



11841 - The Formation of Brightest Cluster Galaxies

Cycle: 17, 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) MZ10451	WFC3/UVIS	1	20-Jan-2009 21:01:08.0	yes
02	(1) MZ10451	WFC3/UVIS	1	20-Jan-2009 21:01:13.0	yes

2 Total Orbits Used

ABSTRACT

We propose Chandra and HST observations of a unique low redshift cluster in which the Brightest Cluster Galaxy (BCG) is in the process of forming. The Chandra observations will be used to study the impact of BCG formation on the properties of the intracluster medium. We will test whether galaxy merging can destroy cool

cores and disrupt hot gas halos. We will also explore the role of intracluster stars in enriching the intracluster medium. The HST observations will be used to search for extended tidal features and young star clusters and to estimate the final stellar mass of the BCG. The low redshift of our target allows a more detailed study of BCG formation than is possible with higher redshift systems.

OBSERVING DESCRIPTION

We will use HST imaging of the core of MZ 10451 to search for extended tidal features and young star clusters that may have formed in the encounter. Our program will use the WFC3 UVIS channel. We will image the cluster center in two bands: F475W and F814W. The extended stellar plume is oriented along the north-south direction and we have specified a range of orientation angles to allow maximum spatial coverage of this feature. As we are also particularly interested in the region between the two nuclei, we will use a 4-point mosaic pattern that will allow us to avoid the chip gap in this vital region.

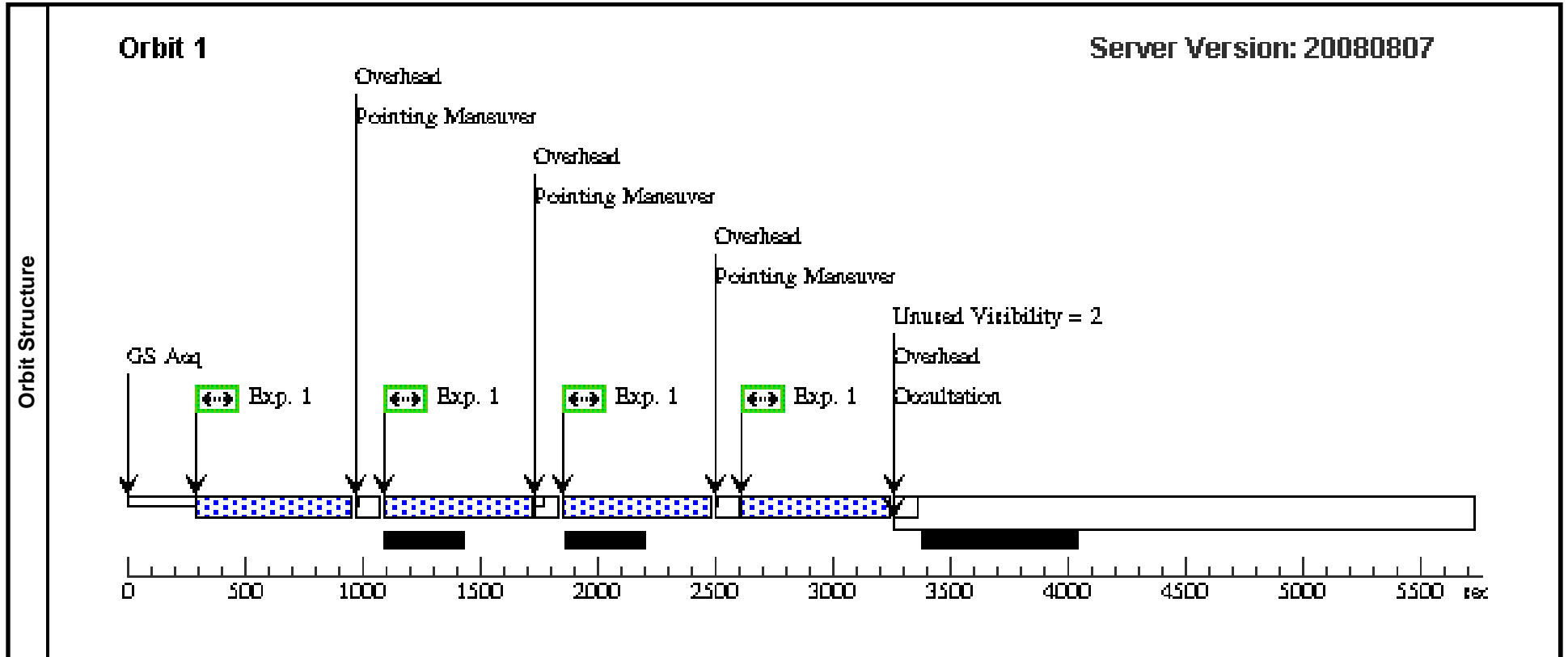
CALIBRATION JUSTIFICATION

No special calibration required.

Proposal 11841 - Visit 01 - The Formation of Brightest Cluster Galaxies

Wed Jan 21 02:01:16 GMT 2009

Visit	Proposal 11841, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 15D TO 75 D; ORIENT 195D TO 255 D										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(1)		Pattern Type=WFC3-UVIS-MOS-BOX -LRG Purpose=DITHER Number Of Points=4 Point Spacing=5.4 Line Spacing=77.5				Coordinate Frame=POS-TARG Pattern Orientation=5.55 Angle Between Sides=95.3 Center Pattern=true				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	MZ10451	RA: 02 29 44.8000 (37.4366667d) Dec: -29 38 2.80 (-29.63411d) Equinox: J2000		Proper Motion RA: 0.0s/yr Proper Motion Dec: 0.0"/yr Epoch of Position: Radial Velocity: 18225 km/sec		V=16.7+/-0.1	Reference Frame: GSC2			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(1) MZ10451	WFC3/UVIS, ACCUM, UVIS	F475W	CR-SPLIT=NO		Pattern 1-1 (1)	635 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]		[1]



Proposal 11841 - Visit 02 - The Formation of Brightest Cluster Galaxies

Wed Jan 21 02:01:17 GMT 2009

Visit	Proposal 11841, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: SAME ORIENT AS 01										
	Patterns	#	Primary Pattern				Secondary Pattern				Exposures
(1)		Pattern Type=WFC3-UVIS-MOS-BOX -LRG Purpose=DITHER Number Of Points=4 Point Spacing=5.4 Line Spacing=77.5				Coordinate Frame=POS-TARG Pattern Orientation=5.55 Angle Between Sides=95.3 Center Pattern=true				(1)	
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	MZ10451	RA: 02 29 44.8000 (37.4366667d) Dec: -29 38 2.80 (-29.63411d) Equinox: J2000		Proper Motion RA: 0.0s/yr Proper Motion Dec: 0.0"/yr Epoch of Position: Radial Velocity: 18225 km/sec		V=16.7+/-0.1	Reference Frame: GSC2			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1		(1) MZ10451	WFC3/UVIS, ACCUM, UVIS	F814W	CR-SPLIT=NO		Pattern 1-1 (1)	635 Secs [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]		[1]

