# 17126 - An HST Treasury of Stellar Feedback in Action: Sizes, Structures, and Power Sources for 50,000 Extragalactic HII Regions

Cycle: 30, Proposal Category: GO

(Treasury)

(Availability Mode: SUPPORTED)

**INVESTIGATORS**

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|---|---|
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| Ms. Sarah Jayne Kessler (CoI) | The Ohio State University |

| ***Name*** | ***Institution*** |
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| Prof. Ralf Stephan Klessen (CoI) (ESA Member) | Universitat Heidelberg |
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| Dr. Eve C. Ostriker (CoI) | Princeton University |
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| Dra. Patricia Sanchez-Blazquez (CoI) (ESA Member) | Universidad Complutense de Madrid |
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| Dr. David Thilker (CoI) | The Johns Hopkins University |
| Dr. Antonio Usero (CoI) (ESA Member) | Observatorio Astronomico Nacional |
| Dr. Elizabeth Jayne Watkins (CoI) (ESA Member) | Heidelberg Institute for Theoretical Studies |
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| Dr. Thomas Williams (CoI) (ESA Member) | University of Oxford |

**VISITS**

| ***Visit*** | ***Targets used in Visit*** | ***Configurations used in Visit*** | ***Orbits Used*** | ***Last Orbit Planner Run*** | ***OP Current with Visit?*** |
|---|---|---|---|---|---|
| 01 | (1) IC-5332 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:22.0 | yes |
| 02 | (2) NGC-628 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:22.0 | yes |
| 03 | (3) NGC-1087 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:23.0 | yes |
| 04 | (4) NGC-1365-N | WFC3/UVIS | 1 | 18-Jun-2024 15:00:23.0 | yes |
| 05 | (5) NGC-1385 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:24.0 | yes |
| 06 | (6) NGC-1512 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:24.0 | yes |
| 21 | (20) NGC-1512-2 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:24.0 | yes |
| 07 | (7) NGC-1566 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:25.0 | yes |
| 08 | (8) NGC-2835-N | WFC3/UVIS | 1 | 18-Jun-2024 15:00:25.0 | yes |

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 09 | (9) NGC-2835-S | WFC3/UVIS | 1 | 18-Jun-2024 15:00:26.0 | yes |
| 10 | (10) NGC-3351 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:26.0 | yes |
| 11 | (11) NGC-3627 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:27.0 | yes |
| 12 | (12) NGC-4254-E | WFC3/UVIS | 1 | 18-Jun-2024 15:00:27.0 | yes |
| 13 | (13) NGC-4254-W | WFC3/UVIS | 1 | 18-Jun-2024 15:00:28.0 | yes |
| 14 | (14) NGC-4303 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:28.0 | yes |
| 15 | (15) NGC-4321 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:28.0 | yes |
| 16 | (16) NGC-4535 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:29.0 | yes |
| 20 | (16) NGC-4535 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:29.0 | yes |
| 17 | (17) NGC-5068-N | WFC3/UVIS | 1 | 18-Jun-2024 15:00:30.0 | yes |
| 18 | (18) NGC-5068-S | WFC3/UVIS | 1 | 18-Jun-2024 15:00:31.0 | yes |
| 19 | (19) NGC-7496 | WFC3/UVIS | 1 | 18-Jun-2024 15:00:31.0 | yes |

21 Total Orbits Used

**ABSTRACT**

We propose a Treasury Halpha (F657N) imaging survey that will measure the sizes (radii) and structures (e.g. shell fraction) for >50,000 nebulae, including HII regions, supernovae, and planetary nebulae across the full range of galactic environments in 19 nearby main-sequence galaxies. These targets form a representative sample of massive, star-forming galaxies, and these proposed observations, only possible with the HST, will complete a rich dataset of i) VLT/MUSE IFU, providing spectroscopic information for all identified nebulae; ii) multi-filter broad-band HST imaging of >40,000 clusters, iii) ALMA spectral line mapping of >20,000 molecular clouds; and iv) >100 hours of upcoming near- and mid-IR imaging from JWST probing dust emission and embedded star formation. Together these maps and higher-level data products are crucial for answering: (1) What is the dominant mechanism for pre-SNe stellar feedback? (2) On what timescales do young clusters clear their birth-clouds? (3) What processes are responsible for cloud destruction? (4) What role does escaping radiation play in larger-scale galactic evolution? Taken together, the products obtained as part of this Treasury program will provide the definitive high resolution view of HII regions in nearby galaxies, essential to answer questions fundamental to our understanding of star formation and stellar feedback. These observations are needed now to form a crucial part of Hubble's lasting legacy.

**OBSERVING DESCRIPTION**

The PHANGS-Halpha sample contains 19 nearby galaxies (d<=17 Mpc) with existing broad-band imaging as part of the PHANGS-HST program, VLT/MUSE IFU spectroscopy as part of PHANGS-MUSE, and upcoming JWST imaging as part of PHANGS-JWST. The new HST-Halpha observations are critical for: (1) breaking the age/reddening degeneracy of star clusters, (2) identifying complete samples of HII regions, including the most compact ones which are not detetable in ground-based observations, (3) measuring the radii of tens of thousands of HII regions (which is only possible from the high resolution imaging of HST), and (4) directly measuring the leakage of ionizing photons from HII regions.

We will obtain Halpha narrow-band imaging with the appropriate narrowband Halpha filter using 4 exposures (~600 seconds each) in a single orbit per pointing. It is critical to step over the gap between CCDs in the WFC3 camera, and also to eliminate cosmic rays. Sub-pixel dithering is less important for this program due to the extended morphology of the ionized gas. When possible, we restrict the orientation angle to closely match that used for the PHANGS-HST broad-band images.

## Visit

**Proposal 17126, IC5332-Ha (01), completed** Tue Jun 18 19:00:31 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 277D TO 283 D

## Diagnostics

(IC5332-Ha (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

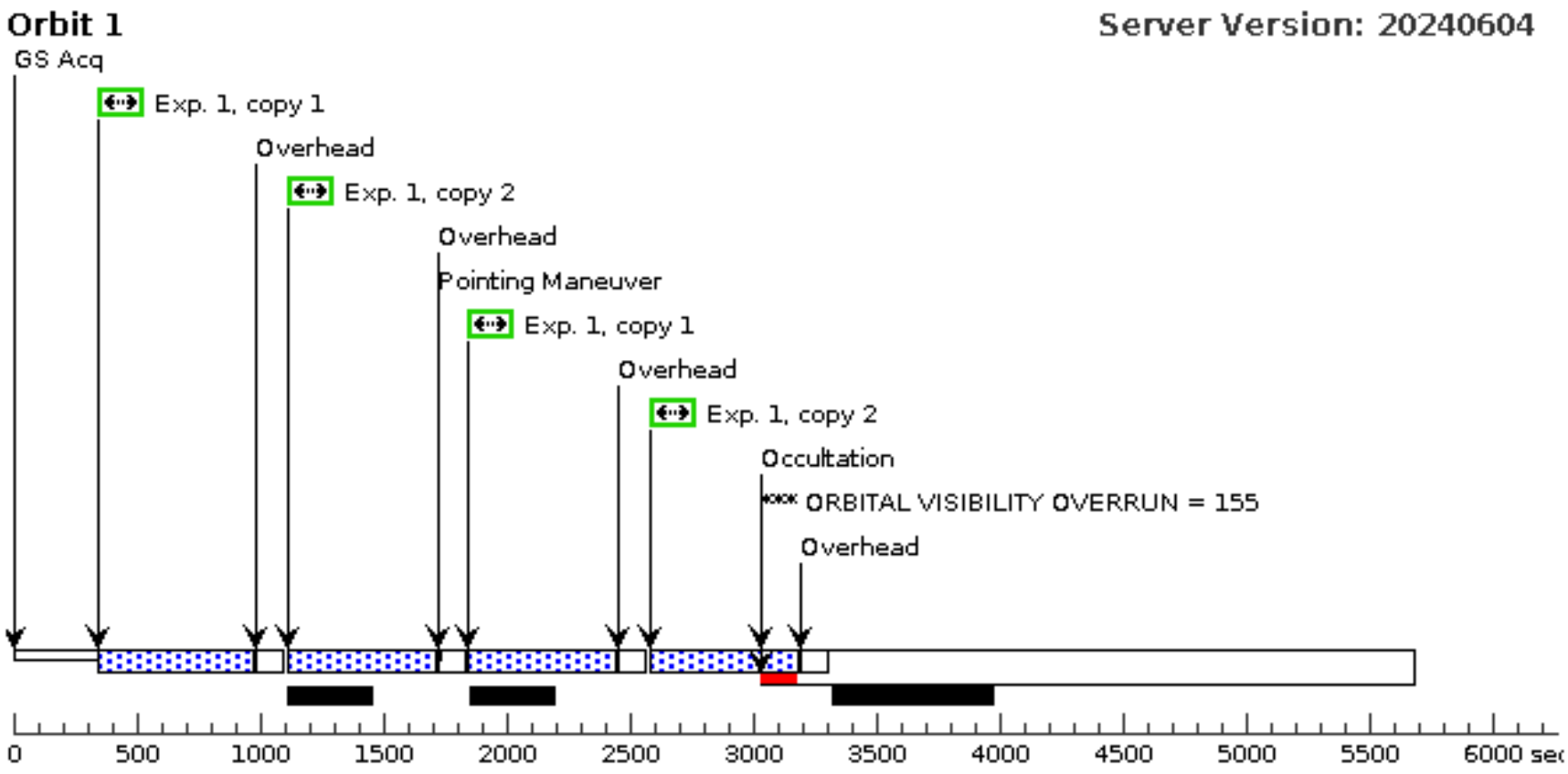
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | IC-5332 | RA: 23 34 26.6300 (353.6109583d) | | V=10.00 | Reference Frame: SIMBAD |
| | | Dec: -36 06 1.50 (-36.10042d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (1) IC-5332 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in IC5332-Ha (01) (1) | 600 Secs X 2 (2392 Secs) | |
| | | | | | | | | *[==>598.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>598.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>598.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>598.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC628-Ha (02), completed** Tue Jun 18 19:00:31 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Diagnostics

