



10832 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Cycle: 15, 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) MACHO-LMC-1	WFPC2	1	21-May-2007 19:01:55.0	yes
02	(1) MACHO-LMC-1	WFPC2	1	21-May-2007 19:01:59.0	yes
03	(2) MACHO-LMC-4	WFPC2	1	21-May-2007 19:02:02.0	yes
04	(2) MACHO-LMC-4	WFPC2	1	21-May-2007 19:02:05.0	yes
05	(3) MACHO-LMC-6	WFPC2	1	21-May-2007 19:02:07.0	yes
06	(3) MACHO-LMC-6	WFPC2	1	21-May-2007 19:02:10.0	yes
07	(4) MACHO-LMC-7	WFPC2	1	21-May-2007 19:02:12.0	yes
08	(4) MACHO-LMC-7	WFPC2	1	21-May-2007 19:02:14.0	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>
09	(5) MACHO-LMC-8	WFPC2	1	21-May-2007 19:02:17.0	yes
10	(5) MACHO-LMC-8	WFPC2	1	21-May-2007 19:02:19.0	yes
11	(6) MACHO-LMC-14	WFPC2	1	21-May-2007 19:02:21.0	yes
12	(6) MACHO-LMC-14	WFPC2	1	21-May-2007 19:02:23.0	yes
13	(7) MACHO-LMC-18	WFPC2	1	21-May-2007 19:02:25.0	yes
14	(7) MACHO-LMC-18	WFPC2	1	21-May-2007 19:02:28.0	yes
15	(8) MACHO-LMC-20	WFPC2	1	21-May-2007 19:02:30.0	yes
16	(8) MACHO-LMC-20	WFPC2	1	21-May-2007 19:02:32.0	yes
17	(9) MACHO-LMC-21	WFPC2	1	21-May-2007 19:02:34.0	yes
18	(9) MACHO-LMC-21	WFPC2	1	21-May-2007 19:02:36.0	yes
19	(10) MACHO-LMC-25	WFPC2	1	21-May-2007 19:02:38.0	yes
20	(10) MACHO-LMC-25	ACS/HRC	1	21-May-2007 19:02:41.0	yes

20 Total Orbits Used

ABSTRACT

We propose to use the HST WFPC2 (revised from the Advanced Camera for Surveys High Resolution Channel due to the failure of this camera) to obtain high resolution imaging data for 10 bona-fide LMC microlensing events seen in the original MACHO survey. The purpose of this survey will be to assess whether or not the lens and source stars have separated enough to be resolved since the original microlensing event took place - about a decade has passed since the original MACHO survey and the first set of HST WFPC2 follow-up observations of the microlensing events. If the components of the lensing event are resolved, we will determine the apparent magnitude and color of both the lens and the source stars. These data, in combination with Spitzer/IRAC data and Magellan near-IR JHK data, will be used to ascertain the basic properties of the lens stars. With the majority of the microlensing events in the original MACHO survey observed at the highest spatial resolution currently possible, we will be able to draw important conclusions as to what fraction of these events have lenses which belong to some population of dwarf stars in the disk and what

fraction must be due to lenses in the halo or beyond. These data will greatly increase our understanding of the structure of the Galaxy by characterizing the stellar population responsible for the gravitational microlensing.

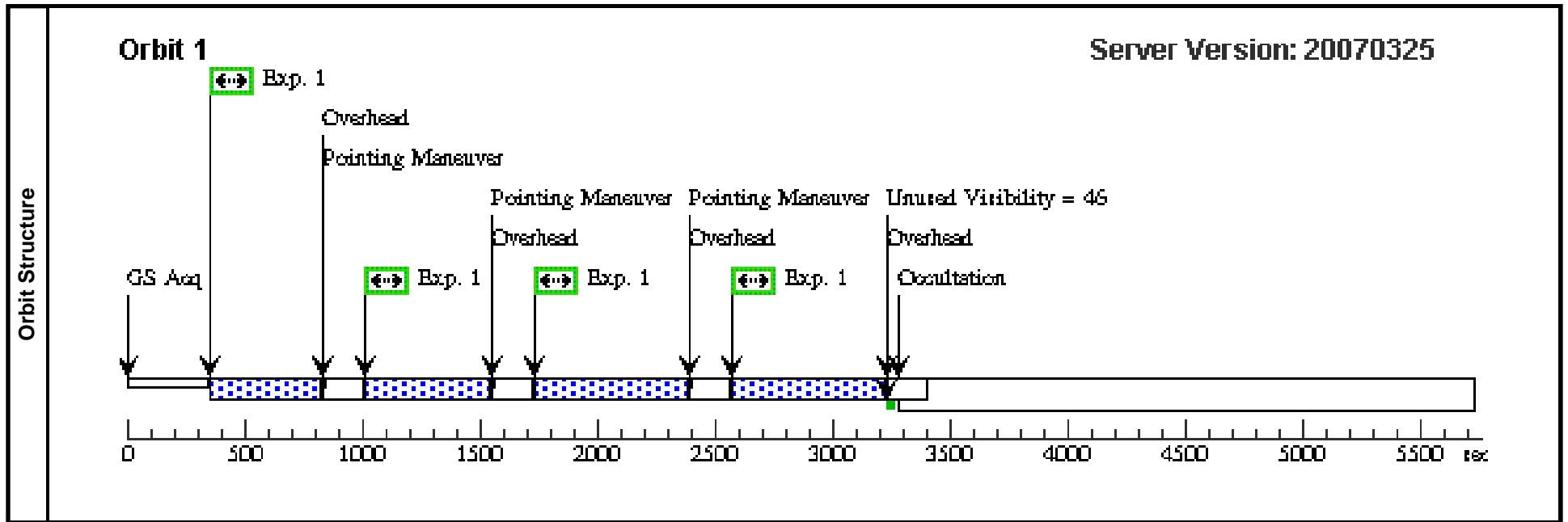
OBSERVING DESCRIPTION

We will use the ACS/HRC with the F606W Broad-V filter and the F814W Broad-I filter to image the fields on and around 10 microlensing events seen towards the LMC in the original MACHO survey. With both filters we will execute a box dither pattern to minimize pixel-based errors, to eliminate transients (cosmic rays), and to do good centroiding. The integration times will be chosen to maximize the signal-to-noise on target, with a desired signal-to-noise of ~ 100 in the F814W and ~ 50 in the F606W filters.

Proposal 10832 - Visit 01 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:43 GMT 2007

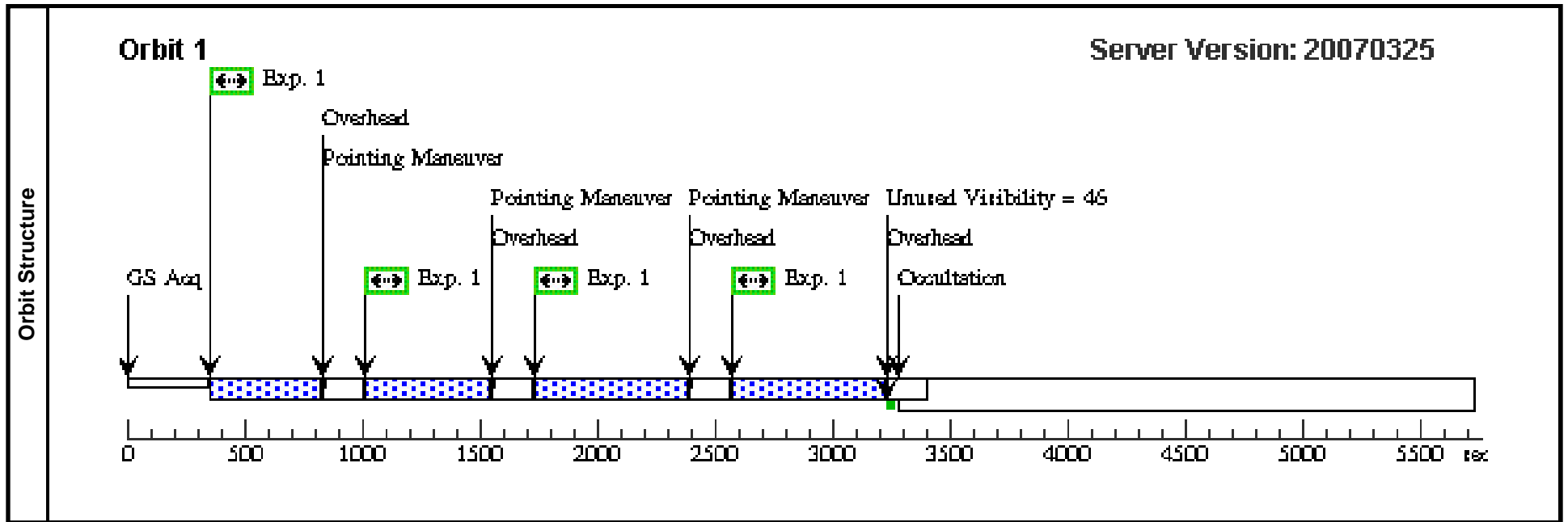
Visit	Proposal 10832, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false					(1)			
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACHO-LMC-1	RA: 05 14 44.5300 (78.6855417d) Dec: -68 47 56.30 (-68.79897d) Equinox: J2000			V=19.7+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(1) MACHO-LMC-1	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 02 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:44 GMT 2007

Visit	Proposal 10832, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
		(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG						
		Purpose=DITHER	Pattern Orientation=26.57							
		Number Of Points=4	Angle Between Sides=143.13							
		Point Spacing=0.559	Center Pattern=false							
		Line Spacing=0.559								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	MACHO-LMC-1	RA: 05 14 44.5300 (78.6855417d) Dec: -68 47 56.30 (-68.79897d) Equinox: J2000		V=19.7+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) MACHO-LMC-1	WFPC2, IMAGE, PC1	F814W			Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]

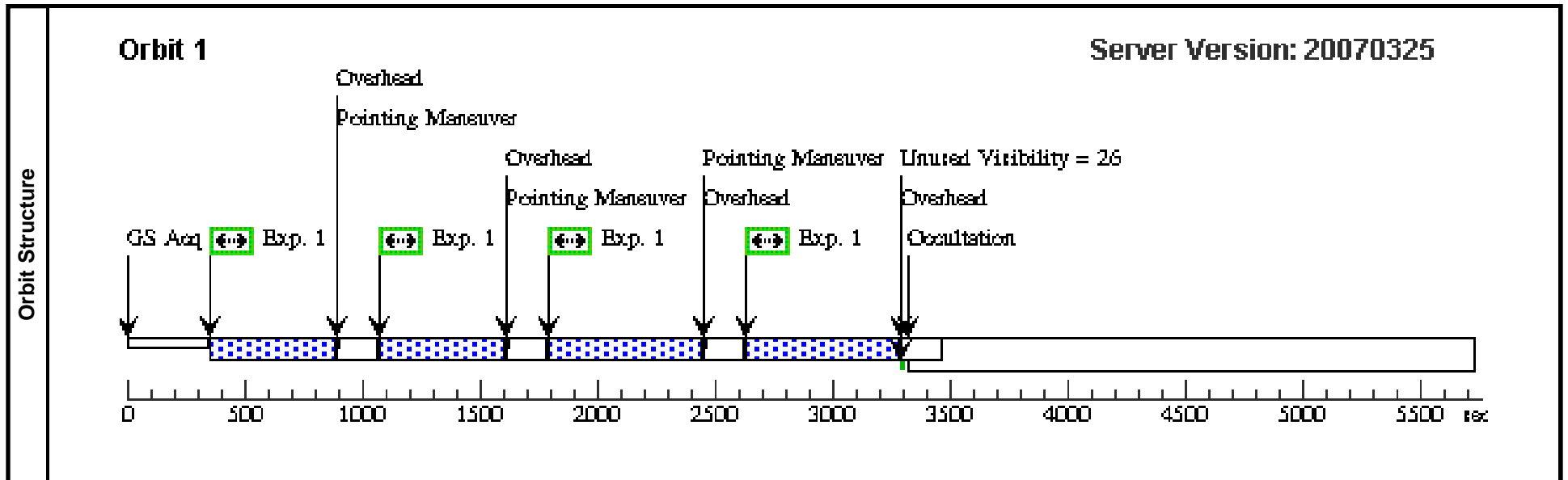


Visit	Proposal 10832, Visit 03, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(2)	MACHO-LMC-4	RA: 05 17 14.5900 (79.3107917d)	Dec: -70 46 59.00 (-70.78306d)			V=20.2+/-0.1		Reference Frame: ICRS		
			Equinox: J2000								
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(2) MACHO-LMC-4	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs		
									[=>400.0 Secs (Pattern 1)]		
									[=>400.0 Secs (Pattern 2)]		
									[=>500.0 Secs (Pattern 3)]		
									[=>500.0 Secs (Pattern 4)]	[1]	
Orbit Structure	Orbit 1										
	<p>Server Version: 20070325</p> <p>Unrused Visibility = 26</p>										

Proposal 10832 - Visit 04 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:44 GMT 2007

Visit	Proposal 10832, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
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
	1	(2) MACHO-LMC-4	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs		[1]
								[=>400.0 Secs (Pattern 1)]			
								[=>400.0 Secs (Pattern 2)]			
								[=>500.0 Secs (Pattern 3)]			
								[=>500.0 Secs (Pattern 4)]			

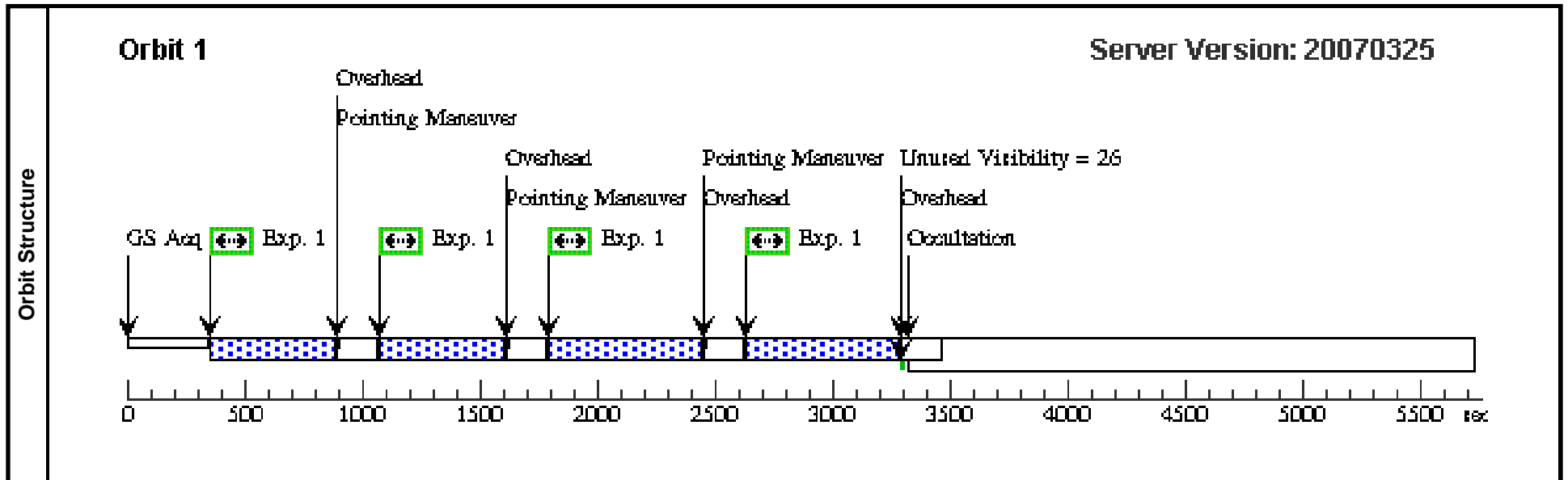


Visit	Proposal 10832, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	MACHO-LMC-6	RA: 05 26 13.7700 (81.5573750d)	Dec: -70 21 16.40 (-70.35456d)			V=20.0+/-0.1		Reference Frame: ICRS		
			Equinox: J2000								
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(3) MACHO-LMC-6	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs		
									[==>400.0 Secs (Pattern 1)]		
									[==>400.0 Secs (Pattern 2)]		
									[==>500.0 Secs (Pattern 3)]		
									[==>500.0 Secs (Pattern 4)]	[1]	
Orbit Structure	Orbit 1 Server Version: 20070325										
	<p>Diagram illustrating the Orbit Structure for Orbit 1. The timeline shows various activities over a period of 5500 seconds. Key events include GS Acq, four exposures (Exp. 1), three pointing maneuvers, three overhead periods, and an occultation. The unused visibility is noted as 26. The x-axis is labeled 'sec'.</p>										

Proposal 10832 - Visit 06 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:45 GMT 2007

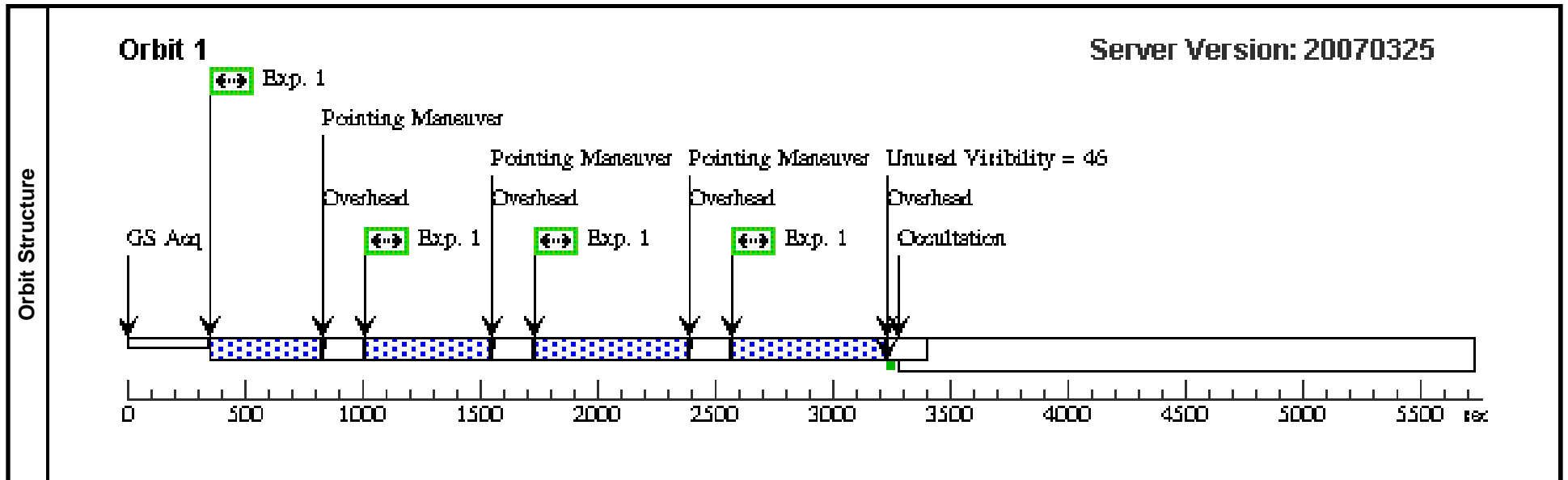
Visit	Proposal 10832, Visit 06, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false							(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	MACHO-LMC-6	RA: 05 26 13.7700 (81.5573750d) Dec: -70 21 16.40 (-70.35456d) Equinox: J2000					V=20.0+/-0.1		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(3) MACHO-LMC-6	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs [=>400.0 Secs (Pattern 1)] [=>400.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 07 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:46 GMT 2007

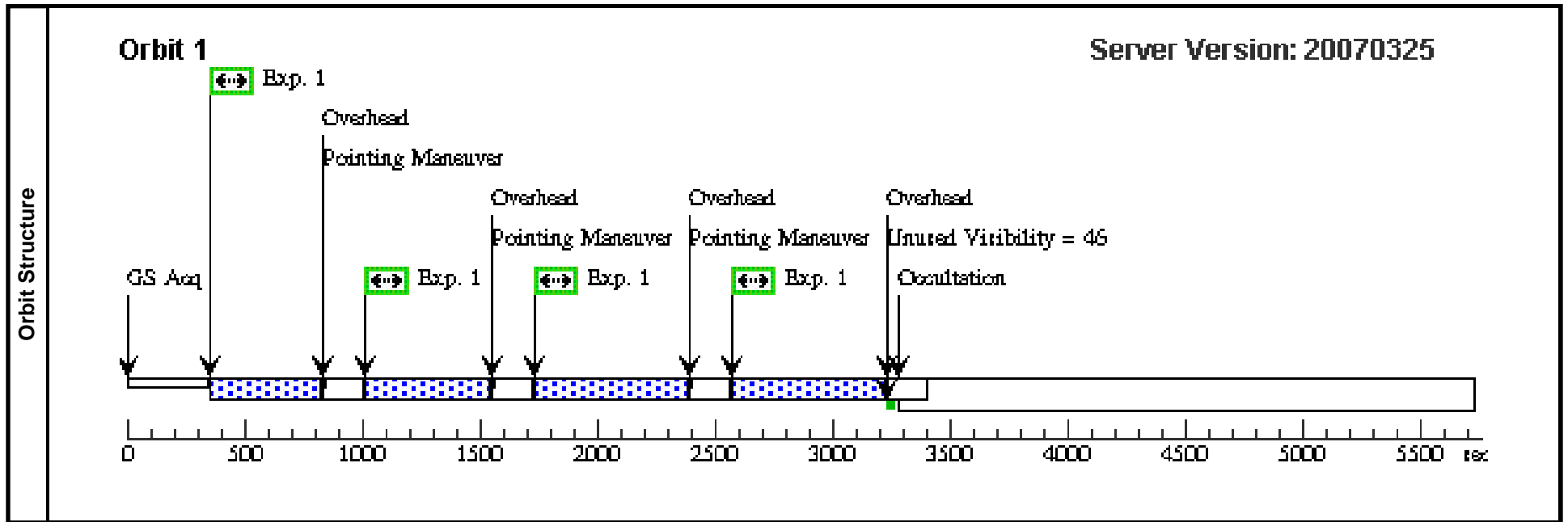
Visit	Proposal 10832, Visit 07, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false							(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	MACHO-LMC-7	RA: 05 04 3.6100 (76.0150417d) Dec: -69 33 21.00 (-69.55583d) Equinox: J2000					V=20.9+/-0.1		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(4) MACHO-LMC-7	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 08 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:46 GMT 2007

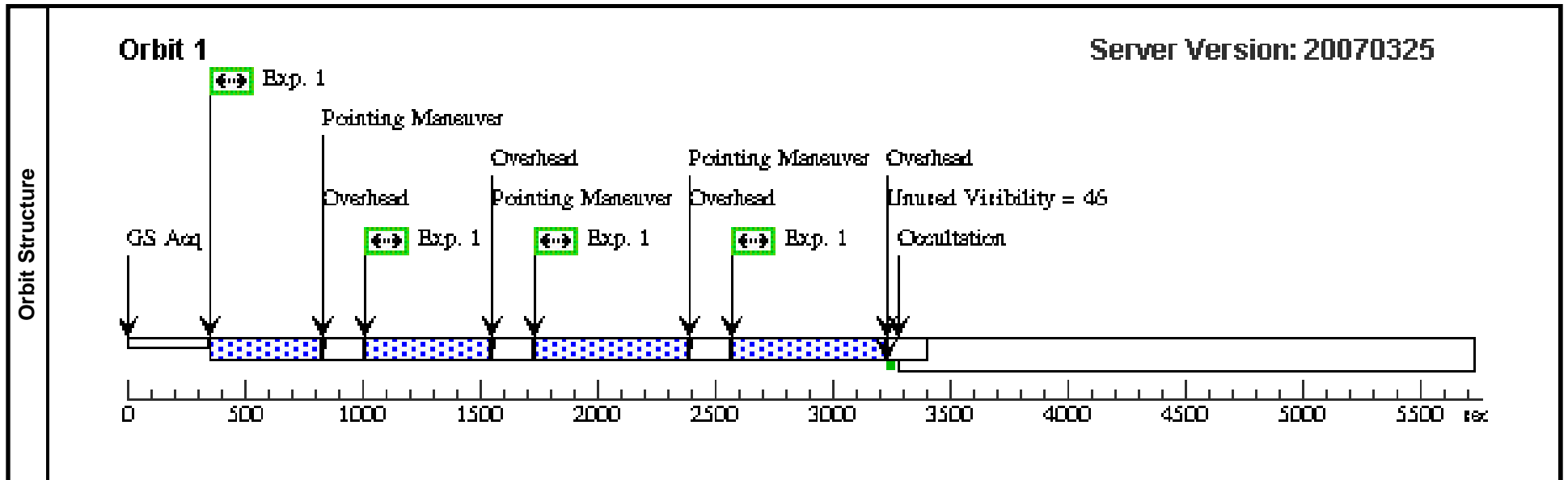
Visit	Proposal 10832, Visit 08, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false							(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	MACHO-LMC-7	RA: 05 04 3.6100 (76.0150417d) Dec: -69 33 21.00 (-69.55583d) Equinox: J2000					V=20.9+/-0.1		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(4) MACHO-LMC-7	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 09 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:47 GMT 2007

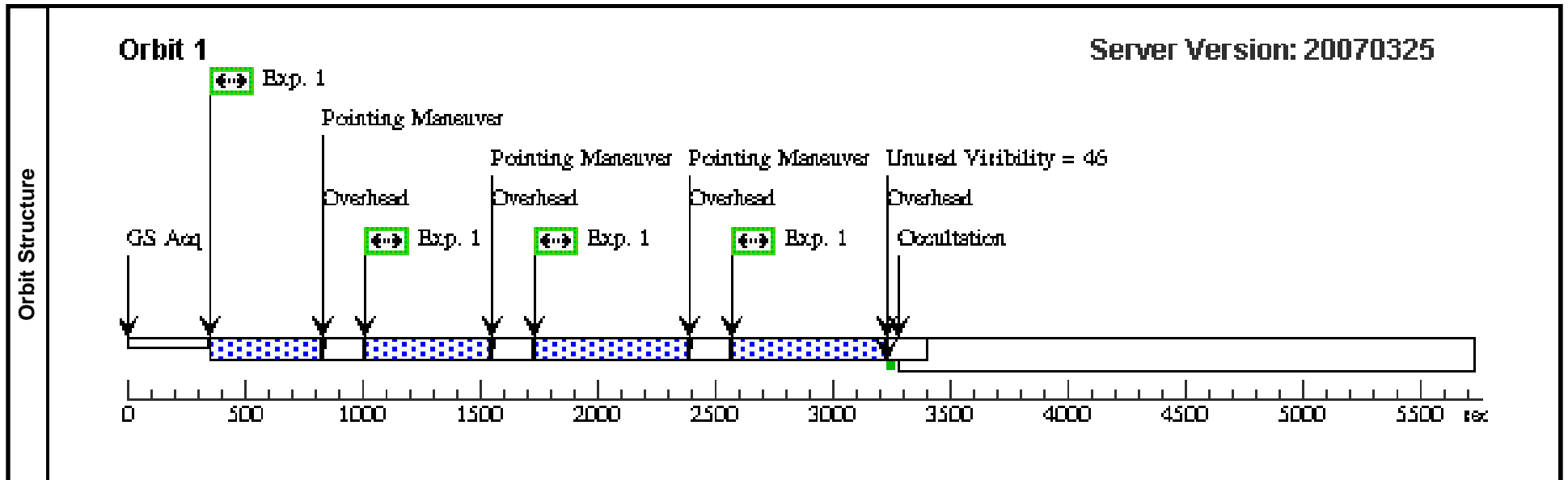
Visit	Proposal 10832, Visit 09, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false							(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(5)	MACHO-LMC-8	RA: 05 25 9.6500 (81.2902083d) Dec: -69 47 53.80 (-69.79828d) Equinox: J2000					V=20.3+/-0.1	Reference Frame: ICRS		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(5) MACHO-LMC-8	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 10 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:47 GMT 2007

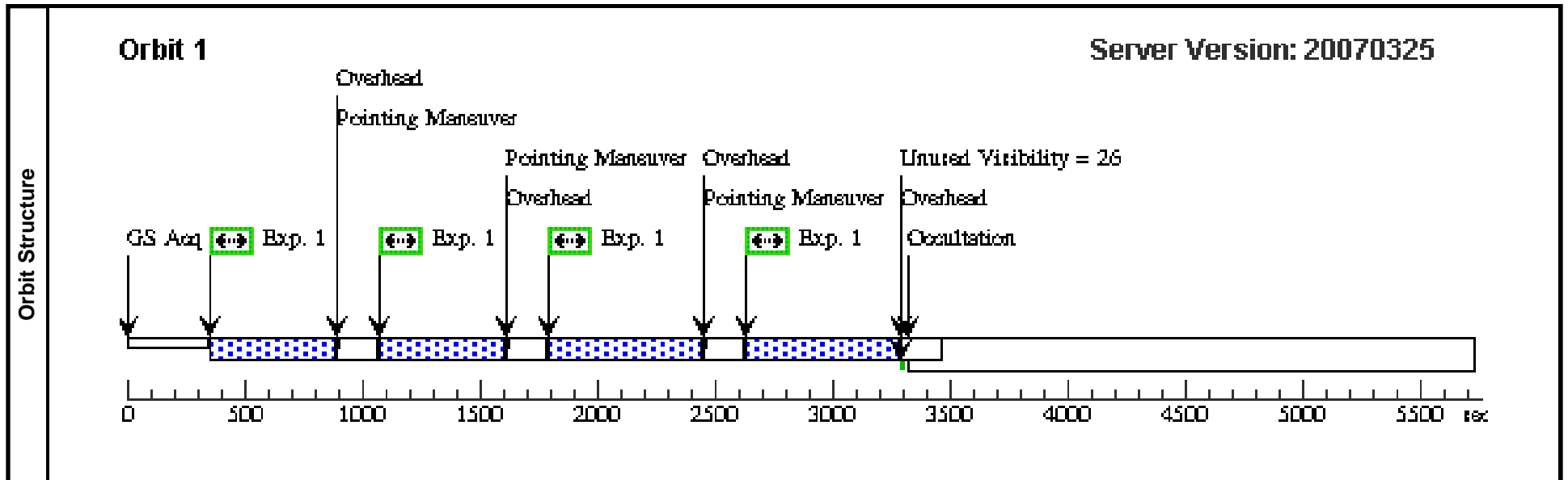
Visit	Proposal 10832, Visit 10, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false							(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(5)	MACHO-LMC-8	RA: 05 25 9.6500 (81.2902083d) Dec: -69 47 53.80 (-69.79828d) Equinox: J2000					V=20.3+/-0.1		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(5) MACHO-LMC-8	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 11 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:47 GMT 2007

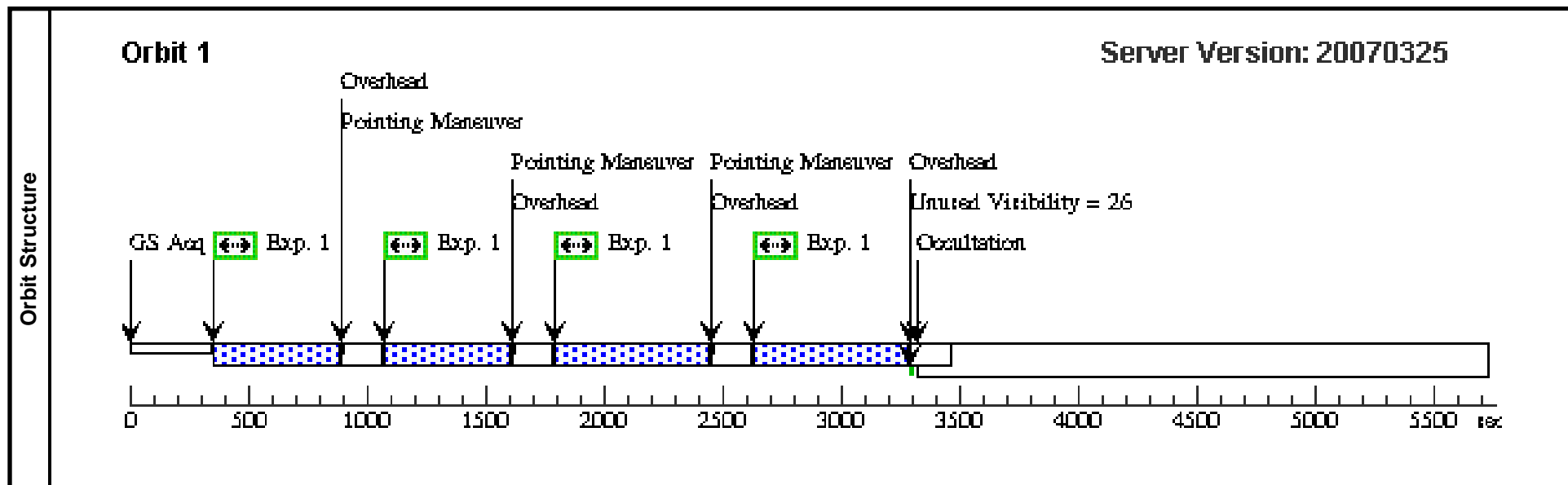
Visit	Proposal 10832, Visit 11, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false						(1)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	MACHO-LMC-14	RA: 05 34 44.5400 (83.6855833d) Dec: -70 25 10.10 (-70.41947d) Equinox: J2000				V=19.3+/-0.1	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(6) MACHO-LMC-14	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs [=>400.0 Secs (Pattern 1)] [=>400.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 12 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:48 GMT 2007

Visit	Proposal 10832, Visit 12, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false						(1)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	MACHO-LMC-14	RA: 05 34 44.5400 (83.6855833d) Dec: -70 25 10.10 (-70.41947d) Equinox: J2000				V=19.3+/-0.1	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(6) MACHO-LMC-14	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs [=>400.0 Secs (Pattern 1)] [=>400.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Visit	Proposal 10832, Visit 13, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(7)	MACHO-LMC-18	RA: 05 45 20.8700 (86.3369583d)	Dec: -71 09 15.20 (-71.15422d)			V=19.5+/-0.1		Reference Frame: ICRS		
			Equinox: J2000								
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(7) MACHO-LMC-1 8	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs		
									[=>400.0 Secs (Pattern 1)]		
									[=>400.0 Secs (Pattern 2)]		
									[=>500.0 Secs (Pattern 3)]		
									[=>500.0 Secs (Pattern 4)]		[1]
Orbit Structure	Orbit 1 Server Version: 20070325										
	<p>The diagram illustrates the orbit structure for Orbit 1, showing a sequence of events over a 5500-second period. Key events include:</p> <ul style="list-style-type: none"> GS Acq: Ground Station Acquisition at the start of the orbit. Expos. 1: Four exposures, each 600 seconds long, separated by 100-second pointing maneuvers. Pointing Maneuvers: Four maneuvers, each 100 seconds long, occurring between exposures. Overhead: Overhead periods are indicated between exposures and pointing maneuvers. Occultation: An occultation event occurs at approximately 3300 seconds, lasting until 3500 seconds. Unlensed Visibility = 26: The total unlensed visibility is 26 minutes. 										

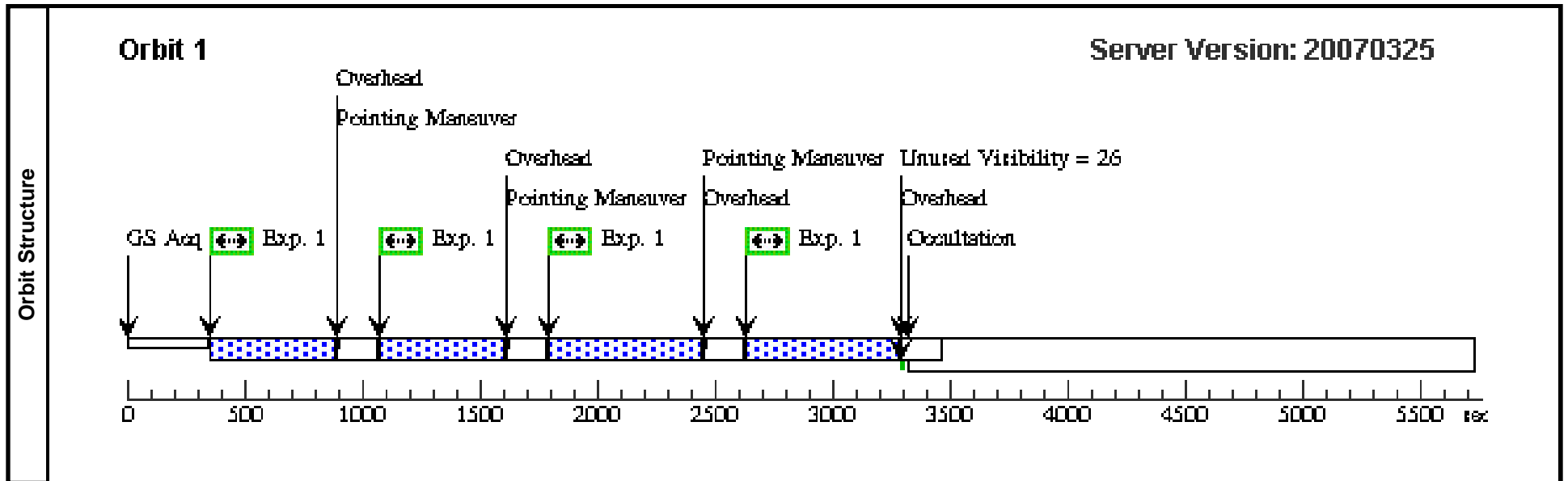
Visit	Proposal 10832, Visit 14, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
(2)		Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG						(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
	(7)	MACHO-LMC-18	RA: 05 45 20.8700 (86.3369583d)	Dec: -71 09 15.20 (-71.15422d)	Equinox: J2000		V=19.5+/-0.1		Reference Frame: ICRS	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(7) MACHO-LMC-1 8	WFPC2, IMAGE, PC1	F814W			Pattern 1-1 (2)	600.0 Secs [=>400.0 Secs (Pattern 1)] [=>400.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	
Orbit Structure	Orbit 1 Server Version: 20070325									
	<p>The diagram shows a timeline for Orbit 1 from 0 to 5500 seconds. Key events include: GS Acq at ~100s; four exposures of 400s each (Exp. 1) at approximately 400s, 1000s, 1700s, and 2600s; pointing maneuvers and overheads between exposures; an occultation at ~3300s; and a final inured visibility period of 26 seconds. A shaded blue region covers the main observation period from ~400s to ~3300s.</p>									

