



10418 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Cycle: 13, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(2) TXS0145+386-ER2 (10) TXS0145+386-PSF-STAR (1) TXS0145+386-ER1	NIC2	2	29-Aug-2005 21:01:06.0	yes
02	(3) ERO-J094258+4659.2	NIC2	1	29-Aug-2005 21:01:11.0	yes
03	(11) B2-1018+34 (4) B2-1018+34-ER2	NIC2	1	29-Aug-2005 21:01:14.0	yes
04	(12) TXS1211+334 (5) TXS1211+334-ER1	NIC2	1	29-Aug-2005 21:01:17.0	yes
05	(13) 4C15.55-PSF-STAR (6) 4C15.55-ER2	NIC2	1	29-Aug-2005 21:01:19.0	yes

Proposal 10418 - Overview

<i>Visit</i>	<i>Targets</i>	<i>Configurations</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
06	(14) TXS1812+412-PSF-STAR (7) TXS1812+412-ER1	NIC2	1	29-Aug-2005 21:01:22.0	yes
07	(8) 4C23.56-ER1 (15) 4C23.56-PSF-STAR	NIC2	3	29-Aug-2005 21:01:29.0	yes
08	(16) 4C05.84 (9) 4C05.84-ER1	NIC2	2	29-Aug-2005 21:01:35.0	yes
09	(8) 4C23.56-ER1 (15) 4C23.56-PSF-STAR	NIC2	4	29-Aug-2005 21:01:43.0	yes
10	(16) 4C05.84 (9) 4C05.84-ER1	NIC2	3	29-Aug-2005 21:01:47.0	yes
11	(1) TXS0145+386-ER1	ACS/WFC	2	29-Aug-2005 21:01:50.0	yes
12	(3) ERO-J094258+4659.2	ACS/WFC	2	29-Aug-2005 21:01:53.0	yes
13	(4) B2-1018+34-ER2	ACS/WFC	2	29-Aug-2005 21:01:56.0	yes
14	(5) TXS1211+334-ER1	ACS/WFC	2	29-Aug-2005 21:01:59.0	yes
15	(6) 4C15.55-ER2	ACS/WFC	2	29-Aug-2005 21:02:02.0	yes
16	(7) TXS1812+412-ER1	ACS/WFC	2	29-Aug-2005 21:02:06.0	yes

31 Total Orbits Used

ABSTRACT

We have isolated a sample of 9 luminous ($\sim 2L^*$) galaxies with the very oldest stellar populations at their respective redshifts. The galaxies have been found in radio-source fields chosen to be at the key redshifts $z \sim 1.5$ and $z \sim 2.5$, which allow the cleanest separation of old stellar populations from highly reddened starbursts with colors derived from standard filter combinations. Ground-based observations in excellent seeing and with adaptive optics of 3 of these galaxies indicate that all 3 are dominated by well relaxed disks of old stars, suggesting that the first large stellar systems to form in the universe were disks in which star formation proceeded extremely rapidly and efficiently. In order to test this conjecture, we are requesting

Proposal 10418 - Overview

NICMOS2 exposures of our sample to obtain high S/N imaging in the F160W filter to determine detailed morphologies of the old stellar population, coupled with either NICMOS2 F110W or ACS F814W exposures (depending on redshift) to determine color gradients and/or other systematic color variations that might provide clues to formation processes.

OBSERVING DESCRIPTION

In order to make full use of the resolution available from HST NICMOS2, it is necessary to obtain an adequate S/N per pixel. For both the $z\sim 1.5$ and the $z\sim 2.5$ samples, we depend on the F160W observations for the detailed morphologies of our targets, so we require high S/N for these. For the more difficult shorter wavelength observations, which target regions on the short side of the 4000 Å break, we can accept considerably lower S/N and still obtain a reasonable measure of any color gradients because we can subtract a scaled version of a galaxy model derived from the high S/N F160W image and sum together pixels from the difference image to increase the S/N of the color determination of the residual component.

For the $z\sim 2.5$ sample F160W images, we are aiming to achieve a S/N ~ 15 per 2-pixel-square resolution element, or $\sim 7\text{--}8$ per pixel. For our 2 $z\sim 2.5$ targets, which have $H\sim 21$ and $J\sim 23$ in a 1.2 arcsec diameter aperture, we have used individual synthetic spectral fits to our photometry with the NICMOS ETC in estimating the required exposures. We assume that the light is uniformly distributed over a 1-square-arcsec region (this assumption ensures that the S/N given above will apply to well beyond the effective radius), and we find that we need 2 and 3 orbits, respectively, for 4C 05.84 ER1 and 4C 23.56 ER1. We will plan to spend a few minutes in one or more orbits on each field to place a nearby star at the position of the galaxy to obtain a good PSF calibration.

For the F110W filter images of 4C 05.84 ER1 and 4C 23.56 ER1, it would require ~ 75 orbits to achieve a similar S/N to 3 orbits in the F160W filter. For reasons discussed above, we propose a more modest goal for these observations of a S/N of 4 per resolution element, or 2 per pixel, which can be achieved in 3 and 4 orbits, respectively.

For our $z\sim 1.5$ galaxies, $H\sim 19.4$, with very little variation within our sample. In a single orbit, we can obtain with NIC2 in the F160W filter a S/N of ~ 15 per pixel, or ~ 30 per resolution element. For the 7 galaxies in this sample, we thus need 7 orbits (TXS 0145+386 ER1 and ER2 are too far apart to fit into the same NIC2 field).

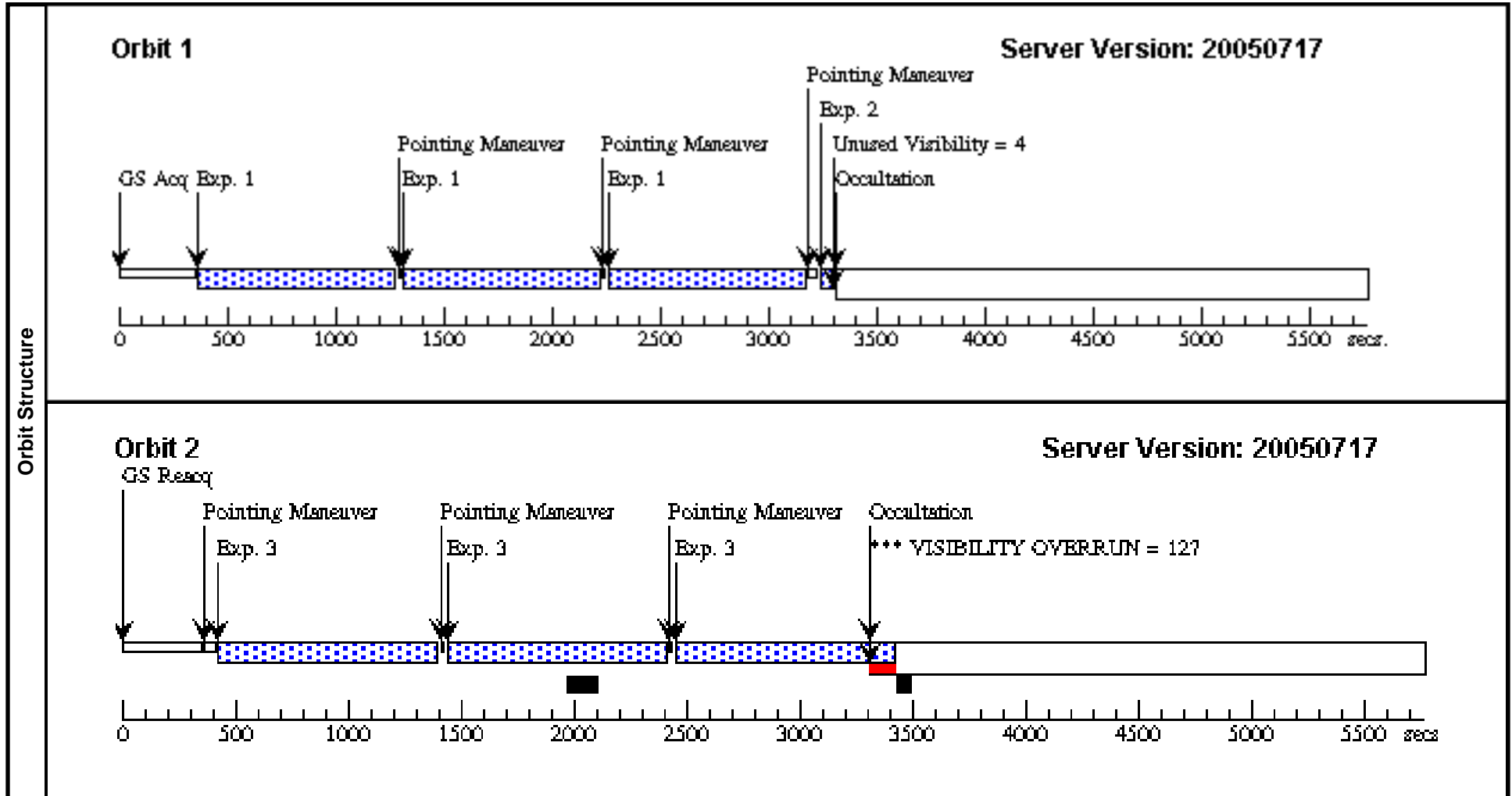
Proposal 10418 - Overview

For the ACS F814W imaging of the $z \sim 1.5$ sample, we need 2 orbits each to obtain $S/N = 3$ per resolution element, for a total of 12 orbits (in this case, TXS\,0145+386 ER1 and ER2 easily fit within the same ACS field).