(NGC628-Ha (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

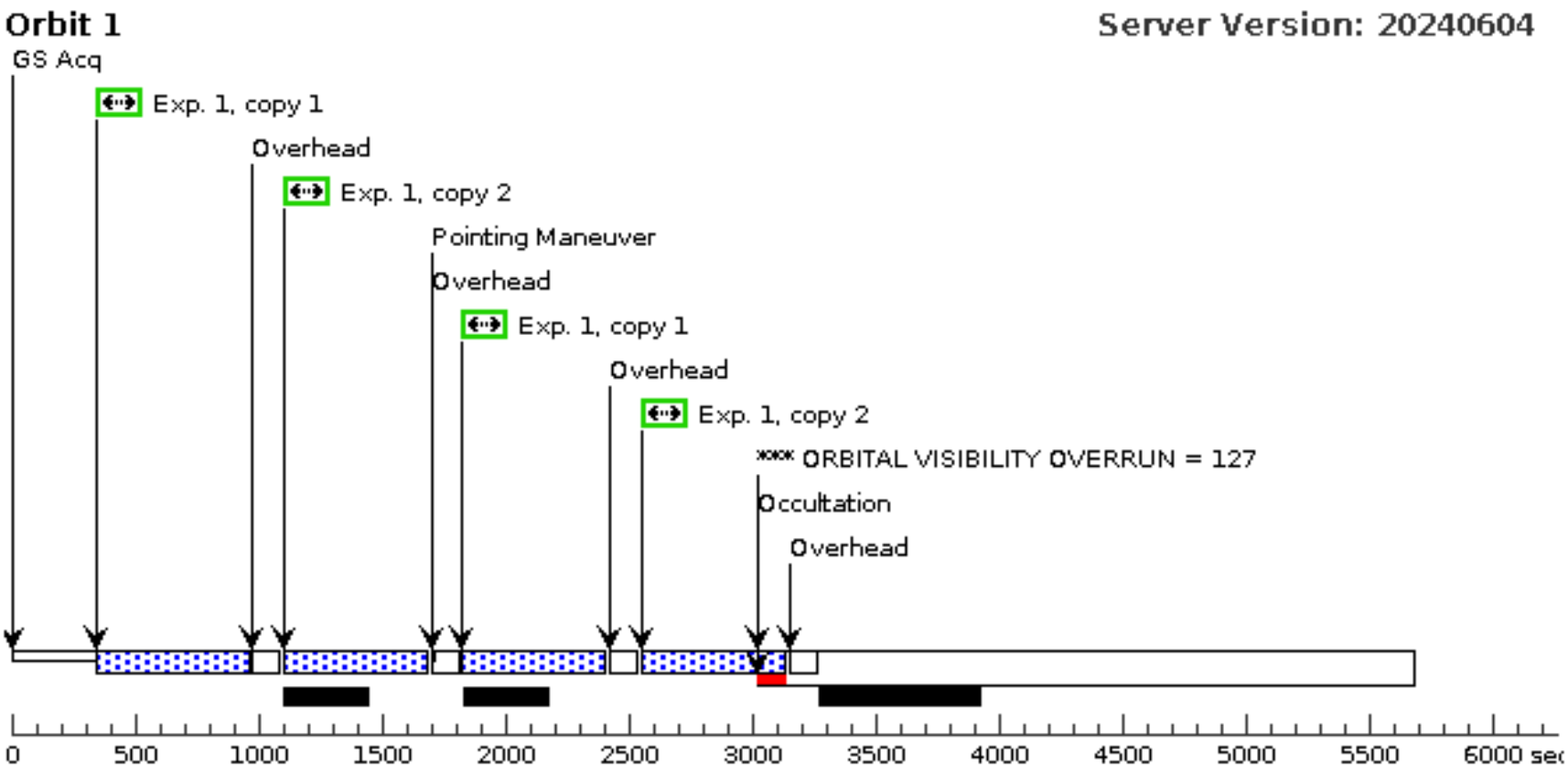
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | NGC-628 | RA: 01 36 52.0600 (24.2169167d) | | V=9.95 | Reference Frame: Simbad |
| | | Dec: +15 45 50.80 (15.76411d) | | | |
| | | Equinox: J2000 | | | |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (2) NGC-628 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC628-Ha (02) ( 1) | 590 Secs X 2 (2348 Secs) | |
| | | | | | | | | *[==>587.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>587.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>587.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>587.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC1087-Ha (03), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 80D TO 90 D; ORIENT 260D TO 270 D

## Diagnostics

(NGC1087-Ha (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

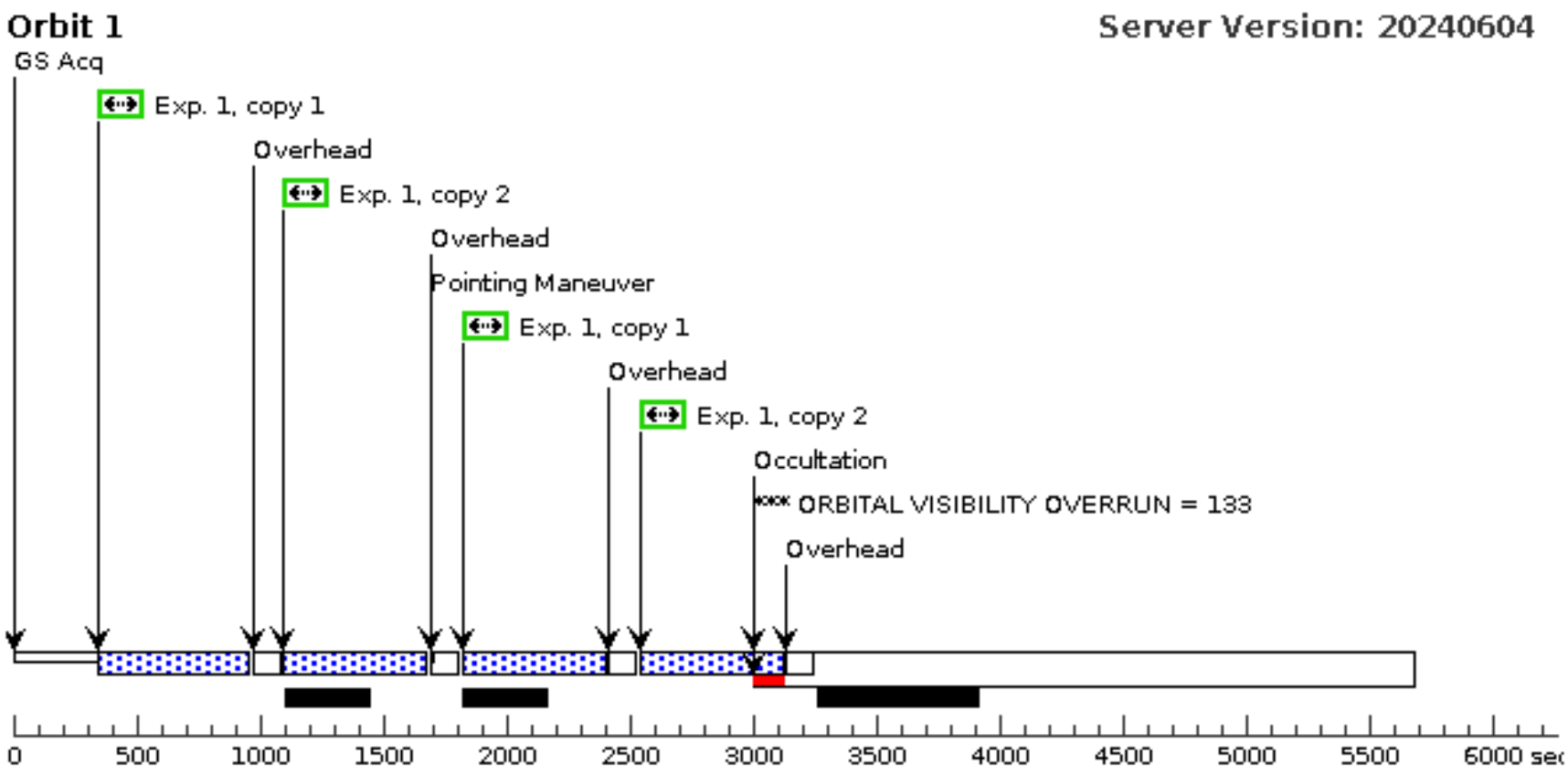
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | NGC-1087 | RA: 02 46 25.1545 (41.6048104d) | | V=10.00 | Reference Frame: SIMBAD |
| | | Dec: -00 29 55.45 (-.49874d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (3) NGC-1087 | WFC3/UVIS, ACCUM, UVIS-FIX | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC1087-Ha (03) (1) | 586 Secs X 2 (2336 Secs) | |
| | | | | | | | | *[==>584.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>584.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>584.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>584.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC1365N-Ha (04), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 241D TO 247 D

## Diagnostics

(NGC1365N-Ha (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

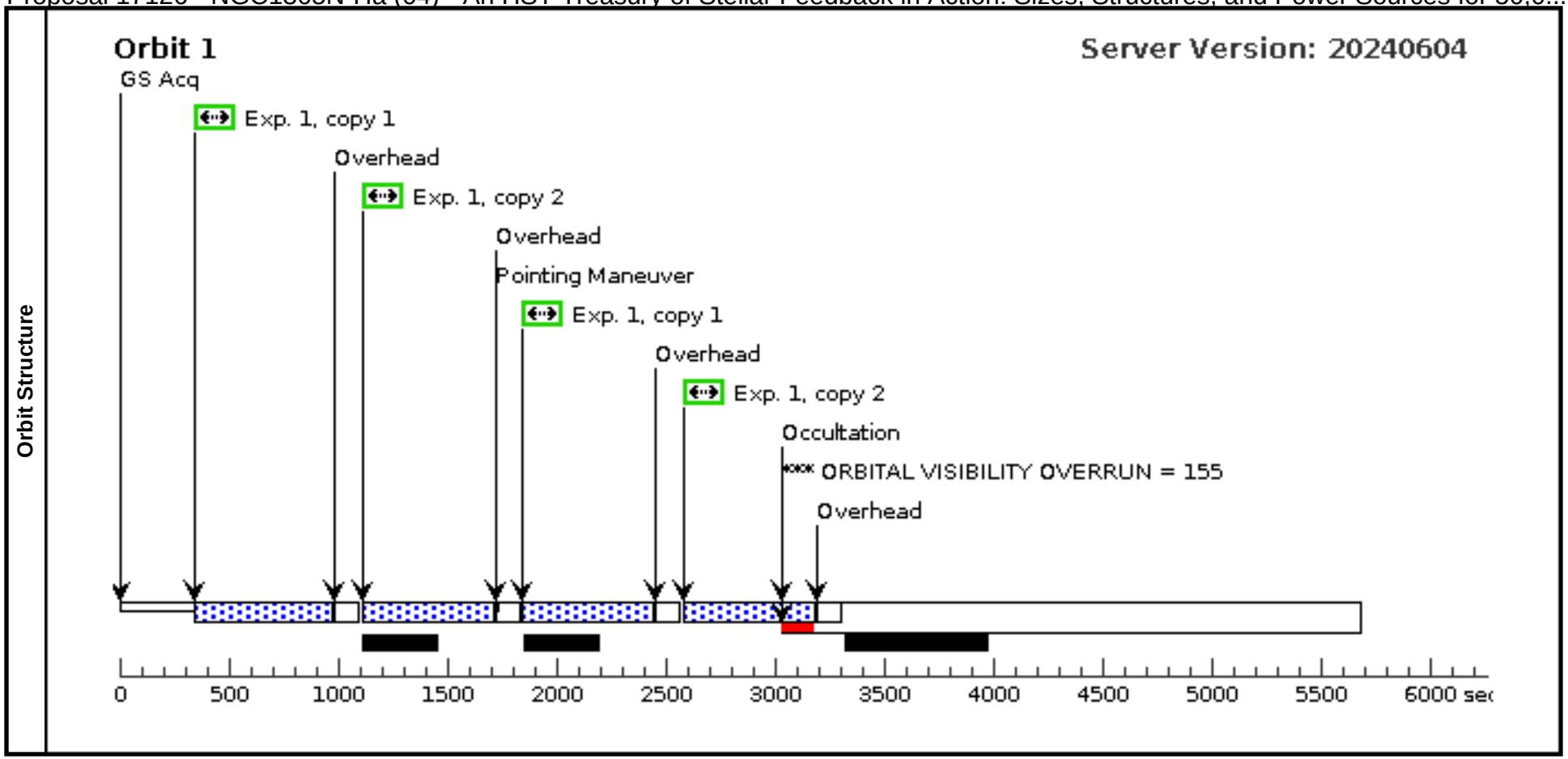
## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | NGC-1365-N | RA: 03 33 37.3532 (53.4056383d) | | V=9.63 | Reference Frame: SIMBAD |
| | | Dec: -36 08 35.06 (-36.14307d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (4) NGC-1365-N | WFC3/UVIS, ACCUM, UVIS-CENTER | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC1365N-Ha (04) (1) | 601 Secs X 2 (2392 Secs) | |
| | | | | | | | | *[==>598.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>598.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>598.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>598.0 Secs (Pattern 2, Copy 2)]* | |


Orbit Structure
Orbit 1
Server Version: 20240604
GS Acq
Exp. 1, copy 1
Overhead
Exp. 1, copy 2
Overhead
Pointing Maneuver
Exp. 1, copy 1
Overhead
Exp. 1, copy 2
Occultation
*** ORBITAL VISIBILITY OVERRUN = 155
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17126, NGC1385-Ha (05), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 211.8D TO 217.8 D

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

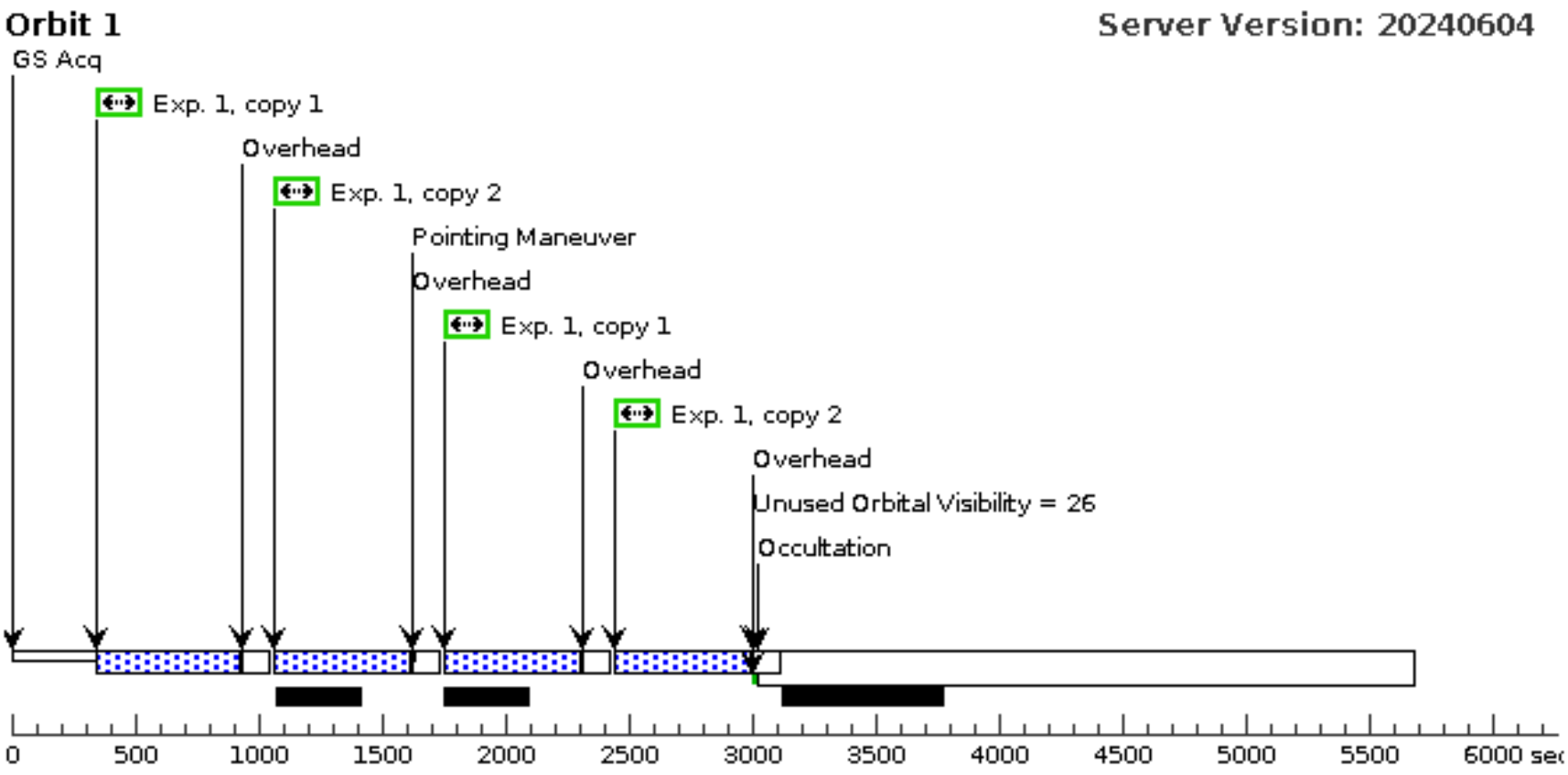
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (5) | NGC-1385 | RA: 03 37 28.5062 (54.3687758d) | | V=10.94 | Reference Frame: SIMBAD |
| | | Dec: -24 30 2.60 (-24.50072d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (5) NGC-1385 | WFC3/UVIS, ACCUM, UVIS-CENTER | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC1385-Ha (05) (1) | 550 Secs X 2 (2200 Secs) | |
| | | | | | | | | *[==>(Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>(Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>(Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>(Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC1512-Ha (06), failed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 271D TO 277 D

## Diagnostics

(NGC1512-Ha (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

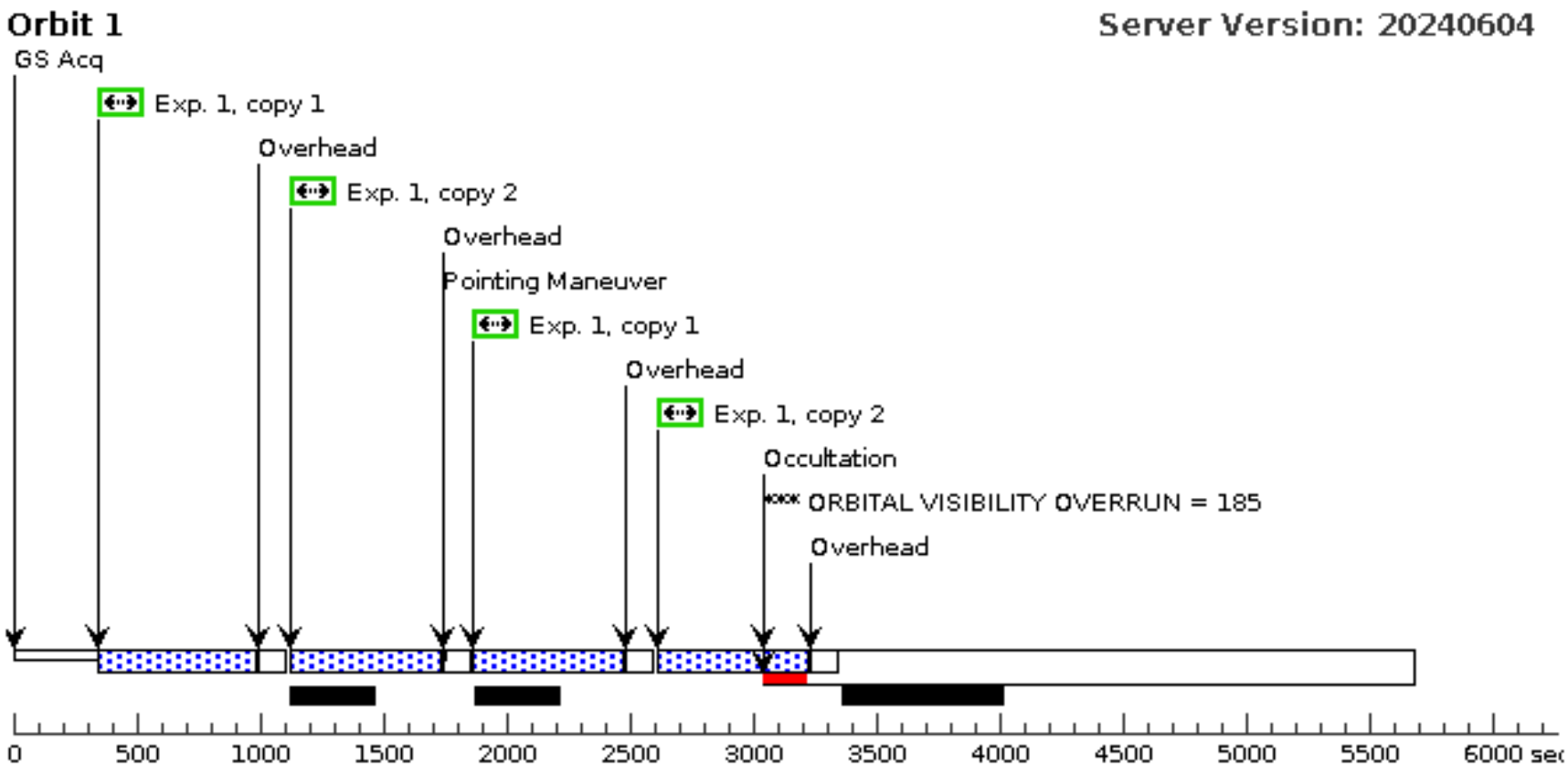
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-1512 | RA: 04 03 44.8448 (60.9368533d) | | V=11.13 | Reference Frame: Simbad |
| | | Dec: -43 22 13.05 (-43.37029d) | | | |
| | | Equinox: J2000 | | | |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (6) NGC-1512 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC1512-Ha (06) (1) | 610 Secs X 2 (2432 Secs) | |
| | | | | | | | | *[==>608.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>608.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>608.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>608.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC1512-Ha (21), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 91D TO 97 D

## Diagnostics

(NGC1512-Ha (21)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

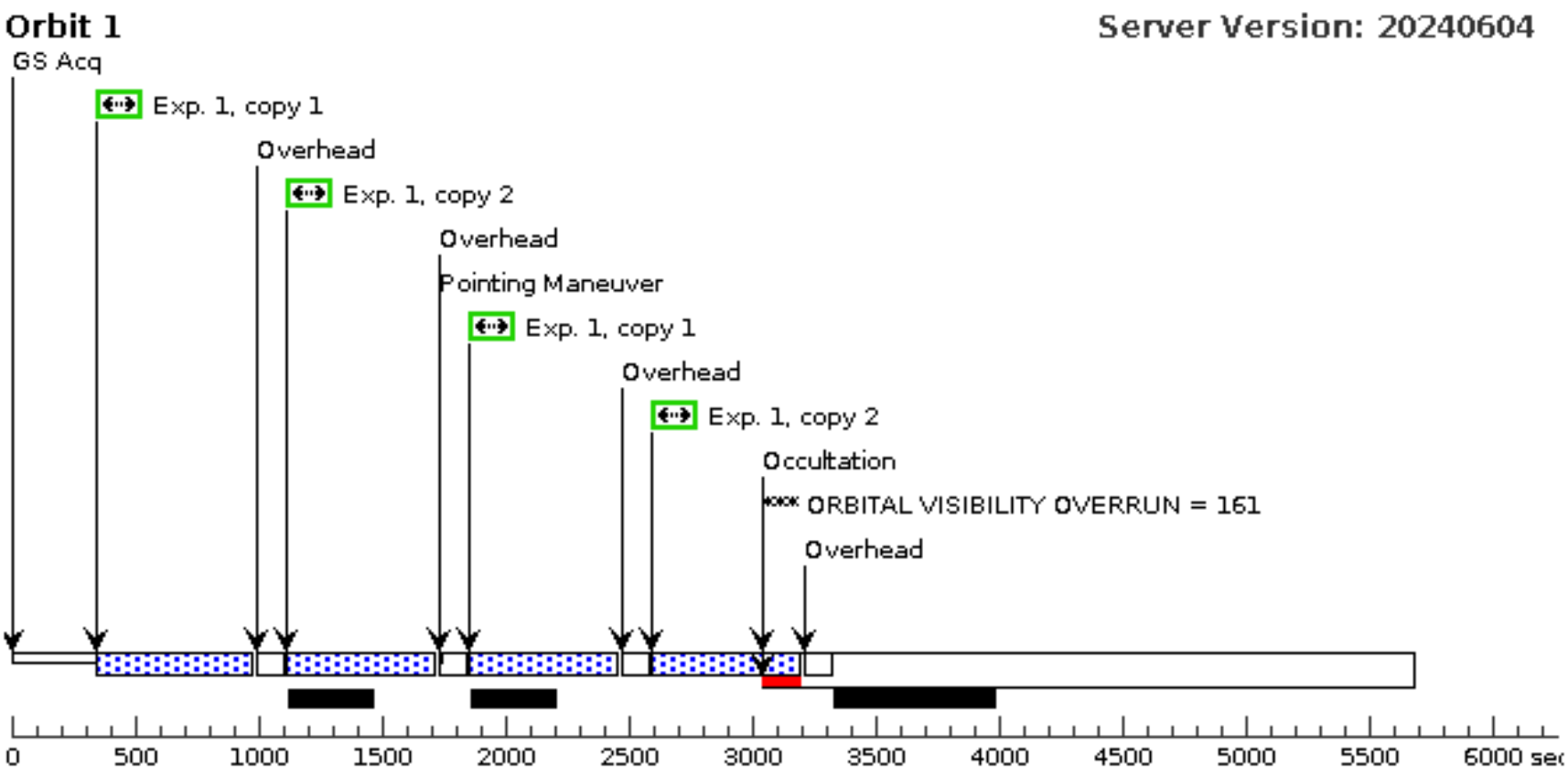
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (20) | NGC-1512-2 | RA: 04 03 55.4838 (60.9811825d) | | V=11.13 | Reference Frame: Simbad |
| | | Dec: -43 20 44.97 (-43.34582d) | | | |
| | | Equinox: J2000 | | | |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (20) NGC-1512-2 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC1512-Ha (21) (1) | 610 Secs X 2 (2408 Secs) | |
| | | | | | | | | *[==>602.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>602.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>602.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>602.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC1566-Ha (07), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 268.9D TO 274.9 D

## Diagnostics

(NGC1566-Ha (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

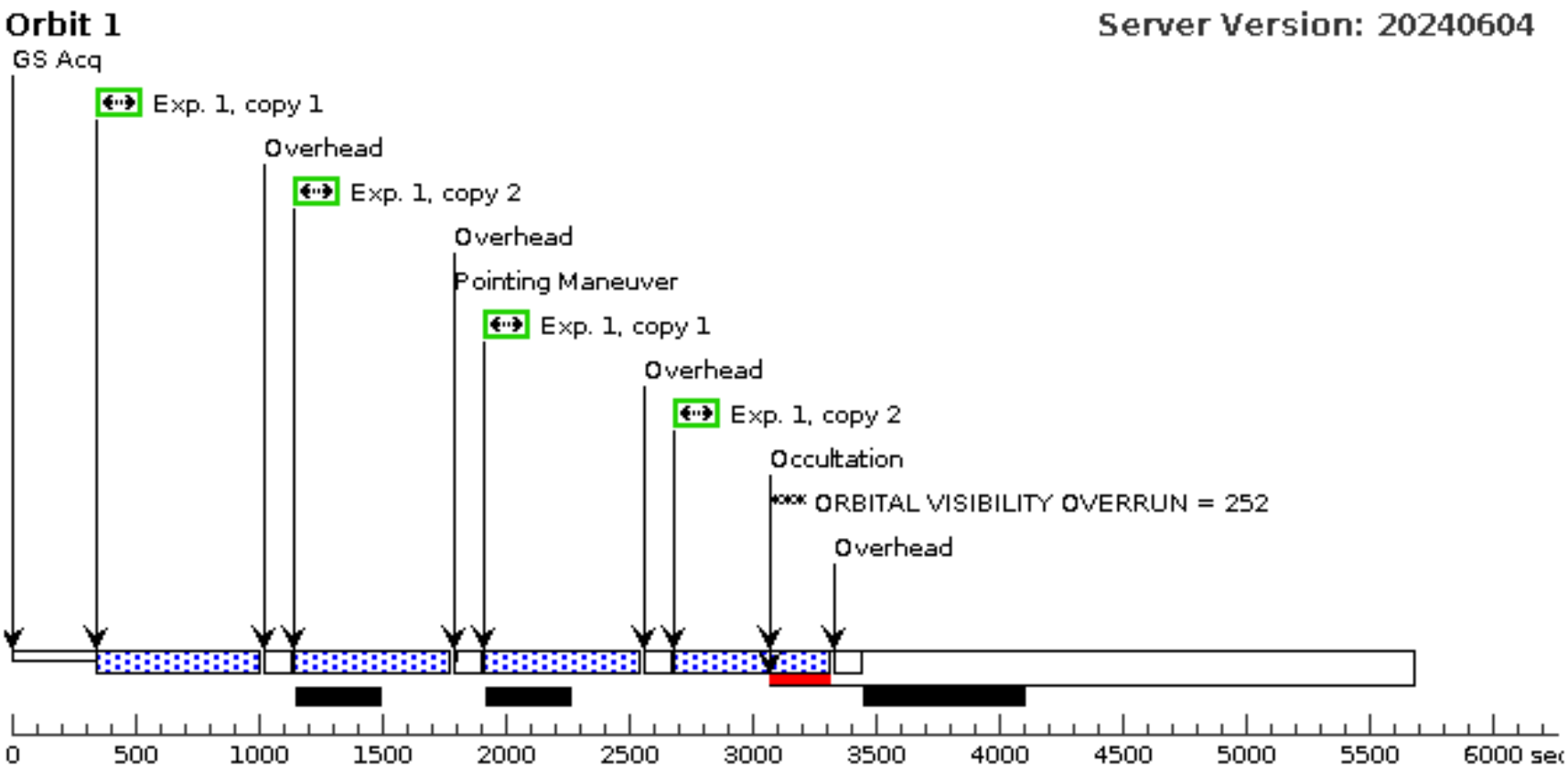
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (7) | NGC-1566 | RA: 04 20 0.5300 (65.0022083d) | | V=10.33 | Reference Frame: Simbad |
| | | Dec: -54 56 13.80 (-54.93717d) | | | |
| | | Equinox: J2000 | | | |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (7) NGC-1566 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC1566-Ha (07) (1) | 634 Secs X 2 (2528 Secs) | |
| | | | | | | | | *[==>632.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>632.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>632.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>632.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC2835N-Ha (08), implementation** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 316.5D TO 322.5 D

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

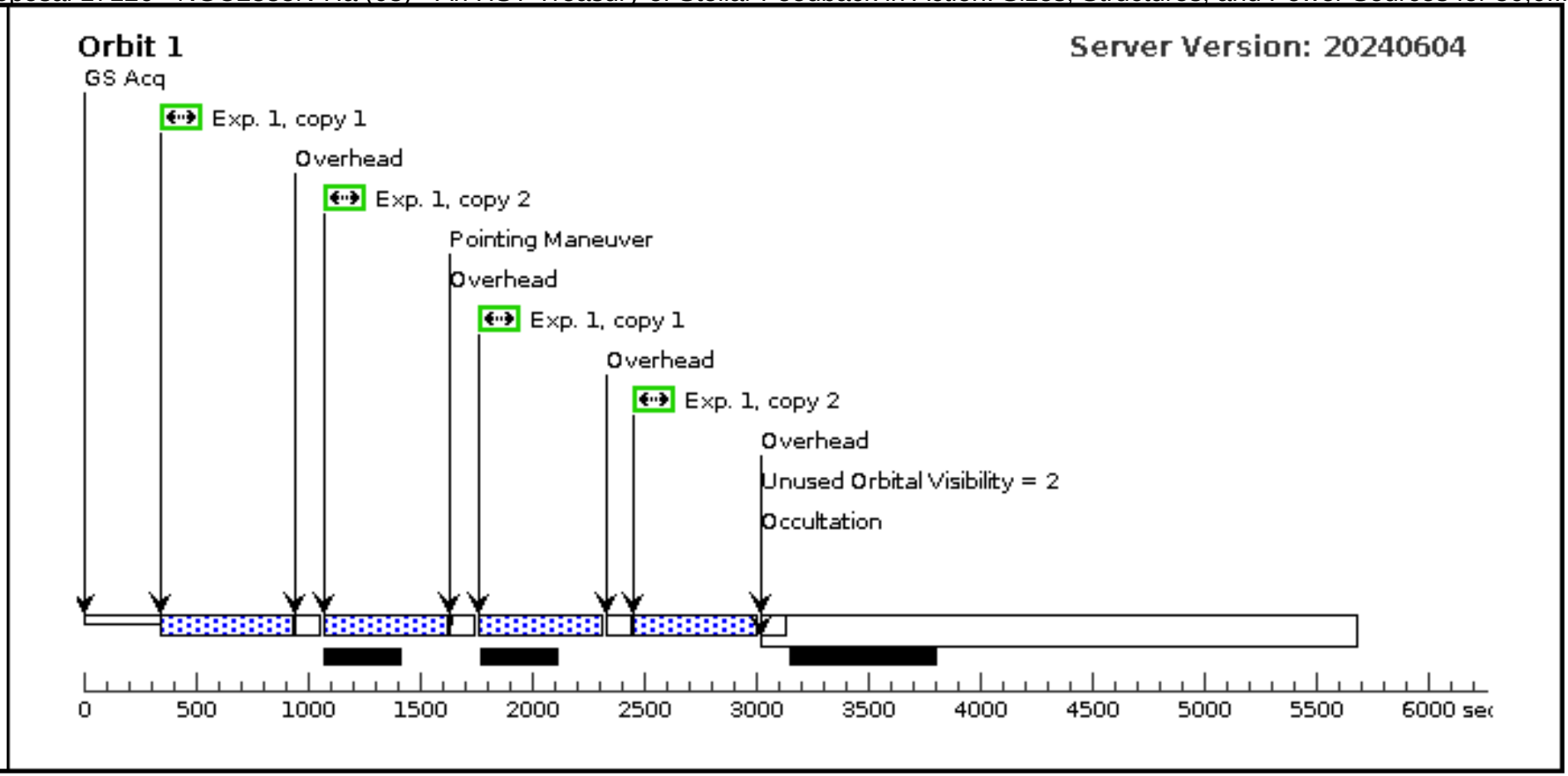
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (8) | NGC-2835-N | RA: 09 17 53.1051 (139.4712713d) | | V=10.00 | Reference Frame: SIMBAD |
| | | Dec: -22 21 18.25 (-22.35507d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (8) NGC-2835-N | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC2835N-Ha (08) (1) | 590 Secs X 2 (2224 Secs) | |
| | | | | | | | | *[==>556.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>556.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>556.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>556.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC2835N-Ha (09), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 316.5D TO 322.5 D

## Diagnostics

(NGC2835N-Ha (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

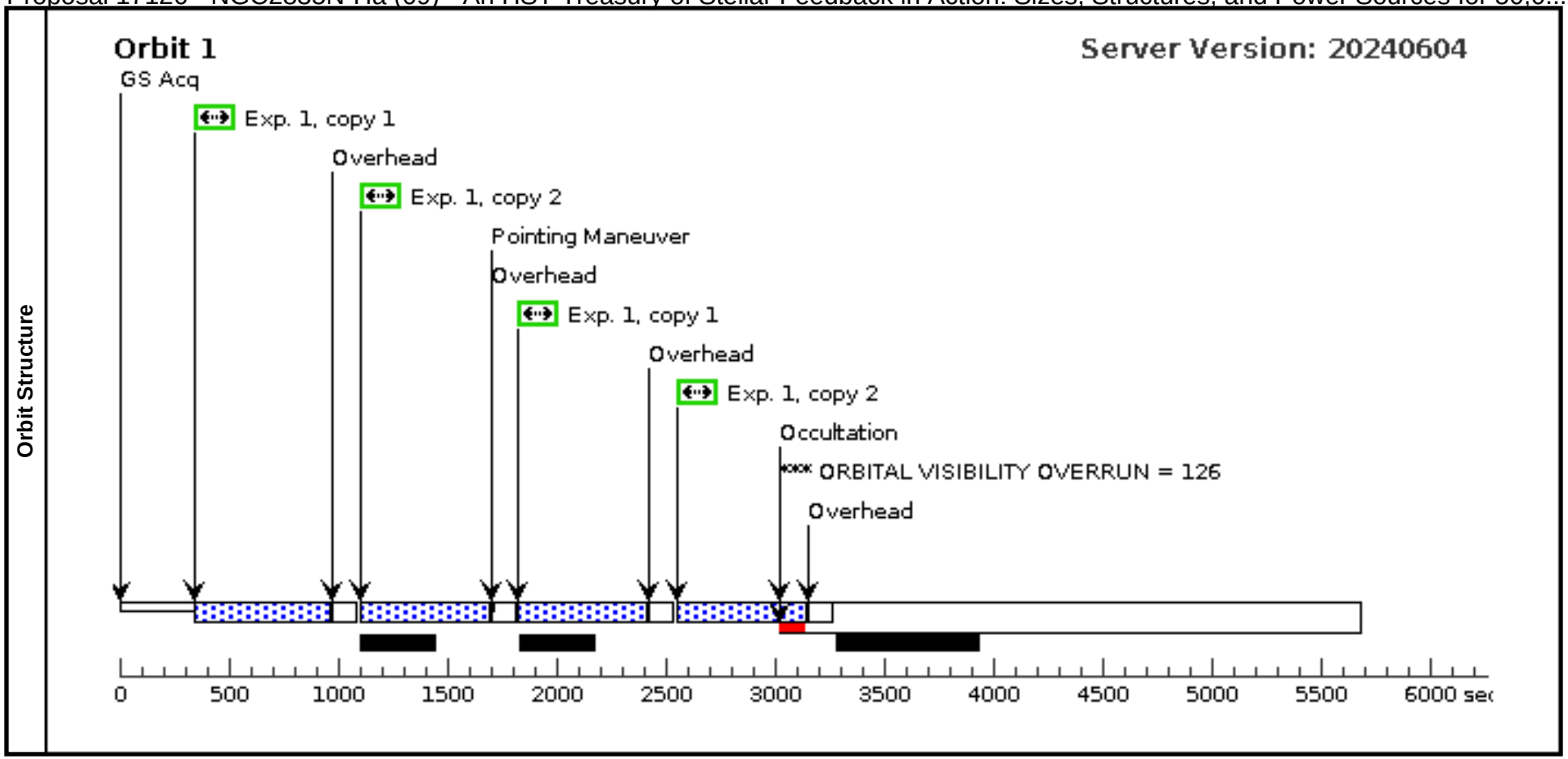
## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (9) | NGC-2835-S | RA: 09 17 53.0400 (139.4710000d)<br>Dec: -22 23 0.00 (-22.38333d)<br>Equinox: J2000 | | V=10.00 | Reference Frame: Simbad |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (9) NGC-2835-S | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC2835N-Ha (09) (1) | 590 Secs X 2 (2352 Secs)<br>*[==>588.0 Secs (Pattern 1, Copy 1)]*<br>*[==>588.0 Secs (Pattern 1, Copy 2)]*<br>*[==>588.0 Secs (Pattern 2, Copy 1)]*<br>*[==>588.0 Secs (Pattern 2, Copy 2)]* | ***[1]*** |


Orbit Structure
Orbit 1
Server Version: 20240604
GS Acq
Exp. 1, copy 1
Overhead
Exp. 1, copy 2
Pointing Maneuver
Overhead
Exp. 1, copy 1
Overhead
Exp. 1, copy 2
Occultation
*** ORBITAL VISIBILITY OVERRUN = 126
Overhead
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17126, NGC3351-Ha (10), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Diagnostics

(NGC3351-Ha (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

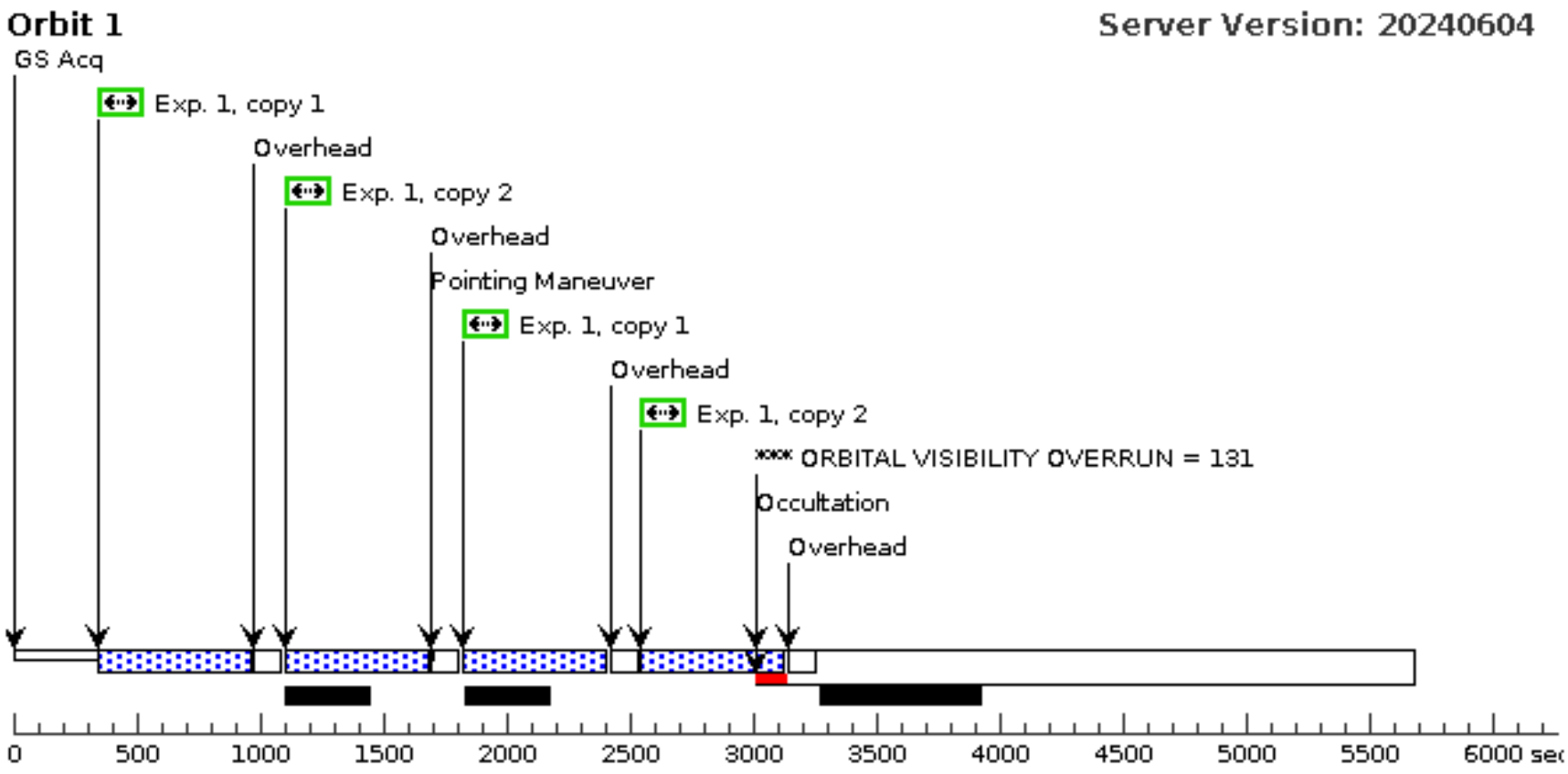
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (10) | NGC-3351 | RA: 10 43 58.0000 (160.9916667d)<br>Dec: +11 42 17.76 (11.70493d)<br>Equinox: J2000 | | V=10.5 | Reference Frame: Simbad |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (10) NGC-3351 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC3351-Ha (10) (1) | 588 Secs X 2 (2344 Secs)<br>*[==>586.0 Secs (Pattern 1, Copy 1)]*<br>*[==>586.0 Secs (Pattern 1, Copy 2)]*<br>*[==>586.0 Secs (Pattern 2, Copy 1)]*<br>*[==>586.0 Secs (Pattern 2, Copy 2)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17126, NGC3627-Ha (11), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

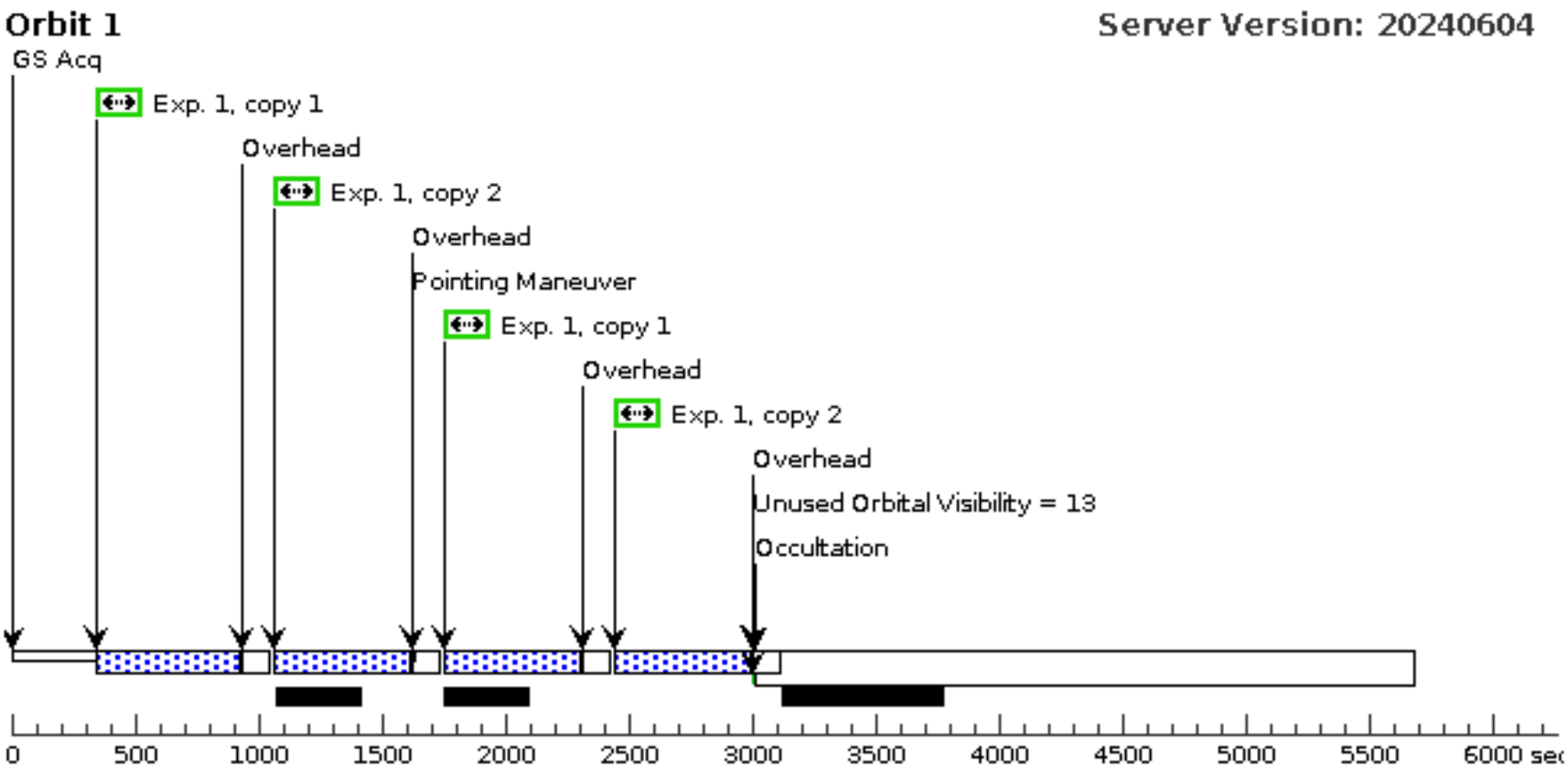
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (11) | NGC-3627 | RA: 11 20 15.5200 (170.0646667d) | | V=8.92 | Reference Frame: SIMBAD |
| | | Dec: +13 00 0.50 (13.00014d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (11) NGC-3627 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC3627-Ha (11) (1) | 550 Secs X 2 (2200 Secs) | |
| | | | | | | | | *[==>(Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>(Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>(Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>(Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4254E-Ha (12), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 160D TO 240 D; ORIENT 340D TO 60 D

## Diagnostics

(NGC4254E-Ha (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

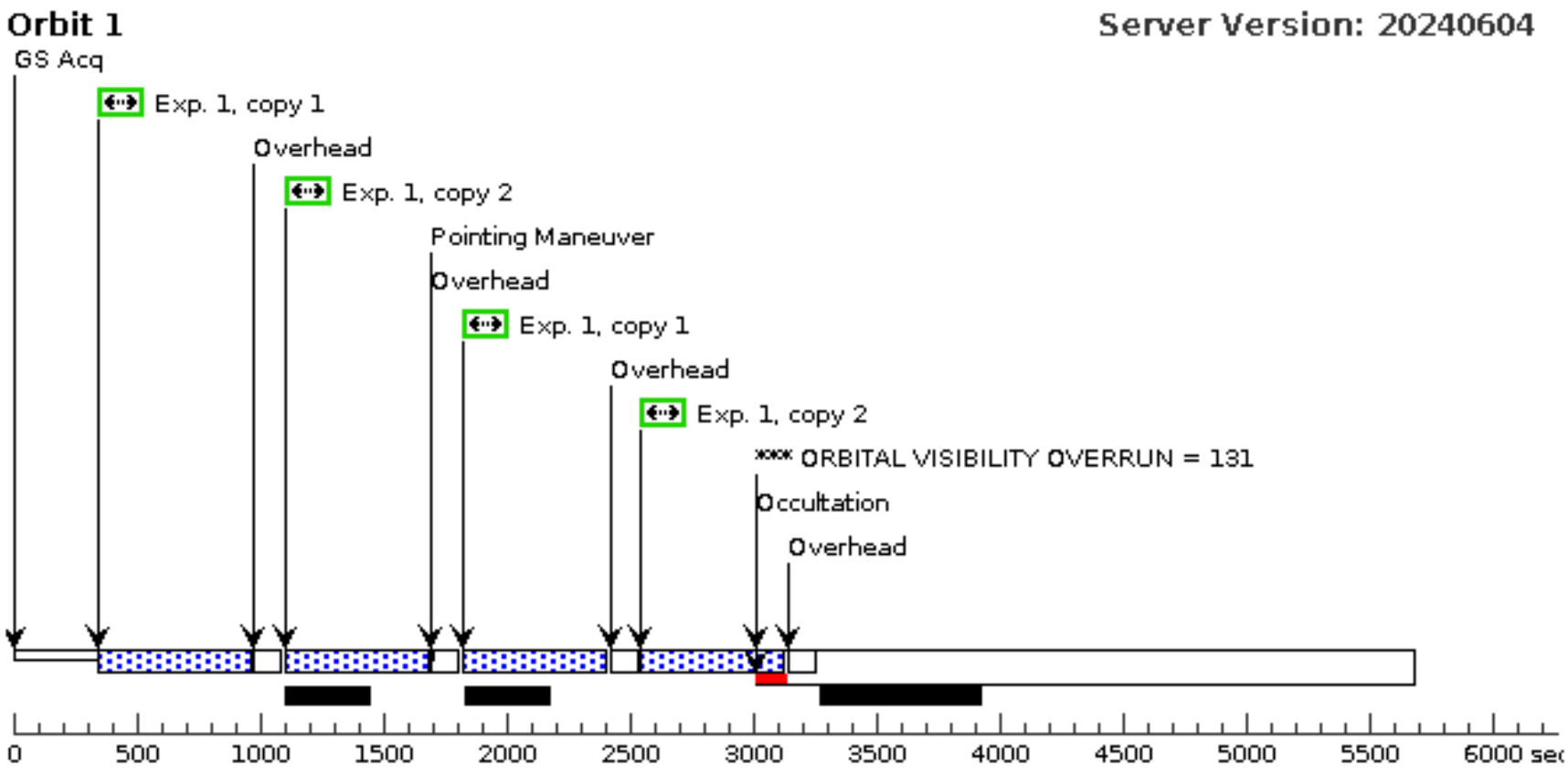
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (12) | NGC-4254-E | RA: 12 18 56.2297 (184.7342904d) | | V=9.87 | Reference Frame: SIMBAD |
| | | Dec: +14 26 3.68 (14.43436d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (12) NGC-4254-E | WFC3/UVIS, ACCUM, UVIS-CENTER | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC4254E-Ha (12) (1) | 588 Secs X 2 (2344 Secs) | |
| | | | | | | | | *[==>586.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>586.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>586.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>586.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4254W-Ha (13), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Diagnostics

(NGC4254W-Ha (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

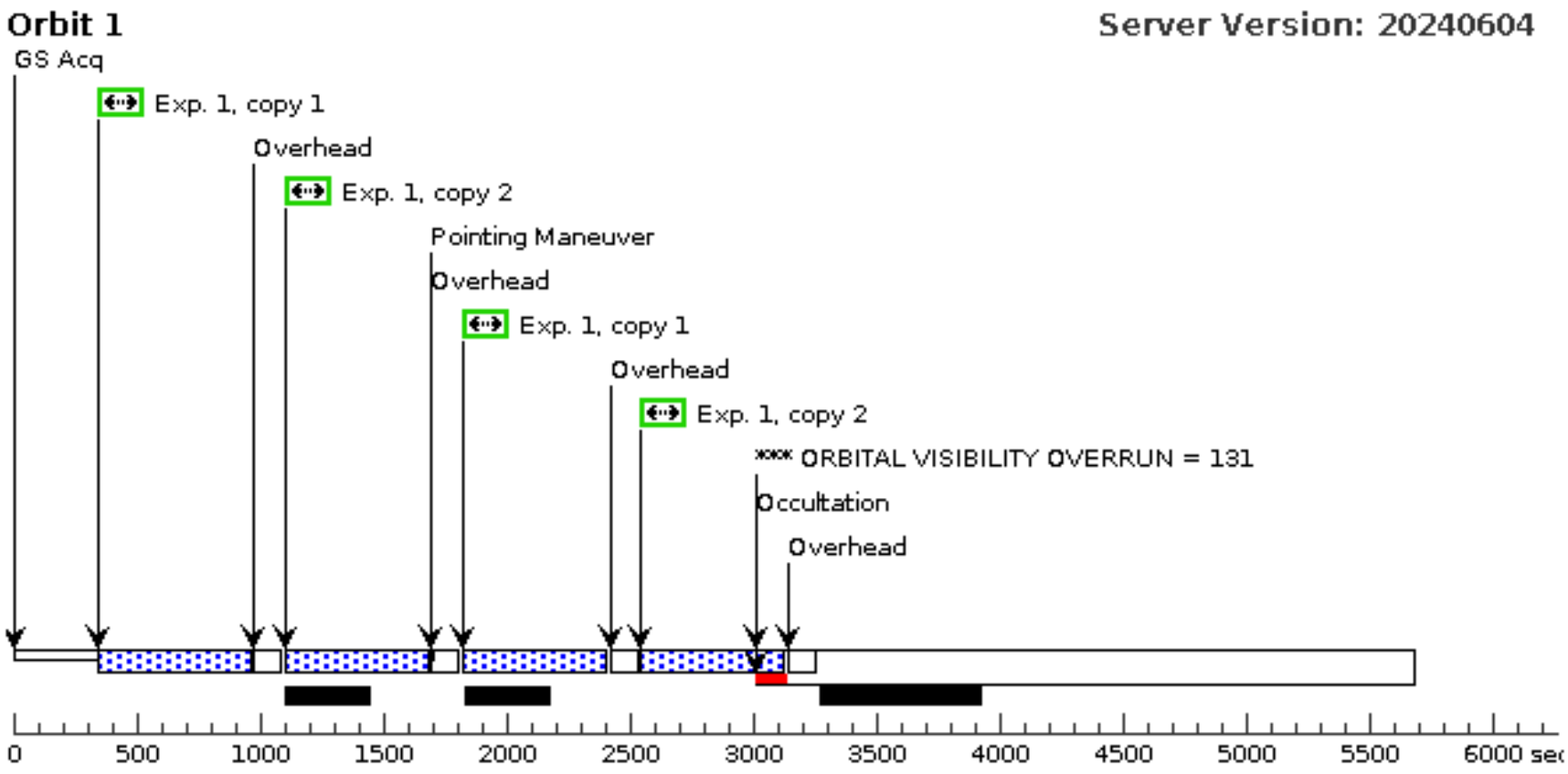
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (13) | NGC-4254-W | RA: 12 18 46.9283 (184.6955346d) | | V=9.87 | Reference Frame: SIMBAD |
| | | Dec: +14 24 38.09 (14.41058d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (13) NGC-4254-W | WFC3/UVIS, ACCUM, UVIS-CENTER | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC4254W-Ha (13) (1) | 588 Secs X 2 (2344 Secs) | |
| | | | | | | | | *[==>586.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>586.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>586.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>586.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4303-Ha (14), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 157D TO 163 D

## Diagnostics

(NGC4303-Ha (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

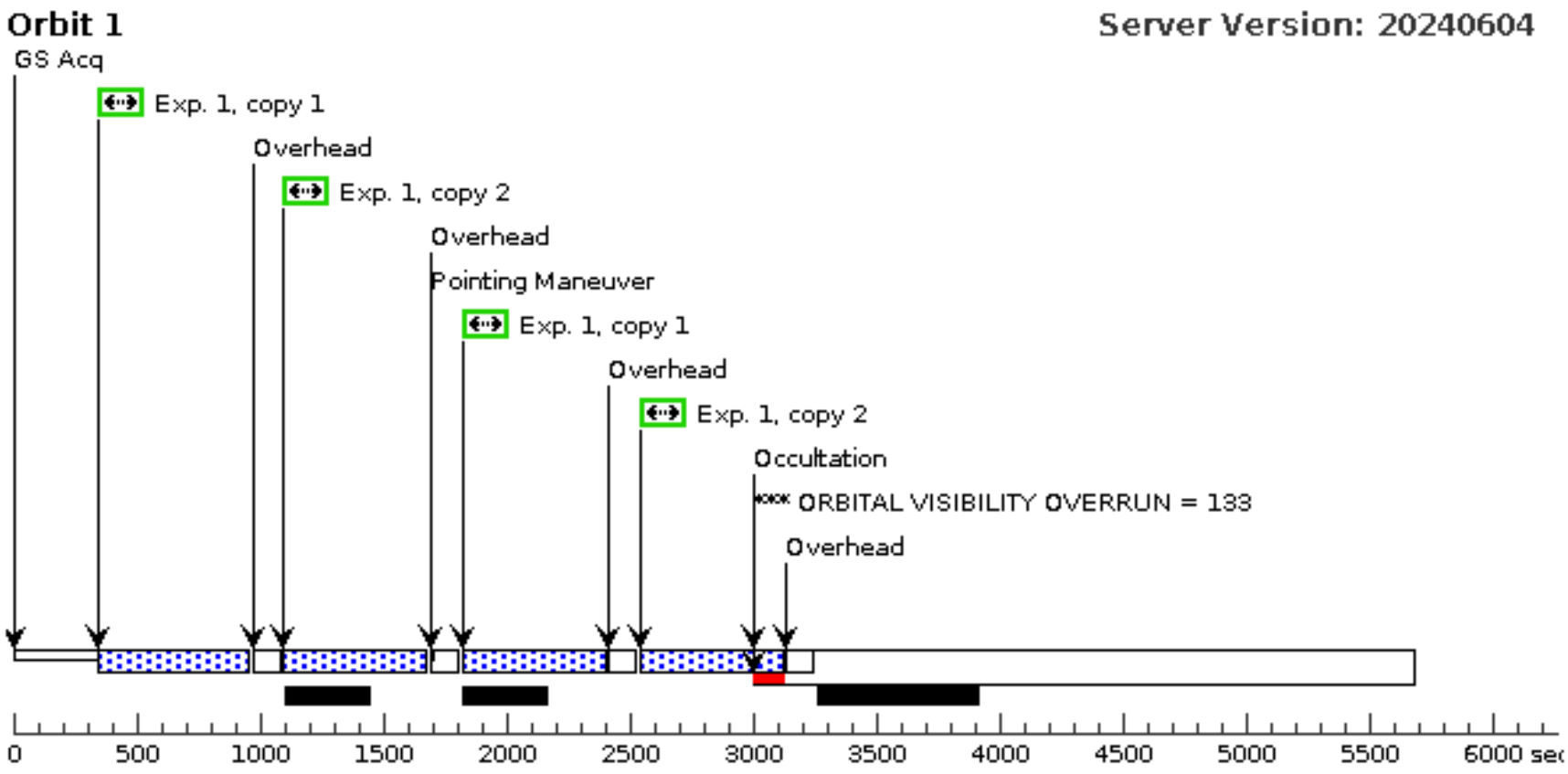
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (14) | NGC-4303 | RA: 12 21 55.3660 (185.4806917d) | | V=9.65 | Reference Frame: SIMBAD |
| | | Dec: +04 28 28.60 (4.47461d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (14) NGC-4303 | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC4303-Ha (14) (1) | 586 Secs X 2 (2336 Secs) | |
| | | | | | | | | *[==>584.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>584.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>584.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>584.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4321-Ha (15), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Diagnostics

