



## 11012 - NGC 4190-ULX1: The forgotten ULX

Cycle: 15, 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>
02	(1) NGC4190-X1	WFPC2	5	21-Mar-2007 22:37:21.0	yes

5 Total Orbits Used

### ABSTRACT

Although it ranks amongst the nearest (at  $d \sim 3$  Mpc) and brightest ( $f_x \sim 2e-12$  erg/cm<sup>2</sup>/s) ULXs, NGC 4190-ULX1 has not yet been observed in the modern era of X-ray astronomy. We propose to remedy this omission with three new observations designed to probe its underlying nature. Firstly, we will obtain a high precision X-ray position of the ULX using HRC-I. This will be used to identify an unique counterpart in new HST/ACS imaging, plausibly the first step towards deriving a dynamical mass function for this source. Finally, we will use an ACIS-S observation to derive the first high

quality X-ray diagnostics (spectrum, light curve) of this ULX, with the aim of providing an interim assessment of the nature of the compact object underlying its extreme X-ray emission.

### **OBSERVING DESCRIPTION**

We request observations of NGC 4190 X1 with the aim of identifying the optical counterpart of this nearby ULX. Given the loss of ACS we will now conduct these observations with WFPC2 using the F300W, F450W and F606W filters. We will place the target at the WFALL aperture (i.e. at the corner of WF3) and conduct a standard 4 point dither pattern.

Proposal 11012 - Visit 02 - NGC 4190-ULX1: The forgotten ULX

Thu Mar 22 02:37:30 GMT 2007

Visit	<b>Proposal 11012, Visit 02</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFPC2 Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFPC2-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.559 Line Spacing=0.559	Coordinate Frame=POS-TARG Pattern Orientation=26.6 Angle Between Sides=143.1 Center Pattern=false		(1), (2), (3)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC4190-X1	RA: 12 13 45.4000 (183.4391667d) Dec: +36 37 55.00 (36.63194d) Equinox: J2000		V=24.0+/-2.0	Reference Frame: ROSAT				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) NGC4190-X1	WFPC2, IMAGE, WFALL	F300W	CR-SPLIT=NO		Pattern 1-1 (1)	1100.0 Secs	
									[=>(Pattern 1)]	[1]
									[=>(Pattern 2)]	[2]
									[=>(Pattern 3)]	[2]
									[=>(Pattern 4)]	[2]
	2		(1) NGC4190-X1	WFPC2, IMAGE, WFALL	F450W	CR-SPLIT=NO		Pattern 2-2 (1)	1100.0 Secs	
									[=>(Pattern 1)]	[3]
									[=>(Pattern 2)]	[4]
									[=>(Pattern 3)]	[4]
									[=>(Pattern 4)]	[4]
	3		(1) NGC4190-X1	WFPC2, IMAGE, WFALL	F606W				Pattern 3-3 (1)	400.0 Secs
								[=>(Pattern 1)]	[5]	
								[=>(Pattern 2)]	[5]	
								[=>(Pattern 3)]	[5]	
								[=>(Pattern 4)]	[5]	