Proposal 10418 - Visit 01 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:07 GMT 2005

Visit	Proposal 10418, Visit 01 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: PCS MODE FINE									
	(Visit 01) Warning: VISIBILITY OVERRUN									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=3 Point Spacing=6 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false			(1), (3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	TXS0145+386-ER1	RA: 01 48 24.8010 (27.1033375d) Dec: +38 54 16.77 (38.90466d) Equinox: J2000 Plate Id: 02S4	Redshift: 1.44	V=26.9 K' = 18.36	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(2)	TXS0145+386-ER2	RA: 01 48 22.7590 (27.0948292d) Dec: +38 54 15.36 (38.90427d) Equinox: J2000 Plate Id: 02S4	Redshift: 1.44	V=27.1 K' = 18.55	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(10)	TXS0145+386-PSF-STAR	RA: 01 48 30.8920 (27.1287167d) Dec: +38 54 20.57 (38.90571d) Equinox: J2000 Plate Id: 02S4		V=(?) K=15.9	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) TXS0145+386-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	NSAMP=16; SAMP-SEQ=SPARS 64	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2		(10) TXS0145+386-PSF-STAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=10	POS TARG 3,-3		[==>]	[1]
	3		(2) TXS0145+386-ER2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=17	POS TARG -3,-3	Pattern 3-3 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]



Proposal 10418 - Visit 02 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

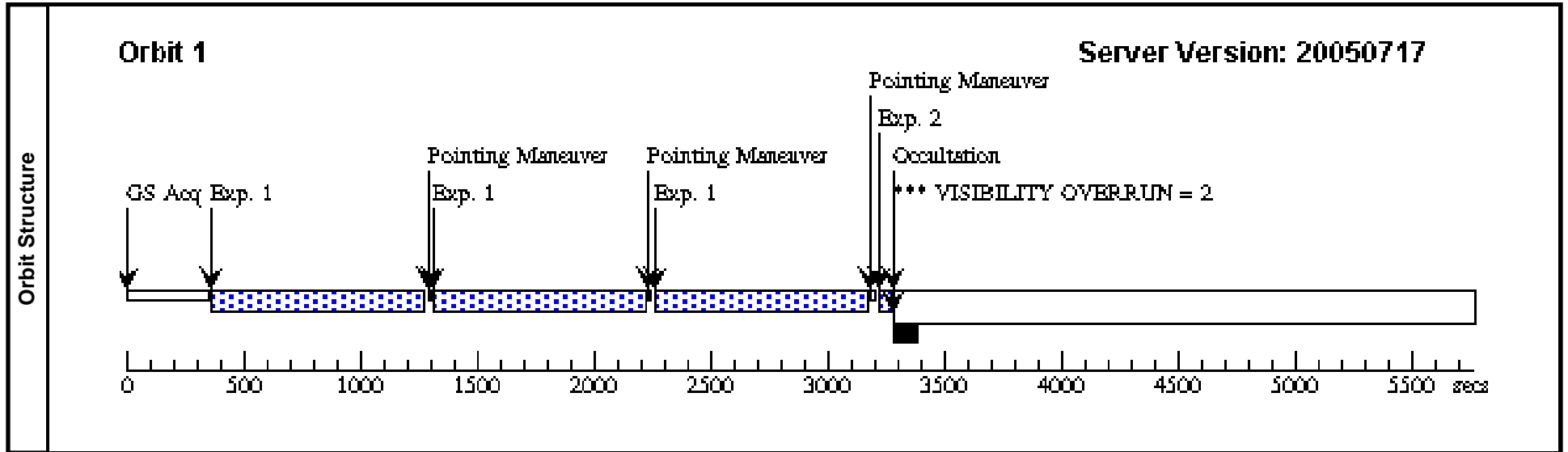
Tue Aug 30 01:02:08 GMT 2005

Visit	Proposal 10418, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: PCS MODE FINE									
	Patterns	#	Primary Pattern				Secondary Pattern			
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Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
	(3)	ERO-J094258+4659.2	RA: 09 42 59.1100 (145.7462917d) Dec: +46 59 18.90 (46.98858d) Equinox: J2000 Plate Id: 00T8				V=26.8 K' = 18.32		Coordinate Source: HST_IMAGE	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(3) ERO-J094258+4659.2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=17	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
Orbit Structure	Server Version: 20050717									
	<p>Orbit 1</p> <p>The diagram shows a horizontal timeline from 0 to 5500 seconds. Key events are marked with vertical arrows: 'GS Acq' at ~100s, 'Exp. 1' at ~400s, 'Pointing Maneuver' at ~1400s, 'Exp. 1' at ~2400s, and 'Occultation' at ~3400s. A blue checkered bar represents the observation period from approximately 400s to 3400s. A black bar represents the occultation period from approximately 3400s to 5500s. The text 'Unused Visibility = 20' is shown above the occultation bar.</p>									

Proposal 10418 - Visit 03 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:08 GMT 2005

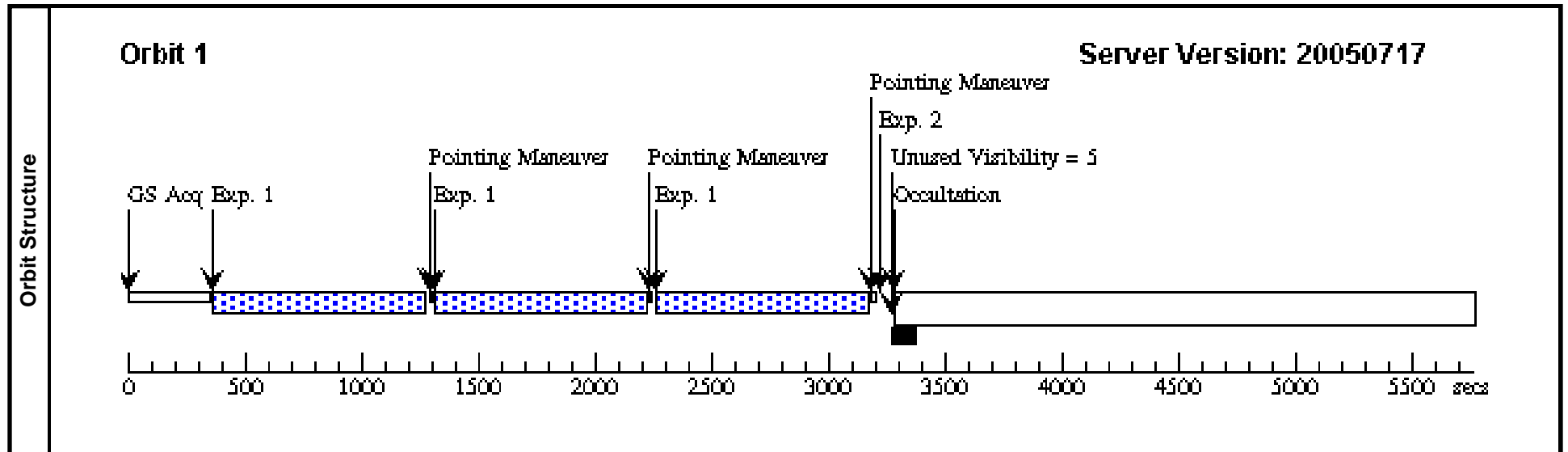
Visit	Proposal 10418, Visit 03 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: PCS MODE FINE									
	(Visit 03) Warning: VISIBILITY OVERRUN									
Diagnosics										
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=3 Point Spacing=6 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false			(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	B2-1018+34-ER2	RA: 10 21 16.6070 (155.3191958d) Dec: +34 37 21.72 (34.62270d) Equinox: J2000 Plate Id: 01R3	Redshift: 1.4	V=27.0 K' = 18.45	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(11)	B2-1018+34	RA: 10 21 17.4750 (155.3228125d) Dec: +34 37 21.66 (34.62268d) Equinox: J2000 Plate Id: 01R3		V=17.75 K=15.7	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(4) B2-1018+34-ER2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=16	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]	
2	(11) B2-1018+34	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=10	POS TARG 3,-3		[==>]	[1]		



Proposal 10418 - Visit 04 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:09 GMT 2005

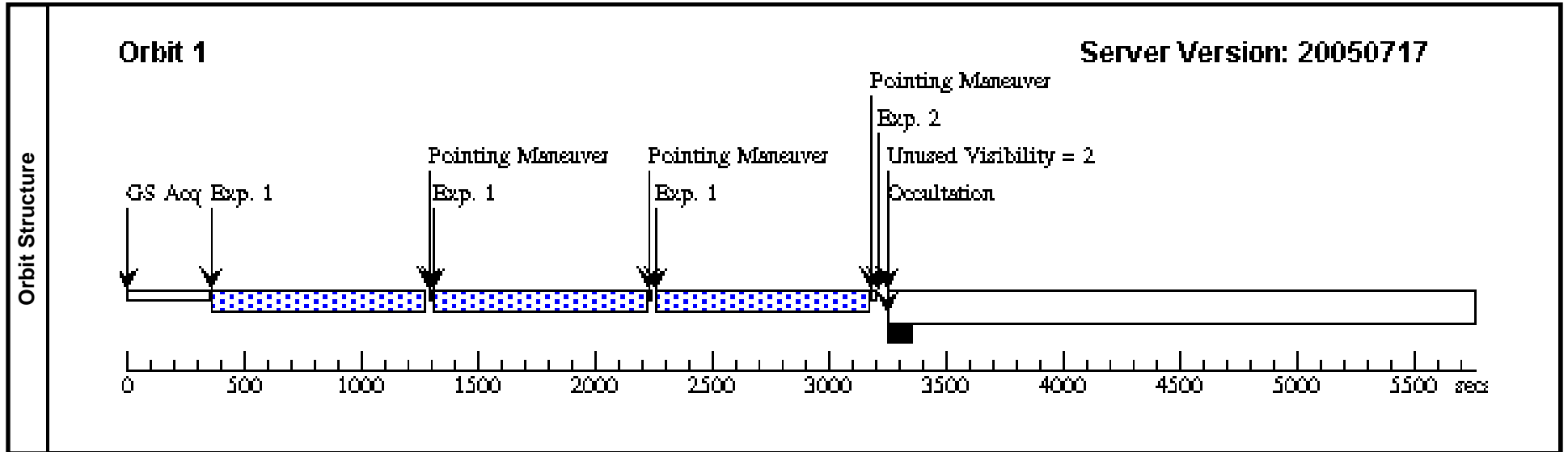
Visit	Proposal 10418, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=3 Point Spacing=6 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false					(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	TXS1211+334-ER1	RA: 12 14 4.7300 (183.5197083d) Dec: +33 09 39.70 (33.16103d) Equinox: J2000 Plate Id: 00Y2	Redshift: 1.598	V=27.0 K' = 18.51	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(12)	TXS1211+334	RA: 12 14 4.1210 (183.5171708d) Dec: +33 09 45.90 (33.16275d) Equinox: J2000 Plate Id: 00Y2		V=17.9	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(5) TXS1211+334-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=16	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2		(12) TXS1211+334	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=9	POS TARG -3,-3		[==>]	[1]



Proposal 10418 - Visit 05 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:10 GMT 2005

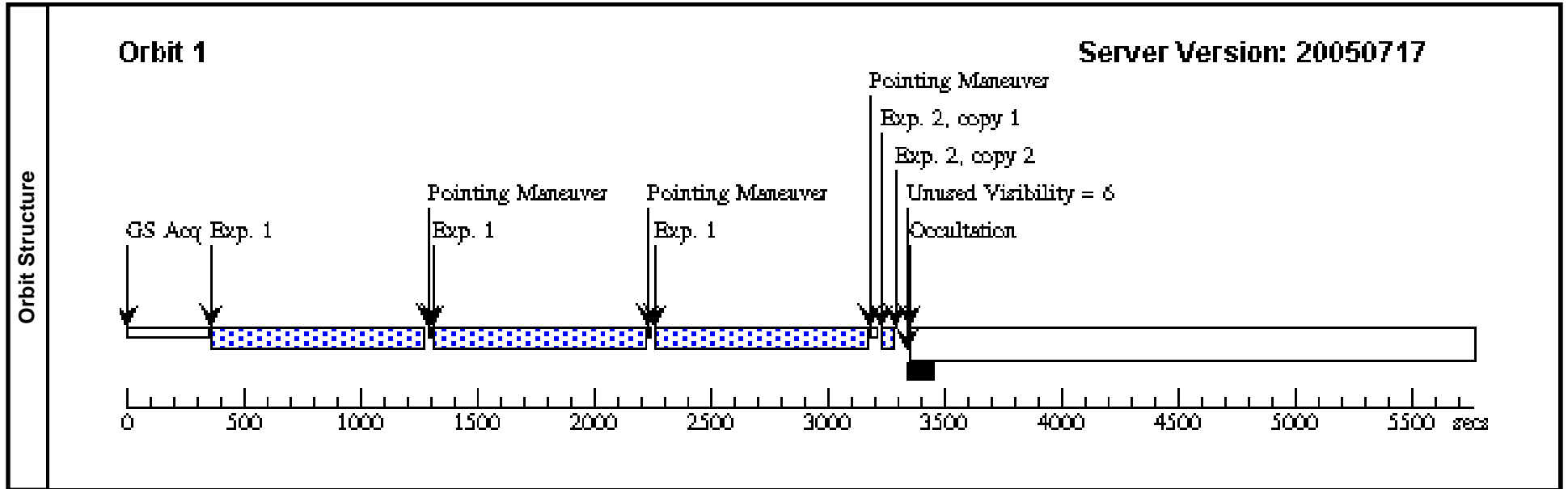
Visit	Proposal 10418, Visit 05 Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=3 Point Spacing=6 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false					(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	4C15.55-ER2	RA: 16 25 13.2140 (246.3050583d) Dec: +15 45 20.16 (15.75560d) Equinox: J2000 Plate Id: 01GC	Redshift: 1.41	V=27.0 K' = 18.51	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(13)	4C15.55-PSF-STAR	RA: 16 25 13.8760 (246.3078167d) Dec: +15 45 18.55 (15.75515d) Equinox: J2000 Plate Id: 01GC		V=(?) K=14.9	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(6) 4C15.55-ER2	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=16	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2		(13) 4C15.55-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=10	POS TARG 3,3		[==>]	[1]



Proposal 10418 - Visit 06 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:10 GMT 2005

Visit	Proposal 10418, Visit 06 Diagnostic Status: No Diagnostics Scientific Instruments: NIC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=3 Point Spacing=6 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false					(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	TXS1812+412-ER1	RA: 18 14 24.9800 (273.6040833d) Dec: +41 12 42.90 (41.21192d) Equinox: J2000 Plate Id: 02S0	Redshift: 1.56	V=27.1 K' = 18.55	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME				
	(14)	TXS1812+412-PSF-STAR	RA: 18 14 24.4309 (273.6017954d) Dec: +41 12 1.82 (41.20051d) Equinox: J2000 Plate Id: 02S0		V=(?) K=14.4	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(7) TXS1812+412-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=16	POS TARG -3,-3	Pattern 1-1 (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2		(14) TXS1812+412-PSF-STAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=10	POS TARG 3,3		[==>(Copy 1)] [==>(Copy 2)]	[1]



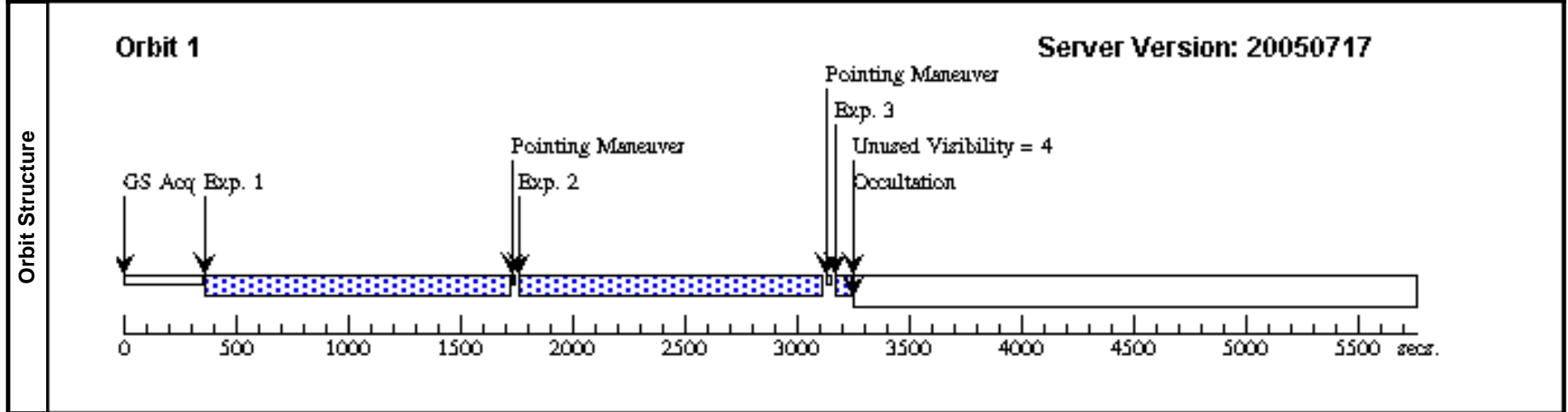
Proposal 10418 - Visit 07 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

