14351 - The Black Hole Population in Galactic Globular Clusters

Cycle: 23, 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) NGC-6712	WFC3/UVIS	2	25-Sep-2015 21:18:46.0	yes

2 Total Orbits Used

ABSTRACT

We are engaged in a systematic search for stellar-mass black holes (BHs) in Galactic globular clusters, using a combination of deep radio continuum data, high-resolution X-ray observations, and optical images. Here we request 128 ksec of Chandra/ACIS observations to image the seven GCs in our sample with no or minimal archival Chandra data, enabling differentiation between accreting BHs, neutron stars, cataclysmic variables, and background galaxies. We also request two orbits of HST imaging to detect the optical counterpart to a BH candidate in one of these clusters.

OBSERVING DESCRIPTION

These observations consistent of broadband imaging of the globular cluster NGC 6712 with WFC3 to characterize the counterpart to a candidate accreting stellar-mass black hole. In the first orbit we take one short exposure and then a 4-point dither in F275W. In the second orbit we observe with F606W and F814W, with most of the time going to an un-equal length 3-point dither in F606W and a 2-point line dither in F814W. This orbit is bracketed by short exposures in the two filters.

Visit

Proposal 14351, main visit (01), implementation Sat Sep 26 01:18:48 GMT 2015

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 155D TO 295 D; ORIENT 335D TO 115 D

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		(2)