(NGC4321-Ha (15)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

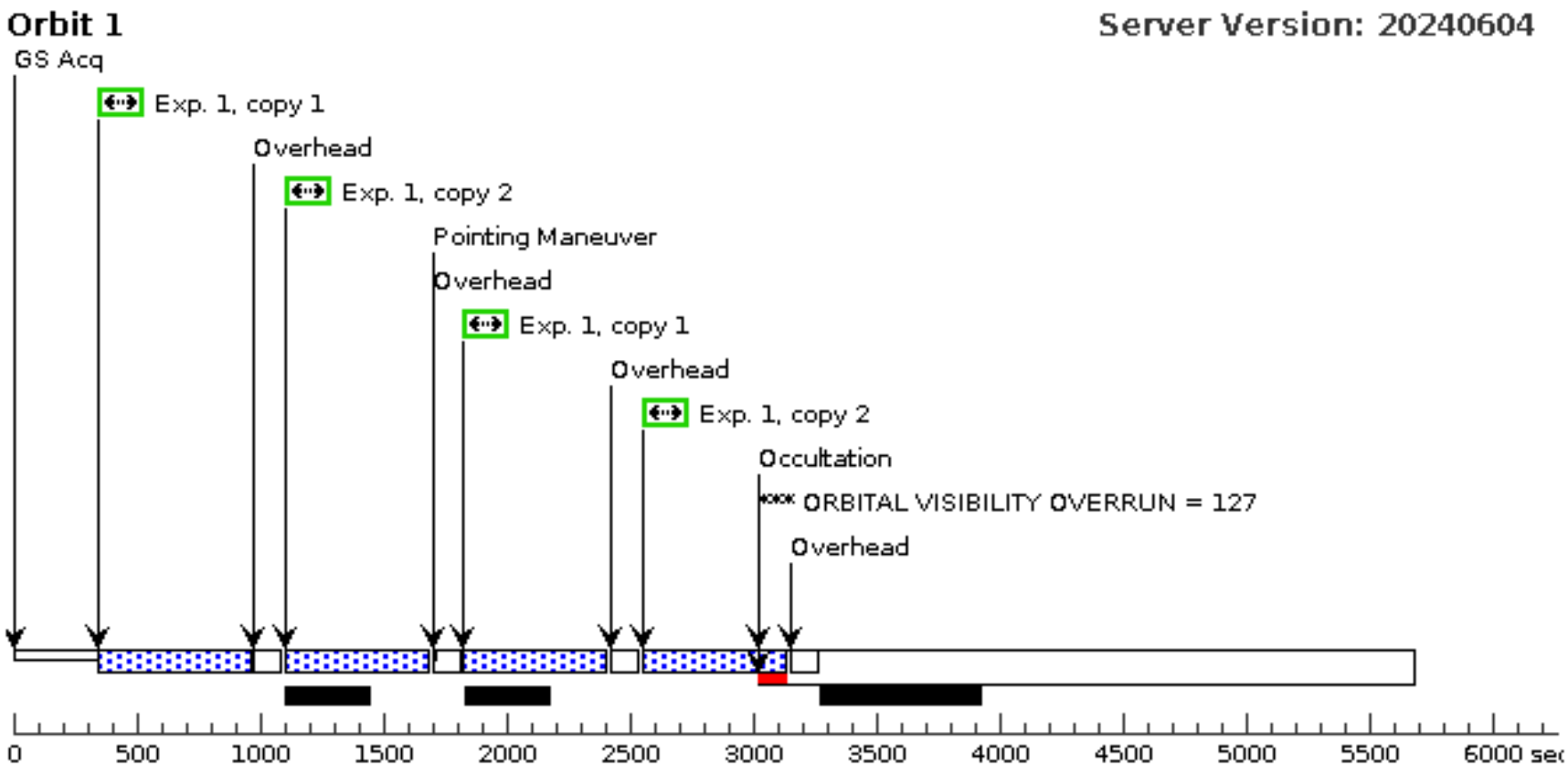
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (15) | NGC-4321 | RA: 12 22 54.5923 (185.7274679d) | | V=9.35 | Reference Frame: SIMBAD |
| | | Dec: +15 49 18.22 (15.82173d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (15) NGC-4321 | WFC3/UVIS, ACCUM, UVIS-CENTER | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC4321-Ha (15) (1) | 590 Secs X 2 (2348 Secs) | |
| | | | | | | | | *[==>587.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>587.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>587.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>587.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4535-Ha (16), failed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 280D TO 320 D

## Diagnostics

(NGC4535-Ha (16)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

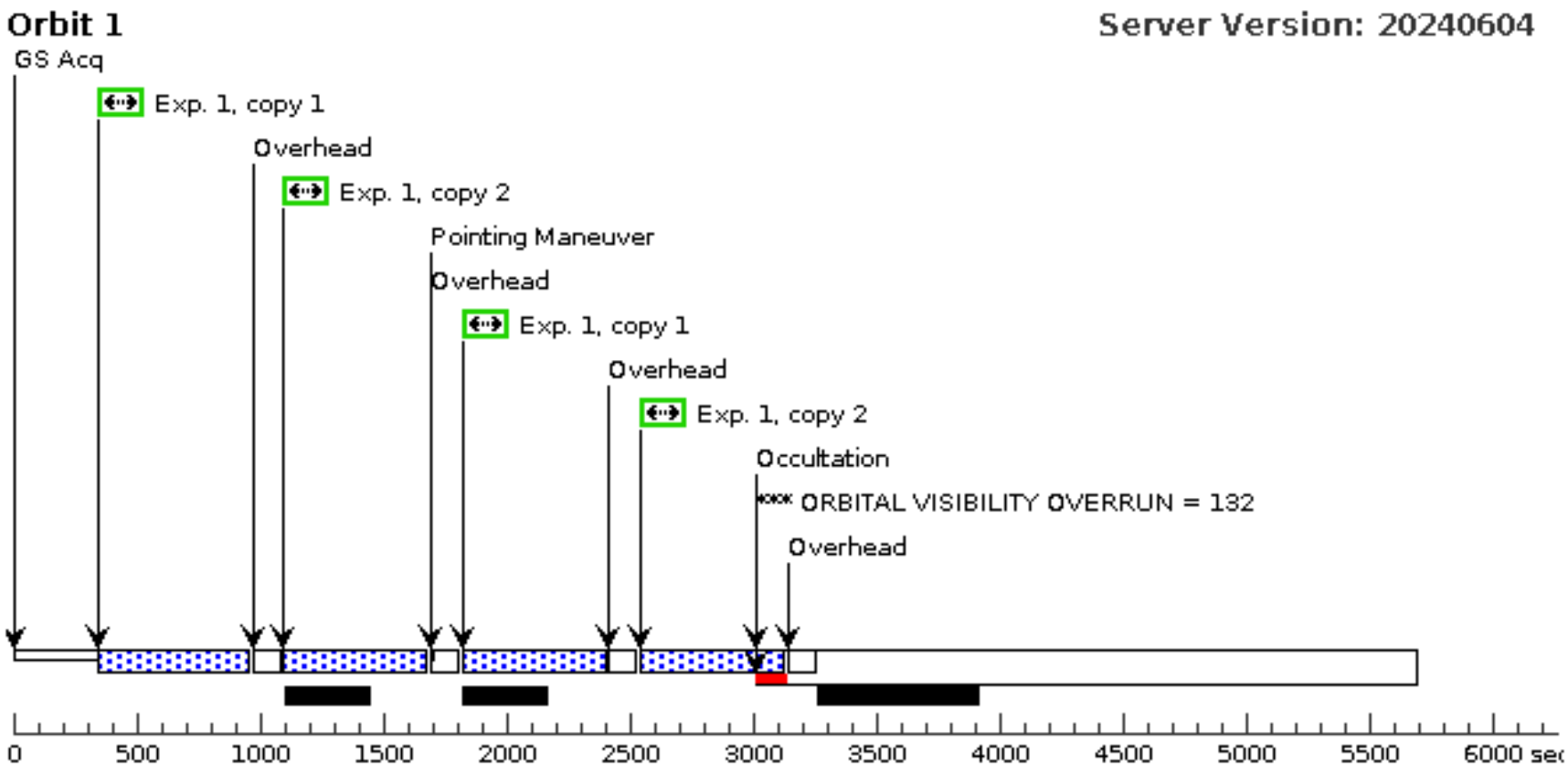
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (16) | NGC-4535 | RA: 12 34 20.3800 (188.5849167d) | | V=10.00 | Reference Frame: SIMBAD |
| | | Dec: +08 11 52.00 (8.19778d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (16) NGC-4535 | WFC3/UVIS, ACCUM, UVIS-FIX | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC4535-Ha (16) (1) | 587 Secs X 2 (2340 Secs) | |
| | | | | | | | | *[==>585.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>585.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>585.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>585.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC4535-Ha (20), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 280D TO 320 D

## Diagnostics

(NGC4535-Ha (20)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

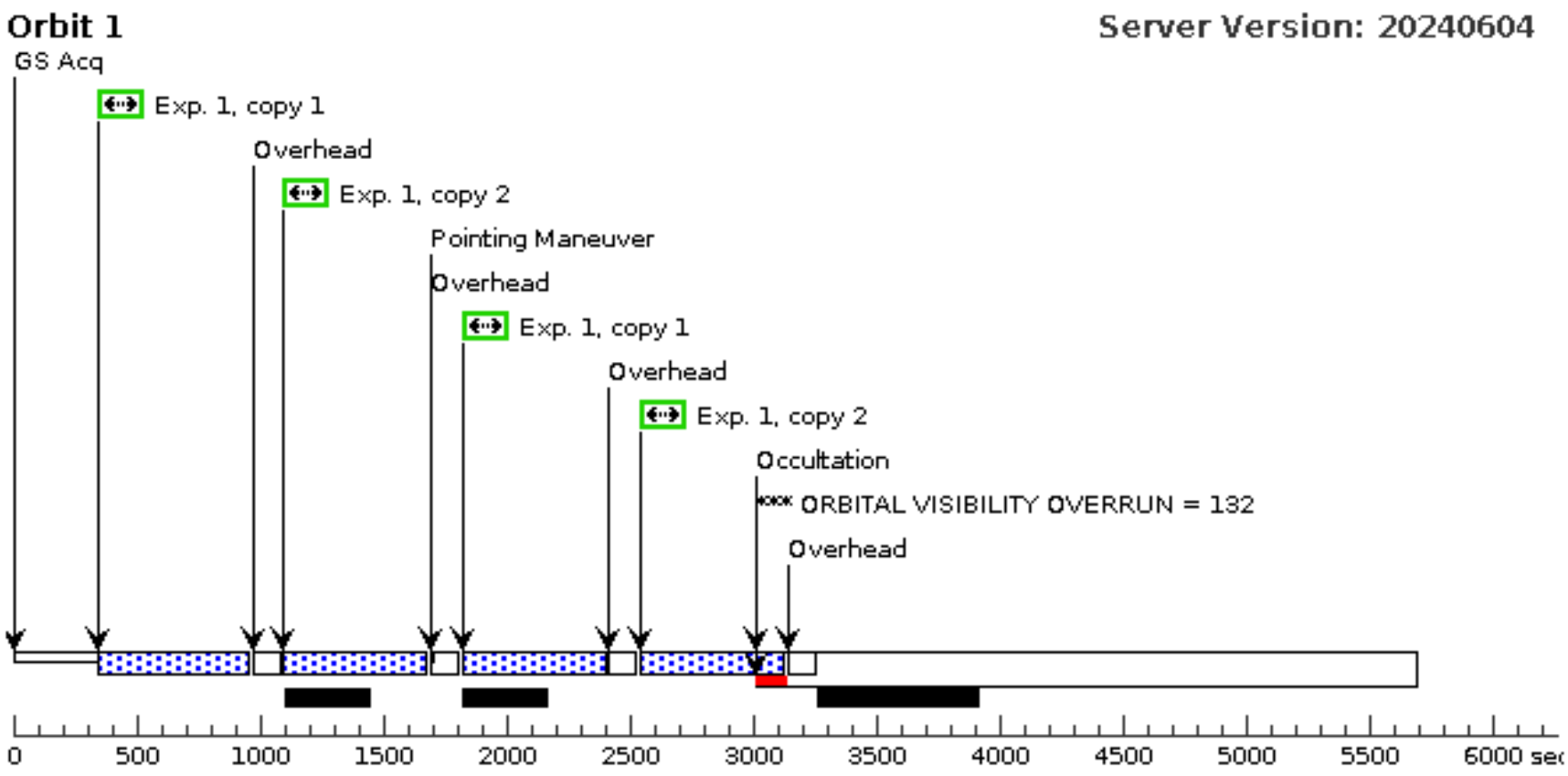
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (16) | NGC-4535 | RA: 12 34 20.3800 (188.5849167d) | | V=10.00 | Reference Frame: SIMBAD |
| | | Dec: +08 11 52.00 (8.19778d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (16) NGC-4535 | WFC3/UVIS, ACCUM, UVIS-FIX | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC4535-Ha (20) (1) | 587 Secs X 2 (2340 Secs) | |
| | | | | | | | | *[==>585.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>585.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>585.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>585.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC5068N-Ha (17), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 46D TO 52 D

## Diagnostics

(NGC5068N-Ha (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

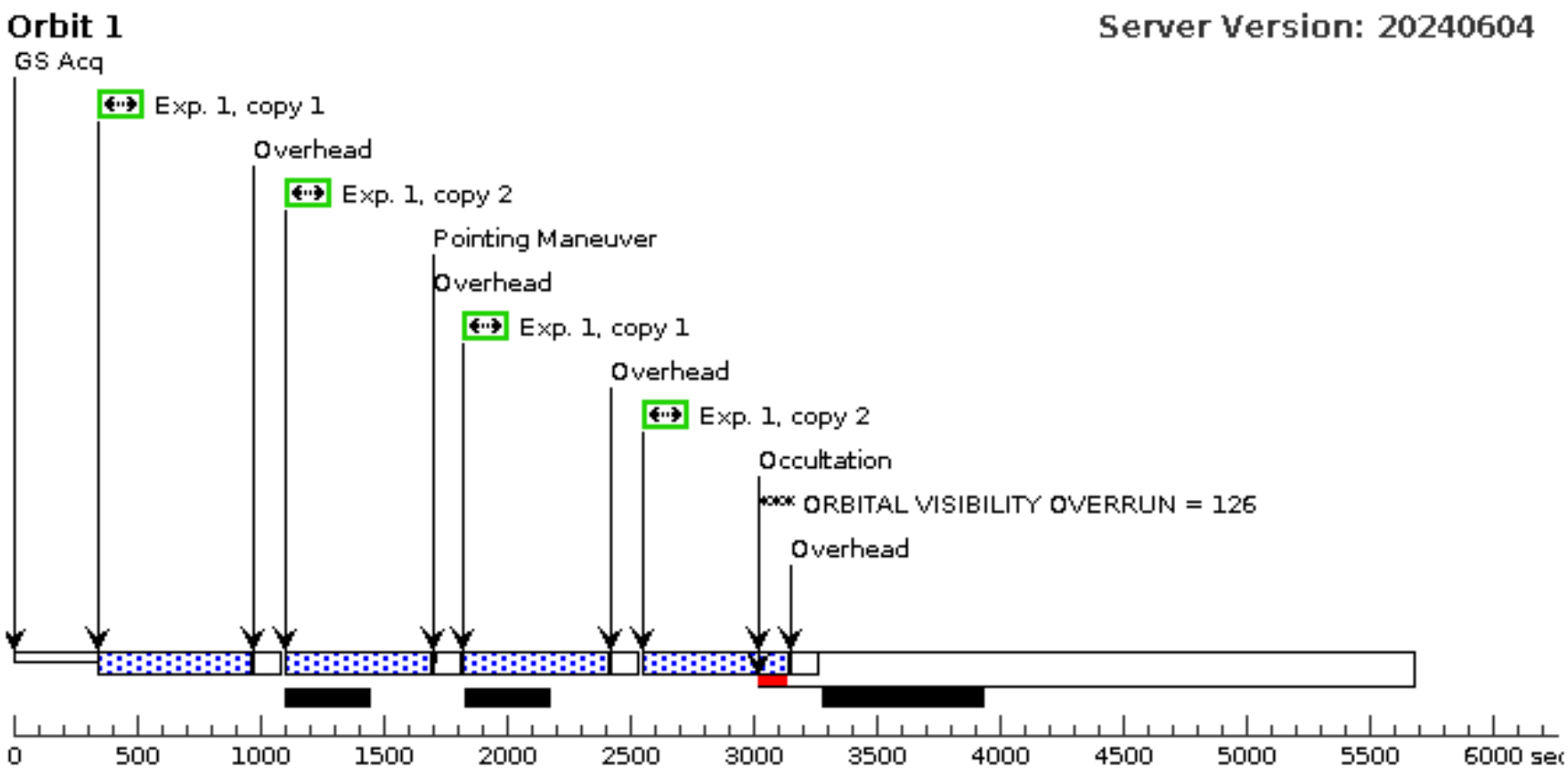
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (17) | NGC-5068-N | RA: 13 18 49.6059 (199.7066913d)<br>Dec: -21 01 24.85 (-21.02357d)<br>Equinox: J2000 | | V=10.01 | Reference Frame: SIMBAD |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (17) NGC-5068-N | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC5068N-Ha (17) (1) | 590 Secs X 2 (2352 Secs)<br>*[==>588.0 Secs (Pattern 1, Copy 1)]*<br>*[==>588.0 Secs (Pattern 1, Copy 2)]*<br>*[==>588.0 Secs (Pattern 2, Copy 1)]*<br>*[==>588.0 Secs (Pattern 2, Copy 2)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17126, NGC5068S-Ha (18), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 46D TO 52 D

## Diagnostics

(NGC5068S-Ha (18)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

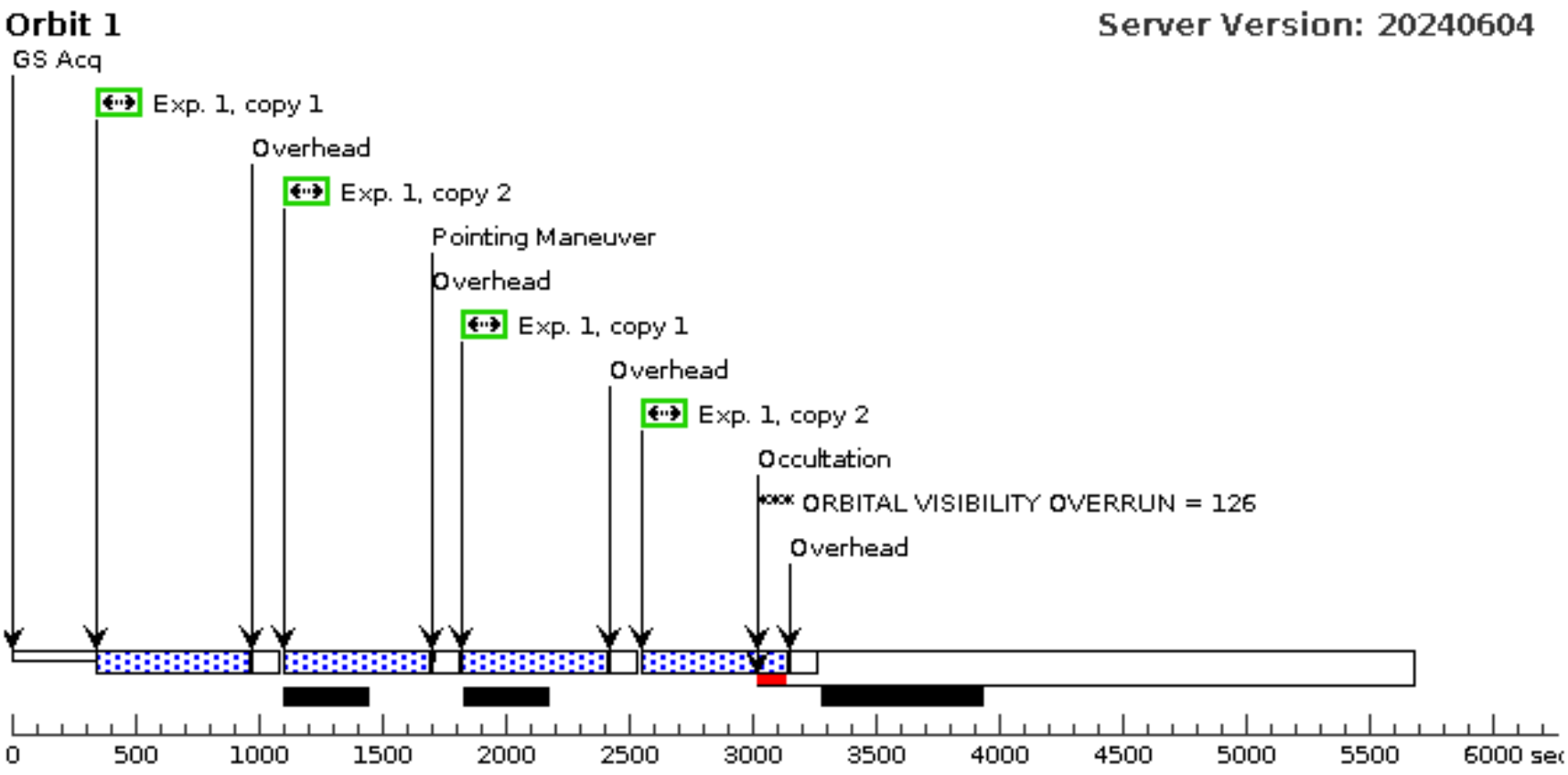
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (18) | NGC-5068-S | RA: 13 18 54.0043 (199.7250179d) | | V=10.01 | Reference Frame: Simbad |
| | | Dec: -21 03 10.49 (-21.05291d) | | | |
| | | Equinox: J2000 | | | |

*Comments:*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (18) NGC-5068-S | WFC3/UVIS, ACCUM, UVIS-CENTER | F658N | FLASH=18 | | Pattern 1, Exps 1-1 in NGC5068S-Ha (18) (1) | 590 Secs X 2 (2352 Secs) | |
| | | | | | | | | *[==>588.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>588.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>588.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>588.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure



## Visit

**Proposal 17126, NGC7496-Ha (19), completed** Tue Jun 18 19:00:32 GMT 2024

**Diagnostic Status: Warning**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 332D TO 338 D

## Diagnostics

(NGC7496-Ha (19)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

## Patterns

| # | Primary Pattern | | Secondary Pattern | Exposures |
|---|---|---|---|---|
| (1) | Pattern Type=WFC3-UVIS-GAP-LINE | Coordinate Frame=POS-TARG | | (1) |
| | Purpose=MOSAIC | Pattern Orientation=85.759 | | |
| | Number Of Points=2 | Angle Between Sides= | | |
| | Point Spacing=2.414 | Center Pattern=true | | |
| | Line Spacing= | | | |

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (19) | NGC-7496 | RA: 23 09 47.3858 (347.4474408d) | | V=13.9 | Reference Frame: SIMBAD |
| | | Dec: -43 25 30.19 (-43.42505d) | | | |
| | | Equinox: J2000 | | | |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=GALAXY*
*Description=[SPIRAL]*

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | (19) NGC-7496 | WFC3/UVIS, ACCUM, UVIS-FIX | F657N | FLASH=17 | | Pattern 1, Exps 1-1 in NGC7496-Ha (19) (1) | 610 Secs X 2 (2432 Secs) | |
| | | | | | | | | *[==>608.0 Secs (Pattern 1, Copy 1)]* | ***[1]*** |
| | | | | | | | | *[==>608.0 Secs (Pattern 1, Copy 2)]* | |
| | | | | | | | | *[==>608.0 Secs (Pattern 2, Copy 1)]* | |
| | | | | | | | | *[==>608.0 Secs (Pattern 2, Copy 2)]* | |

Orbit Structure