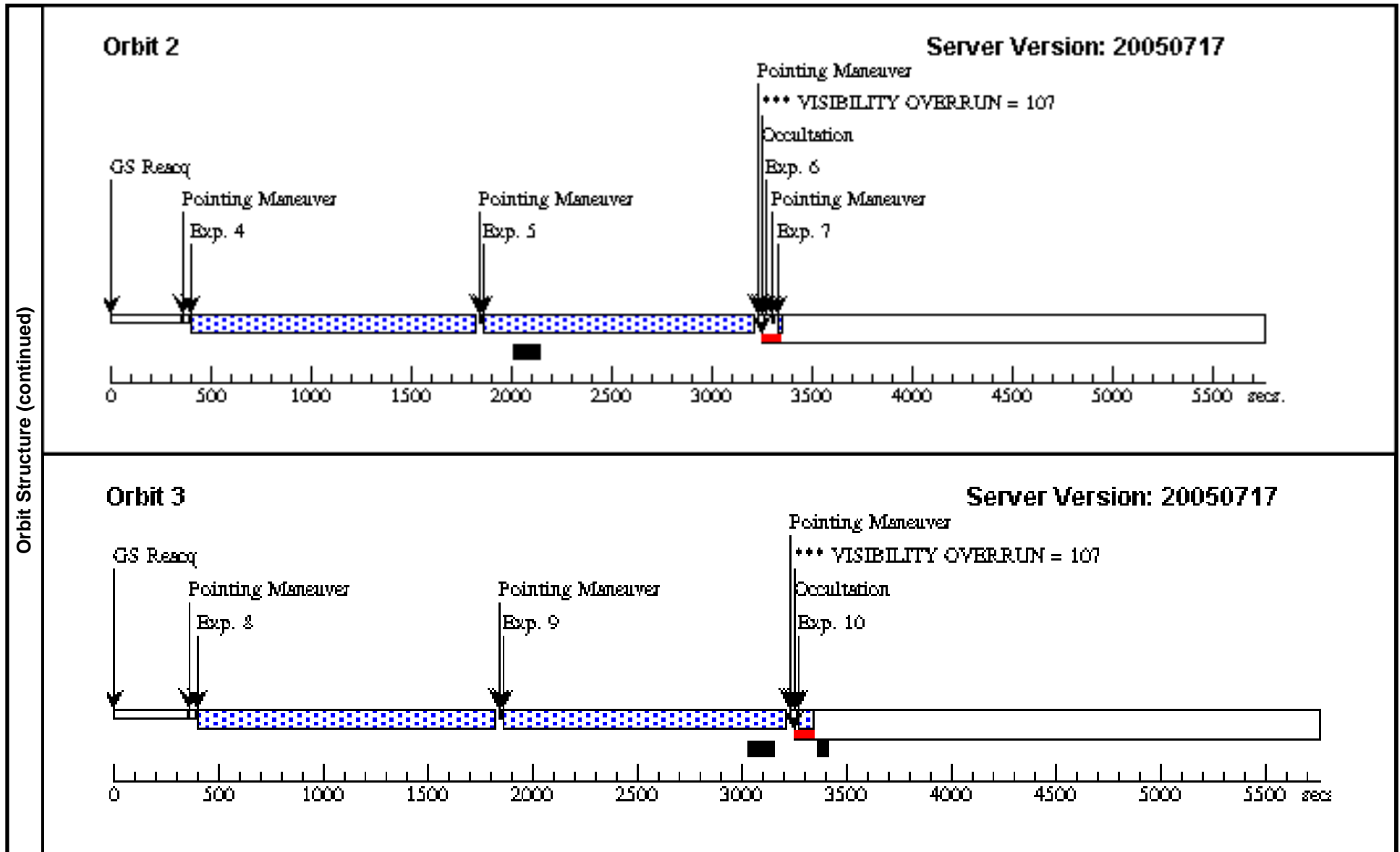
Tue Aug 30 01:02:11 GMT 2005

Visit	Proposal 10418, Visit 07 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: (none)									
	Diagnostics	(Visit 07) Warning: VISIBILITY OVERRUN (Visit 07) Warning: VISIBILITY OVERRUN (Visit 07) Warning: VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(8)	4C23.56-ER1	RA: 21 07 15.3600 (316.8140000d) Dec: +23 31 20.80 (23.52244d) Equinox: J2000 Plate Id: 03OD	Redshift: 2.48	V=30.7 K' = 19.7	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME			
	(15)	4C23.56-PSF-STAR	RA: 21 07 14.4600 (316.8102500d) Dec: +23 31 4.72 (23.51798d) Equinox: J2000 Plate Id: 03OD		V=(?) K'=15.6	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG -3,-3		[==>]	[1]
	2		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG 3,-3		[==>]	[1]
	3		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=12	POS TARG -3,-3		[==>]	[1]
	4		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=24	POS TARG 3,3		[==>]	[2]
	5		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG -3,3		[==>]	[2]
	6		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=6	POS TARG 3,-3		[==>]	[2]
	7		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=6	POS TARG 3,3		[==>]	[2]

Proposal 10418 - Visit 07 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	8	(8) 4C23.56-ER1		NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=24	POS TARG -3,-3		[==>]	[3]
	9	(8) 4C23.56-ER1		NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG 3,-3		[==>]	[3]
	10	(15) 4C23.56-PSF-S TAR		NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=13	POS TARG -3,3		[==>]	[3]





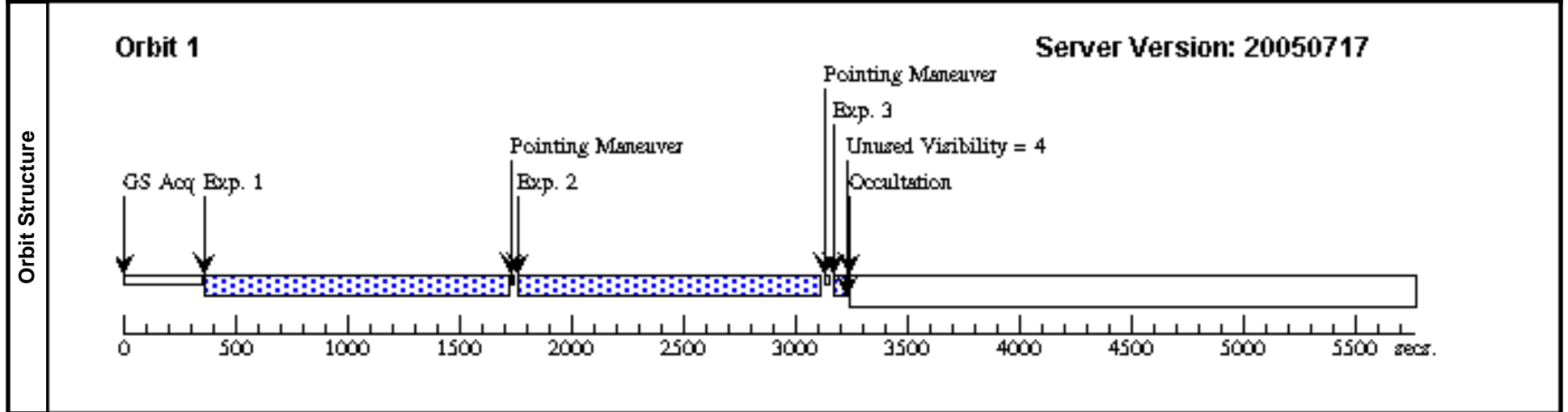
Proposal 10418 - Visit 08 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

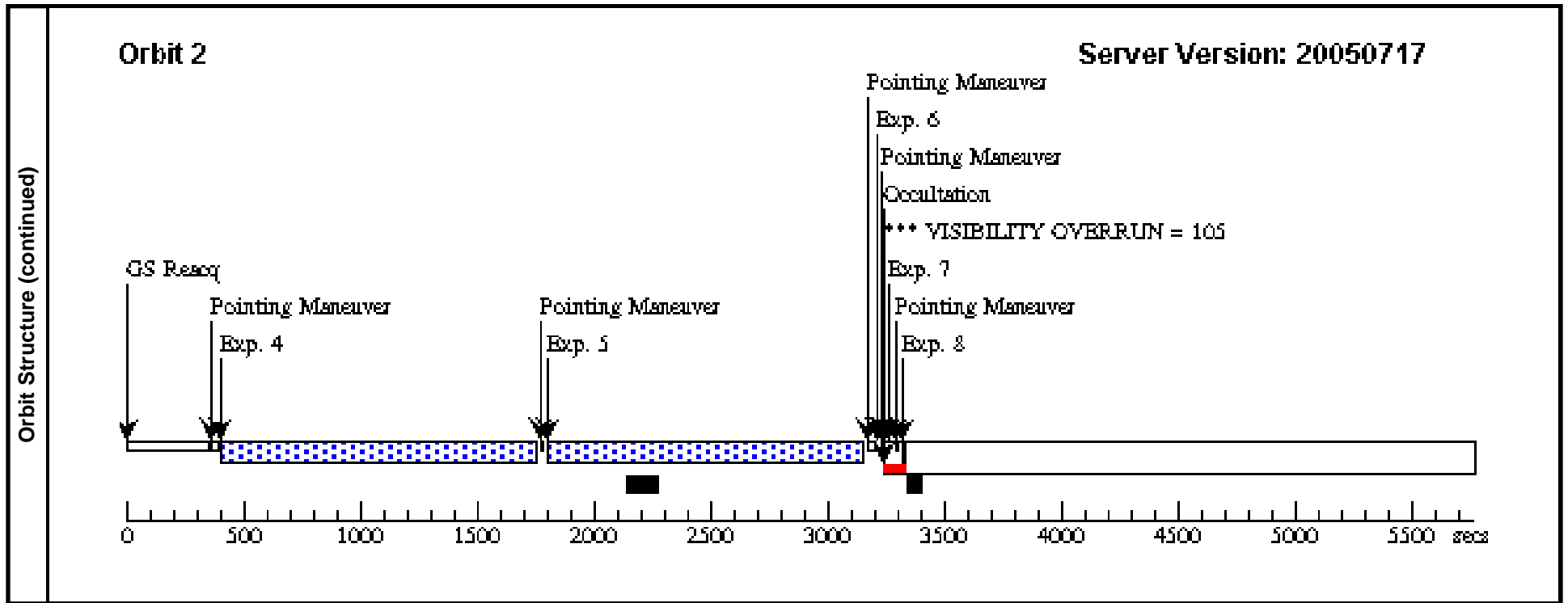
Tue Aug 30 01:02:11 GMT 2005

Visit	Proposal 10418, Visit 08 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: (none)									
	Diagnostics	(Visit 08) Warning: VISIBILITY OVERRUN (Visit 08) Warning: VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(9)	4C05.84-ER1	RA: 22 25 13.3000 (336.3054167d) Dec: +05 27 12.70 (5.45353d) Equinox: J2000 Plate Id: 03RV	Redshift: 2.32	V=30.5 K' = 19.5	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME			
	(16)	4C05.84	RA: 22 25 14.7000 (336.3112500d) Dec: +05 27 9.33 (5.45259d) Equinox: J2000 Plate Id: 03RV		V=(?) K'=14.7	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG -3,-3		[==>]	[1]
	2		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG -3,3		[==>]	[1]
	3		(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP8 ; NSAMP=10	POS TARG -3,-3		[==>]	[1]
	4		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG 3,3		[==>]	[2]
	5		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=SPARS 64; NSAMP=23	POS TARG 3,-3		[==>]	[2]
	6		(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=4	POS TARG -3,3		[==>]	[2]
	7		(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=4	POS TARG 3,3		[==>]	[2]

Proposal 10418 - Visit 08 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Exposures (continued)	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	8	(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F160W	SAMP-SEQ=STEP2 ; NSAMP=4	POS TARG 3,-3	[==>]	[2]		

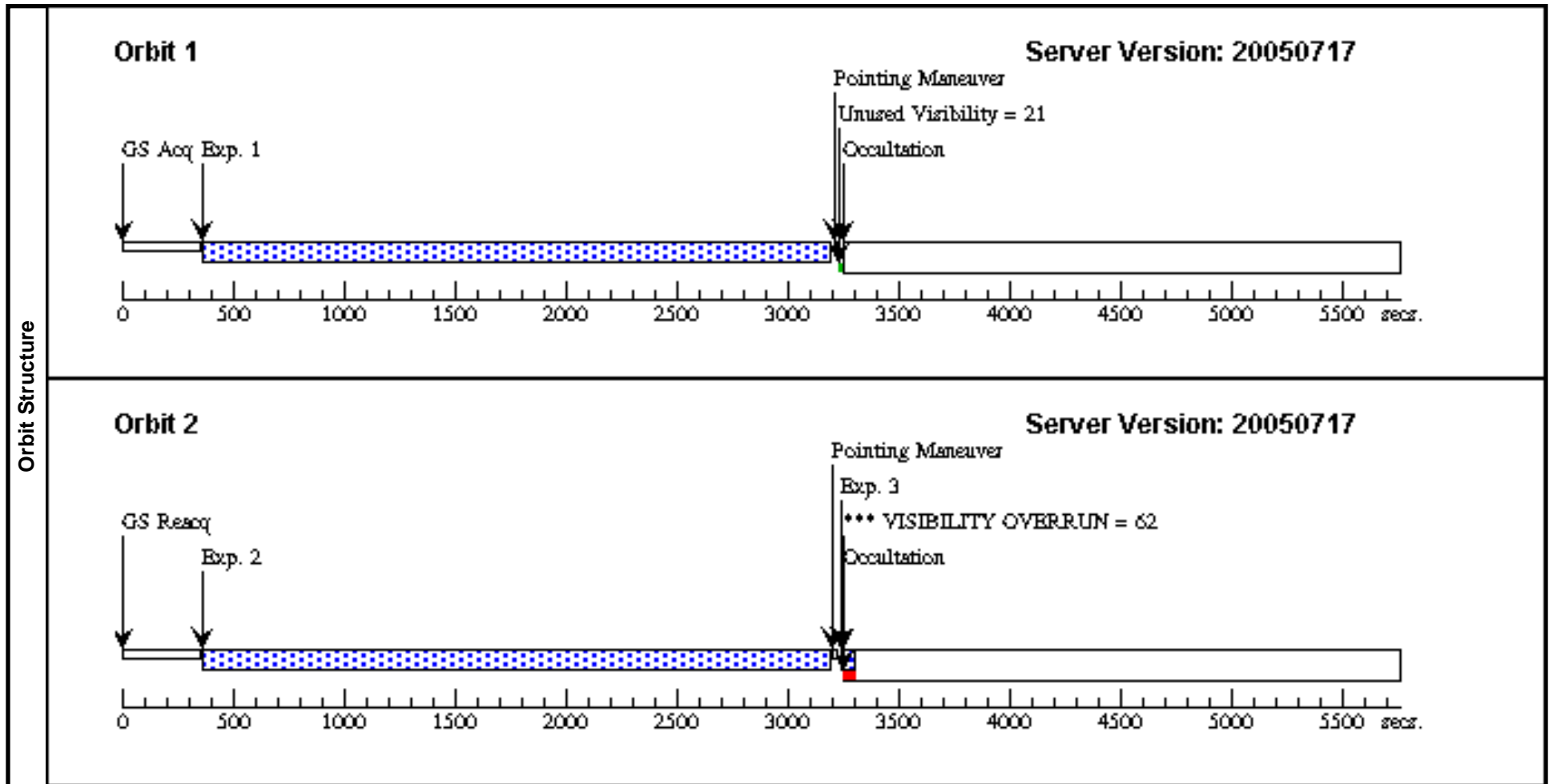


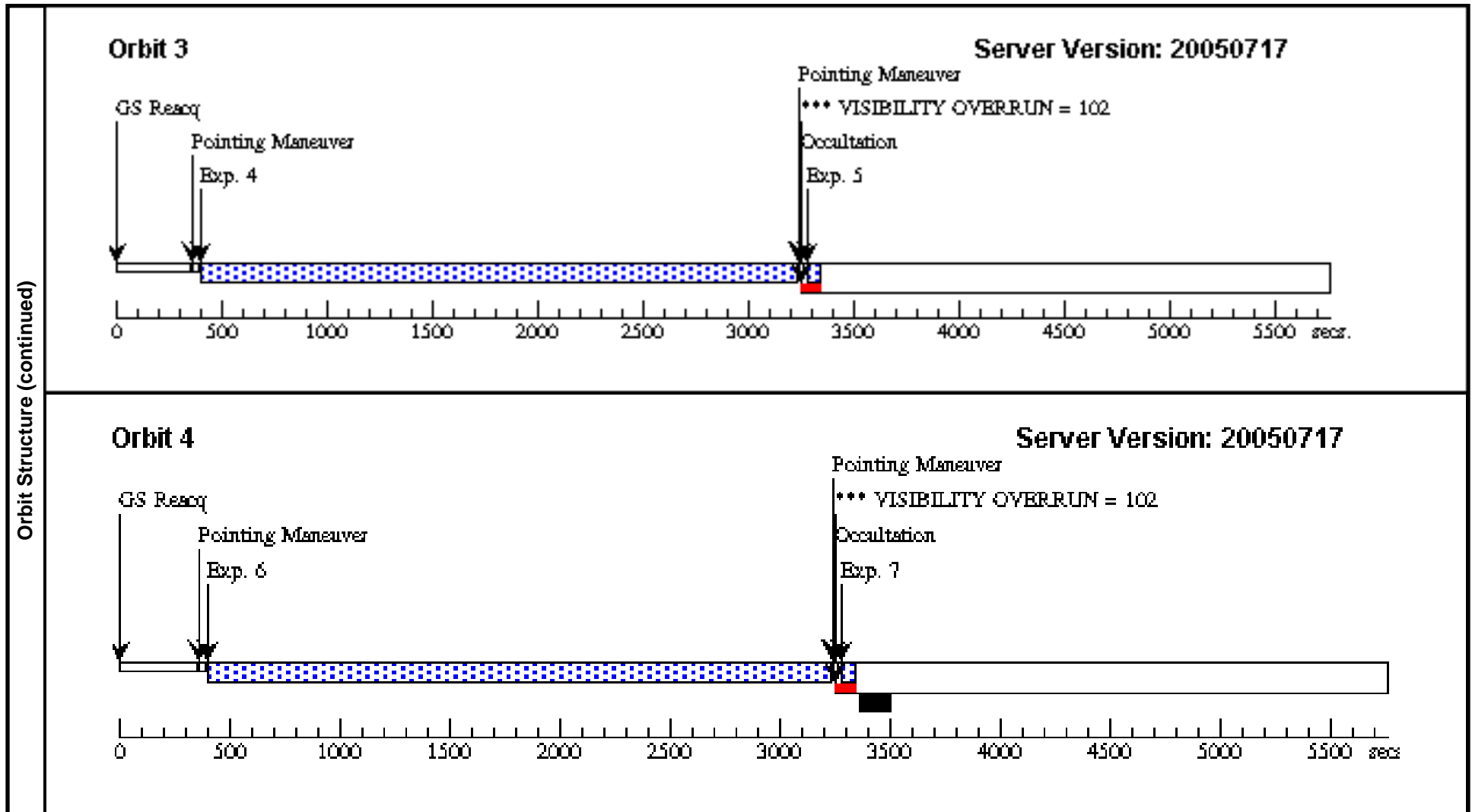


Proposal 10418 - Visit 09 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:12 GMT 2005

Visit	Proposal 10418, Visit 09 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: (none)									
	Diagnostics	(Visit 09) Warning: VISIBILITY OVERRUN (Visit 09) Warning: VISIBILITY OVERRUN (Visit 09) Warning: VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(8)	4C23.56-ER1	RA: 21 07 15.3600 (316.8140000d) Dec: +23 31 20.80 (23.52244d) Equinox: J2000 Plate Id: 03OD	Redshift: 2.48	V=30.7 K' = 19.7	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME			
	(15)	4C23.56-PSF-STAR	RA: 21 07 14.4600 (316.8102500d) Dec: +23 31 4.72 (23.51798d) Equinox: J2000 Plate Id: 03OD		V=(?) K'=15.6	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG -3,-3		[==>]	[1]
	2		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG 3,-3		[==>]	[2]
	3		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=STEP8 ; NSAMP=11	POS TARG -3,-3		[==>]	[2]
	4		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG 3,3		[==>]	[3]
	5		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=STEP8 ; NSAMP=11	POS TARG 3,-3		[==>]	[3]
	6		(8) 4C23.56-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG -3,3		[==>]	[4]
	7		(15) 4C23.56-PSF-S TAR	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=STEP8 ; NSAMP=11	POS TARG 3,3		[==>]	[4]

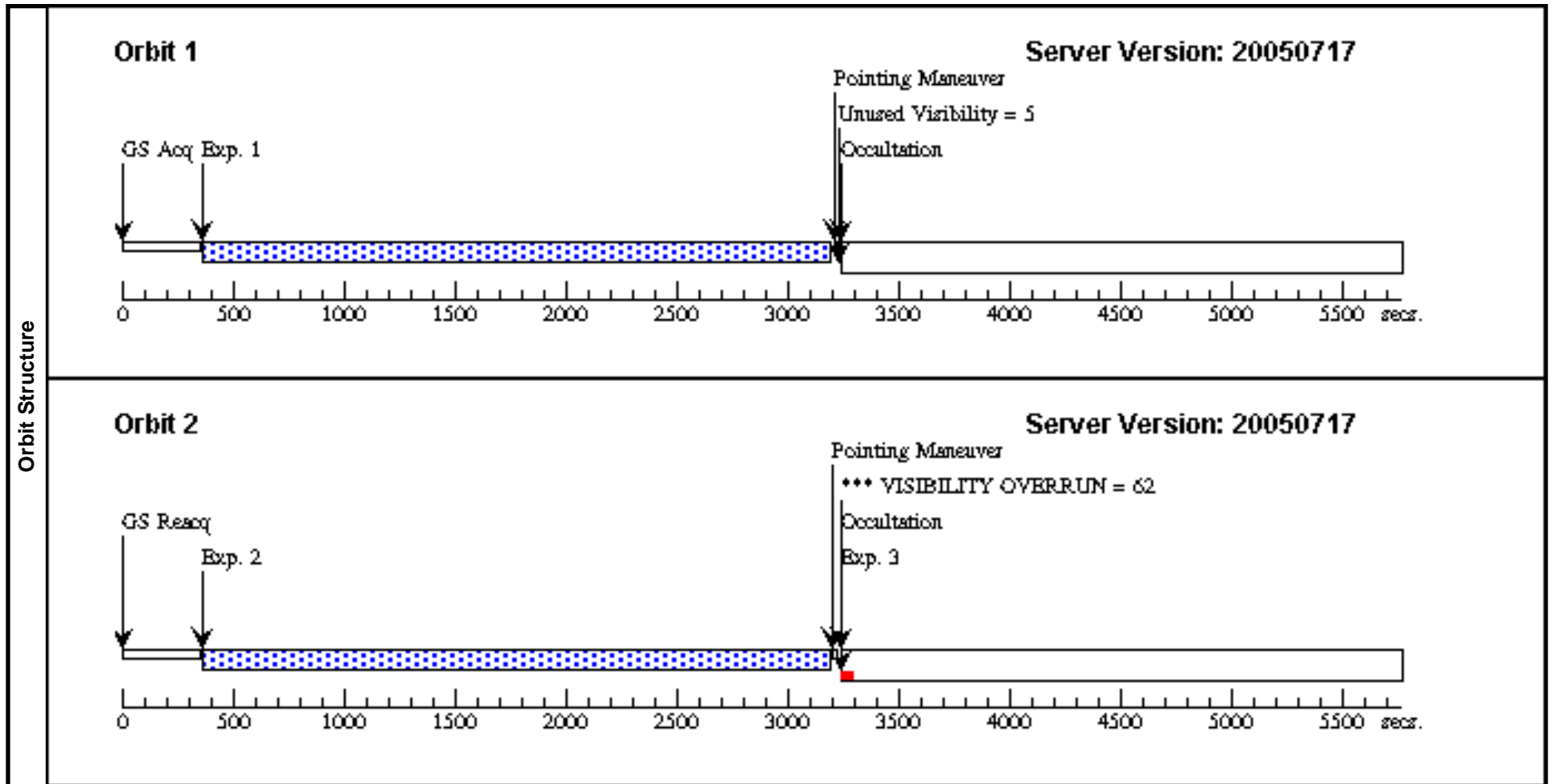


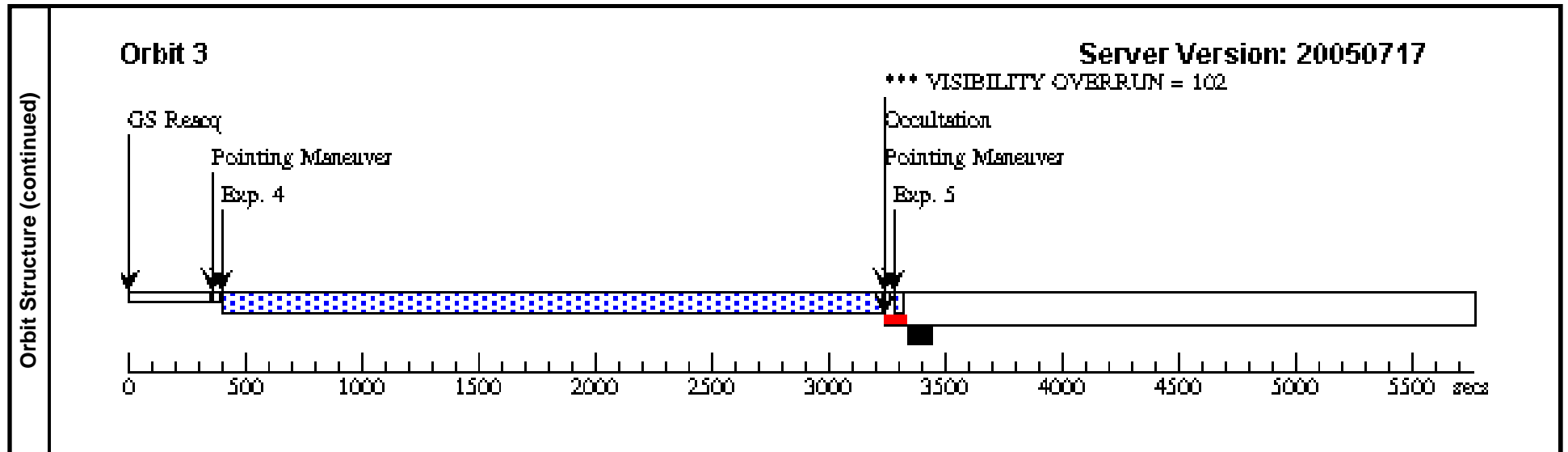


Proposal 10418 - Visit 10 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:13 GMT 2005

Visit	Proposal 10418, Visit 10 Diagnostic Status: Warning Scientific Instruments: NIC2 Special Requirements: (none)									
	Diagnostics	(Visit 10) Warning: VISIBILITY OVERRUN (Visit 10) Warning: VISIBILITY OVERRUN (Visit 10) Warning: VISIBILITY OVERRUN								
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(9)	4C05.84-ER1	RA: 22 25 13.3000 (336.3054167d) Dec: +05 27 12.70 (5.45353d) Equinox: J2000 Plate Id: 03RV	Redshift: 2.32	V=30.5 K' = 19.5	Coordinate Source: IMAGE_TIED_TO_GSC_FRAME			
	(16)	4C05.84	RA: 22 25 14.7000 (336.3112500d) Dec: +05 27 9.33 (5.45259d) Equinox: J2000 Plate Id: 03RV		V=(?) K'=14.7	Coordinate Source: GSC_SURVEY_PLATE				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG -3,-3		[==>]	[1]
	2		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG -3,3		[==>]	[2]
	3		(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=STEP8 ; NSAMP=9	POS TARG -3,-3		[==>]	[2]
	4		(9) 4C05.84-ER1	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=SPARS 256; NSAMP=13	POS TARG 3,3		[==>]	[3]
	5		(16) 4C05.84	NIC2, MULTIACCUM, NIC2-FIX	F110W	SAMP-SEQ=STEP8 ; NSAMP=9	POS TARG -3,3		[==>]	[3]

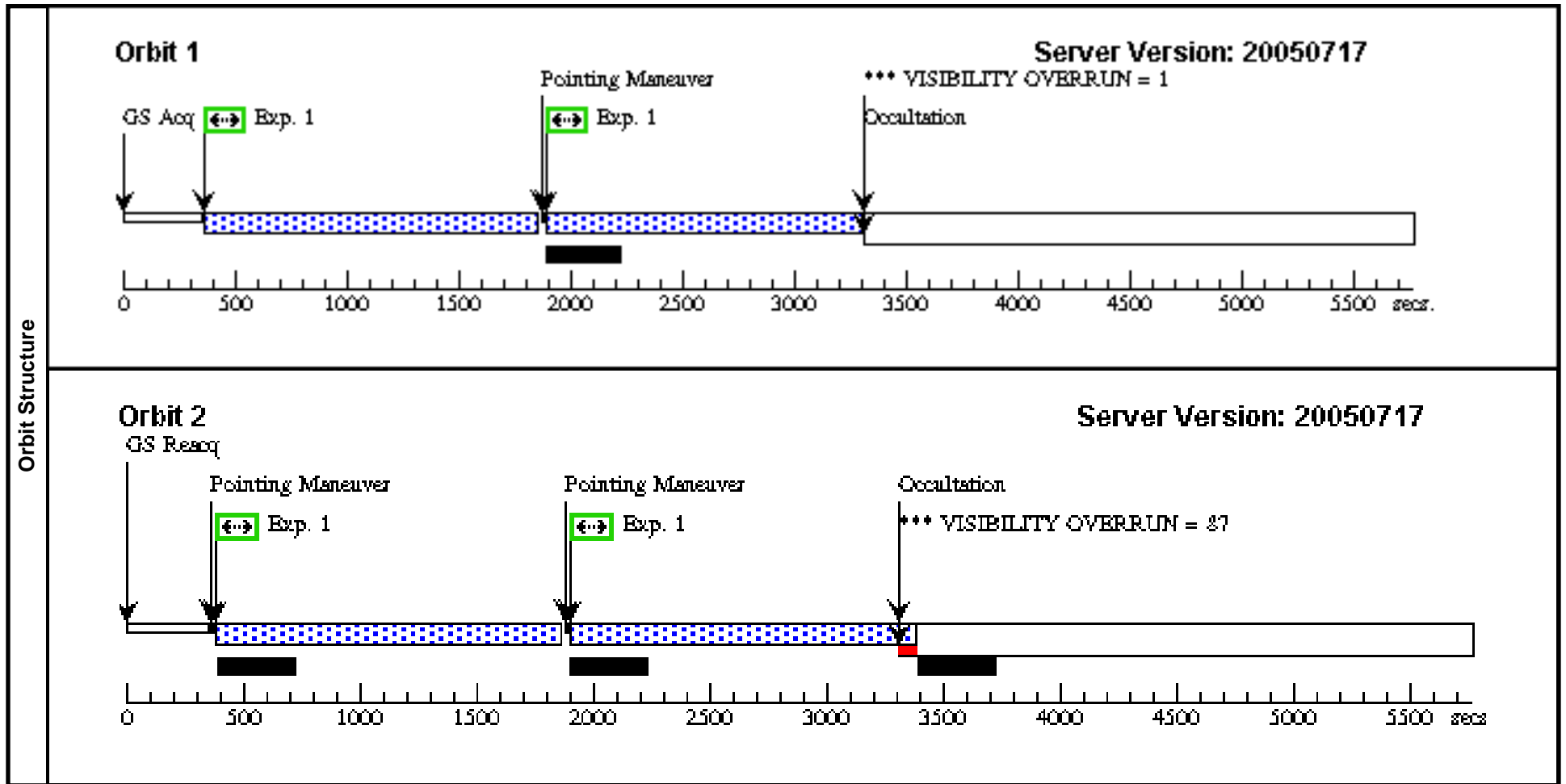




Proposal 10418 - Visit 11 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:13 GMT 2005

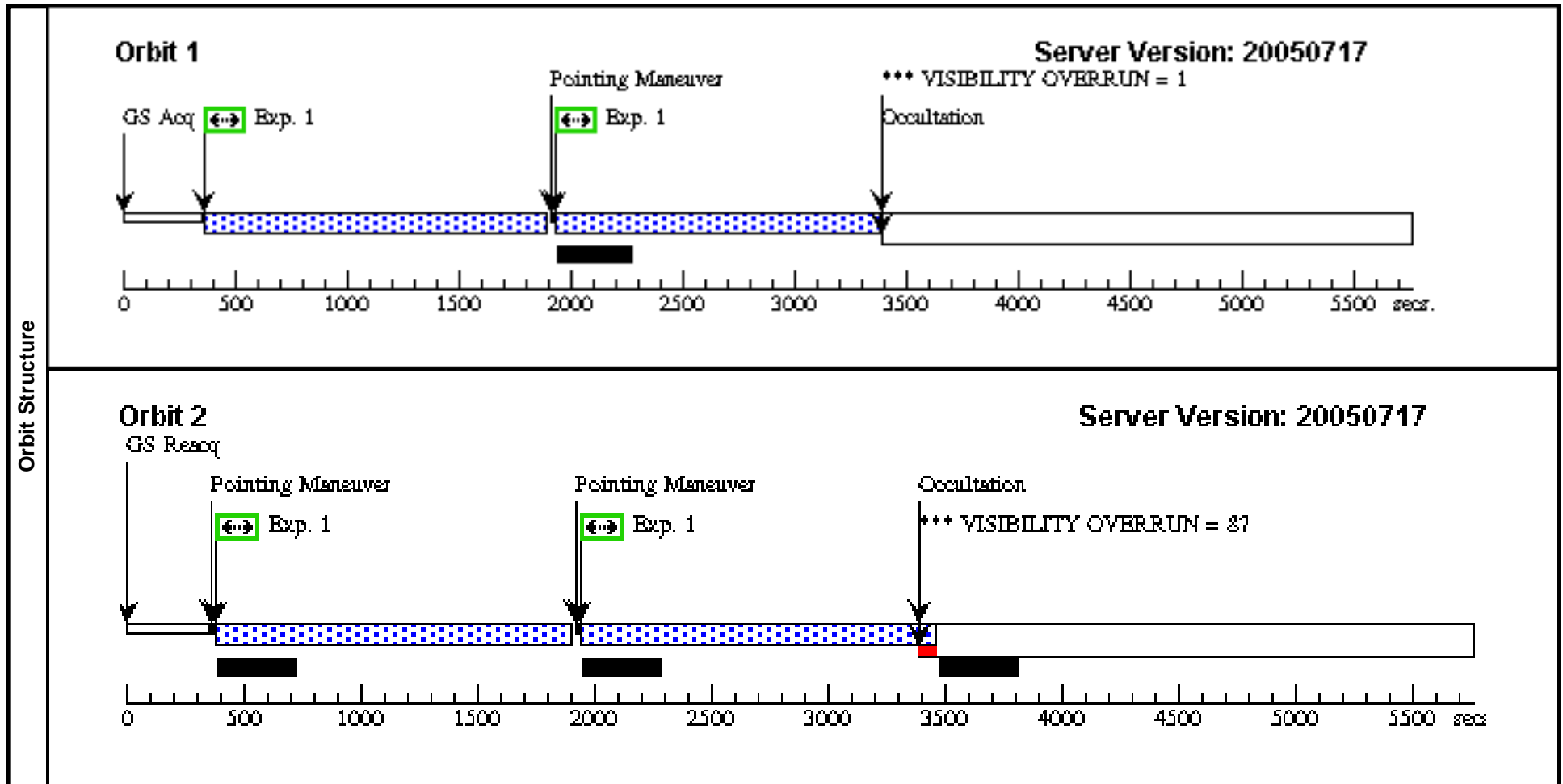
Visit	Proposal 10418, Visit 11 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: (none)										
	(Visit 11) Warning: VISIBILITY OVERRUN (Visit 11) Warning: VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern			Exposures		
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false			(1)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	TXS0145+386-ER1	RA: 01 48 24.8010 (27.1033375d) Dec: +38 54 16.77 (38.90466d) Equinox: J2000 Plate Id: 02S4		Redshift: 1.44		V=26.9 K' = 18.36		Coordinate Source: IMAGE_TIED_TO_GSC_FRAME		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(1) TXS0145+386-E R1	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2; CR-SPLIT=NO		Pattern 1-1 (2)	1285.0 Secs		
									[==>(Pattern 1)]		[1]
									[==>(Pattern 2)]		
								[==>1359.0 Secs (Pattern 3)]		[2]	
								[==>1359.0 Secs (Pattern 4)]			



Proposal 10418 - Visit 12 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:14 GMT 2005

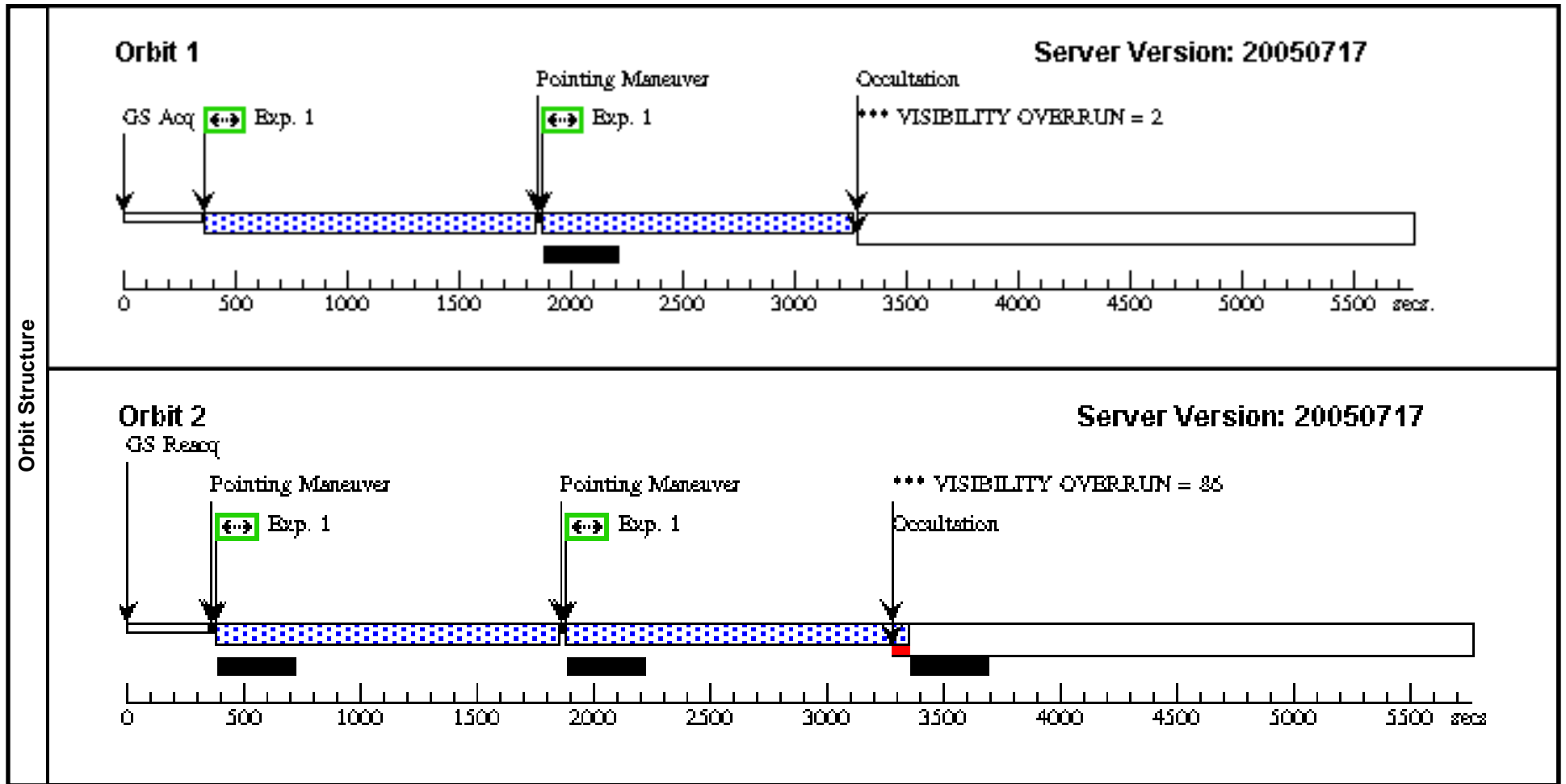
Visit	Proposal 10418, Visit 12 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: (none)										
	(Visit 12) Warning: VISIBILITY OVERRUN (Visit 12) Warning: VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(3)	ERO-J094258+4659.2	RA: 09 42 59.1100 (145.7462917d) Dec: +46 59 18.90 (46.98858d) Equinox: J2000 Plate Id: 00T8				V=26.8 K' = 18.32		Coordinate Source: HST_IMAGE		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(3) ERO-J094258+4659.2	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2; CR-SPLIT=NO		Pattern 1-1 (2)	1285.0 Secs		
									[==>1329.0 Secs (Pattern 1)]		[1]
									[==>1329.0 Secs (Pattern 2)]		[1]
									[==>1403.0 Secs (Pattern 3)]		[2]
									[==>1403.0 Secs (Pattern 4)]		[2]



Proposal 10418 - Visit 13 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:15 GMT 2005

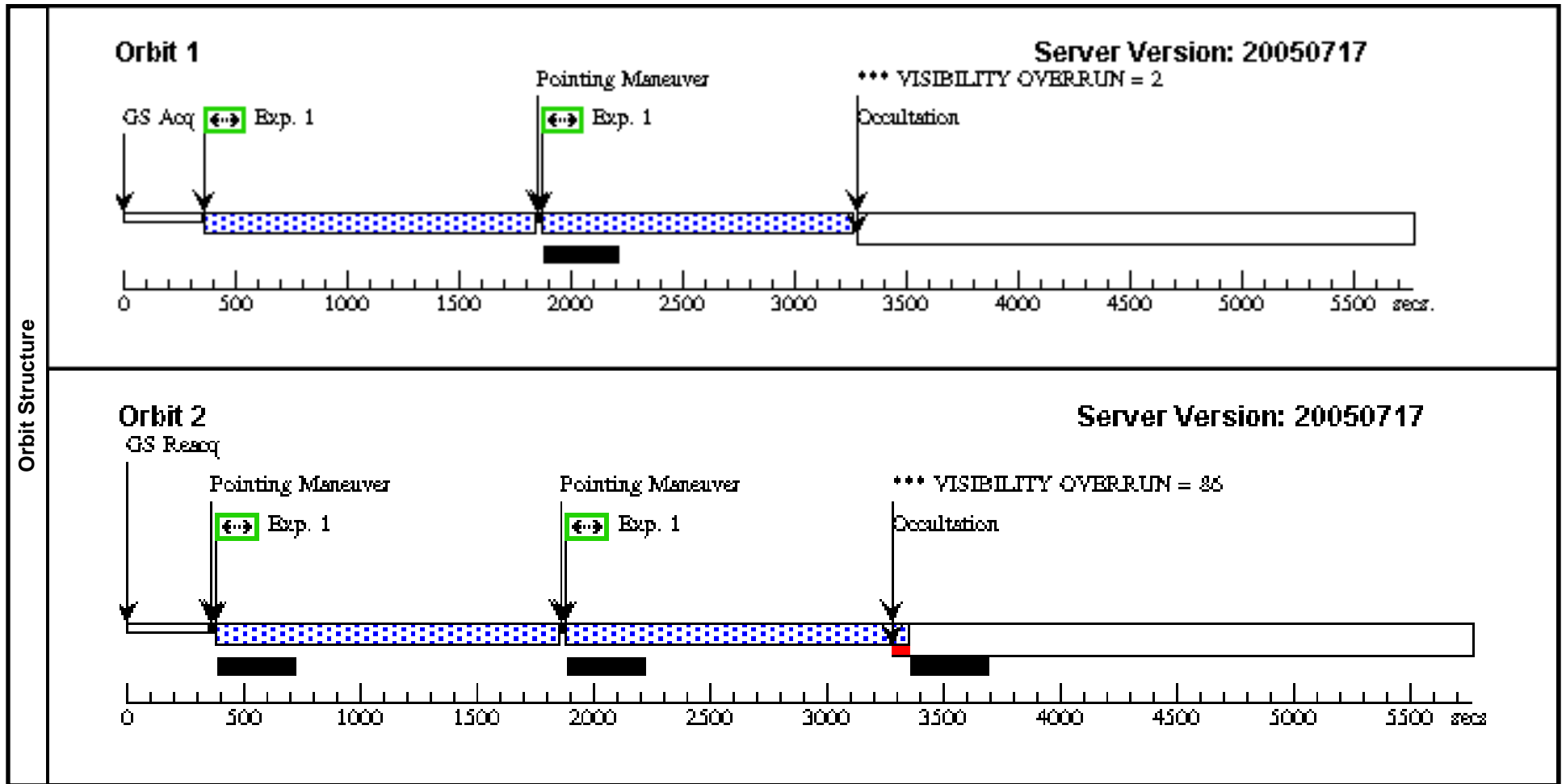
Visit	Proposal 10418, Visit 13 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: (none)										
	(Visit 13) Warning: VISIBILITY OVERRUN (Visit 13) Warning: VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	B2-1018+34-ER2	RA: 10 21 16.6070 (155.3191958d) Dec: +34 37 21.72 (34.62270d) Equinox: J2000 Plate Id: 01R3		Redshift: 1.4		V=27.0 K' = 18.45		Coordinate Source: IMAGE_TIED_TO_GSC_FRAME		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(4) B2-1018+34-ER2	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2;		Pattern 1-1 (2)	1285.0 Secs		
						CR-SPLIT=NO			[==>1272.0 Secs (Pattern 1)]		[1]
									[==>1272.0 Secs (Pattern 2)]		
									[==>1345.0 Secs (Pattern 3)]		[2]
									[==>1345.0 Secs (Pattern 4)]		



Proposal 10418 - Visit 14 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:15 GMT 2005

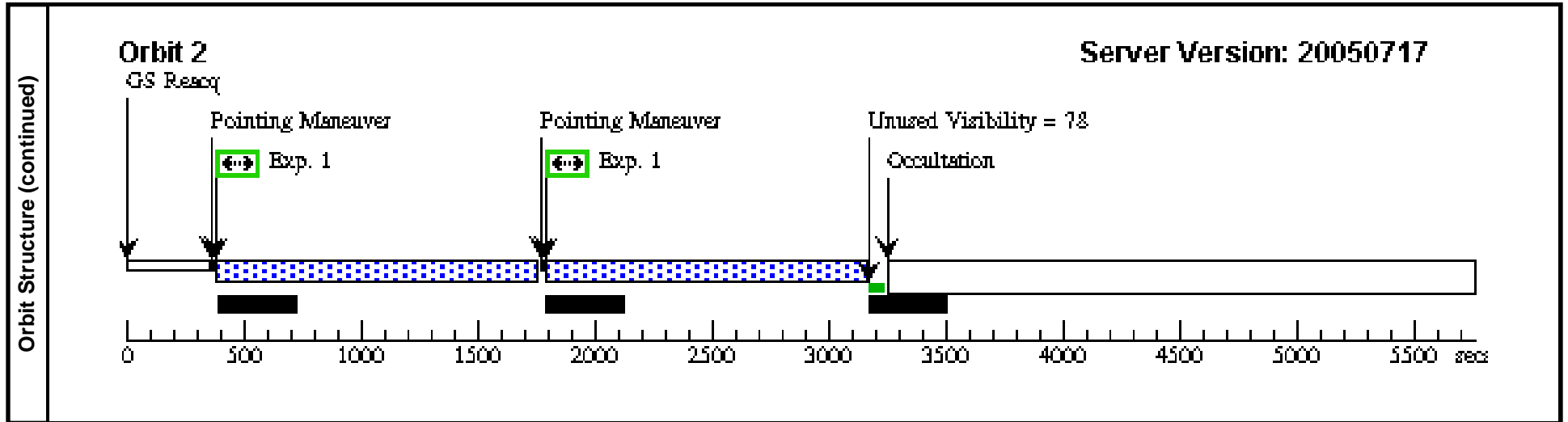
Visit	Proposal 10418, Visit 14 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: (none)										
	(Visit 14) Warning: VISIBILITY OVERRUN (Visit 14) Warning: VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(5)	TXS1211+334-ER1	RA: 12 14 4.7300 (183.5197083d) Dec: +33 09 39.70 (33.16103d) Equinox: J2000 Plate Id: 00Y2		Redshift: 1.598		V=27.0 K' = 18.51		Coordinate Source: IMAGE_TIED_TO_GSC_FRAME		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(5) TXS1211+334-E R1	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2; CR-SPLIT=NO		Pattern 1-1 (2)	1285.0 Secs		
									[==>1272.0 Secs (Pattern 1)]		[1]
									[==>1272.0 Secs (Pattern 2)]		[1]
									[==>1345.0 Secs (Pattern 3)]		[2]
									[==>1345.0 Secs (Pattern 4)]		[2]



Proposal 10418 - Visit 15 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:16 GMT 2005

Visit	Proposal 10418, Visit 15 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern				Secondary Pattern			
(2)		Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false				(1)
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous	
	(6)	4C15.55-ER2	RA: 16 25 13.2140 (246.3050583d) Dec: +15 45 20.16 (15.75560d) Equinox: J2000 Plate Id: 01GC		Redshift: 1.41		V=27.0 K' = 18.51		Coordinate Source: IMAGE_TIED_TO_GSC_FRAME	
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(6) 4C15.55-ER2	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2; CR-SPLIT=NO			Pattern 1-1 (2)	1250.0 Secs	
									[=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1] [2]
Orbit Structure	<p>Orbit 1 Server Version: 20050717</p> <p>The diagram illustrates the timing of observations for Orbit 1. The x-axis represents time in seconds, ranging from 0 to 5500. Key events are marked with arrows: GS Acq (0-500s), Exp. 1 (500-2000s), Pointing Maneuver (2000-2200s), Exp. 1 (2200-3200s), and Occultation (3200-5500s). A blue checkered bar represents the observation period, and a black bar indicates the pointing maneuver. Unused visibility is 16 seconds.</p>									
	<p>Unused Visibility = 16</p>									



Proposal 10418 - Visit 16 - Morphologies and Color Gradients of Galaxies with the Oldest Stellar Populations at High Redshifts

Tue Aug 30 01:02:16 GMT 2005

Visit	Proposal 10418, Visit 16 Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: (none)										
	(Visit 16) Warning: VISIBILITY OVERRUN (Visit 16) Warning: VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern			Exposures		
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=0.187				Coordinate Frame=POS-TARG Pattern Orientation=20.7 Angle Between Sides=69.1 Center Pattern=false			(1)		
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(7)	TXS1812+412-ER1	RA: 18 14 24.9800 (273.6040833d) Dec: +41 12 42.90 (41.21192d) Equinox: J2000 Plate Id: 02S0		Redshift: 1.56		V=27.1 K' = 18.55		Coordinate Source: IMAGE_TIED_TO_GSC_FRAME		
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(7) TXS1812+412-E R1	ACS/WFC, ACCUM, WFC1	F814W	GAIN=2; CR-SPLIT=NO		Pattern 1-1 (2)	1285.0 Secs		
									[==>1306.0 Secs (Pattern 1)]		[1]
									[==>1306.0 Secs (Pattern 2)]		[1]
									[==>1379.0 Secs (Pattern 3)]		[2]
									[==>1379.0 Secs (Pattern 4)]		[2]

