15909 - Precision Measurement of Black Hole Masses in Early-Type Galaxies from the ALMA Archive

Cycle: 27, 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) HYDRA-A	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:39.0	yes
02	(2) NGC-612	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:40.0	yes
03	(3) NGC-997	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:42.0	yes
04	(4) NGC-1387	WFC3/IR	1	24-Jul-2019 22:01:44.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
05	(5) NGC-3245	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:45.0	yes
06	(6) NGC-3271	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:46.0	yes
07	(7) NGC-3862	WFC3/IR	1	24-Jul-2019 22:01:48.0	yes
08	(8) NGC-4061	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:49.0	yes
09	(9) NGC-4261	WFC3/IR	1	24-Jul-2019 22:01:51.0	yes
10	(10) NGC-4373A	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:53.0	yes
11	(11) NGC-4429	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:54.0	yes
12	(12) NGC-4435	WFC3/IR	1	24-Jul-2019 22:01:56.0	yes
13	(13) NGC-4751	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:58.0	yes
14	(14) NGC-4797	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:01:59.0	yes
15	(15) NGC-5084	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:02:00.0	yes
16	(16) NGC-5193	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:02:01.0	yes
17	(17) NGC-5208	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:02:03.0	yes
18	(18) NGC-6958	WFC3/IR WFC3/UVIS	1	24-Jul-2019 22:02:04.0	yes

18 Total Orbits Used

ABSTRACT

We have identified a sample of eighteen nearby early-type galaxies in the ALMA archive that are detected in CO at high S/N and show rotation-dominated kinematics. We anticipate that gas-dynamical modeling of their well-resolved molecular gas disks will result in black hole mass measurements with precisions of 20-30% or better, assuming the stellar luminosity profile can be accurately measured. Gas mass measurements and dust attenuation modeling suggest that the extinction may often exceed ~1 mag in the H-band. Circumnuclear dust will significantly obscure the stellar light in even near-IR data and, in some cases, may lead to the dominant uncertainty in the black hole mass error budget. Our early-type galaxies have no prior wide-field HST IR observations, and we propose a single orbit of WFC3 data for each of these eighteen galaxies as a final step to obtaining robust black hole mass measurements. We will employ the IR channel for all targets and the UVIS channel for fourteen of them, which will supplement archival HST observations. Using HST imaging in filters from B to H bands, we will determine central extinction levels and produce corrected H-band stellar luminosity profiles that account for dust extinction uncertainties. This HST program will double the number of early-type galaxies with both clean ALMA CO disk rotation and high-quality HST IR imaging, and will significantly increase the number of luminous E/S0 galaxies for which we can confidently measure their black hole masses.

OBSERVING DESCRIPTION

We will obtain WFC3/IR F110W and F160W imaging of eighteen early-type galaxies (ETGs); for fourteen of these, we will also obtain WFC3/UVIS F475W and/or F814W observations to supplement archival HST data. These eighteen targets host circumnuclear dust disks that obscure background galaxy light to an unknown degree. In addition to the F160W imaging in this program, UVIS and F110W observations will allow measures of their central dust extinction levels and thereby enable more confident recovery of their intrinsic stellar luminosity profiles.

Observations for each galaxy in this sample will be completed in a single orbit, requiring a total of eighteen orbits. At declinations ranging between -42 and +28 degrees, these galaxies have visibility periods of about 54 minutes. The largest single overhead is six minutes for guide star acquisition. To avoid time lost to buffer dumps when using up to four filters per orbit, we have carefully arranged the individual observations and employed subarray apertures for the UVIS and F110W data. The projected dusty disks are relatively small, so the use of subarrays will not impact our analysis of the dust properties.

Each of these targets will be observed in the WFC3/F160W filter using a 4-point dither pattern that depends on the projected galaxy size, ensuring that the H-band coverage extends well out into its stellar halo. For these targets, we will use a large square dither pattern with offsets of about 75". This mosaicing places the central bright region of each galaxy within the overlap region between all four pointings for a maximum area of 3.5'x3.5'.

Individual WFC3/F160W exposures in the STEP50/STEP100 SAMP-SEQ will range between 250-300 seconds, achieving background-limited observations of the galaxy outskirts in the overlap region between dithered frames. NSAMP between 9-11 will ensure proper cosmic ray removal using up-the-ramp sampling while avoiding saturation in nearly all cases. In the two cases (NGC 3862 and NGC 4261) that are known to host bright active nuclei in optical/near-IR wavelengths, we will also obtain additional observations using an optimal 4-point WFC3-IR-DITHER-BOX-MIN pattern to better sample the F160W PSF; these observations, taken using the IRSUB256-FIX aperture and the SPARS5 sequence, will also provide better temporal sampling to prevent saturation of the galaxy nucleus.

For each target, we will also obtain WFC3/F110W observations in the IRSUB512-FIX aperture using an optimal 2-point WFC3-IR-DITHER-LINE pattern. The choice of SPARS25/STEP25 SAMP-SEQ with NSAMP=9-12 will ensure background-limited F110W observations with total integrations of at least 260 seconds. For the two optically-bright active nuclei, we will also obtain more rapid sampling of the F110W light using the same IRSUB256-FIX aperture and 4-point dither pattern previously employed for the F160W observations. These F110W observations will be placed as close as possible to the middle of the observing window to avoid significant contamination from variable airglow, although this consideration is balanced with the goal of eliminating buffer dump overheads.

For fourteen of these ETGs, we will obtain WFC3/UVIS F475W and/or F814W imaging using the UVIS1-2K2A-SUB aperture that covers the nuclear dust disk region. Total UVIS integration times of between about 150-600 seconds per filter will be split into two observations to enable cosmic ray rejection, taken using the WFC3-UVIS-DITHER-LINE pattern to better sample the UVIS PSF. When using more than two exposures per UVIS filter, intermediate overheads begin to significantly diminish time spent on-source. The UVIS exposure times are non-uniform to fill in any remaining time in each orbit. These UVIS observations are sufficiently deep to measure the stellar surface brightness profiles in and around the central dusty disks. Based on archival HST data available for many of these targets, the individual UVIS exposures in this program should be well below the saturation time for each of the galaxy nuclei. Sufficient FLASH is included in each observation to mitigate CTE losses.

Three of these targets - NGC 612, NGC 997, and NGC 4373A - have one bright (V~9.5-11 mag) foreground star somewhat nearby (R~60"-90") their respective galaxy centers that will be contained in at least the larger-scale F160W mosaic. Hydra A has two such bright, nearby foreground stars. The PAs of the line connecting each galaxy center to the star(s) are: -153 deg (NGC 4373A), -131 deg (NGC 997), -90 deg (NGC 612), and -2 and -41 deg (Hydra A). To avoid stellar diffraction spikes crossing the galaxy nuclei in these four cases, we request the galaxies be observed with the specified ORIENT angles so that the potential diffraction spikes will be at least 10 deg away from the line connecting the nucleus to the star. In addition, we have removed ORIENT angles that are +/-10 deg from where bleeding from a heavily saturated star could overlap the nucleus. The remaining fourteen targets have no specified ORIENT constraints.

Visit

Proposal 15909, Hydra A (01) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ORIENT 8D TO 39 D; ORIENT 59D TO 78 D; ORIENT 104D TO 123 D; ORIENT 149D TO 168 D; ORIENT 188D TO 219 D; ORIENT 239D TO 258 D; ORIENT 284D TO 303 D; ORIENT 329D TO 348 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

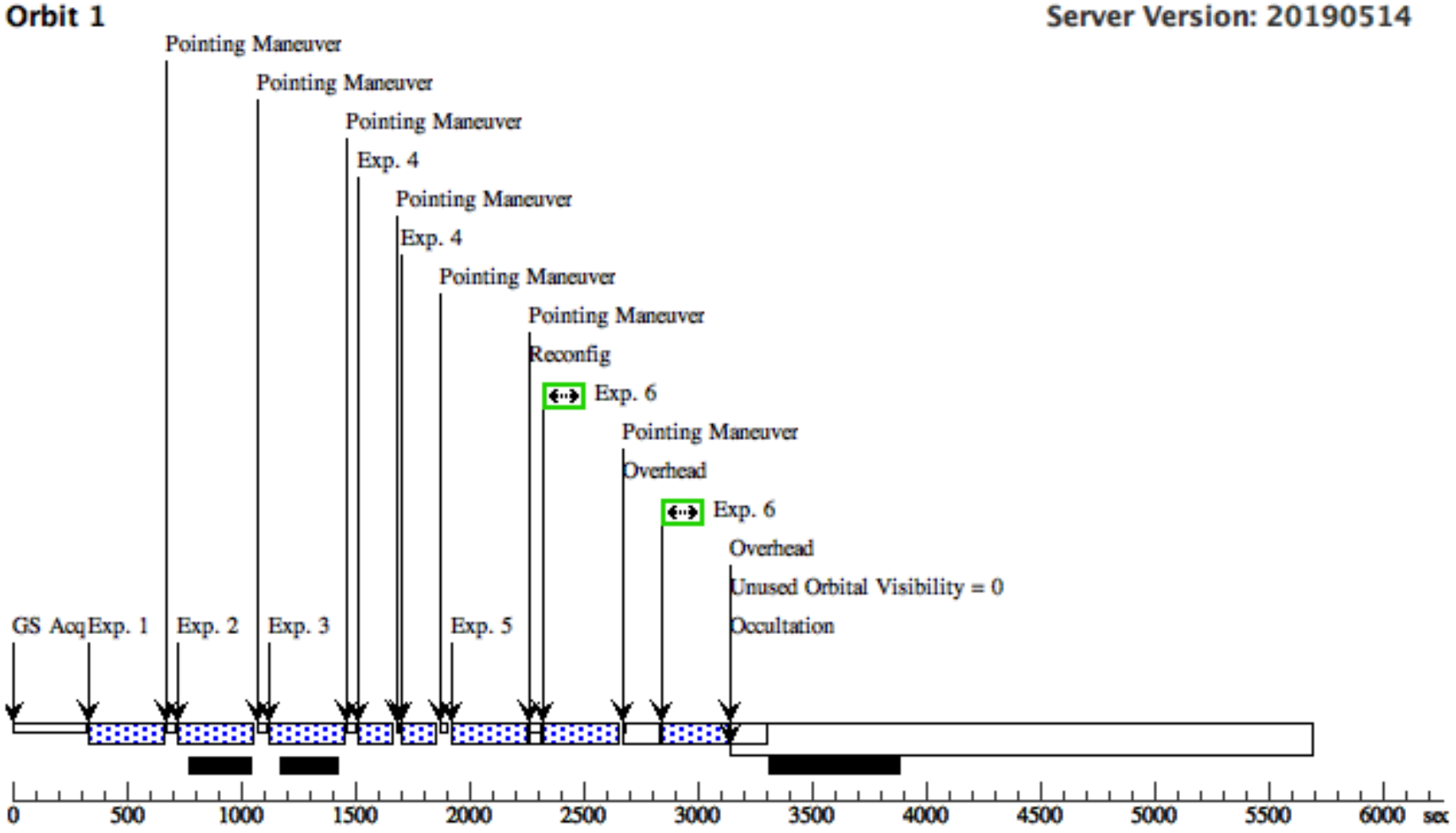
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HYDRA-A Alt Name1: MCG-02-24-007	RA: 09 18 5.6510 (139.5235458d) Dec: -12 05 43.99 (-12.09555d) Equinox: J2000	Epoch of Position: 2015.5	V=14.8	Reference Frame: SIMBAD

Comments:
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS, QSO]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(1) HYDRA-A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
2	F160W-2	(1) HYDRA-A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
3	F160W-3	(1) HYDRA-A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
4	F110W	(1) HYDRA-A	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in Hydra A (01) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
5	F160W-4	(1) HYDRA-A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
6	F475W	(1) HYDRA-A	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in Hydra A (01) (5)	297 Secs (594 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure



Visit

Proposal 15909, NGC 612 (02) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ORIENT 10D TO 35 D; ORIENT 55D TO 80 D; ORIENT 100D TO 170 D; ORIENT 180D TO 215 D; ORIENT 235D TO 260 D; ORIENT 280D TO 350 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

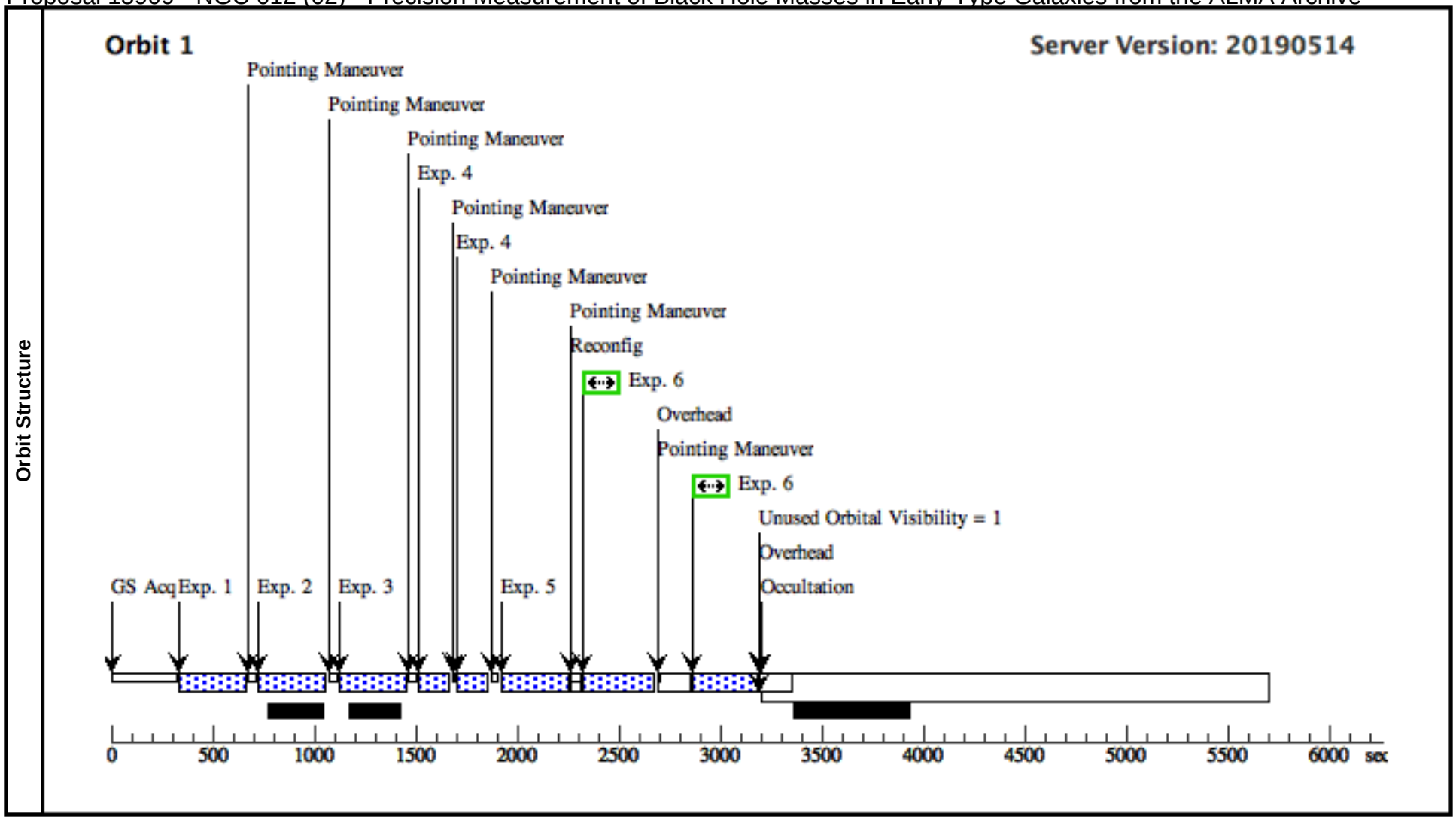
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	NGC-612	RA: 01 33 57.7510 (23.4906292d) Dec: -36 29 35.80 (-36.49328d) Equinox: J2000	Epoch of Position: 2015.5	V=13.15	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS, SEYFERT]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(2) NGC-612	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
2	F160W-2	(2) NGC-612	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
3	F160W-3	(2) NGC-612	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
4	F110W	(2) NGC-612	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 612 (02) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-4	(2) NGC-612	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
6	F475W	(2) NGC-612	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 612 (02) (5)	322 Secs (644 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***


Orbit Structure
Orbit 1
Server Version: 20190514
Pointing Maneuver
Pointing Maneuver
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Exp. 4
Pointing Maneuver
Exp. 4
Pointing Maneuver
Pointing Maneuver
Reconfig
Exp. 6
Overhead
Pointing Maneuver
Exp. 6
Unused Orbital Visibility = 1
Overhead
Occultation
GS Acq
Exp. 1
Exp. 2
Exp. 3
Exp. 5
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15909, NGC 997 (03) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ORIENT 14D TO 39 D; ORIENT 59D TO 129 D; ORIENT 149D TO 174 D; ORIENT 194D TO 219 D; ORIENT 239D TO 309 D; ORIENT 329D TO 354 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

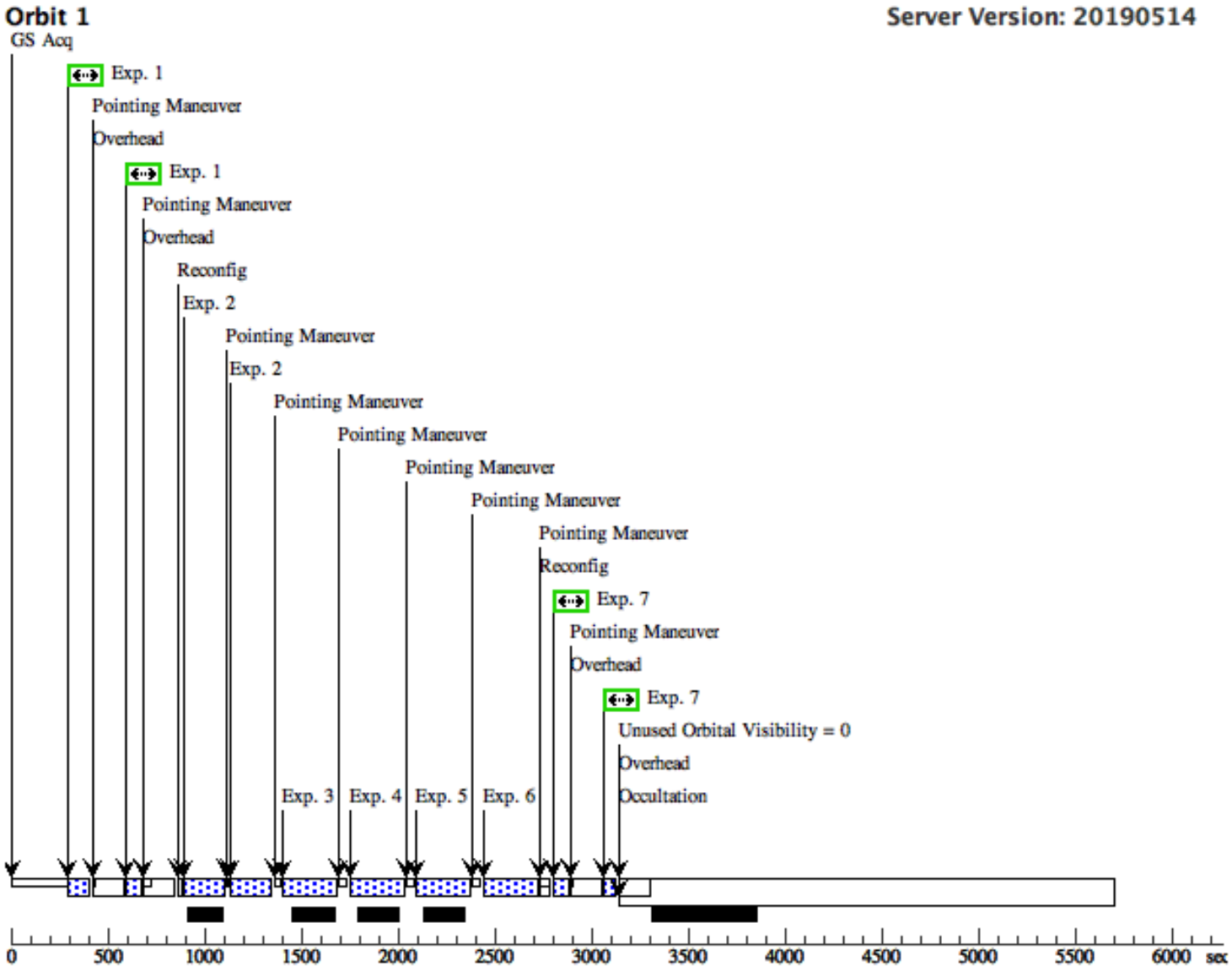
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	NGC-997	RA: 02 37 14.4800 (39.3103333d) Dec: +07 18 20.13 (7.30559d) Equinox: J2000	Epoch of Position: 2015.5	V=13.5	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, ELLIPTICAL, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(3) NGC-997	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=10		Pattern 5, Exps 1-1 in NGC 997 (03) (5)	80 Secs (160 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
2	F110W	(3) NGC-997	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 997 (03) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
3	F160W-1	(3) NGC-997	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	*[1]*
4	F160W-2	(3) NGC-997	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	*[1]*
5	F160W-3	(3) NGC-997	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	*[1]*
6	F160W-4	(3) NGC-997	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	*[1]*
7	F814W	(3) NGC-997	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=10		Pattern 5, Exps 7-7 in NGC 997 (03) (5)	62 Secs (124 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure



Visit

Proposal 15909, NGC 1387 (04) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(4)	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), (6)

Fixed Targets

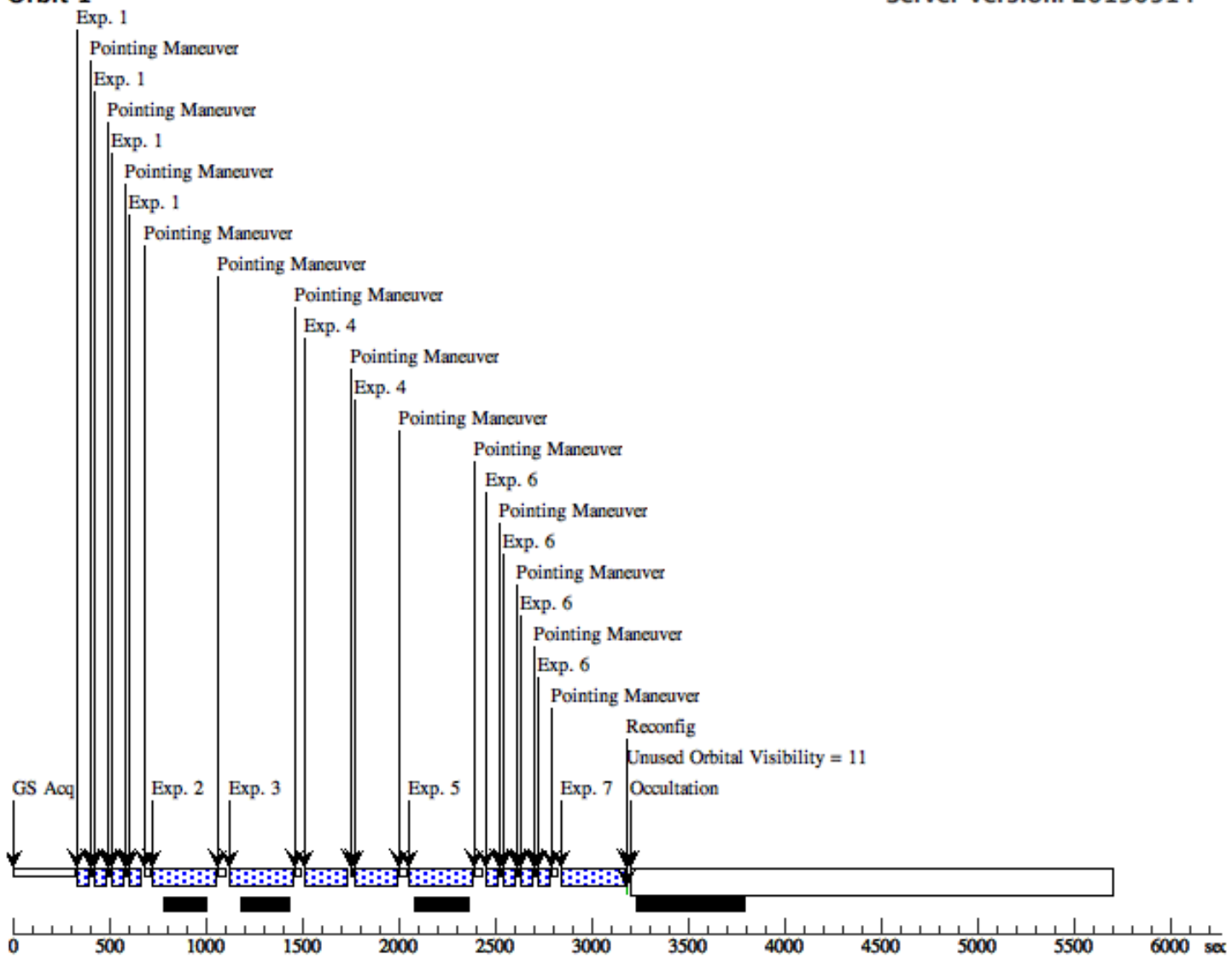
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	NGC-1387	RA: 03 36 57.0326 (54.2376358d) Dec: -35 30 23.69 (-35.50658d) Equinox: J2000	Epoch of Position: 2015.5	V=10.69	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, LINER, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W (PSF)	(4) NGC-1387	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 1-1 in NGC 1387 (04) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F160W-1	(4) NGC-1387	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
3	F160W-2	(4) NGC-1387	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
4	F110W	(4) NGC-1387	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=13; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 1387 (04) (1)	197.203399 Secs (394.407 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-3	(4) NGC-1387	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
6	F110W (PSF)	(4) NGC-1387	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F110W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 6-6 in NGC 1387 (04) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W-4	(4) NGC-1387	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 3245 (05) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

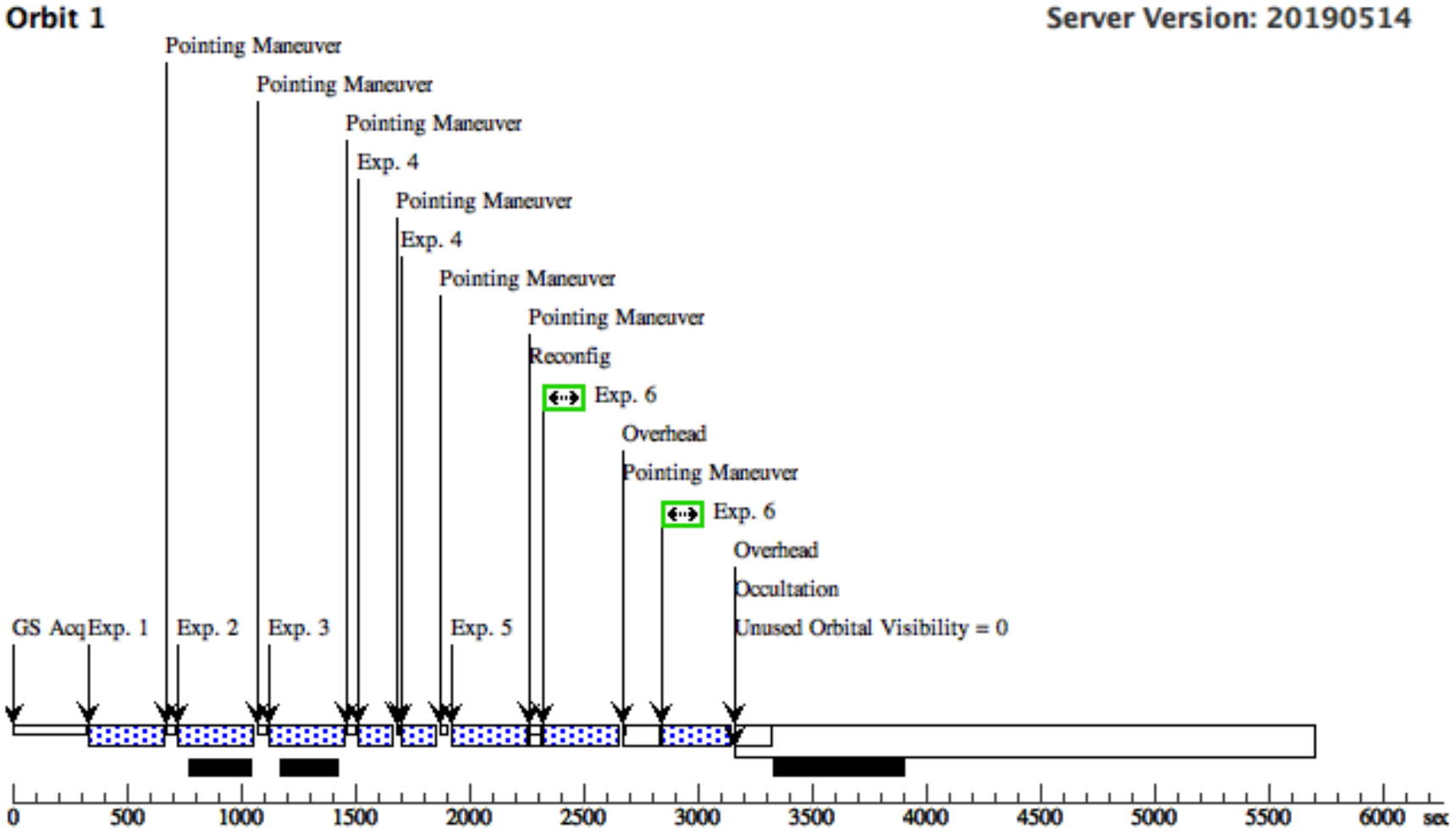
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	NGC-3245	RA: 10 27 18.3854 (156.8266058d) Dec: +28 30 26.63 (28.50740d) Equinox: J2000	Epoch of Position: 2015.5	V=11.0	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, LINER, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(5) NGC-3245	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
2	F160W-2	(5) NGC-3245	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
3	F160W-3	(5) NGC-3245	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
4	F110W	(5) NGC-3245	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 3245 (05) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-4	(5) NGC-3245	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	***[1]***
6	F475W	(5) NGC-3245	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 3245 (05) (5)	305 Secs (610 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 3271 (06) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

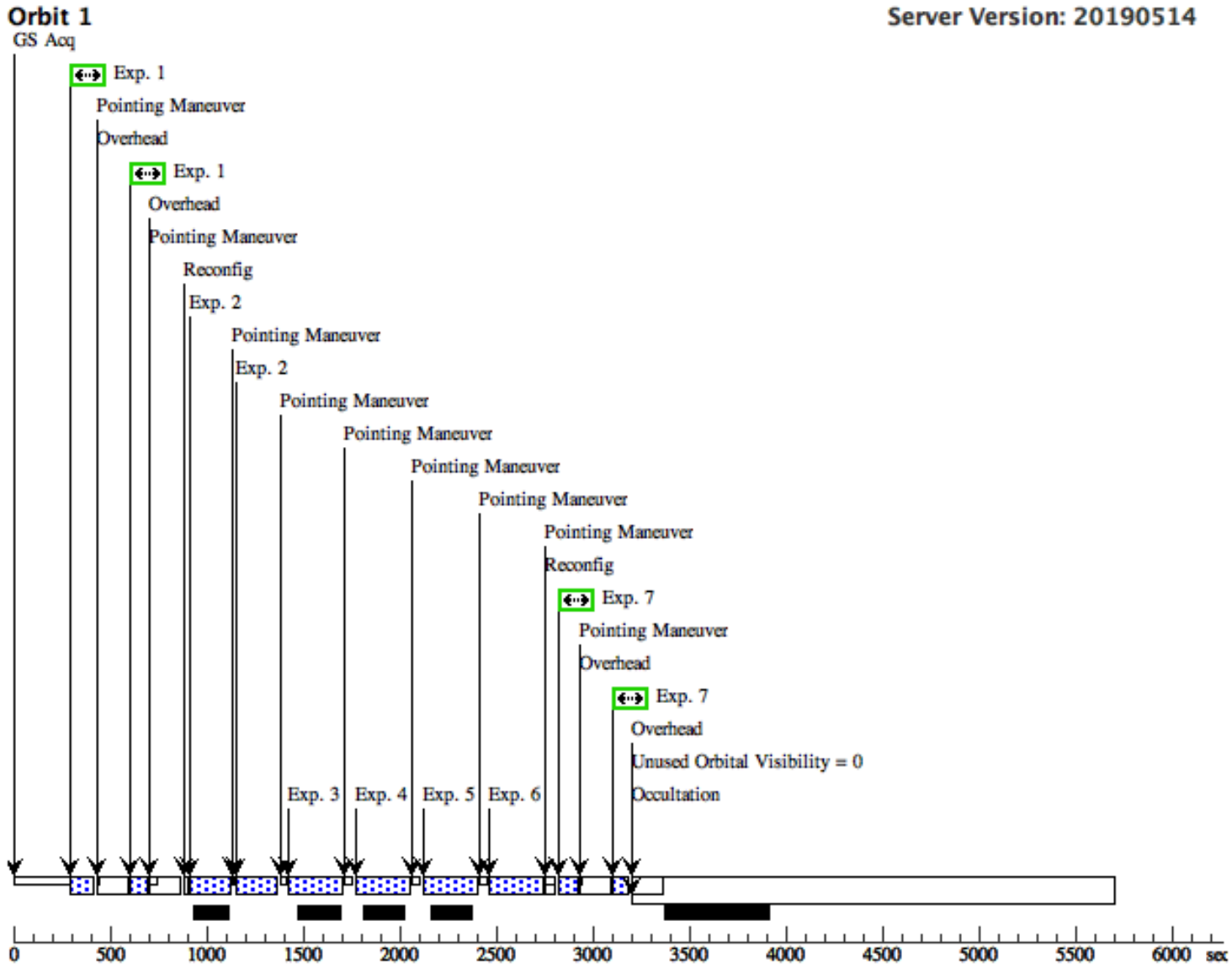
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	NGC-3271	RA: 10 30 26.4810 (157.6103375d) Dec: -35 21 34.34 (-35.35954d) Equinox: J2000	Epoch of Position: 2015.5	V=11.73	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(6) NGC-3271	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 3271 (06) (5)	90 Secs (180 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(6) NGC-3271	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 3271 (06) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(6) NGC-3271	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(6) NGC-3271	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(6) NGC-3271	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(6) NGC-3271	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(6) NGC-3271	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 3271 (06) (5)	78 Secs (156 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 3862 (07) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(4)	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), (6)

Fixed Targets

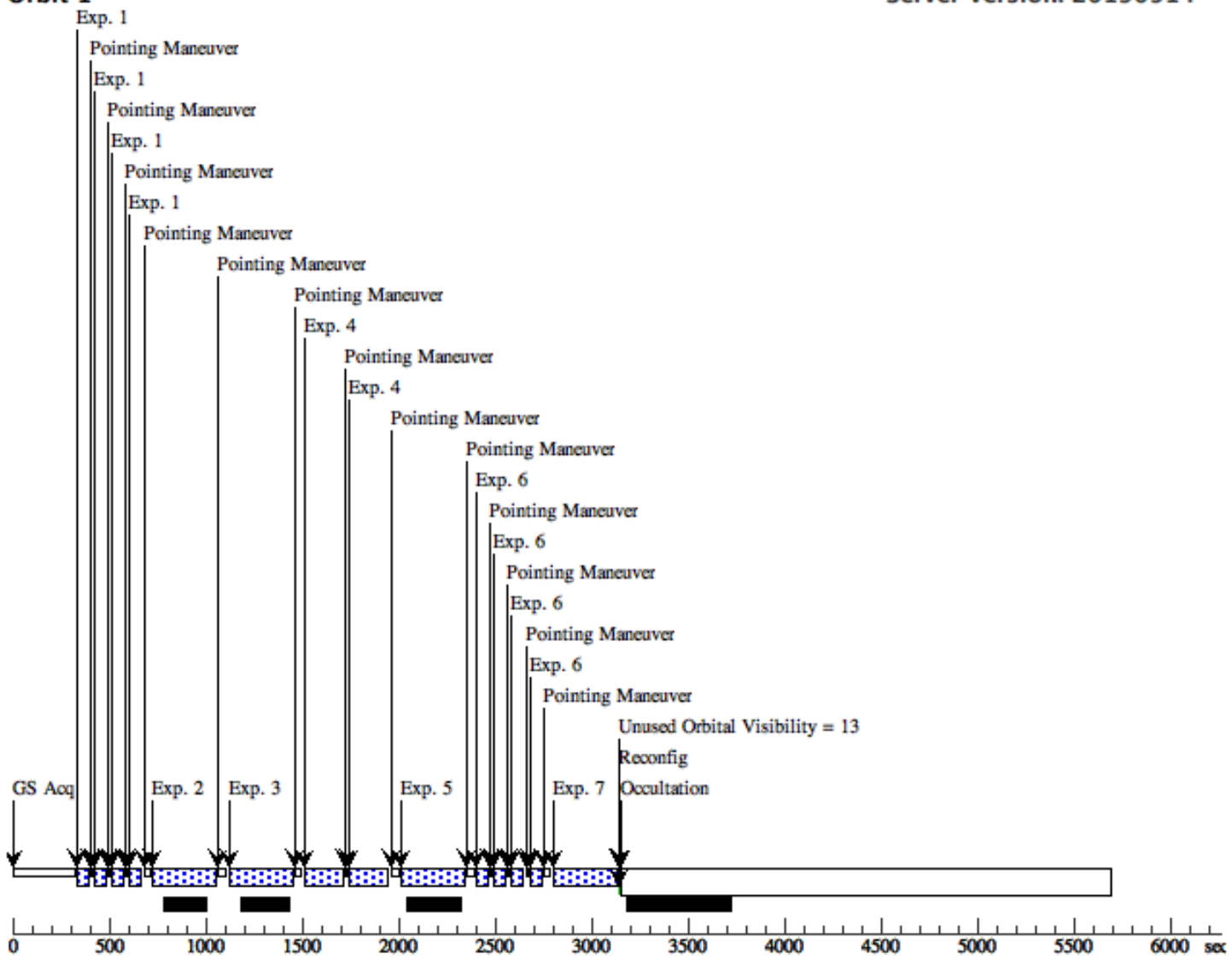
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	NGC-3862 Alt Name1: 3C-264.0	RA: 11 45 5.0090 (176.2708708d) Dec: +19 36 22.74 (19.60632d) Equinox: J2000	Epoch of Position: 2015.5	V=13.97	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, ELLIPTICAL, NUCLEUS, QSO]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W (PSF)	(7) NGC-3862	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 1-1 in NGC 3862 (07) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F160W-1	(7) NGC-3862	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
3	F160W-2	(7) NGC-3862	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
4	F110W	(7) NGC-3862	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=12; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 3862 (07) (1)	174.282148 Secs (348.564 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-3	(7) NGC-3862	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
6	F110W (PSF)	(7) NGC-3862	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F110W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 6-6 in NGC 3862 (07) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W-4	(7) NGC-3862	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4061 (08) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

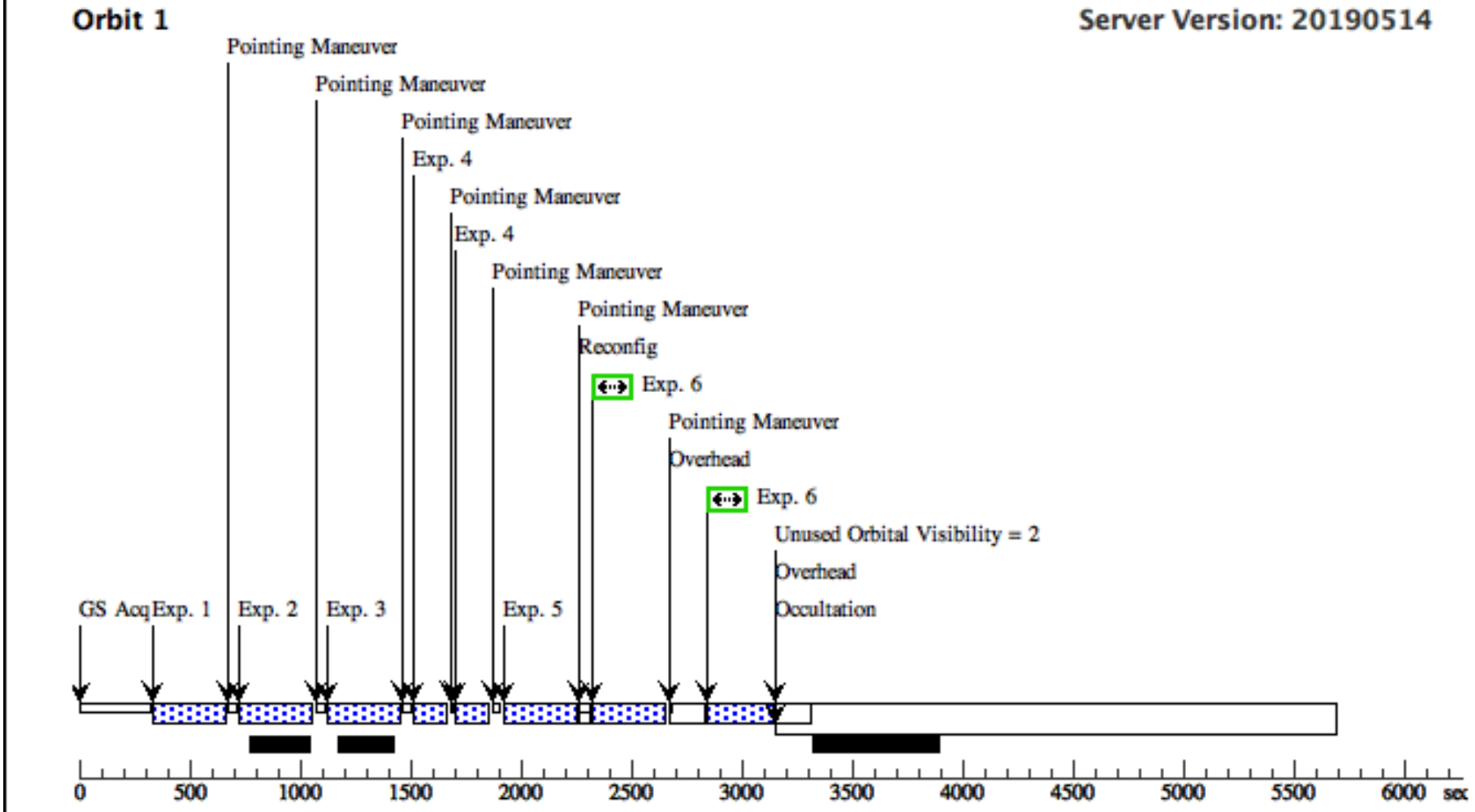
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	NGC-4061	RA: 12 04 1.4710 (181.0061292d) Dec: +20 13 56.34 (20.23232d) Equinox: J2000	Epoch of Position: 2015.5	V=13.1	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, ELLIPTICAL, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(8) NGC-4061	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
2	F160W-2	(8) NGC-4061	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
3	F160W-3	(8) NGC-4061	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
4	F110W	(8) NGC-4061	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 4061 (08) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
5	F160W-4	(8) NGC-4061	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
6	F475W	(8) NGC-4061	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 4061 (08) (5)	300 Secs (600 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure



Visit

Proposal 15909, NGC 4261 (09) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(4)	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), (6)

Fixed Targets

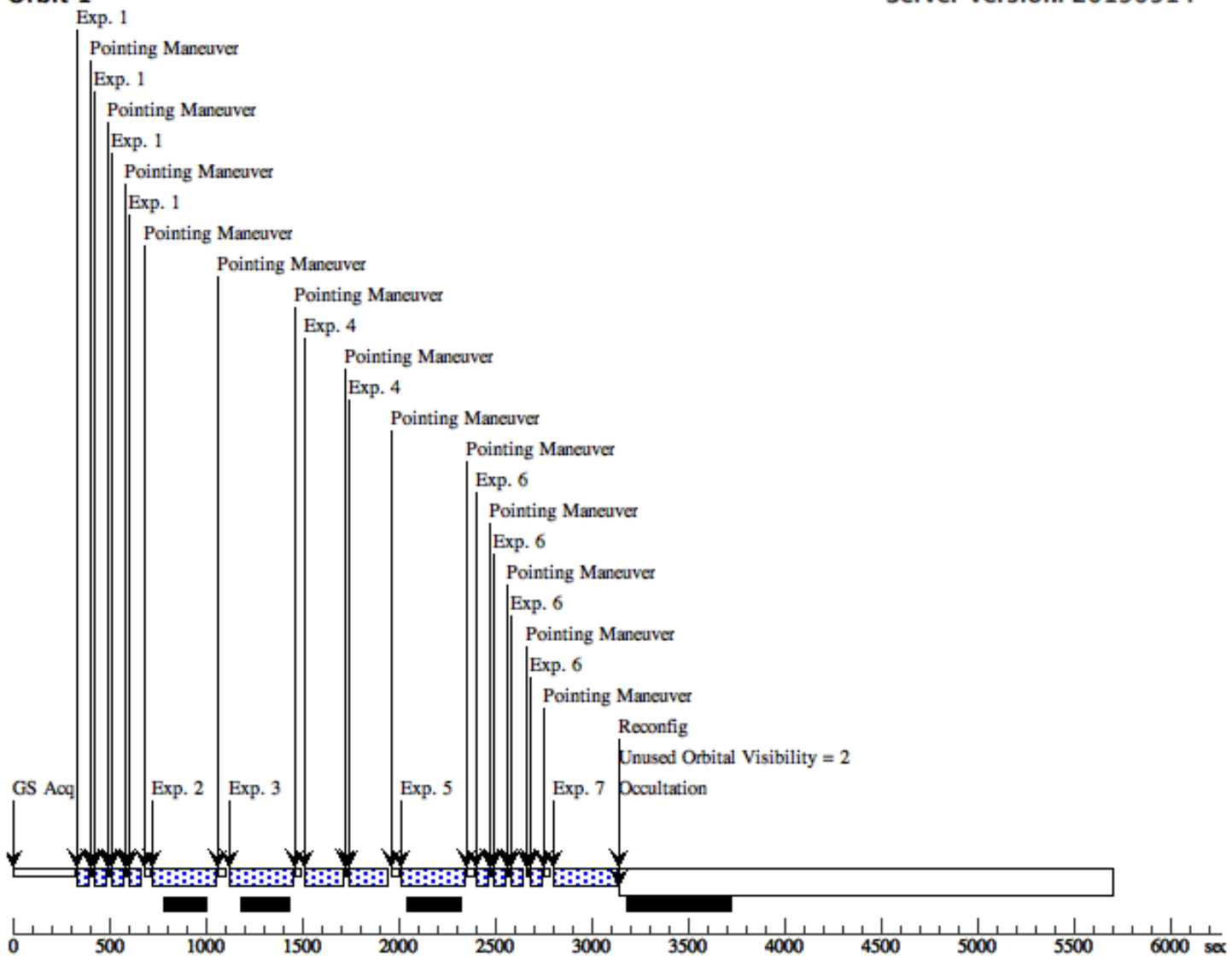
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	NGC-4261	RA: 12 19 23.2161 (184.8467337d) Dec: +05 49 29.70 (5.82492d) Equinox: J2000	Epoch of Position: 2015.5	V=12.87	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, ELLIPTICAL, LINER, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W (PSF)	(9) NGC-4261	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F160W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 1-1 in NGC 4261 (09) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F160W-1	(9) NGC-4261	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
3	F160W-2	(9) NGC-4261	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
4	F110W	(9) NGC-4261	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=12; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 4261 (09) (1)	174.282148 Secs (348.564 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-3	(9) NGC-4261	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
6	F110W (PSF)	(9) NGC-4261	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F110W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 6-6 in NGC 4261 (09) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W-4	(9) NGC-4261	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4373A (10) Thu Jul 25 02:02:05 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: ORIENT 0D TO 17 D; ORIENT 37D TO 107 D; ORIENT 127D TO 152 D; ORIENT 172D TO 197 D; ORIENT 217D TO 287 D; ORIENT 307D TO 332 D; ORIENT 352D TO 359 D

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

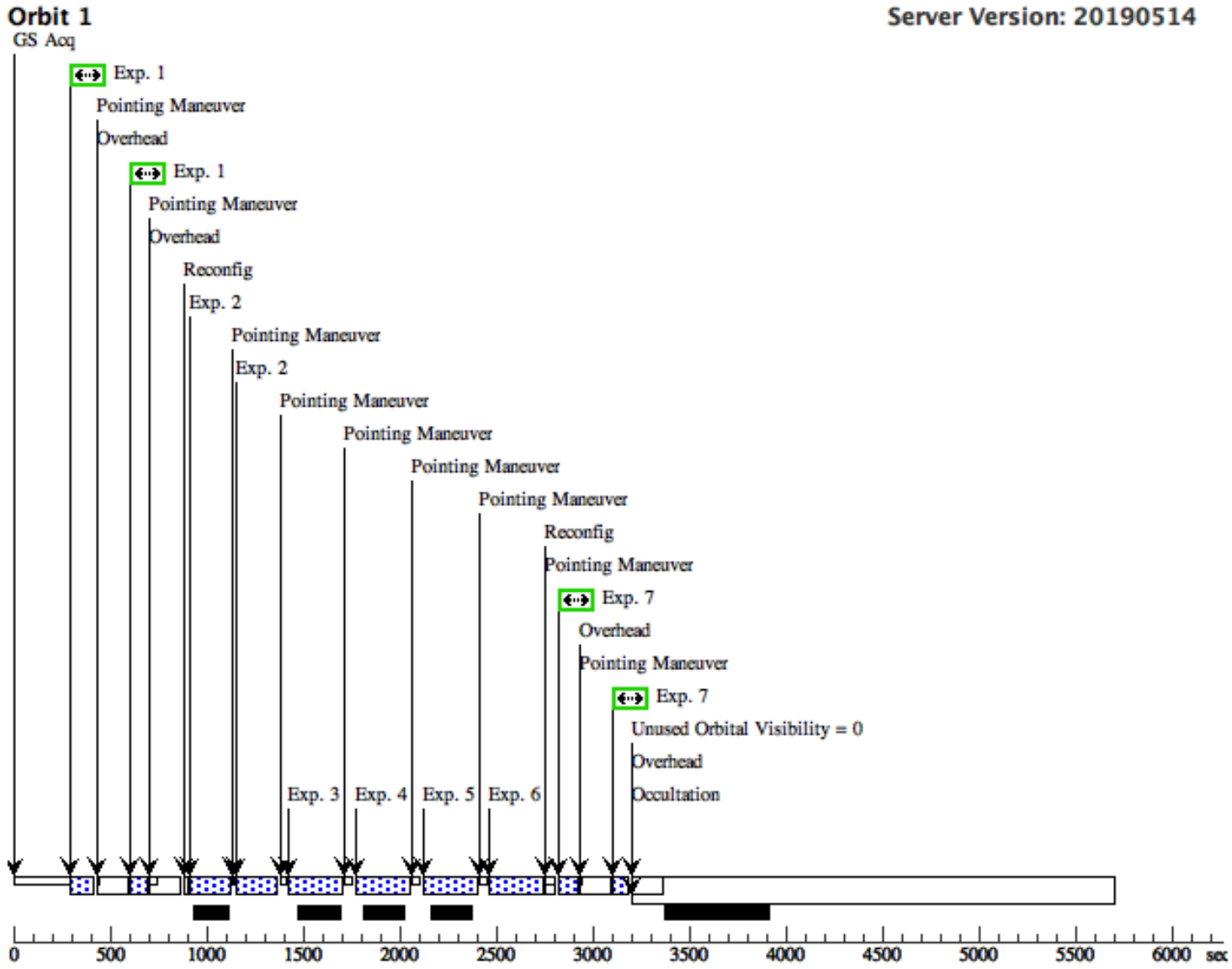
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(10)	NGC-4373A Alt Name1: ESO-322-8	RA: 12 25 37.7380 (186.4072417d) Dec: -39 19 11.02 (-39.31973d) Equinox: J2000	Epoch of Position: 2015.5	V=12.94	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]
Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(10) NGC-4373A	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 4373A (10) (5)	90 Secs (180 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(10) NGC-4373A	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 4373A (10) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(10) NGC-4373A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(10) NGC-4373A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(10) NGC-4373A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(10) NGC-4373A	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(10) NGC-4373A	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 4373A (10) (5)	78 Secs (156 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4429 (11) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

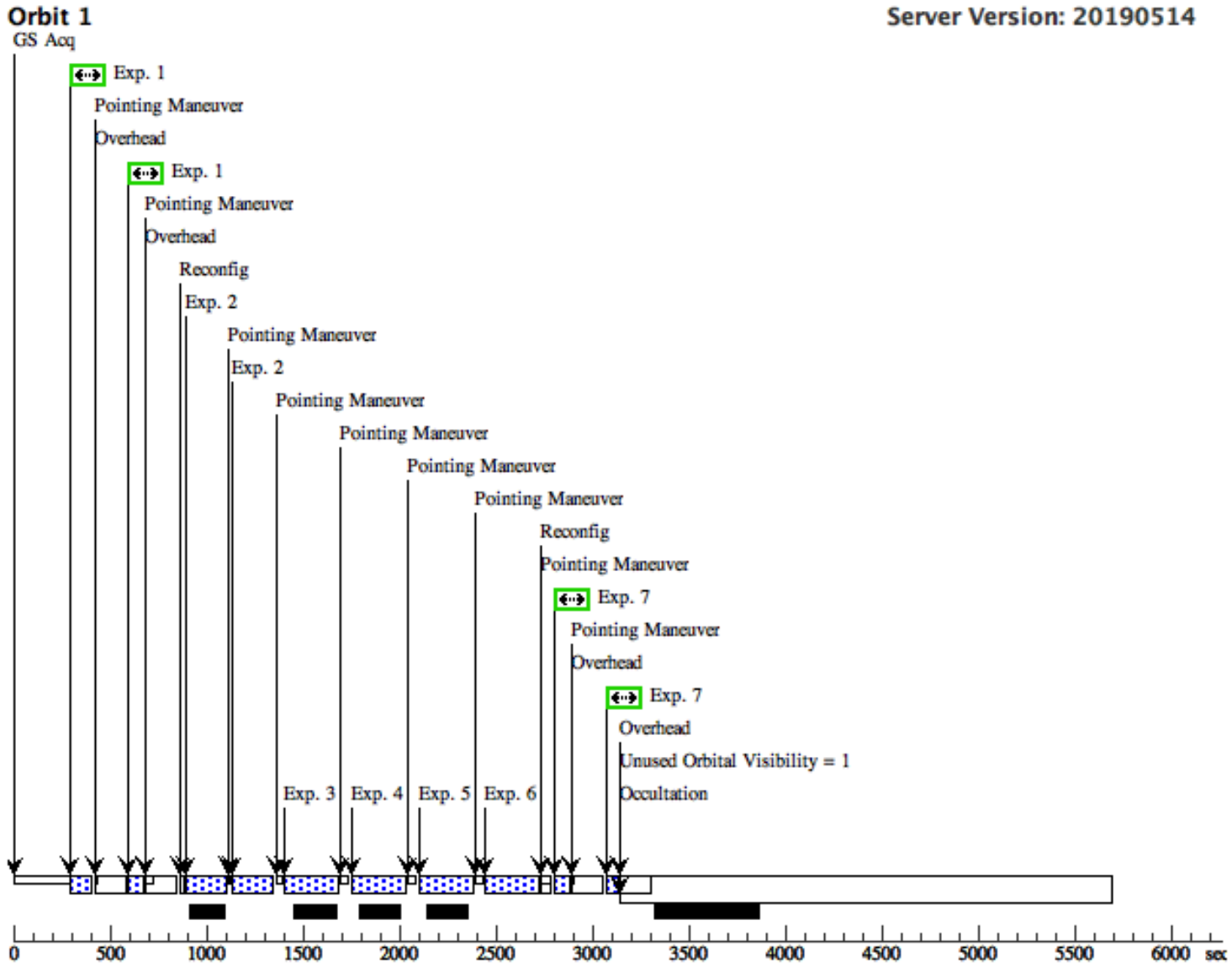
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(11)	NGC-4429	RA: 12 27 26.5040 (186.8604333d) Dec: +11 06 27.58 (11.10766d) Equinox: J2000	Epoch of Position: 2015.5	V=11.5	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(11) NGC-4429	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 4429 (11) (5)	80 Secs (160 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(11) NGC-4429	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 4429 (11) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(11) NGC-4429	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(11) NGC-4429	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(11) NGC-4429	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(11) NGC-4429	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(11) NGC-4429	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 4429 (11) (5)	62 Secs (124 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4435 (12) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(4)	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), (6)

Fixed Targets

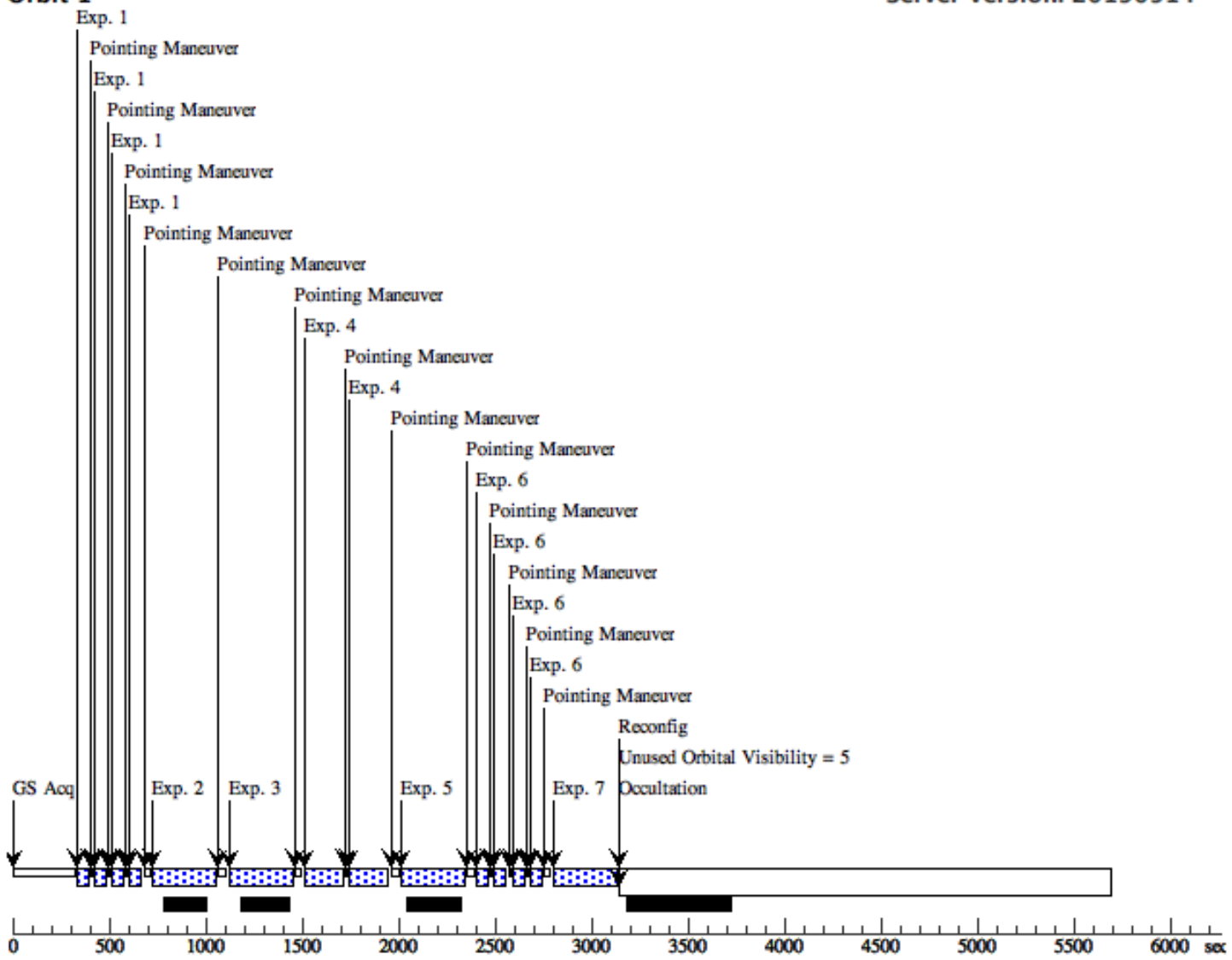
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(12)	NGC-4435	RA: 12 27 40.5030 (186.9187625d) Dec: +13 04 44.48 (13.07902d) Equinox: J2000	Epoch of Position: 2015.5	V=10.8	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W (PSF)	(12) NGC-4435	WFC3/IR, MULTIACCUM, IRSUB256	F160W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 1-1 in NGC 4435 (12) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F160W-1	(12) NGC-4435	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
3	F160W-2	(12) NGC-4435	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
4	F110W	(12) NGC-4435	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=12; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 4435 (12) (1)	174.282148 Secs (348.564 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
5	F160W-3	(12) NGC-4435	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***
6	F110W (PSF)	(12) NGC-4435	WFC3/IR, MULTIACCUM, IRSUB256-FIX	F110W	SAMP-SEQ=SPARS5; NSAMP=15		Pattern 4, Exps 6-6 in NGC 4435 (12) (4)	33.16592 Secs (132.664 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F160W-4	(12) NGC-4435	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		299.232481 Secs (299.232 Secs) *[==>]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4751 (13) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

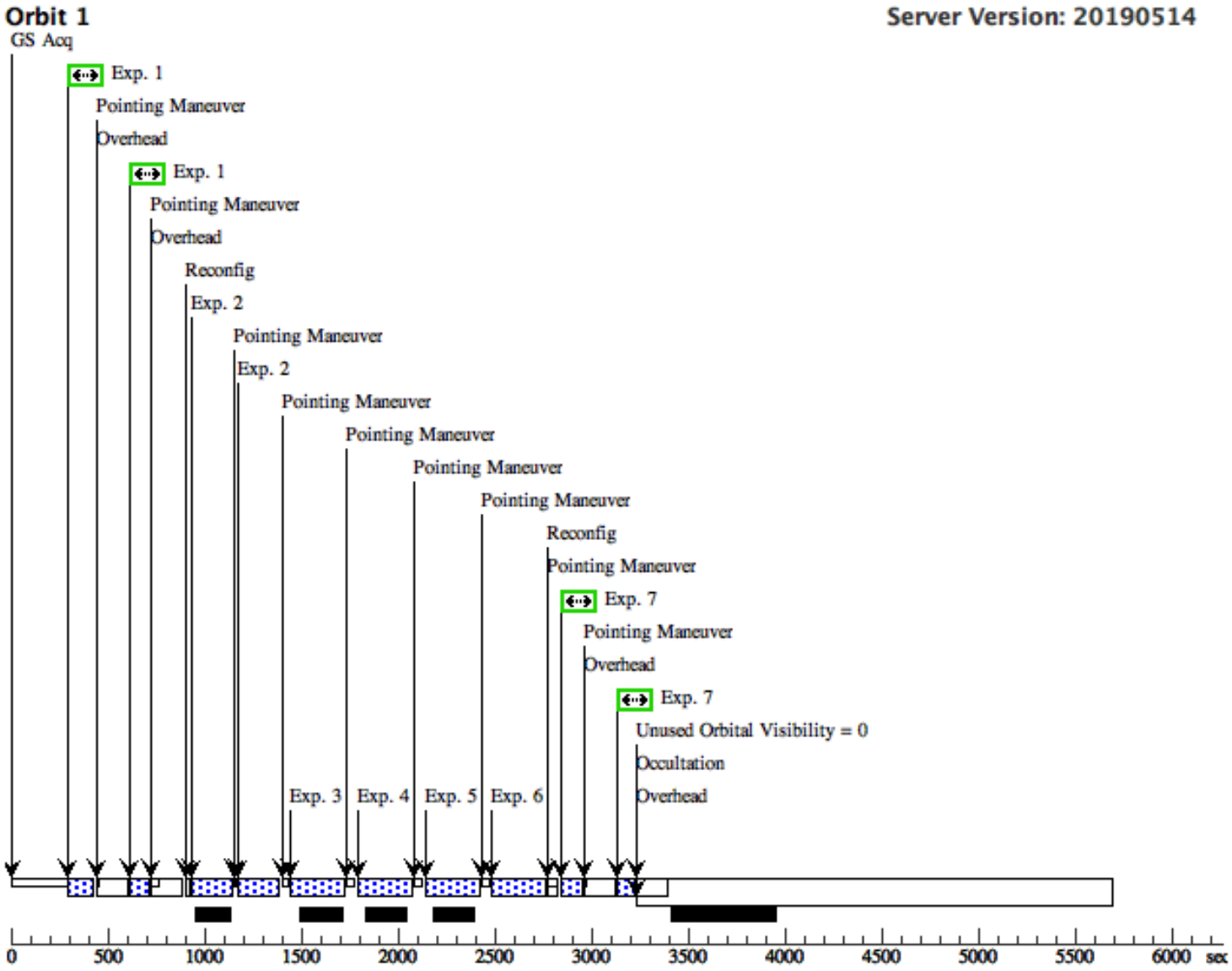
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(13)	NGC-4751	RA: 12 52 50.7516 (193.2114650d) Dec: -42 39 35.53 (-42.65987d) Equinox: J2000	Epoch of Position: 2015.5	V=11.9	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(13) NGC-4751	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 4751 (13) (5)	100 Secs (200 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(13) NGC-4751	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 4751 (13) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(13) NGC-4751	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(13) NGC-4751	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(13) NGC-4751	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(13) NGC-4751	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(13) NGC-4751	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 4751 (13) (5)	87 Secs (174 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 4797 (14) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

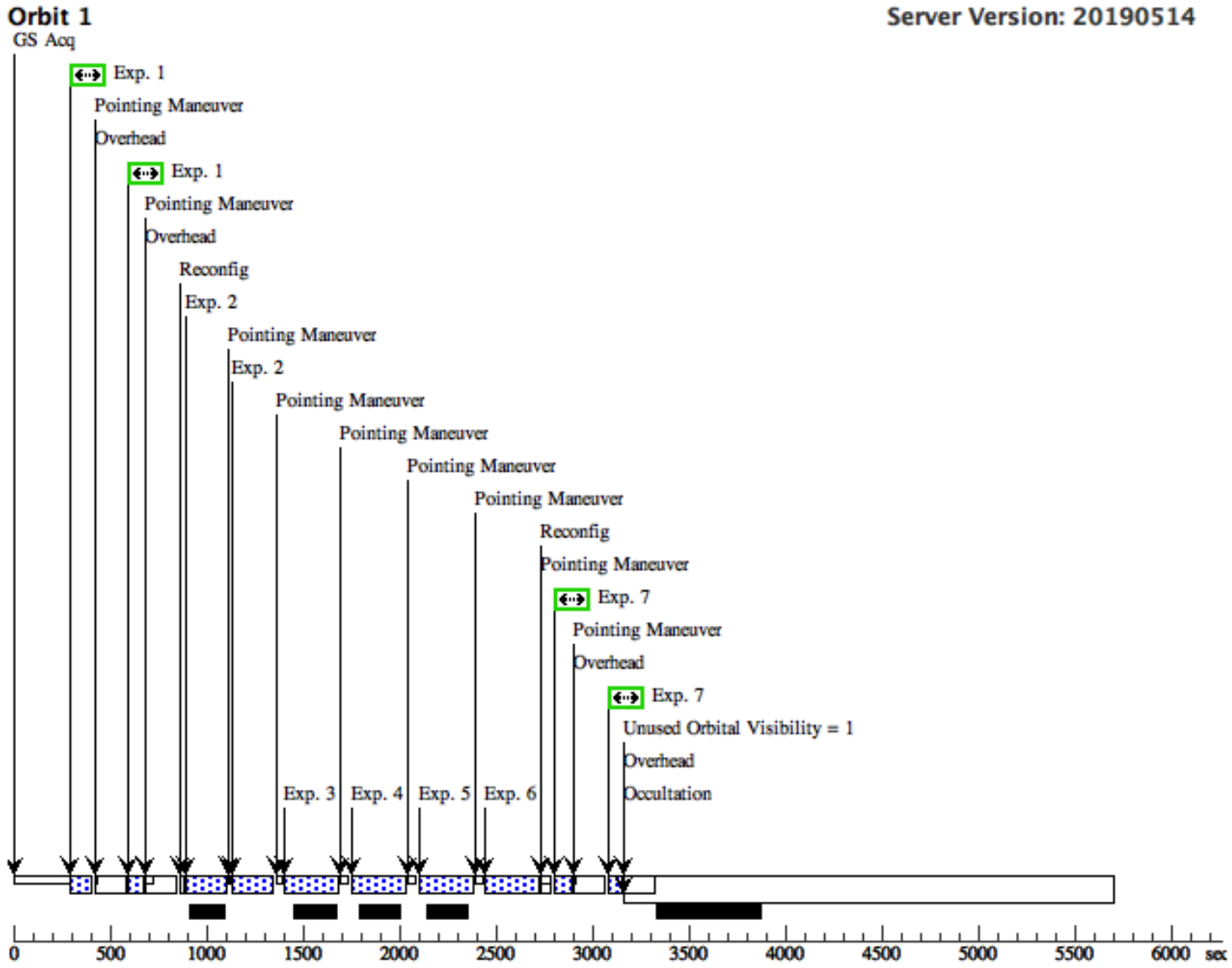
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(14)	NGC-4797	RA: 12 54 55.1464 (193.7297767d) Dec: +27 24 45.94 (27.41276d) Equinox: J2000	Epoch of Position: 2015.5	V=13.17	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(14) NGC-4797	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 4797 (14) (5)	80 Secs (160 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(14) NGC-4797	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 4797 (14) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(14) NGC-4797	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(14) NGC-4797	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(14) NGC-4797	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(14) NGC-4797	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(14) NGC-4797	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 4797 (14) (5)	70 Secs (140 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 5084 (15) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

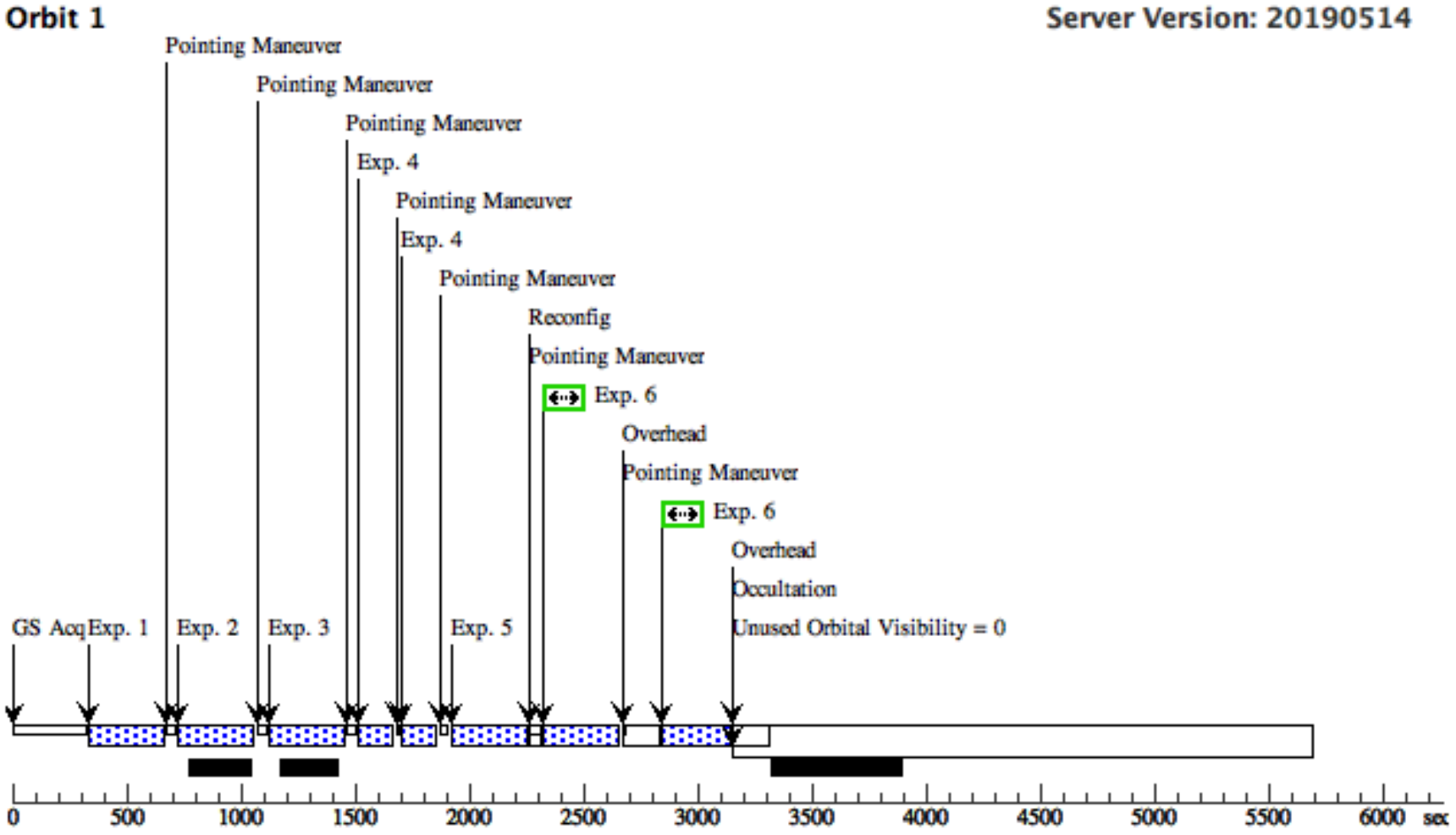
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(15)	NGC-5084	RA: 13 20 16.9230 (200.0705125d) Dec: -21 49 39.28 (-21.82758d) Equinox: J2000	Epoch of Position: 2015.5	V=12.21	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, LINER, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(15) NGC-5084	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
2	F160W-2	(15) NGC-5084	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
3	F160W-3	(15) NGC-5084	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
4	F110W	(15) NGC-5084	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 5084 (15) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
5	F160W-4	(15) NGC-5084	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
6	F475W	(15) NGC-5084	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 5084 (15) (5)	301 Secs (602 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure



Visit

Proposal 15909, NGC 5193 (16) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

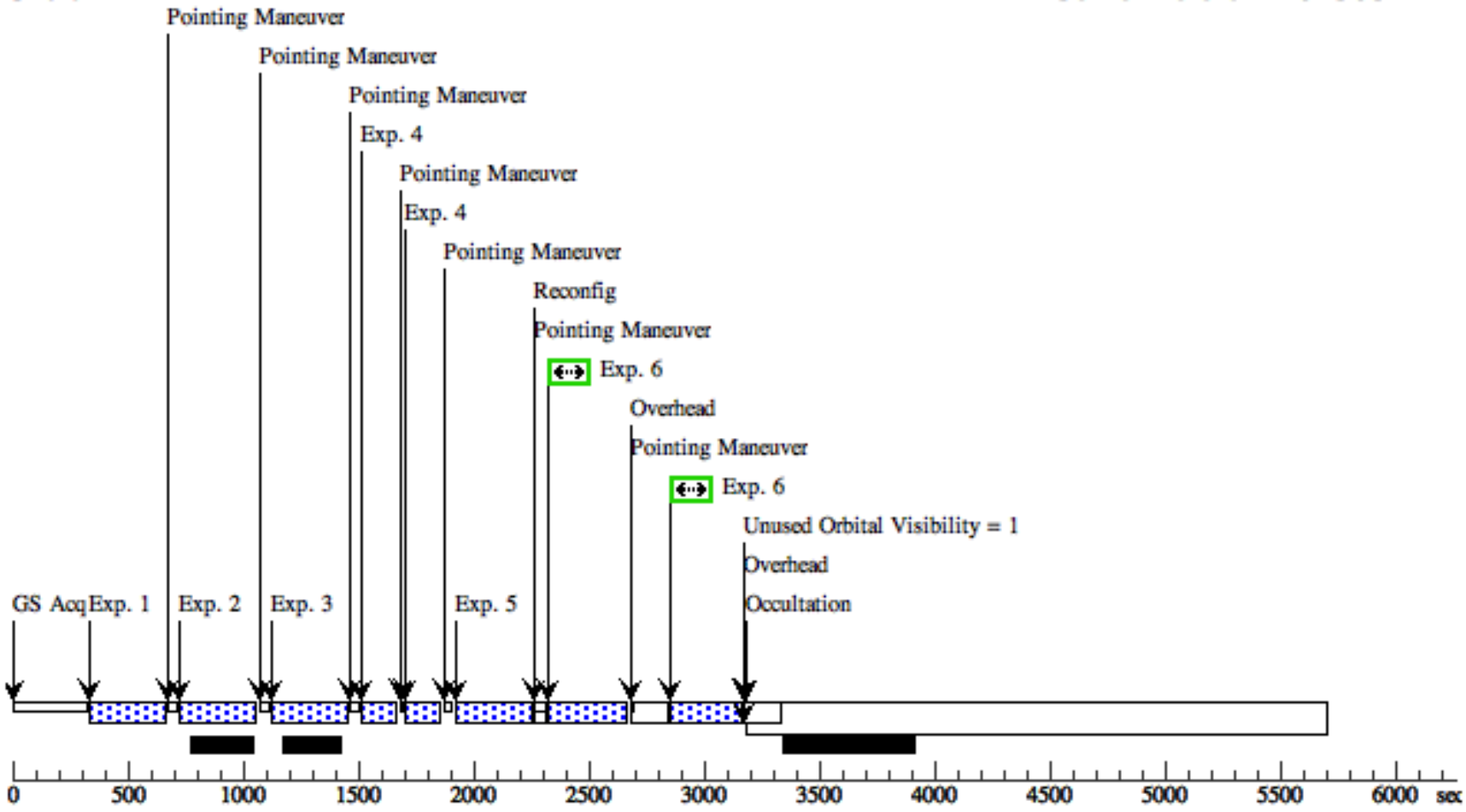
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(16)	NGC-5193	RA: 13 31 53.5251 (202.9730213d) Dec: -33 14 3.58 (-33.23433d) Equinox: J2000	Epoch of Position: 2015.5	V=11.92	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, ELLIPTICAL, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(16) NGC-5193	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
2	F160W-2	(16) NGC-5193	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
3	F160W-3	(16) NGC-5193	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
4	F110W	(16) NGC-5193	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 5193 (16) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
5	F160W-4	(16) NGC-5193	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
6	F475W	(16) NGC-5193	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 5193 (16) (5)	312 Secs (624 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure



Visit

Proposal 15909, NGC 5208 (17) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(2)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1), (7)

Fixed Targets

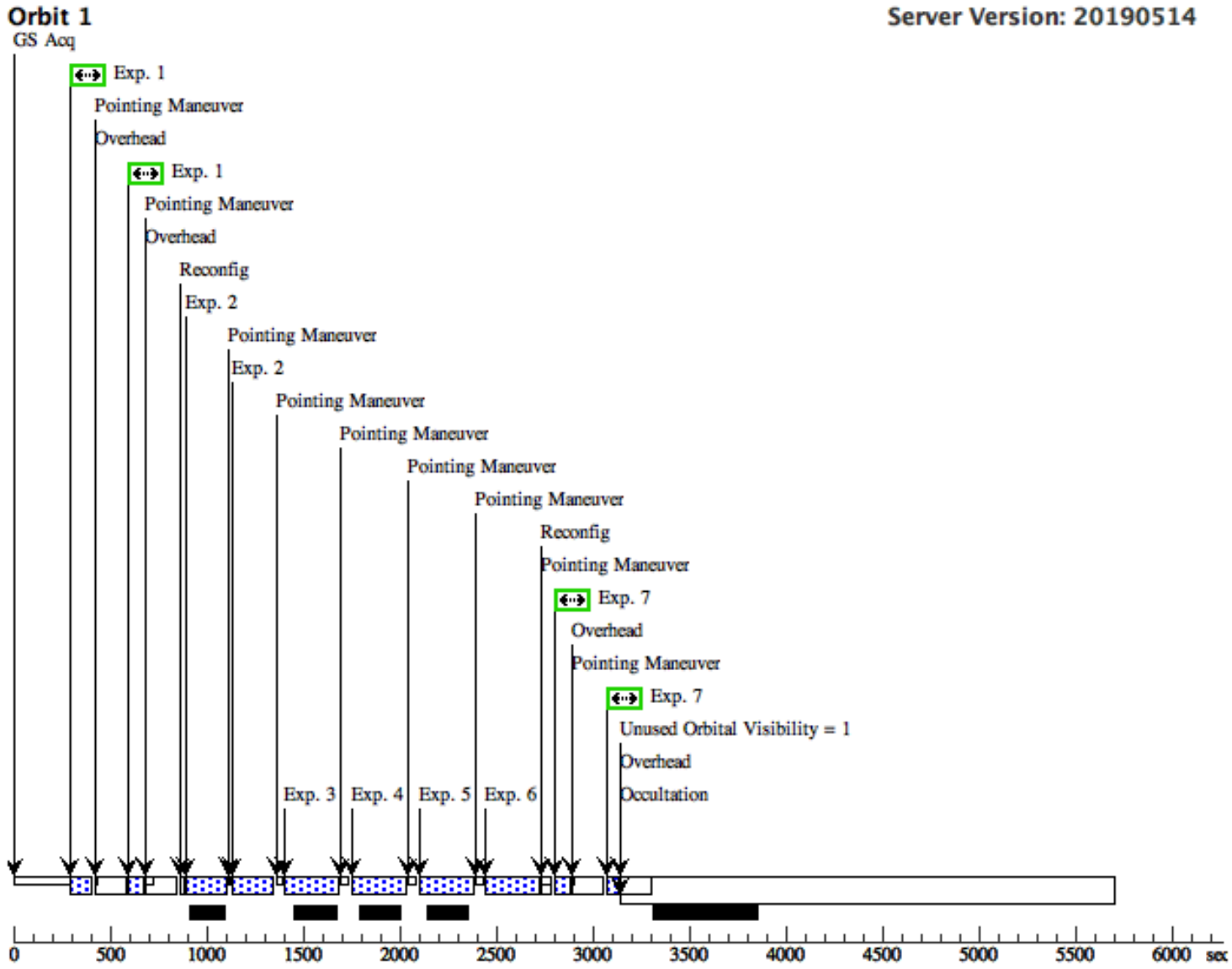
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(17)	NGC-5208	RA: 13 32 27.9090 (203.1162875d) Dec: +07 18 59.91 (7.31664d) Equinox: J2000	Epoch of Position: 2015.5	V=13.5	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F475W	(17) NGC-5208	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=11		Pattern 5, Exps 1-1 in NGC 5208 (17) (5)	80 Secs (160 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
2	F110W	(17) NGC-5208	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=9; SAMP-SEQ=SPARS25		Pattern 1, Exps 2-2 in NGC 5208 (17) (1)	184.223035 Secs (368.446 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***
3	F160W-1	(17) NGC-5208	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.635, -38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
4	F160W-2	(17) NGC-5208	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG -38.828, 38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
5	F160W-3	(17) NGC-5208	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.656,38.747		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
6	F160W-4	(17) NGC-5208	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP50	POS TARG 38.828,-38.554		249.23203 Secs (249.232 Secs) *[==>]*	***[1]***
7	F814W	(17) NGC-5208	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F814W	FLASH=11		Pattern 5, Exps 7-7 in NGC 5208 (17) (5)	60 Secs (120 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[1]***

Orbit Structure



Visit

Proposal 15909, NGC 6958 (18) Thu Jul 25 02:02:06 GMT 2019

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-IR-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.636 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false		(4)
(5)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(6)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(18)	NGC-6958	RA: 20 48 42.6064 (312.1775267d) Dec: -37 59 50.88 (-37.99747d) Equinox: J2000	Epoch of Position: 2015.5	V=11.42	Reference Frame: SIMBAD

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=GALAXY
Description=[DUST LANE, LENTICULAR, NUCLEUS]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F160W-1	(18) NGC-6958	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.635, -38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
2	F160W-2	(18) NGC-6958	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG -38.828, 38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
3	F160W-3	(18) NGC-6958	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.656,38.747		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
4	F110W	(18) NGC-6958	WFC3/IR, MULTIACCUM, IRSUB512-FIX	F110W	NSAMP=10; SAMP-SEQ=STEP25		Pattern 1, Exps 4-4 in NGC 6958 (18) (1)	128.439646 Secs (256.879 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*
5	F160W-4	(18) NGC-6958	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=STEP100	POS TARG 38.828,-38.554		299.231323 Secs (299.231 Secs) *[==>]*	*[1]*
6	F475W	(18) NGC-6958	WFC3/UVIS, ACCUM, UVIS1-2K2A-SUB	F475W	FLASH=7		Pattern 5, Exps 6-6 in NGC 6958 (18) (5)	322 Secs (644 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]*	*[1]*

Orbit Structure