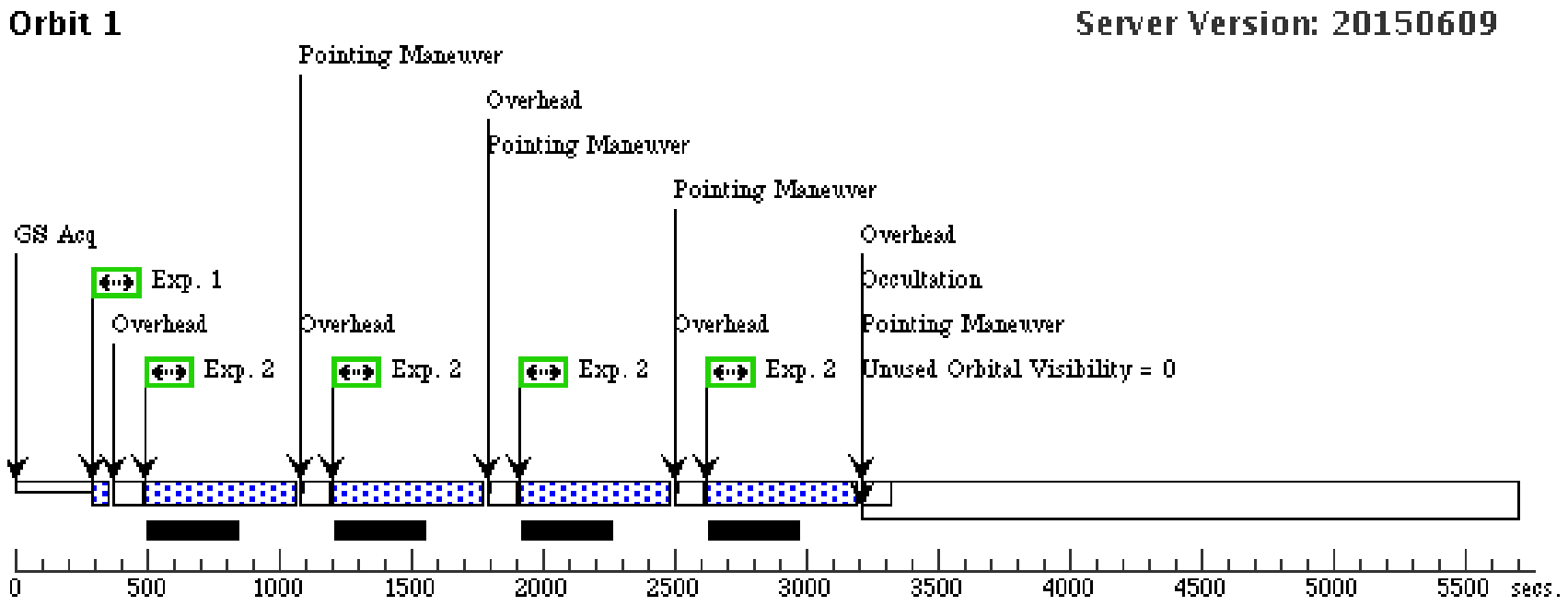
Fixed Targets

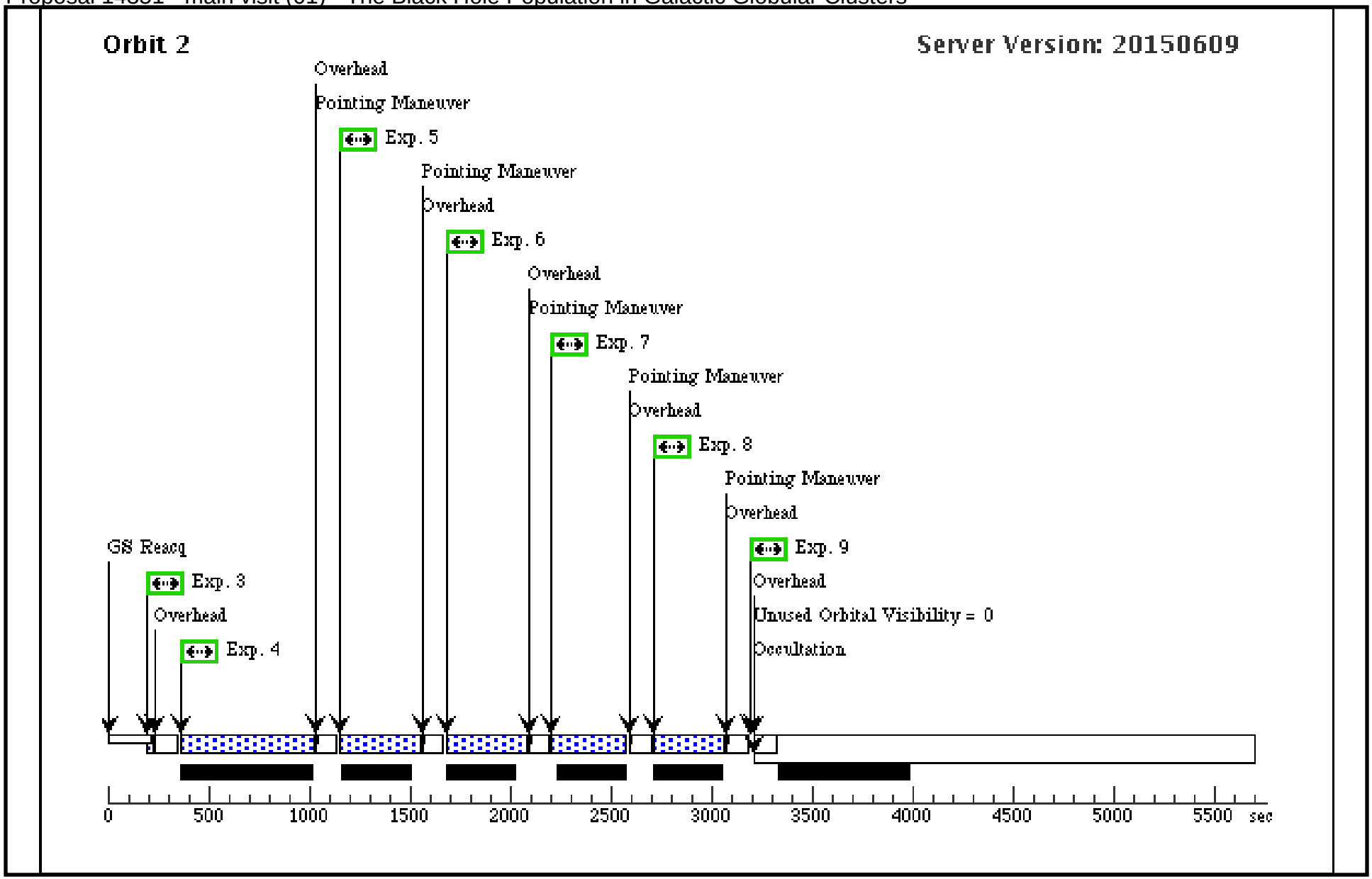
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC-6712	RA: 18 53 6.0800 (283.2753333d) Dec: -08 42 23.10 (-8.70642d) Equinox: J2000		V=8.69	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12			30 Secs (30 Secs)	
								[==>]	***[1]***
2		(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F275W	FLASH=12		Pattern 1, Exps 2-2 in main visit (01) (1)	575 Secs (2300 Secs)	
								[==>(Pattern 1)] *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	short V	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W	FLASH=12			7 Secs (7 Secs)	
								[==>]	***[2]***
4	long V	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W				665 Secs (665 Secs)	
								[==>]	***[2]***
5	med V	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W		POS TARG 0.092,0.098		399 Secs (399 Secs)	
								[==>]	***[2]***
6	med V	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F606W		POS TARG 0.185,0.197		399 Secs (399 Secs)	
								[==>]	***[2]***
7	long I	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=4			348 Secs (348 Secs)	
								[==>]	***[2]***
8	long I	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=4	POS TARG 0.099,0.106		348 Secs (348 Secs)	
								[==>]	***[2]***
9	short I	(1) NGC-6712	WFC3/UVIS, ACCUM, UVIS-CENTER	F814W	FLASH=12			7 Secs (7 Secs)	
								[==>]	***[2]***

Orbit Structure




Orbit 2
Server Version: 20150609
Overhead
Pointing Maneuver
Exp. 5
Pointing Maneuver
Overhead
Exp. 6
Overhead
Pointing Maneuver
Exp. 7
Pointing Maneuver
Overhead
Exp. 8
Pointing Maneuver
Overhead
Exp. 9
Overhead
Unused Orbital Visibility = 0
Occultation
GS Reacq
Exp. 3
Overhead
Exp. 4
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec