



14362 - Searching for Fossil Group Progenitors Via Strong Gravitational Lensing

Cycle: 23, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Mr. Lucas Johnson (PI) (Contact)	University of Alabama	lejohson4@crimson.ua.edu
Prof. Jimmy A. Irwin (CoI)	University of Alabama	jairwin@ua.edu
Dr. Walter Peter Maksym III (CoI)	Smithsonian Institution Astrophysical Observatory	peter.maksym@gmail.com
Dr. Renato A. Dupke (CoI)	Eureka Scientific Inc.	rdupke@umich.edu
Dr. Raymond E. White (CoI)	University of Alabama	rwhite@ua.edu

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) KAA2009-SDSS-J1113+2356	ACS/WFC	2	16-Oct-2015 21:11:06.0	yes
02	(2) CSWA-30	ACS/WFC	2	16-Oct-2015 21:11:08.0	yes
03	(3) CSWA-11	ACS/WFC	2	16-Oct-2015 21:11:10.0	yes
04	(4) CSWA-14	ACS/WFC	3	16-Oct-2015 21:11:12.0	yes

9 Total Orbits Used

ABSTRACT

Fossil groups (FGs) are thought to be the end product of ancient isolated galaxy groups that have been allowed to evolve in time, to the point where most luminous members have fallen to the center of the potential and merged into one bright elliptical which dominates the remaining members. While FGs have been well studied, little has been done in the way of their progenitors. By using the CASSOWARY catalog of gravitational lens systems found in the Sloan Digital Sky Survey, we have identified one group which appears to be a recent FG and seven that show strong evidence of

being FG progenitors at various stages in their evolution. X-ray data would allow us to see the formation processes of FGs at various epochs and see how they change as the FG is assembled.

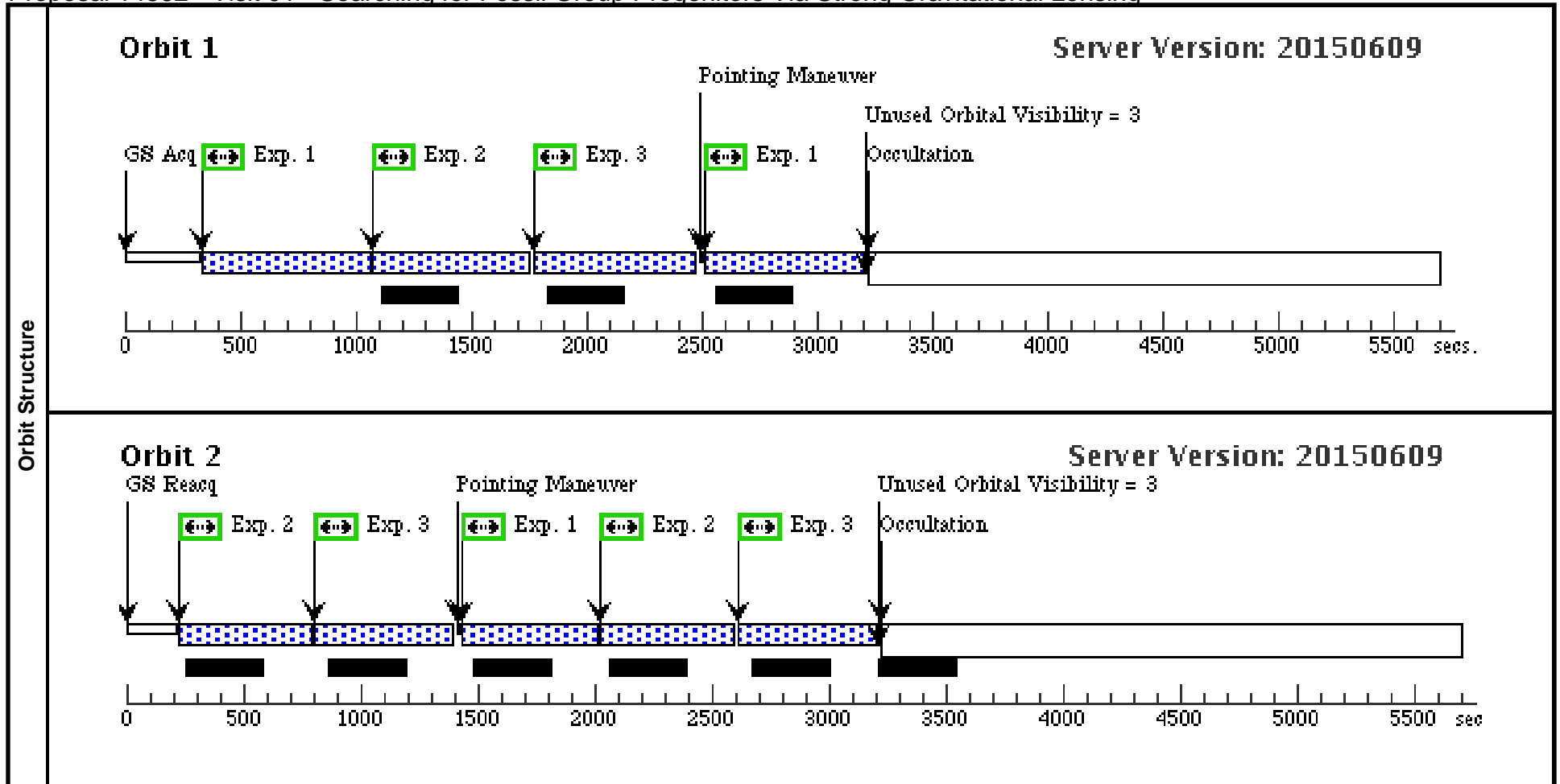
OBSERVING DESCRIPTION

To conduct our observations, we request use of the ACS WFC for three observations per filter (F475W, F606W, and F814W) for each of our four strong lensing targets: CSWA 26, CSWA 30, CSWA 11, and CSWA 14. For our brightest targets, we allocate two orbits each to CSWA 26, CSWA 30, and CSWA 11. Due to CSWA 14's high redshift, we allocate to it the three remaining orbits, as deeper observations are needed to bring out the more distant gravitational arc structure and inner regions of the central galaxy. This comes to a grand total of nine orbits. These are straightforward observations, and no special roll angle is required.

Proposal 14362 - Visit 01 - Searching for Fossil Group Progenitors Via Strong Gravitational Lensing

Sat Oct 17 01:11:13 GMT 2015

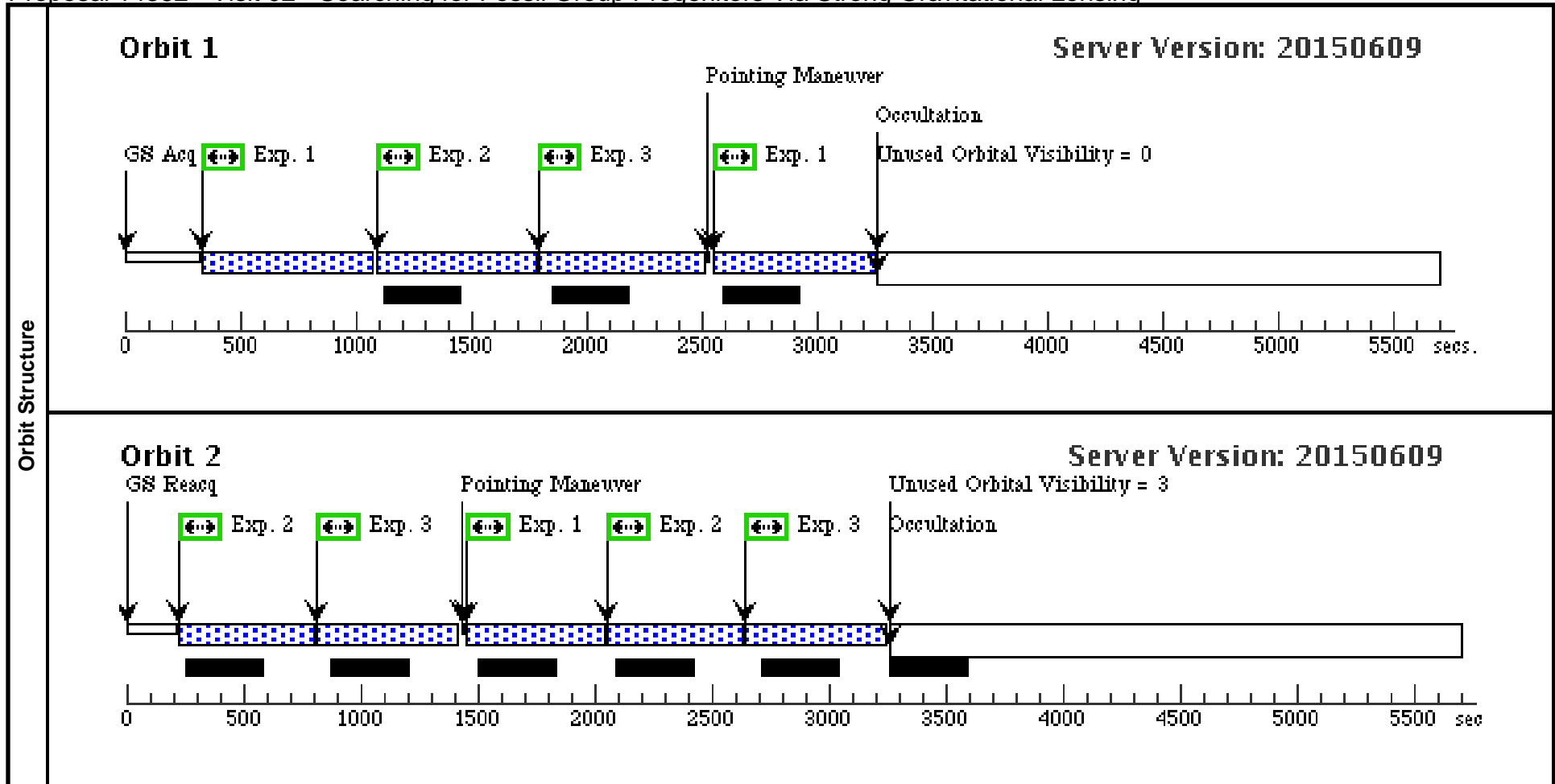
Visit	Proposal 14362, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1-3)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	KAA2009-SDSS-J1113+2356 Alt Name1: CSWA26	RA: 11 13 10.7000 (168.2945833d) Dec: +23 56 39.00 (23.94417d) Equinox: J2000	Redshift: 0.336	V=18.2	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Extended=YES									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) KAA2009-SDSS-J1113+2356	ACS/WFC, ACCUM, WFC	F475W			Pattern 1, Exps 1-3 in Visit 01 (1)	470 Secs (1467 Secs)	
									[=>526.0 Secs (Pattern 1)]	[1]
									[=>526.0 Secs (Pattern 2)]	[2]
									[=>415.0 Secs (Pattern 3)]	[2]
	2		(1) KAA2009-SDSS-J1113+2356	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-3 in Visit 01 (1)	470 Secs (1356 Secs)	
									[=>526.0 Secs (Pattern 1)]	[1]
								[=>415.0 Secs (Pattern 2)]	[2]	
								[=>415.0 Secs (Pattern 3)]	[2]	
3		(1) KAA2009-SDSS-J1113+2356	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-3 in Visit 01 (1)	470 Secs (1356 Secs)		
								[=>526.0 Secs (Pattern 1)]	[1]	
								[=>415.0 Secs (Pattern 2)]	[2]	
								[=>415.0 Secs (Pattern 3)]	[2]	



Proposal 14362 - Visit 02 - Searching for Fossil Group Progenitors Via Strong Gravitational Lensing

Sat Oct 17 01:11:13 GMT 2015

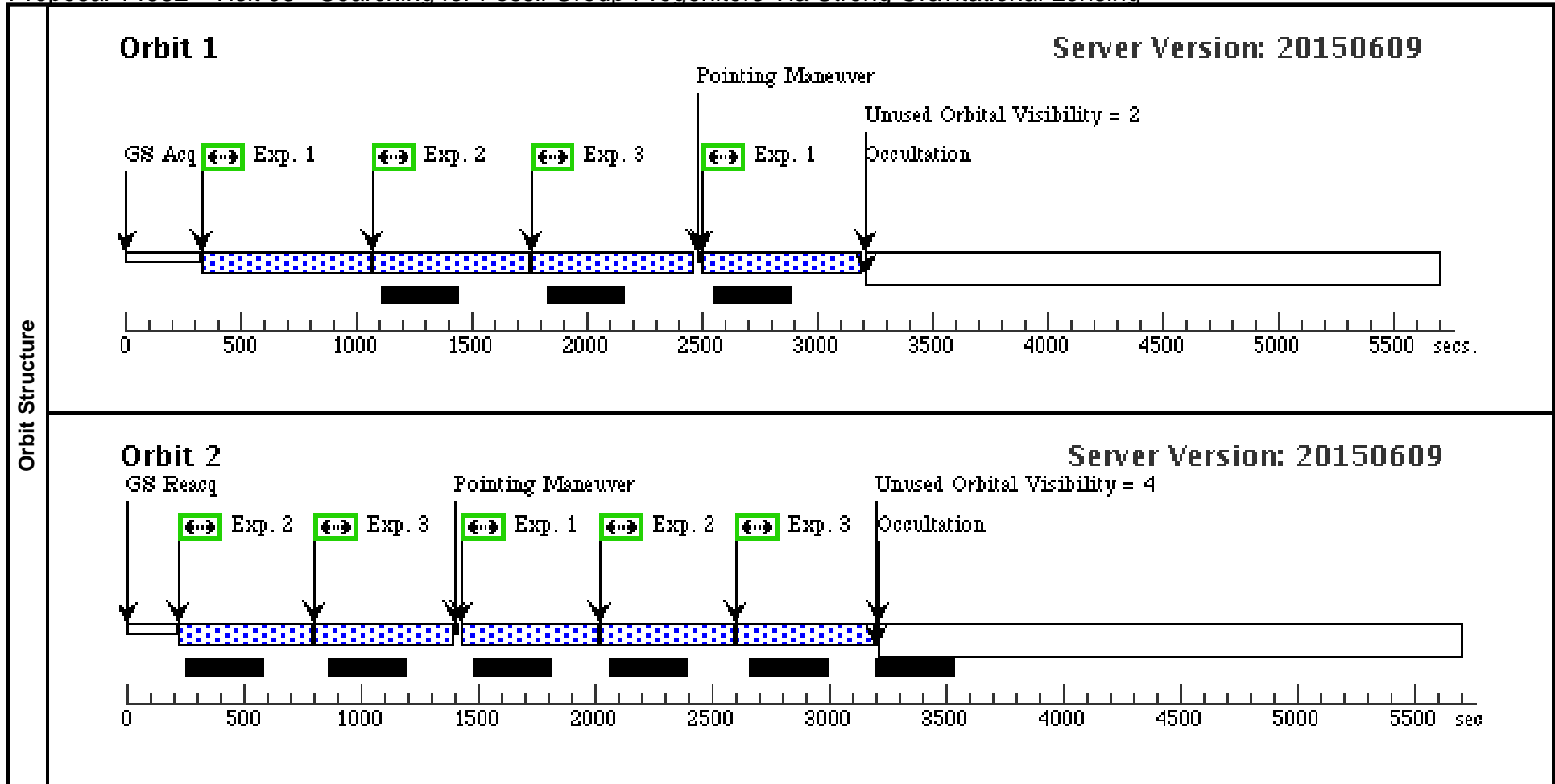
Visit	Proposal 14362, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	CSWA-30	RA: 08 51 26.5000 (132.8604167d) Dec: +35 58 13.80 (35.97050d) Equinox: J2000	Redshift: 0.272	V=18.7	Reference Frame: SIMBAD				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> Extended=YES										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) CSWA-30	ACS/WFC, ACCUM, WFC	F475W			Pattern 1, Exps 1-3 in Visit 02 (1)	470 Secs (1500 Secs)	
									[==>538.0 Secs (Pattern 1)]	[1]
									[==>538.0 Secs (Pattern 2)]	[2]
									[==>424.0 Secs (Pattern 3)]	[2]
	2		(2) CSWA-30	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-3 in Visit 02 (1)	470 Secs (1386 Secs)	
									[==>538.0 Secs (Pattern 1)]	[1]
								[==>424.0 Secs (Pattern 2)]	[2]	
								[==>424.0 Secs (Pattern 3)]	[2]	
3		(2) CSWA-30	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-3 in Visit 02 (1)	470 Secs (1386 Secs)		
								[==>538.0 Secs (Pattern 1)]	[1]	
								[==>424.0 Secs (Pattern 2)]	[2]	
								[==>424.0 Secs (Pattern 3)]	[2]	



Proposal 14362 - Visit 03 - Searching for Fossil Group Progenitors Via Strong Gravitational Lensing

Sat Oct 17 01:11:14 GMT 2015

Visit	Proposal 14362, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	CSWA-11	RA: 08 00 13.0600 (120.0544167d) Dec: +08 12 8.40 (8.20233d) Equinox: J2000		V=19.3	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) CSWA-11	ACS/WFC, ACCUM, WFC	F475W			Pattern 1, Exps 1-3 in Visit 03 (1)	470 Secs (1461 Secs)	
									[==>524.0 Secs (Pattern 1)]	[1]
									[==>524.0 Secs (Pattern 2)]	[2]
									[==>413.0 Secs (Pattern 3)]	[2]
	2		(3) CSWA-11	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-3 in Visit 03 (1)	470 Secs (1350 Secs)	
									[==>524.0 Secs (Pattern 1)]	[1]
								[==>413.0 Secs (Pattern 2)]	[2]	
								[==>413.0 Secs (Pattern 3)]	[2]	
3		(3) CSWA-11	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-3 in Visit 03 (1)	470 Secs (1350 Secs)		
								[==>524.0 Secs (Pattern 1)]	[1]	
								[==>413.0 Secs (Pattern 2)]	[2]	
								[==>413.0 Secs (Pattern 3)]	[2]	



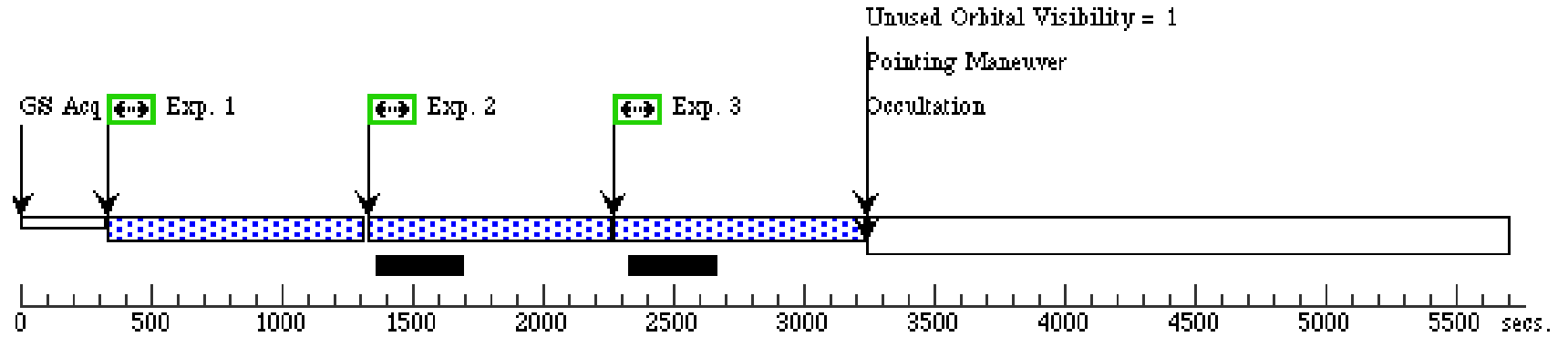
Proposal 14362 - Visit 04 - Searching for Fossil Group Progenitors Via Strong Gravitational Lensing

Sat Oct 17 01:11:14 GMT 2015

Visit	Proposal 14362, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1-3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	CSWA-14	RA: 17 23 36.2000 (260.9008333d) Dec: +34 11 58.10 (34.19947d) Equinox: J2000		V=20.1	Reference Frame: SIMBAD				
<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(4) CSWA-14	ACS/WFC, ACCUM, WFC	F475W			Pattern 1, Exps 1-3 in Visit 04 (1)	830 Secs (2433 Secs)	
									[==>777.0 Secs (Pattern 1)]	[1]
									[==>828.0 Secs (Pattern 2)]	[2]
									[==>828.0 Secs (Pattern 3)]	[3]
	2		(4) CSWA-14	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-3 in Visit 04 (1)	830 Secs (2433 Secs)	
									[==>777.0 Secs (Pattern 1)]	[1]
									[==>828.0 Secs (Pattern 2)]	[2]
									[==>828.0 Secs (Pattern 3)]	[3]
	3		(4) CSWA-14	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-3 in Visit 04 (1)	830 Secs (2433 Secs)	
								[==>777.0 Secs (Pattern 1)]	[1]	
								[==>828.0 Secs (Pattern 2)]	[2]	
								[==>828.0 Secs (Pattern 3)]	[3]	

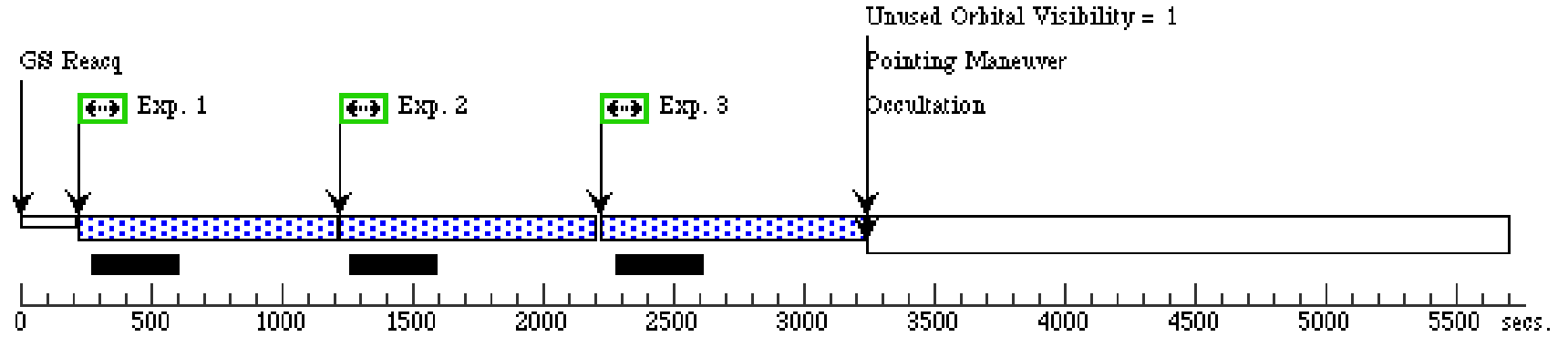
Orbit 1

Server Version: 20150609



Orbit 2

Server Version: 20150609



Orbit Structure

