



14720 - Photometric Mapping of the Galactic Outflow in NGC 7552

Cycle: 24, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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) NGC-7552	WFC3/UVIS	4	27-Jun-2017 21:04:20.0	yes
02	(1) NGC-7552	WFC3/UVIS	3	27-Jun-2017 21:04:22.0	yes
05	(1) NGC-7552	WFC3/UVIS	3	27-Jun-2017 21:04:23.0	yes
04	(1) NGC-7552	WFC3/UVIS	4	27-Jun-2017 21:04:26.0	yes

14 Total Orbits Used

ABSTRACT

In this program we will explore a new technique designed to map the structure of galactic outflows from star-forming regions within a galaxy, using a combination of broad- and narrow-band UV photometry. The technique will reveal sub galactic-scale structures in outflowing gas and their correlation with spatial structures in the underlying galaxy. The exploratory data will be of the galaxy NGC7552; if the technique proves successful, future similar programs will shed light on the typical length scales associated with outflows, their origin, acceleration means, and overall geometry. This in turn will help to better assess the mass loss rates and kinetic luminosities of galactic outflows, and provide crucial input for galaxy formation

models.

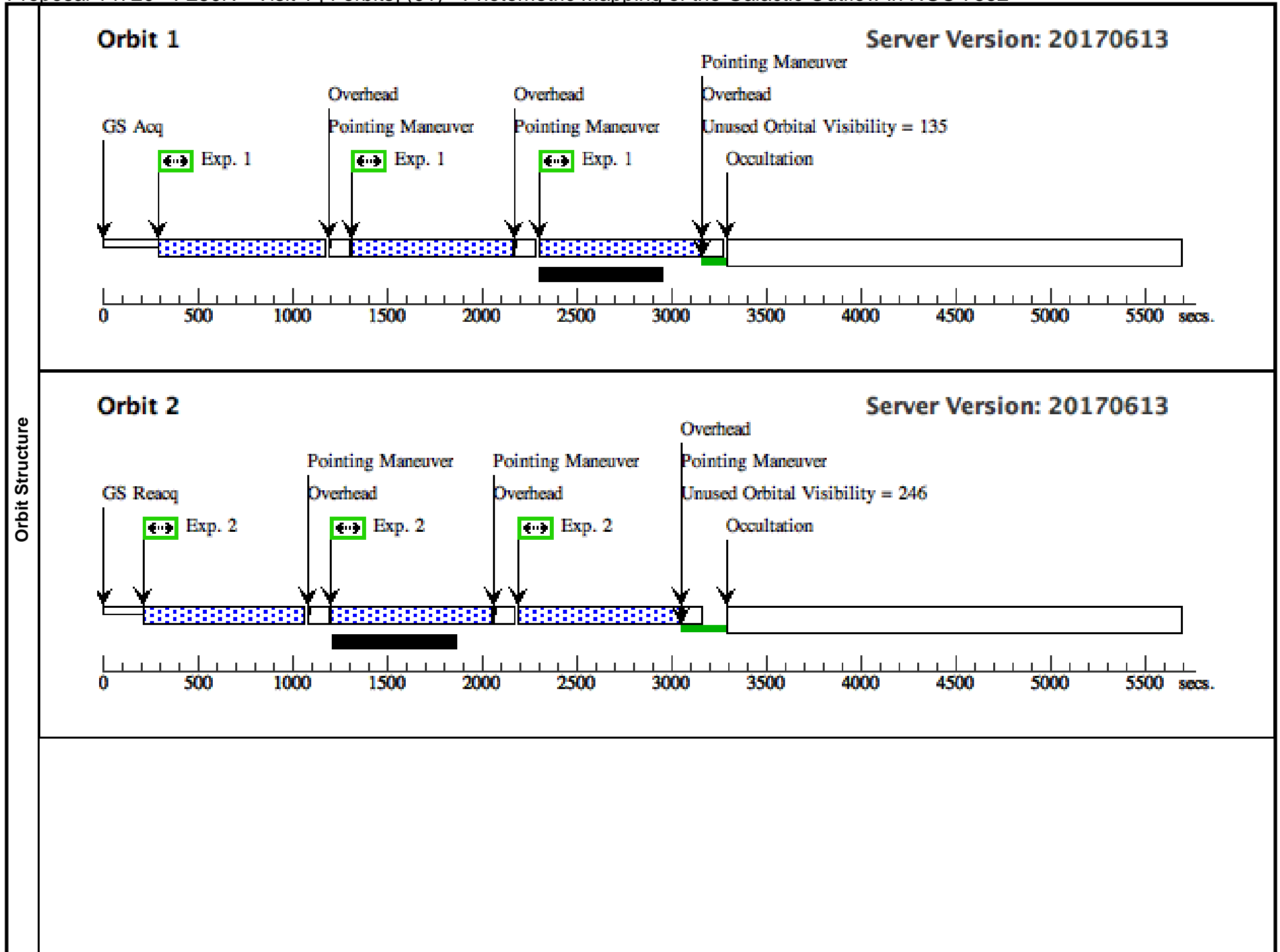
OBSERVING DESCRIPTION

We will observe the galaxy NGC 7552 using WFC3 and the F275W (1 orbit), F218W (3 orbits), and F280N (10 orbits) filters with principle aim of achievng high photometric accuracy across as large a region of the galaxy possible. In order to cover as much of the galaxy as possible in all 3 filters, we seek to constrain the ORIENTs of all the observations to within two narrow ranges, 121-161 and 295-345 degrees. Ideally, all data would be taken at the same ORIENT, but this may be difficult to schedule. A set of exposures taken within the specified ranges will still enable us to cover a large area of the galaxy. The galaxy will be centered on UVIS 2 to take advantage of the higher QE of chip and to mitigate CTE effects. The second of the ORIENT ranges will place a bright ($V=11.9$) (GALEX magnitude uncataloged) on chip 1, but it is thought that saturation of the star will not degrade the photometry of chip 2. Exposure times of individual exposures are set to avoid saturation in the brightest regions of the galaxy.

Proposal 14720 - F280N - Visit 1 [4 orbits] (01) - Photometric Mapping of the Galactic Outflow in NGC 7552

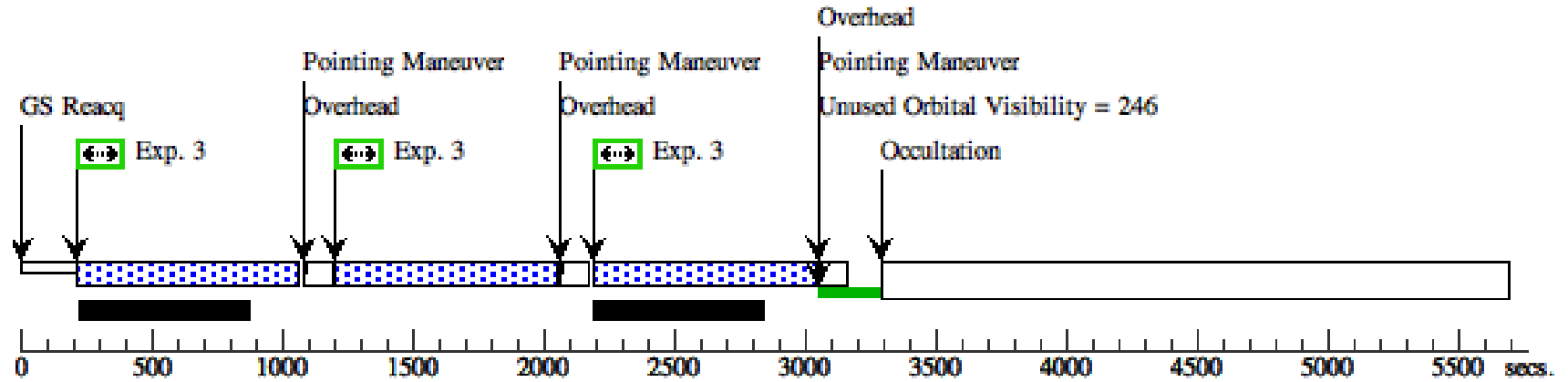
Wed Jun 28 01:04:28 GMT 2017

Visit	Proposal 14720, F280N - Visit 1 [4 orbits] (01), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 290D TO 290 D									
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Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.96 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-7552	RA: 23 16 10.6522 (349.0443842d) Dec: -42 35 5.50 (-42.58486d) Equinox: J2000	Radial Velocity: 1608 km/sec	V=11.25	Reference Frame: NED				
<i>Comments: Position comes from WFPC2 image hst_06358_20_wfpc2_f218w_wf_drz.fits of the center of the galaxy, where the WFPC2 image was retrieved from the HLA</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 1-1 in F280N - Visit 1 [4 orbits] (01) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	2	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 2-2 in F280N - Visit 1 [4 orbits] (01) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]
	3	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 3-3 in F280N - Visit 1 [4 orbits] (01) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[3]
	4	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 4-4 in F280N - Visit 1 [4 orbits] (01) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[4]



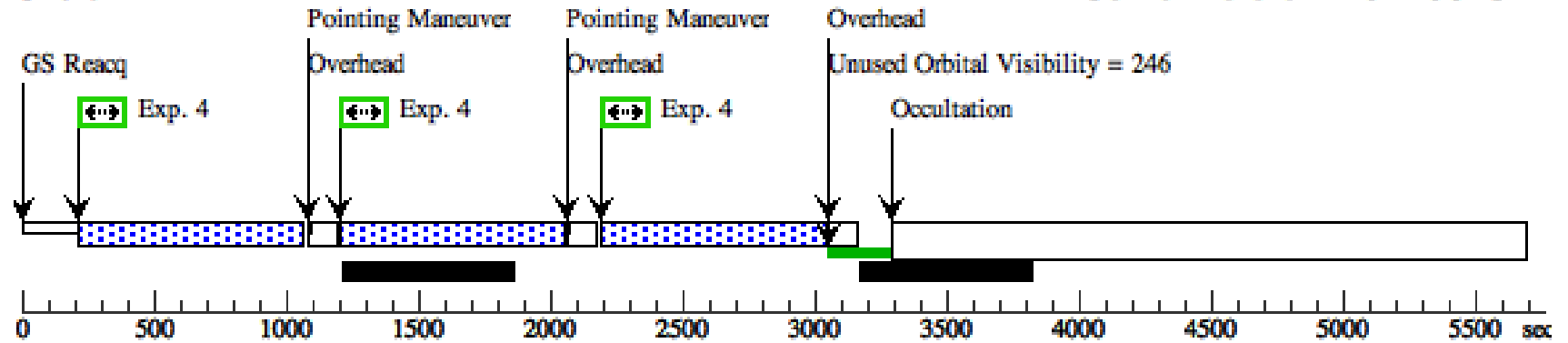
Orbit 3

Server Version: 20170613



Orbit 4

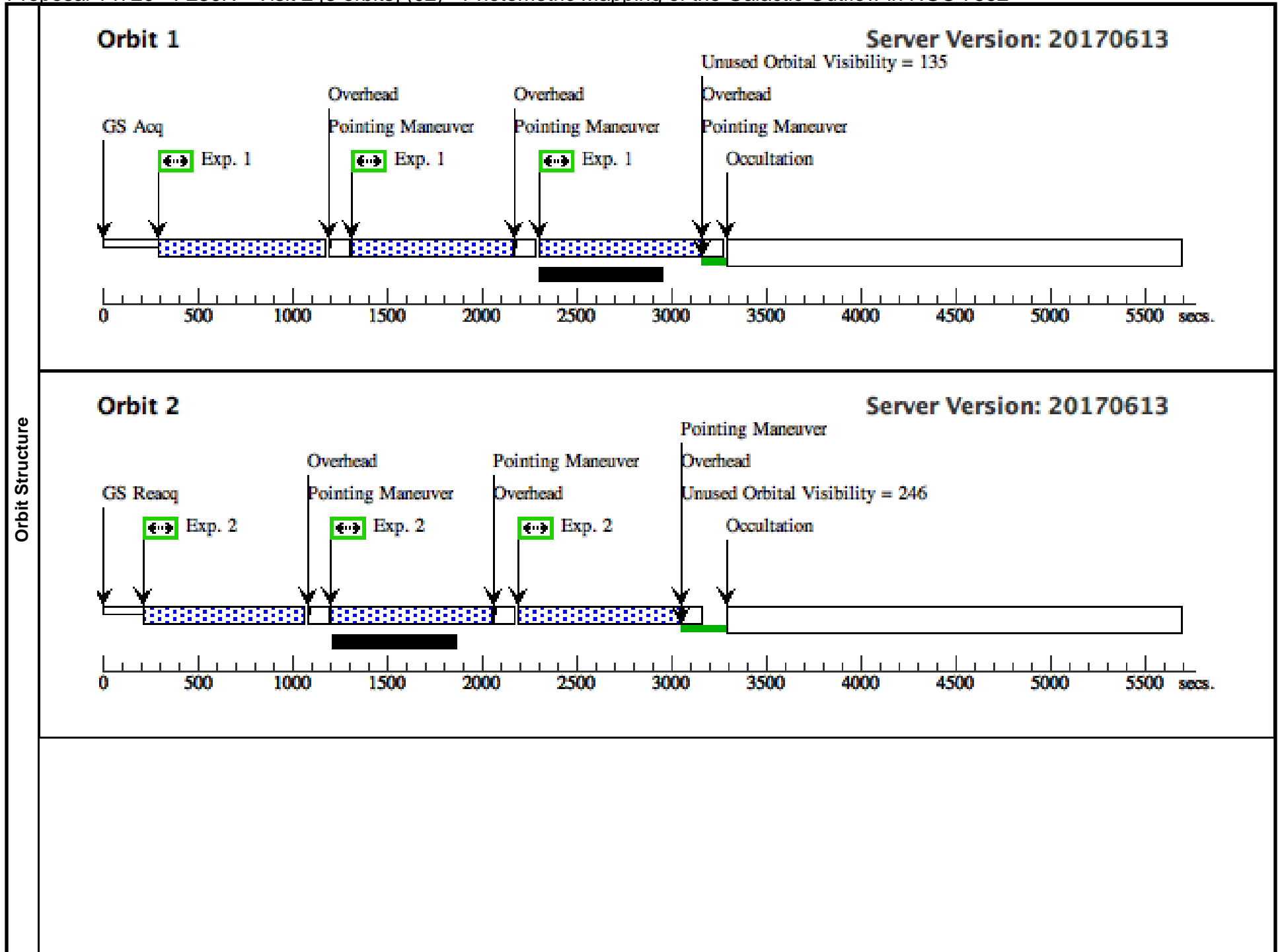
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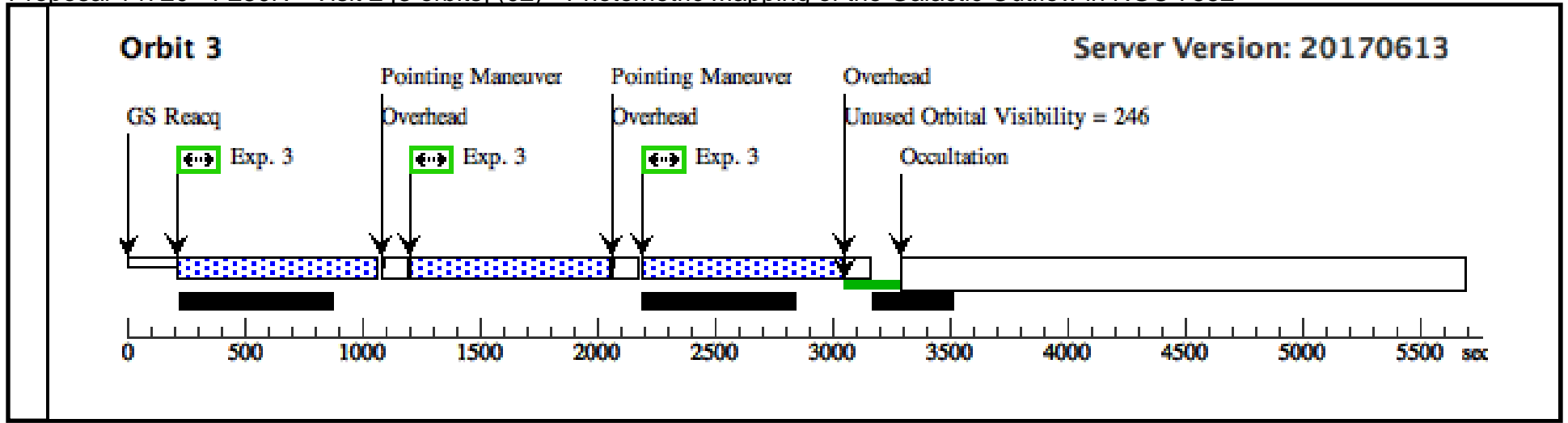


Proposal 14720 - F280N - Visit 2 [3 orbits] (02) - Photometric Mapping of the Galactic Outflow in NGC 7552

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Visit	Proposal 14720, F280N - Visit 2 [3 orbits] (02), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT -5D TO 5D FROM 01									
	(Exposure 1 (Pattern 1, Exps 1-1 in F280N - Visit 2 [3 orbits] (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser (Exposure 2 (Pattern 1, Exps 2-2 in F280N - Visit 2 [3 orbits] (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser (Exposure 3 (Pattern 1, Exps 3-3 in F280N - Visit 2 [3 orbits] (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.96 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (2), (3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-7552	RA: 23 16 10.6522 (349.0443842d) Dec: -42 35 5.50 (-42.58486d) Equinox: J2000	Radial Velocity: 1608 km/sec	V=11.25	Reference Frame: NED				
<i>Comments: Position comes from WFPC2 image hst_06358_20_wfpc2_f218w_wf_drz.fits of the center of the galaxy, where the WFPC2 image was retrieved from the HLA</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 1-1 in F280N - Visit 2 [3 orbits] (02) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	2	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 2-2 in F280N - Visit 2 [3 orbits] (02) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]
	3	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 3-3 in F280N - Visit 2 [3 orbits] (02) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[3]

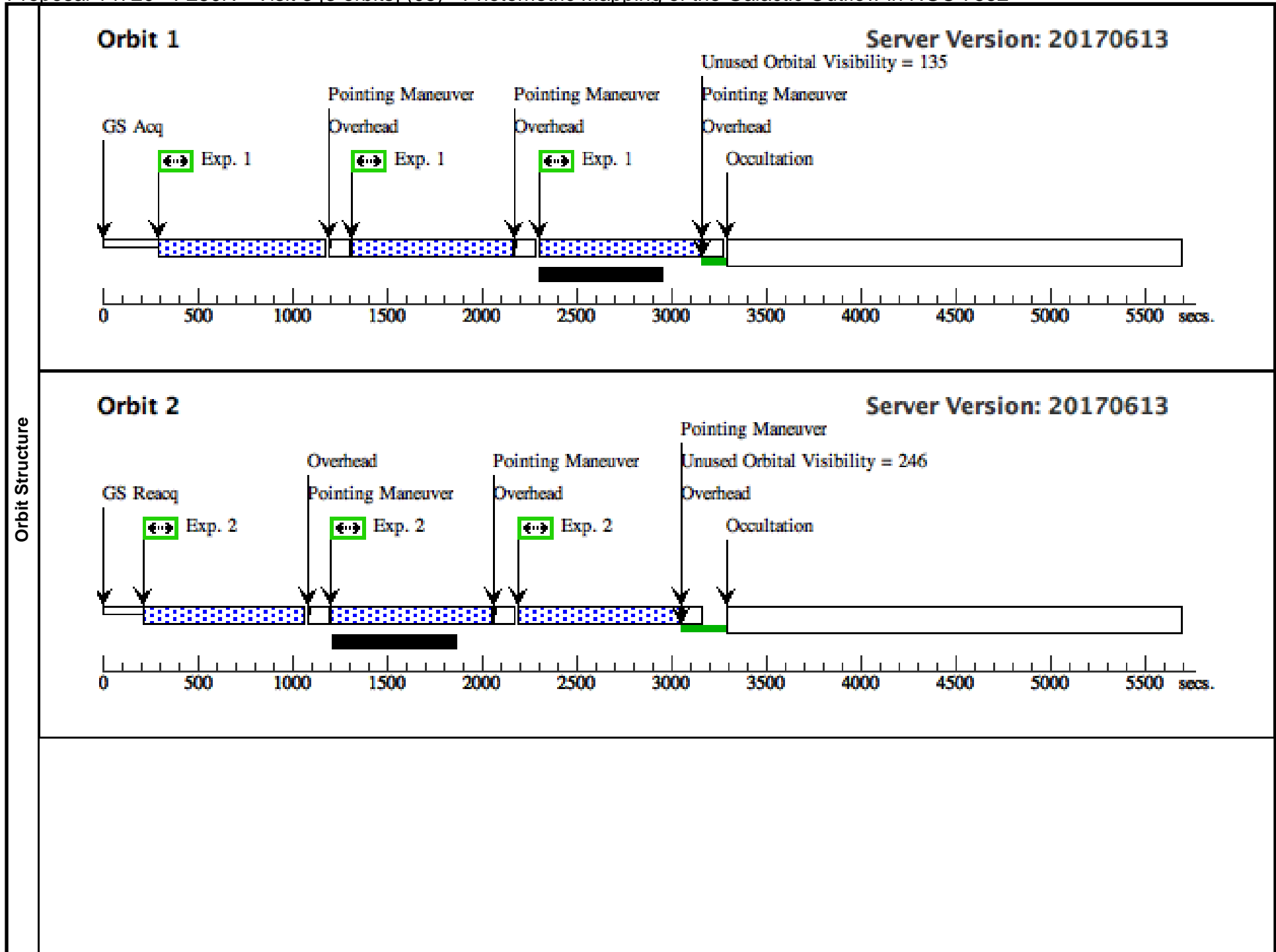


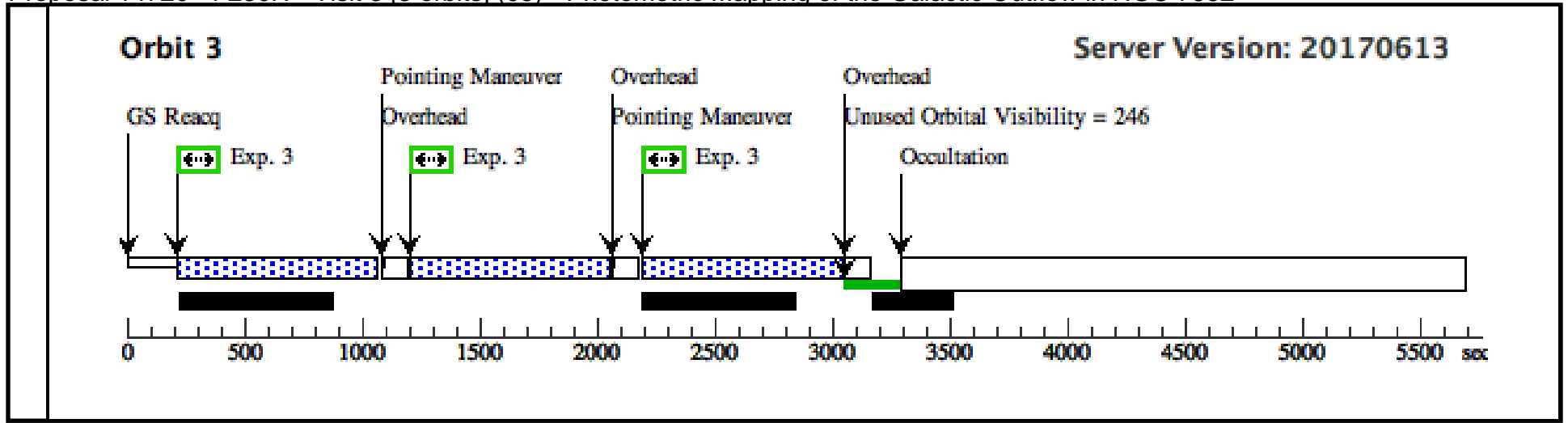


Proposal 14720 - F280N - Visit 3 [3 orbits] (05) - Photometric Mapping of the Galactic Outflow in NGC 7552

Wed Jun 28 01:04:28 GMT 2017

Visit	Proposal 14720, F280N - Visit 3 [3 orbits] (05), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT -5D TO 5D FROM 01									
	(Exposure 1 (Pattern 1, Exps 1-1 in F280N - Visit 3 [3 orbits] (05))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser (Exposure 2 (Pattern 1, Exps 2-2 in F280N - Visit 3 [3 orbits] (05))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser (Exposure 3 (Pattern 1, Exps 3-3 in F280N - Visit 3 [3 orbits] (05))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser									
Diagnosics										
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.96 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (2), (3)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	NGC-7552	RA: 23 16 10.6522 (349.0443842d) Dec: -42 35 5.50 (-42.58486d) Equinox: J2000	Radial Velocity: 1608 km/sec	V=11.25	Reference Frame: NED				
<i>Comments: Position comes from WFPC2 image hst_06358_20_wfpc2_f218w_wf_drz.fits of the center of the galaxy, where the WFPC2 image was retrieved from the HLA</i>										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 1-1 in F280N - Visit 3 [3 orbits] (05) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[1]
	2	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 2-2 in F280N - Visit 3 [3 orbits] (05) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[2]
	3	(1) NGC-7552	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F280N	FLASH=14.0		Pattern 1, Exps 3-3 in F280N - Visit 3 [3 orbits] (05) (1)	850 Secs (2550 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)]	[3]





Proposal 14720 - F275W and F218W [1 + 3 orbits] (04) - Photometric Mapping of the Galactic Outflow in NGC 7552

Visit	Proposal 14720, F275W and F218W [1 + 3 orbits] (04), scheduling Wed Jun 28 01:04:28 GMT 2017 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT -5D TO 5D FROM 01					
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures	
(1)		Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.96 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	NGC-7552	RA: 23 16 10.6522 (349.0443842d) Dec: -42 35 5.50 (-42.58486d) Equinox: J2000	Radial Velocity: 1608 km/sec	V=11.25	Reference Frame: NED
Comments: Position comes from WFPC2 image hst_06358_20_wfpc2_f218w_wf_drz.fits of the center of the galaxy, where the WFPC2 image was retrieved from the HLA						

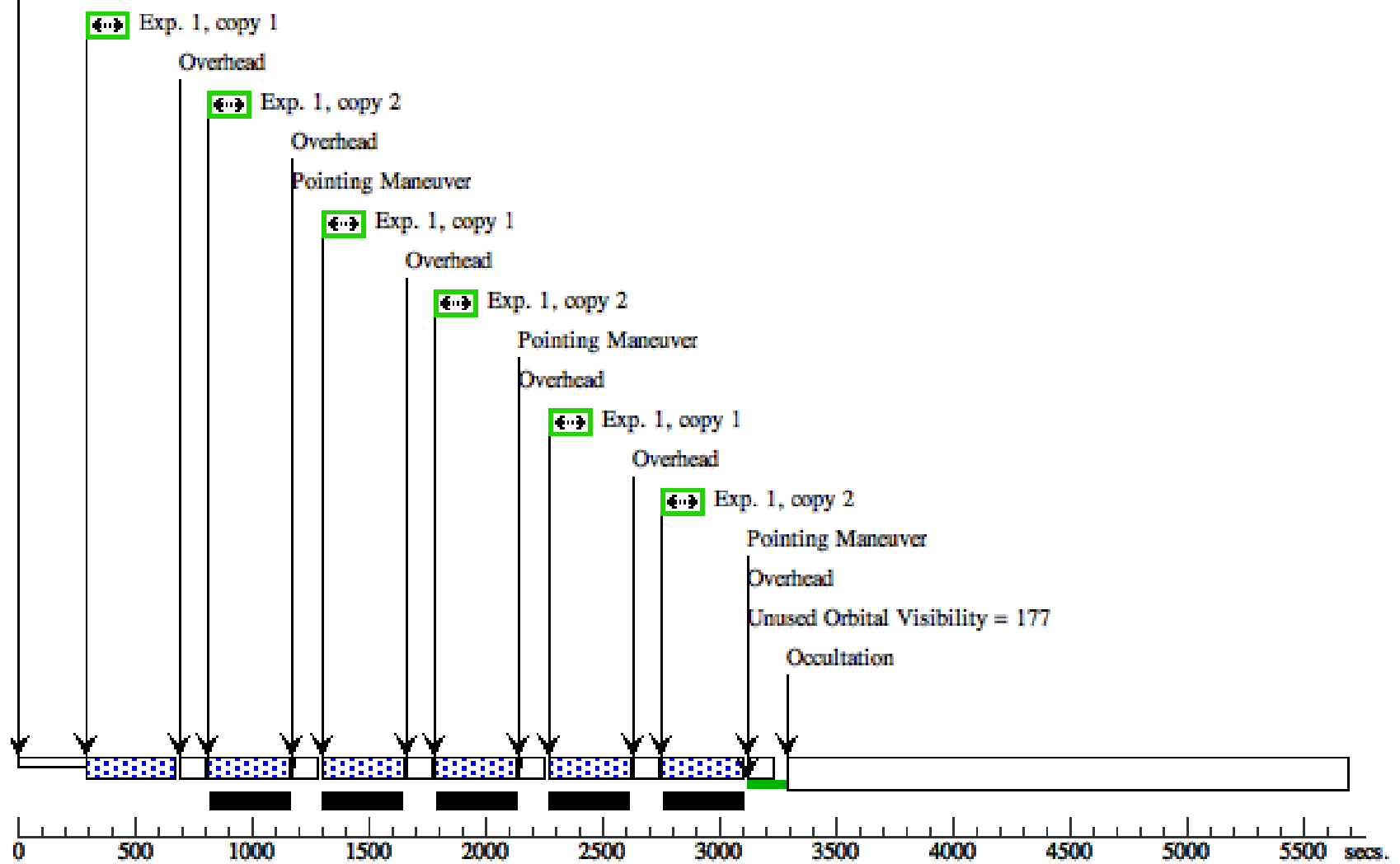
Proposal 14720 - F275W and F218W [1 + 3 orbits] (04) - Photometric Mapping of the Galactic Outflow in NGC 7552

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	F275W - 1 orbit	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F275W	FLASH=14.0	Pattern 1, Exps 1-1 in F275W and F218W [1 + 3 orbits] (04) (1)	350 Secs X 2 (2100 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 3, Copy 1)] [=>(Pattern 3, Copy 2)]	[1]
	2	F218W - 3 orbits	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F218W	FLASH=14.0	Pattern 1, Exps 2-2 in F275W and F218W [1 + 3 orbits] (04) (1)	350 Secs X 2 (2100 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 3, Copy 1)] [=>(Pattern 3, Copy 2)]	[2]
	3	F218W - 3 orbits	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F218W	FLASH=14.0	Pattern 1, Exps 3-3 in F275W and F218W [1 + 3 orbits] (04) (1)	350 Secs X 2 (2100 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 3, Copy 1)] [=>(Pattern 3, Copy 2)]	[3]
	4	F218W - 3 orbits	(1) NGC-7552	WFC3/UVIS, ACCUM, UVIS2-FIX	F218W	FLASH=14.0	Pattern 1, Exps 4-4 in F275W and F218W [1 + 3 orbits] (04) (1)	350 Secs X 2 (2100 Secs) [=>(Pattern 1, Copy 1)] [=>(Pattern 1, Copy 2)] [=>(Pattern 2, Copy 1)] [=>(Pattern 2, Copy 2)] [=>(Pattern 3, Copy 1)] [=>(Pattern 3, Copy 2)]	[4]

Orbit Structure

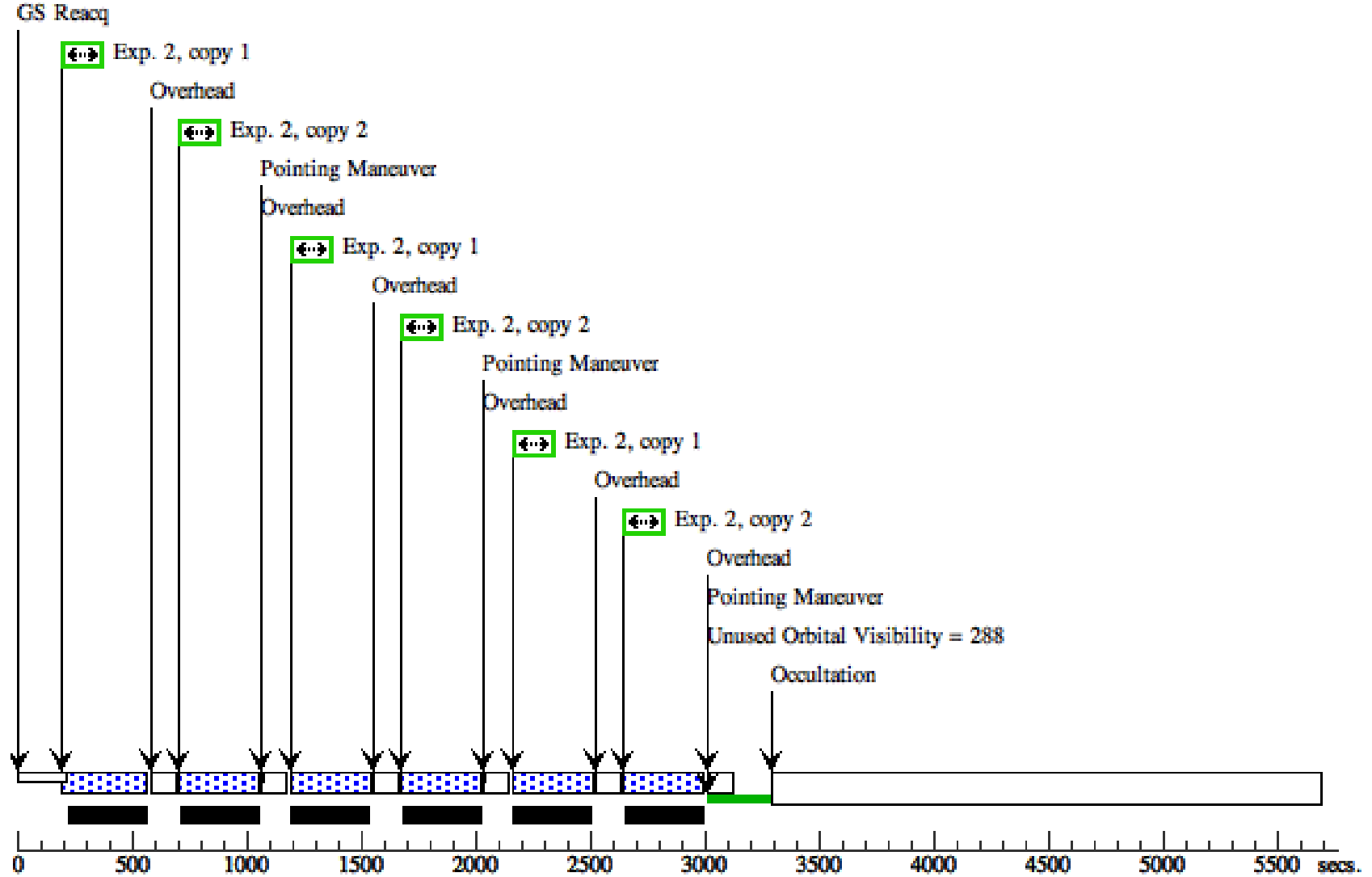
Orbit 1

GS Acq



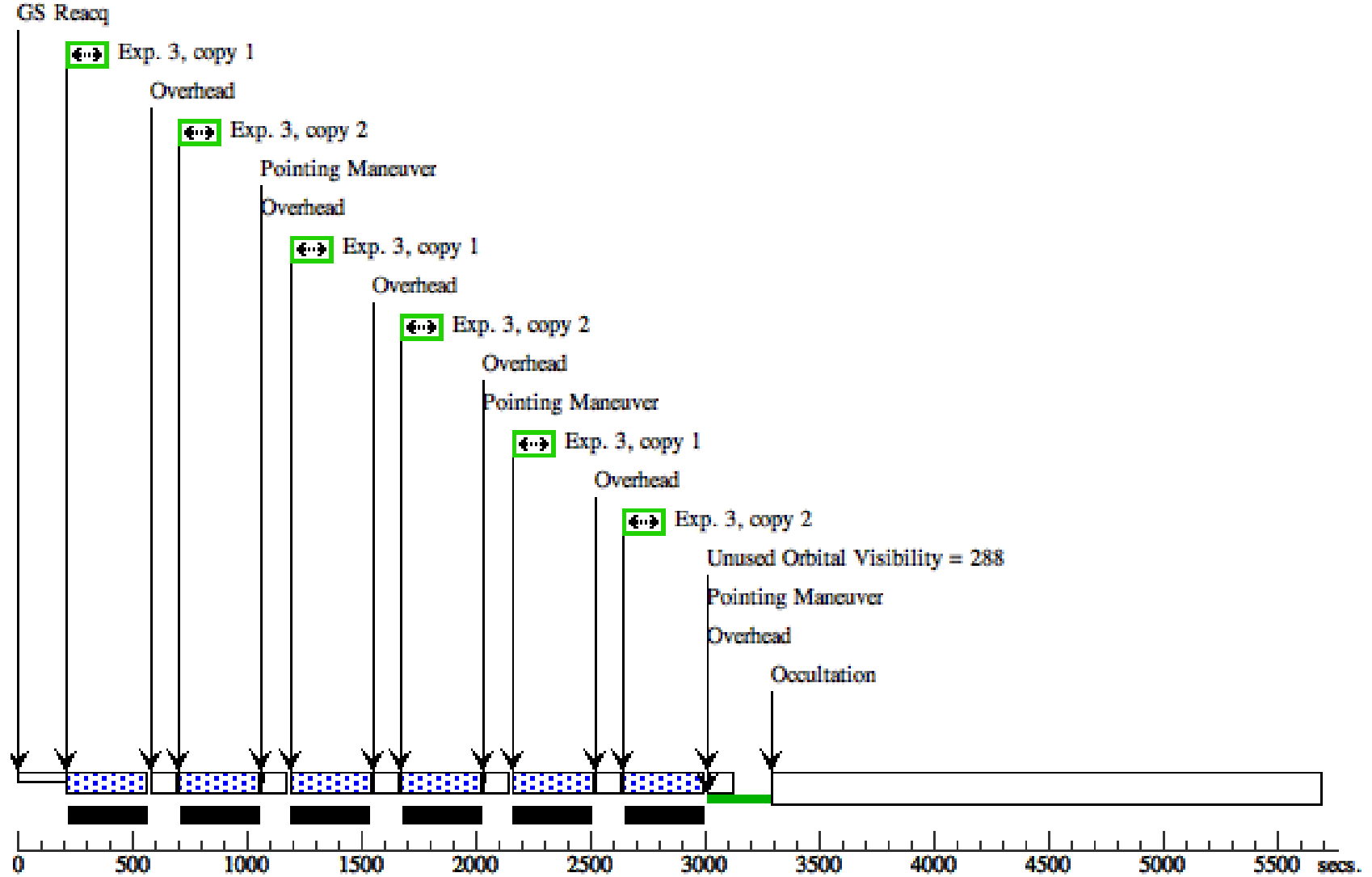
Orbit 2

Server Version: 20170613



Orbit 3

Server Version: 20170613



Orbit 4

GS Reacq

