10716 - The Unique Cluster Lens SDSS1004+4112

Cycle: 14, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets*	*Configurations*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SDSSJ1004+4112	NIC2	4	26-Aug-2005 21:02:09.0	yes

4 Total Orbits Used

ABSTRACT

SDSS1004+4112 is a unique example of a cluster lens because of its relatively high lens redshift (zlens=0.68), the existence of multiply imaged quasars for which time delays are measured, the presence of a significant number of multiply imaged background galaxies, and a quasar host galaxy that is so magnified that it can be observed in the mid?IR. By combining a deep 4?channel IRAC image with a NICMOS mosaic of the central, multiply?imaged region of the cluster, we will

study the quasar host galaxy, search for low?mass substructure in the cluster, obtain accurate photometric redshifts for lensed arcs, discover very red lensed arcs and develop an accurate mass model for the cluster. Then we will combine all the data to obtain a competitive constraint on the cosmological model.

OBSERVING DESCRIPTION

The objective is to make a roughly 2 by 2 NICMOS H-band mosaic (NIC2/F160W) of the central regions of this lens cluster to support the much lower resolution observations that will be obtained with spitzer. 4 subdithers for each position to provide hot-pixel, cr, coronograph spot etc removal.

Visit

Proposal 10716, Visit 01 Sat Aug 27 01:02:15 GMT 2005

Diagnostic Status: Warning

Scientific Instruments: NIC2

Special Requirements: (none)

Comments: Visit will do a 2 x 2 mosaic as a square dither pattern spaced by 18 arcsec, centered on the cD galaxy of the cluster, with one position per orbit. At each position it will do a 2 x 2 square dither pattern with a throw of 20.5 pixels (1.56 arcsec) for CR/hot-pixel/coronograph spot control/removal.

Diagnostics

(Visit 01) Warning: PATTERN POSITION OUTSIDE APERTURE

Patterns

#	Primary Pattern		Secondary Pattern		Exposures
(1)	Pattern Type=NIC-SQUARE-WAVE-DITH Purpose=MOSAIC Number Of Points=4 Point Spacing=18 Line Spacing=18	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides=270 Center Pattern=true	Pattern Type=NIC-SPIRAL-DITH Purpose=DITHER Number Of Points=6 Point Spacing=1.125 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=0 Angle Between Sides= Center Pattern=false	(1)

Fixed Targets

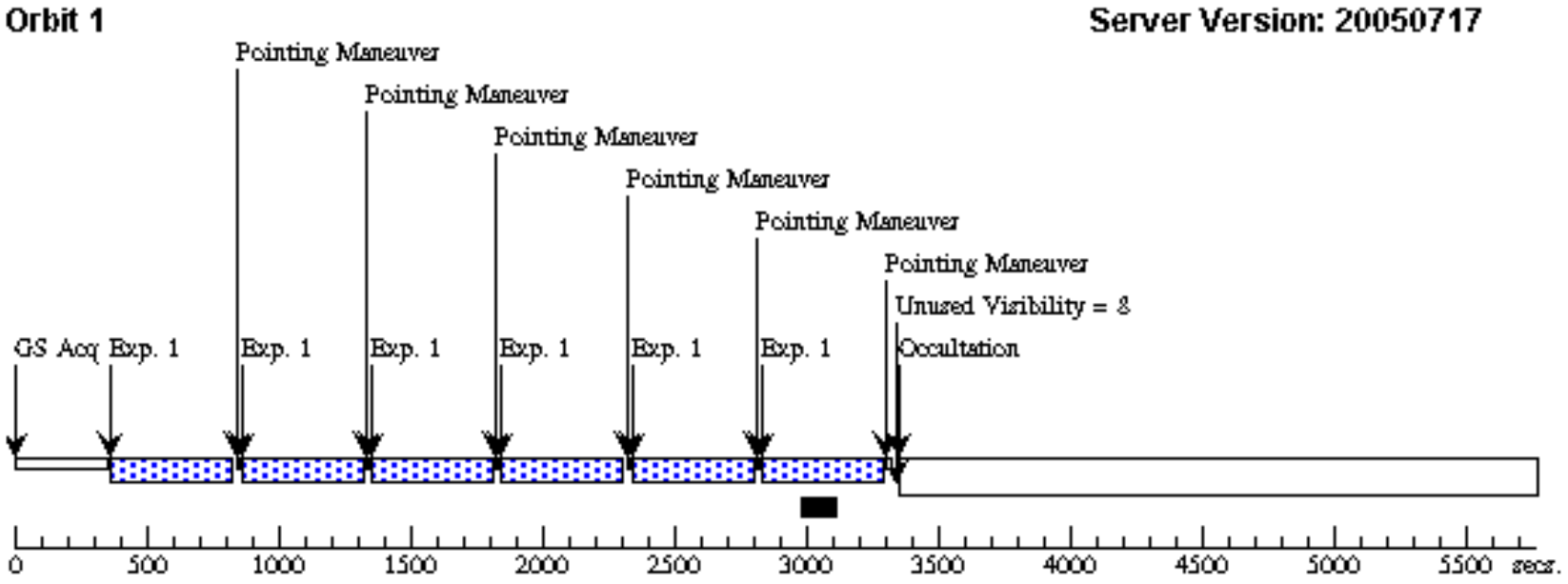
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSSJ1004+4112	RA: 10 04 34.2100 (151.1425417d) Dec: +41 12 44.10 (41.21225d) Equinox: J2000 Plate Id: 00XW		V=18.5	Coordinate Source: HST_IMAGE

Comments: Objective is to generate a roughly 2 by 2 NIC2/F160W mosaic of the central region of this cluster lens

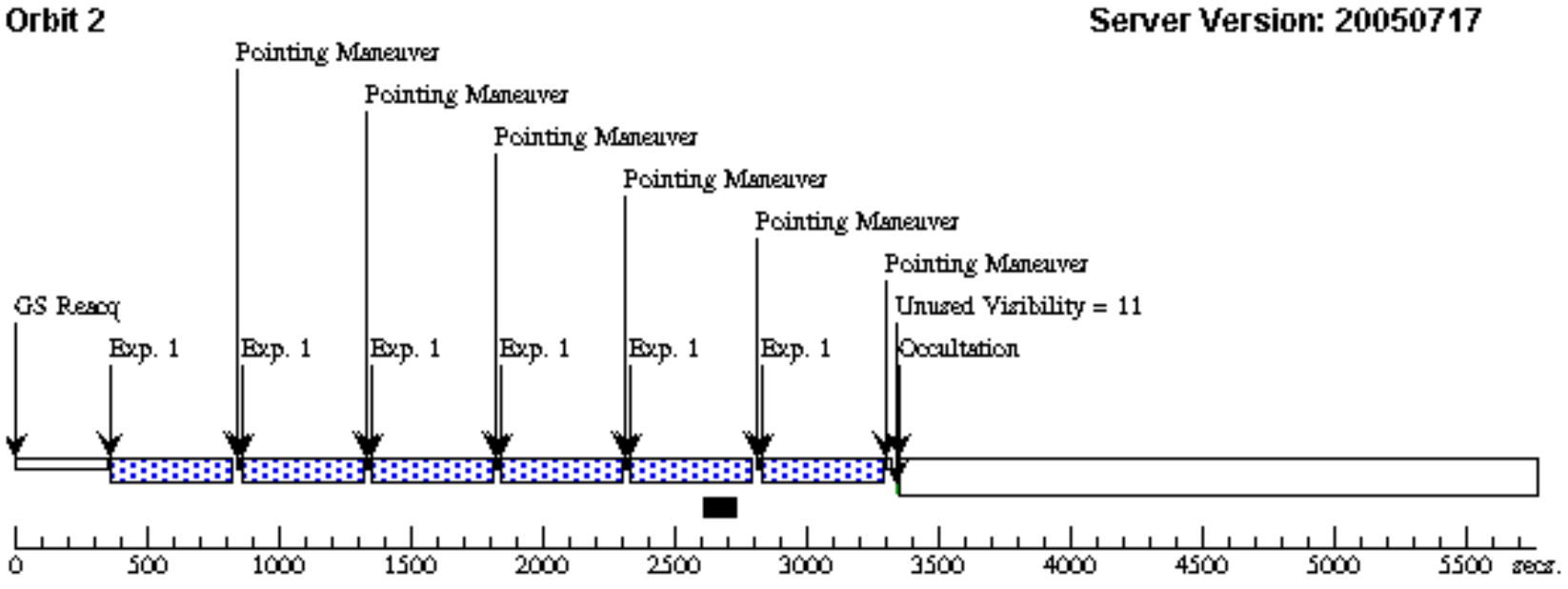
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SDSSJ1004+4112	NIC2, MULTIACCUM, NIC2	F160W	NSAMP=15; SAMP-SEQ=STEP64		Pattern 1-1 (1)	*[==>(Pattern 1,1)]*	
								[==>(Pattern 1,2)]	
								[==>(Pattern 1,3)]	
								[==>(Pattern 1,4)]	***[1]***
								[==>(Pattern 1,5)]	
								[==>(Pattern 1,6)]	
								[==>(Pattern 2,1)]	
								[==>(Pattern 2,2)]	
								[==>(Pattern 2,3)]	
								[==>(Pattern 2,4)]	***[2]***
								[==>(Pattern 2,5)]	
								[==>(Pattern 2,6)]	
								[==>(Pattern 3,1)]	
								[==>(Pattern 3,2)]	
								[==>(Pattern 3,3)]	
								[==>(Pattern 3,4)]	***[3]***
								[==>(Pattern 3,5)]	
								[==>(Pattern 3,6)]	
								[==>(Pattern 4,1)]	
								[==>(Pattern 4,2)]	
								[==>(Pattern 4,3)]	
								[==>(Pattern 4,4)]	***[4]***
								[==>(Pattern 4,5)]	
								[==>(Pattern 4,6)]	

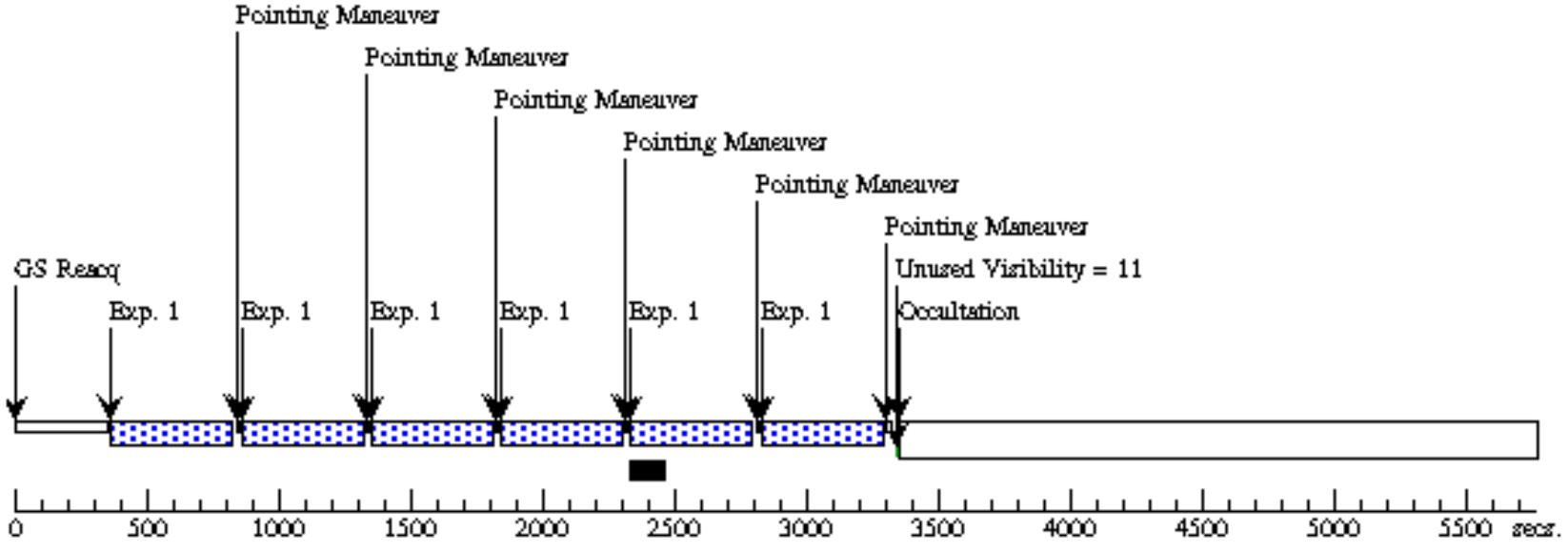
Orbit Structure



Orbit Structure (continued)



Orbit Structure (continued)



Orbit Structure (continued)