12686 - Sw J2058+05: A Possible Second Relativistic Tidal Disruption Flare

Cycle: 18, Proposal Category: GO/DD

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Stephen Bradley Cenko (PI)	**University of California - Berkeley**	**bcenko@astro.berkeley.edu**
Dr. Andrew J. Levan (CoI) (ESA Member)	The University of Warwick	a.j.levan@warwick.ac.uk
Dr. Joshua S. Bloom (CoI)	University of California - Berkeley	jbloom@astron.berkeley.edu
Prof. Nial R. Tanvir (CoI) (ESA Member)	University of Leicester	nrt3@star.le.ac.uk

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SWIFTJ2058	WFC3/IR WFC3/UVIS	1	11-Aug-2011 21:04:43.0	yes
02	(1) SWIFTJ2058	WFC3/IR WFC3/UVIS	1	11-Aug-2011 21:04:49.0	yes

2 Total Orbits Used

ABSTRACT

The recent discovery of the transient source Sw J1644+57 (aka GRB110328A) has unveiled an entirely new class of high-energy outbursts. Like GRBs, the outburst was believed to mark the birth of a relativistic jet, generating luminous X-ray and radio emission. However, the central engine powering Sw J1644+57 was the super-massive black hole in the nucleus of an otherwise normal (i.e., non-active) galaxy. The observed emission may result from the tidal disruption of a star passing too close to the central black hole. Here we request observations of a newly identified high-energy transient, Sw J2058+05, that shares many of the same properties. HST observations will allow us to precisely locate the transient emission with respect to the host galaxy nucleus (cementing the association with a super-massive black hole). These observations will also allow us to better

constrain fundamental properties of the host galaxy (morphology, stellar and black hole mass), which is of vital importance for the theoretical interpretation of these sources.

OBSERVING DESCRIPTION

TBD

Visit

Proposal 12686, Visit 01 Fri Aug 12 01:04:53 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: BETWEEN 29-AUG-2011:00:00:00 AND 15-SEP-2011:00:00:00

