



12937 - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Cycle: 20, Proposal Category: GO

(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) ABELL1650-9-13-0 ANY	ACS/WFC WFC3/UVIS	5	13-Dec-2013 21:01:56.0	yes
02	(2) ABELL2495-5-13-0 ANY	ACS/WFC WFC3/UVIS	4	13-Dec-2013 21:02:31.0	yes
03	(3) ABELL399-3-14-0 ANY	ACS/WFC WFC3/UVIS	2	13-Dec-2013 21:02:54.0	yes
04	(4) ABELL85-6-08-0 ANY	ACS/WFC WFC3/UVIS	2	13-Dec-2013 21:03:07.0	yes
54	(4) ABELL85-6-08-0 ANY	ACS/WFC WFC3/UVIS	1	13-Dec-2013 21:03:15.0	yes

14 Total Orbits Used

ABSTRACT

To help resolve the progenitor problem for Type Ia supernovae (SNe Ia) and ensure their dependability as cosmological standard candles, we seek direct confirmation that SNe Ia explode in >2 Gyr old stellar populations. The Multi-Epoch Nearby Cluster Survey (MENeCS) monitored 60 low redshift, rich galaxy clusters for two years, and spectroscopically confirmed four apparently hostless cluster SNe Ia. The intracluster medium hosts a purer population of old stars than elliptical galaxies, which have been shown to often harbor low levels of star formation. We propose to obtain deep HST images at the locations of these four SNe Ia (now faded), to confirm that they are truly associated with the population of intracluster stars, and not hosted by a faint cluster galaxy or globular cluster. This proposal will also provide the necessary support for the use of IC SNe - as bright representatives of IC stars - in determining the fraction of IC stellar mass and light, which has low surface brightness and is difficult to measure directly. The required observations are only possible with HST, which has both the necessary resolution to limit contamination from background sources, and the sensitivity to detect or rule out the presence of a faint cluster galaxy or globular cluster at the SNe Ia locations. We have now been authorized to obtain parallel observations with WFC3. We use the same filters and the same exposure times as our ACS images. This data will provide additional cluster faint source number counts for our statistical analysis of any detection at our targeted coordinates, and contribute to our auxiliary science goals.

OBSERVING DESCRIPTION

We will obtain deep images, $V=28.2$ to 28.9 (F606W) and $I=27.2$ to 27.9 (F814W), for each of our four targets with the Advanced Camera for Surveys. Our four targets are the locations of apparently hostless Type Ia supernovae (SNeIa) in the central regions of rich galaxy clusters. The SNeIa have now faded so these observations will either detect a faint host, or confirm the SNeIa's association with the intracluster stellar population. Telescope orientations have been chosen to avoid possible star diffraction spikes from coming within 50-200 pixels of our target coordinates (tolerance depends on star magnitude). Total required integration times are divided into multiple exposures to avoid cosmic rays, and dithered to avoid possible hot pixels. Aperture "WFC1" was chosen as the target position on the CCD because amplifier "B" on WFC1 has the lowest read noise.

ADDITIONAL COMMENTS

We have been authorized to include parallel observations with WFC3. These have been set to the same filters and exposure times of our ACS observations. The orientations have been further constrained so that WFC3 will be closer to the clusters' centers than ACS.

Proposal 12937 - Abell1650-9-13-0 (01) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Sat Dec 14 02:03:25 GMT 2013

Visit	<p>Proposal 12937, Abell1650-9-13-0 (01), completed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS, ACS/WFC</p> <p>Special Requirements: SCHED 100%; ORIENT 205D TO 269 D</p> <p><i>Comments: Use of LOW-SKY suggested by HST staff (was not in our Phase I). Orientations set to avoid nearby very bright stars being aligned along x or y axis with target coordinates. Orientations then further constrained to put WFC3 closer to the cluster center than ACS.</i></p>					
	<p>Diagnosics</p> <p>(Abell1650-9-13-0 (01)) Warning (Orbit Planner): PARALLELS SIGNIFICANTLY EXTEND ALIGNMENT TIME</p>					
Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1-2), (3-4), (5-6), (7-8), (9-10)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	ABELL1650-9-13-0	RA: 12 59 1.3300 (194.7555417d) Dec: -01 45 51.68 (-1.76436d) Equinox: J2000	Redshift: 0.0836	V=29+/-0	Reference Frame: ICRS

Proposal 12937 - Abell1650-9-13-0 (01) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

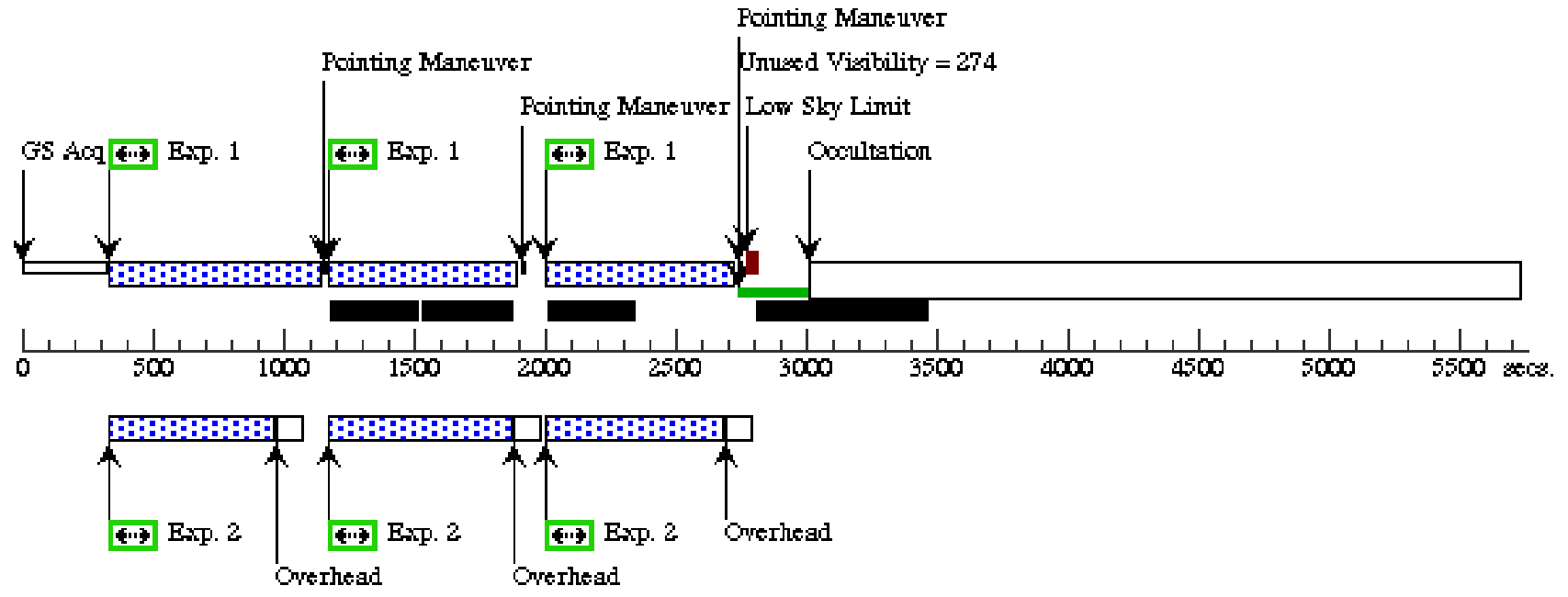
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	Abell1650-V	(1) ABELL1650-9-13-0	ACS/WFC, ACCUM, WFC1	F606W	LOW-SKY; GS ACQ SCENARI O BASE1B3	Pattern 2, Exps 1-2 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell1650-9-13-0 (01)	600 Secs (1800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2	Abell1650-V-par	ANY	WFC3/UVIS, ACCUM, UVIS	F606W		Pattern 2, Exps 1-2 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell1650-9-13-0 (01)	720 Secs (1980 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>680.0 Secs (Pattern 3)]	[1]
	3	Abell1650-V	(1) ABELL1650-9-13-0	ACS/WFC, ACCUM, WFC1	F606W	LOW-SKY	Pattern 2, Exps 3-4 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Abell1650-9-13-0 (01)	690 Secs (2070 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	4	Abell1650-V-par	ANY	WFC3/UVIS, ACCUM, UVIS	F606W		Pattern 2, Exps 3-4 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Abell1650-9-13-0 (01)	775 Secs (1980 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>680.0 Secs (Pattern 3)]	[2]
	5	Abell1650-I	(1) ABELL1650-9-13-0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 5-6 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Abell1650-9-13-0 (01)	670 Secs (2010 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]
	6	Abell1650-I-par	ANY	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 5-6 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 5-6 in Pattern 2, Exps 5-6 in Abell1650-9-13-0 (01)	750 Secs (1980 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>680.0 Secs (Pattern 3)]	[3]
	7	Abell1650-I	(1) ABELL1650-9-13-0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 7-8 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 7-8 in Pattern 2, Exps 7-8 in Abell1650-9-13-0 (01)	680 Secs (2040 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]
	8	Abell1650-I-par	ANY	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 7-8 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 7-8 in Pattern 2, Exps 7-8 in Abell1650-9-13-0 (01)	770 Secs (1980 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>680.0 Secs (Pattern 3)]	[4]

Proposal 12937 - Abell1650-9-13-0 (01) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

9	Abell1650-I (1) ABELL1650-9-13-0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 9-10 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 9-10 in Pattern 2, Exps 9-10 in Abell1650-9-13-0 (01)	690 Secs (2070 Secs) <i>[==>(Pattern 1)]</i> <i>[==>(Pattern 2)]</i> <i>[==>(Pattern 3)]</i>	[5]
10	Abell1650-I ANY -par	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 9-10 in Abell1650-9-13-0 (01) (2) Prime + Parallel Group 9-10 in Pattern 2, Exps 9-10 in Abell1650-9-13-0 (01)	770 Secs (1980 Secs) <i>[==>600.0 Secs (Pattern 1)]</i> <i>[==>700.0 Secs (Pattern 2)]</i> <i>[==>680.0 Secs (Pattern 3)]</i>	[5]

Orbit 1

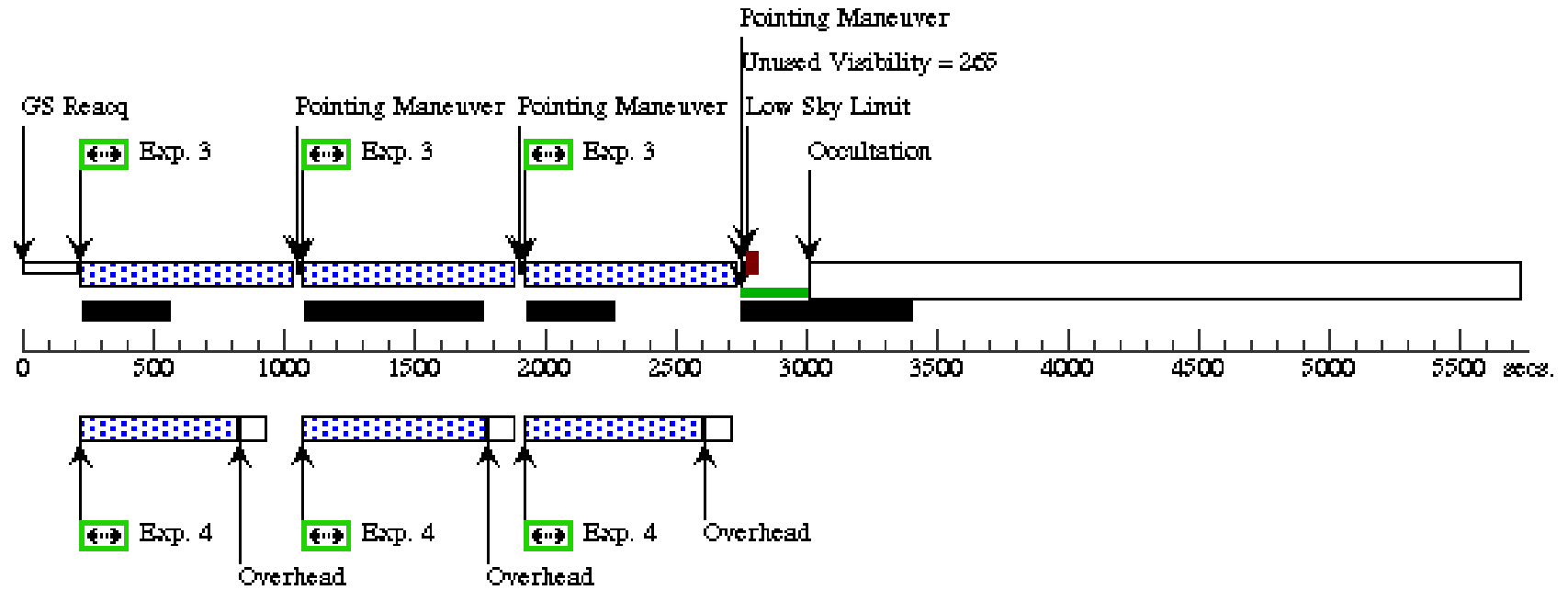
Server Version: 20131031



Orbit Structure

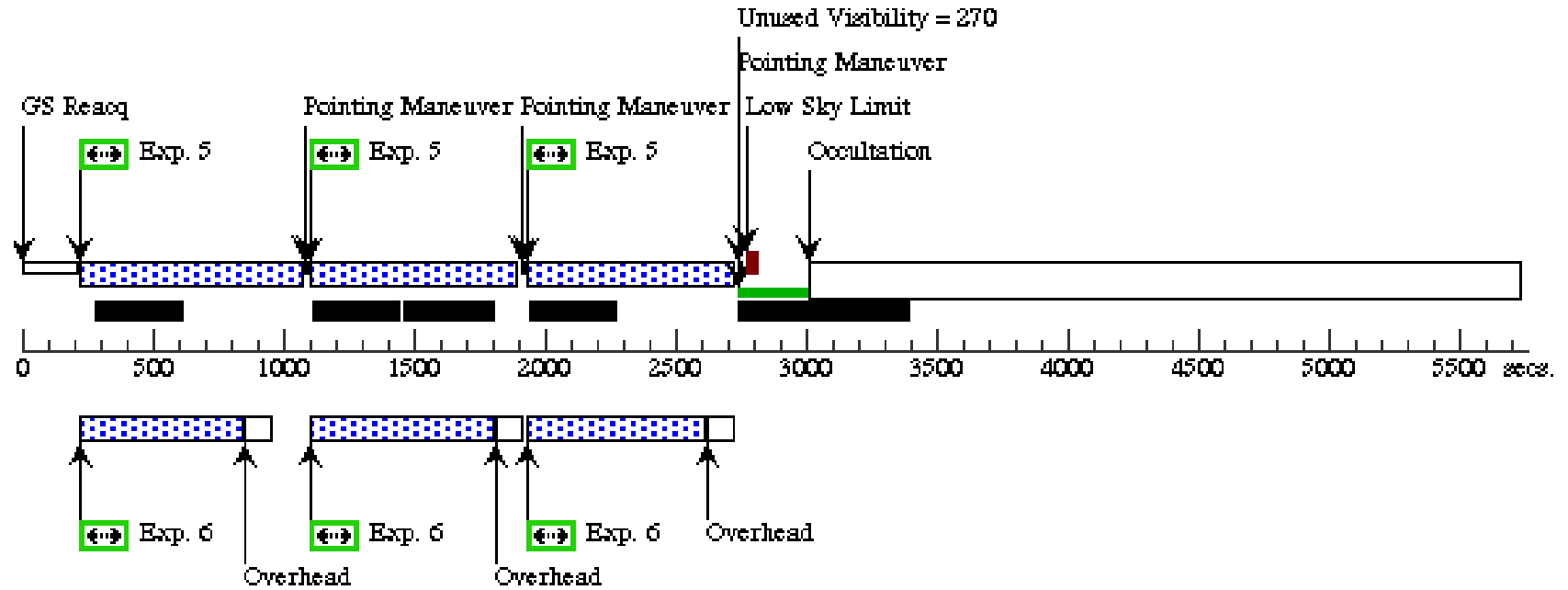
Orbit 2

Server Version: 20131031



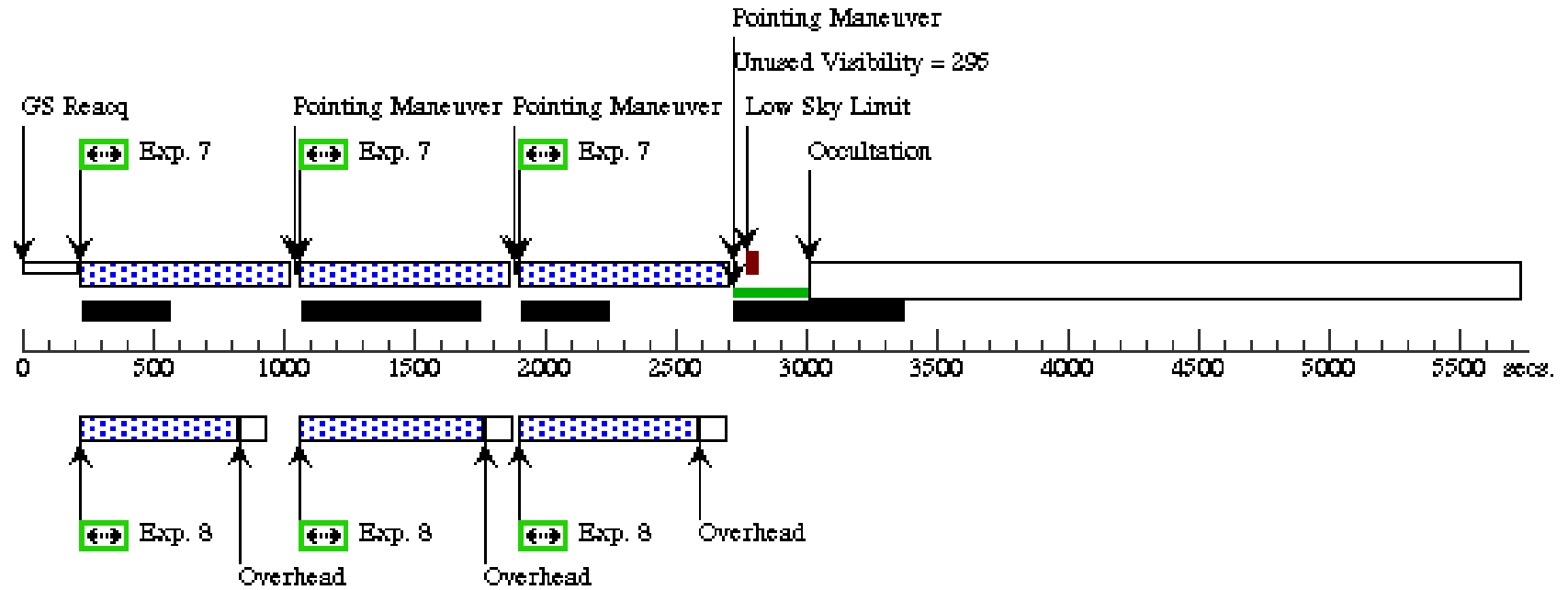
Orbit 3

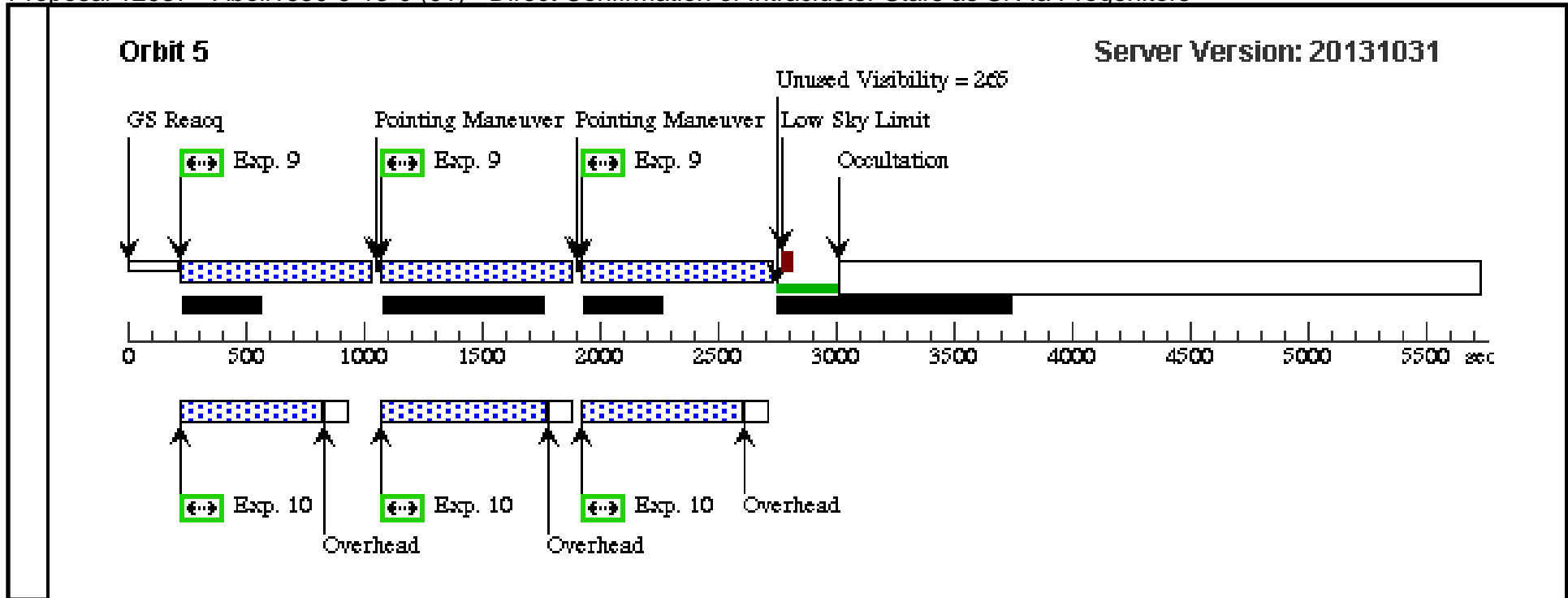
Server Version: 20131031



Orbit 4

Server Version: 20131031





Proposal 12937 - Abell2495-5-13-0 (02) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Sat Dec 14 02:03:30 GMT 2013

