



# 13425 - Multiwavelength Test For A Standard Accretion Disk Around An Intermediate Mass Black Hole Candidate

Cycle: 21, 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) NGC247ULX	ACS/SBC WFC3/IR WFC3/UVIS	2	19-Dec-2013 21:09:56.0	yes

2 Total Orbits Used

## ABSTRACT

Recent X-ray and optical observations suggest that the supersoft ultraluminous X-ray source in NGC 247 is an interesting candidate for an intermediate mass black hole, based on the fact that emission from an unusually cool and luminous accretion disk can explain multiwavelength data across 3 orders of magnitudes in wavelength. If the disk interpretation is valid, the source is predicted to be UV-luminous. Thus, we propose joint HST/XMM-Newton observations of the source for a definitive test of the disk scenario and reliable measurement of the black hole mass.

**OBSERVING DESCRIPTION**

The program is to obtain a SBC PR130L slitless spectrum and optical/IR images of the target NGC 247 ULX, which is a point-like source. The imaging observations includes WFC3 UVIS F225W , F336W, F438W, F606W, and F814W, and WFC3 IR F105W and F160W.

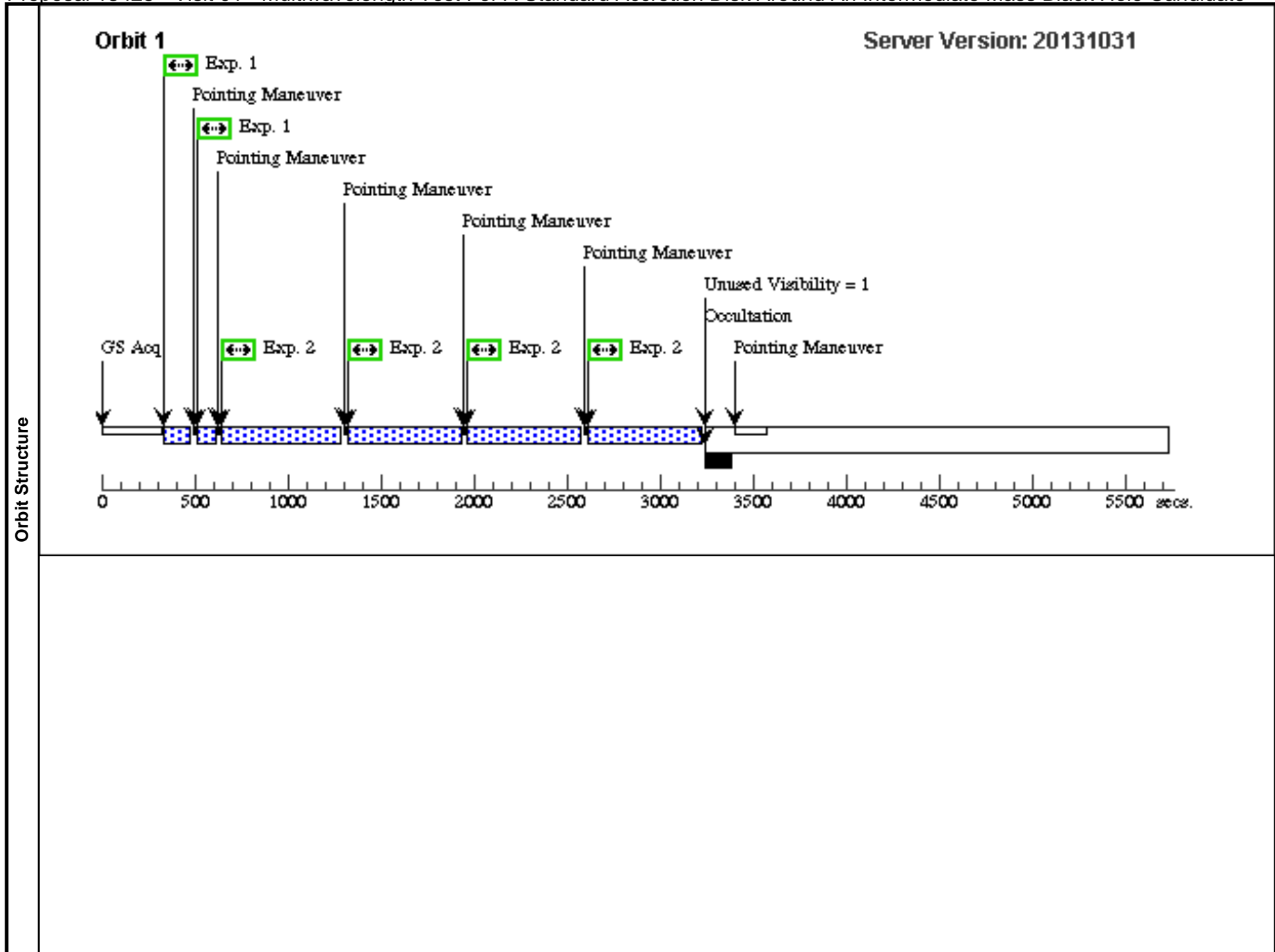
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Fri Dec 20 02:10:10 GMT 2013

Visit	Proposal 13425, Visit 01, implementation					
		<b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/SBC Special Requirements: (none)				
Patterns	#	Primary Pattern	Secondary Pattern	Exposures		
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(2)	
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(3-7)	
	(3)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(8-9)	
	(4)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.472 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	NGC247ULX	RA: 00 47 3.8840 (11.7661833d) Dec: -20 47 44.23 (-20.79562d) Equinox: J2000		V=22.6	Reference Frame: ICRS

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Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(ACS.im.53 6697)	(1) NGC247ULX	ACS/SBC, ACCUM, SBC	F165LP				Pattern 4, Exps 1-1 i n Visit 01 (4)	76 Secs (152 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[1]
	2	(ACS.sp.509 075)	(1) NGC247ULX	ACS/SBC, ACCUM, SBC	PR130L				Pattern 1, Exps 2-2 i n Visit 01 (1)	587 Secs (2348 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]
	3	(548896)	(1) NGC247ULX	WFC3/UVIS, ACCUM, UVIS2-M512C-SUB	F225W	FLASH=11			Pattern 2, Exps 3-7 i n Visit 01 (2)	234 Secs (468 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	4	(548898)	(1) NGC247ULX	WFC3/UVIS, ACCUM, UVIS2-M512C-SUB	F336W	FLASH=11			Pattern 2, Exps 3-7 i n Visit 01 (2)	233 Secs (466 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	5	(548899)	(1) NGC247ULX	WFC3/UVIS, ACCUM, UVIS2-M512C-SUB	F438W	FLASH=11			Pattern 2, Exps 3-7 i n Visit 01 (2)	48 Secs (96 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	6		(1) NGC247ULX	WFC3/UVIS, ACCUM, UVIS2-M512C-SUB	F606W	FLASH=9			Pattern 2, Exps 3-7 i n Visit 01 (2)	48 Secs (96 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	7	(548904)	(1) NGC247ULX	WFC3/UVIS, ACCUM, UVIS2-M512C-SUB	F814W	FLASH=9			Pattern 2, Exps 3-7 i n Visit 01 (2)	100 Secs (200 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	8		(1) NGC247ULX	WFC3/IR, MULTIACCUM, IRSUB512	F105W	SAMP-SEQ=STEP2 5; NSAMP=10			Pattern 3, Exps 8-9 i n Visit 01 (3)	128.439646 Secs (256.879 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]
	9		(1) NGC247ULX	WFC3/IR, MULTIACCUM, IRSUB512	F160W	SAMP-SEQ=STEP2 5; NSAMP=11			Pattern 3, Exps 8-9 i n Visit 01 (3)	151.360897 Secs (302.722 Secs) [=>(Pattern 1)] [=>(Pattern 2)]	[2]



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