



16898 - Catching AGN in Deep Minimum States to Unveil Their Core Environment

Cycle: 29, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> |
|---|---|
| Dr. Norbert Schartel (PI) (ESA Member) (Contact) | European Space Agency - ESTEC |
| Dr. Maria Santos-Lleo (CoI) (ESA Member) | European Space Agency - ESTEC |
| Dr. Stefanie Komossa (CoI) (ESA Member) | Max-Planck-Institut für Radioastronomie |
| Dr. Dirk Grupe (CoI) (AdminUSPI) | Northern Kentucky University |
| Prof. Andrew C. Fabian (CoI) (ESA Member) | University of Cambridge |
| Michael Parker (CoI) (ESA Member) | University of Cambridge |
| Dr. Fiona A. Harrison (CoI) | California Institute of Technology |

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) AGN1MINIMUMLONG | COS/FUV COS/NUV | 2 | 26-Jun-2023 18:00:16.0 | yes |

2 Total Orbits Used

ABSTRACT

The deep minimum state of AGN is characterized by a strongly suppressed or even absent primary continuum. As the continuum disappears weak spectral features like relativistic iron lines or narrow soft X-ray emission lines from ionised plasmas become highly significant and their parameters can be determined. Therefore deep minimum states offer unique possibilities to investigate in detail the physics of the reprocessed components in AGN, including the immediate vicinity of the supermassive black hole (SMBH). Applying our experience gained with a successful trigger of a 200ks-long deep minimum observation of PG 2112+059, we propose two triggered 10ks-short XMM-Newton snapshot observations, one 80ks-long

Proposal 16898 (STScI Edit Number: 1, Created: Monday, June 26, 2023 at 5:00:16 PM Eastern Standard Time) - Overview

XMM-Newton follow-up simultaneous with a 80ks NuSTAR and one HST (2 orbit) observation of an AGN in deep minimum state. We will continue identifying AGN in the deep minimum through a search mainly based on Swift and XMM-Newton slew observations.

OBSERVING DESCRIPTION

take two exposures with G130 during the first orbit, and 4 x 600s exposures in G160

Proposal 16898 - Visit 01 - Catching AGN in Deep Minimum States to Unveil Their Core Environment

Mon Jun 26 22:00:16 GMT 2023

| Visit | Proposal 16898, Visit 01, implementation Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: ON HOLD ; TOO RESPONSE TIME 21.0D <i>On Hold Comments: This is a pe-approved ToO which will be triggered when an appropriate AGN will be found in an extreme low X-ray flux state</i> | | | | | | | | | | | | | | | | | |
|------------------------|--|----------------------------------|-------------------------|-------------------------|-----------------|--|---------------|--------|--|-------|---|------|----------|-------------|-----|-----------------|----------------------------------|----------------|
| | (Visit 01) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave. See the COS Instrument Handbook for exceptions that may apply to observations with G130M/1291 or G160M. | | | | | | | | | | | | | | | | | |
| Diagnosics | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Generic Targets | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Criteria</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>AGN1MINIMUMLONG</td> <td>Drop in X-rays by a factor of 10</td> <td>ACCRETION DISK</td> </tr> </tbody> </table> | | | | | | | | | | # | Name | Criteria | Description | (1) | AGN1MINIMUMLONG | Drop in X-rays by a factor of 10 | ACCRETION DISK |
| | # | Name | Criteria | Description | | | | | | | | | | | | | | |
| (1) | AGN1MINIMUMLONG | Drop in X-rays by a factor of 10 | ACCRETION DISK | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| Exposures | # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit | | | | | | | | |
| | 1 | (1686483) | (1) AGN1MINIMU MLONG | COS/NUV, ACQ/IMAGE, PSA | MIRRORB | | | | 30 Secs (30 Secs) [==>] | [1] | | | | | | | | |
| | 2 | (1686481) | (1) AGN1MINIMU MLONG | COS/FUV, TIME-TAG, PSA | G130M 1291 A | BUFFER-TIME=11 10; FP-POS=3; SEGMENT=BOTH | | | 1100 Secs (1100 Secs) [==>] | [1] | | | | | | | | |
| | 3 | (1686481) | (1) AGN1MINIMU MLONG | COS/FUV, TIME-TAG, PSA | G130M 1291 A | BUFFER-TIME=11 10; FP-POS=4; SEGMENT=BOTH | | | 1085 Secs (1085 Secs) [==>] | [1] | | | | | | | | |
| | 4 | (1686482) | (1) AGN1MINIMU MLONG | COS/FUV, TIME-TAG, PSA | G160M 1623 A | BUFFER-TIME=26 00; FP-POS=ALL; SEGMENT=BOTH | | | 578 Secs (2312 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)] | [2] | | | | | | | | |

