# 14066 - Hi-PEEC, Hubble imaging Probe of Extreme Environments and 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-34 | WFC3/UVIS | 5 | 03-Nov-2015 21:16:29.0 | yes |
| 02 | (2) NGC-1614 | WFC3/UVIS | 4 | 03-Nov-2015 21:16:33.0 | yes |
| 03 | (3) NGC-3690 | WFC3/UVIS | 1 | 03-Nov-2015 21:16:35.0 | yes |
| 04 | (7) ESO-400-43 | WFC3/UVIS | 4 | 03-Nov-2015 21:16:38.0 | yes |
| 05 | (5) NGC-6052 | WFC3/UVIS | 5 | 03-Nov-2015 21:16:42.0 | yes |
| 07 | (6) NGC-4194 | WFC3/UVIS | 2 | 03-Nov-2015 21:16:44.0 | yes |

21 Total Orbits Used

**ABSTRACT**

Starburst events play a major role in shaping the stellar content of galaxies at high redshift, due to the strongly enhanced gas fractions and merger rates in comparison to present-day galaxies. The fossils of those starburst episodes, the globular clusters (GCs), are outstanding witnesses to the dramatic changes that occurred in their host galaxies. To understand and interpret the rapid evolution occurring in starbursts at any redshift, we need to probe how the intensified duty cycle of gas consumption changes the nature of young massive cluster (YMC) populations. We therefore propose Hi-PEEC, an UV-optical study of YMCs in a uniquely accessible sample of 6 starbursts located in the nearby (D<80 Mpc) universe. Our targets have star formation rates higher than or comparable to the Antennae, and rich cluster populations. Monte Carlo simulations, including realistic assumptions of recent burst events and extinction gradients, prove our abilities to recover YMC properties (age, masses, extinction) inside the requested detection limits. We will be able to study the efficiency by which clusters form, the formation modes of the most massive clusters, their age and spatial distributions in mergers, as well as obtain insights into the recent star formation histories of the host galaxies. This proposal is aimed at unveiling the role of starburst environments in shaping the process of star and cluster formation. These studies will have important implications for our understanding of GC formation and will constitute a reference sample for future infrared-limited studies of the highly star-forming and heavily extinguished counterpart galaxies with the JWST.

**OBSERVING DESCRIPTION**

Three different patterns, 4-points, 3-points, 2-points, have been used trhoughout the visits. The offsets of each pattern are given in the POS TARG keyword. The offsets have been chosen to take into account the:
1)gap between the chips (1.2 arcsec);
2)subsampling of the PSF (half pixel or  a third of a pixel shift have been included if the pattern is a multiple of 2 or 3, respectively)
3)remove droplets (shift of 4 arcsec required).
The standard 4-pointing pattern has the following coordinate in arcsec: (0,0), (-3.69,1.31), (-2.5, -2.44), (1.19,-3.75)
The standard 3-pointing pattern is: (0,0), (1.34,3.94), (-1.34, -3.94)
The 2-pointing pattern: (0,0), (1.44, 4.04)
Extra offsets have been added if the target is placed off of the UVIS-FIX, UVIS1-FIX, UVIS2-FIX position. Usually the main body of the galaxy has been plaves in the UVIS1 chip. The tidal tails are in the UVIS2 chip, more sensitive in the UV, and therefore, optimal to detect clusters in these low surface density structures.

ii) The length of the single exposure has been optimized taking into account that the blue filters and the narrow band one have lower background and required higher post-flash. Therefore one can see that the single exposures of these filters when possible can reach 1100 sec lenght. This length has been used only if at least 4 of such exposures could be taken per single filter.

iii) The position and orientation of the field of view has been mostly based on: 1) including as many as possible of the tidal tails visible at low surface brightness (see images included at the end of this document); 2) avoiding having bright stars at the corner of the quadrants to prevent 8-shape ghost from appearing close to the target or on top of the tidal features; 3) avoiding having bright stars outside of the edges of the chips and closer than 20 arcsec because could cause dragon breath of the frames.

In some cases the target visibility is quite reduced by the choice of the orient, any suggestion for improvement of the visibility of the target i very welcome.

## Visit

**Proposal 14066, Vis1-NGC34 (01), scheduling** Wed Nov 04 02:16:46 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 15D TO 40 D

## Fixed Targets

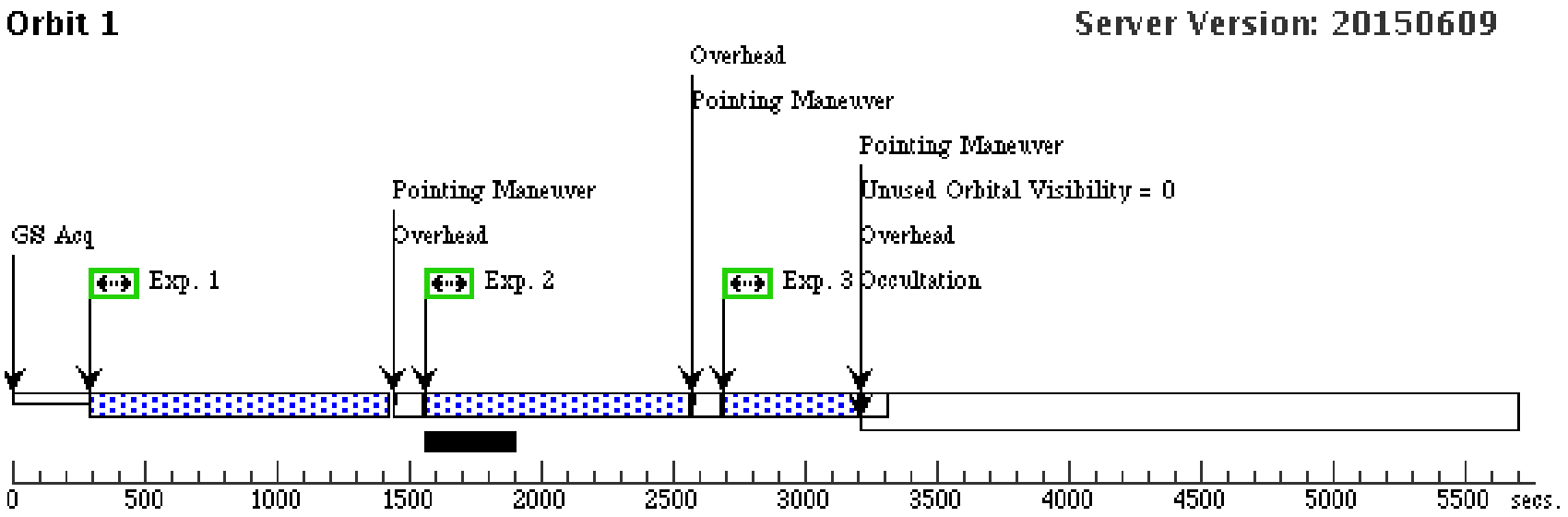
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | NGC-34 | RA: 00 11 6.6120 (2.7775500d)<br>Dec: -12 06 28.33 (-12.10787d)<br>Equinox: J2000 | | V=13.52 | Reference Frame: SIMBAD |

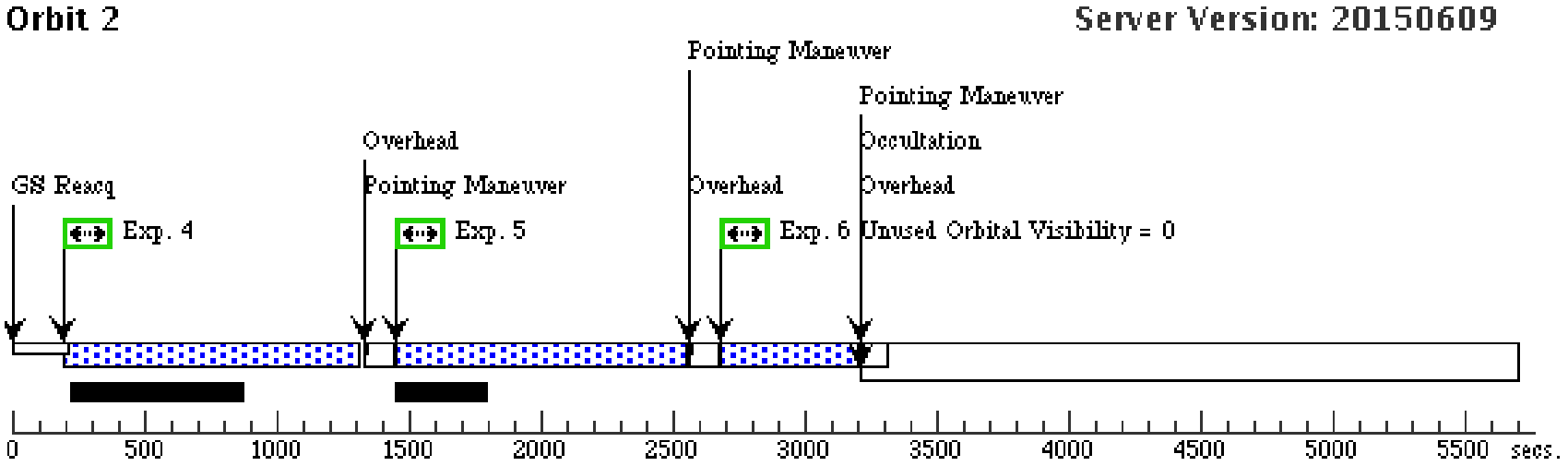
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Extended=YES*

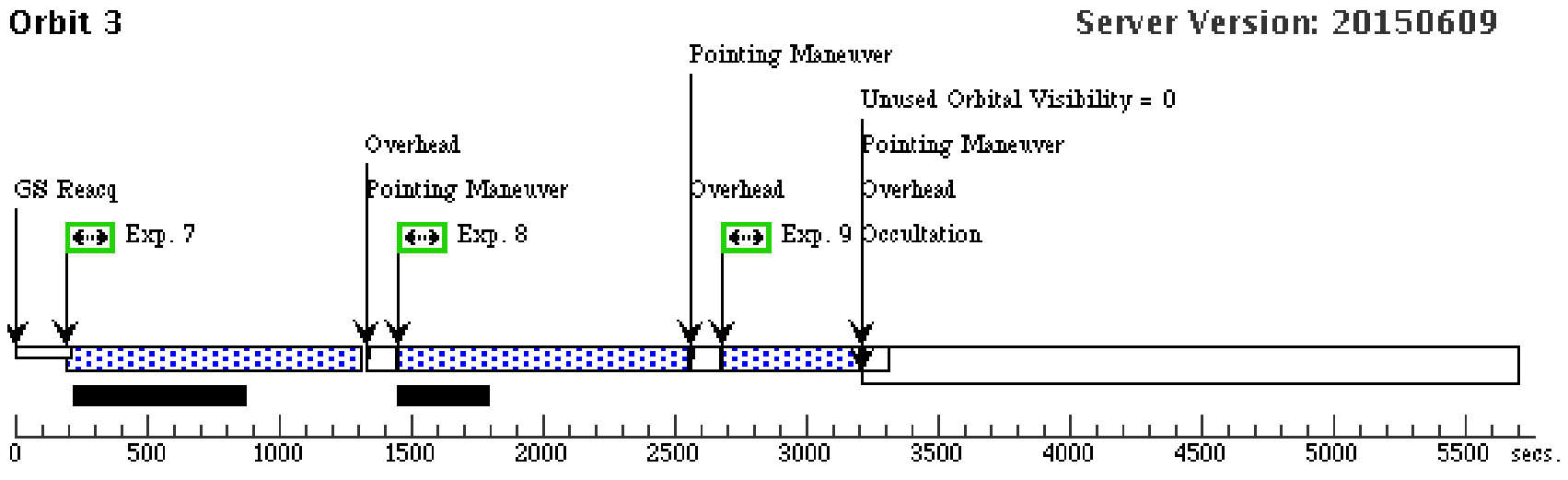
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F336W-1 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 10,10 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[1]*** |
| 2 | F336W-2 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 6.31,11.31 | | 1000 Secs (1000 Secs)<br>*[==>]* | ***[1]*** |
| 3 | F555W-1 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 10.0,10.0 | | 486 Secs (486 Secs)<br>*[==>]* | ***[1]*** |
| 4 | F336W-3 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 7.5,7.56 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[2]*** |
| 5 | F336W-4 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 11.19,6.25 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[2]*** |
| 6 | F555W-2 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 6.31,11.31 | | 497 Secs (497 Secs)<br>*[==>]* | ***[2]*** |
| 7 | F336W-5 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 10.1,10.1 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 8 | F336W-6 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 6.41,11.41 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 9 | F555W-3 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 7.5,7.56 | | 497 Secs (497 Secs)<br>*[==>]* | ***[3]*** |
| 10 | F336W-7 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 7.6,7.66 | | 1000 Secs (1000 Secs)<br>*[==>]* | ***[4]*** |
| 11 | F336W-8 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 11.29,6.35 | | 1000 Secs (1000 Secs)<br>*[==>]* | ***[4]*** |
| 12 | F665N-1 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 10,10 | | 700 Secs (700 Secs)<br>*[==>]* | ***[4]*** |
| 13 | F665N-2 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 6.31,11.31 | | 700 Secs (700 Secs)<br>*[==>]* | ***[5]*** |
| 14 | F665N-3 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 7.5,7.56 | | 700 Secs (700 Secs)<br>*[==>]* | ***[5]*** |
| 15 | F665N-4 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 11.19,6.25 | | 700 Secs (700 Secs)<br>*[==>]* | ***[5]*** |
| 16 | F555W-4 | (1) NGC-34 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 11.19,6.25 | | 460 Secs (460 Secs)<br>*[==>]* | ***[5]*** |

Orbit Structure

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GS Reacq
Exp. 7
Overhead
Pointing Maneuver
Exp. 8
Pointing Maneuver
Overhead
Exp. 9
Pointing Maneuver
Unused Orbital Visibility = 0
Overhead
Occultation
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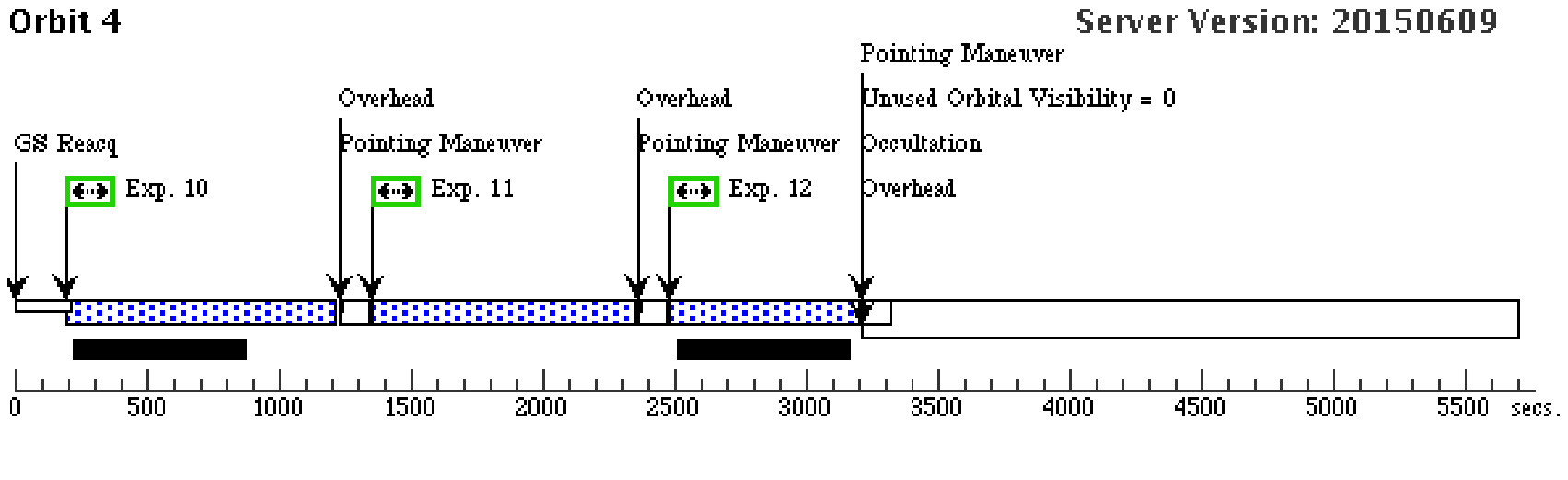
5000
5500
secs.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GS Reacq
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Overhead
Pointing Maneuver
Exp. 11
Overhead
Pointing Maneuver
Exp. 12
Pointing Maneuver
Unused Orbital Visibility = 0
Occultation
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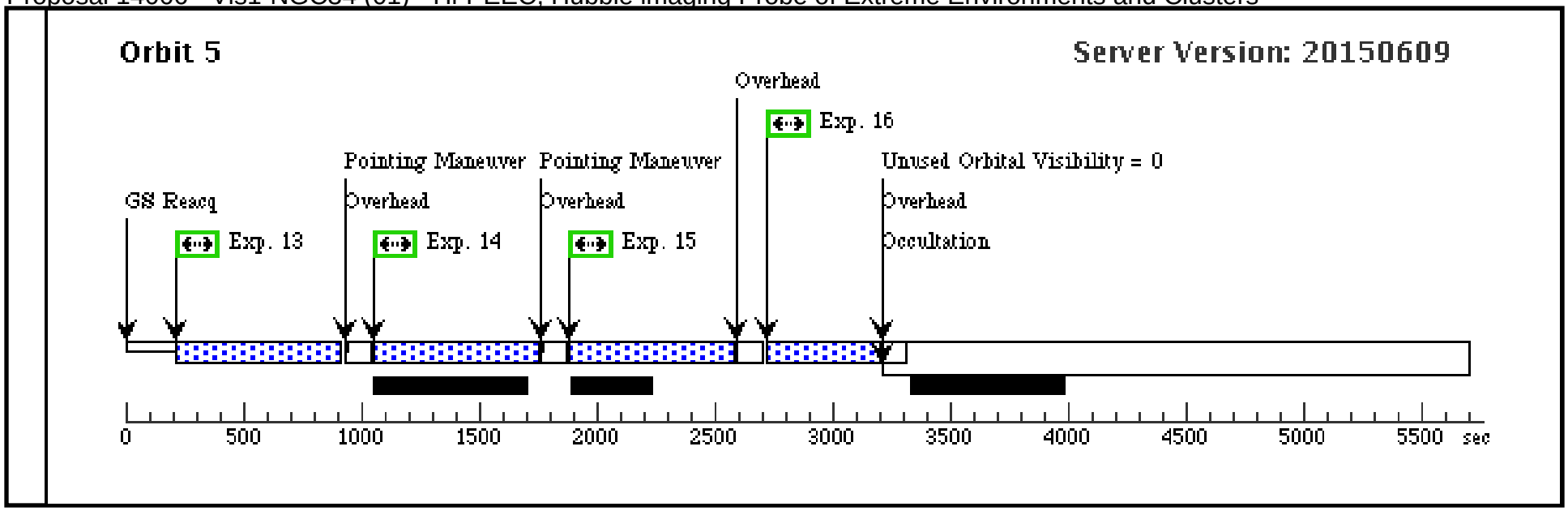
secs.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Server Version: 20150609
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Exp. 16
Pointing Maneuver
Pointing Maneuver
Unused Orbital Visibility = 0
GS Reacq
Overhead
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Overhead
Exp. 13
Exp. 14
Exp. 15
Occultation
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sec

## Visit

**Proposal 14066, Vis2-NGC1614 (02), scheduling** Wed Nov 04 02:16:47 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 6D TO 24 D

## Fixed Targets

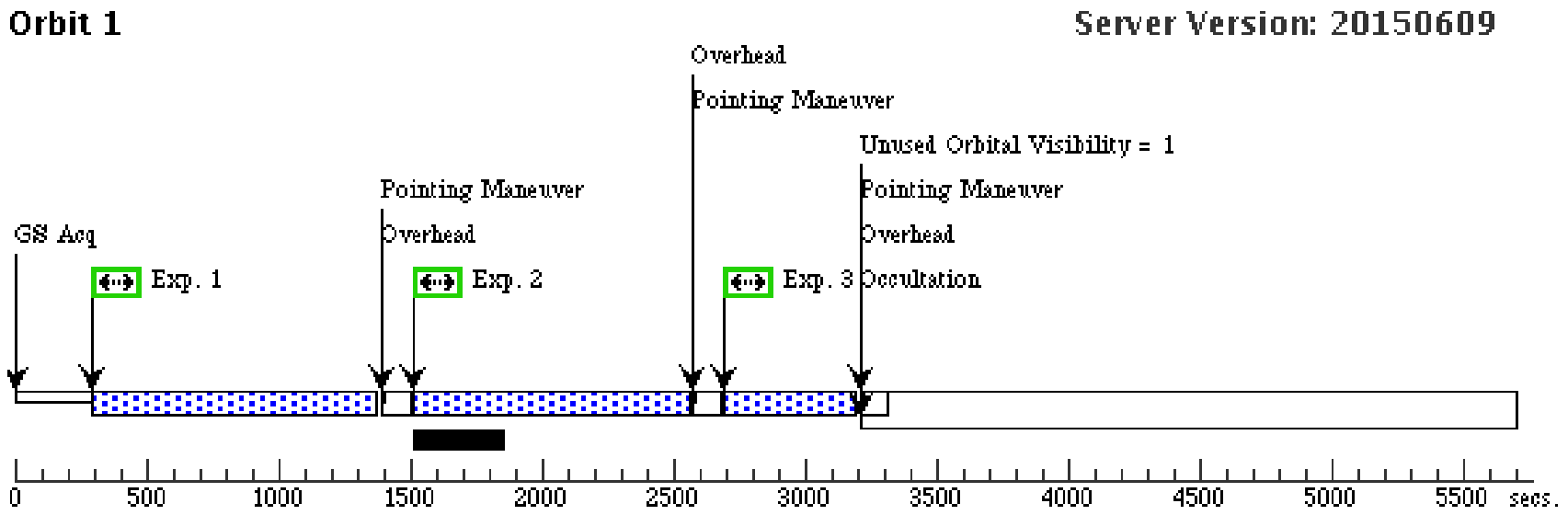
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | NGC-1614 | RA: 04 33 59.9885 (68.4999521d)<br>Dec: -08 34 45.51 (-8.57931d)<br>Equinox: J2000 | | V=12.89 | Reference Frame: NED |

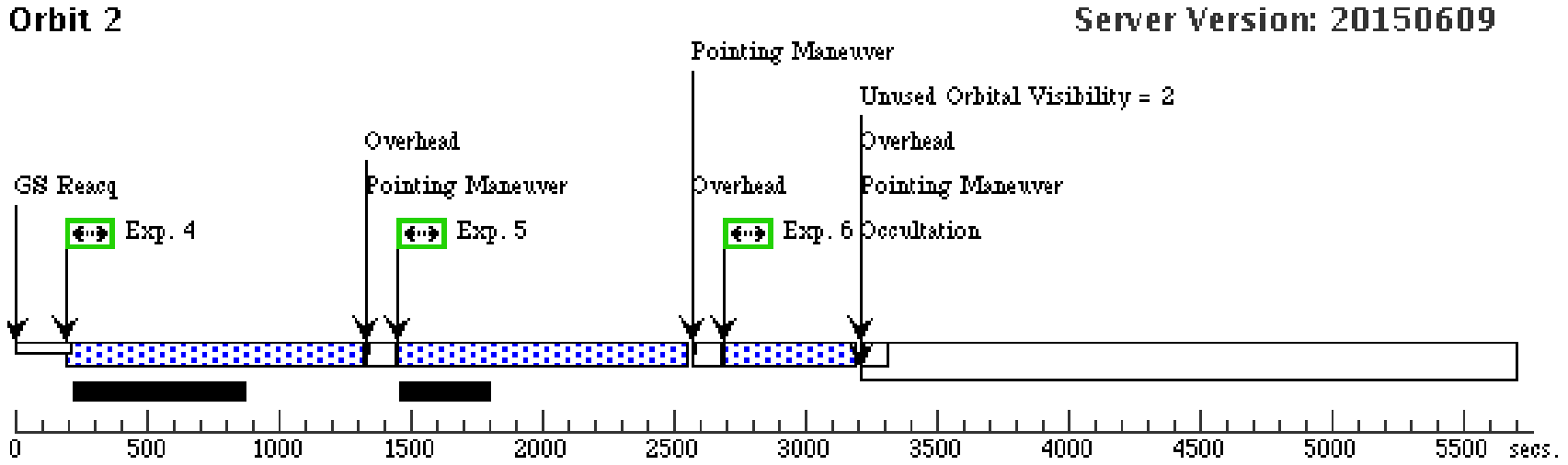
*Comments: This object was generated by the targetselector and retrieved from the NED database.This object was generated by the targetselector and retrieved from the NED database. Extended=YES*

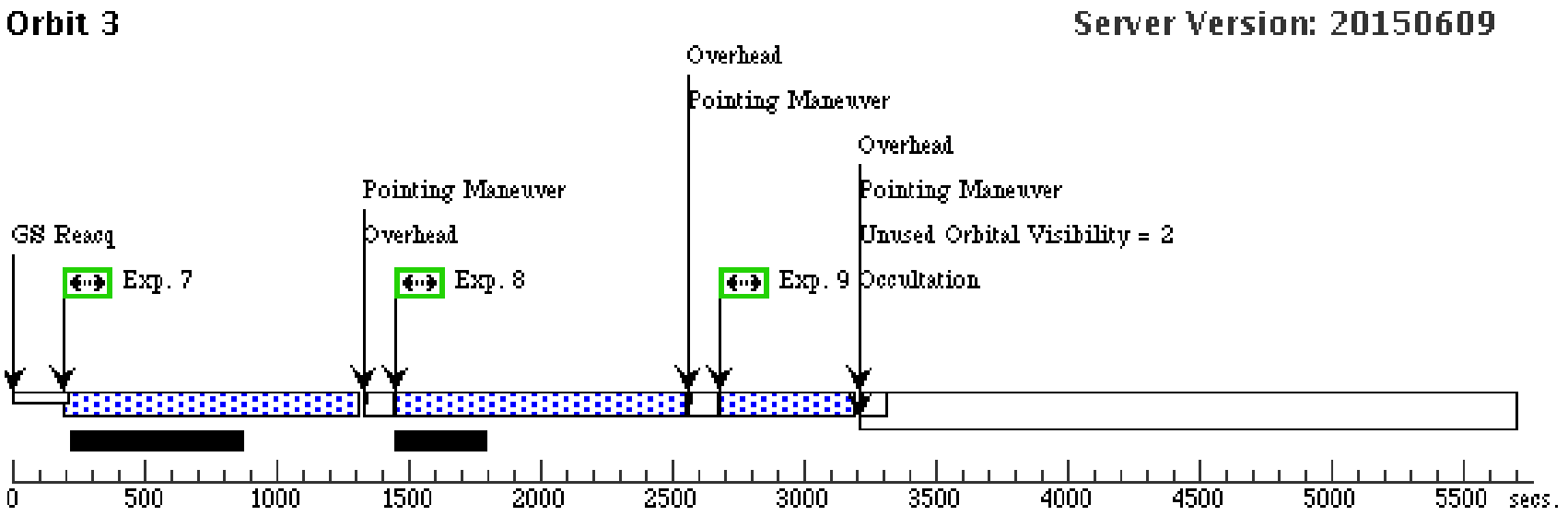
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F336W-1 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 10,null | | 1050 Secs (1050 Secs)<br>*[==>]* | ***[1]*** |
| 2 | F336W-2 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 11.34,3.94 | | 1050 Secs (1050 Secs)<br>*[==>]* | ***[1]*** |
| 3 | F555W-1 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 10,0 | | 480 Secs (480 Secs)<br>*[==>]* | ***[1]*** |
| 4 | F336W-3 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 8.66,-3.94 | | 1105 Secs (1105 Secs)<br>*[==>]* | ***[2]*** |
| 5 | F336W-4 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 10.1,0.1 | | 1105 Secs (1105 Secs)<br>*[==>]* | ***[2]*** |
| 6 | F555W-2 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 11.34,3.94 | | 480 Secs (480 Secs)<br>*[==>]* | ***[2]*** |
| 7 | F336W-5 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 11.44,4.04 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 8 | F336W-6 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 8.76,-3.84 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 9 | F555W-3 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 8.66,-3.94 | | 490 Secs (490 Secs)<br>*[==>]* | ***[3]*** |
| 10 | F665N-2 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=8 | POS TARG 11.34,3.94 | | 905 Secs (905 Secs)<br>*[==>]* | ***[4]*** |
| 11 | F665N-3 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=8 | POS TARG 8.66,-3.94 | | 905 Secs (905 Secs)<br>*[==>]* | ***[4]*** |
| 12 | F665N-1 | (2) NGC-1614 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=8 | POS TARG 10,0 | | 905 Secs (905 Secs)<br>*[==>]* | ***[4]*** |

Orbit Structure




Orbit 3
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GS Reacq
Exp. 7
Pointing Maneuver
Overhead
Exp. 8
Overhead
Pointing Maneuver
Exp. 9
Overhead
Pointing Maneuver
Unused Orbital Visibility = 2
Occultation
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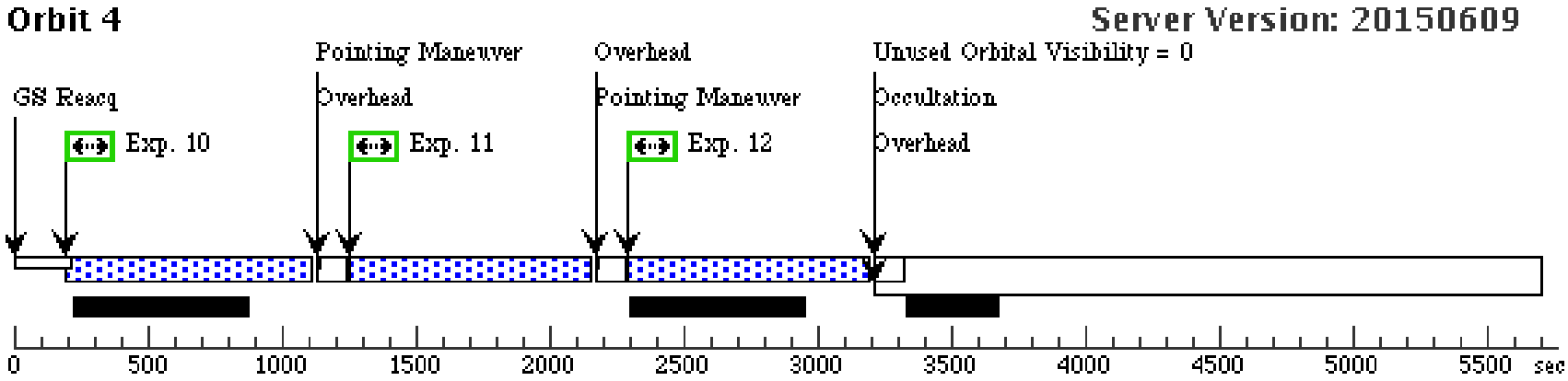
secs.


Orbit 4
Server Version: 20150609
GS Reacq
Exp. 10
Pointing Maneuver
Overhead
Exp. 11
Overhead
Pointing Maneuver
Exp. 12
Unused Orbital Visibility = 0
Occultation
Overhead
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3000
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4000
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5500
sec

## Visit

**Proposal 14066, Vis3-NGC3690 (03), scheduling** Wed Nov 04 02:16:47 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 65D TO 110 D

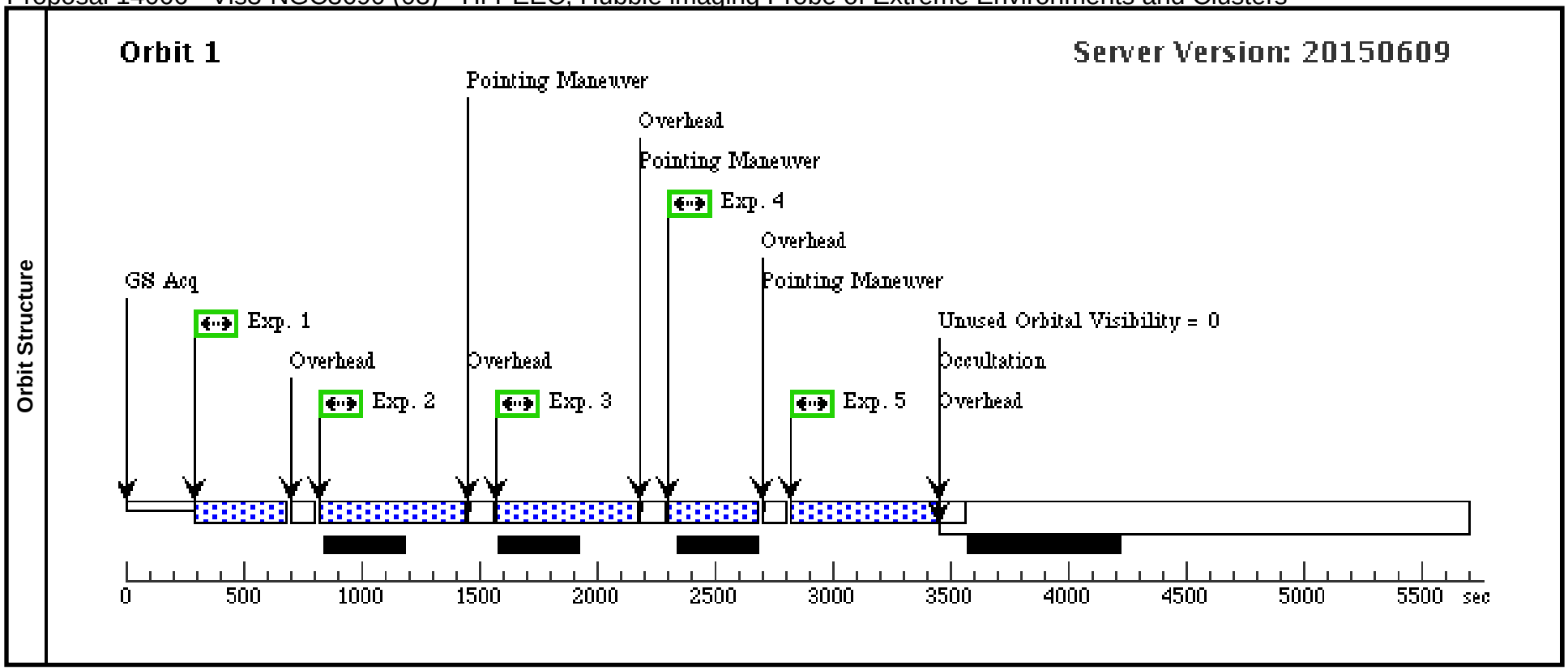
## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | NGC-3690 | RA: 11 28 28.1876 (172.1174483d)<br>Dec: +58 34 4.31 (58.56786d)<br>Equinox: J2000 | | V=12.8 | Reference Frame: NED |

*Comments: This object was generated by the targetselector and retrieved from the NED database.*
*Extended=YES*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F555W-1 | (3) NGC-3690 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | FLASH=2 | | | 360 Secs (360 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 2 | F665N-1 | (3) NGC-3690 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | | | 600 Secs (600 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 3 | F665N-2 | (3) NGC-3690 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 1.34,3.94 | | 600 Secs (600 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 4 | F555W-2 | (3) NGC-3690 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | FLASH=2 | POS TARG 1.44,4.04 | | 360 Secs (360 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 5 | F665N-3 | (3) NGC-3690 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG -1.34,-3.94 | | 599 Secs (599 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |


Orbit Structure
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Server Version: 20150609
Pointing Maneuver
Overhead
Pointing Maneuver
Exp. 4
Overhead
Pointing Maneuver
GS Acq
Exp. 1
Overhead
Exp. 2
Overhead
Exp. 3
Exp. 5
Unused Orbital Visibility = 0
Occultation
Overhead
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500
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sec

## Visit

**Proposal 14066, Vis4-ESO400 (04), implementation** Wed Nov 04 02:16:47 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 0D TO 125 D; ORIENT 279D TO 308 D

## Fixed Targets

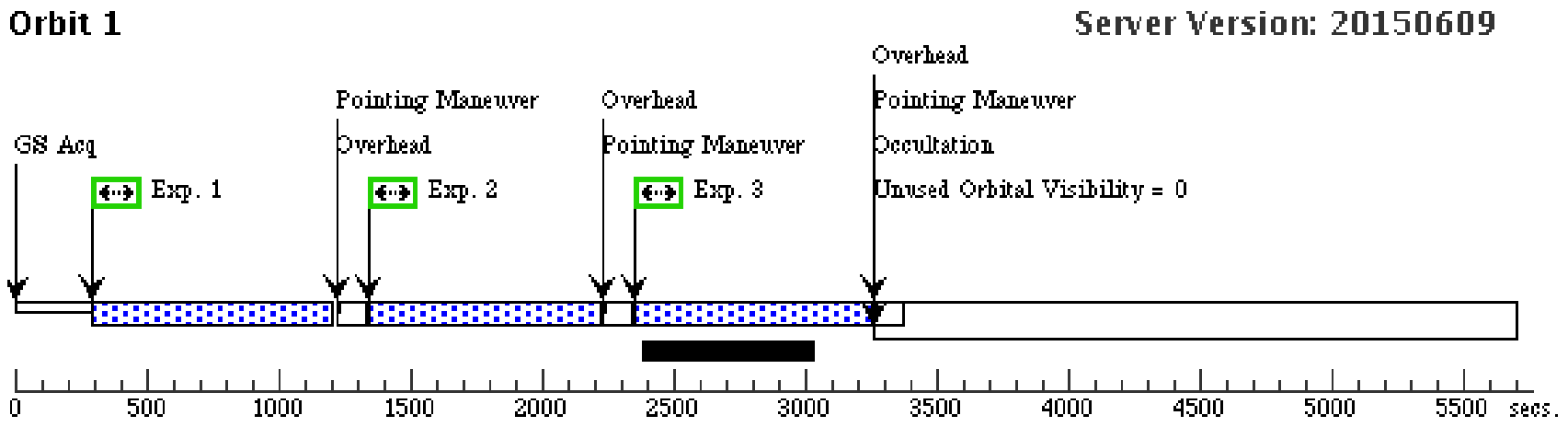
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (7) | ESO-400-43 | RA: 20 37 45.0885 (309.4378688d)<br>Dec: -35 29 19.10 (-35.48864d)<br>Equinox: J2000 | | V=14.34 | Reference Frame: SIMBAD |

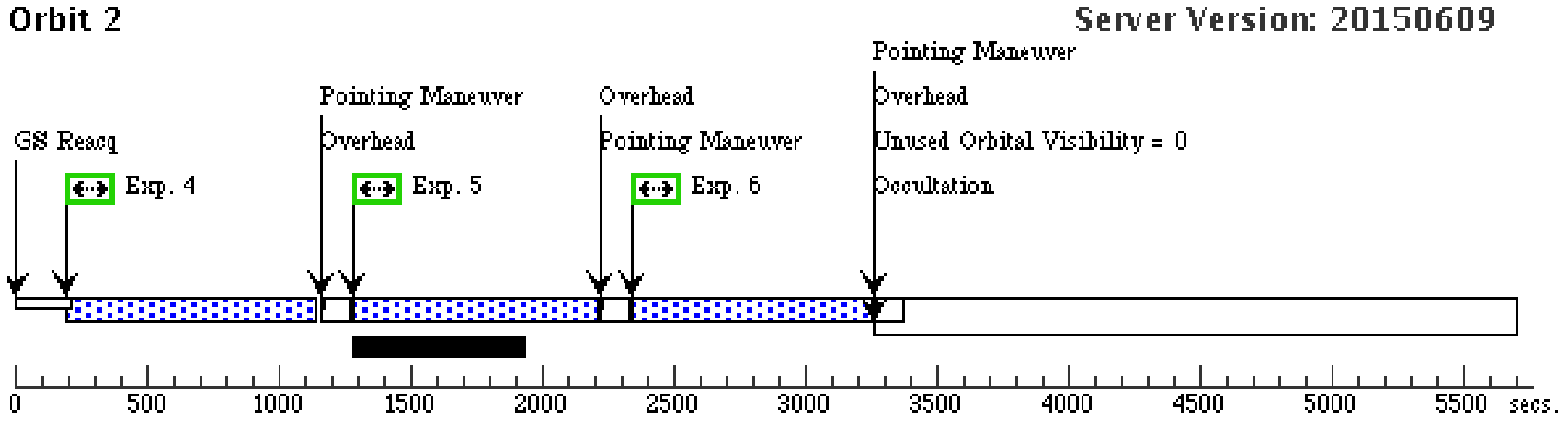
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Extended=YES*

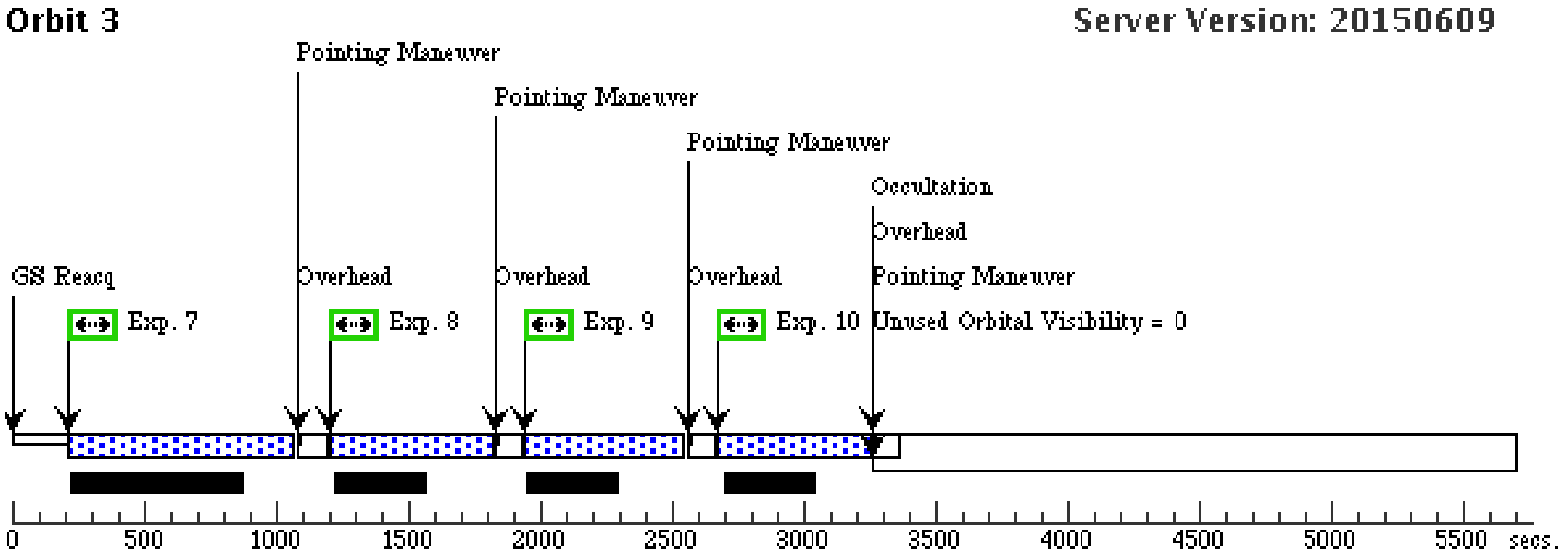
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F336W-1 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 0,0 | | 880 Secs (880 Secs)<br>*[==>]* | ***[1]*** |
| 2 | F336W-2 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG -3.69,1.31 | | 880 Secs (880 Secs)<br>*[==>]* | ***[1]*** |
| 3 | F438W-1 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG 0,0 | | 875 Secs (875 Secs)<br>*[==>]* | ***[1]*** |
| 4 | F336W-3 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG -2.5,-2.44 | | 930 Secs (930 Secs)<br>*[==>]* | ***[2]*** |
| 5 | F336W-4 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 1.19,-3.75 | | 930 Secs (930 Secs)<br>*[==>]* | ***[2]*** |
| 6 | F438W-2 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG 1.34,3.94 | | 886 Secs (886 Secs)<br>*[==>]* | ***[2]*** |
| 7 | F438W-3 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG -1.34,-3.94 | | 850 Secs (850 Secs)<br>*[==>]* | ***[3]*** |
| 8 | F814W-1 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | | POS TARG 0,0 | | 600 Secs (600 Secs)<br>*[==>]* | ***[3]*** |
| 9 | F814W-2 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | | POS TARG 1.34,3.94 | | 600 Secs (600 Secs)<br>*[==>]* | ***[3]*** |
| 10 | F606W-1 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F606W | | POS TARG 0,0 | | 556 Secs (556 Secs)<br>*[==>]* | ***[3]*** |
| 11 | F814W-3 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | | POS TARG -1.34,-3.94 | | 600 Secs (600 Secs)<br>*[==>]* | ***[4]*** |
| 12 | F606W-2 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F606W | | POS TARG 1.44,4.04 | | 561 Secs (561 Secs)<br>*[==>]* | ***[4]*** |
| 13 | F665N-1 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 0,0 | | 720 Secs (720 Secs)<br>*[==>]* | ***[4]*** |
| 14 | F665N-2 | (7) ESO-400-43 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 1.44,4.04 | | 720 Secs (720 Secs)<br>*[==>]* | ***[4]*** |

Orbit Structure

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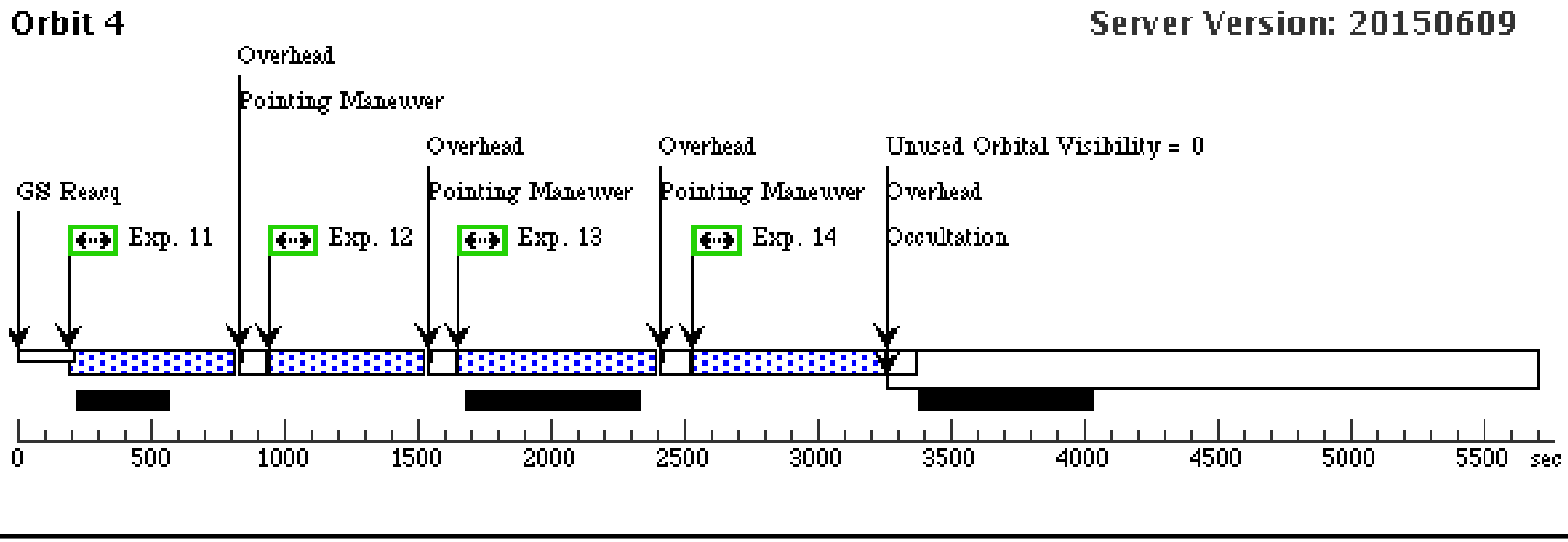
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Occultation
Overhead
Pointing Maneuver
GS Reacq
Overhead
Overhead
Overhead
Exp. 7
Exp. 8
Exp. 9
Exp. 10
Unused Orbital Visibility = 0
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 4
Server Version: 20150609
Overhead
Pointing Maneuver
Overhead
Overhead
Unused Orbital Visibility = 0
Pointing Maneuver
Pointing Maneuver
Overhead
GS Reacq
Occultation
Exp. 11
Exp. 12
Exp. 13
Exp. 14
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

## Visit

**Proposal 14066, Vis5-NGC6052 (05), scheduling** Wed Nov 04 02:16:48 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 70D TO 90 D

## Fixed Targets

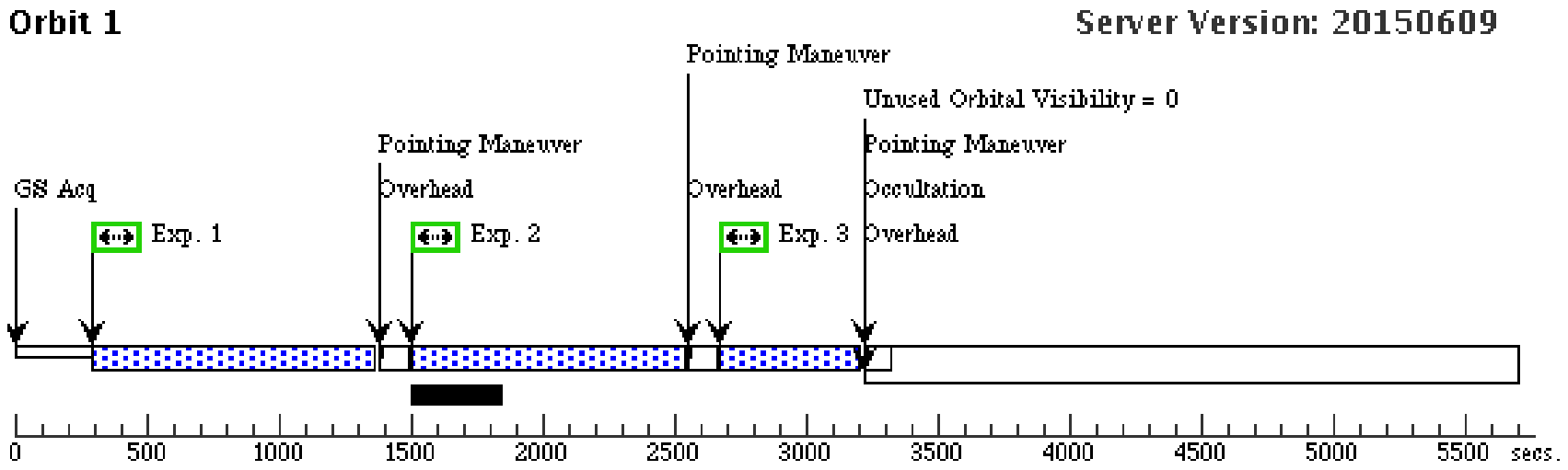
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (5) | NGC-6052 | RA: 16 05 12.3733 (241.3015554d)<br>Dec: +20 32 48.58 (20.54683d)<br>Equinox: J2000 | | V=13.17 | Reference Frame: NED |

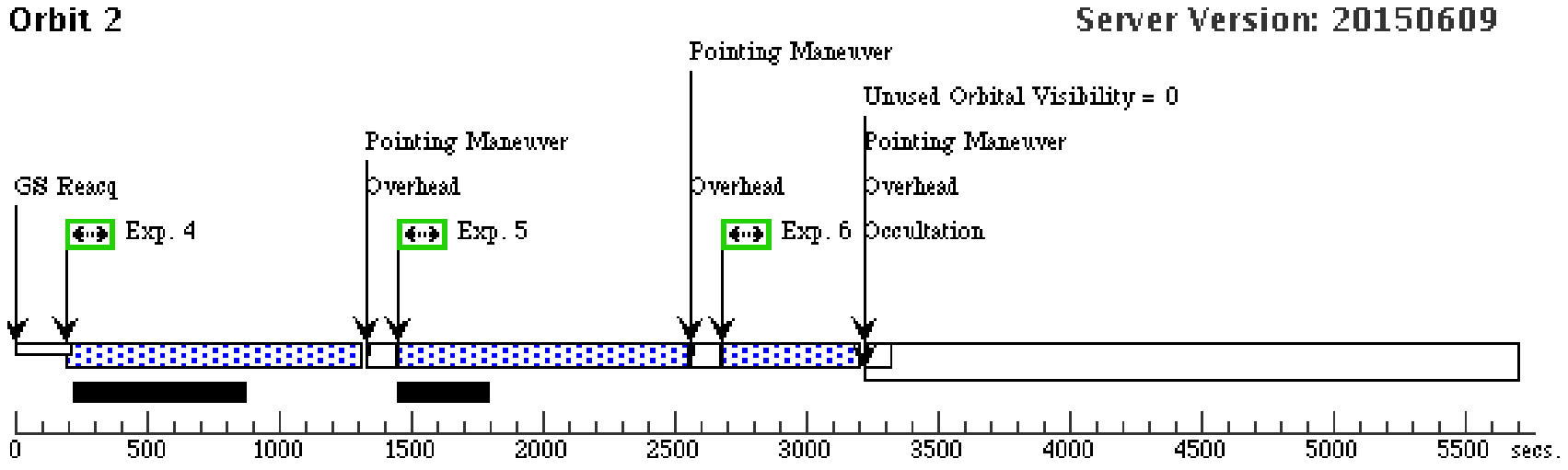
*Comments: This object was generated by the targetselector and retrieved from the NED database.*
*Extended=YES*

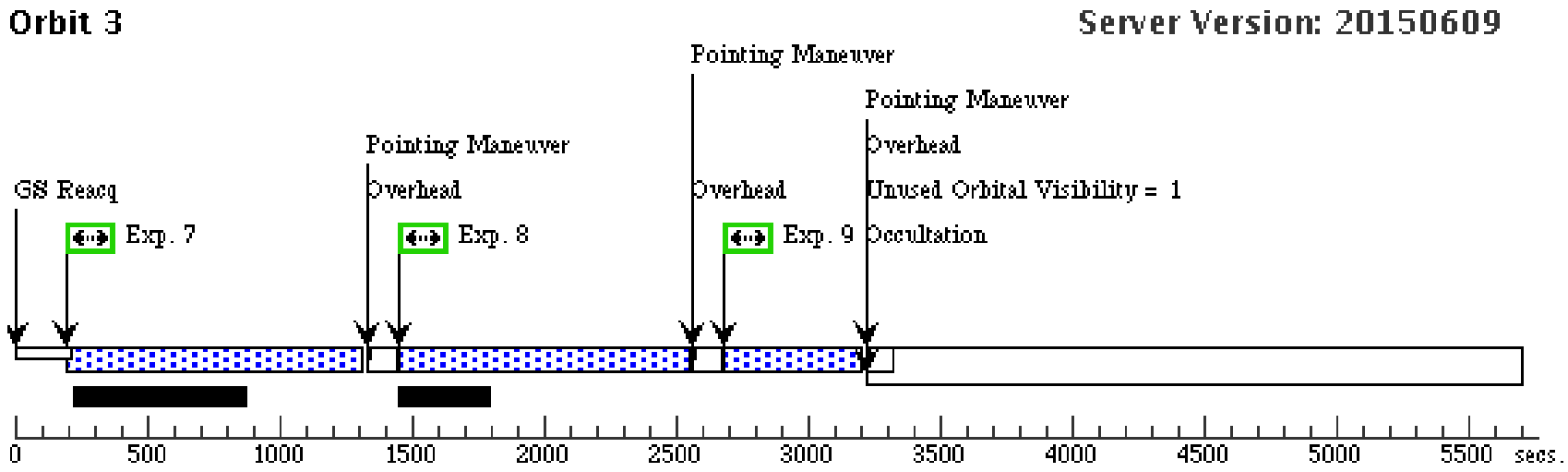
## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F336W-1 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | | | 1040 Secs (1040 Secs)<br>*[==>]* | ***[1]*** |
| 2 | F336W-2 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 1.34,3.94 | | 1040 Secs (1040 Secs)<br>*[==>]* | ***[1]*** |
| 3 | F814W-1 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | FLASH=2 | POS TARG 0,0 | | 513 Secs (513 Secs)<br>*[==>]* | ***[1]*** |
| 4 | F336W-3 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG -1.34,-3.94 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[2]*** |
| 5 | F336W-4 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=9 | POS TARG 0.1,0.1 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[2]*** |
| 6 | F814W-2 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | FLASH=2 | POS TARG 1.34,3.94 | | 504 Secs (504 Secs)<br>*[==>]* | ***[2]*** |
| 7 | F336W-5 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG 1.44,4.04 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 8 | F336W-6 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F336W | FLASH=8 | POS TARG -1.24,-3.84 | | 1100 Secs (1100 Secs)<br>*[==>]* | ***[3]*** |
| 9 | F814W-3 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F814W | FLASH=2 | POS TARG -1.34,-3.94 | | 503 Secs (503 Secs)<br>*[==>]* | ***[3]*** |
| 10 | F438W-2 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG 1.34,3.94 | | 810 Secs (810 Secs)<br>*[==>]* | ***[4]*** |
| 11 | F438W-3 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG -1.34,-3.94 | | 810 Secs (810 Secs)<br>*[==>]* | ***[4]*** |
| 12 | F555W-1 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 0,0 | | 478 Secs (478 Secs)<br>*[==>]* | ***[4]*** |
| 13 | F555W-2 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F555W | | POS TARG 1.44,4.04 | | 478 Secs (478 Secs)<br>*[==>]* | ***[4]*** |
| 14 | F438W-1 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F438W | FLASH=5 | POS TARG 0,0 | | 750 Secs (750 Secs)<br>*[==>]* | ***[5]*** |
| 15 | F665N-1 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 0,0 | | 607 Secs (607 Secs)<br>*[==>]* | ***[5]*** |
| 16 | F665N-2 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG 1.34,3.94 | | 607 Secs (607 Secs)<br>*[==>]* | ***[5]*** |
| 17 | F665N-3 | (5) NGC-6052 | WFC3/UVIS, ACCUM, UVIS-FIX | F665N | FLASH=9 | POS TARG -1.34,-3.94 | | 607 Secs (607 Secs)<br>*[==>]* | ***[5]*** |

Orbit Structure

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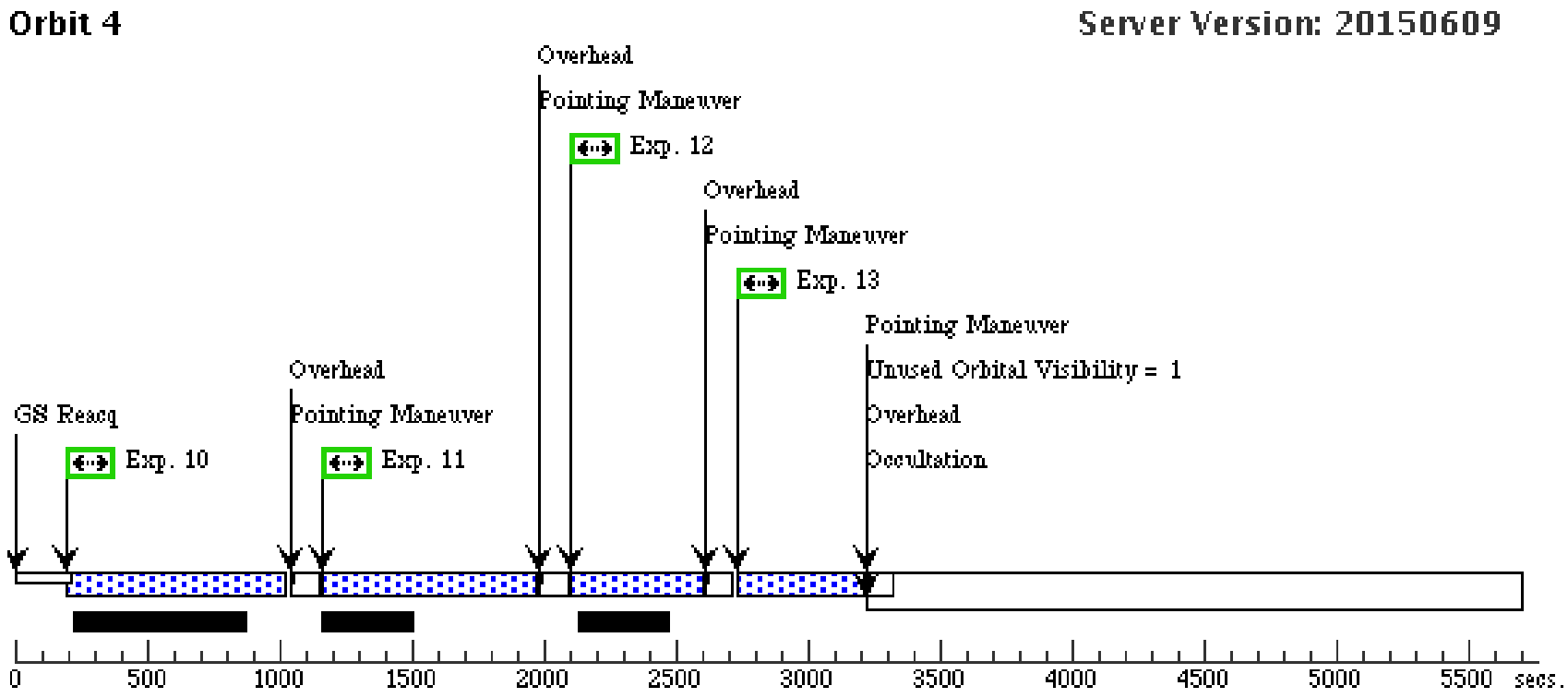
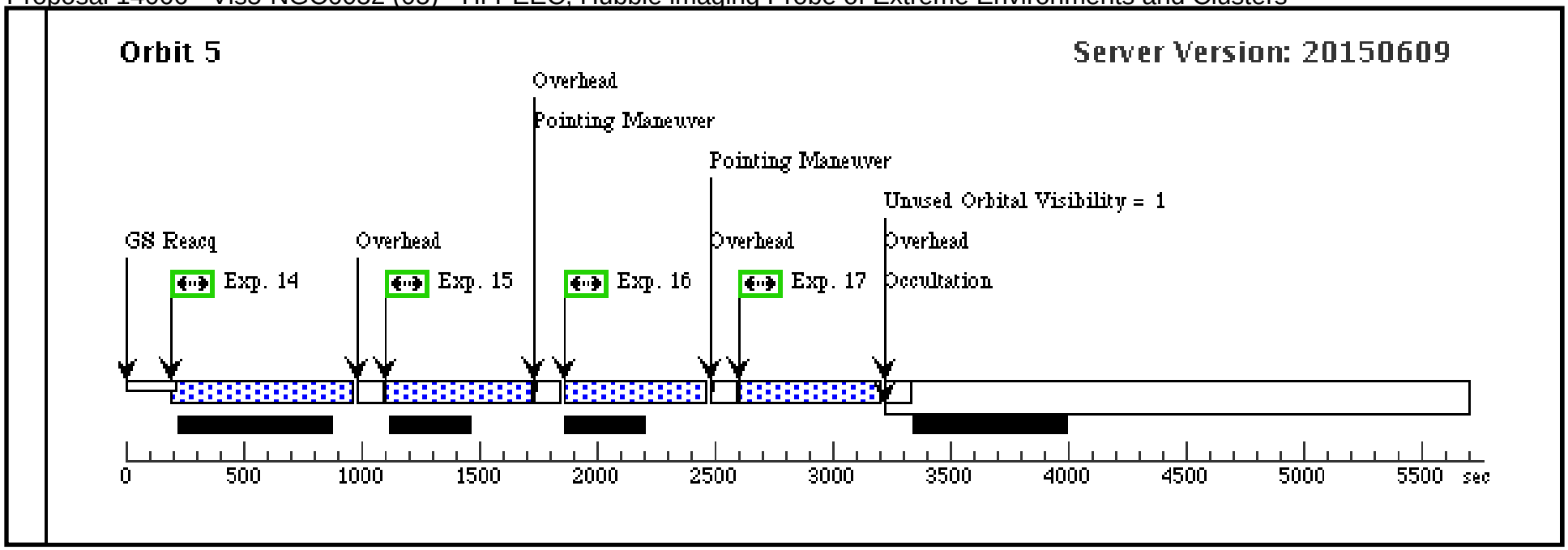
Pointing Maneuver
Pointing Maneuver
Overhead
Unused Orbital Visibility = 1
Occultation
Pointing Maneuver
Overhead
Overhead
GS Reacq
Exp. 7
Exp. 8
Exp. 9
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 4
Server Version: 20150609
GS Reacq
Exp. 10
Overhead
Pointing Maneuver
Exp. 11
Overhead
Pointing Maneuver
Exp. 12
Overhead
Pointing Maneuver
Exp. 13
Pointing Maneuver
Unused Orbital Visibility = 1
Overhead
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 5
Server Version: 20150609
Overhead
Pointing Maneuver
Pointing Maneuver
Unused Orbital Visibility = 1
GS Reacq
Overhead
Overhead
Overhead
Exp. 14
Exp. 15
Exp. 16
Exp. 17
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

## Visit

**Proposal 14066, Vis6-NGC4194 (07), scheduling** Wed Nov 04 02:16:48 GMT 2015

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 120D TO 170 D

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-4194 | RA: 12 14 11.6143 (183.5483929d)<br>Dec: +54 31 11.04 (54.51973d)<br>Equinox: J2000 | | V=12.88 | Reference Frame: NED |

*Comments: This object was generated by the targetselector and retrieved from the NED database.*
*Extended=YES*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | F438W-1 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=7 | POS TARG -30,-10 | | 500 Secs (500 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | F3336W-1 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=9 | POS TARG -30,-10 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | F3336W-2 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=9 | POS TARG -28.66,-6.06 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | F665N-2 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F665N | FLASH=9 | POS TARG -28.56,-5.96 | | 718 Secs (718 Secs)<br>*[==>]* | <br>***[1]*** |
| 5 | F555W-1 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F555W | FLASH=3 | POS TARG -30,-10 | | 300 Secs (300 Secs)<br>*[==>]* | <br>***[2]*** |
| 6 | F3336W-3 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F336W | FLASH=9 | POS TARG -31.34,-13.94 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[2]*** |
| 7 | F555W-2 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F555W | FLASH=3 | POS TARG -28.56,-5.96 | | 300 Secs (300 Secs)<br>*[==>]* | <br>***[2]*** |
| 8 | F665N-1 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F665N | FLASH=9 | POS TARG -30,-10 | | 749 Secs (749 Secs)<br>*[==>]* | <br>***[2]*** |
| 9 | F438W-2 | (6) NGC-4194 | WFC3/UVIS, ACCUM, UVIS2-FIX | F438W | FLASH=7 | POS TARG -28.56,-5.96 | | 500 Secs (500 Secs)<br>*[==>]* | <br>***[2]*** |

Orbit Structure