



12372 - A hot X-ray tail from a transforming galaxy in A3627

Cycle: 18, 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) ESO137-002-TAIL (2) ESO137-002-IR (3) ESO137-001	ACS/WFC WFC3/IR WFC3/UVIS	3	08-Nov-2010 22:01:01.0	yes

3 Total Orbits Used

ABSTRACT

The ICM has long been proposed to play a vital role in galaxy evolution in clusters, through stripping of the galactic cold gas. Studies of gaseous tails behind cluster late-type galaxies have shed light on the energy transfer in the multi-phase gas, demonstrated by the recent discoveries of X-ray tails,

intracluster star-formation and ULXs in the stripped gas. We propose a 95 ks ACIS-S observation of a surprisingly hot X-ray tail of ESO137-002 in A3627, as well as joint HST observations in three orbits. These observations aim to confirm the first hot X-ray tails in clusters, study the substructure in the X-ray tail (double tails? a possible extension to 100 kpc?), search for and study more intracluster ULXs and star formation. We have supporting data of optical spectroscopy, HI and CO.

OBSERVING DESCRIPTION

We will use WFC3 and ACS to study the transforming galaxy ESO 137-002 in the closest massive cluster A3627. The WFC3 F336W data in one orbit will be used to search for young star clusters in the galaxy and the gaseous tail. We will also get the F475W, F814W and F160W data. Part of the un-used orbit #3 will be used on ESO 137-001, to support our previous HST program 11683 with the F160W data.

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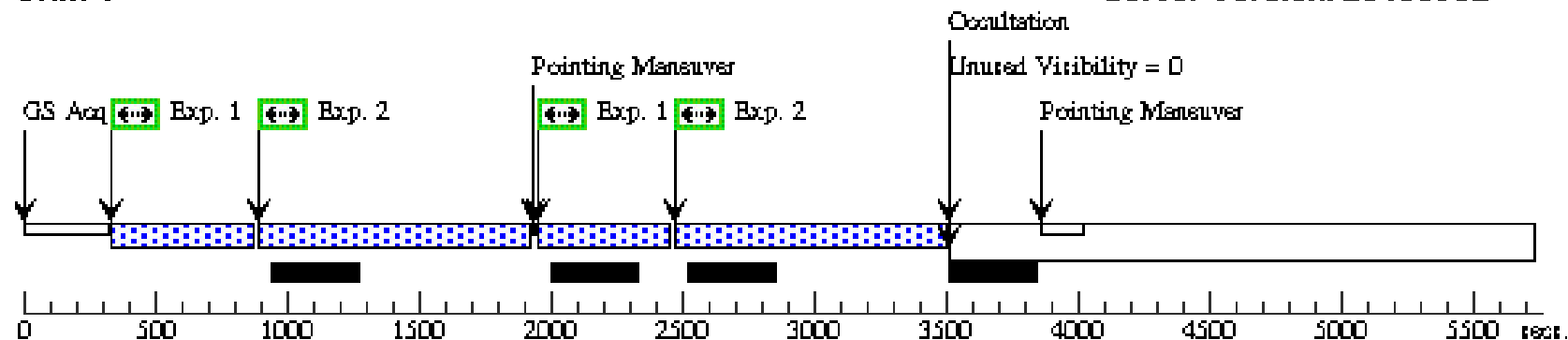
Visit	Proposal 12372, Visit 01, implementation				Tue Nov 09 03:01:11 GMT 2010	
	Diagnostic Status: No Diagnostics					
	Scientific Instruments: WFC3/IR, ACS/WFC, WFC3/UVIS					
	Special Requirements: ORIENT 66D TO 76 D; ORIENT 166D TO 178 D; ORIENT 252D TO 266 D; ORIENT 325D TO 354 D					
	Comments: Any of the four orietation ranges would be fine.					
Patterns	#	Primary Pattern		Secondary Pattern	Exposures	
	(1)	Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.4 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true		(5)	
	(2)	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)	Pattern Type=WFC3-IR-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(3)	
	(4)	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		(4)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	ESO137-002-TAIL	RA: 16 13 36.2600 (243.4010833d) Dec: -60 52 30.27 (-60.87507d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=12.4+/-0.5	Reference Frame: ICRS
	(2)	ESO137-002-IR	RA: 16 13 36.5360 (243.4022333d) Dec: -60 52 6.04 (-60.86834d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=12.4+/-0.5	Reference Frame: ICRS
	(3)	ESO137-001	RA: 16 13 24.3000 (243.3512500d) Dec: -60 45 40.50 (-60.76125d) Equinox: J2000	Proper Motion RA: null Proper Motion Dec: null Epoch of Position:	V=14+/-0.5	Reference Frame: ICRS

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Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1		(1) ESO137-002-TA IL	ACS/WFC, ACCUM, WFC	F814W			Pattern 2, Exps 1-2 in Visit 01 (2)	339 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	2		(1) ESO137-002-TA IL	ACS/WFC, ACCUM, WFC	F475W			Pattern 2, Exps 1-2 in Visit 01 (2)	864 Secs [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	3		(3) ESO137-001	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=15; SAMP-SEQ=STEP5 0		Pattern 3, Exps 3-3 in Visit 01 (3)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[2]
	4		(2) ESO137-002-IR	WFC3/IR, MULTIACCUM, IR-FIX	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 4, Exps 4-4 in Visit 01 (4)	[==>(Pattern 1)] [==>(Pattern 2)]	[2]
	5		(1) ESO137-002-TA IL	WFC3/UVIS, ACCUM, UVIS-FIX	F275W	CR-SPLIT=NO		Pattern 1, Exps 5-5 in Visit 01 (1)	1010 Secs [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)]	[3]

Orbit 1

Server Version: 20100902



Orbit 2

Server Version: 20100902