Patterns

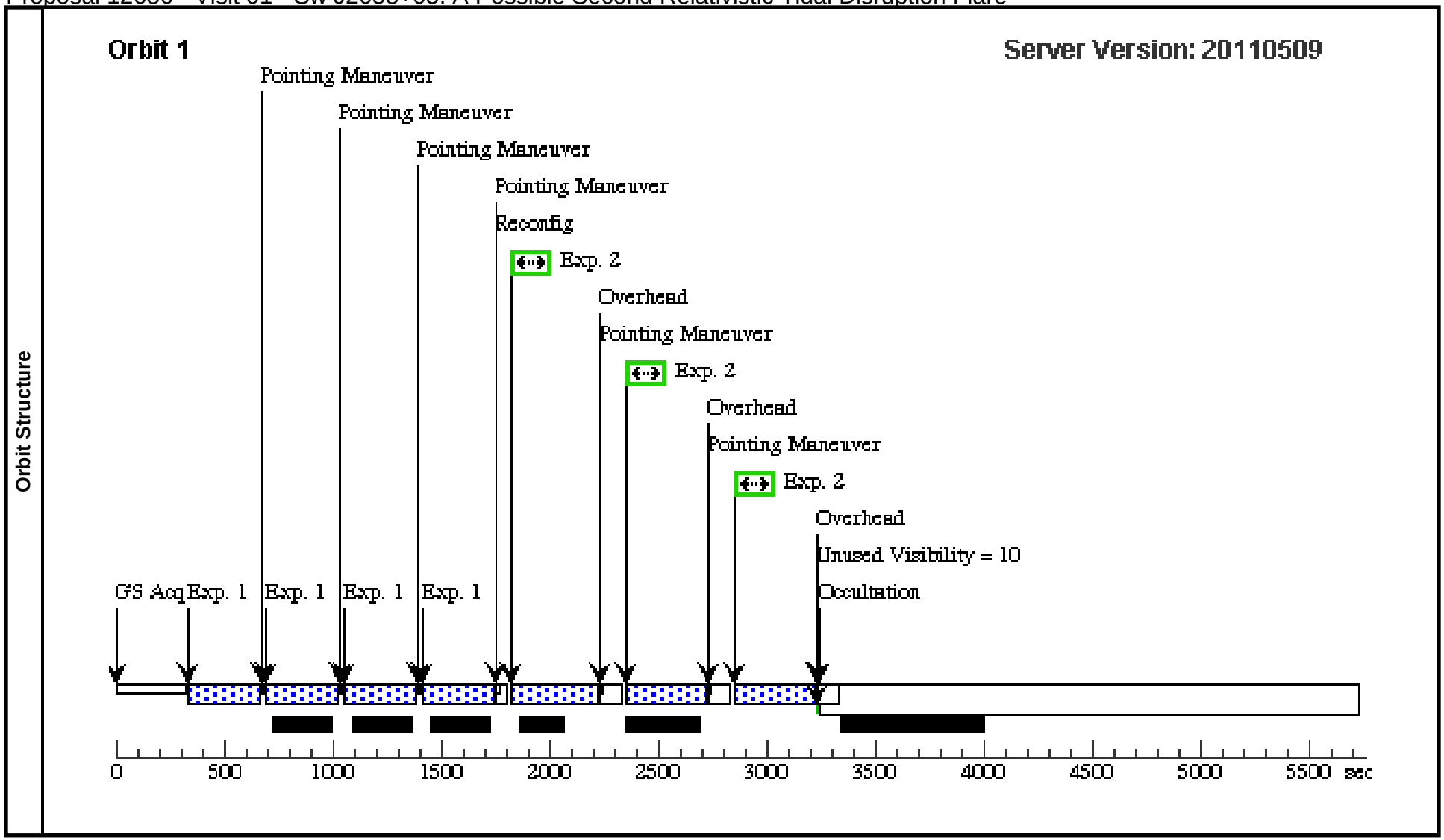
#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)
(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SWIFTJ2058	RA: 20 58 19.8980 (314.5829083d) Dec: +05 13 32.25 (5.22562d) Equinox: J2000	Redshift: 1.1853	V=23.5+/-0.5	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SWIFTJ2058	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP50; NSAMP=11		Pattern 2, Exps 1-1 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) SWIFTJ2058	WFC3/UVIS, ACCUM, UVIS	F475W			Pattern 1, Exps 2-2 in Visit 01 (1)	370.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20110509
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Overhead
Unused Visibility = 10
Occultation
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12686, Visit 02 Fri Aug 12 01:04:55 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: AFTER_01 BY 90 D TO 180.0 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	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		(2)
(2)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
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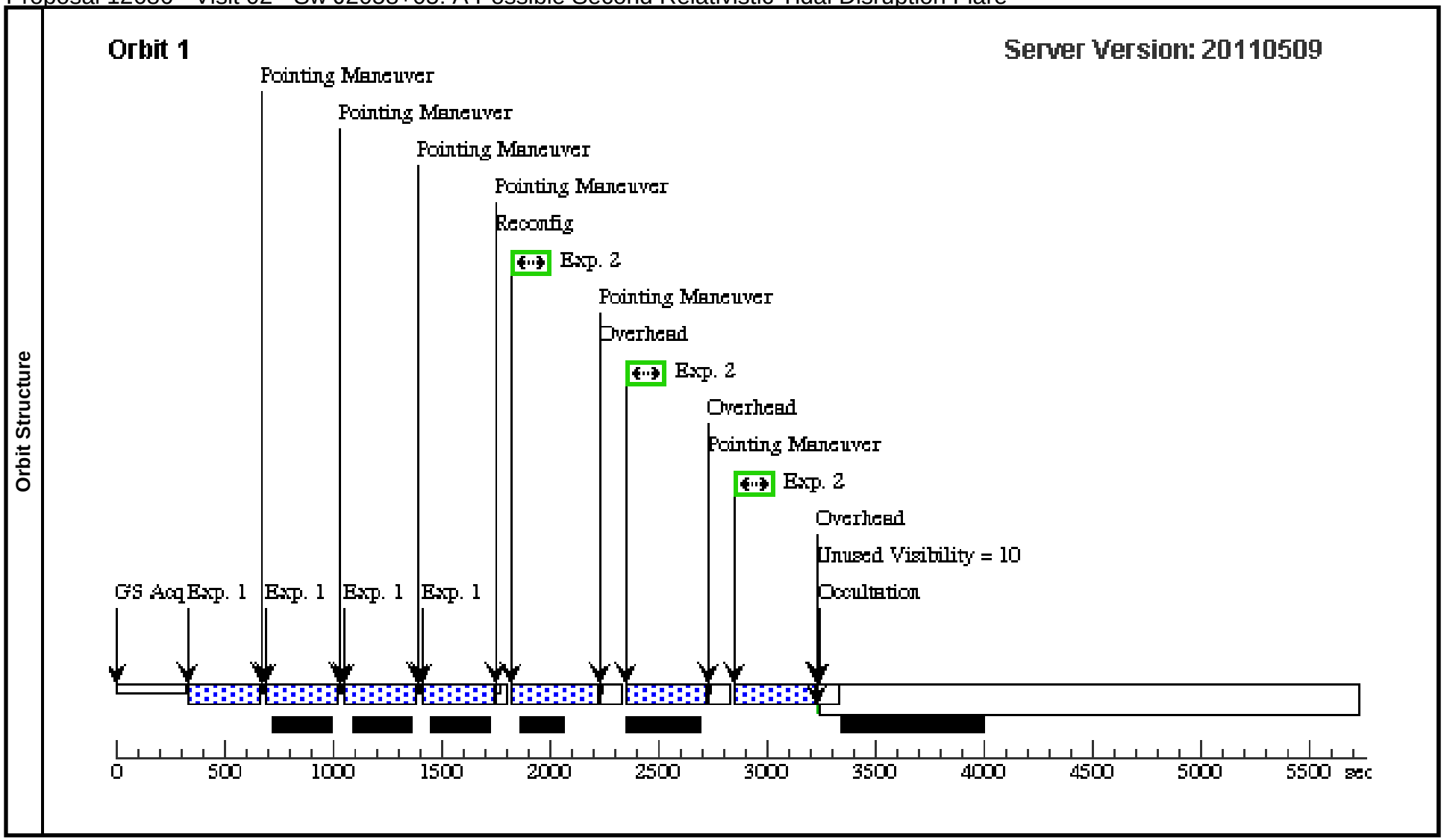
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) SWIFTJ2058	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50		Pattern 2, Exps 1-1 in Visit 02 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2		(1) SWIFTJ2058	WFC3/UVIS, ACCUM, UVIS	F475W			Pattern 1, Exps 2-2 in Visit 02 (1)	370.0 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[1]***


Orbit 1
Server Version: 20110509
Orbit Structure
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Exp. 2
Pointing Maneuver
Overhead
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Overhead
Unused Visibility = 10
Occultation
GS Acq
Exp. 1
Exp. 1
Exp. 1
Exp. 1
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec