13371 - HST/WFC3 UVIS Imaging of Tidal Disruption Event PS1-10jh

Cycle: 21, 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) PS1-10JH	WFC3/UVIS	3	08-Oct-2013 21:39:33.0	yes

3 Total Orbits Used

ABSTRACT

We propose for HST/WFC3 UVIS imaging of tidal disruption event candidate PS1-10jh, a UV/optical transient which is currently the most convincing example of an accretion-powered flare from the tidal disruption of a star by an otherwise dormant supermassive black hole. The proposed observations will critically test the tidal disruption event scenario, provide essential information for modeling the parameters of the event, and constrain theoretical models for the evolution of the accreting debris disk, by 1) determining the flare-nucleus separation much more accurately than ground-based observations, 2) measuring the late-time NUV emission from the flare, and 3) obtaining more accurate independent constraints on the central black hole mass.

OBSERVING DESCRIPTION

We are using 3 orbits of HST/WFC3 UVIS observations to image PS1-10jh and its host galaxy in the F225W and F625W filters. We will take a total of 3.6 ksec of exposure in each filter, using hte box-dither pattern (WFC3-UVIS-DITHER-BOX) for cosmic-ray removal and improved sampling of the point spread function.

Proposal 13371 - Visit 01 - HST/WFC3 UVIS Imaging of Tidal Disruption Event PS1-10jh

Visit

Proposal 13371, Visit 01, implementation Wed Oct 09 01:39:42 GMT 2013

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

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		(1), (2)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	PS1-10JH	RA: 16 09 28.2761 (242.3678171d) Dec: +53 40 23.99 (53.67333d) Equinox: J2000		V=21.43+/-0.05	Reference Frame: ICRS

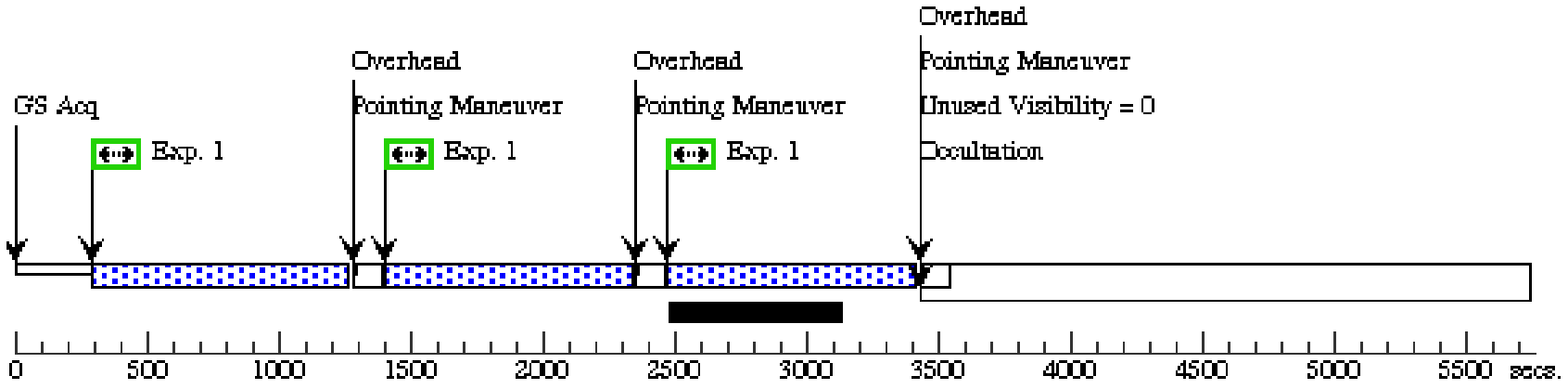
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) PS1-10JH	WFC3/UVIS, ACCUM, UVIS	F225W	FLASH=10		Pattern 1, Exps 1-1 in Visit 01 (1)	900 Secs (3791 Secs)	
								[==>941.0 Secs (Pattern 1)] *[==>940.0 Secs (Pattern 2)]* *[==>940.0 Secs (Pattern 3)]*	***[1]***
								[==>970.0 Secs (Pattern 4)]	***[2]***
2		(1) PS1-10JH	WFC3/UVIS, ACCUM, UVIS	F625W			Pattern 1, Exps 2-2 in Visit 01 (1)	900 Secs (5014 Secs)	
								[==>971.0 Secs (Pattern 1)] *[==>971.0 Secs (Pattern 2)]*	***[2]***
								[==>1536.0 Secs (Pattern 3)] *[==>1536.0 Secs (Pattern 4)]*	***[3]***

