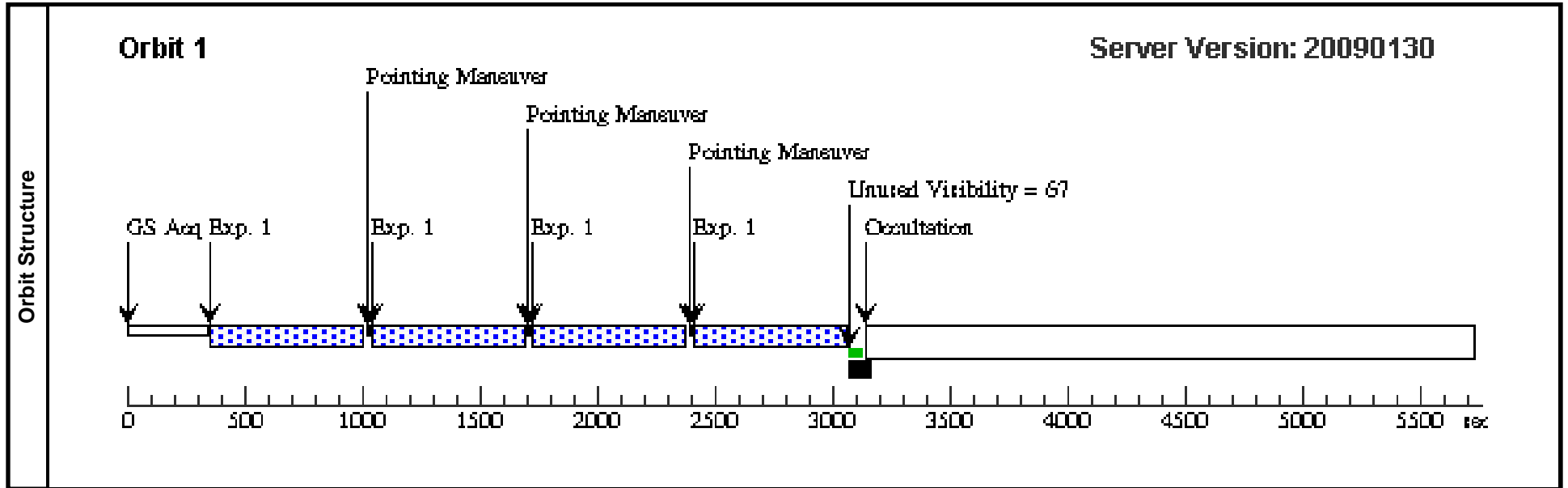
Proposal 11962 - Visit 22 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	<b>Proposal 11962, Visit 22, withdrawn</b> <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 21; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=0.41445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= 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>			
	(4)	NIC2-ANTENNAE-3	RA: 12 01 54.5370 (180.4772375d) Dec: -18 53 5.73 (-18.88493d) Equinox: J2000				V=11	Reference Frame: ICRS			
<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		(4) NIC2-ANTENN AE-3	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



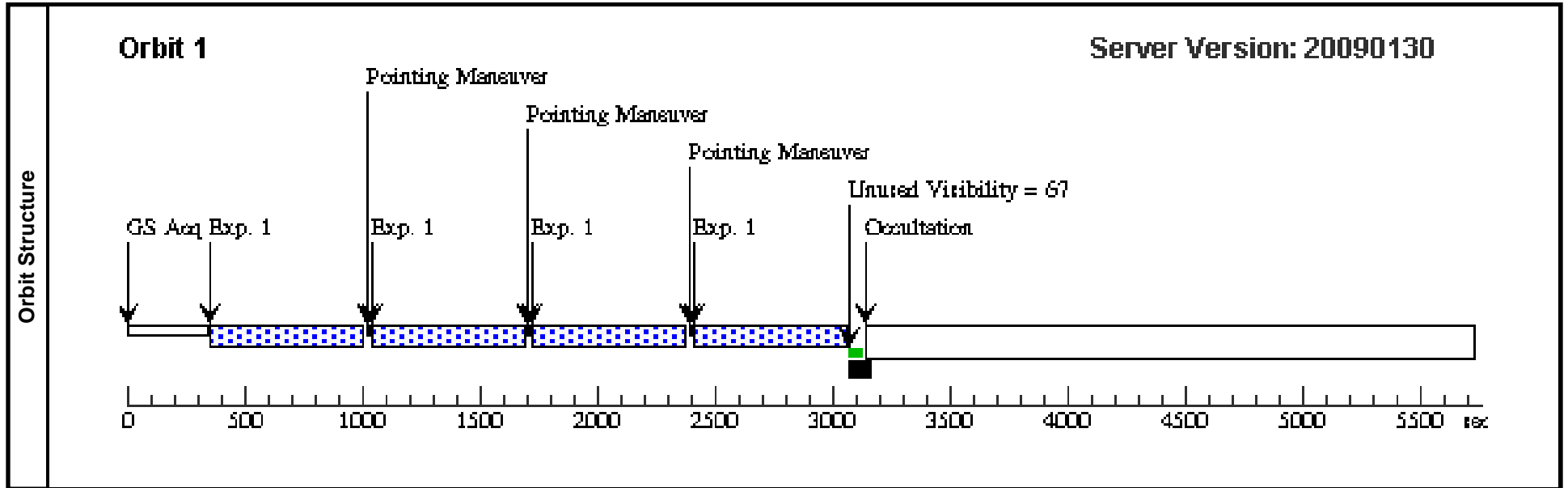
Proposal 11962 - Visit 23 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 23, withdrawn <span style="float: right;">Wed May 20 01:21:02 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 21; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=4                  Angle Between Sides= Point Spacing=0.41445              Center Pattern=false Line Spacing=						(1)			
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(4)	NIC2-ANTENNAE-3	RA: 12 01 54.5370 (180.4772375d) Dec: -18 53 5.73 (-18.88493d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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		(4) NIC2-ANTENN AE-3	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



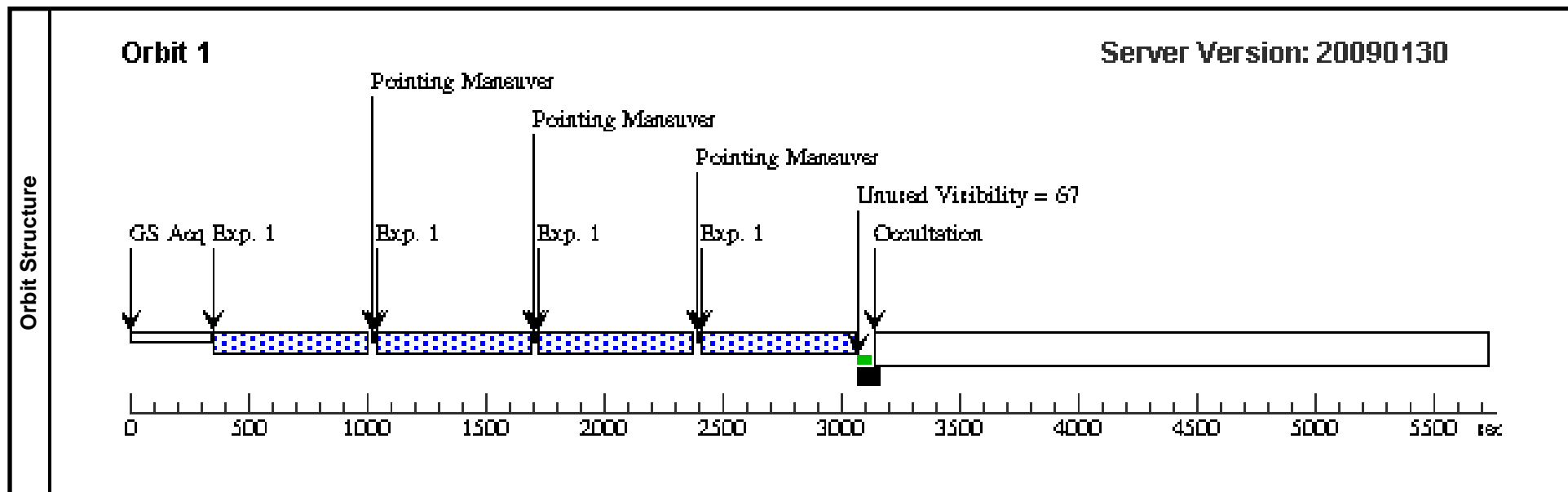
Proposal 11962 - Visit 24 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 24, withdrawn <span style="float: right;">Wed May 20 01:21:03 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 21; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			<b>Exposures</b>	
(2)		Pattern Type=NIC-YSTRIP-DITH      Coordinate Frame=POS-TARG Purpose=DITHER                      Pattern Orientation=90.0 Number Of Points=4                  Angle Between Sides= Point Spacing=0.41445              Center Pattern=false Line Spacing=					(1)				
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(4)	NIC2-ANTENNAE-3	RA: 12 01 54.5370 (180.4772375d) Dec: -18 53 5.73 (-18.88493d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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		(4) NIC2-ANTENN AE-3	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



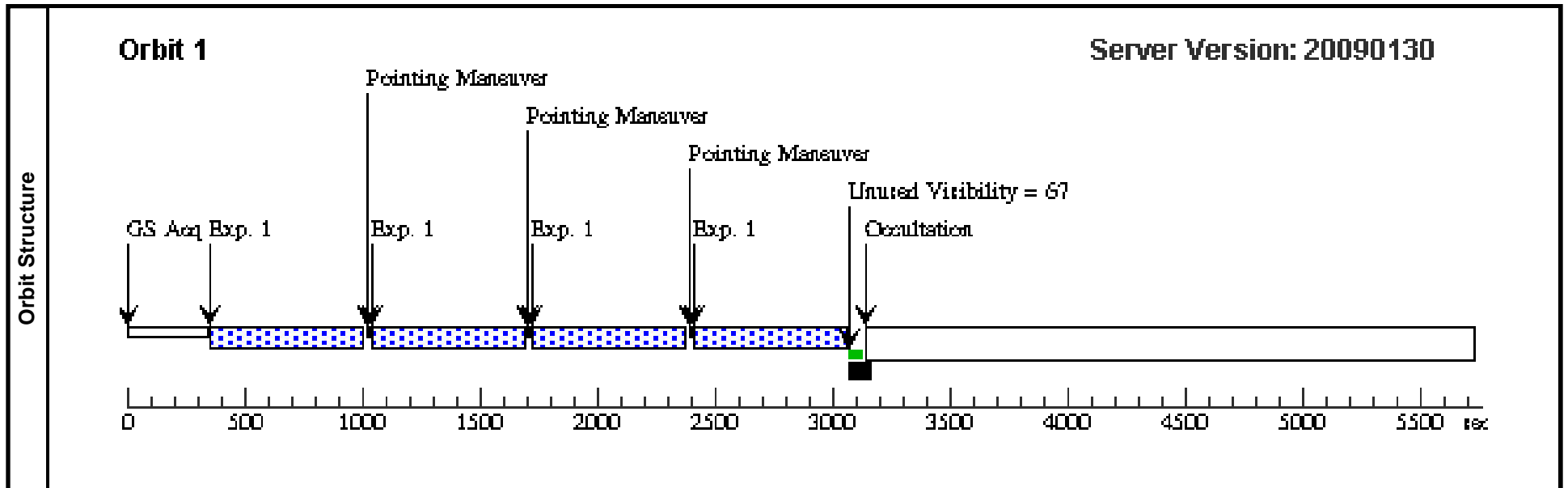
Proposal 11962 - Visit 25 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 25, withdrawn <span style="float: right;">Wed May 20 01:21:03 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: ORIENT 310D TO 30 D; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			<b>Exposures</b>	
(2)		Pattern Type=NIC-YSTRIP-DITH	Coordinate Frame=POS-TARG						(1)		
		Purpose=DITHER	Pattern Orientation=90.0								
		Number Of Points=4	Angle Between Sides=								
		Point Spacing=0.41445	Center Pattern=false								
		Line Spacing=									
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(5)	NIC2-ANTENNAE-4	RA: 12 01 52.0031 (180.4666796d)				V=11	Reference Frame: ICRS			
			Dec: -18 51 32.54 (-18.85904d)								
			Equinox: J2000								
<b>Exposures</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		(5) NIC2-ANTENN AE-4	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 11962 - Visit 26 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

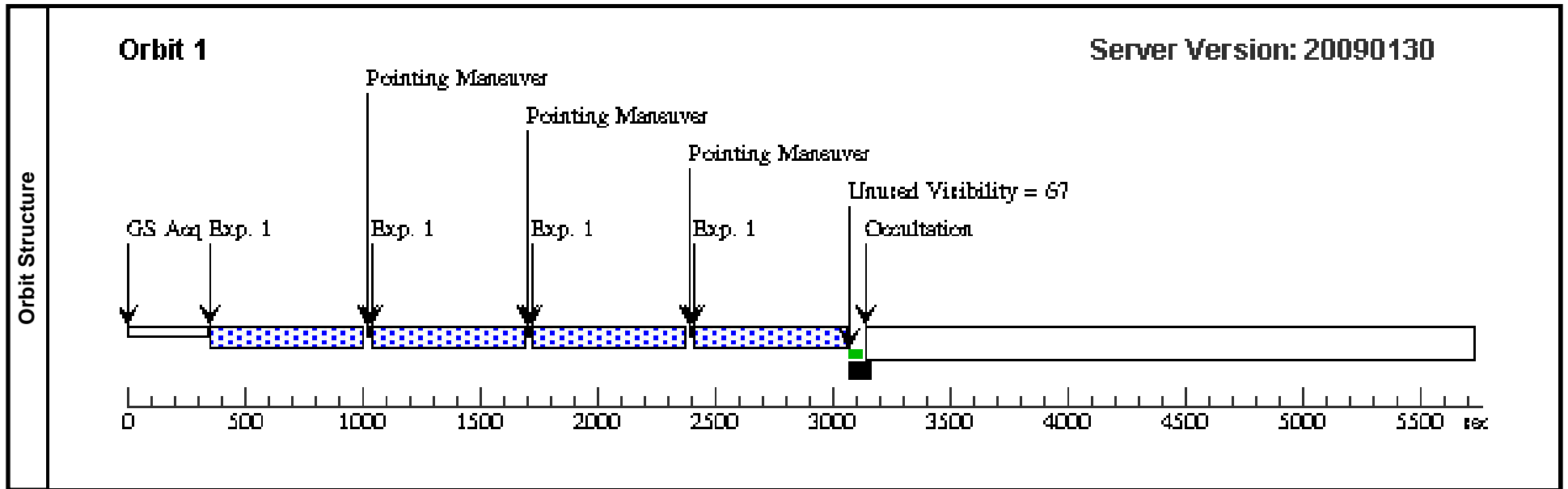
<b>Visit</b>	<b>Proposal 11962, Visit 26, withdrawn</b> <span style="float: right;">Wed May 20 01:21:03 GMT 2009</span> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 25; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=0.41445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= 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>				
	(5)	NIC2-ANTENNAE-4	RA: 12 01 52.0031 (180.4666796d) Dec: -18 51 32.54 (-18.85904d) Equinox: J2000			V=11	Reference Frame: ICRS				
<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		(5) NIC2-ANTENN AE-4	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 11962 - Visit 27 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

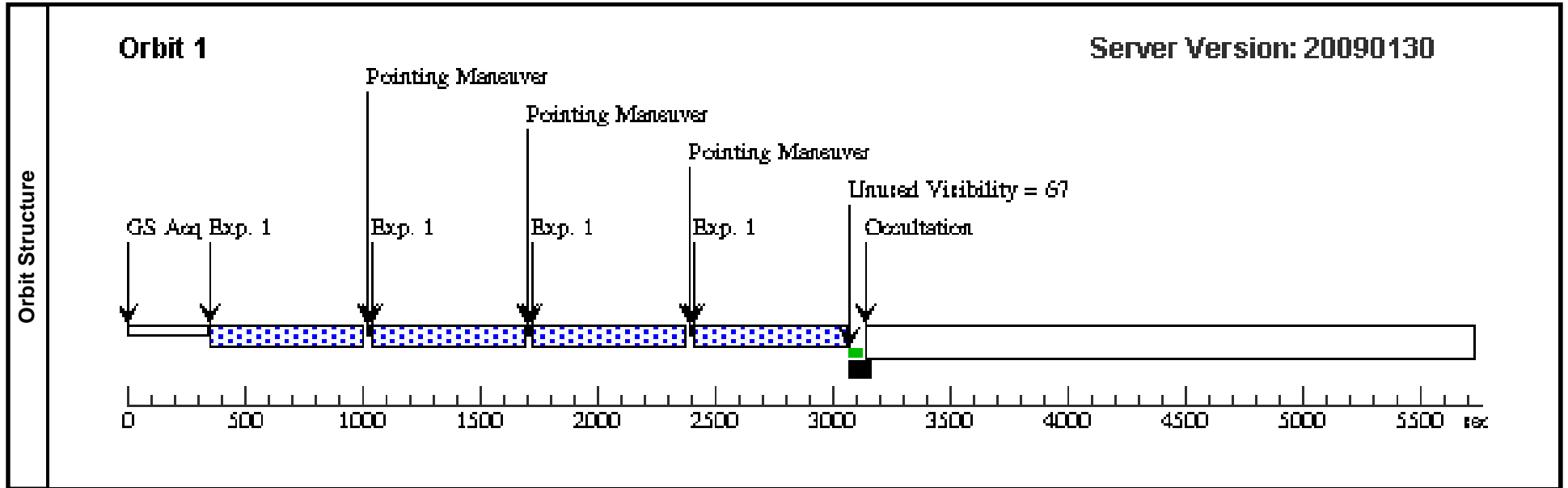
Wed May 20 01:21:03 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 27, withdrawn</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 25; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>				<b>Secondary Pattern</b>			<b>Exposures</b>	
(2)		Pattern Type=NIC-YSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=0.41445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= 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>				
	(5)	NIC2-ANTENNAE-4	RA: 12 01 52.0031 (180.4666796d) Dec: -18 51 32.54 (-18.85904d) Equinox: J2000				V=11	Reference Frame: ICRS			
<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		(5) NIC2-ANTENN AE-4	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 (2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 11962 - Visit 28 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