Visit	Proposal 10832, Visit 15, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(2)		Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)	
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(8)	MACHO-LMC-20	RA: 04 54 19.0000 (73.5791667d)	Dec: -70 02 15.00 (-70.03750d)			V=21.3+/-0.1		Reference Frame: ICRS		
			Equinox: J2000								
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(8) MACHO-LMC-2 0	WFPC2, IMAGE, PC1	F606W				Pattern 1-1 (2)	600.0 Secs		
									[==>400.0 Secs (Pattern 1)]		
									[==>400.0 Secs (Pattern 2)]		
									[==>500.0 Secs (Pattern 3)]		
									[==>500.0 Secs (Pattern 4)]	[1]	
Orbit Structure	Orbit 1										
	<p>Server Version: 20070325</p> <p>Unrated Visibility = 26</p>										

Proposal 10832 - Visit 16 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:49 GMT 2007

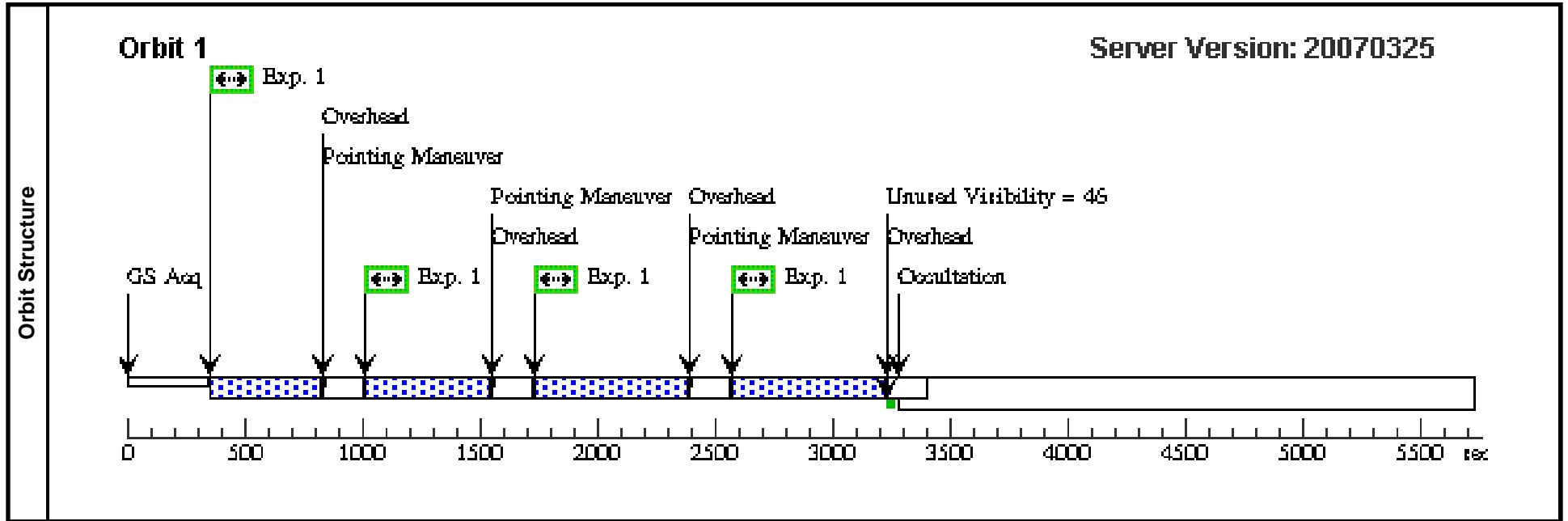
Visit	Proposal 10832, Visit 16, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(2)		Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.57 Angle Between Sides=143.13 Center Pattern=false					(1)			
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	MACHO-LMC-20	RA: 04 54 19.0000 (73.5791667d) Dec: -70 02 15.00 (-70.03750d) Equinox: J2000			V=21.3+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(8) MACHO-LMC-20	WFPC2, IMAGE, PC1	F814W				Pattern 1-1 (2)	600.0 Secs [=>400.0 Secs (Pattern 1)] [=>400.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]	



Proposal 10832 - Visit 17 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:49 GMT 2007

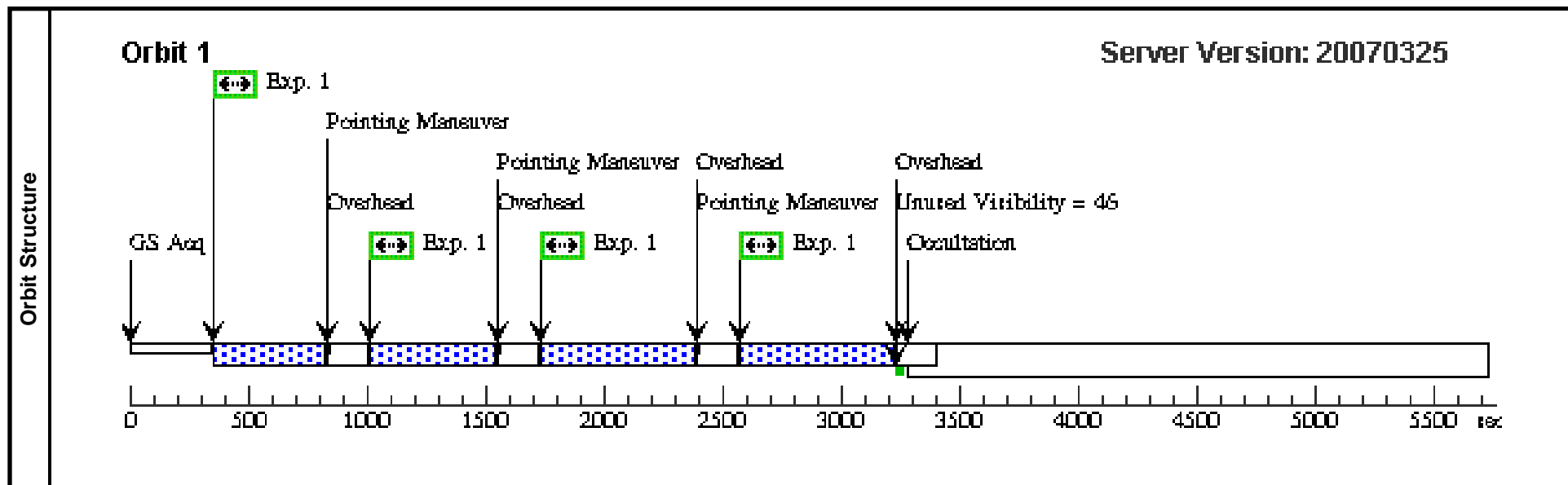
Visit	Proposal 10832, Visit 17, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures
		(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG						
		Purpose=DITHER	Pattern Orientation=26.57							
		Number Of Points=4	Angle Between Sides=143.13							
		Point Spacing=0.559	Center Pattern=false							
		Line Spacing=0.559								
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(9)	MACHO-LMC-21	RA: 04 57 13.8200 (74.3075833d) Dec: -69 27 50.60 (-69.46406d) Equinox: J2000		V=19.4+/-0.1	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(9) MACHO-LMC-21 1	WFPC2, IMAGE, PC1	F606W			Pattern 1-1 (2)	600.0 Secs [=>300.0 Secs (Pattern 1)] [=>350.0 Secs (Pattern 2)] [=>500.0 Secs (Pattern 3)] [=>500.0 Secs (Pattern 4)]	[1]