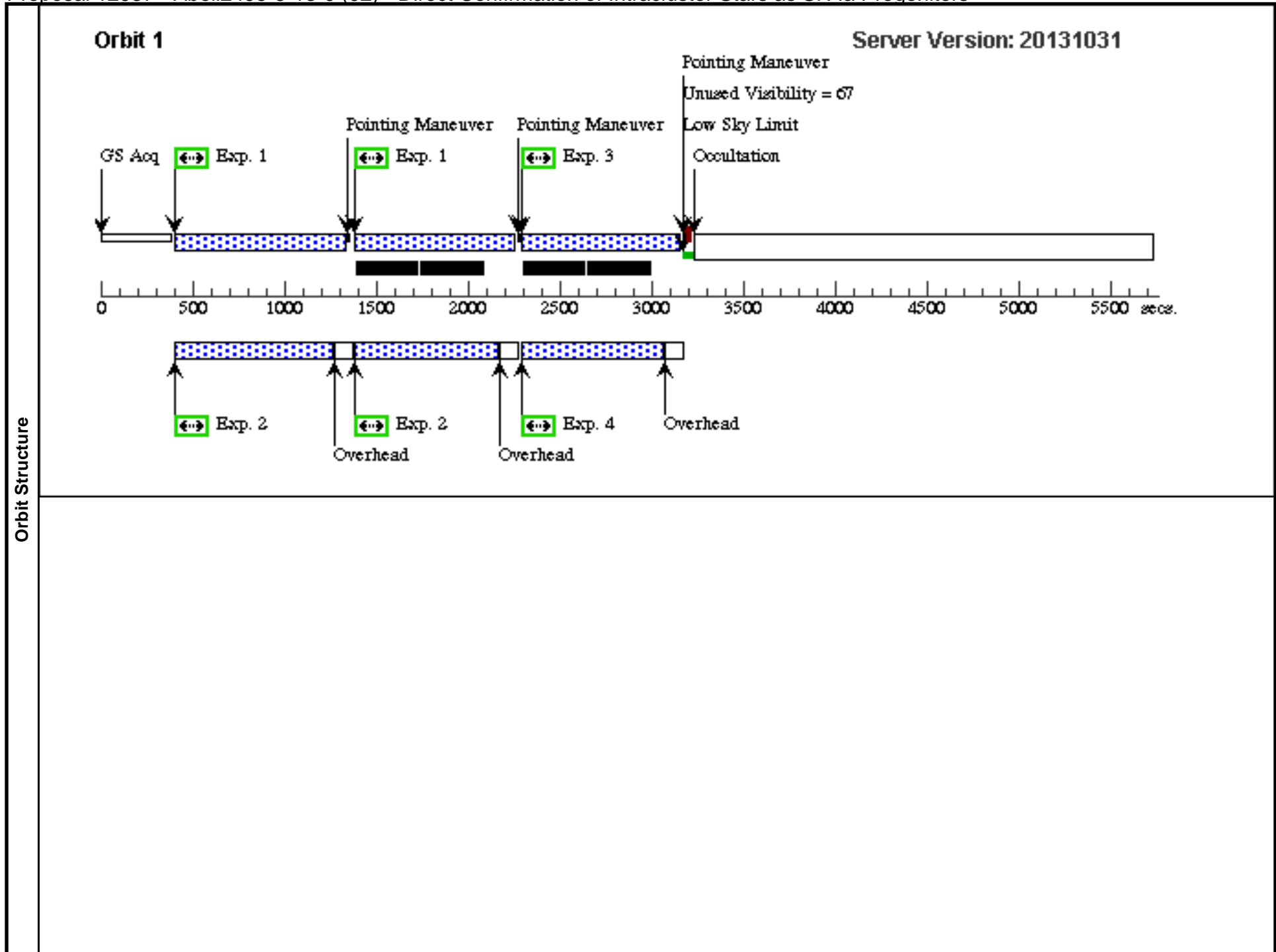
Visit	<p>Proposal 12937, Abell2495-5-13-0 (02), completed</p> <p>Diagnostic Status: No Diagnostics</p> <p>Scientific Instruments: WFC3/UVIS, ACS/WFC</p> <p>Special Requirements: ORIENT 41D TO 58 D; ORIENT 66D TO 86 D; ORIENT 92D TO 112 D</p> <p><i>Comments: Use of LOW-SKY suggested by HST staff (was not in our Phase I). Orientations set to avoid nearby stars being aligned along x or y axis with target coordinates. We found that further constraints to force WFC3 closer to the cluster center than ACS (as done for other visits) resulted in just a 16 day range in the Visit Planner, so we have not included these constraints for this target. Instead, we impose additional orientation constraints to force a nearby cluster galaxy onto ACS-WFC2. This will be scientifically useful and still allows for a wide time span for scheduling.</i></p>					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
(1)		Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1-2), (3-4), (5-6)	
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(7-8), (9-10)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(2)	ABELL2495-5-13-0	RA: 22 50 26.3300 (342.6097083d) Dec: +10 54 41.70 (10.91158d) Equinox: J2000	Redshift: 0.0796	V=29+/-0	Reference Frame: ICRS

Proposal 12937 - Abell2495-5-13-0 (02) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	Abell2495-V	(2) ABELL2495-5-13-0	ACS/WFC, ACCUM, WFC1	F606W	LOW-SKY	Pattern 1, Exps 1-2 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in Abell2495-5-13-0 (02)	780 Secs (1476 Secs) [==>728.0 Secs (Pattern 1)] [==>748.0 Secs (Pattern 2)]	[1]
	2	Abell2495-V-par	ANY	WFC3/UVIS, ACCUM, UVIS	F606W		Pattern 1, Exps 1-2 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in Abell2495-5-13-0 (02)	770 Secs (1606 Secs) [==>828.0 Secs (Pattern 1)] [==>778.0 Secs (Pattern 2)]	[1]
	3	Abell2495-V	(2) ABELL2495-5-13-0	ACS/WFC, ACCUM, WFC1	F606W	LOW-SKY	Pattern 1, Exps 3-4 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 3-4 in Pattern 1, Exps 3-4 in Abell2495-5-13-0 (02)	780 Secs (1508 Secs) [==>738.0 Secs (Pattern 1)] [==>770.0 Secs (Pattern 2)]	[1] [2]
	4	Abell2495-V-par	ANY	WFC3/UVIS, ACCUM, UVIS	F606W		Pattern 1, Exps 3-4 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 3-4 in Pattern 1, Exps 3-4 in Abell2495-5-13-0 (02)	770 Secs (1568 Secs) [==>768.0 Secs (Pattern 1)] [==>800.0 Secs (Pattern 2)]	[1] [2]
	5	Abell2495-I	(2) ABELL2495-5-13-0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 1, Exps 5-6 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 5-6 in Pattern 1, Exps 5-6 in Abell2495-5-13-0 (02)	770 Secs (1440 Secs) [==>730.0 Secs (Pattern 1)] [==>710.0 Secs (Pattern 2)]	[2]
	6	Abell2495-I-par	ANY	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 1, Exps 5-6 in Abell2495-5-13-0 (02) (1) Prime + Parallel Group 5-6 in Pattern 1, Exps 5-6 in Abell2495-5-13-0 (02)	750 Secs (1540 Secs) [==>780.0 Secs (Pattern 1)] [==>760.0 Secs (Pattern 2)]	[2]
	7	Abell2495-I	(2) ABELL2495-5-13-0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 7-8 in Abell2495-5-13-0 (02) (2) Prime + Parallel Group 7-8 in Pattern 2, Exps 7-8 in Abell2495-5-13-0 (02)	750 Secs (2250 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]
	8	Abell2495-I-par	ANY	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 7-8 in Abell2495-5-13-0 (02) (2) Prime + Parallel Group 7-8 in Pattern 2, Exps 7-8 in Abell2495-5-13-0 (02)	840 Secs (2380 Secs) [==>800.0 Secs (Pattern 1)] [==>800.0 Secs (Pattern 2)] [==>780.0 Secs (Pattern 3)]	[3]

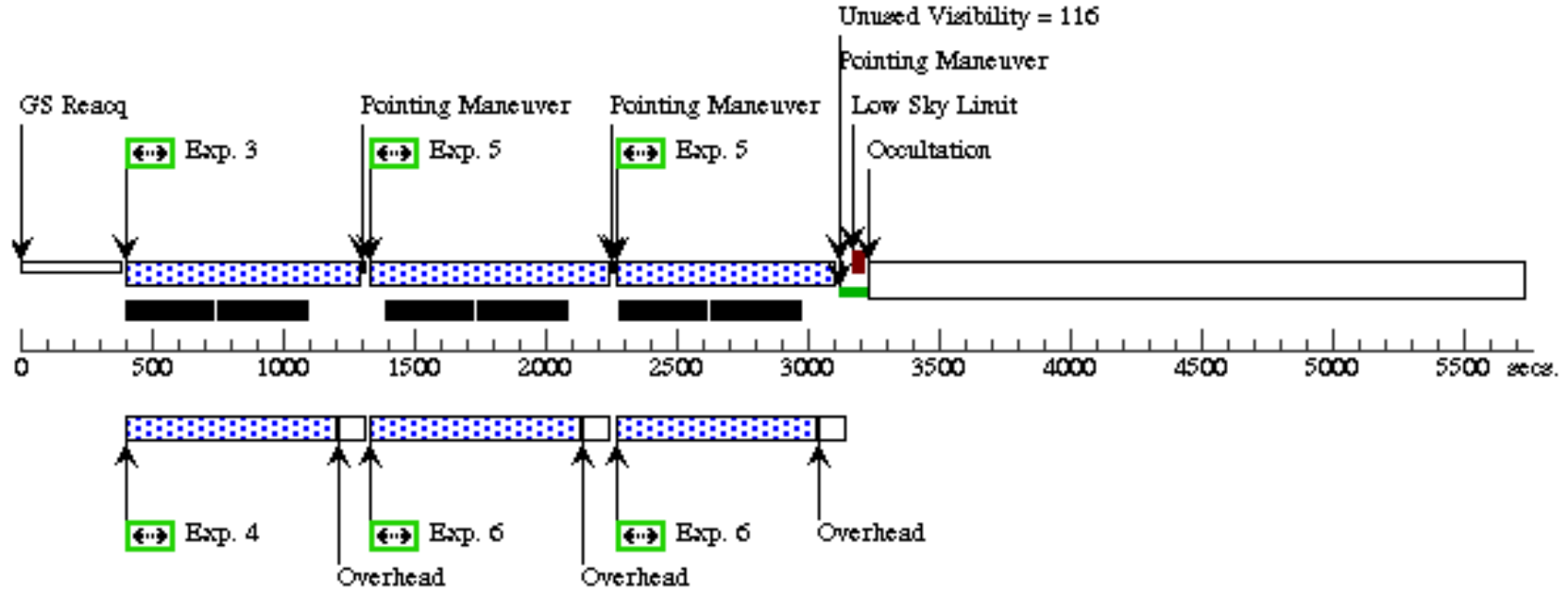
Proposal 12937 - Abell2495-5-13-0 (02) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

9	Abell2495-I (2) ABELL2495-5-1 3-0 ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 9-10 in Abell2495-5-13-0 (02) (2) Prime + Parallel Gro up 9-10 in Pattern 2, Exps 9-10 in Abell24 95-5-13-0 (02)	760 Secs (2280 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[4]
10	Abell2495-I ANY -par WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 9-10 in Abell2495-5-13-0 (02) (2) Prime + Parallel Gro up 9-10 in Pattern 2, Exps 9-10 in Abell24 95-5-13-0 (02)	840 Secs (2400 Secs) [==>800.0 Secs (Pattern 1)] [==>800.0 Secs (Pattern 2)] [==>800.0 Secs (Pattern 3)]	[4]



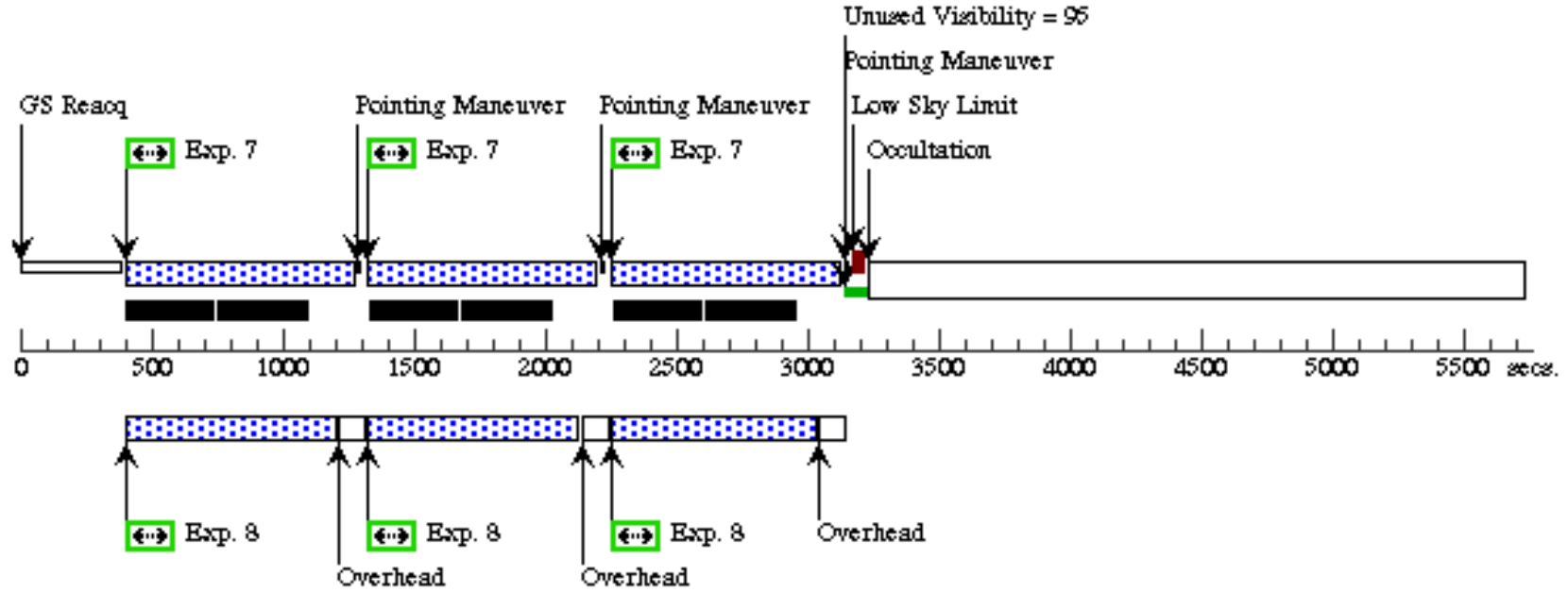
Orbit 2

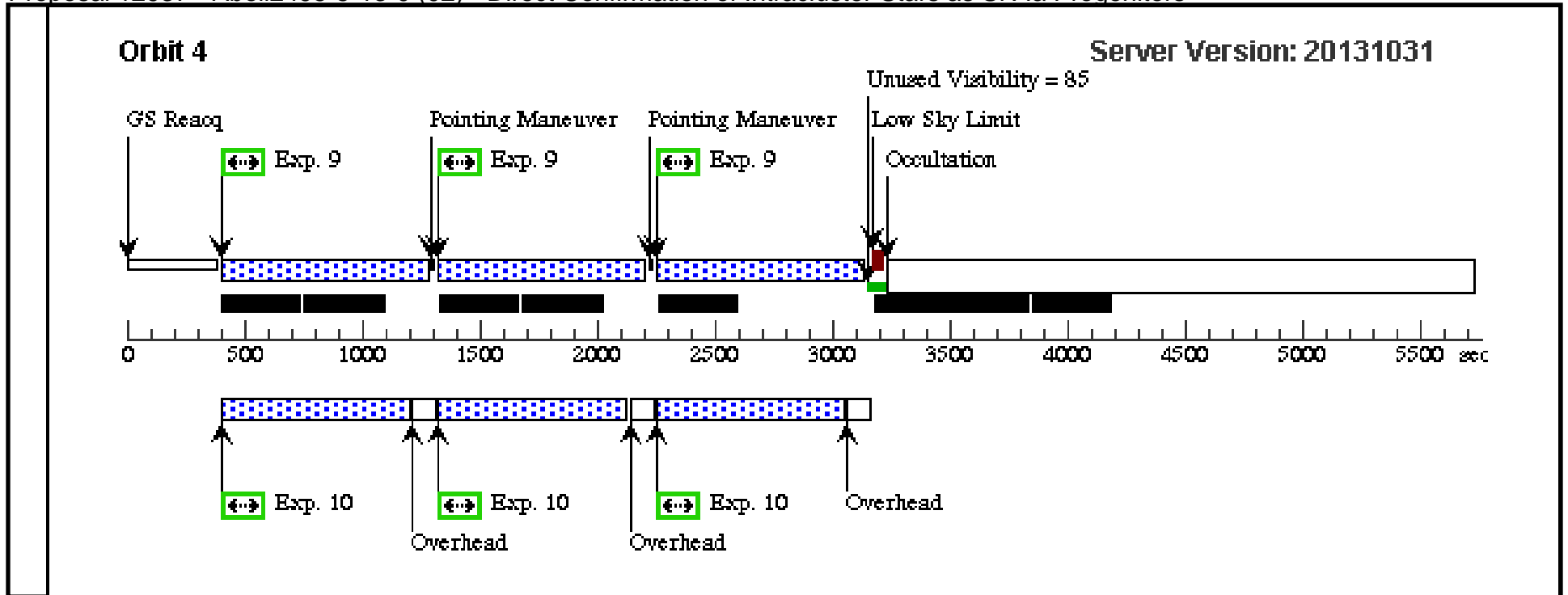
Server Version: 20131031



Orbit 3

Server Version: 20131031





Proposal 12937 - Abell399-3-14-0 (03) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Sat Dec 14 02:03:33 GMT 2013

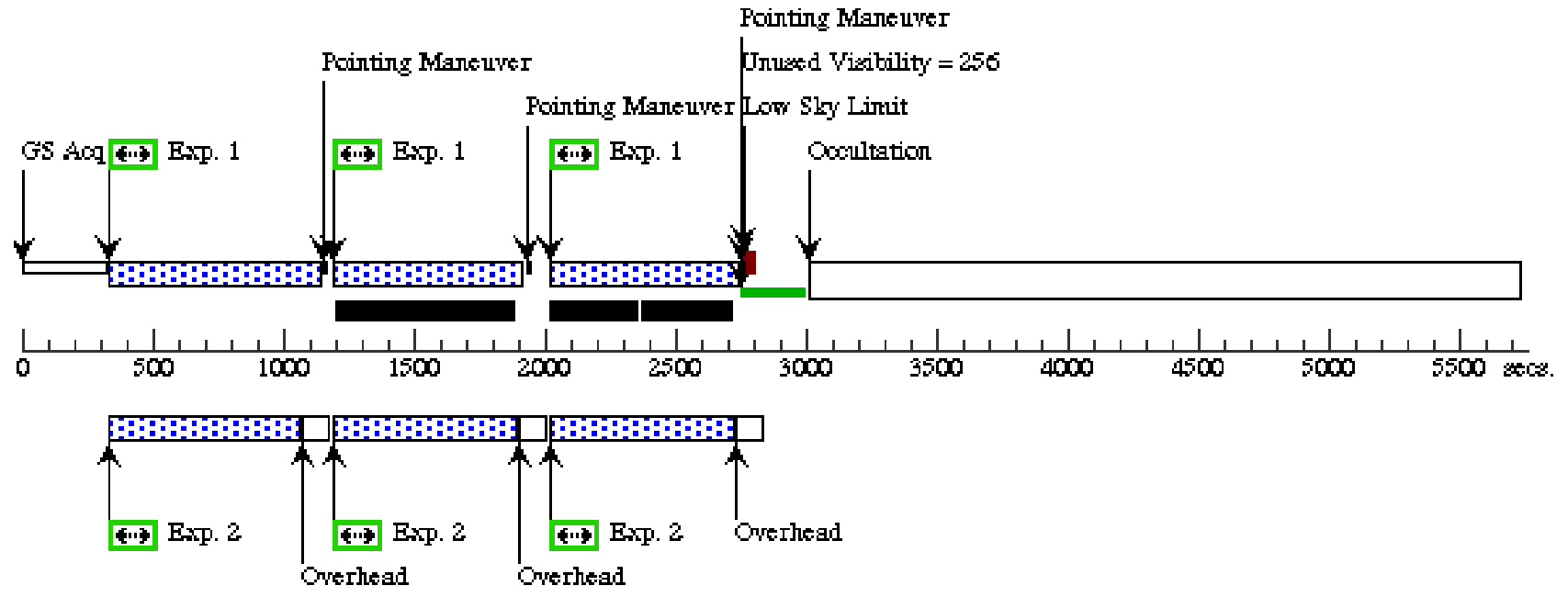
Visit	Proposal 12937, Abell399-3-14-0 (03), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: SCHED 100%; ORIENT 10D TO 29 D; ORIENT 39D TO 61 D <i>Comments: Use of LOW-SKY suggested by HST staff (was not in our Phase I). Orientations set to keep nearby bright stars out of the field of view. Orientations then further constrained to put WFC3 closer to the cluster center than ACS.</i>															
	Diagnosics (Abell399-3-14-0 (03)) Warning (Orbit Planner): PARALLELS SIGNIFICANTLY EXTEND ALIGNMENT TIME															
Patterns	<table border="1"> <thead> <tr> <th>#</th> <th>Primary Pattern</th> <th>Secondary Pattern</th> <th>Exposures</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td> Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing= </td> <td> Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false </td> <td>(1-2), (3-4)</td> </tr> </tbody> </table>	#	Primary Pattern	Secondary Pattern	Exposures	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false	(1-2), (3-4)							
	#	Primary Pattern	Secondary Pattern	Exposures												
(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false	(1-2), (3-4)													
<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(3)</td> <td>ABELL399-3-14-0</td> <td> RA: 02 57 26.4100 (44.3600417d) Dec: +12 58 7.63 (12.96879d) Equinox: J2000 </td> <td>Redshift: 0.0613</td> <td>V=29+/-0</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	ABELL399-3-14-0	RA: 02 57 26.4100 (44.3600417d) Dec: +12 58 7.63 (12.96879d) Equinox: J2000	Redshift: 0.0613	V=29+/-0	Reference Frame: ICRS				
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(3)	ABELL399-3-14-0	RA: 02 57 26.4100 (44.3600417d) Dec: +12 58 7.63 (12.96879d) Equinox: J2000	Redshift: 0.0613	V=29+/-0	Reference Frame: ICRS											
Fixed Targets																

Proposal 12937 - Abell399-3-14-0 (03) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

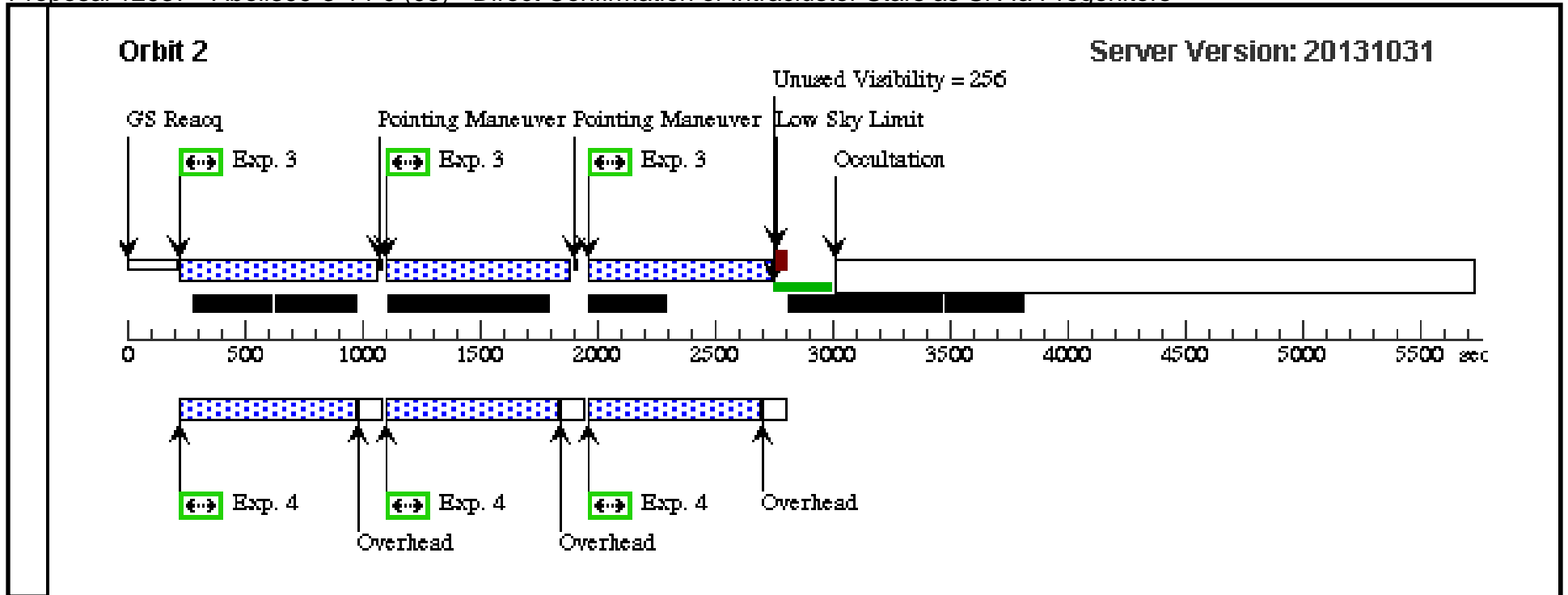
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Abell399-V	(3) ABELL399-3-14-0	ACS/WFC, ACCUM, WFC1	F606W		LOW-SKY	Pattern 2, Exps 1-2 in Abell399-3-14-0 (03) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell399-3-14-0 (03)	600 Secs (1800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2	Abell399-V-par	ANY	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 2, Exps 1-2 in Abell399-3-14-0 (03) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell399-3-14-0 (03)	720 Secs (2100 Secs) [==>700.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>700.0 Secs (Pattern 3)]	[1]
	3	Abell399-I	(3) ABELL399-3-14-0	ACS/WFC, ACCUM, WFC1	F814W		LOW-SKY	Pattern 2, Exps 3-4 in Abell399-3-14-0 (03) (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Abell399-3-14-0 (03)	660 Secs (1980 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	4	Abell399-I-par	ANY	WFC3/UVIS, ACCUM, UVIS	F814W			Pattern 2, Exps 3-4 in Abell399-3-14-0 (03) (2) Prime + Parallel Group 3-4 in Pattern 2, Exps 3-4 in Abell399-3-14-0 (03)	750 Secs (2190 Secs) [==>730.0 Secs (Pattern 1)] [==>730.0 Secs (Pattern 2)] [==>730.0 Secs (Pattern 3)]	[2]

Orbit 1

Server Version: 20131031



Orbit Structure



Proposal 12937 - Abell85-6-08-0 (04) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Sat Dec 14 02:03:34 GMT 2013

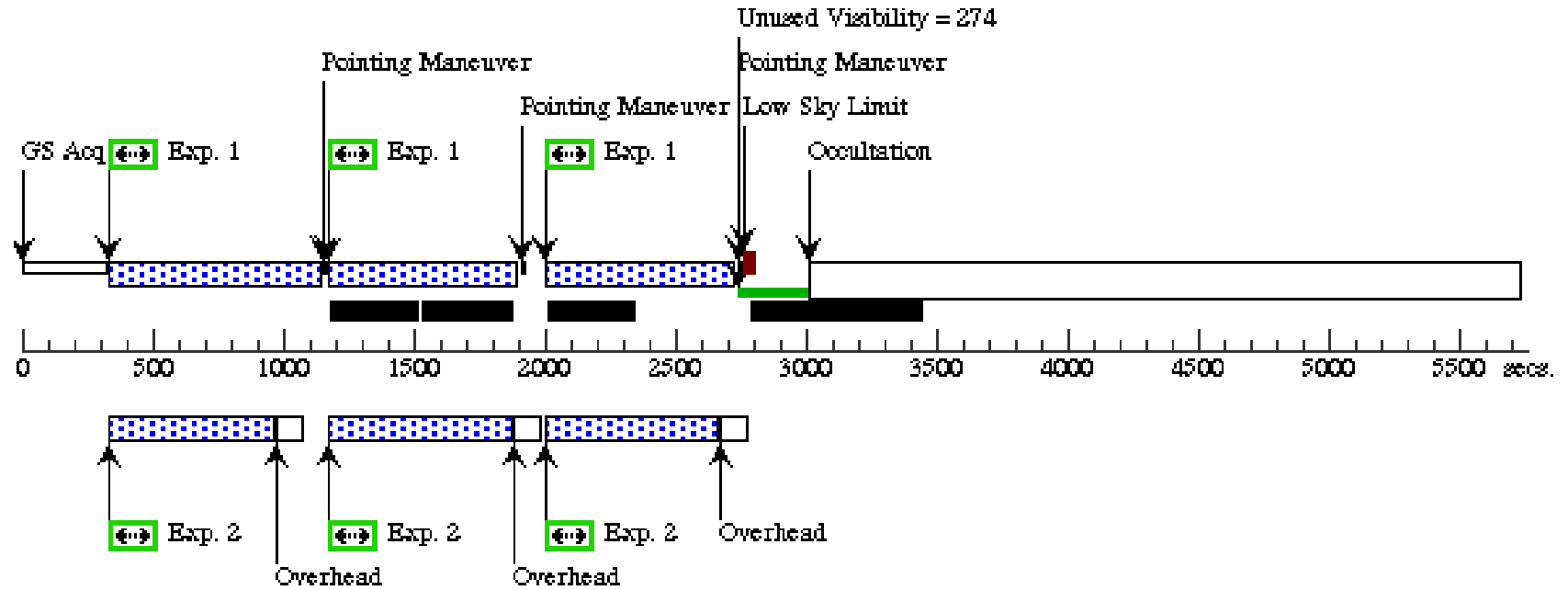
Visit	<p>Proposal 12937, Abell85-6-08-0 (04), failed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: WFC3/UVIS, ACS/WFC</p> <p>Special Requirements: SCHED 100%; ORIENT 251D TO 292 D; ORIENT 298D TO 309 D; ORIENT 315D TO 341 D</p> <p><i>Comments: Use of LOW-SKY suggested by HST staff (was not in our Phase I). Orientations set to avoid nearby stars being aligned along x or y axis with target coordinates. Orientations then further constrained to put WFC3 closer to the cluster center than ACS.</i></p>					
	<p>Diagnosics</p> <p>(Abell85-6-08-0 (04)) Warning (Orbit Planner): PARALLELS SIGNIFICANTLY EXTEND ALIGNMENT TIME</p>					
Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1-2), (3-4)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(4)	ABELL85-6-08-0	RA: 00 42 2.3900 (10.5099583d) Dec: -09 26 58.00 (-9.44944d) Equinox: J2000	Redshift: 0.0617	V=29+/-0	Reference Frame: ICRS

Proposal 12937 - Abell85-6-08-0 (04) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

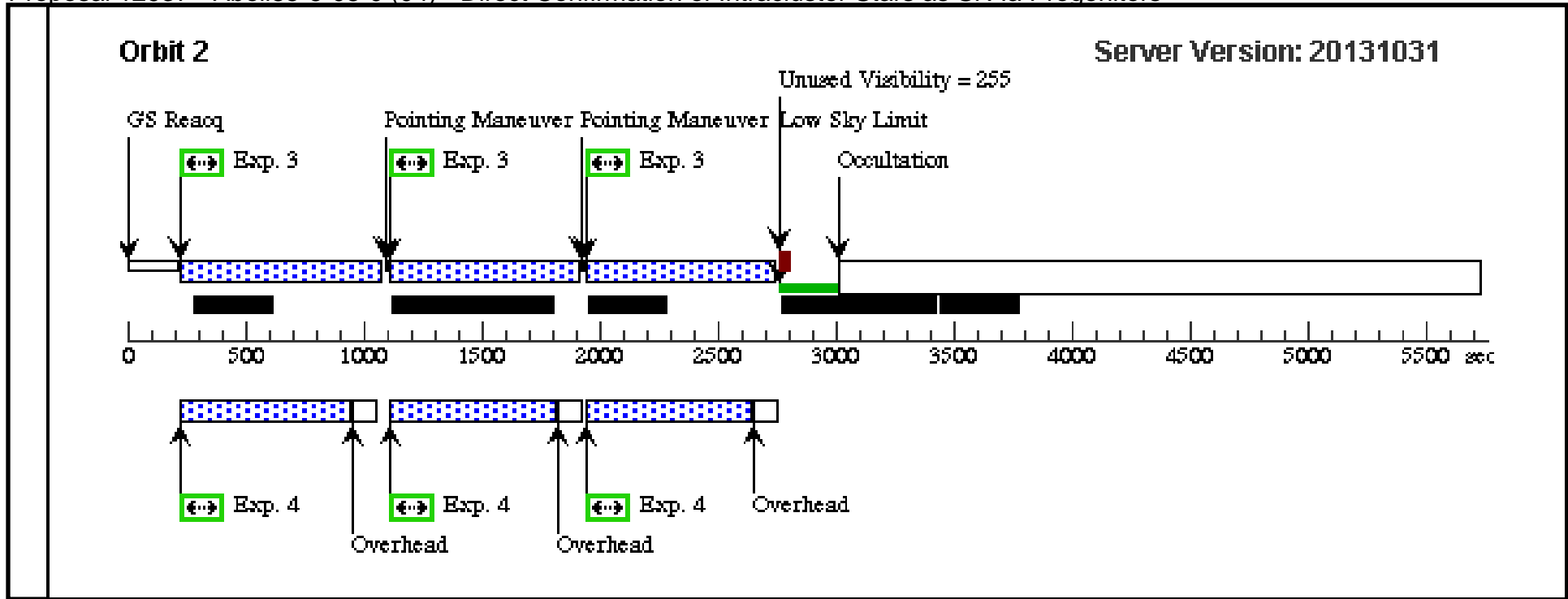
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	Abell85-V 0	(4) ABELL85-6-08- 0	ACS/WFC, ACCUM, WFC1	F606W	LOW-SKY; GS ACQ SCENARI O BASE1B3	Pattern 2, Exps 1-2 in Abell85-6-08-0 (04) (2) Prime + Parallel Gro up 1-2 in Pattern 2, E xps 1-2 in Abell85-6 -08-0 (04)	600 Secs (1800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
	2	Abell85-V-p ar	ANY	WFC3/UVIS, ACCUM, UVIS	F606W		Pattern 2, Exps 1-2 in Abell85-6-08-0 (04) (2) Prime + Parallel Gro up 1-2 in Pattern 2, E xps 1-2 in Abell85-6 -08-0 (04)	720 Secs (1960 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>660.0 Secs (Pattern 3)]	[1]
	3	Abell85-I 0	(4) ABELL85-6-08- 0	ACS/WFC, ACCUM, WFC1	F814W	LOW-SKY	Pattern 2, Exps 3-4 in Abell85-6-08-0 (04) (2) Prime + Parallel Gro up 3-4 in Pattern 2, E xps 3-4 in Abell85-6 -08-0 (04)	675 Secs (2025 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	4	Abell85-I-pa r	ANY	WFC3/UVIS, ACCUM, UVIS	F814W		Pattern 2, Exps 3-4 in Abell85-6-08-0 (04) (2) Prime + Parallel Gro up 3-4 in Pattern 2, E xps 3-4 in Abell85-6 -08-0 (04)	750 Secs (2100 Secs) [==>700.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>700.0 Secs (Pattern 3)]	[2]

Orbit 1

Server Version: 20131031



Orbit Structure



Proposal 12937 - Abell85-6-08-0 (54) - Direct Confirmation of Intracluster Stars as SN Ia Progenitors

Sat Dec 14 02:03:35 GMT 2013

Visit	Proposal 12937, Abell85-6-08-0 (54) Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/WFC Special Requirements: SCHED 100%; ORIENT 298D TO 298 D <i>Comments: Use of LOW-SKY suggested by HST staff (was not in our Phase I). Orientations set to avoid nearby stars being aligned along x or y axis with target coordinates. Orientations then further constrained to put WFC3 closer to the cluster center than ACS. This is a repeat of the second orbit of visit 04.</i>									
	Diagnosics (Abell85-6-08-0 (54)) Warning (Orbit Planner): PARALLELS SIGNIFICANTLY EXTEND ALIGNMENT TIME									
Patterns	#	Primary Pattern			Secondary Pattern	Exposures				
	(2)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	ABELL85-6-08-0	RA: 00 42 2.3900 (10.5099583d) Dec: -09 26 58.00 (-9.44944d) Equinox: J2000	Redshift: 0.0617	V=29+/-0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Abell85-I	(4) ABELL85-6-08-0	ACS/WFC, ACCUM, WFC1	F814W		LOW-SKY; GS ACQ SCENARI O BASE1B3	Pattern 2, Exps 1-2 in Abell85-6-08-0 (54) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell85-6-08-0 (54)	600 Secs (1800 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[1]
2	Abell85-I-pa r	ANY	WFC3/UVIS, ACCUM, UVIS	F814W			Pattern 2, Exps 1-2 in Abell85-6-08-0 (54) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in Abell85-6-08-0 (54)	750 Secs (1900 Secs) [==>600.0 Secs (Pattern 1)] [==>700.0 Secs (Pattern 2)] [==>600.0 Secs (Pattern 3)]	[1]	