<b>Visit</b>	Proposal 11962, Visit 28, withdrawn <span style="float: right;">Wed May 20 01:21:03 GMT 2009</span> Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: SAME ORIENT AS 25; BETWEEN 15-MAR-2009:15:14:45 AND 15-MAY-2009:15:14:45										
	<b>Patterns</b>	#	<b>Primary Pattern</b>				<b>Secondary Pattern</b>				<b>Exposures</b>
(2)		Pattern Type=NIC-YSTRIP-DITH Purpose=DITHER Number Of Points=4 Point Spacing=0.41445 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=90.0 Angle Between Sides= Center Pattern=false					(1)			
<b>Fixed Targets</b>	#	<b>Name</b>	<b>Target Coordinates</b>		<b>Targ. Coord. Corrections</b>		<b>Fluxes</b>	<b>Miscellaneous</b>			
	(5)	NIC2-ANTENNAE-4	RA: 12 01 52.0031 (180.4666796d) Dec: -18 51 32.54 (-18.85904d) Equinox: J2000				V=11	Reference Frame: ICRS			
<b>Exposures</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		(5) NIC2-ANTENN AE-4	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=12		Pattern 2, Exps 1-1 ( 2)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]		[1]



Proposal 11962 - Visit 44 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

Wed May 20 01:21:04 GMT 2009

<b>Visit</b>	<b>Proposal 11962, Visit 44, implementation</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: GYRO MODE 3GOBAD; ORIENT 36D TO 36 D									
	(Visit 44) Warning (Form): Gyro Mode overrides default value of 2G.									
<b>Diagnostics</b>										
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(3)	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=false		(1), (3)					
<b>Patterns</b>	(5)	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		(5), (6)					
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(6)	ANTENNAE-WFC3	RA: 12 01 53.3000 (180.4720833d) Dec: -18 52 13.60 (-18.87044d) Equinox: J2000		V=11	Reference Frame: ICRS				
<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	(6) ANTENNAE-WFC3	(6) ANTENNAE-WFC3	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=11; SAMP-SEQ=SPAR S50		Pattern 3, Exps 1-1 (3)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
<b>Exposures</b>	2	(6) ANTENNAE-WFC3	(6) ANTENNAE-WFC3	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S50	POS TARG 0.676,0.676		[==>]	[1]

Proposal 11962 - Visit 44 - A New Supernova in the Antennae; Narrowing in on the Hubble Constant and Dark Energy

#	Label	Target	Config, Mode, Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
Exposures (continued)	3	(6) ANTENNAE-W FC3	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=11; SAMP-SEQ=SPAR S50	POS TARG 0.94,0.9 4	Pattern 3, Exps 3-3 (3)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[2]
	4	(6) ANTENNAE-W FC3	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=10; SAMP-SEQ=SPAR S50	POS TARG 1.62,1.6 2		[==>]	[2]
	5	(6) ANTENNAE-W FC3	WFC3/UVIS, ACCUM, UVIS-FIX	F555W	CR-SPLIT=NO		Pattern 5, Exps 5-5 (5)	590 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[3]
	6	(6) ANTENNAE-W FC3	WFC3/UVIS, ACCUM, UVIS-FIX	F814W	CR-SPLIT=NO		Pattern 5, Exps 6-6 (5)	590 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[3]