Proposal 10832 - Visit 18 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:49 GMT 2007

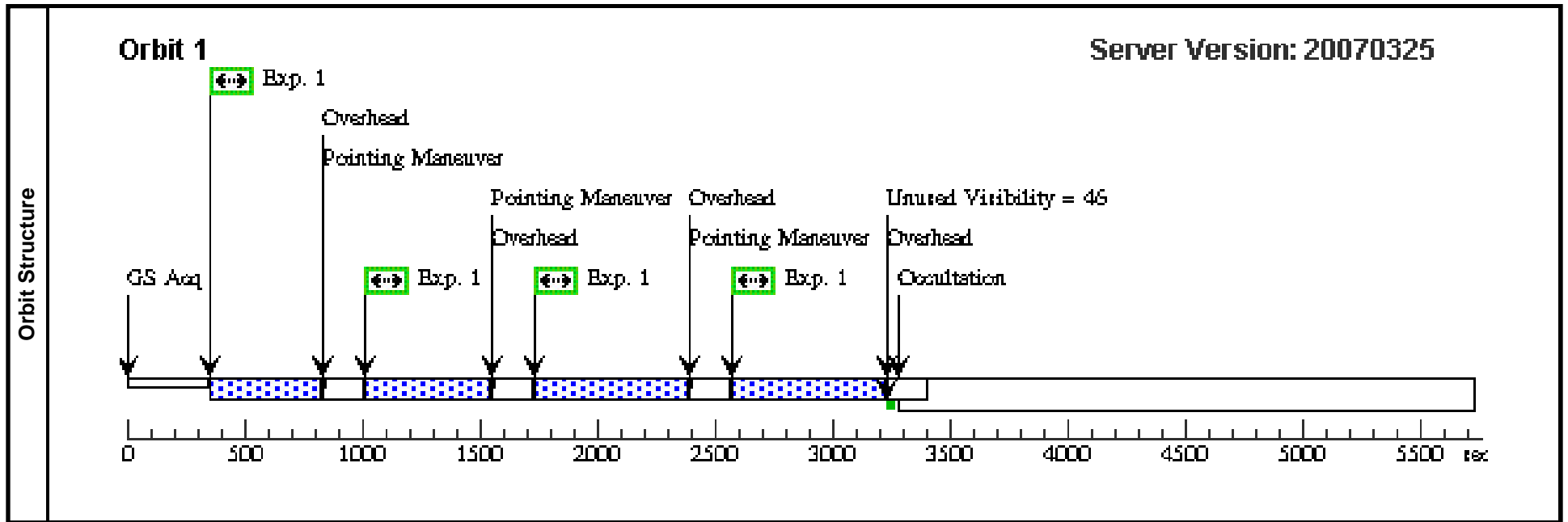
Visit	Proposal 10832, Visit 18, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(9)	MACHO-LMC-21	RA: 04 57 13.8200 (74.3075833d) Dec: -69 27 50.60 (-69.46406d) Equinox: J2000		V=19.4+/-0.1	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(9) MACHO-LMC-21	WFPC2, IMAGE, PC1	F814W			Pattern 1-1 (2)	600.0 Secs		
			1					[=>300.0 Secs (Pattern 1)]			
								[=>350.0 Secs (Pattern 2)]			
								[=>500.0 Secs (Pattern 3)]			
								[=>500.0 Secs (Pattern 4)]		[1]	



Proposal 10832 - Visit 19 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:50 GMT 2007

Visit	Proposal 10832, Visit 19, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFPC2 Special Requirements: (none)										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
		(2)	Pattern Type=WFPC2-BOX	Coordinate Frame=POS-TARG							(1)
		Purpose=DITHER	Pattern Orientation=26.57								
		Number Of Points=4	Angle Between Sides=143.13								
		Point Spacing=0.559	Center Pattern=false								
		Line Spacing=0.559									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(10)	MACHO-LMC-25	RA: 05 02 15.8600 (75.5660833d) Dec: -68 00 55.10 (-68.01531d) Equinox: J2000		V=19.0+/-0.1	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(10) MACHO-LMC-25	WFPC2, IMAGE, PC1	F606W			Pattern 1-1 (2)	600.0 Secs		
									[=>300.0 Secs (Pattern 1)]		
									[=>350.0 Secs (Pattern 2)]		
									[=>500.0 Secs (Pattern 3)]		
									[=>500.0 Secs (Pattern 4)]		[1]



Proposal 10832 - Visit 20 - Solving the microlensing puzzle: An HST high-resolution imaging approach

Mon May 21 18:02:50 GMT 2007

Visit	Proposal 10832, Visit 20, completed Diagnostic Status: No Diagnostics Scientific Instruments: ACS/HRC Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			
(1)		Pattern Type=ACS-HRC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.15 Line Spacing=0.098	Coordinate Frame=POS-TARG Pattern Orientation=19.89 Angle Between Sides=63.5 Center Pattern=false					(1)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(10)	MACHO-LMC-25	RA: 05 02 15.8600 (75.5660833d) Dec: -68 00 55.10 (-68.01531d) Equinox: J2000			V=19.0+/-0.1	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(10) MACHO-LMC-25	ACS/HRC, ACCUM, HRC	F814W			Pattern 1-1 (1)	600.0 Secs [==>(Pattern 1, Split 1)] [==>(Pattern 1, Split 2)] [==>(Pattern 2, Split 1)] [==>(Pattern 2, Split 2)] [==>(Pattern 3, Split 1)] [==>(Pattern 3, Split 2)] [==>(Pattern 4, Split 1)] [==>(Pattern 4, Split 2)]	[1]

