



13944 - Extended X-ray Emission From A Quasar-Driven Superbubble

Cycle: 22, 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) SDSSJ1356+1026	WFC3/UVIS	1	22-Oct-2014 21:15:27.0	yes

1 Total Orbits Used

ABSTRACT

We propose to look for the X-ray component of a bona-fide quasar-driven wind, manifested as a 20 kpc-scale superbubble in the warm ionized gas of its host galaxy. With ALMA and JVLA observations, we have ruled out star formation or a radio jet as the source of the outflow, and we have detected very soft (<1 keV) X-ray photons spatially coincident with the superbubble. With our existing 20 ks observation, we cannot determine whether the X-rays arise from the hot outflow or photoionized gas. With an additional 80ks observation (100ks total), we will use the X-ray morphology and spectrum to distinguish these two possibilities. A single-orbit HST observation will allow us to both build a pure emission-line map of the outflow and (via scattered light) teach us about the ambient density in the outflow.

OBSERVING DESCRIPTION

We will perform a single-orbit observation of the obscured quasar and ULIRG SDSS J1356+1026.

We will use the medium-band filter F621M with WFC3, to match our existing broad-band data but focus exclusively on the continuum. By comparing the line emission in the broad-band image with a line-free image, we will map the line emission with high fidelity and use the scattered light fraction to determine the electron density.

Proposal 13944 - Visit 01 - Extended X-ray Emission From A Quasar-Driven Superbubble

Thu Oct 23 01:15:29 GMT 2014

Visit	Proposal 13944, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SDSSJ1356+1026	RA: 13 56 46.1000 (209.1920833d) Dec: +10 26 9.09 (10.43586d) Equinox: J2000	Redshift: 0.123	V=14.0	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SDSSJ1356+1026 6	WFC3/UVIS, ACCUM, UVIS1	F621M			Pattern 1, Exps 1-1 in Visit 01 (1)	625. Secs (2500 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[1]

