



12753 - Monitoring M31 for BHXNe

Cycle: 19, 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) M-31	ACS/WFC	2	22-Feb-2012 21:03:35.0	yes
02	(1) M-31	ACS/WFC	2	22-Feb-2012 21:03:40.0	yes

4 Total Orbits Used

ABSTRACT

During A01-12 we found ~27 Black Hole X-ray Novae (BHXNe) in M31 using Chandra, and with HST follow-up have estimated orbital periods for 12 of these. Observations are under way with HST to attempt to estimate additional periods. We propose to continue this program concentrating our HST resources on a single transient which is $>1e38$ erg/s or $<2'$ from the nucleus. Only uninterrupted monitoring can yield the duty cycles and long-term light curves of BHXNe (and other variables) in M31. Our GO+GTO programs have accumulated over 375ks ACIS-I exposure on the bulge within the $3'$ mirror sweet spot, and total Chandra exposure on M31 is now almost 1Msec. By continuing our monitoring program through a second decade we will reach ~800ks within $3'$ of the bulge.

OBSERVING DESCRIPTION

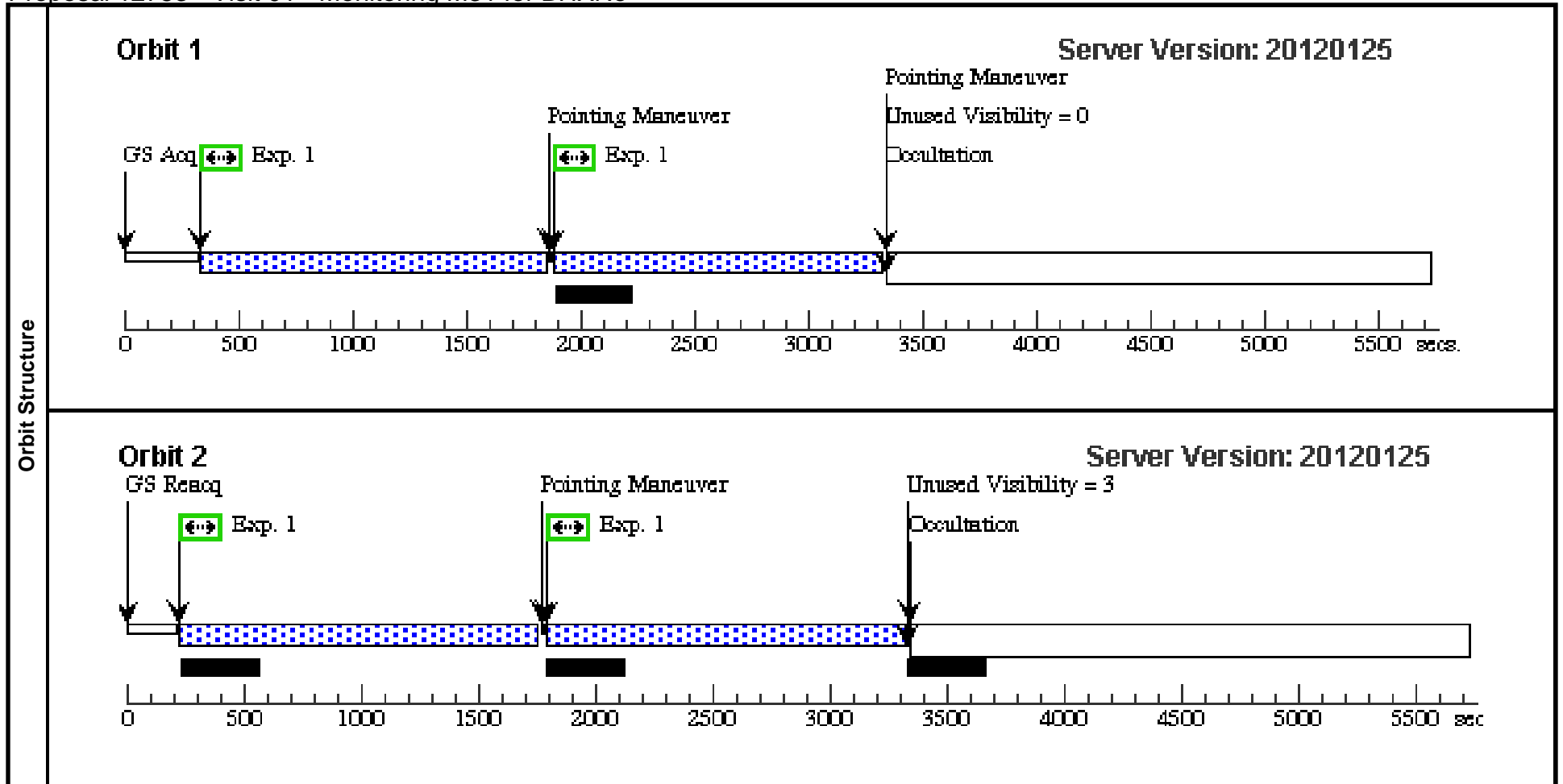
We will trigger on observing a suitable bright X-ray transient with Chandra. The first observation is to be made as soon as possible after the trigger, and the second observation will be made ~6 months later, if no serendipitous observation exists in the archive.

We wish to use ACS/WFC to be consistent with the other transients that we have already observed with HST over the last several cycles.

Proposal 12753 - Visit 01 - Monitoring M31 for BHXNe

Thu Feb 23 02:03:45 GMT 2012

Visit	Proposal 12753, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: BETWEEN 05-MAR-2012 AND 12-MAR-2012									
	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	RA: 00 42 43.6830 (10.6820125d) Dec: +41 25 18.53 (41.42181d) Equinox: J2000		V=20	Reference Frame: ICRS				
	<i>Comments: Position will be updated 3--4 weeks before observation, and will be within 8' of the original position</i>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	M31_BH	(1) M-31	ACS/WFC, ACCUM, WFC1-CTE	F435W				Pattern 1, Exps 1-1 in Visit 01 (1) 4000 Secs [==>1315.0 Secs (Pattern 1)] [==>1315.0 Secs (Pattern 2)] [==>1410.0 Secs (Pattern 3)] [==>1410.0 Secs (Pattern 4)]	[1] [2]



Proposal 12753 - Visit 02 - Monitoring M31 for BHXNe

Thu Feb 23 02:03:47 GMT 2012

Visit	Proposal 12753, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: ACS/WFC Special Requirements: AFTER 01 BY 180 D TO 210 D									
	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	RA: 00 42 43.6830 (10.6820125d) Dec: +41 25 18.53 (41.42181d) Equinox: J2000		V=20	Reference Frame: ICRS				
<i>Comments: Position will be updated 3--4 weeks before observation, and will be within 8' of the original position</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	M31_BH_C OPY	(1) M-31	ACS/WFC, ACCUM, WFC1-CTE	F435W				Pattern 1, Exps 1-1 i n Visit 02 (1)	2800 Secs [=>1255.0 Secs (Pattern 1)] [=>1255.0 Secs (Pattern 2)] [=>1351.0 Secs (Pattern 3)] [=>1351.0 Secs (Pattern 4)]

