16847 - TRACING X-RAY EMISSION REGIONS IN MCG-03-34-64

Cycle: 29, 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) MCG-03-34-064	ACS/WFC	1	27-Sep-2021 09:01:51.0	yes

1 Total Orbits Used

ABSTRACT

MCG-03-34-64 is a nearby Seyfert galaxy with extremely heavy X-ray absorption that makes it one of the hardest sources in the X-ray sky. Consequently this is a superb candidate for study of the faint, extended, circumnuclear X-ray emission. Chandra imaging results for other nearby Compton-thick AGN show structure on a scale of hundreds of pc coincident with the Narrow Line Region gas. Following on from those successful observations we request a 50 ks ACIS-S exposure to trace out the line emitting regions in MCG-03-34-64. We also ask for an HST orbit to map [Oiii] for comparison with the X-ray extent.

OBSERVING DESCRIPTION

The acquisition of the HST ACS/WFC [O III]5007A image for MCG -03-34-64 need not be simultaneous and we simply request that this accompanying exposure be within cycle 22. Thus the Joint Observation imposes no constraint on the Chandra scheduling. For HST, as our target has a redshift of z = 0.0165, we will use the FR505N ramp filter. We also propose to obtain a continuum image, to subtract the continuum contribution from the emission line image. We chose FR647M, with which we can select a region free from emission lines. We estimate exposure times based previous observations of sources of similar [Oiii] flux and redshift, where we find a typical 3 sigma surface brightnesses of ~ 10^-15 erg s^ -1 cm^-2 arcsec ^-2 . To reach this sensitivity, we will require an [O III] exposure of ~ 30 minutes. Based on the archival images, for the continuum images we will use 5 minutes of integration. The observations will be split into at least 2 exposures per band, to better eliminate cosmic rays, and apply drizzle patterns. Therefore, the imaging will require 1 orbit in total.

Visit

Proposal 16847, Visit 01 Mon Sep 27 13:01:51 GMT 2021

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(Exposure 1 (Pattern 1, Exps 1-1 in Visit 01)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp filters as central wavelengths & transmission efficiencies vary within the apertures.

(Exposure 2 (Pattern 2, Exps 2-2 in Visit 01)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(1)
(2)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=3.034 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.29 Angle Between Sides= Center Pattern=false		(2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	MCG-03-34-064	RA: 13 22 24.4850 (200.6020208d) Dec: -16 43 42.09 (-16.72836d) Equinox: J2000	Epoch of Position: 2015.5	V=12.2	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[SEYFERT]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) MCG-03-34-064	ACS/WFC, ACCUM, WFC1-IRAMP	FR647M 5590 A			Pattern 1, Exps 1-1 in Visit 01 (1)	150 Secs (178 Secs) *[==>89.0 Secs (Pattern 1)]* *[==>89.0 Secs (Pattern 2)]*	***[1]***
2		(1) MCG-03-34-064	ACS/WFC, ACCUM, WFC1-MRAMP	FR505N 5089.6 A			Pattern 2, Exps 2-2 in Visit 01 (2)	900 Secs (1500 Secs) *[==>750.0 Secs (Pattern 1)]* *[==>750.0 Secs (Pattern 2)]*	***[1]***

Orbit Structure