Orbit Structure

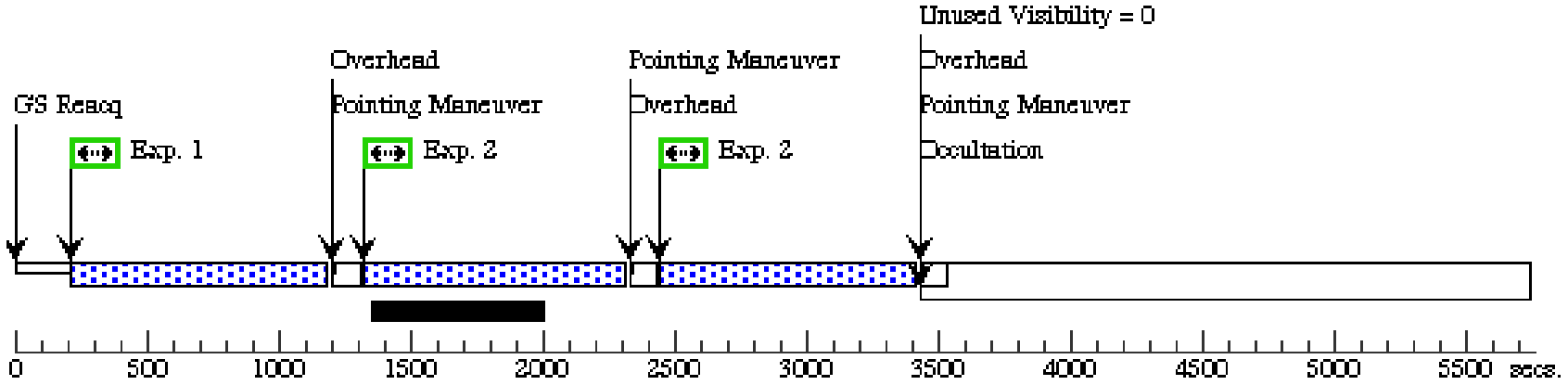
Orbit 1

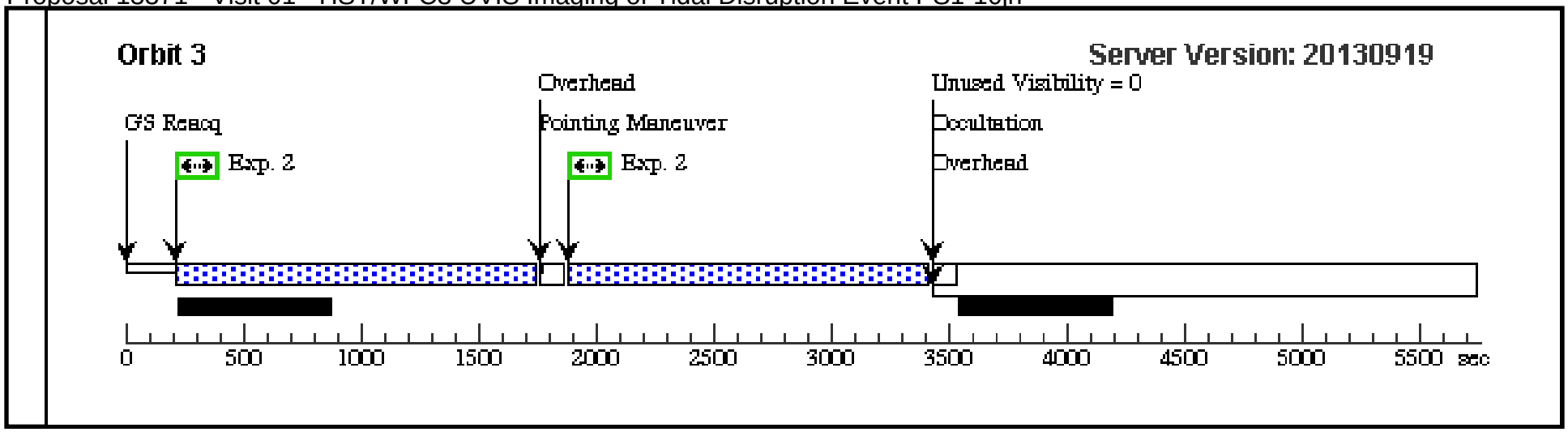
Server Version: 20130919



Orbit 2

Server Version: 20130919




Orbit 3
Server Version: 20130919
GS Reacq
Exp. 2
Overhead
Pointing Maneuver
Exp. 2
Unused Visibility = 0
Occultation
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec