12375 - Optical Counterpart of the ULX in NGC 247

Cycle: 18, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) NGC247ULXUP (2) NGC247ULXDN	ACS/WFC	2	13-Sep-2010 23:02:00.0	yes

2 Total Orbits Used

ABSTRACT

A recent XMM-Newton observation revealed a highly interesting ultraluminous X-ray source (ULX) in NGC 247. It is similar to Galactic black hole binaries (BHBs) at the thermal dominant state while the cool, ultraluminous disk suggests the presence of an intermediate mass black hole. ULXs are rarely found in the thermal dominant state and this source would provide us a precious laboratory to study the connection between ULXs and Galactic BHBs. We propose Chandra and HST observations of the source to accurately measure its X-ray position, identify a unique optical counterpart, and search for optical nebulosity. Identification of the optical counterpart will help constrain its evolutionary history and physical nature.

OBSERVING DESCRIPTION

Searching for the optical counterpart of NGC 247 ULX

Visit

Proposal 12375, Visit 01

Tue Sep 14 03:02:10 GMT 2010

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: ORIENT 345.0D TO 10.0 D

Patterns

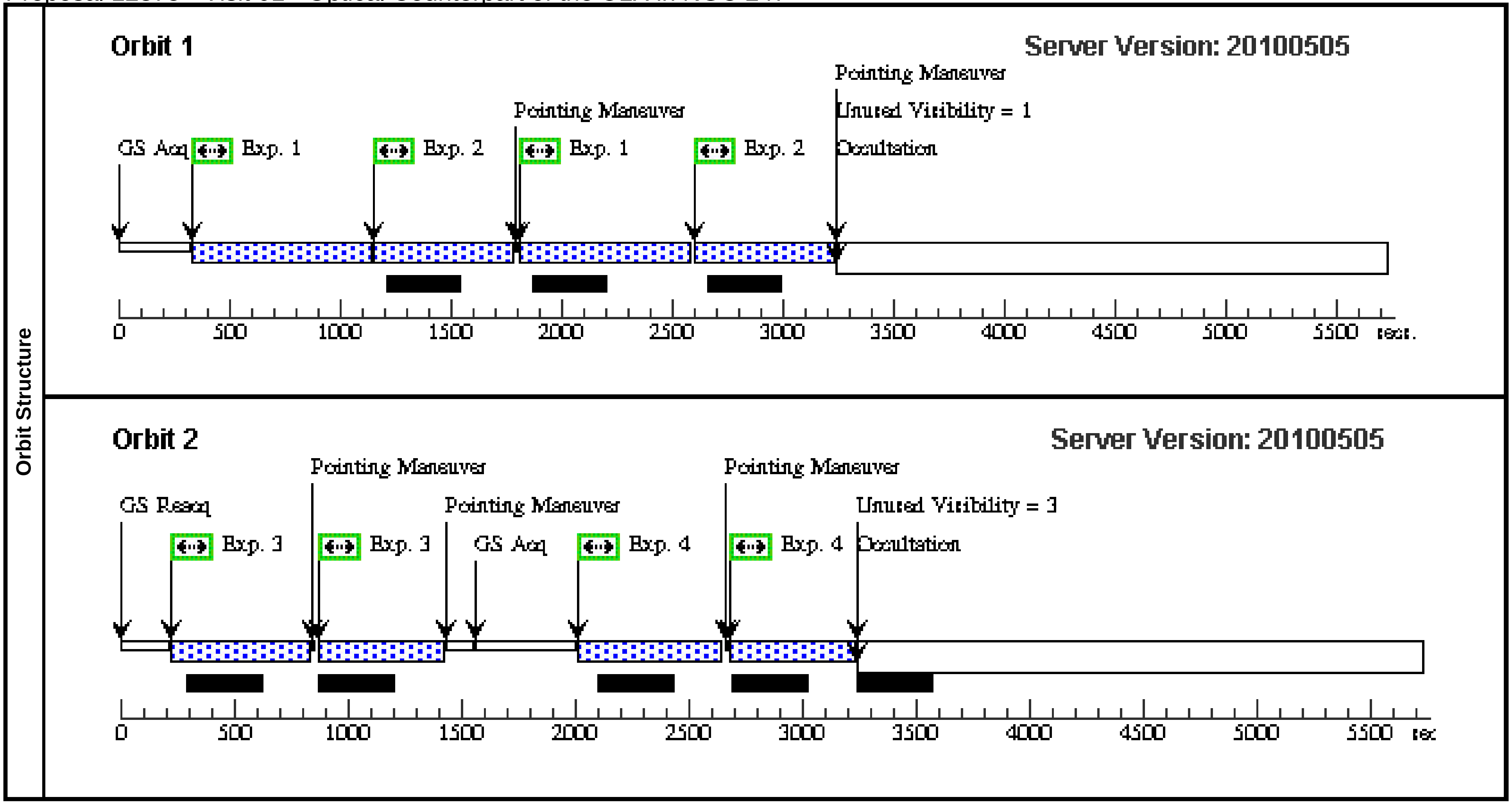
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1-2), (3), (4)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC247ULXUP	RA: 00 46 56.3700 (11.7348750d) Dec: -20 44 27.94 (-20.74109d) Equinox: J2000		V=21	Reference Frame: ICRS
(2)	NGC247ULXDN	RA: 00 46 59.3770 (11.7474042d) Dec: -20 47 1.75 (-20.78382d) Equinox: J2000		V=21	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(2) NGC247ULXDN	ACS/WFC, ACCUM, WFCENTER	F658N			Pattern 1, Exps 1-2 (1)	600 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2		(2) NGC247ULXDN	ACS/WFC, ACCUM, WFCENTER	F435W			Pattern 1, Exps 1-2 (1)	452 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3		(2) NGC247ULXDN	ACS/WFC, ACCUM, WFCENTER	F606W			Pattern 1, Exps 3-3 (1)	423 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
4		(1) NGC247ULXUP	ACS/WFC, ACCUM, WFCENTER	F606W			Pattern 1, Exps 4-4 (1)	423 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***


Orbit Structure
Orbit 1
Server Version: 20100505
Pointing Maneuver
Unused Visibility = 1
Occultation
Pointing Maneuver
GS Acq
Exp. 1
Exp. 2
Exp. 1
Exp. 2
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 2
Server Version: 20100505
Pointing Maneuver
Pointing Maneuver
GS Reacq
Pointing Maneuver
Unused Visibility = 3
Exp. 3
Exp. 3
GS Acq
Exp. 4
Exp. 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec