# 18239 - Blinded by the Light: Calibrating Outshining Bias in High-z Galaxies with Low-z Starbursting Dwarfs

Cycle: 33, Proposal Category: GO

(Availability Mode: SUPPORTED)

**INVESTIGATORS**



| *Name* | *Institution* |
|---|---|
| **Dr. Yumi Choi (PI) (Contact)** | **NOIRLab - (AZ)** |
| Dr. Karoline Gilbert (CoI) | Space Telescope Science Institute |
| Dr. Knut Anders Grova Olsen (CoI) | NOIRLab - Vera C. Rubin Operations (AZ) |
| Dr. Christina C Williams (CoI) | University of Arizona |
| Prof. Eric F. Bell (CoI) | University of Michigan |
| Dr. Benjamin F. Williams (CoI) | University of Washington |
| Dr. Andrew Eugene Dolphin (CoI) | Raytheon Company |
| Dr. Adam Smercina (CoI) | Space Telescope Science Institute |
| Dr. Joel Leja (CoI) | The Pennsylvania State University |
| Dr. Katherine Suess (CoI) | University of Colorado at Boulder |
| Dr. Zhiyuan Ji (CoI) | University of Arizona |



**VISITS**

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 01 | (1) NGC-1569 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:16.0 | yes |
| 02 | (2) IC-4662 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:17.0 | yes |
| 03 | (6) NGC-4068 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:17.0 | yes |
| 04 | (6) NGC-4068 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:18.0 | yes |

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 05 | (6) NGC-4068 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:18.0 | yes |
| 06 | (6) NGC-4068 | ACS/WFC | 1 | 27-Aug-2026 07:00:18.0 | yes |
| 07 | (3) Z-242-46 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:19.0 | yes |
| 08 | (3) Z-242-46 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:19.0 | yes |
| 09 | (3) Z-242-46 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:20.0 | yes |
| 10 | (3) Z-242-46 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:20.0 | yes |
| 11 | (4) Z-351-62 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:20.0 | yes |
| 12 | (4) Z-351-62 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:21.0 | yes |
| 13 | (4) Z-351-62 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:21.0 | yes |
| 14 | (4) Z-351-62 | ACS/WFC | 1 | 27-Aug-2026 07:00:21.0 | yes |
| 15 | (5) Z-331-51 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:22.0 | yes |
| 16 | (5) Z-331-51 | WFC3/UVIS | 1 | 27-Aug-2026 07:00:22.0 | yes |

16 Total Orbits Used

**ABSTRACT**

Stellar mass is the currency of galaxy evolution: it anchors the stellar-halo relation, sets quenching thresholds, shapes the mass-metallicity relation, and underpins galaxy mass functions. Yet at high redshift, where JWST has revealed surprisingly massive galaxies at $z > 6$, masses from integrated SED fits remain vulnerable to systematics, including "outshining" by young bright stars, bursty SFHs, dust-age-metallicity degeneracy, and nebular emission. A precise, empirical calibration to unbiased masses is urgent and is only possible in nearby systems where JWST resolves individual stars beyond HST limits in near-IR, yielding precise measurements that are immune to outshining.

We will collect deep JWST/NIRCam, HST/WFC3, and archival imaging, spanning near-UV to near-IR bands, of resolved stars in a complete sample of nearby (<4.5 Mpc) starburst dwarf galaxies suitable for our program. These panchromatic data allow us to derive high-precision SFHs from multi-band color-magnitude diagrams (CMDs). Combined with per-star SED fits, we will break key degeneracies and anchor unbiased stellar masses across a range of galaxy mass, metallicity, dust content, and star formation activity. CMD-anchored, unbiased stellar masses serve as ground truth and will be used to calibrate integrated SED fits. Using matched apertures, we will directly compare CMD-based masses to integrated SED inferences, quantify biases as functions of galaxy and SFH properties, and deliver empirical corrections, template SFHs and SEDs for bursty

clumps/HII regions, and SFH priors for unresolved systems.

**OBSERVING DESCRIPTION**

We request 16 HST orbits to image six galaxies using WFC3/UVIS in the F275W and F336W filters, and either WFC3/UVIS or ACS/WFC for F475W. Our strategy maximizes spatial overlap with archival HST and JWST data, though no explicit JWST-HST scheduling coordination is required. These observations are designed to detect intermediate B-type stars with a minimum SNR=4 in the most conservative cases. This depth is sufficient to tightly constrain the recent (<300 Myr) star formation histories (SFHs) of these systems.

## Visit

**Proposal 18239, NGC1569 (01), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: CVZ; ORIENT 94D TO 184 D

## Fixed Targets

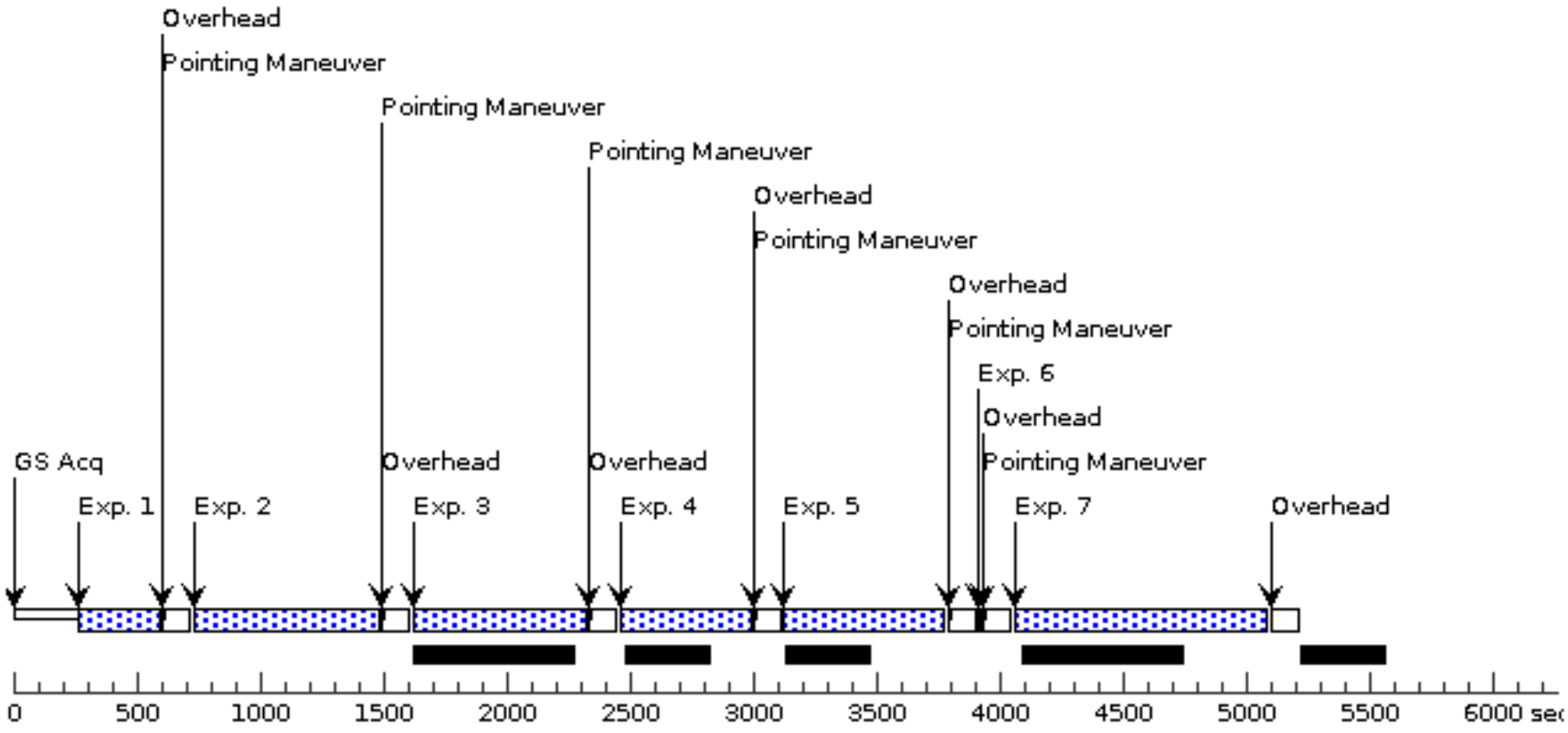
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | NGC-1569 | RA: 04 30 47.4382 (67.6976592d)<br>Dec: +64 50 47.08 (64.84641d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=11.03 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N1569-F275W-1 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20;<br>CR-SPLIT=NO | POS TARG 0,0 | | 300 Secs (300 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | N1569-F275W-2 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=15;<br>CR-SPLIT=NO | POS TARG 0.158,0.070 | | 750 Secs (750 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | N1569-F275W-3 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=15;<br>CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | N1569-F475W-1 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=10;<br>CR-SPLIT=NO | POS TARG 0,0 | | 510 Secs (510 Secs)<br>*[==>]* | <br>***[1]*** |
| 5 | N1569-F475W-2 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=10;<br>CR-SPLIT=NO | POS TARG 0.092,0.098 | | 650 Secs (650 Secs)<br>*[==>]* | <br>***[1]*** |
| 6 | N1569-F475W-3 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=20;<br>CR-SPLIT=NO | POS TARG 0.185,0.197 | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 7 | N1569-F275W-4 | (1) NGC-1569 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=15;<br>CR-SPLIT=NO | POS TARG -0.060,0.095 | | 1000 Secs (1000 Secs)<br>*[==>]* | <br>***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, IC4662 (02), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: CVZ

## Fixed Targets

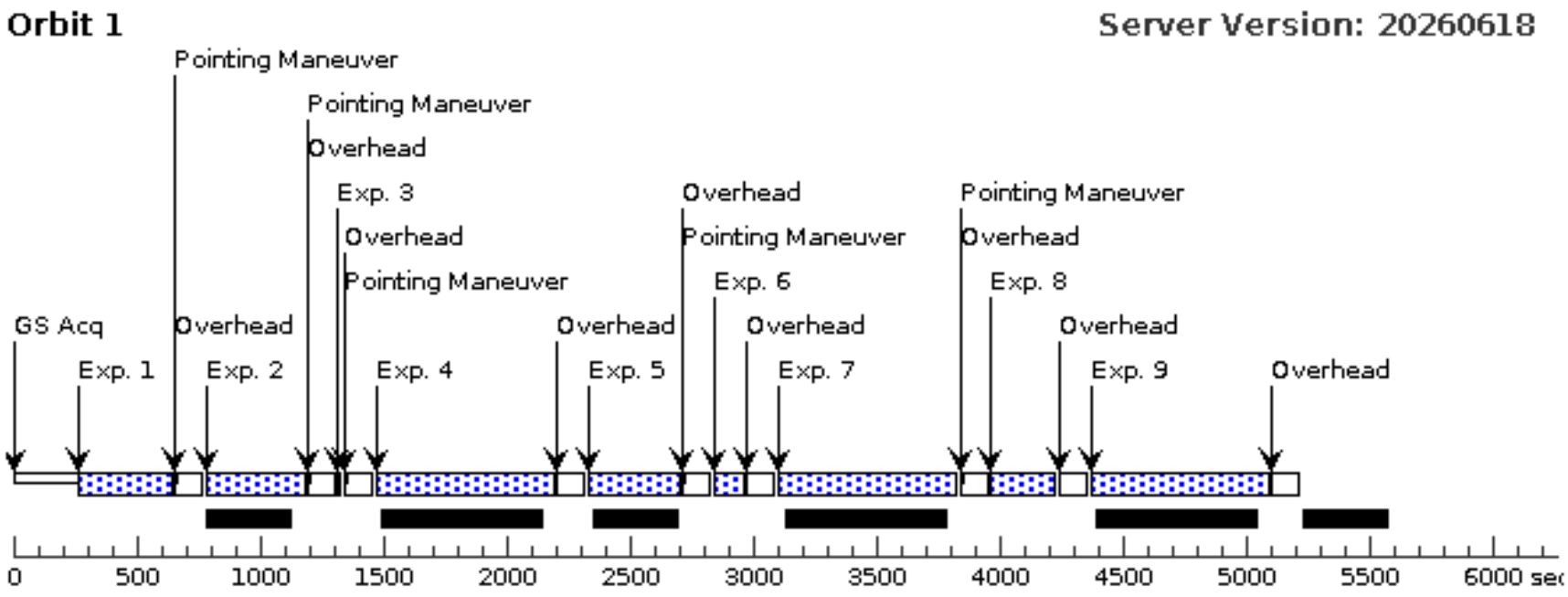
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | IC-4662 | RA: 17 47 9.1920 (266.7883000d)<br>Dec: -64 38 19.25 (-64.63868d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=11.1 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | IC4662-F475W-1 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F475W | FLASH=10; CR-SPLIT=NO | POS TARG 0,0 | | 350 Secs (350 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | IC4662-F475W-2 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F475W | FLASH=10; CR-SPLIT=NO | POS TARG 0.092,0.098 | | 400 Secs (400 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | IC4662-F475W-3 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F475W | FLASH=20; CR-SPLIT=NO | POS TARG 0.185,0.197 | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | IC4662-F336W-1 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=15; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 5 | IC4662-F275W-1 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=18; CR-SPLIT=NO | POS TARG 0,0 | | 350 Secs (350 Secs)<br>*[==>]* | <br>***[1]*** |
| 6 | IC4662-F336W-2 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.092,0.098 | | 100 Secs (100 Secs)<br>*[==>]* | <br>***[1]*** |
| 7 | IC4662-F275W-2 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.092,0.098 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 8 | IC4662-F336W-3 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=18; CR-SPLIT=NO | POS TARG 0.185,0.197 | | 240 Secs (240 Secs)<br>*[==>]* | <br>***[1]*** |
| 9 | IC4662-F275W-3 | (2) IC-4662 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=15; CR-SPLIT=NO | POS TARG 0.185,0.197 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, NGC 4068 (03), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Fixed Targets

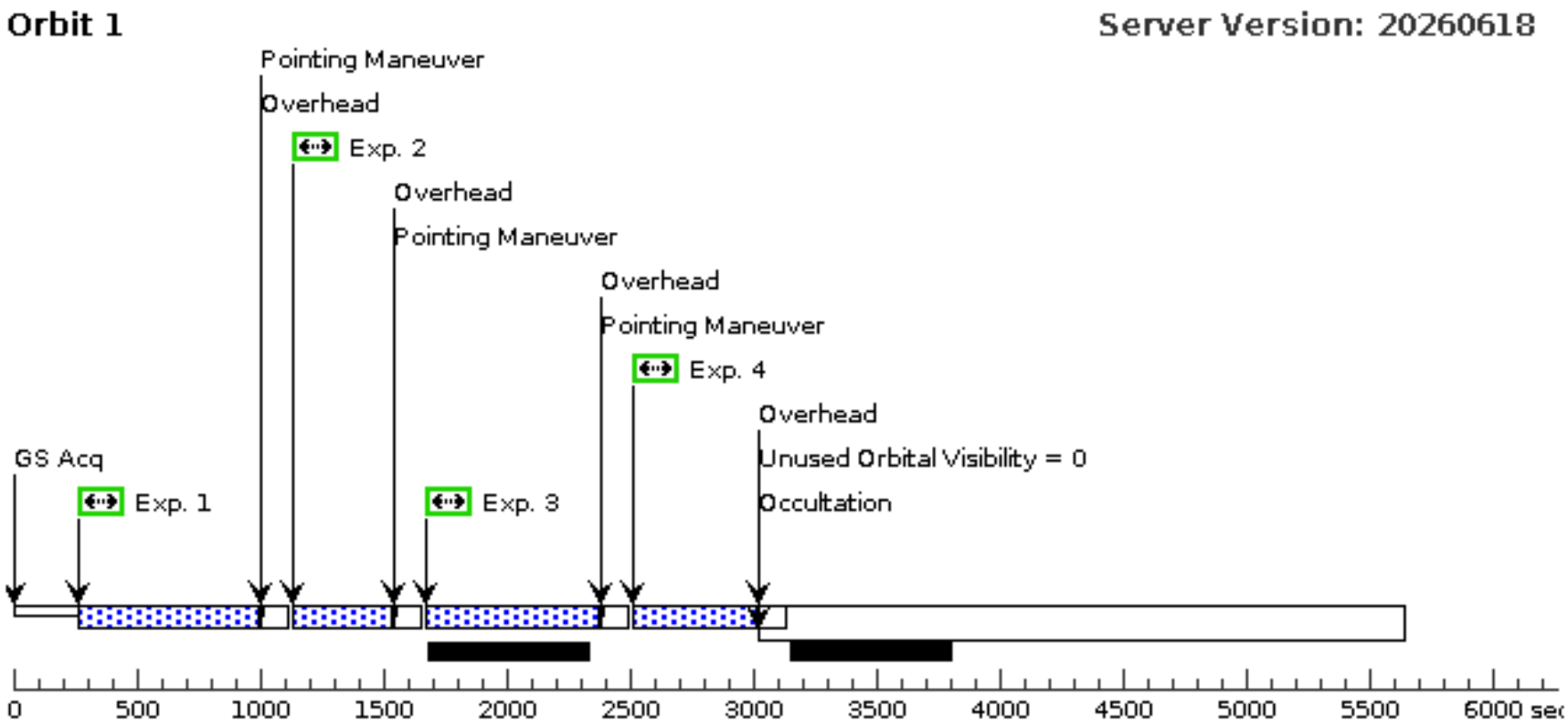
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-4068 | RA: 12 04 3.2650 (181.0136042d)<br>Dec: +52 35 26.05 (52.59057d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=12.7 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N4068-F275W-1 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | N4068-F275W-2 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.07 | | 400 Secs (400 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | N4068-F275W-3 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | N4068-F275W-4 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 500 Secs (500 Secs)<br>*[==>]* | <br>***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, NGC 4068 (04), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 03

## Fixed Targets

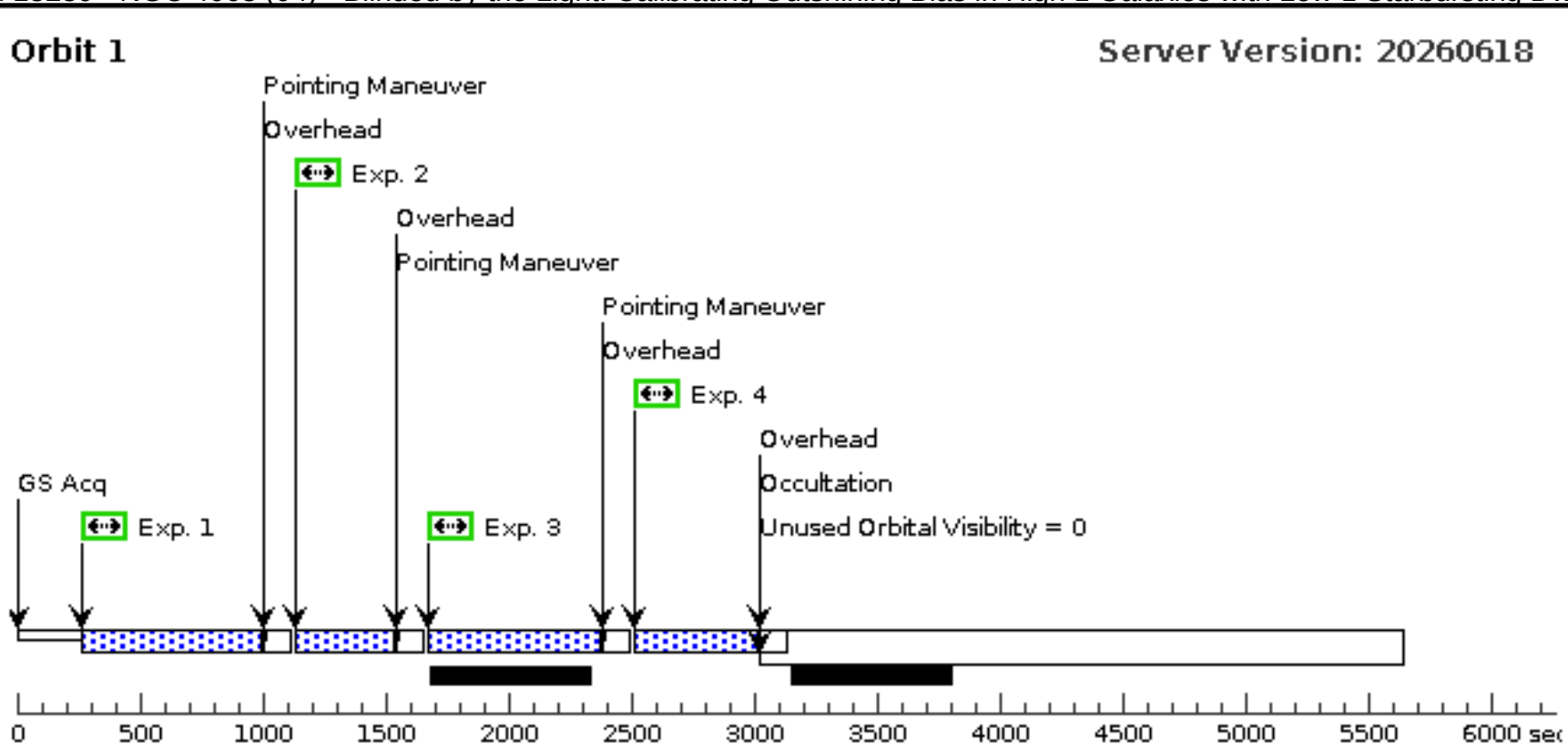
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-4068 | RA: 12 04 3.2650 (181.0136042d)<br>Dec: +52 35 26.05 (52.59057d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=12.7 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N4068-F275W-1 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 2 | N4068-F275W-2 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.07 | | 400 Secs (400 Secs)<br>*[==>]* | *[1]* |
| 3 | N4068-F275W-3 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 4 | N4068-F275W-4 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 500 Secs (500 Secs)<br>*[==>]* | *[1]* |

Orbit Structure



## Visit

**Proposal 18239, NGC 4068 (05), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 03

## Fixed Targets

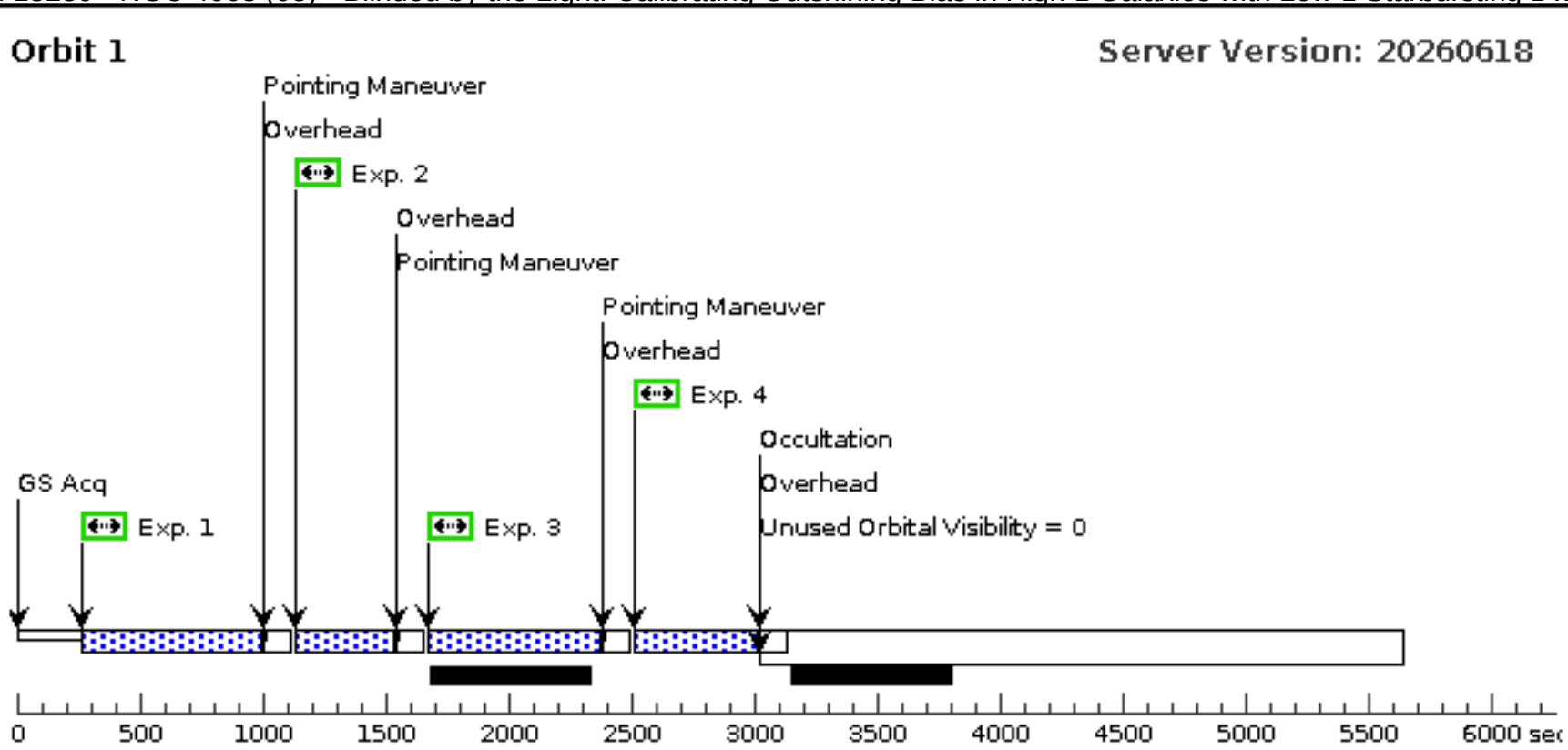
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-4068 | RA: 12 04 3.2650 (181.0136042d)<br>Dec: +52 35 26.05 (52.59057d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=12.7 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N4068-F336W-1 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 2 | N4068-F336W-2 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.07 | | 400 Secs (400 Secs)<br>*[==>]* | *[1]* |
| 3 | N4068-F336W-3 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 4 | N4068-F336W-4 | (6) NGC-4068 | WFC3/UVIS, ACCUM, UVIS-CENTER | F336W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 500 Secs (500 Secs)<br>*[==>]* | *[1]* |

Orbit Structure



## Visit

**Proposal 18239, NGC 4068 (06), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 03

## Fixed Targets

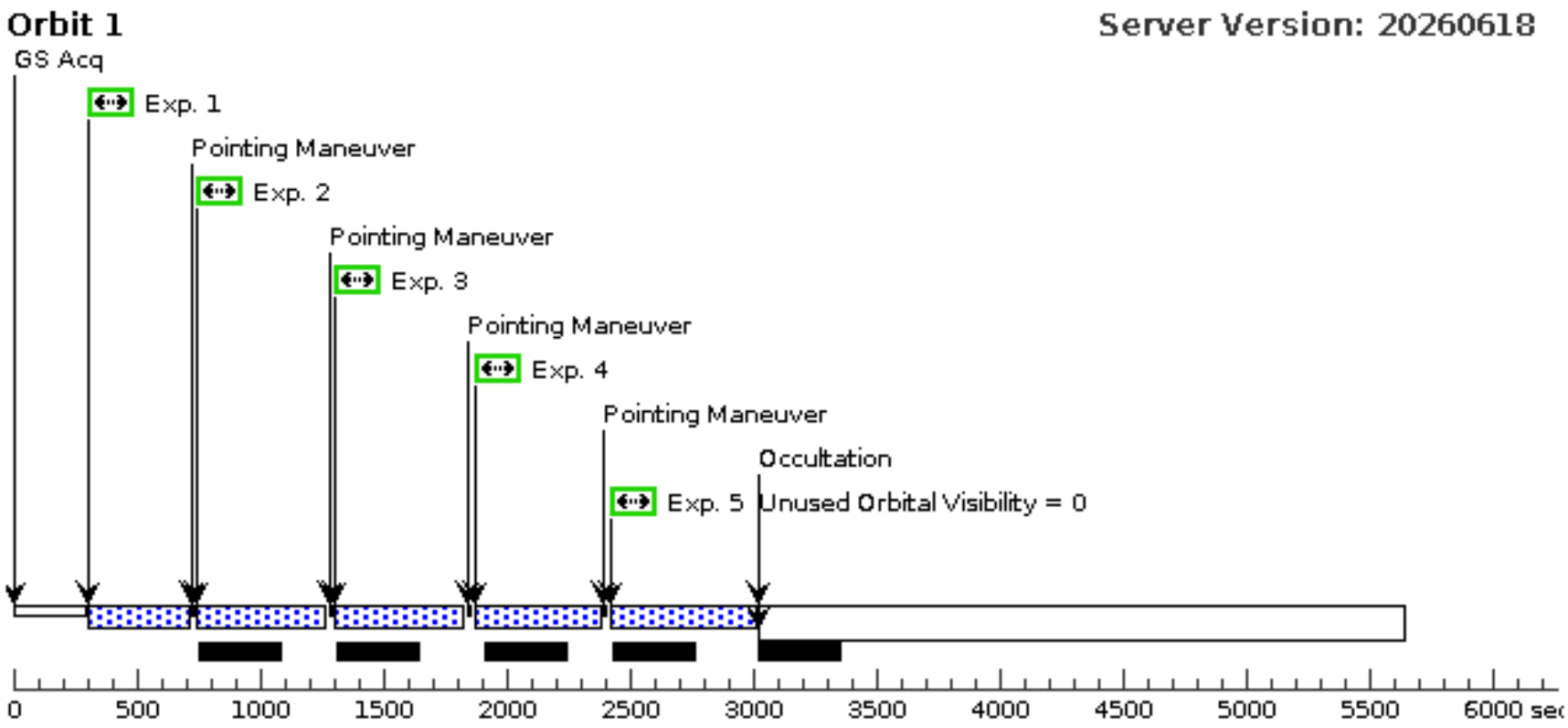
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | NGC-4068 | RA: 12 04 3.2650 (181.0136042d)<br>Dec: +52 35 26.05 (52.59057d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=12.7 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | N4068-F475W-1 | (6) NGC-4068 | ACS/WFC, ACCUM, WFCENTER | F475W | | POS TARG 0,0 | | 200 Secs (200 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 2 | N4068-F475W-2 | (6) NGC-4068 | ACS/WFC, ACCUM, WFCENTER | F475W | | POS TARG 0.247,2.984 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 3 | N4068-F475W-3 | (6) NGC-4068 | ACS/WFC, ACCUM, WFCENTER | F475W | | POS TARG 0.494,5.968 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 4 | N4068-F814W-1 | (6) NGC-4068 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 0,0 | | 350 Secs (350 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 5 | N4068-F814W-2 | (6) NGC-4068 | ACS/WFC, ACCUM, WFCENTER | F814W | | POS TARG 0.247,2.984 | | 465 Secs (465 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z242-46 (07), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Fixed Targets

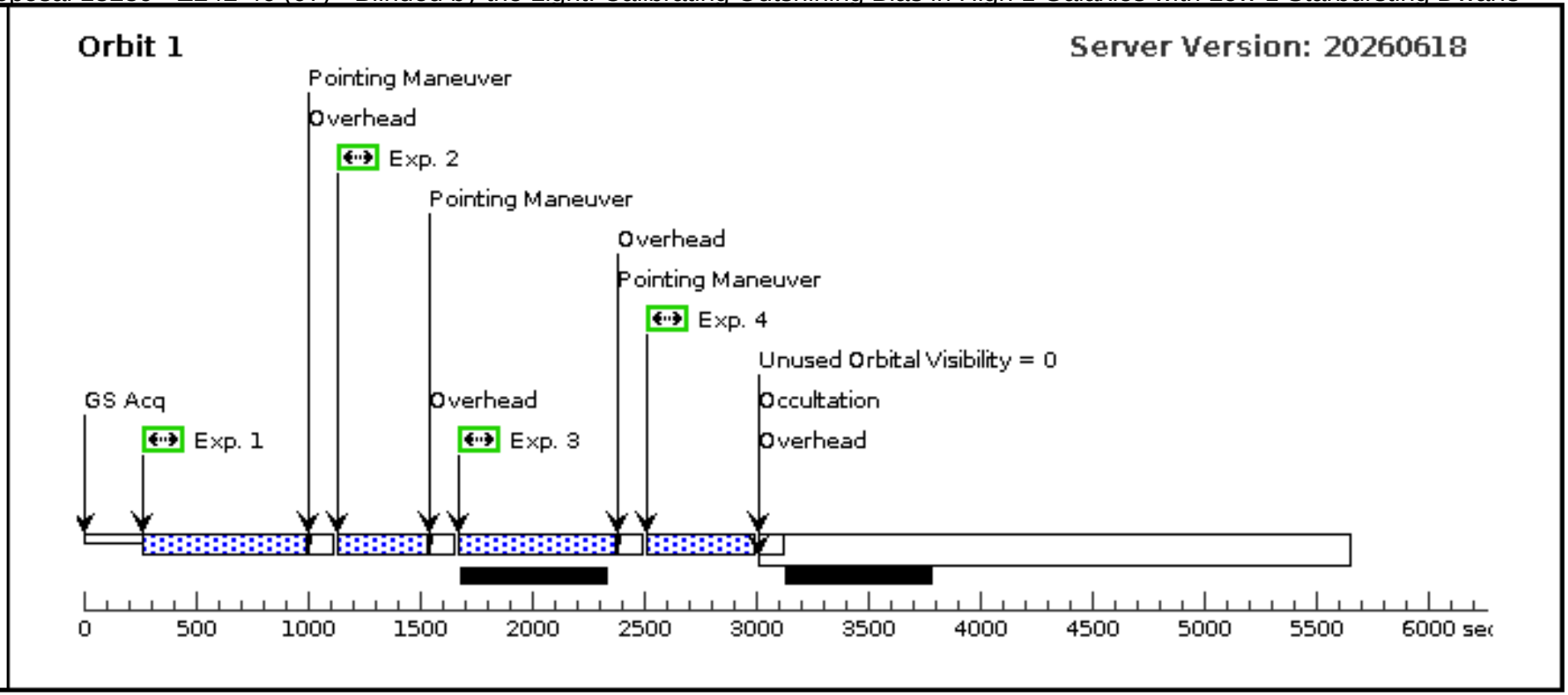
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | Z-242-46 | RA: 11 33 29.1200 (173.3713333d) | Epoch of Position: 2000 | V=14.25 | Reference Frame: ICRS |
| | Alt Name1: MRK178 | Dec: +49 14 17.40 (49.23817d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Mrk178-F275W-1 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0; GS ACQ SCENARIO ONEB1O | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 2 | Mrk178-F275W-2 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (400 Secs) *[==>]* | *[1]* |
| 3 | Mrk178-F275W-3 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 4 | Mrk178-F275W-4 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 485 Secs (485 Secs) *[==>]* | *[1]* |

Orbit Structure



## Visit

**Proposal 18239, Z242-46 (08), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 07

## Fixed Targets

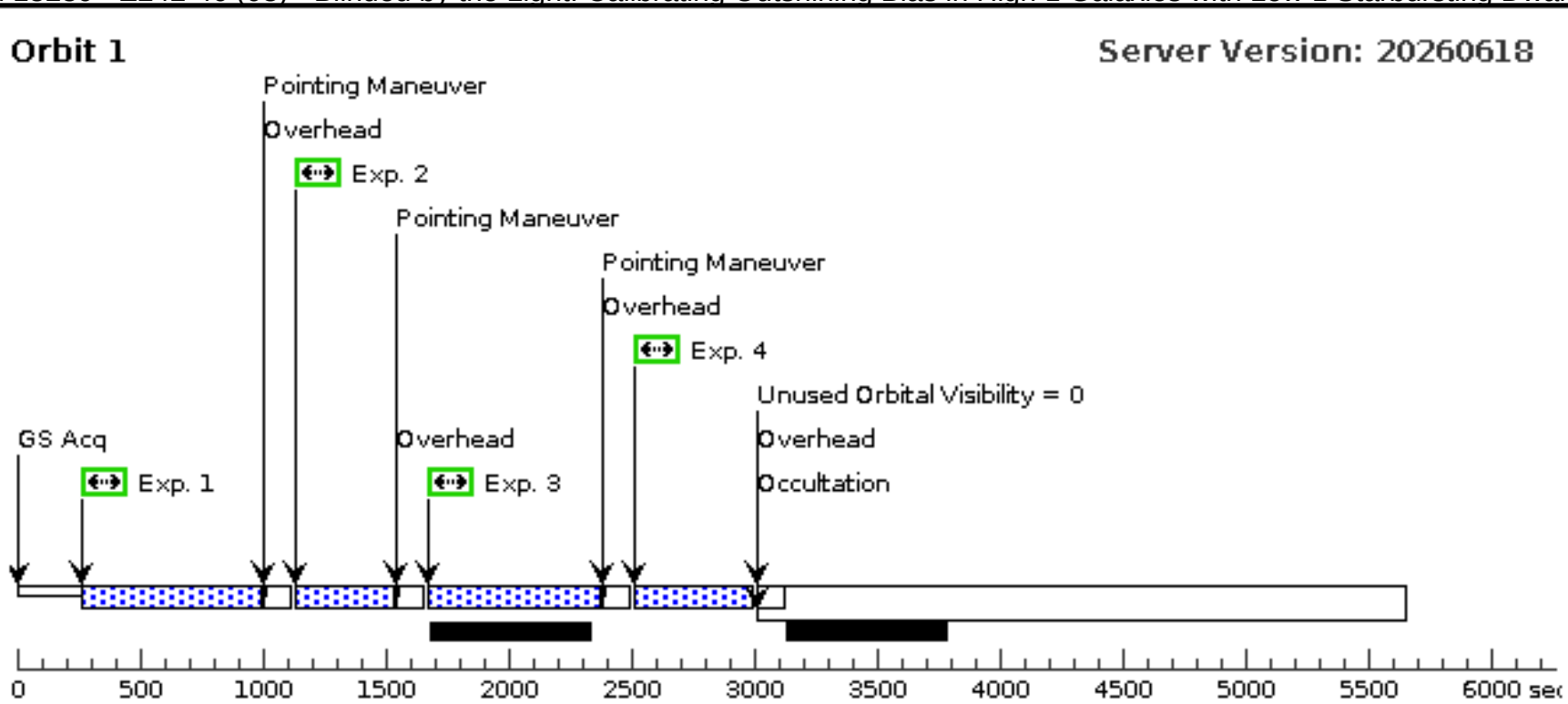
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | Z-242-46 | RA: 11 33 29.1200 (173.3713333d) | Epoch of Position: 2000 | V=14.25 | Reference Frame: ICRS |
| | Alt Name1: MRK178 | Dec: +49 14 17.40 (49.23817d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Mrk178-F275W-1 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0; GS ACQ SCENARIO ONEB1O | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 2 | Mrk178-F275W-2 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (400 Secs) *[==>]* | *[1]* |
| 3 | Mrk178-F275W-3 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 4 | Mrk178-F275W-4 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 485 Secs (485 Secs) *[==>]* | *[1]* |

Orbit Structure



## Visit

**Proposal 18239, Z242-46 (09), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 07

## Fixed Targets

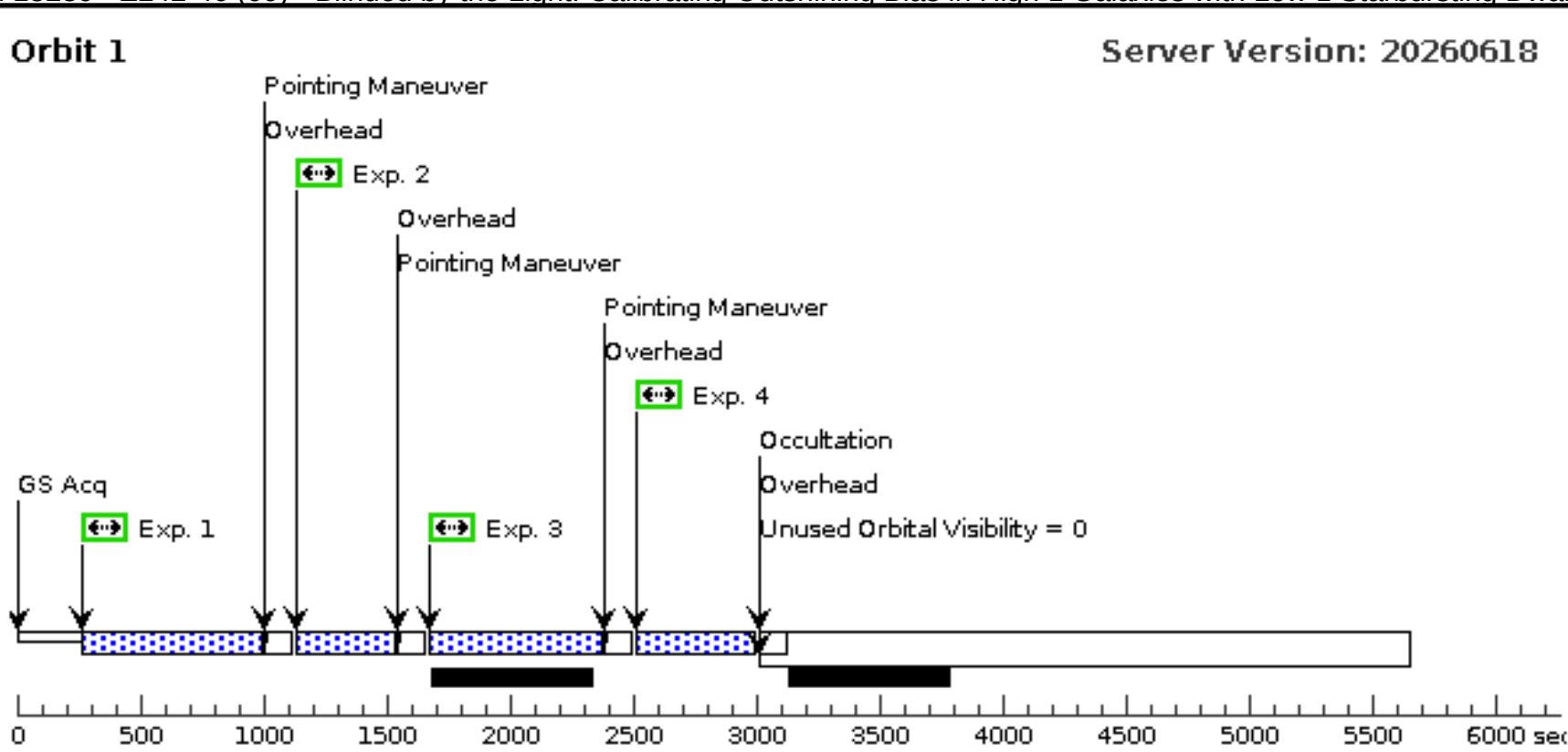
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | Z-242-46 | RA: 11 33 29.1200 (173.3713333d) | Epoch of Position: 2000 | V=14.25 | Reference Frame: ICRS |
| | Alt Name1: MRK178 | Dec: +49 14 17.40 (49.23817d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Mrk178-F336W-1 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0; GS ACQ SCENARIO ONEB1O | | 700 Secs (700 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 2 | Mrk178-F336W-2 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 3 | Mrk178-F336W-3 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 4 | Mrk178-F336W-4 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 485 Secs (485 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z242-46 (10), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 07

## Fixed Targets

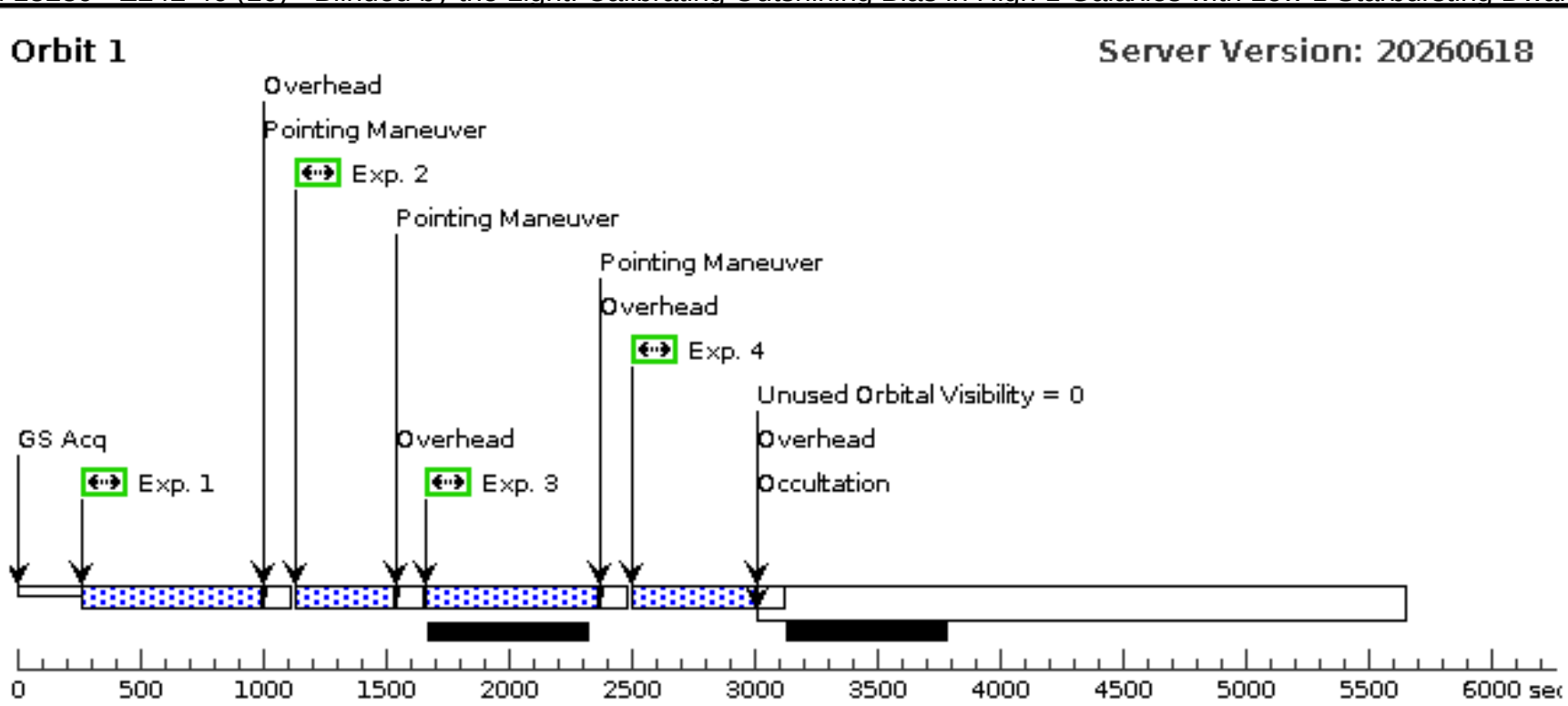
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | Z-242-46 | RA: 11 33 29.1200 (173.3713333d) | Epoch of Position: 2000 | V=14.25 | Reference Frame: ICRS |
| | Alt Name1: MRK178 | Dec: +49 14 17.40 (49.23817d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Mrk178-F475W-1 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=8; CR-SPLIT=NO | POS TARG 0,0; GS ACQ SCENARIO ONEB1O | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 2 | Mrk178-F475W-2 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=10; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (400 Secs) *[==>]* | *[1]* |
| 3 | Mrk178-F475W-3 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=8; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs) *[==>]* | *[1]* |
| 4 | Mrk178-F475W-4 | (3) Z-242-46 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=10; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 499 Secs (499 Secs) *[==>]* | *[1]* |

Orbit Structure



## Visit

**Proposal 18239, Z351-62 (11), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

## Fixed Targets

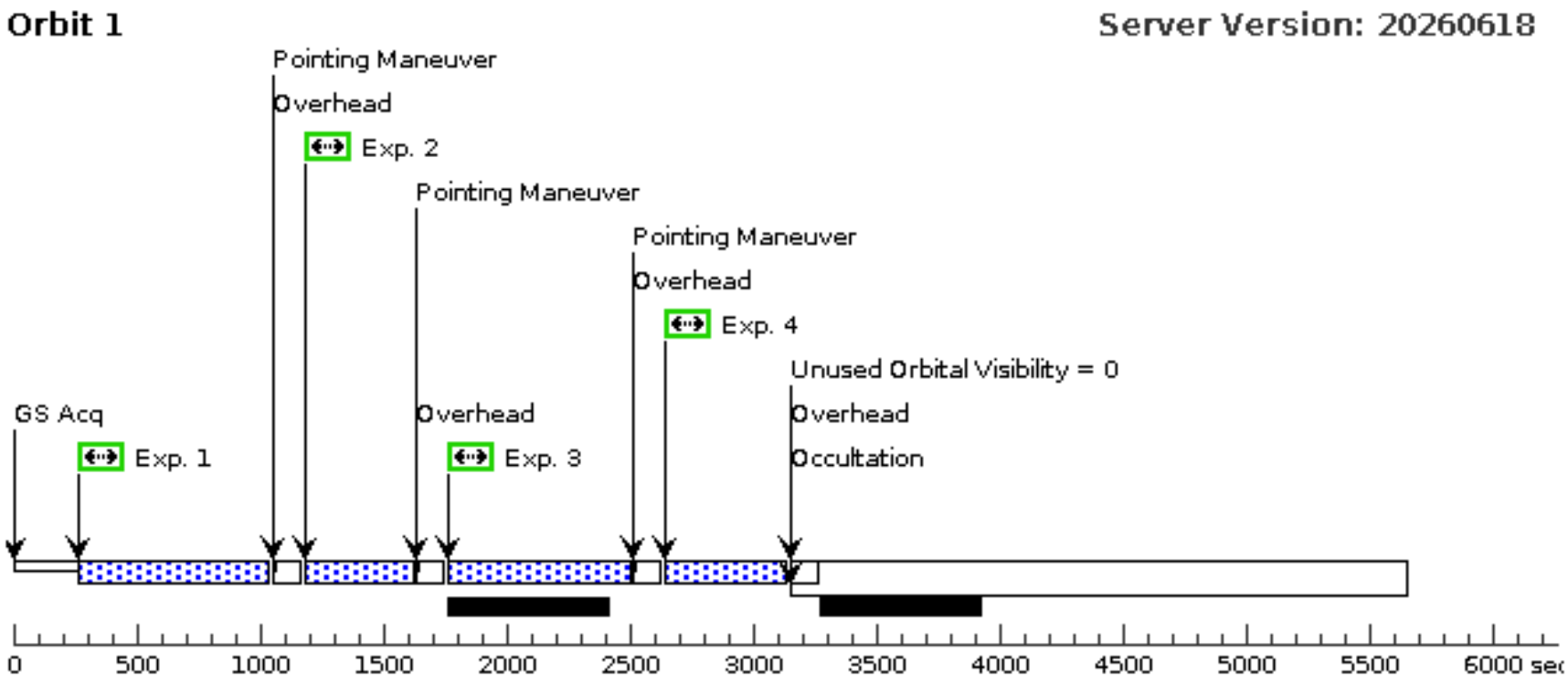
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | Z-351-62 | RA: 11 27 59.9000 (171.9995833d) | Epoch of Position: 2000 | V=14 | Reference Frame: ICRS |
| | Alt Name1: UGC6456 | Dec: +78 59 39.00 (78.99417d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U6456-F275W-1 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 2 | U6456-F275W-2 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (444 Secs) | |
| | | | | | | | | *[==>444.0 Secs ]* | ***[1]*** |
| 3 | U6456-F275W-3 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 4 | U6456-F275W-4 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 450 Secs (494 Secs) | |
| | | | | | | | | *[==>494.0 Secs ]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z351-62 (12), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 11

## Fixed Targets

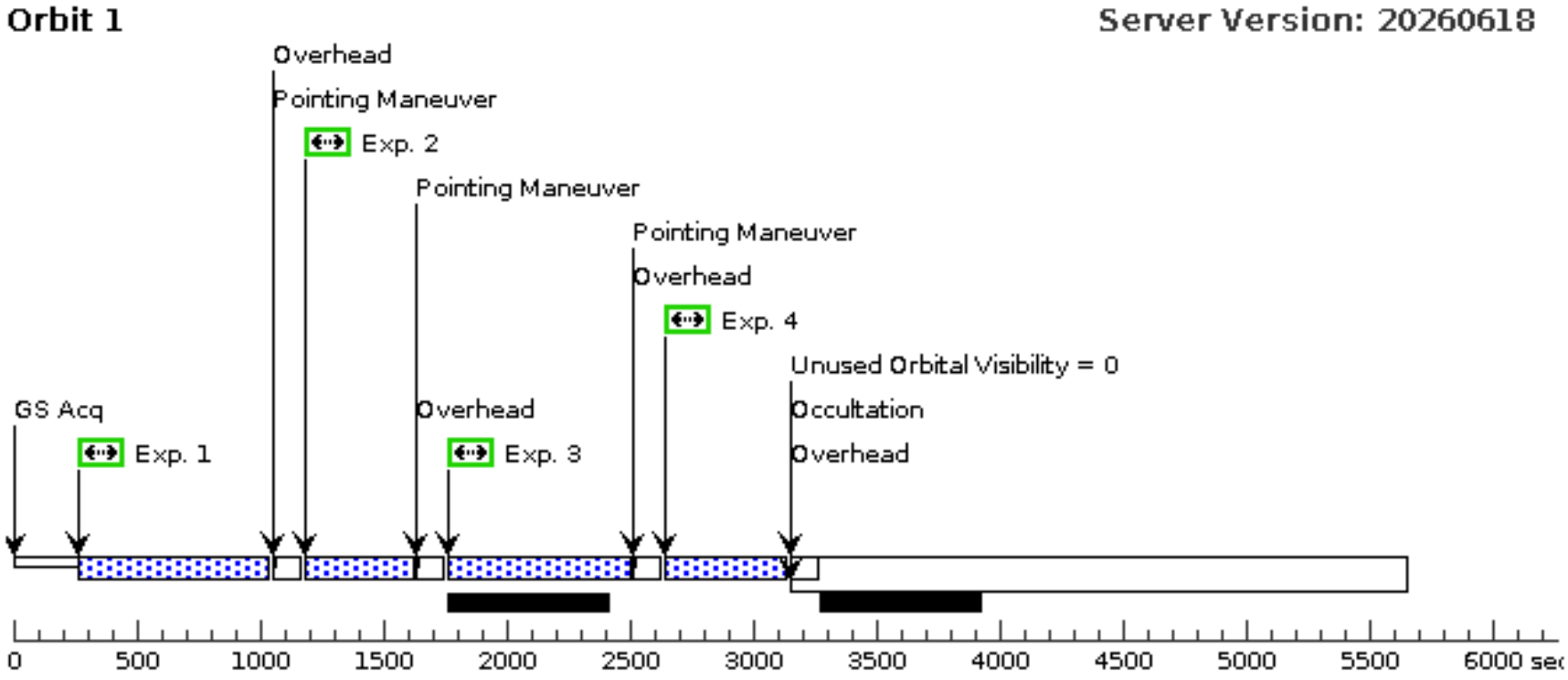
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | Z-351-62 | RA: 11 27 59.9000 (171.9995833d) | Epoch of Position: 2000 | V=14 | Reference Frame: ICRS |
| | Alt Name1: UGC6456 | Dec: +78 59 39.00 (78.99417d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U6456-F275W-1 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 2 | U6456-F275W-2 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (444 Secs) | |
| | | | | | | | | *[==>444.0 Secs ]* | ***[1]*** |
| 3 | U6456-F275W-3 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 4 | U6456-F275W-4 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 450 Secs (494 Secs) | |
| | | | | | | | | *[==>494.0 Secs ]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z351-62 (13), implementation** Thu Aug 27 11:00:23 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: SAME ORIENT AS 11

## Fixed Targets

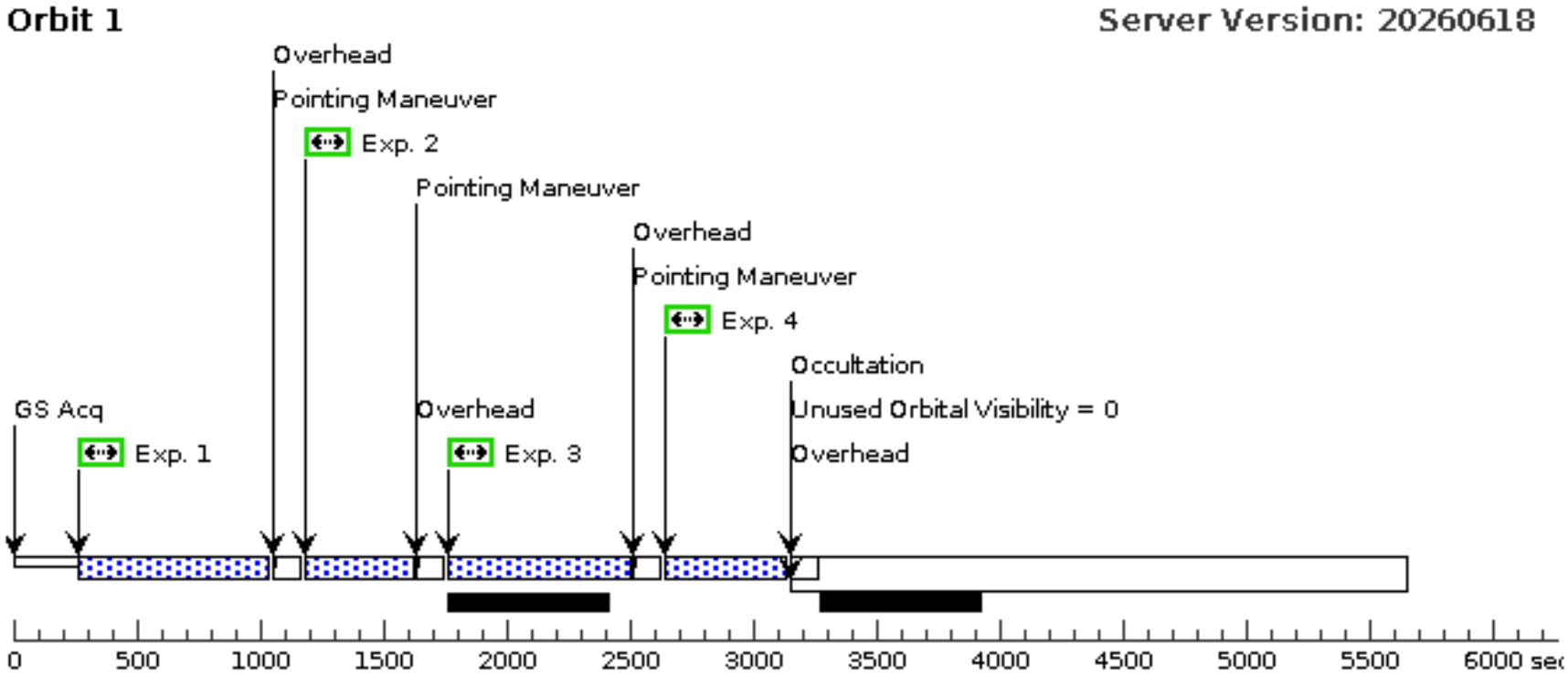
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | Z-351-62 | RA: 11 27 59.9000 (171.9995833d) | Epoch of Position: 2000 | V=14 | Reference Frame: ICRS |
| | Alt Name1: UGC6456 | Dec: +78 59 39.00 (78.99417d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U6456-F336W-1 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 2 | U6456-F336W-2 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (444 Secs) | |
| | | | | | | | | *[==>444.0 Secs ]* | ***[1]*** |
| 3 | U6456-F336W-3 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (744 Secs) | |
| | | | | | | | | *[==>744.0 Secs ]* | ***[1]*** |
| 4 | U6456-F336W-4 | (4) Z-351-62 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 450 Secs (494 Secs) | |
| | | | | | | | | *[==>494.0 Secs ]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z351-62 (14), implementation** Thu Aug 27 11:00:24 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: ACS/WFC

Special Requirements: SAME ORIENT AS 11

## Fixed Targets

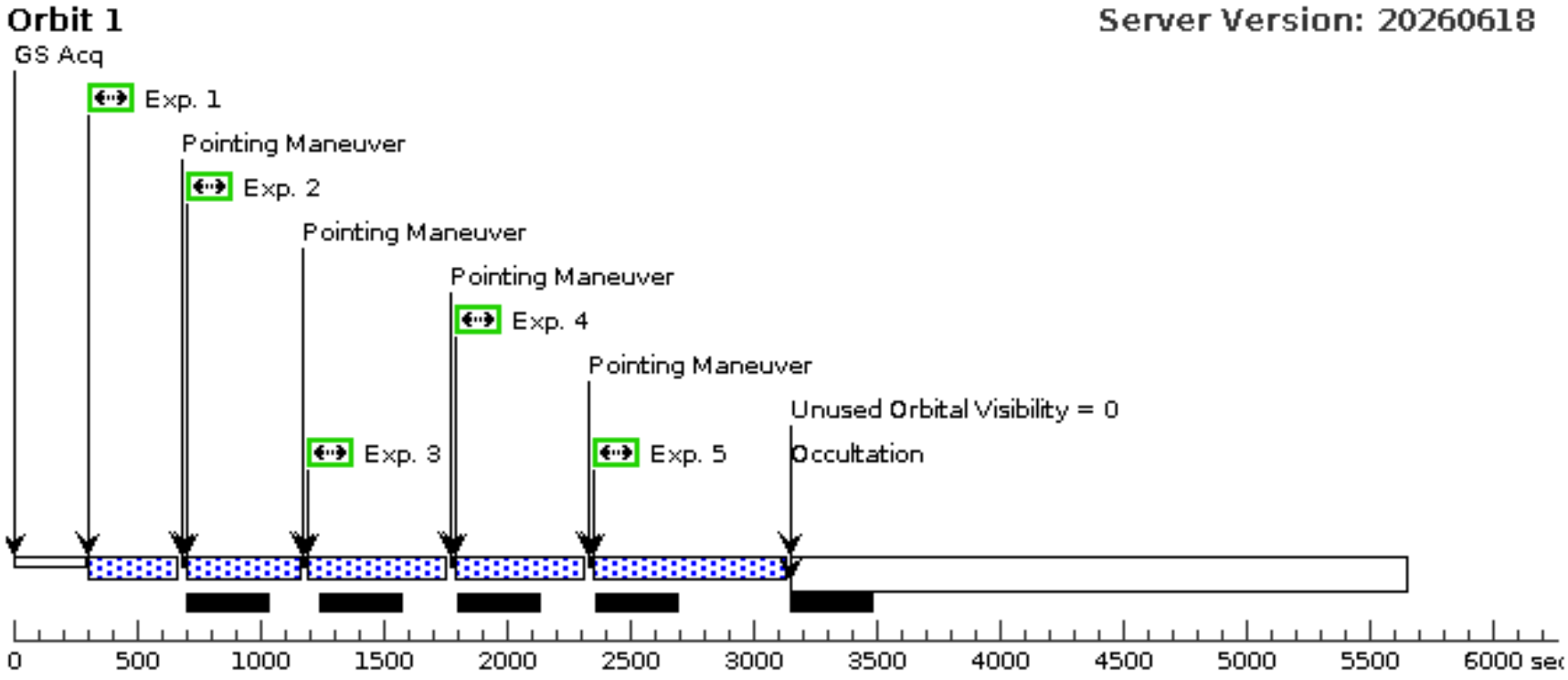
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | Z-351-62 | RA: 11 27 59.9000 (171.9995833d) | Epoch of Position: 2000 | V=14 | Reference Frame: ICRS |
| | Alt Name1: UGC6456 | Dec: +78 59 39.00 (78.99417d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U6456-F814W-1 | (4) Z-351-62 | ACS/WFC, ACCUM, WFC1 | F814W | | POS TARG 0,0 | | 155 Secs (155 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 2 | U6456-F814W-2 | (4) Z-351-62 | ACS/WFC, ACCUM, WFC1 | F814W | | POS TARG 0.099,0.107 | | 340 Secs (340 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 3 | U6456-F475W-1 | (4) Z-351-62 | ACS/WFC, ACCUM, WFC1 | F475W | | POS TARG 0,0 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 4 | U6456-F475W-2 | (4) Z-351-62 | ACS/WFC, ACCUM, WFC1 | F475W | | POS TARG 0.115,0.125 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 5 | U6456-F475W-3 | (4) Z-351-62 | ACS/WFC, ACCUM, WFC1 | F475W | | POS TARG 0.231,0.249 | | 660 Secs (660 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 18239, Z331-51 (15), implementation** Thu Aug 27 11:00:24 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

Special Requirements: ORIENT 270D TO 32 D; ORIENT 99D TO 196 D

## Fixed Targets

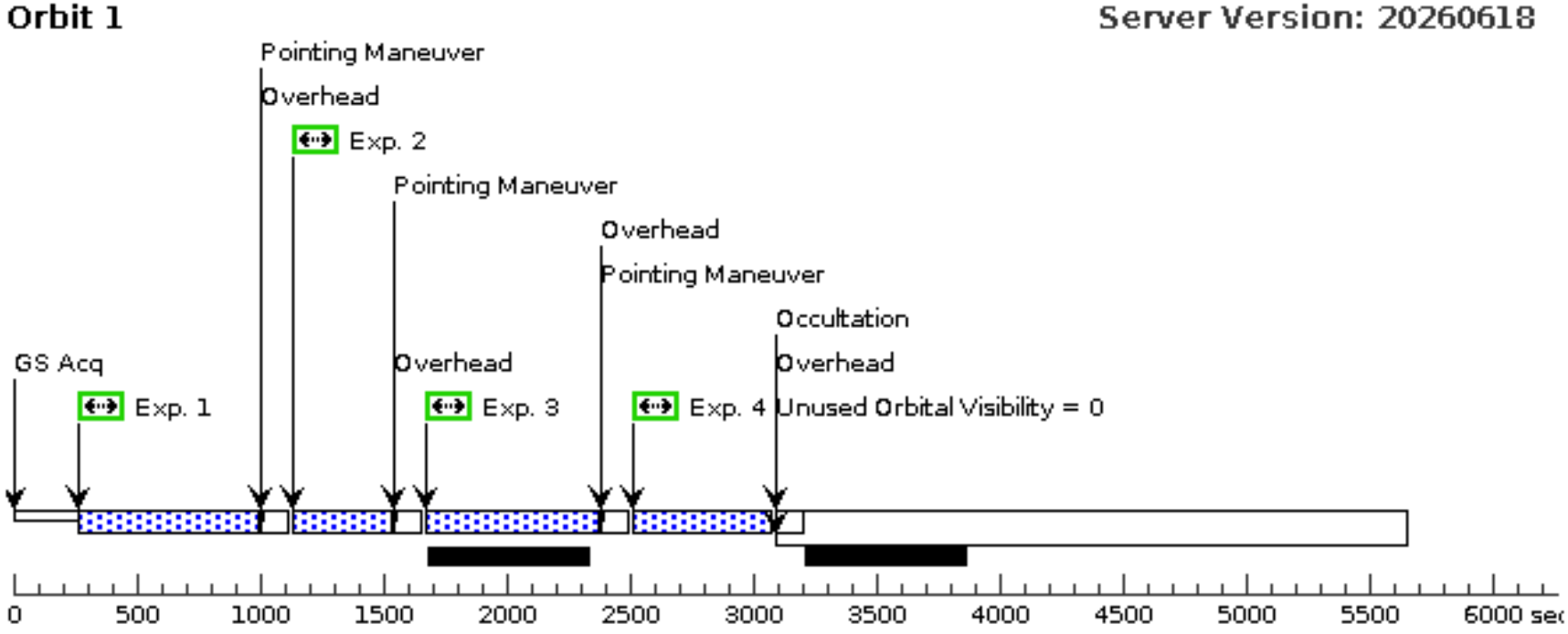
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (5) | Z-331-51<br>Alt Name1: UGC4483 | RA: 08 37 3.0000 (129.2625000d)<br>Dec: +69 46 31.00 (69.77528d)<br>Equinox: J2000 | Epoch of Position: 2000 | V=14.98 | Reference Frame: ICRS |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U4483-F275W-1 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0,0 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 2 | U4483-F275W-2 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.158,0.070 | | 400 Secs (400 Secs)<br>*[==>]* | *[1]* |
| 3 | U4483-F275W-3 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG 0.099,0.165 | | 700 Secs (700 Secs)<br>*[==>]* | *[1]* |
| 4 | U4483-F275W-4 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F275W | FLASH=20; CR-SPLIT=NO | POS TARG -0.060,0.095 | | 566 Secs (566 Secs)<br>*[==>]* | *[1]* |

## Orbit Structure



## Visit

**Proposal 18239, Z331-51 (16), implementation** Thu Aug 27 11:00:24 GMT 2026

**Diagnostic Status: No Diagnostics**

Scientific Instruments: WFC3/UVIS

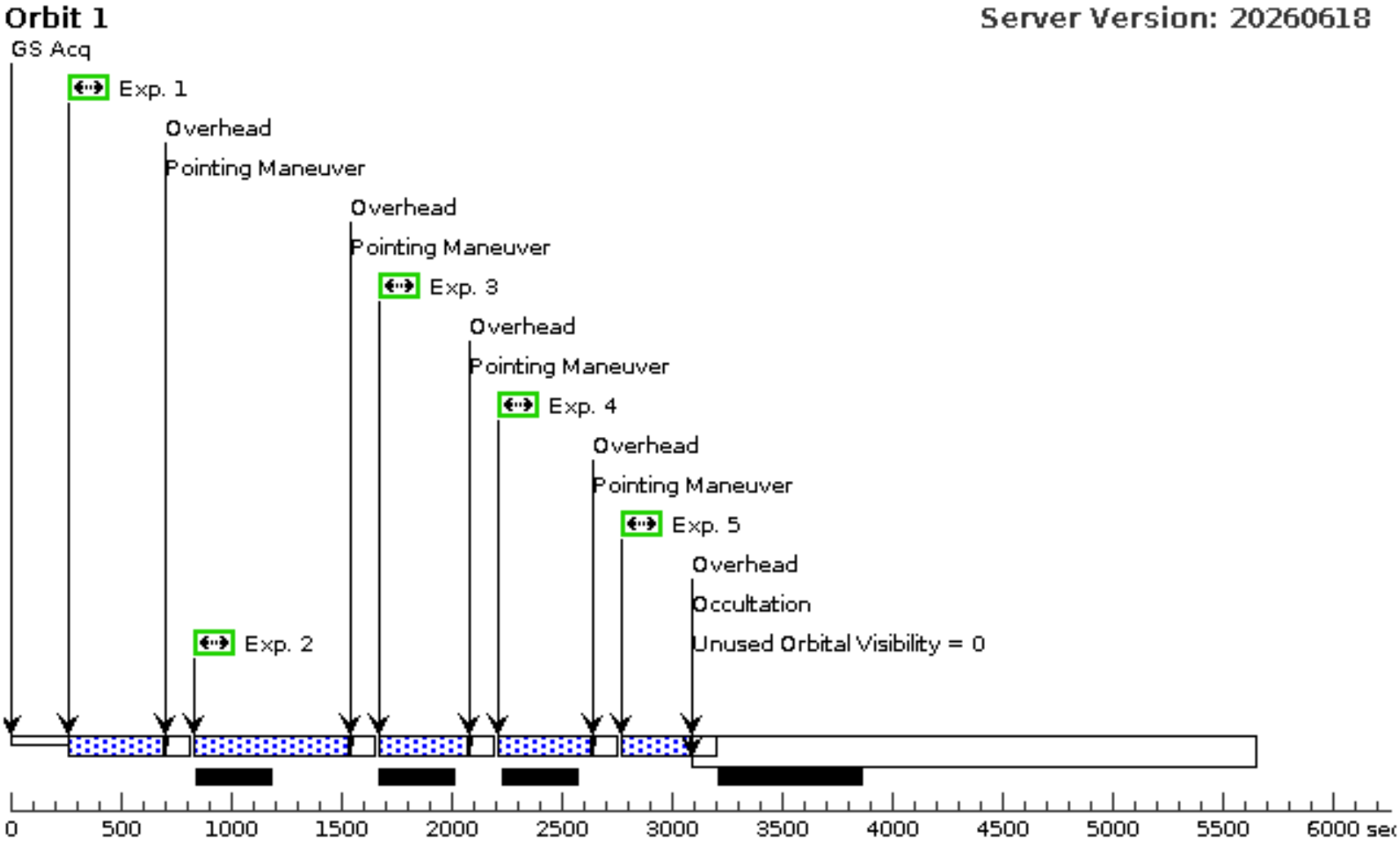
Special Requirements: SAME ORIENT AS 15

## Fixed Targets

| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (5) | Z-331-51 | RA: 08 37 3.0000 (129.2625000d) | Epoch of Position: 2000 | V=14.98 | Reference Frame: ICRS |
| | Alt Name1: UGC4483 | Dec: +69 46 31.00 (69.77528d) | | | |
| | | Equinox: J2000 | | | |

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

## Exposures

| # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | U4483-F336W-1 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=15; CR-SPLIT=NO | POS TARG 0,0 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 2 | U4483-F336W-2 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=15; CR-SPLIT=NO | POS TARG 0.092,0.098 | | 700 Secs (700 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 3 | U4483-F336W-3 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F336W | FLASH=20; CR-SPLIT=NO | POS TARG 0.185,0.197 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 4 | U4483-F475W-1 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=15; CR-SPLIT=NO | POS TARG 0,0 | | 400 Secs (400 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |
| 5 | U4483-F475W-2 | (5) Z-331-51 | WFC3/UVIS, ACCUM, UVIS2 | F475W | FLASH=15; CR-SPLIT=NO | POS TARG 0.099,0.106 | | 310 Secs (310 Secs) | |
| | | | | | | | | *[==>]* | ***[1]*** |

Orbit Structure