



15949 - Lyman Continuum Escape in High Definition

Cycle: 27, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> | <i>E-Mail</i> |
|---|--------------------------------------|-------------------------------------|
| Prof. Michael D. Gladders (PI) (Contact) | University of Chicago | gladders@oddjob.uchicago.edu |
| Dr. T. Emil Rivera-Thorsen (CoI) (ESA Member) | Stockholm University | trive@astro.su.se |
| Dr. Jane R. Rigby (CoI) | NASA Goddard Space Flight Center | jane.r.rigby@nasa.gov |
| Prof. Keren Sharon (CoI) | University of Michigan | kerens@umich.edu |
| Dr. John Chisholm (CoI) | University of Texas at Austin | chisholm@austin.utexas.edu |
| Dr. Haakon Dahle (CoI) (ESA Member) | University of Oslo | hdahle@astro.uio.no |
| Dr. Matthew Bayliss (CoI) | University of Cincinnati Main Campus | mbbayliss@gmail.com |
| Dr. Michael Florian (CoI) | NASA Goddard Space Flight Center | michael.k.florian@nasa.gov |
| Dr. Guillaume Mahler (CoI) | University of Michigan | guillaume.mahler@gmail.com |

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) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:20.0 | yes |
| 02 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:21.0 | yes |
| 03 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:21.0 | yes |
| 04 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:22.0 | yes |
| 05 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:22.0 | yes |
| 06 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:23.0 | yes |

| <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> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 07 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:24.0 | yes |
| 08 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 3 | 05-Oct-2020 12:00:24.0 | yes |
| 09 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 2 | 05-Oct-2020 12:00:25.0 | yes |
| 10 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 2 | 05-Oct-2020 12:00:26.0 | yes |
| 11 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:26.0 | yes |
| 12 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:27.0 | yes |
| 13 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:27.0 | yes |
| 14 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:28.0 | yes |
| 15 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:29.0 | yes |
| 16 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:29.0 | yes |
| 17 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:30.0 | yes |
| Z3 | (1) PSZ1G311.65-18.48 | WFC3/IR | 2 | 05-Oct-2020 12:00:31.0 | yes |
| Z4 | (1) PSZ1G311.65-18.48 | WFC3/UVIS | 2 | 05-Oct-2020 12:00:32.0 | yes |

46 Total Orbits Used

ABSTRACT

We propose a detailed imaging program targeting Lyman continuum (LyC) escape from the brightest strongly lensed arc in the entire sky: the $z=2.39$ "Sunburst Arc". Archived 3-orbit F275W imaging of this source shows that it is copiously emitting LyC photons, with a line-of-sight escape fraction, measured from a dozen images of a single emitting clump, of 73%. We propose to study the mechanism of LyC escape in this key object with a much deeper (26 new orbits) LyC image, and 16 orbits of primarily narrowband imaging that will yield full HST resolution maps of Ly-alpha, [OII], [OIII] and H-beta. These images will complement an extensive existing library of spectra sampling the arc, with resolution up to $R=30000$, in the restframe UV and optical. With these data, we will measure the morphology of LyC escape in this source: do all of the ionizing photons come anisotropically from a single unresolved clear channel from that clump, or are they leaking more broadly (and isotropically) from it? Do other clumpy structures in the source also contribute LyC photons, at a lesser level undetected in the current shallow data? The complementary emission line maps will connect the detected LyC escape to other spectral properties that have been flagged as key observables for JWST: the [OIII]/[OII] ratio and the escape fraction and morphology of LyA. The combination of strong lensing and HST will offer exquisite spatial resolution, easily as sharp as

50 parsecs in the source, for these tests. The Sunburst Arc is an extraordinary object, and the data we propose will enshrine it as a fundamental reference for modeling and understanding LyC escape for years to come.

OBSERVING DESCRIPTION

This program will execute imaging the brightest lensed galaxy known, in both narrow and broad bands.

The broad band imaging is in the near UV, and the narrow/medium band imaging is in the NIR. The observations are thus generally readnoise limited, and so visits are quite simple, with as much as possible a few or even one long integration in each orbit.

Visits 1-9:

The 26 orbits of F275W imaging are arranged as 8 3-orbit visits (and 1 2-orbit visit). Detailed analysis using both the ETC and extensive archived F275W imaging to check CR-affected pixel rates (from various programs over the past 5 years) strongly suggests that at least some integrations should be orbit-long, to maximize SNR. After some consideration and discussion we have settled on a strategy in which there are two full-orbit and two half-orbit integration in each 3-orbit visit. Each pair is implemented as a simple line dither, with a gap-crossing postarg assigned between the pairs. This will ensure that each 3-orbit visit produces a stackable, coherent data unit with decent CR rejection, while putting 2/3rds of the integration time into long integrations that maximize SNR. Postflash is used to bring each exposure to the recommended 12e- background.

****NOTE: The recommended postflash levels for F275W differ between the ETC and APT. The WFC3 team has looked at this, and their recommendation - helpdesk ticket number INC0142104 - is to use the up to date ETC postflash values rather than APT values ; we have done so, and this is what is throwing up warning on the F275W orbits. We will continue to work through various archive data to try to further confirm this. *****

The entire Einstein radius of the primary lensed images fits comfortably on one chip of the UVIS channel, and so the target is centered using individual chip apertures. Because the arc covers a significant azimuth, there is no one optimal roll angle but rather a range of roll angles that rotate the brightest portions of the arc (this contains 9 of the 12 images of the LyC emitting clump and is hence where most of the proposed measurement will be made) as close to the readout amplifiers as reasonable, to mitigate CTE effects. Although Chip 2 has a nominally greater sensitivity in F275W, the difference between the chips is less than a few percent in resulting SNR, and the most likely roll angles given overall schedulability will put the primary targets closest to the readout amplifiers on Chip 1 one rather than Chip 2 in most cases, and so we center in all cases on Chip 1.

Visit 10:

The other broadband imaging is a two-orbit integration in F390W, designed to complement an already scheduled F410M observations that will yield a Ly-A map. This two orbit observation is done as a total of 6 exposures using the UVIS-MOS-DITH -LINE pattern to provide good PSF sampling, rejections, even in gap coverage.

Visits 11-17:

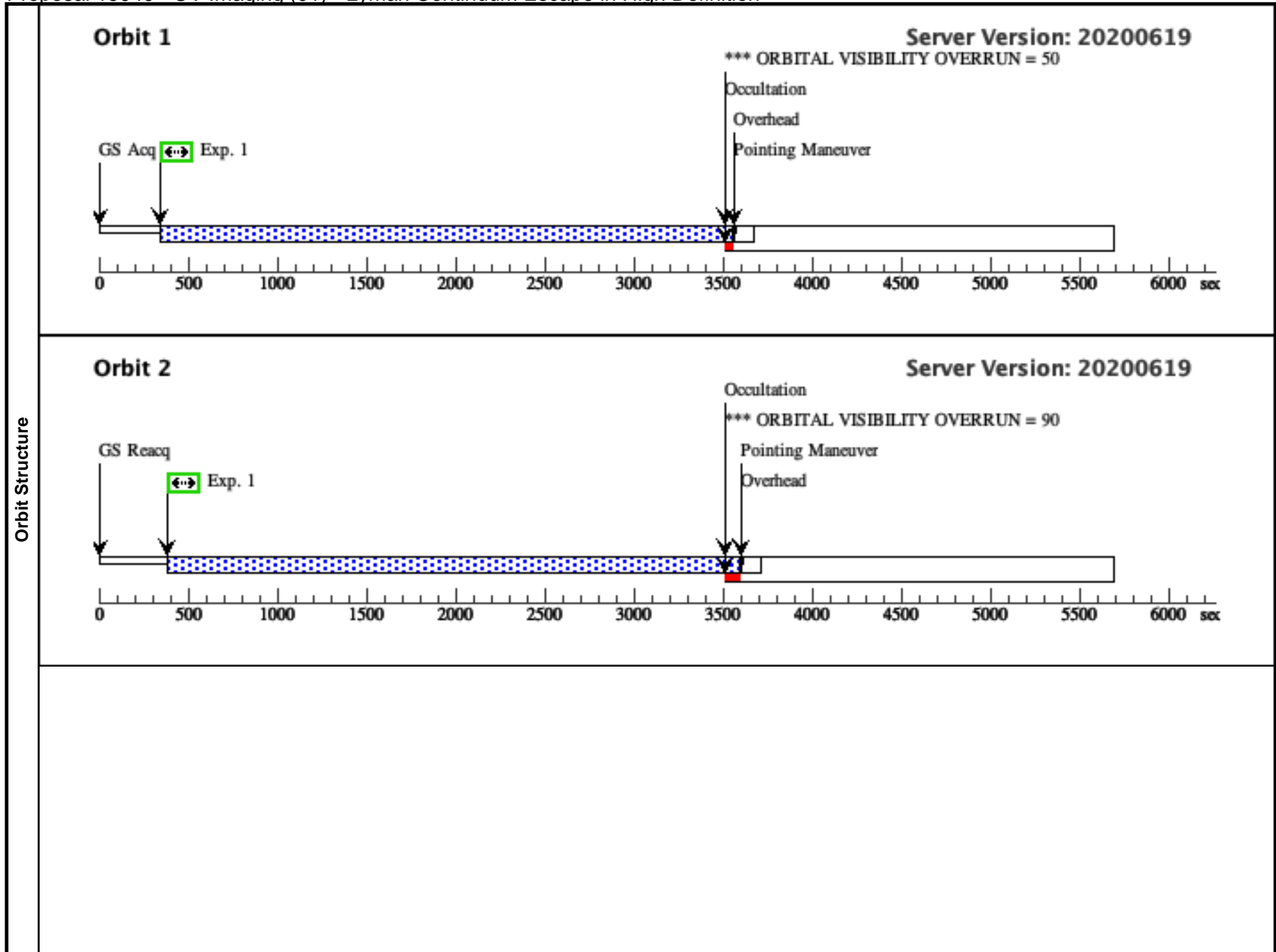
The narrow-band imaging is in a total of five filters; two of these filters are programmed for 4 orbits, each, and the other three for two orbits, each. Again, longest possible integrations are desired here, with at minimum 4 dither positions for each filter to facilitate PSF reconstruction and artifact removal. For filters programmed for 4 orbits, we create two 2-orbit visits, and each orbit contains 1 integration centered on the target. Roll angles are unconstrained - all will work fine. Maximal NSAMP (i.e. NSAMP=15) is key here, since readnoise matters in these narrow band filters. The longest available single integrations with WFC3-IR have NSAMP=15 and either SPARS200 or STEP400 modes (both yield ~2800 seconds in total). We use SPARS200 and NSAMP=15, since the extra dynamic range of the STEP mode isn't important here, and the SPARS mode gives better CR rejection across the integration. For the three filters that each execute over two orbits total, each orbit contains two NSAMP=15, SPARS100 exposures. The dithering is done as a large step (to step over IR blobs) with the orbits with more than one integrations including a small PSF-sampling dither step.

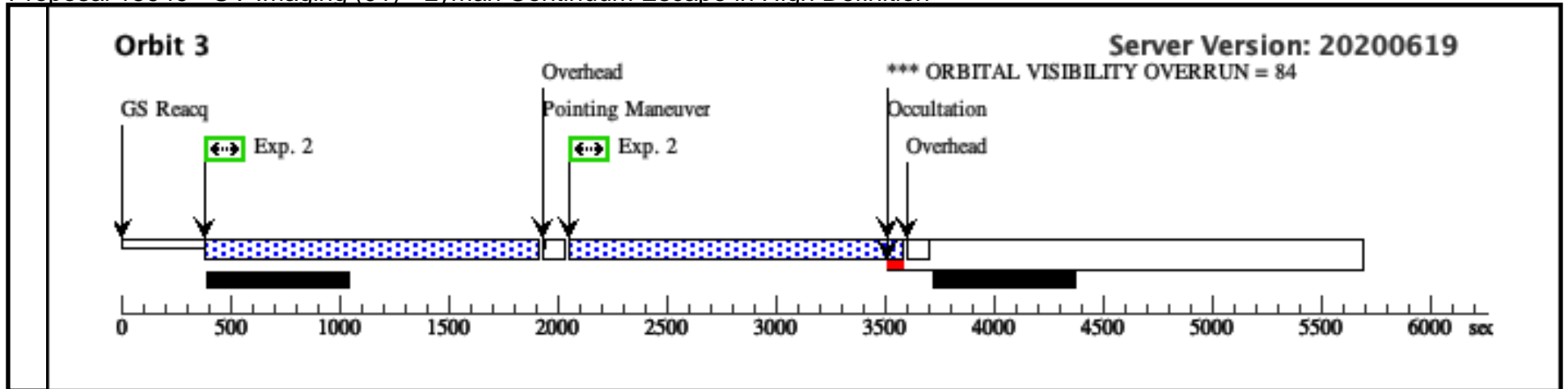
The nature of WFC3-IR timing sequences, and the desire to have long exposures and maximal NSAMP, means that each of the orbits has a few hundred seconds of unallocated time in each orbit. This is unavoidable in the case of the longest single integrations (~2800 seconds is maximum, and each orbit for this target has ~3100 seconds of available time). For the orbits with two exposures, one could in principle grab this time back by going to SPARS200 for each exposures and dropping the NSAMP down by a factor of ~2 on each exposure; however this is a larger noise hit than leaving that time unused in the primary filters. To make constructive scientific use of these snippets of time, we have added a single integration in F410W to each orbit (200-300 seconds total time per orbit). Total integration time across the program in F140W that emerges from this is 3642 seconds, spread across 7 epochs (with likely 5 distinct roll angles, and at least two dither positions at each), allowing both an extremely well sampled full F140W image to be constructed, and 7 epochs of data to be searched for variability. (This addition was approved by the WFC3 instrument team).

Proposal 15949 - UV Imaging (01) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:32 GMT 2020

| | | | | | | | | | | |
|--|---|--|--|---------------------------------|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (01), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | (UV Imaging (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (01))) 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 5, Exps 2-2 in UV Imaging (01))) 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 | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (01) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (01) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

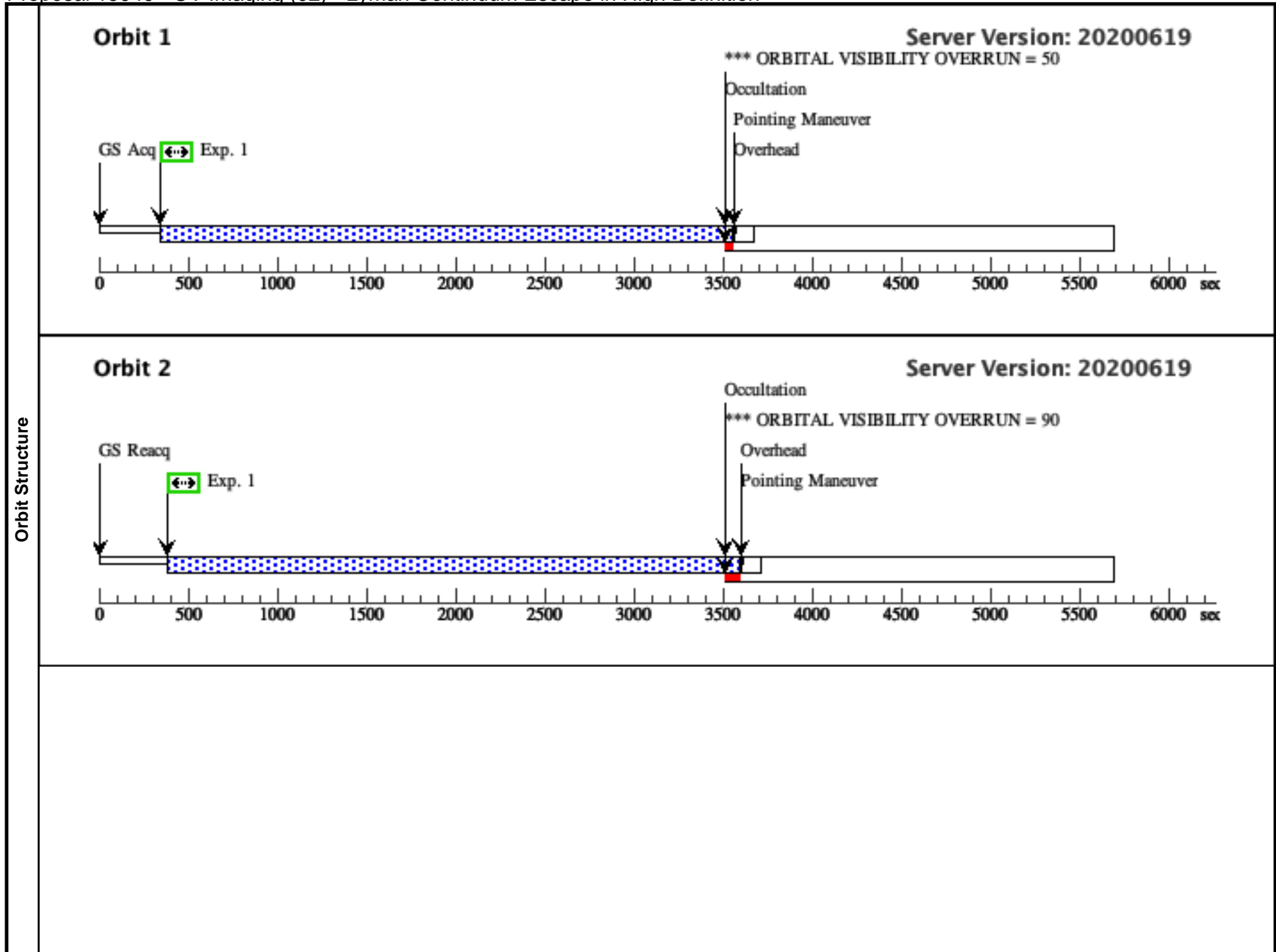


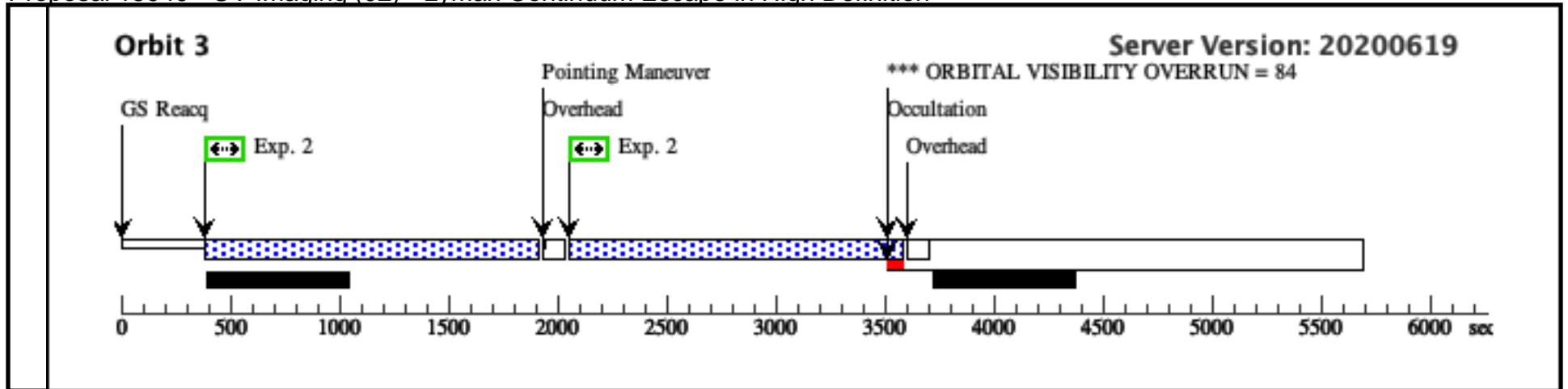


Proposal 15949 - UV Imaging (02) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:32 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (02), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (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 5, Exps 2-2 in UV Imaging (02))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (02) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (02) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

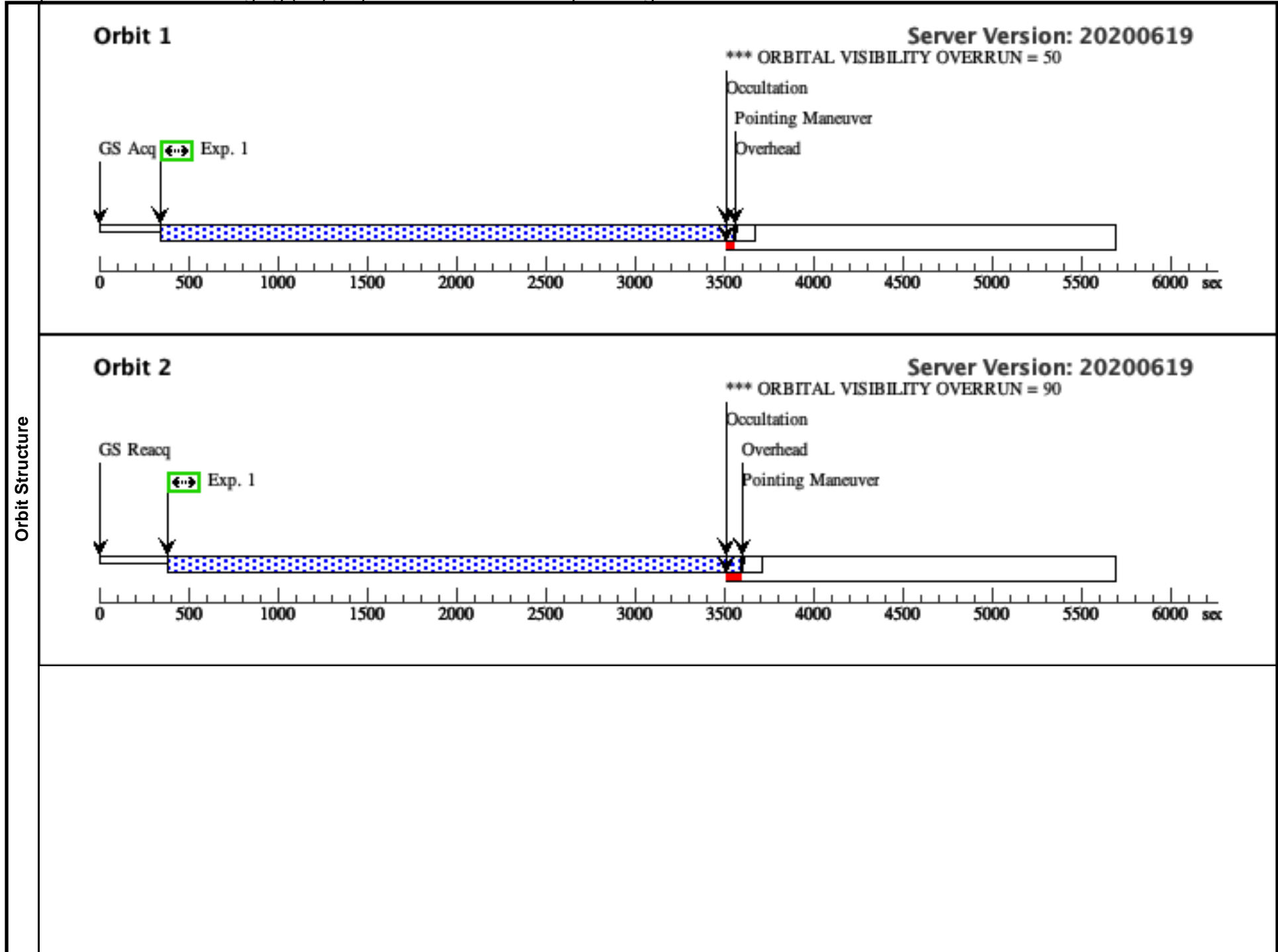


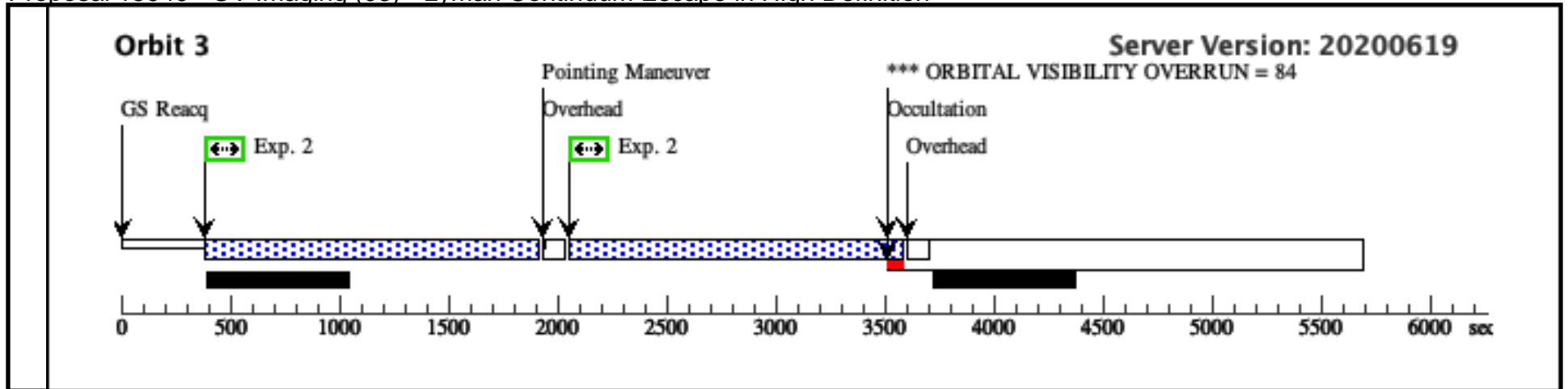


Proposal 15949 - UV Imaging (03) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|--|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (03), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (03))) 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 5, Exps 2-2 in UV Imaging (03))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (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), (2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (03) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (03) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | [3] | |

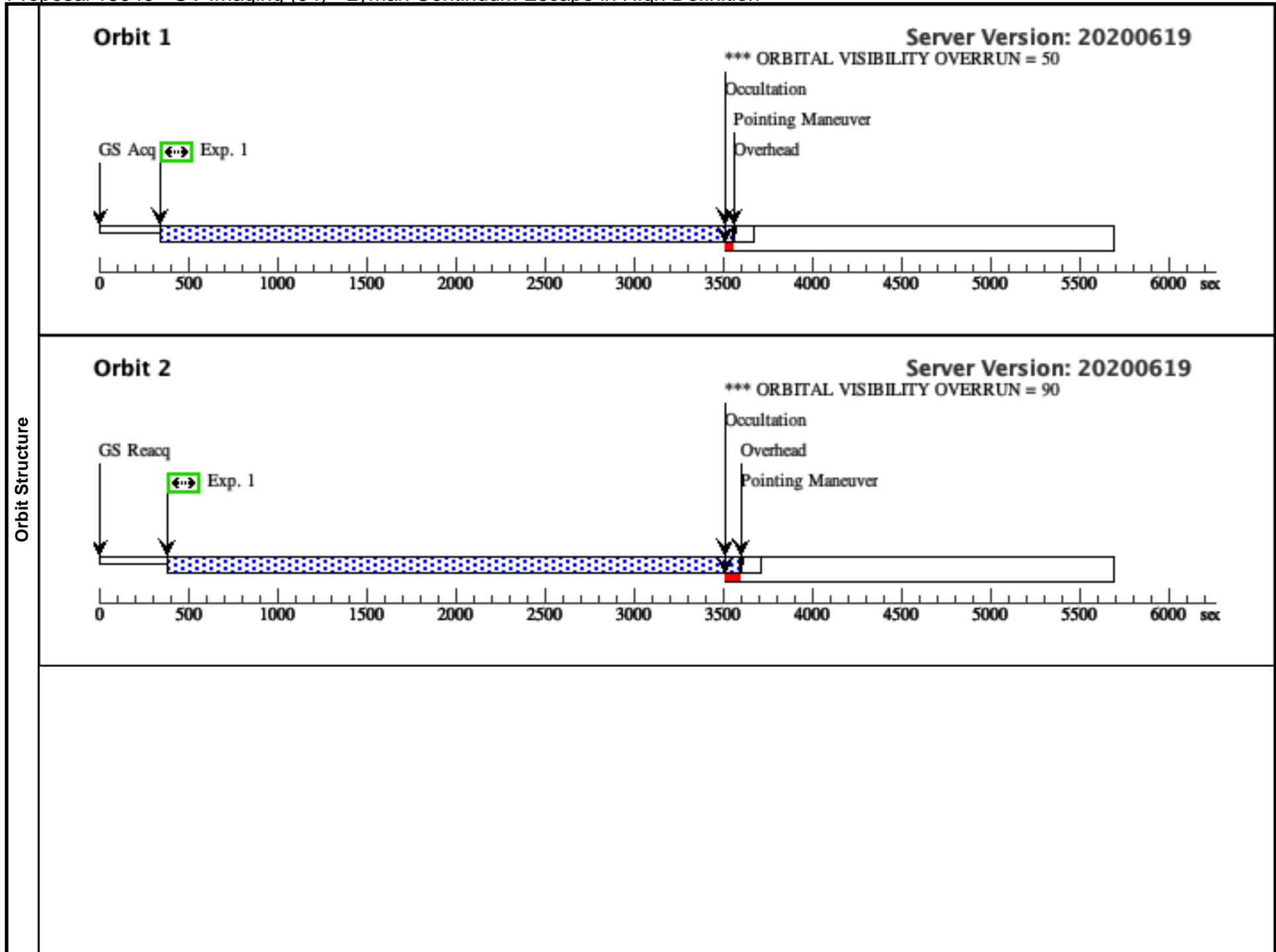


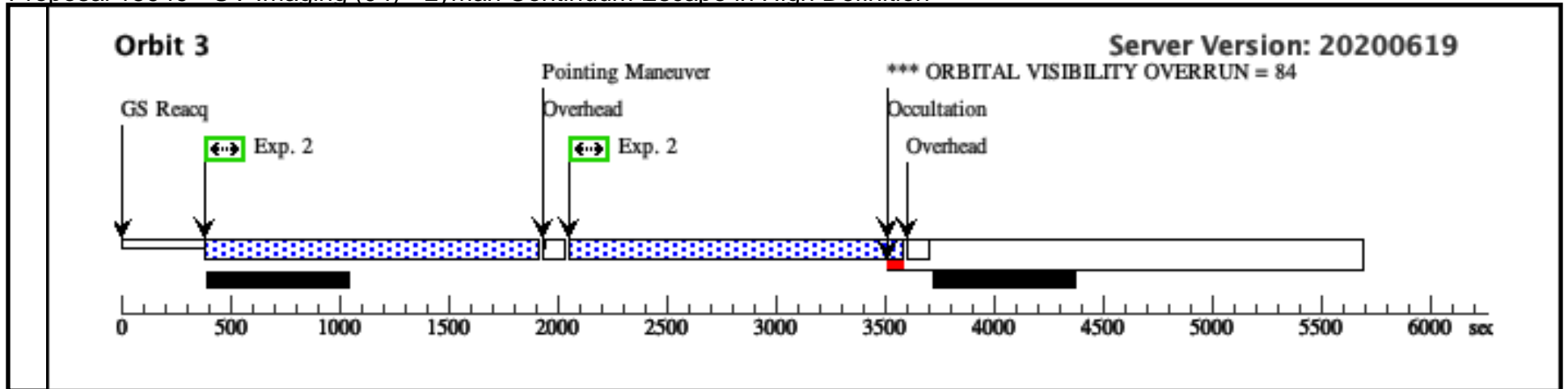


Proposal 15949 - UV Imaging (04) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (04), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (04))) 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 5, Exps 2-2 in UV Imaging (04))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (04) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (04) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

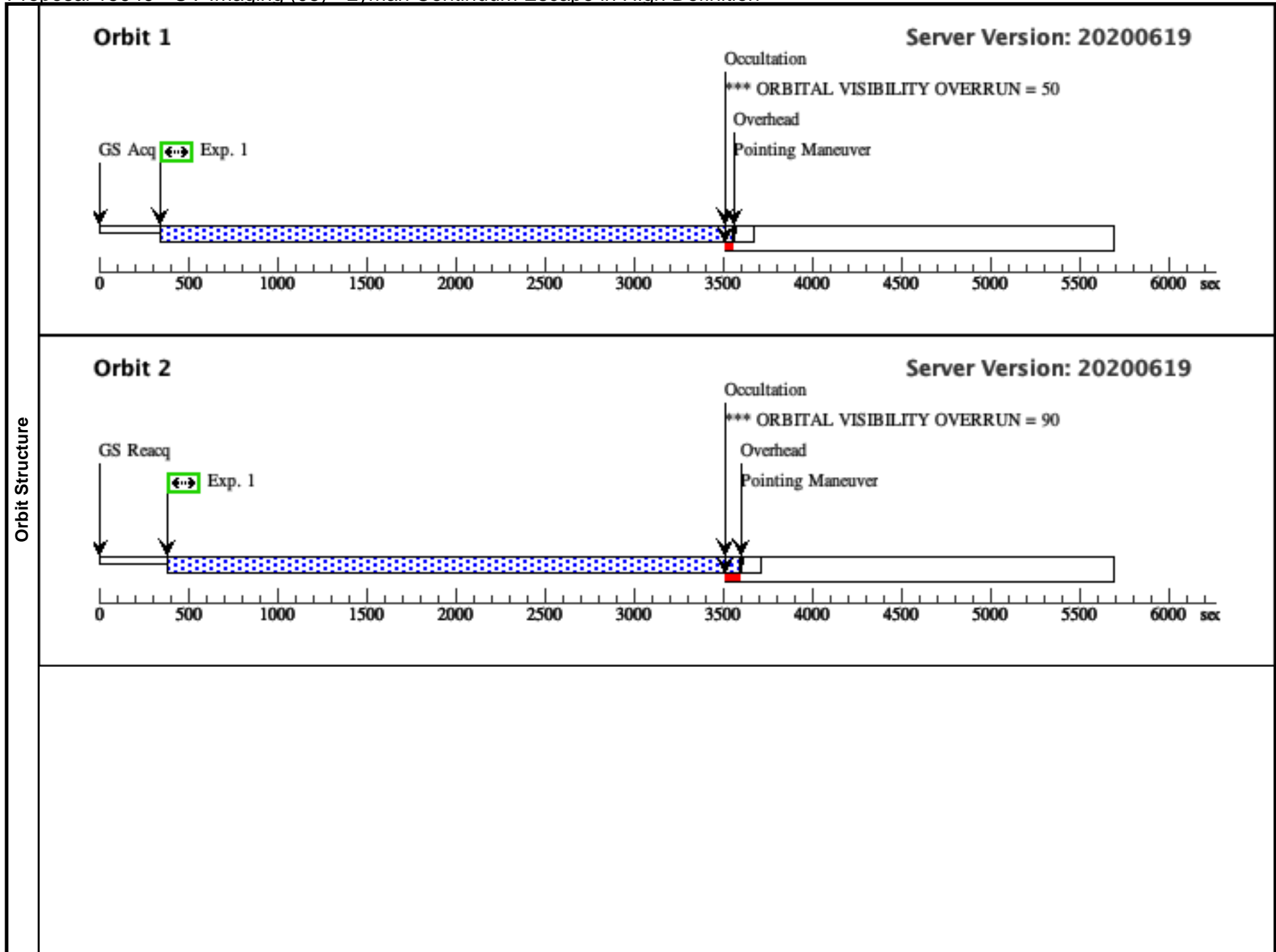


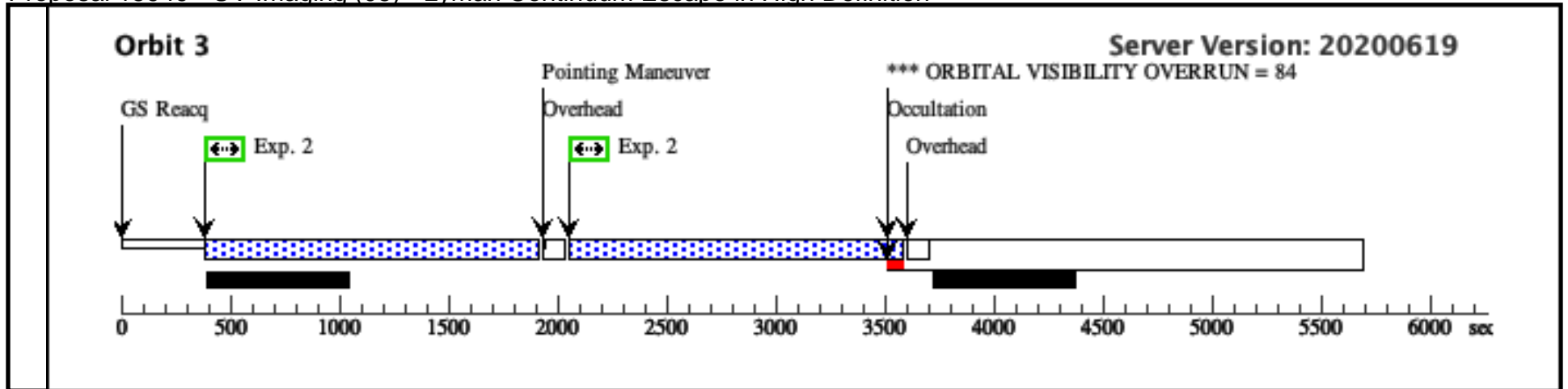


Proposal 15949 - UV Imaging (05) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (05), failed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (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 5, Exps 2-2 in UV Imaging (05))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (05) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (05) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

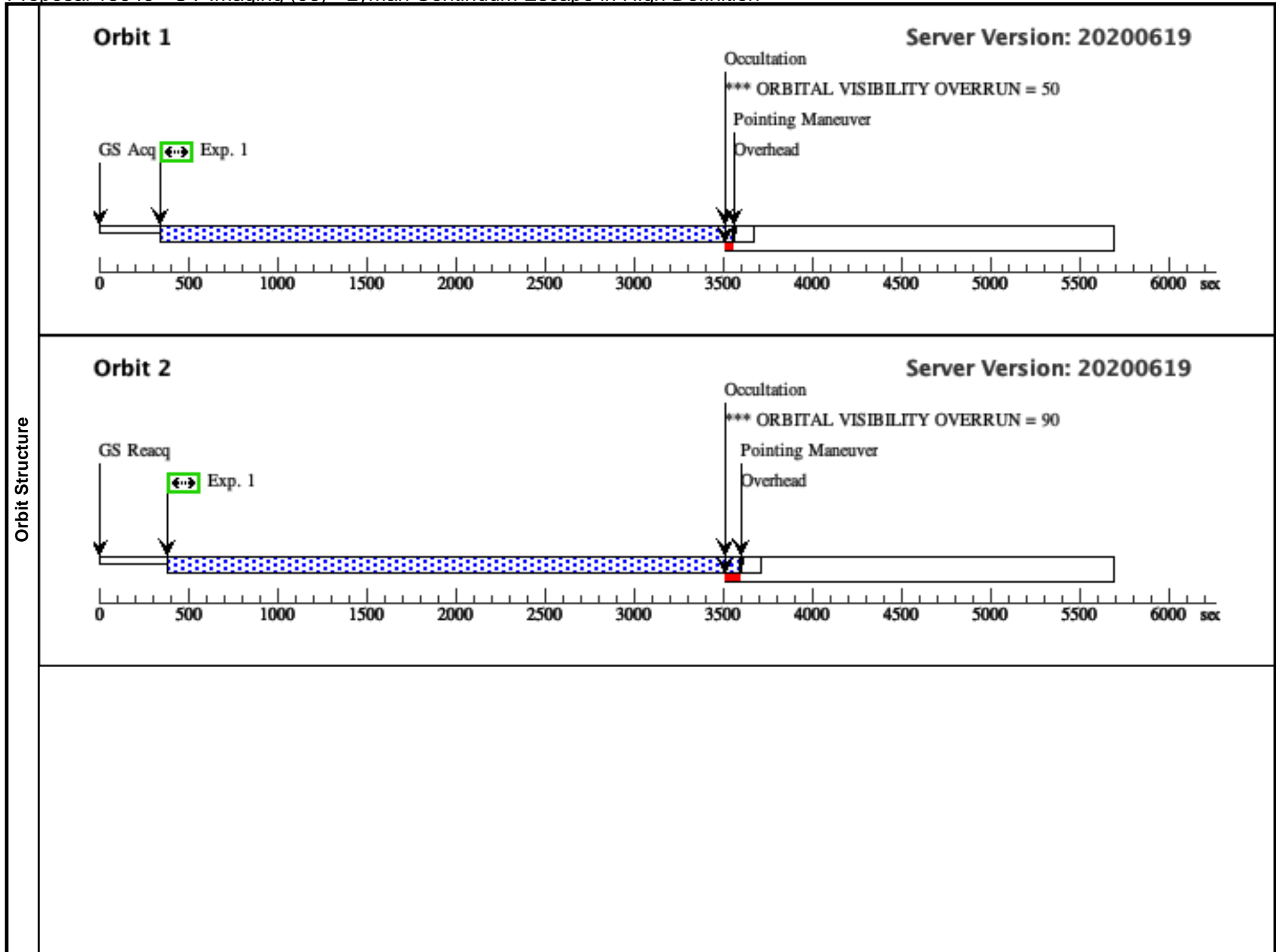


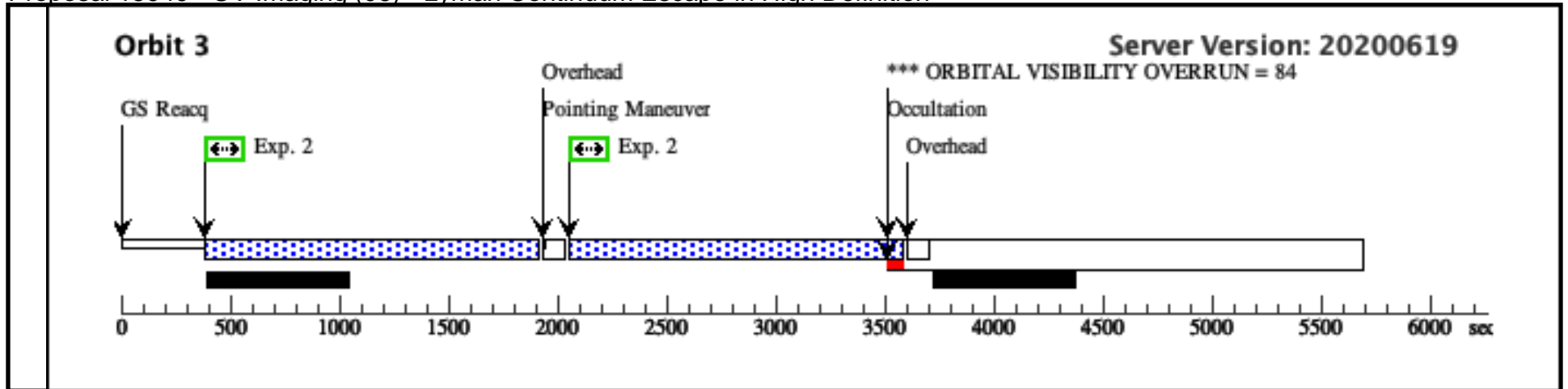


Proposal 15949 - UV Imaging (06) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|--|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (06), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (06))) 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 5, Exps 2-2 in UV Imaging (06))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (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), (2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (06) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (06) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

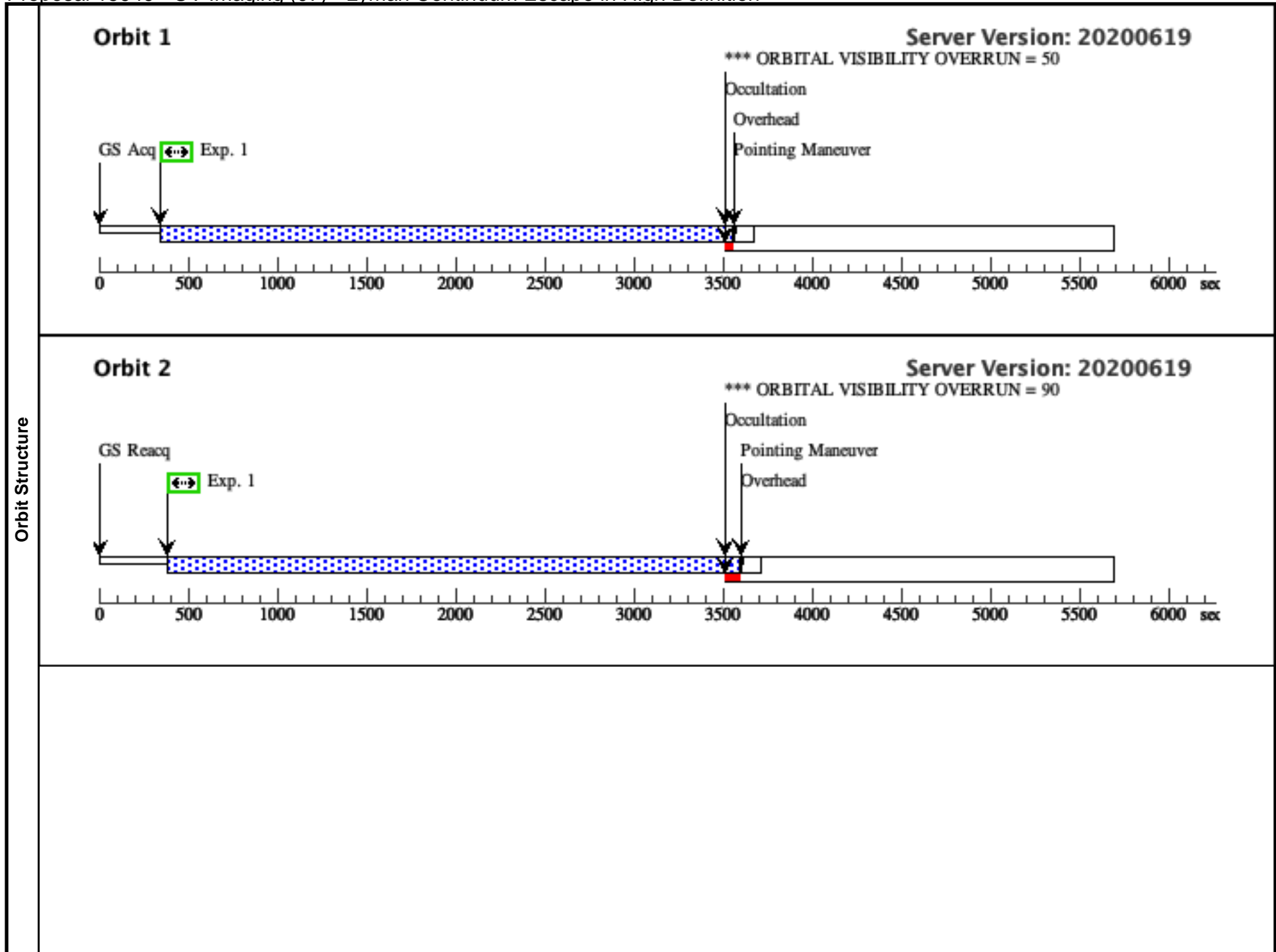


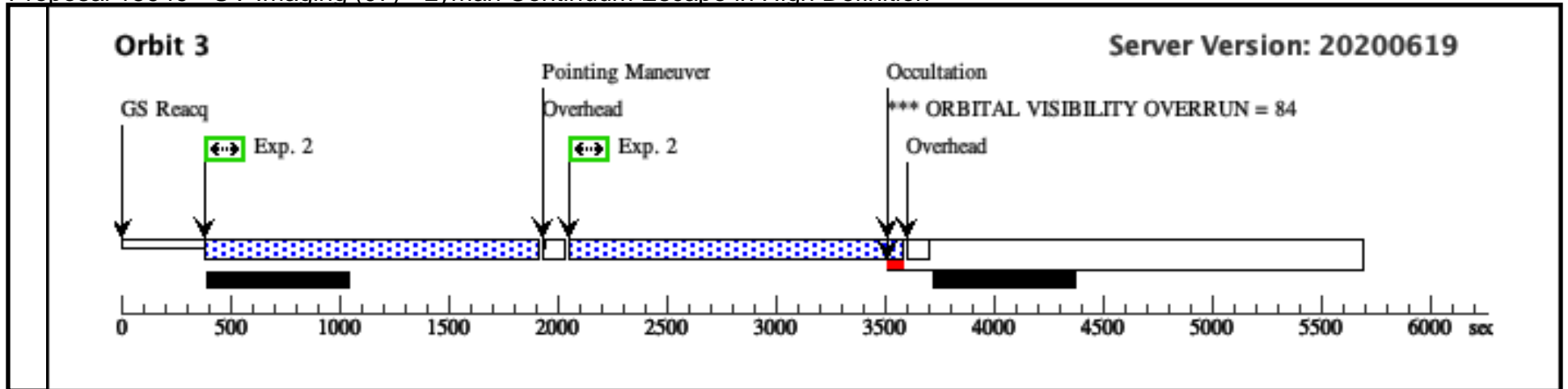


Proposal 15949 - UV Imaging (07) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (07), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (07))) 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 5, Exps 2-2 in UV Imaging (07))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (07) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (07) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | [3] | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | | |

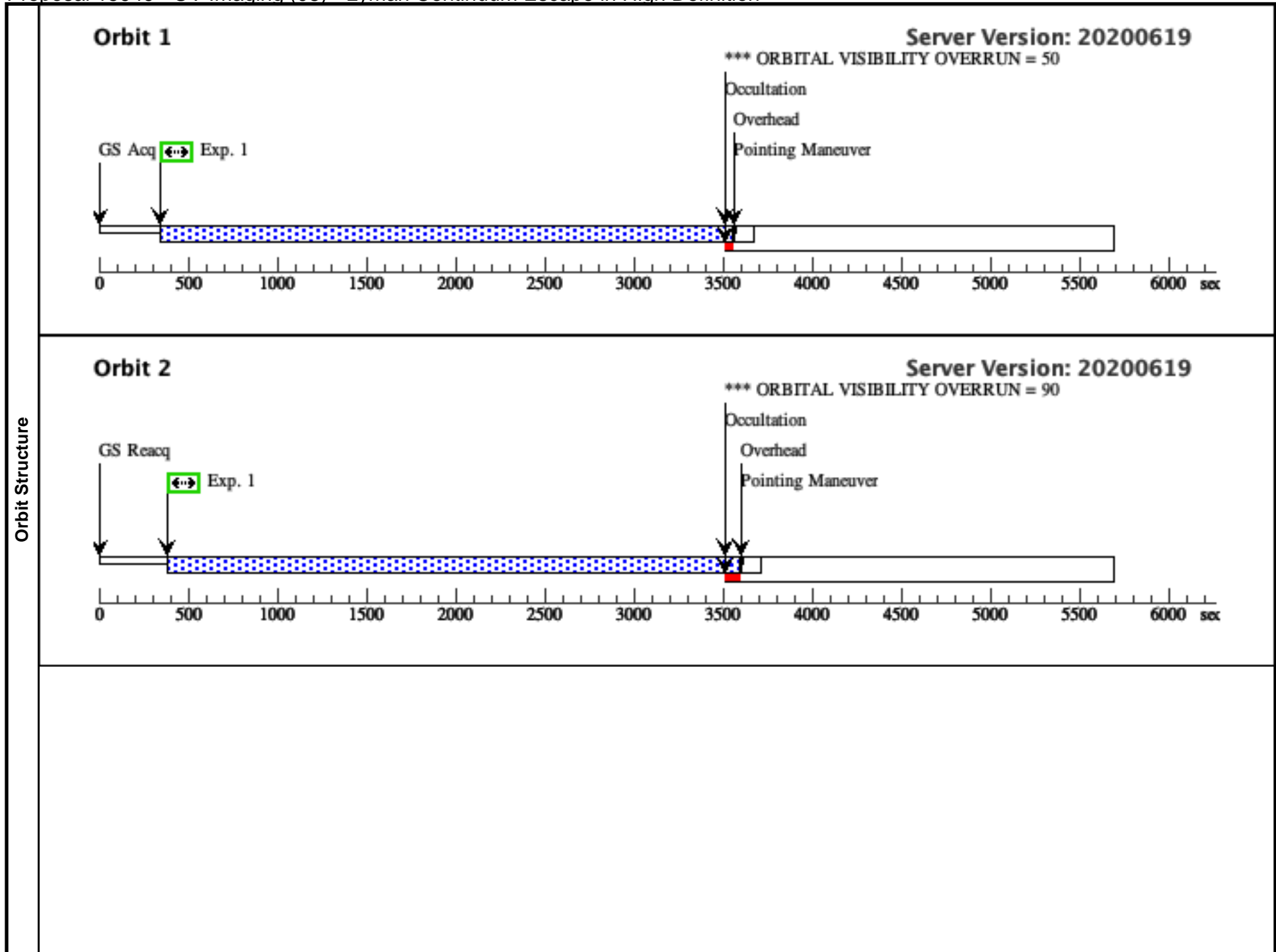


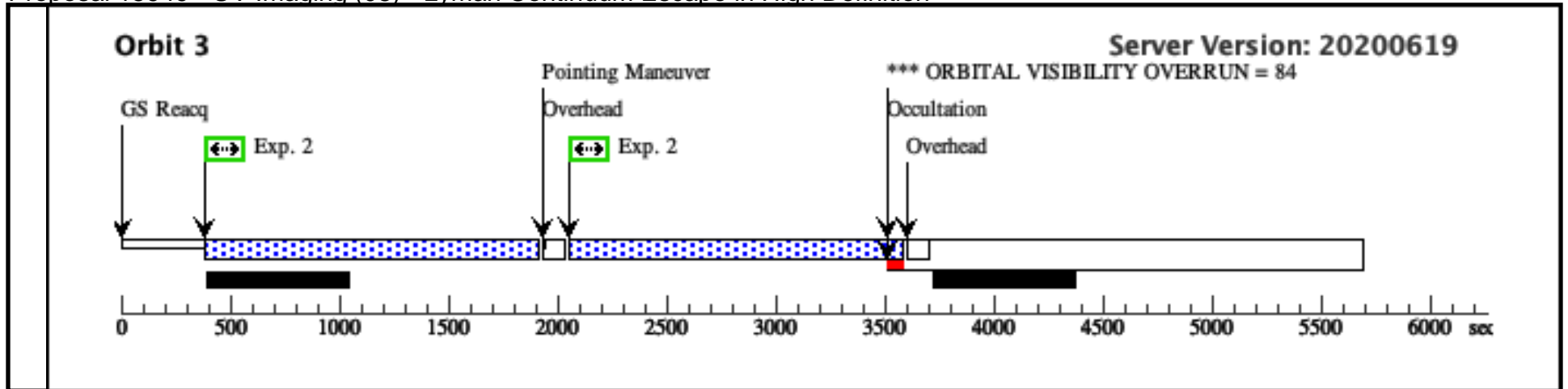


Proposal 15949 - UV Imaging (08) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|--|----------------------|-----------------------|--|--|--|--------------|
| Visit | Proposal 15949, UV Imaging (08), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging (08))) 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 5, Exps 2-2 in UV Imaging (08))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (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), (2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=8 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging (08) (5) | 3178 Secs (6387 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>3209.0 Secs (Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging (08) (5) | 1500 Secs (3072 Secs) | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 1)] | | |
| | | | | | | | | [==>1536.0 Secs (Pattern 2)] | [3] | |

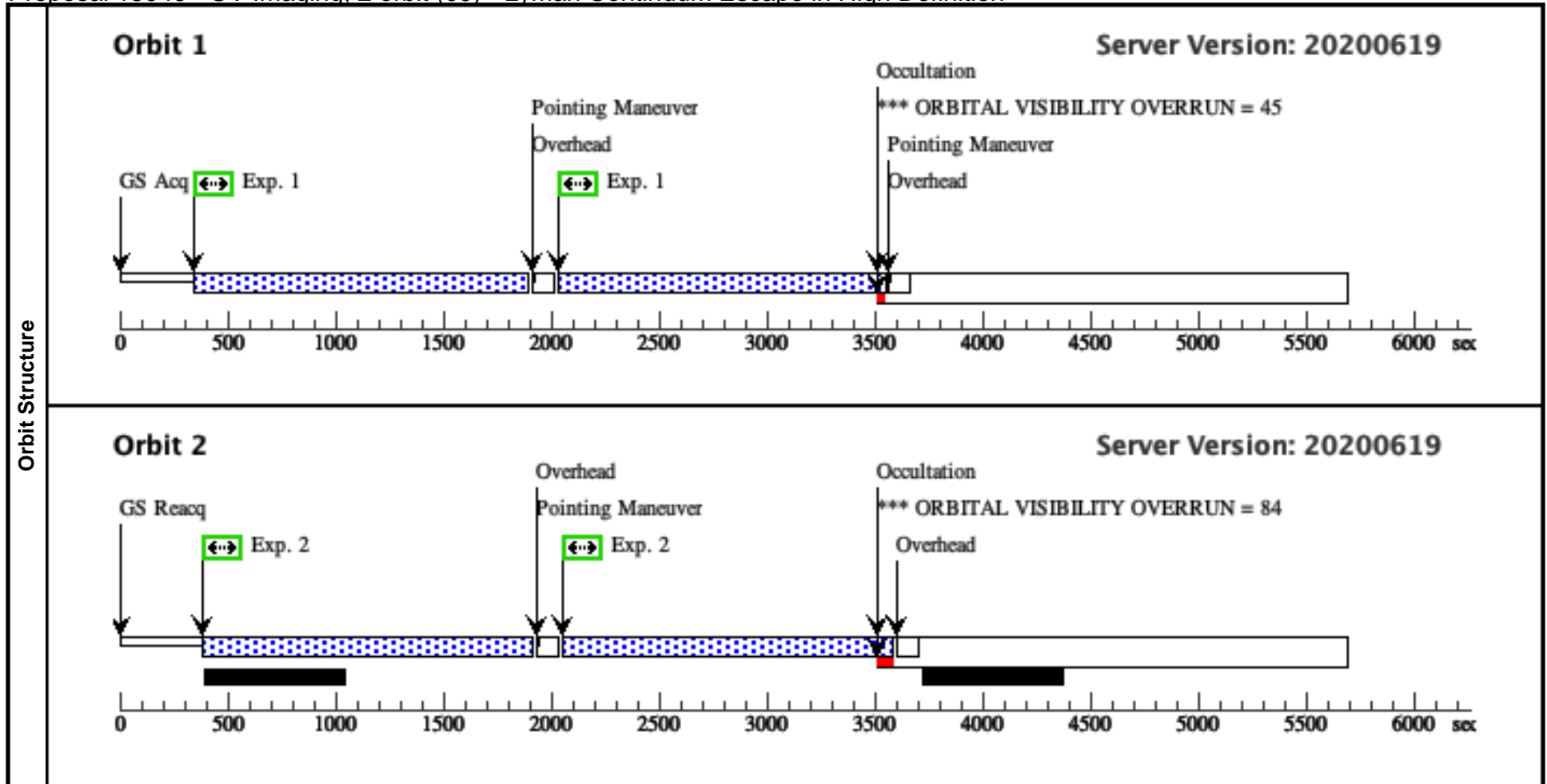




Proposal 15949 - UV Imaging, 2 orbit (09) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

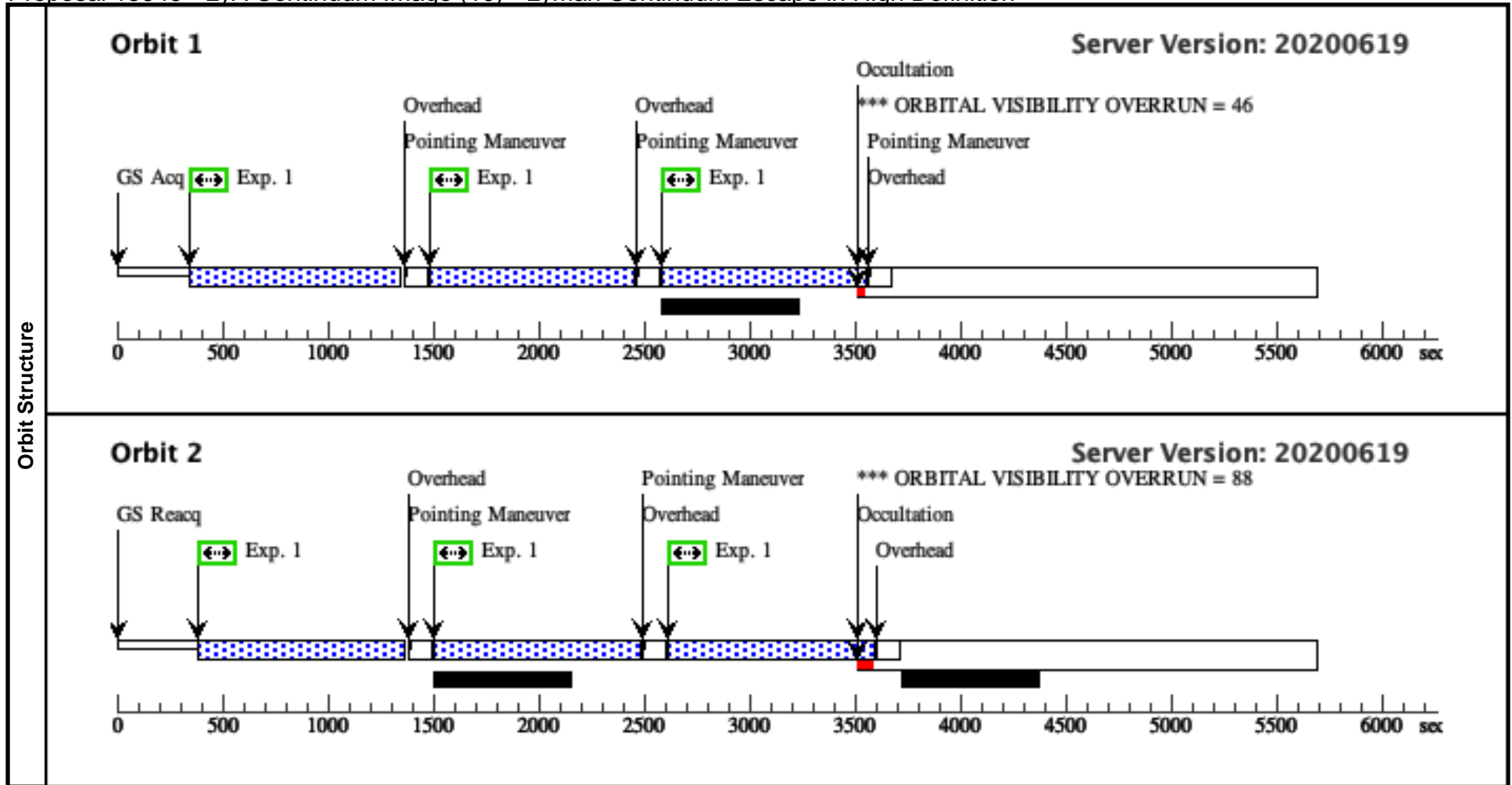
| | | | | | | | | | | |
|--|---|--|---|--|----------------------|-----------------------|---|---|---|--------------|
| Visit | Proposal 15949, UV Imaging, 2 orbit (09), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | Diagnosics (UV Imaging, 2 orbit (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (UV Imaging, 2 orbit (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging, 2 orbit (09))) 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 5, Exps 2-2 in UV Imaging, 2 orbit (09))) Warning (Form): FLASH level may be too high for this exposure or a long subexposure. See extended explanation in the diagnostic browser | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (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), (2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging, 2 orbit (09) (5) | 1500 Secs (3042 Secs) [=>1521.0 Secs (Pattern 1)] [=>1521.0 Secs (Pattern 2)] | [1] |
| 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging, 2 orbit (09) (5) | 1500 Secs (3072 Secs) [=>1536.0 Secs (Pattern 1)] [=>1536.0 Secs (Pattern 2)] | [2] | |



Proposal 15949 - LyA Continuum Image (10) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

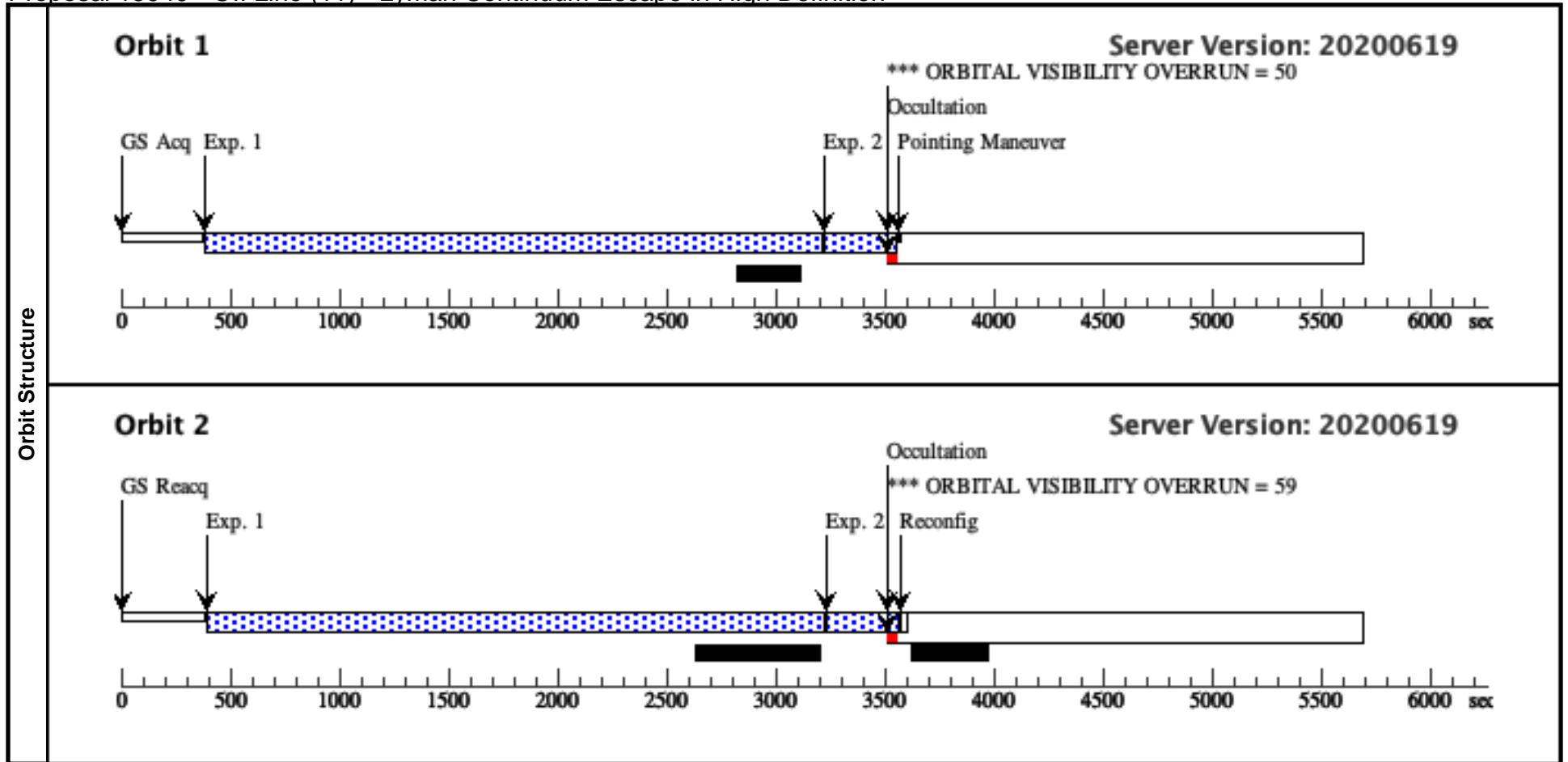
| | | | | | | | | | | |
|--|--|--|--|--|---|-----------------------|----------------------|---|---|------------------------|
| Visit | Proposal 15949, LyA Continuum Image (10), completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | (LyA Continuum Image (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (LyA Continuum Image (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | (2) | Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=MOSAIC Number Of Points=3 Point Spacing=2.4 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=85.754 Angle Between Sides= Center Pattern=true | Pattern Type=WFC3-UVIS-MOS-DITH-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.119 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=33.606 Angle Between Sides= Center Pattern=false | (1) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS-CENTER | F390W | FLASH=4 | | Pattern 2, Exps 1-1 in LyA Continuum Image (10) (2) | 970 Secs (5853 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>981.0 Secs (Pattern 2,2)] [=>981.0 Secs (Pattern 3,1)] [=>981.0 Secs (Pattern 3,2)] | [1] [2] |



Proposal 15949 - OII Line (11) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

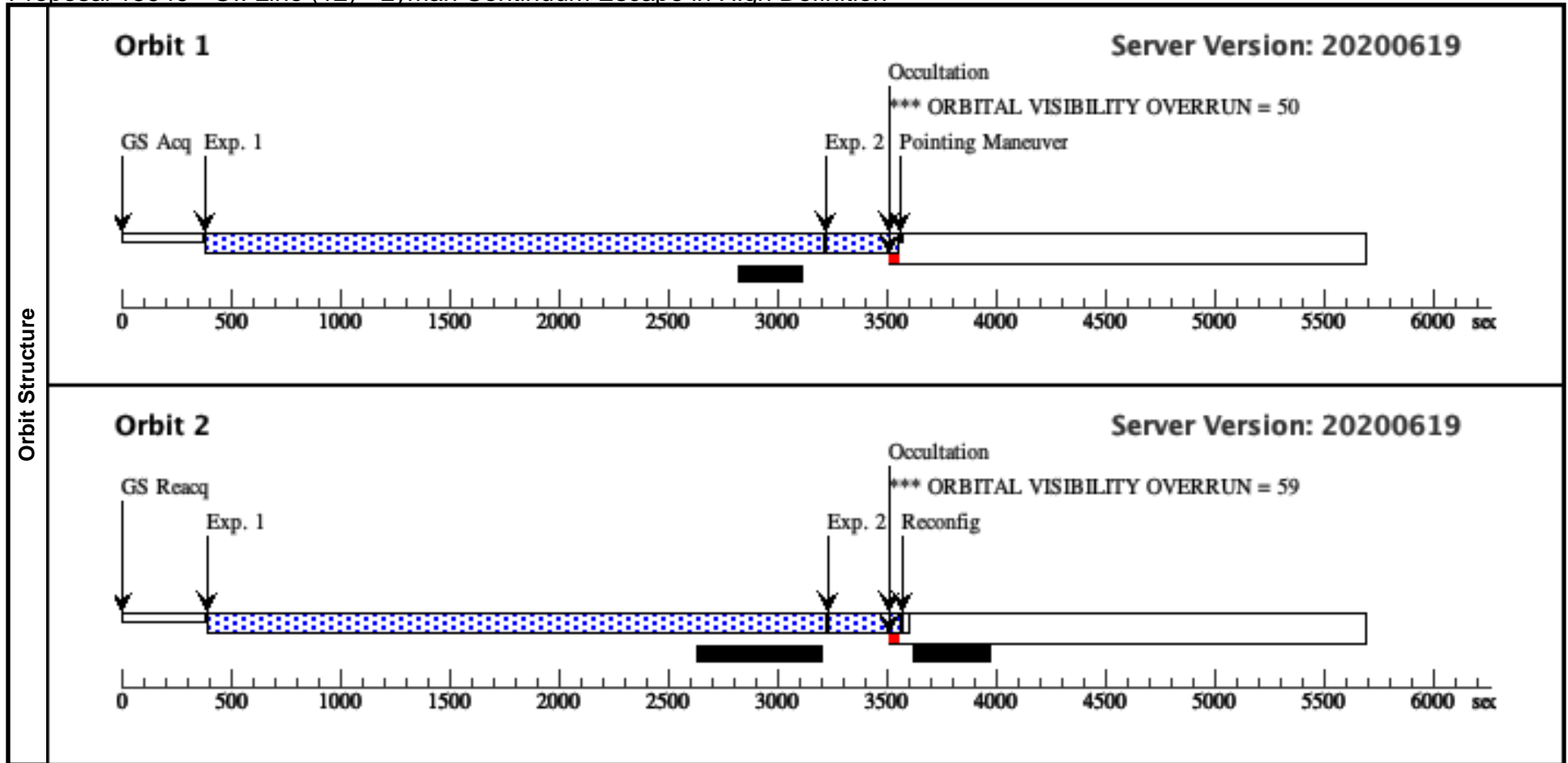
| | | | | | | | | | | |
|--|---|--|--|---------------------------------|----------------------|-----------------------|----------------------|--|--|--------------|
| Visit | Proposal 15949, OII Line (11), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
| | (OII Line (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OII Line (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (3) | Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true | | | (1-2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F126N | NSAMP=15; | | Pattern 3, Exps 1-2 in OII Line (11) (3) | 2802.933229 Secs (5605.866 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S200 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=13; | | | Pattern 3, Exps 1-2 in OII Line (11) (3) | 302.938471 Secs (605.877 Secs) | |
| | | | | | SAMP-SEQ=SPAR S25 | | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |



Proposal 15949 - OII Line (12) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

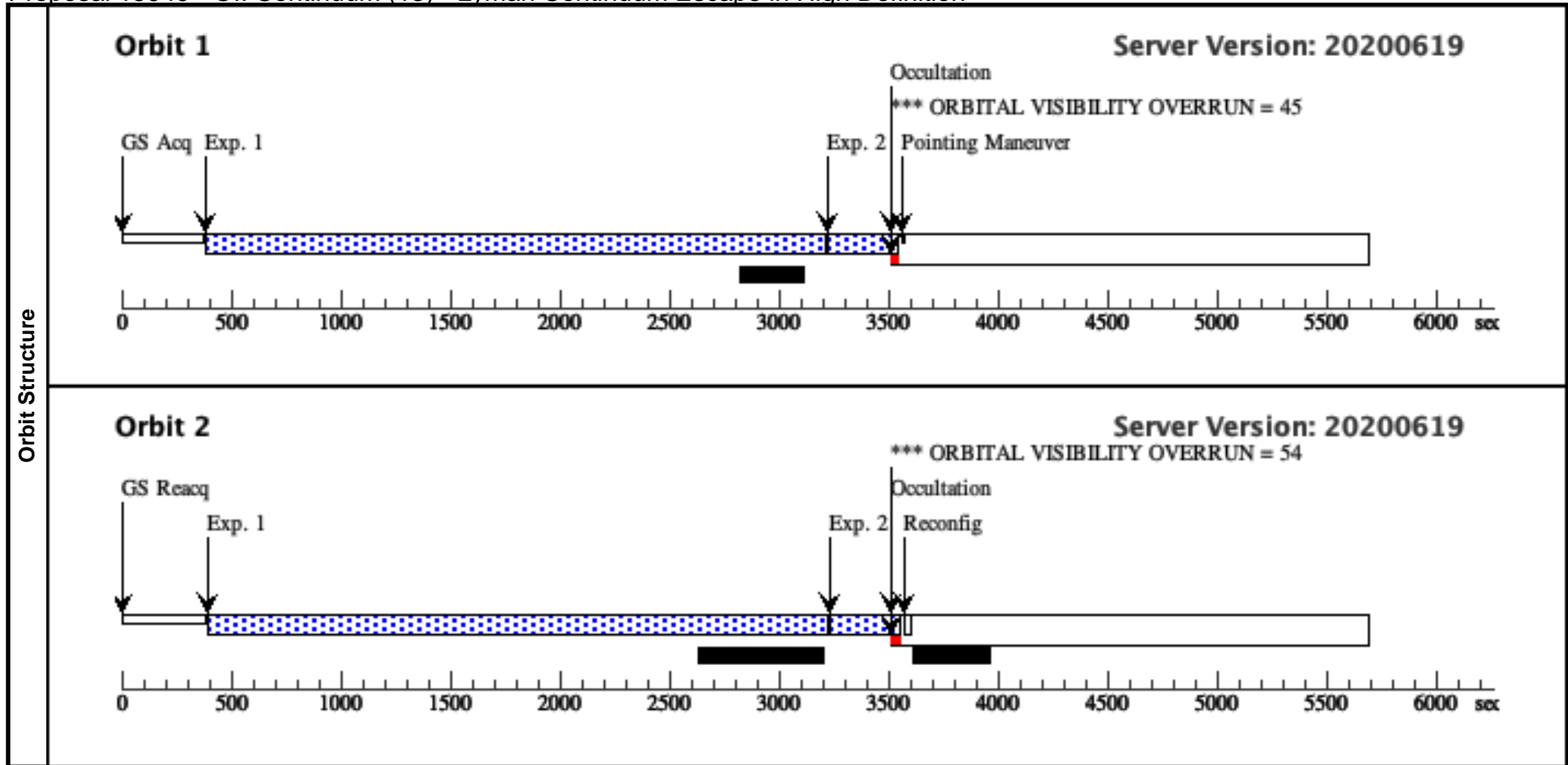
| | | | | | | | | | | |
|--|---|--|--|---------------------------------|----------------------|-----------------------|----------------------|--|--|--------------|
| Visit | Proposal 15949, OII Line (12), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
| | (OII Line (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OII Line (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (3) | Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true | | | (1-2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F126N | NSAMP=15; | | Pattern 3, Exps 1-2 in OII Line (12) (3) | 2802.933229 Secs (5605.866 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S200 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=13; | | | Pattern 3, Exps 1-2 in OII Line (12) (3) | 302.938471 Secs (605.877 Secs) | |
| | | | | | SAMP-SEQ=SPAR S25 | | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |



Proposal 15949 - OII Continuum (13) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

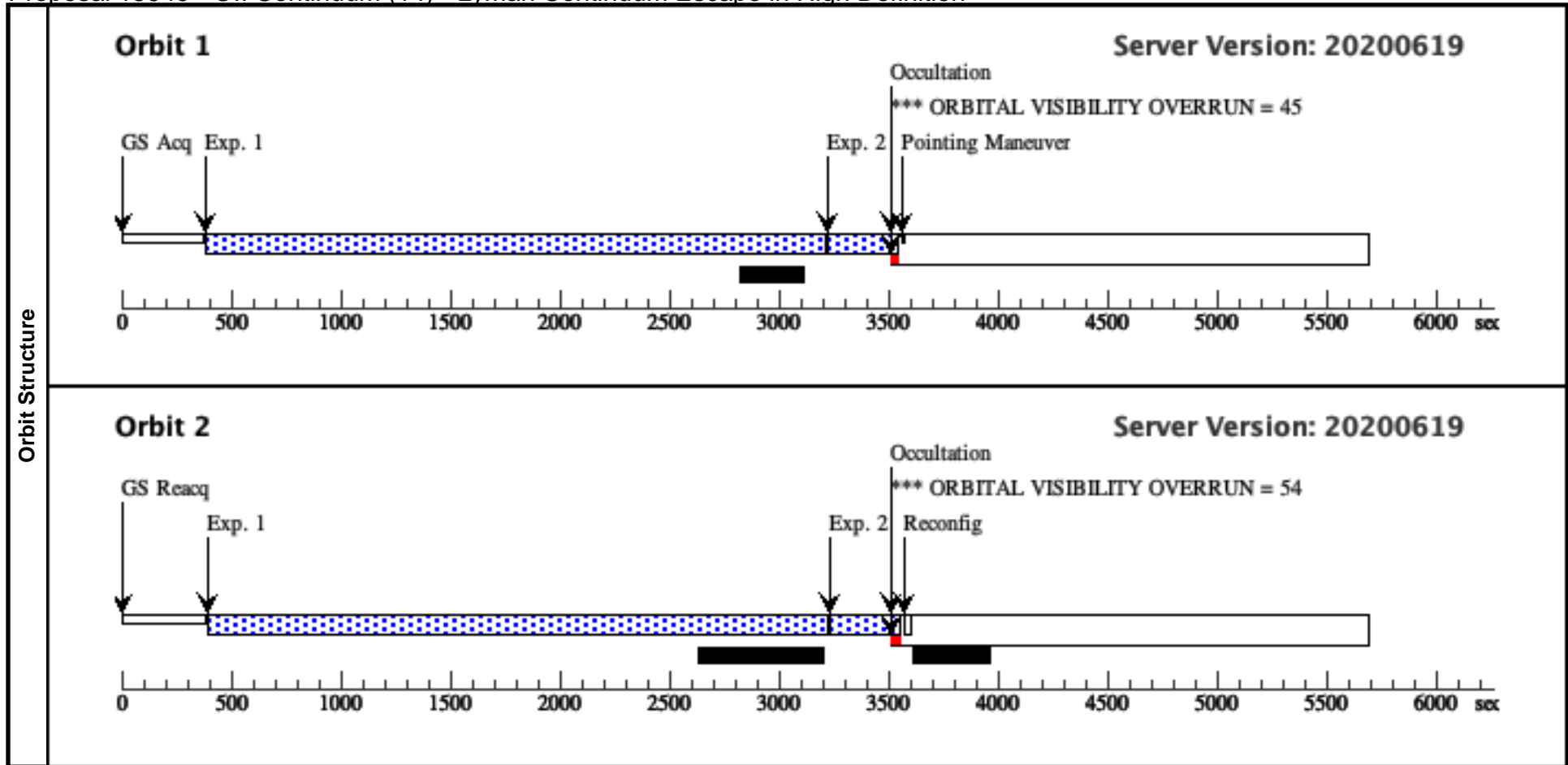
| | | | | | | | | | | |
|--|--|--|---|--|----------------------|-----------------------|----------------------|---|--|--------------|
| Visit | Proposal 15949, OII Continuum (13), failed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SAME ORIENT AS 11 | | | | | | | | | |
| | (OII Continuum (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OII Continuum (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (3) | Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true | | (1-2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F128N | NSAMP=15; | | Pattern 3, Exps 1-2 in OII Continuum (13) (3) | 2802.933229 Secs (5605.866 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S200 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=13; | | | Pattern 3, Exps 1-2 in OII Continuum (13) (3) | 302.938471 Secs (605.877 Secs) | |
| | | | | | SAMP-SEQ=SPAR S25 | | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |



Proposal 15949 - OII Continuum (14) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

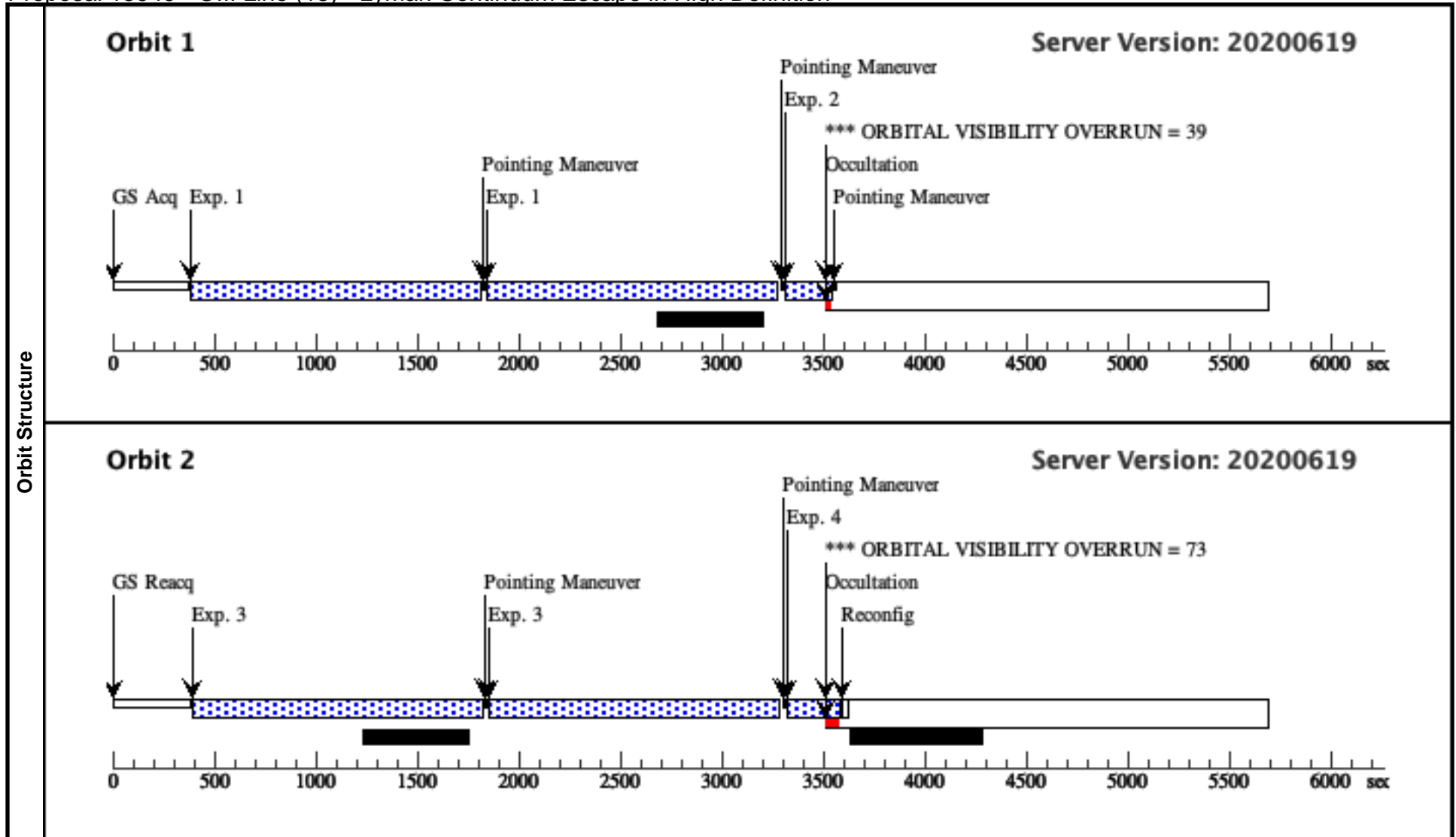
| | | | | | | | | | | |
|--|---|--|---|--|----------------------|-----------------------|----------------------|---|--|--------------|
| Visit | Proposal 15949, OII Continuum (14), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: SAME ORIENT AS 12 | | | | | | | | | |
| | (OII Continuum (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OII Continuum (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (3) | Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true | | (1-2) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F128N | NSAMP=15; | | Pattern 3, Exps 1-2 in OII Continuum (14) (3) | 2802.933229 Secs (5605.866 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S200 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |
| 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=13; | | | Pattern 3, Exps 1-2 in OII Continuum (14) (3) | 302.938471 Secs (605.877 Secs) | |
| | | | | | SAMP-SEQ=SPAR S25 | | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |



Proposal 15949 - OIII Line (15) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:33 GMT 2020

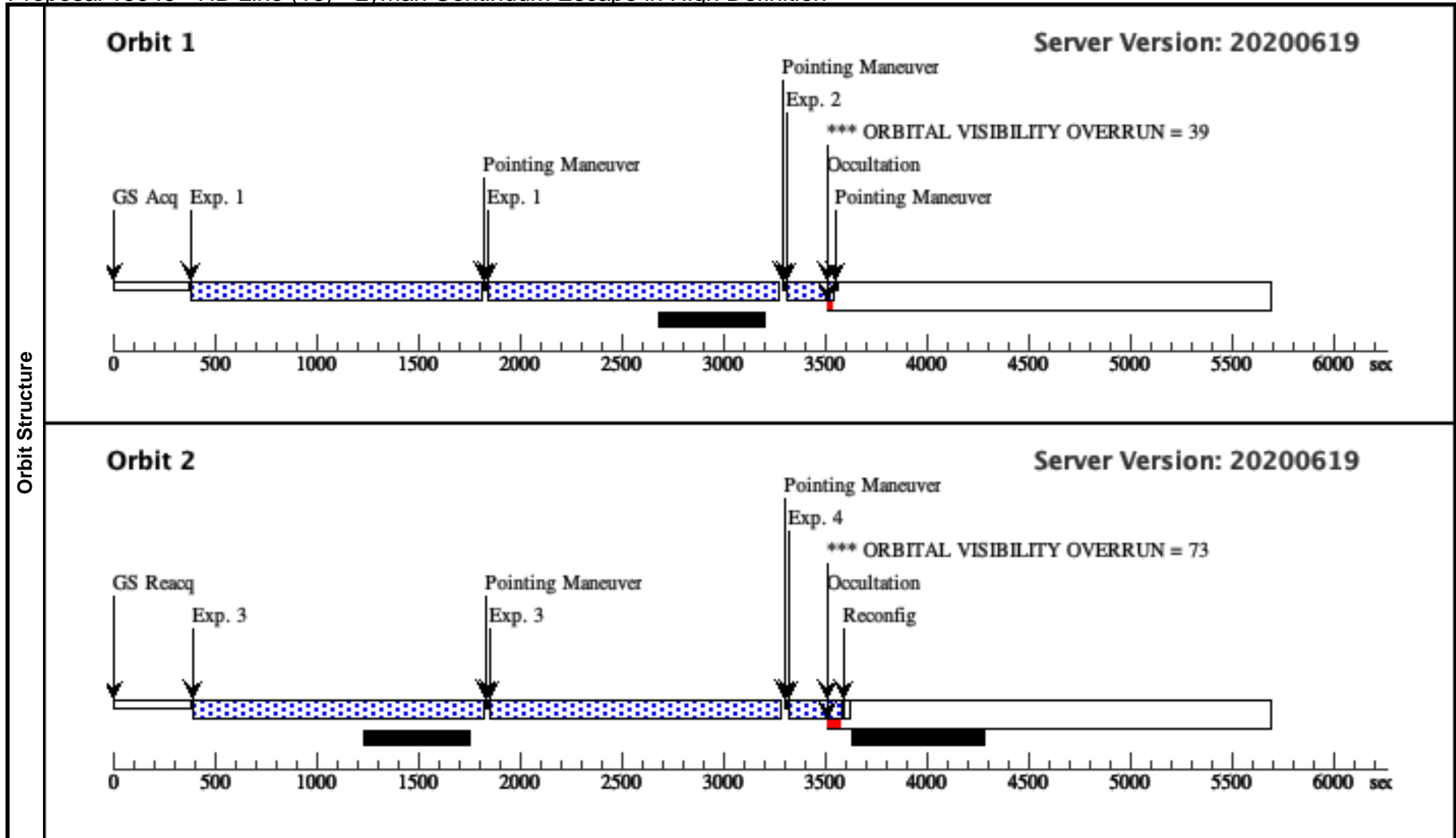
| | | | | | | | | | | |
|---|--|--|---|---|------------------------------------|------------------------------------|---|---|----------------------------------|-------|
| Visit | Proposal 15949, OIII Line (15), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
| | (OIII Line (15)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OIII Line (15)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (6) | 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 | | (1), (3) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| Comments: Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F167N | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG -1.93,-1.729 | Pattern 6, Exps 1-1 in OIII Line (15) (6) | 1402.936813 Secs (2805.874 Secs) | |
| | | | | | | | | | [==>(Pattern 1)] | [1] |
| | | | | | | | | | [==>(Pattern 2)] | |
| | 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=9; SAMP-SEQ=SPAR S25 | POS TARG -1.93,-1.729 | | 202.936411 Secs (202.936 Secs) | |
| | | | | | | | | [==>] | [1] | |
| 3 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F167N | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG 1.93,1.729 | Pattern 6, Exps 3-3 in OIII Line (15) (6) | 1402.936813 Secs (2805.874 Secs) | | |
| | | | | | | | | [==>(Pattern 1)] | [2] | |
| | | | | | | | | [==>(Pattern 2)] | | |
| 4 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=10; SAMP-SEQ=SPAR S25 | POS TARG 1.93,1.729 | | 227.936926 Secs (227.937 Secs) | | |
| | | | | | | | | [==>] | [2] | |



Proposal 15949 - HB Line (16) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:34 GMT 2020

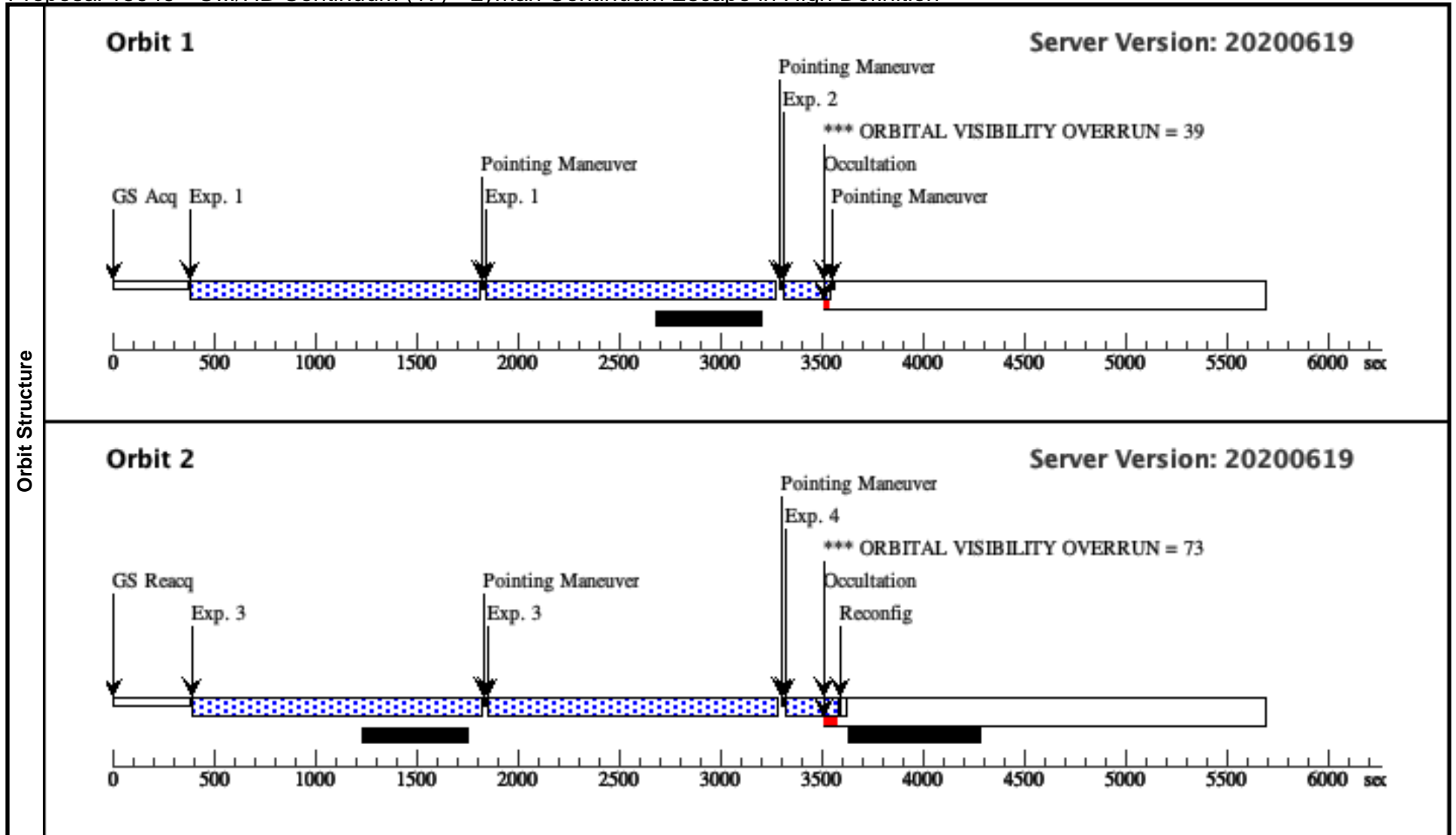
| | | | | | | | | | | |
|--|---|--|---|---------------------------------|----------------------|------------------------------------|-----------------------|---|--|--------------|
| Visit | Proposal 15949, HB Line (16), scheduling Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
| | (HB Line (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (HB Line (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (6) | 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 | | | (1), (3) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F164N | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG -1.93,-1.729 | Pattern 6, Exps 1-1 in HB Line (16) (6) | 1402.936813 Secs (2805.874 Secs) [==>(Pattern 1)] [==>(Pattern 2)] | [1] |
| | 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=9; SAMP-SEQ=SPAR S25 | POS TARG -1.93,-1.729 | | 202.936411 Secs (202.936 Secs) [==>] | [1] |
| | 3 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F164N | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG 1.93,1.729 | Pattern 6, Exps 3-3 in HB Line (16) (6) | 1402.936813 Secs (2805.874 Secs) [==>(Pattern 1)] [==>(Pattern 2)] | [2] |
| | 4 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=10; SAMP-SEQ=SPAR S25 | POS TARG 1.93,1.729 | | 227.936926 Secs (227.937 Secs) [==>] | [2] |



Proposal 15949 - OIII/HB Continuum (17) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:34 GMT 2020

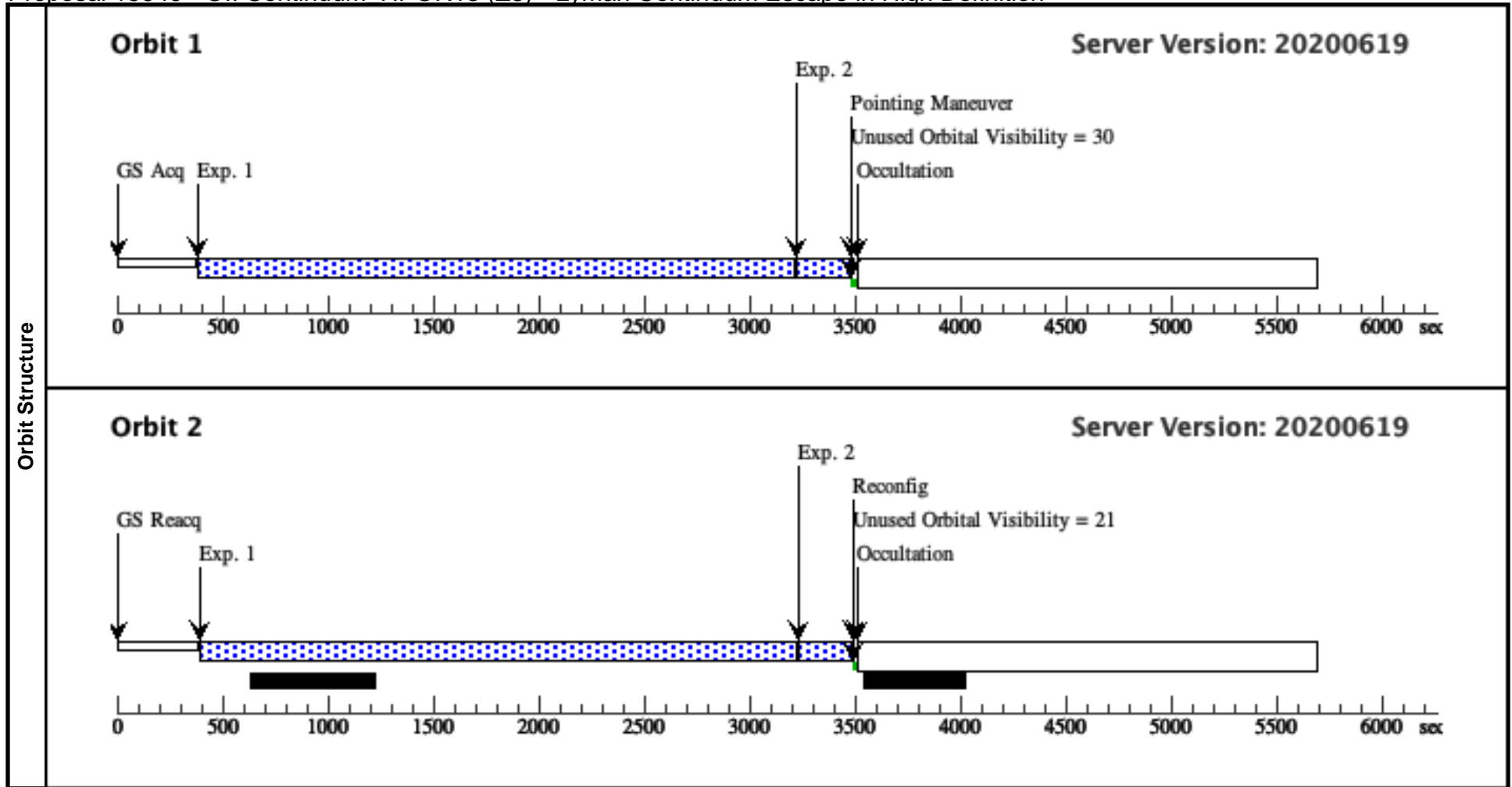
| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|---------------------------------|-----------------------|---|--|--------------|
| Visit | Proposal 15949, OIII/HB Continuum (17), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
| | (OIII/HB Continuum (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (OIII/HB Continuum (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN | | | | | | | | | |
| Diagnosics | | | | | | | | | | |
| | | | | | | | | | | |
| Patterns | # | Primary Pattern | | Secondary Pattern | | Exposures | | | | |
| | (6) | 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 | | | (1), (3) | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F153M | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG -1.93,-1.729 | Pattern 6, Exps 1-1 in OIII/HB Continuum (17) (6) | 1402.936813 Secs (2805.874 Secs) [==>(Pattern 1)] [==>(Pattern 2)] | [1] |
| | 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=9; SAMP-SEQ=SPAR S25 | POS TARG -1.93,-1.729 | | 202.936411 Secs (202.936 Secs) [==>] | [1] |
| | 3 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F153M | NSAMP=15; SAMP-SEQ=SPAR S100 | POS TARG 1.93,1.729 | Pattern 6, Exps 3-3 in OIII/HB Continuum (17) (6) | 1402.936813 Secs (2805.874 Secs) [==>(Pattern 1)] [==>(Pattern 2)] | [2] |
| | 4 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=10; SAMP-SEQ=SPAR S25 | POS TARG 1.93,1.729 | | 227.936926 Secs (227.937 Secs) [==>] | [2] |



Proposal 15949 - OII Continuum HPOR13 (Z3) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:34 GMT 2020

| Visit | Proposal 15949, OII Continuum_HPOR13 (Z3), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | |
|---------------|---|--|--|-----------------------------|---------------|-----------------------|---------------|--|----------------------------------|-------|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | |
| | (3) | Pattern Type=WFC3-IR-DITHER- BLOB Purpose=DITHER Number Of Points=2 Point Spacing=5.183 Line Spacing= | Coordinate Frame=POS-TARG Pattern Orientation=41.859 Angle Between Sides= Center Pattern=true | | (1-2) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| | <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F128N | NSAMP=15; | | Pattern 3, Exps 1-2 in OII Continuum_HPOR13 (Z3) (3) | 2802.933229 Secs (5605.866 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S200 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |
| | 2 | | (1) PSZ1G311.65-18.48 | WFC3/IR, MULTIACCUM, IR-FIX | F140W | NSAMP=10; | | Pattern 3, Exps 1-2 in OII Continuum_HPOR13 (Z3) (3) | 227.936926 Secs (455.874 Secs) | |
| | | | | | | SAMP-SEQ=SPAR S25 | | | [=>(Pattern 1)] | [1] |
| | | | | | | | | | [=>(Pattern 2)] | [2] |



Proposal 15949 - UV Imaging_HOPR05 (Z4) - Lyman Continuum Escape in High Definition

Mon Oct 05 16:00:34 GMT 2020

| | | | | | | | | | | |
|--|--|--|---|---------------------------------|----------------------|-----------------------|---|---|---|--------------|
| Visit | Proposal 15949, UV Imaging_HOPR05 (Z4), implementation Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS Special Requirements: (none) | | | | | | | | | |
| | (Exposure 1 (Pattern 5, Exps 1-1 in UV Imaging_HOPR05 (Z4))) 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 5, Exps 2-2 in UV Imaging_HOPR05 (Z4))) 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 | | | | | | |
| | (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), (2) | | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | |
| | (1) | PSZ1G311.65-18.48 | RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000 | | V=22+/-3 | Reference Frame: ICRS | | | | |
| <i>Comments:</i> Category=CLUSTER OF GALAXIES Description=[GRAVITATIONAL LENS, RICH CLUSTER] | | | | | | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
| | 1 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG -0.089,-1.203 | Pattern 5, Exps 1-1 in UV Imaging_HOPR05 (Z4) (5) | 1500 Secs (2996 Secs) [==>1498.0 Secs (Pattern 1)] [==>1498.0 Secs (Pattern 2)] | [1] |
| 2 | (1) PSZ1G311.65-18.48 | (1) PSZ1G311.65-18.48 | WFC3/UVIS, ACCUM, UVIS1-FIX | F275W | FLASH=14 | POS TARG 0.089,1.203 | Pattern 5, Exps 2-2 in UV Imaging_HOPR05 (Z4) (5) | 1500 Secs (2988 Secs) [==>1494.0 Secs (Pattern 1)] [==>1494.0 Secs (Pattern 2)] | [2] | |

