



12014 - Continued M31 Monitoring for Black Hole X-ray Nova

Cycle: 17, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Michael R. Garcia (PI)	Smithsonian Institution Astrophysical Observatory	garcia@cfa.harvard.edu
Dr. Stephen S. Murray (CoI)	Smithsonian Institution Astrophysical Observatory	smurray@cfa.harvard.edu
Dr. Francis Primini (CoI)	Smithsonian Institution Astrophysical Observatory	fap@head-cfa.harvard.edu
Dr. Paul Callanan (CoI) (ESA Member)	University College Cork	paulc@ucc.ie
Mr. Jose Galache (CoI)	Smithsonian Institution Astrophysical Observatory	jlg@astro.soton.ac.uk

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) M-31-VISIT1	ACS/WFC	2	22-Jun-2011 21:00:52.0	yes
02	(2) M-31-VISIT2	ACS/WFC	2	22-Jun-2011 21:00:57.0	yes

4 Total Orbits Used

ABSTRACT

During A01-9 we found ~25 Black Hole X-ray Novae (BHXNe) in M31 using Chandra, and with HST follow-up have estimated orbital periods for 9 of these.

Observations are under way with HST to attempt to estimate additional periods.

We propose to continue this program concentrating our scarce HST resources on a single transient which exceeds $1e38$ erg/s. Only uninterrupted monitoring can yield the duty cycles and long-term light curves of BHXNe (and other variables)

in M31. Our GO+GTO programs will have accumulated over 800ks (ACIS+HRC) near the M31 bulge by the end of A10, and total Chandra exposure on M31 is now almost 1Msec. By continuing our monitoring program through AO12 we will reach ~950ks on the bulge and >1Msec total Chandra M31 exposure.

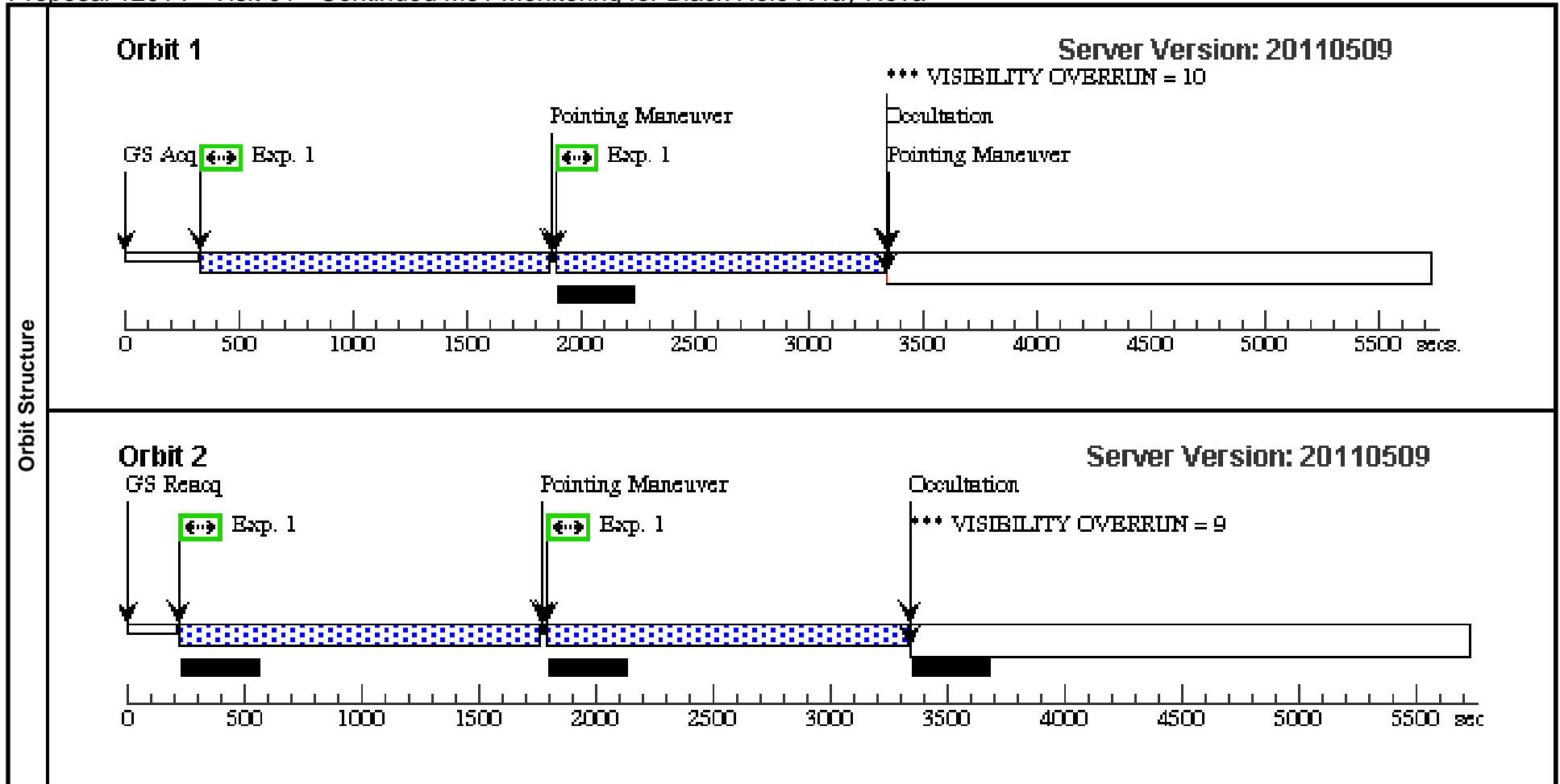
OBSERVING DESCRIPTION

we will observe for 2 orbits 'on', and then 6 months later 2 orbits 'off', in a mode to get the max s/n for a faint point source in a crowded, bright field (=M31)

Proposal 12014 - Visit 01 - Continued M31 Monitoring for Black Hole X-ray Nova

Thu Jun 23 01:01:00 GMT 2011

Visit	Proposal 12014, Visit 01, completed Diagnostic Status: Warning Scientific Instruments: ACS/WFC Special Requirements: PCS MODE FINE; GUID TOL 0.1"; BETWEEN 29-NOV-2010:00:00:00 AND 10-DEC-2010:00:00:00 <i>Comments: visit 1 for chandra c11, only to be activated if a bright transient is found by Chandra 3 to 4 weeks in advance of this visit</i>									
	(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN (Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN									
Diagnosics										
Patterns	#	Primary Pattern			Secondary Pattern			Exposures		
	(1)	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=20.67 Angle Between Sides=69.05 Center Pattern=false				(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	M-31-VISIT1	RA: 00 42 57.0000 (10.7375000d) Dec: +41 20 5.00 (41.33472d) Equinox: J2000		V=20.0+/-2.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(1) M-31-VISIT1		ACS/WFC, ACCUM, WFC	F435W			Pattern 1, Exps 1-1 in Visit 01 (1)	4000 Secs	
									[==>1320.0 Secs (Pattern 1)]	[1]
									[==>1320.0 Secs (Pattern 2)]	
								[==>1416.0 Secs (Pattern 3)]		
								[==>1416.0 Secs (Pattern 4)]	[2]	



Proposal 12014 - Visit 02 - Continued M31 Monitoring for Black Hole X-ray Nova

Thu Jun 23 01:01:01 GMT 2011

Visit	Proposal 12014, Visit 02, pi Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: PCS MODE FINE; GUID TOL 0.1" <i>Comments: visit2 for chandra c11, only to be activated if a bright transient is found by Chandra 3 to 4 weeks in advance of this visit</i>										
	Patterns	#	Primary Pattern				Secondary Pattern			Exposures	
(1)		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=20.67 Angle Between Sides=69.05 Center Pattern=false						(1)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous				
	(2)	M-31-VISIT2	RA: 00 42 49.0000 (10.7041667d) Dec: +41 17 16.00 (41.28778d) Equinox: J2000			V=20.0+/-2.0	Reference Frame: ICRS				
<i>Comments: Visit 1 holding position, to be updated 3 to 4 weeks before execution.</i>											
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]		Orbit
	1	(2) M-31-VISIT2		ACS/WFC, ACCUM, WFC	F435W			Pattern 1, Exps 1-1 in Visit 02 (1)	4000 Secs		
									[==>1240.0 Secs (Pattern 1)]		[1]
									[==>1240.0 Secs (Pattern 2)]		
								[==>1340.0 Secs (Pattern 3)]			
								[==>1340.0 Secs (Pattern 4)]		[2]	

