



18189 - X-ray emissions of a peculiar hyperluminous X-ray source

Cycle: 33, 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) NGC6099	ACS/SBC	1	12-Feb-2026 07:00:13.0	yes
02	(1) NGC6099	WFC3/UVIS	2	12-Feb-2026 07:00:14.0	yes
03	(1) NGC6099	WFC3/UVIS	2	12-Feb-2026 07:00:14.0	yes

5 Total Orbits Used

ABSTRACT

We propose a joint Chandra-HST study of the most extreme hyperluminous X-ray source selected from a cross-correlation study of Chandra and XMM-Newton catalogues. It reached a peak X-ray luminosity of $5e42$ erg/s in 2012; it was 100 times fainter in 2009 and 2023. It is a strong off-nuclear IMBH candidate in a thermal dominant state. We will study its current luminosity and spectral state with Chandra, and the brightness and colours of its optical counterpart with HST, constraining its BH mass and testing between alternative scenarios (repeated outbursts or one-off TDE).

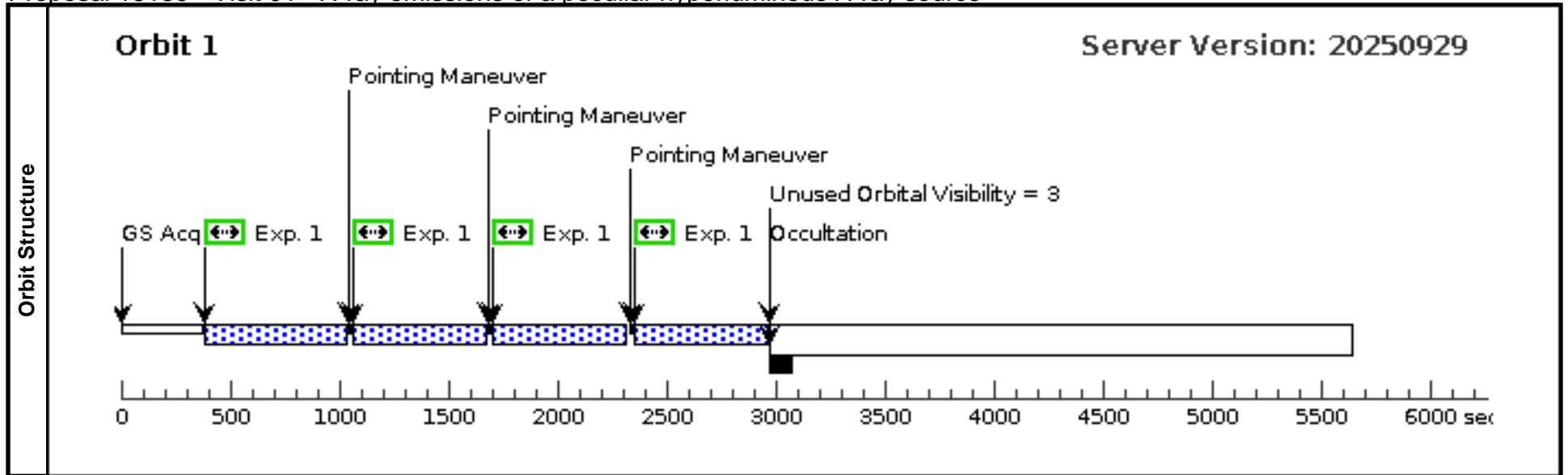
OBSERVING DESCRIPTION

This is an imaging observation to determine the multi-band photometry of our target for a SED study.

Proposal 18189 - Visit 01 - X-ray emissions of a peculiar hyperluminous X-ray source

Thu Feb 12 12:00:15 GMT 2026

Visit	Proposal 18189, Visit 01, implementation Diagnostic Status: Warning Scientific Instruments: ACS/SBC Special Requirements: BETWEEN 11-APR-2026 AND 25-APR-2026									
	(Exposure 1 (Pattern 1, Exps 1-1 in Visit 01)) Warning (Form): Sensitive exposures should have an ETC run number provided.									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=ACS-SBC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.179 Line Spacing=0.116	Coordinate Frame=POS-TARG Pattern Orientation=20.02 Angle Between Sides=63.65 Center Pattern=false		(1)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC6099	RA: 16 15 34.2000 (243.8925000d) Dec: +19 27 7.70 (19.45214d) Equinox: J2000		V=25+/-0.1	Reference Frame: ICRS				
<i>Comments:</i> Category=GALAXY Description=[ACCRETION DISK, DWARF COMPACT]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC6099	(1) NGC6099	ACS/SBC, ACCUM, SBC	F140LP			Pattern 1, Exps 1-1 in Visit 01 (1)	500 Secs (2332 Secs) [=>583.0 Secs (Pattern 1)] [=>583.0 Secs (Pattern 2)] [=>583.0 Secs (Pattern 3)] [=>583.0 Secs (Pattern 4)]	[1]



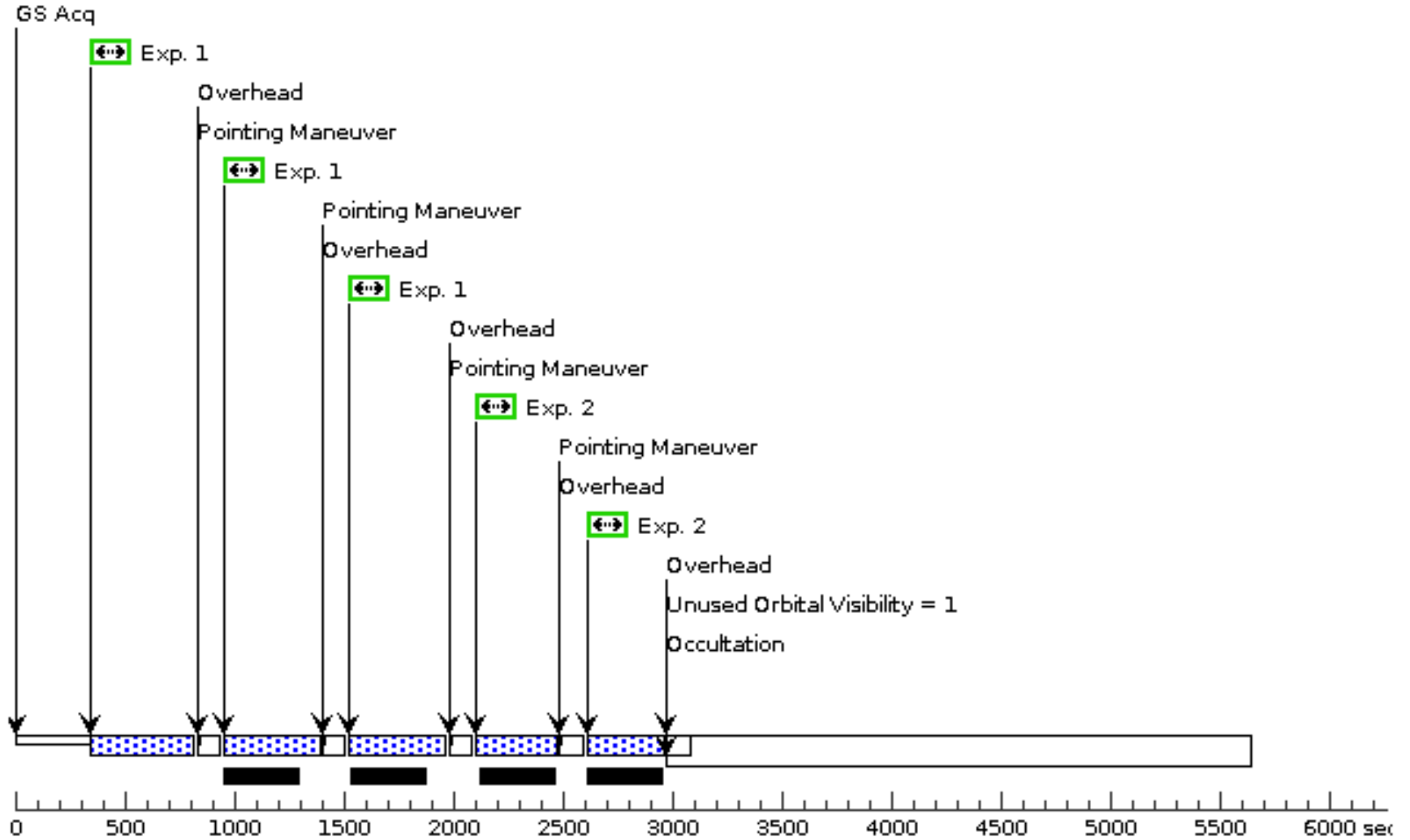
Proposal 18189 - Visit 02 - X-ray emissions of a peculiar hyperluminous X-ray source

Thu Feb 12 12:00:15 GMT 2026

Visit	Proposal 18189, Visit 02, implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 11-APR-2026 AND 25-APR-2026									
	(Exposure 1 (Pattern 3, Exps 1-1 in Visit 02)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(2)	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		(2)					
Fixed Targets	(3)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (3)					
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
(1)	NGC6099	RA: 16 15 34.2000 (243.8925000d) Dec: +19 27 7.70 (19.45214d) Equinox: J2000		V=25+/-0.1	Reference Frame: ICRS					
<i>Comments:</i> Category=GALAXY Description=[ACCRETION DISK, DWARF COMPACT]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F555W	FLASH=2		Pattern 3, Exps 1-1 in Visit 02 (3)	444 Secs (1332 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
2	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F300X	FLASH=18		Pattern 2, Exps 2-2 in Visit 02 (2)	352 Secs (1408 Secs)		
								[==>(Pattern 1)]	[1]	
								[==>(Pattern 2)]		
								[==>(Pattern 3)]	[2]	
								[==>(Pattern 4)]		
3	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F621M	FLASH=12		Pattern 3, Exps 3-3 in Visit 02 (3)	432 Secs (1296 Secs)		
								[==>(Pattern 1)]	[2]	
								[==>(Pattern 2)]		
								[==>(Pattern 3)]		

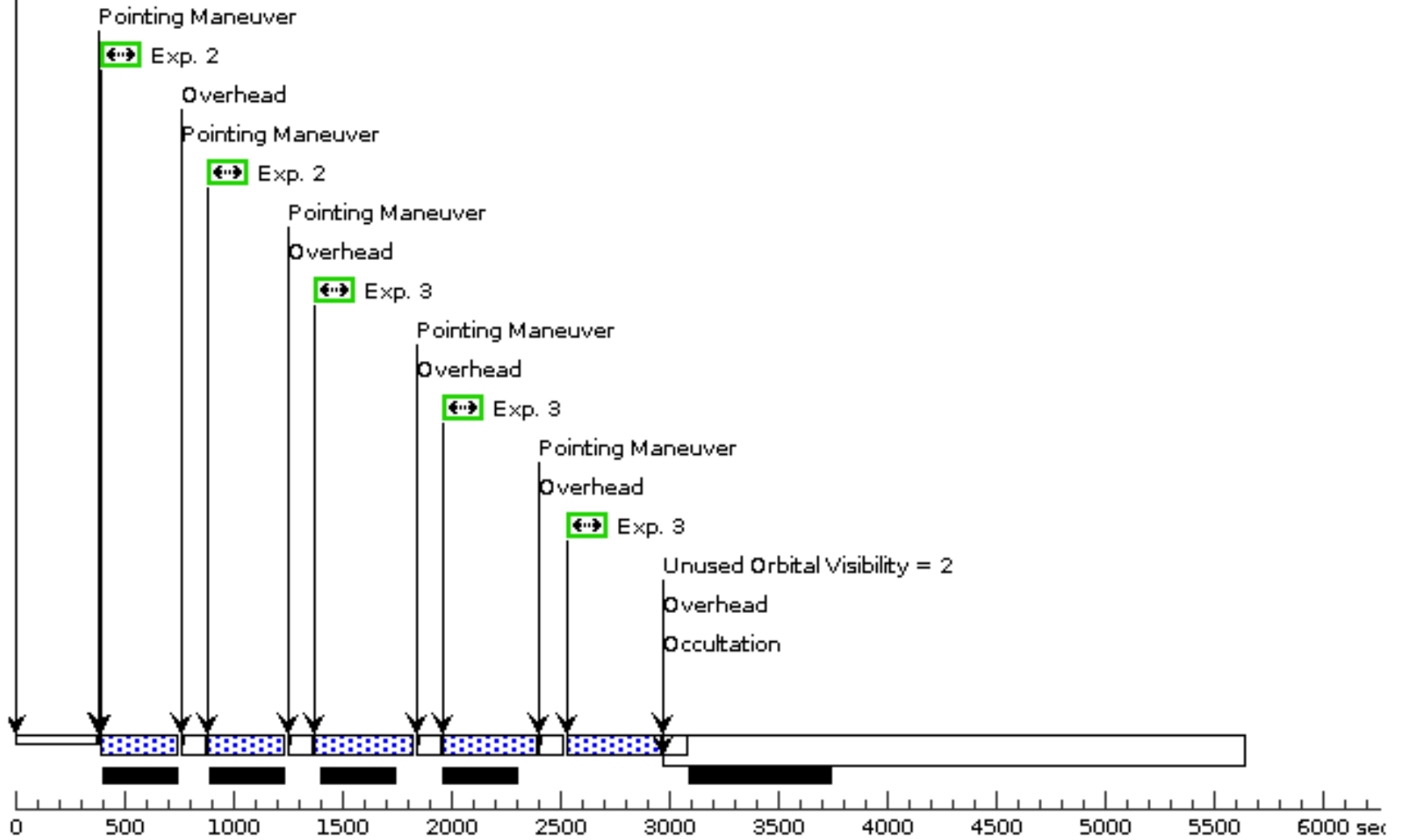
Orbit Structure

Orbit 1



Orbit 2

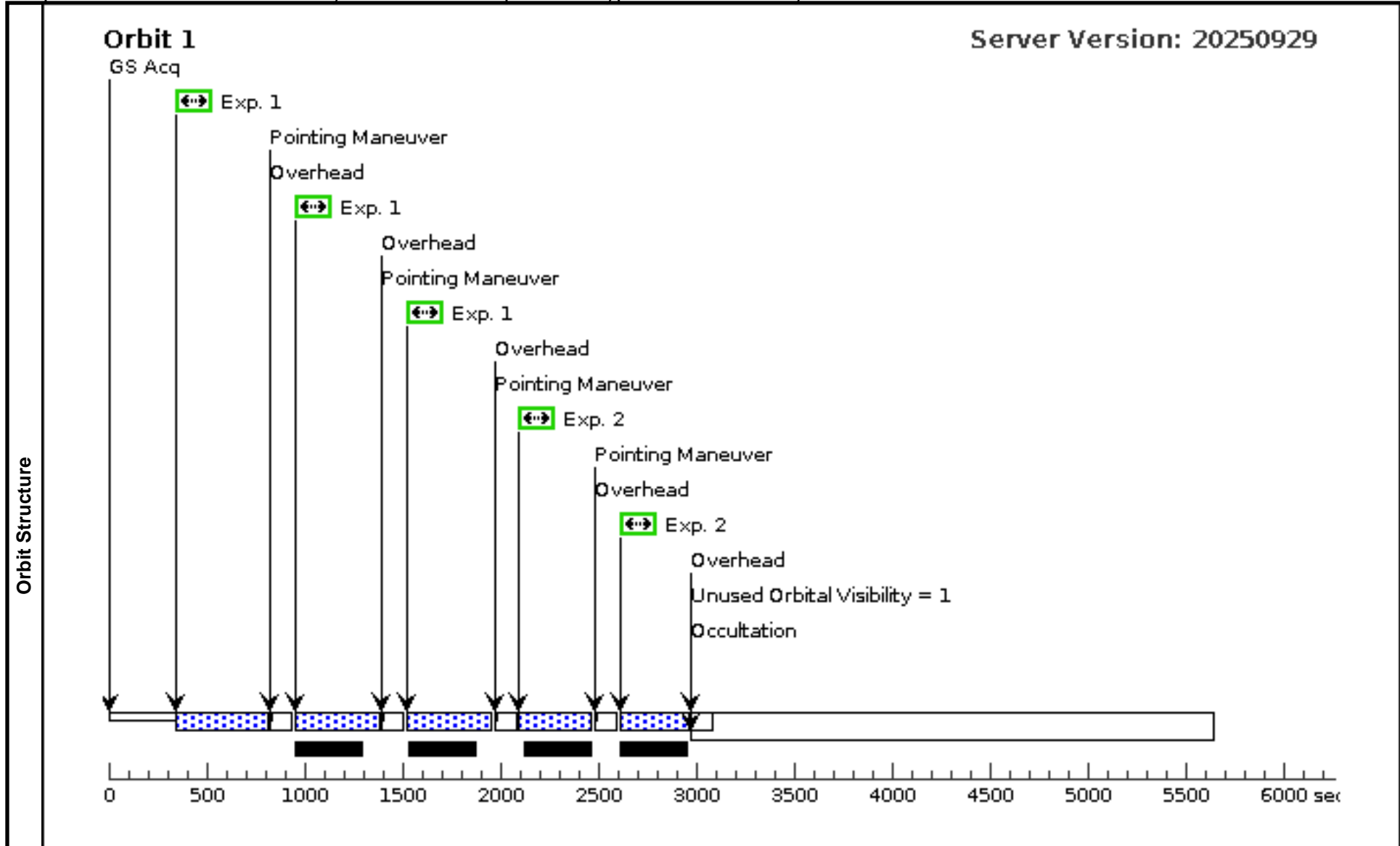
GS Reacq



Proposal 18189 - Visit 03 - X-ray emissions of a peculiar hyperluminous X-ray source

Thu Feb 12 12:00:15 GMT 2026

Visit	Proposal 18189, Visit 03 Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: BETWEEN 11-APR-2026 AND 25-APR-2026									
	(Exposure 3 (Pattern 3, Exps 3-3 in Visit 03)) Warning (Form): FLASH level may be too low for this exposure or a short subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(2)	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		(2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC6099	RA: 16 15 34.2000 (243.8925000d) Dec: +19 27 7.70 (19.45214d) Equinox: J2000		V=25+/-0.1	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[ACCRETION DISK, DWARF COMPACT]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F390W	FLASH=15		Pattern 3, Exps 1-1 in Visit 03 (3)	437 Secs (1311 Secs)	
									[==>(Pattern 1)]	[1]
									[==>(Pattern 2)]	
2	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F336W	FLASH=19		Pattern 2, Exps 2-2 in Visit 03 (2)	352 Secs (1408 Secs)		
								[==>(Pattern 1)]	[1]	
								[==>(Pattern 2)]		
								[==>(Pattern 3)]	[2]	
								[==>(Pattern 4)]		
3	(1) NGC6099	(1) NGC6099	WFC3/UVIS, ACCUM, UVIS	F814W	FLASH=5		Pattern 3, Exps 3-3 in Visit 03 (3)	434 Secs (1302 Secs)		
								[==>(Pattern 1)]	[2]	
								[==>(Pattern 2)]		
								[==>(Pattern 3)]		



Orbit 2

