# 17178 - The Blue Edge of the Helium White Dwarf Instability Strip

Cycle: 30, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

**INVESTIGATORS**

| *Name* | *Institution* |
|---|---|
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**VISITS**

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 01 | (1) EGGR-409 | COS/FUV | 3 | 11-Jul-2023 16:00:32.0 | yes |
| 02 | (2) SDSS-J095256.69+015407.7 | COS/FUV | 3 | 11-Jul-2023 16:00:34.0 | yes |
| 03 | (2) SDSS-J095256.69+015407.7 | COS/FUV | 3 | 11-Jul-2023 16:00:35.0 | yes |
| 04 | (2) SDSS-J095256.69+015407.7 | COS/FUV | 1 | 11-Jul-2023 16:00:36.0 | yes |
| 12 | (2) SDSS-J095256.69+015407.7 | COS/FUV | 1 | 11-Jul-2023 16:00:37.0 | yes |
| 13 | (2) SDSS-J095256.69+015407.7 | COS/FUV | 1 | 11-Jul-2023 16:00:38.0 | yes |
| 05 | (3) SDSS-J140028.43+475644.1 | COS/FUV | 3 | 11-Jul-2023 16:00:39.0 | yes |
| 06 | (3) SDSS-J140028.43+475644.1 | COS/FUV<br>COS/NUV | 3 | 11-Jul-2023 16:00:41.0 | yes |
| 07 | (4) SDSS-J141258.17+045602.2 | COS/FUV | 3 | 11-Jul-2023 16:00:43.0 | yes |

| *Visit* | *Targets used in Visit* | *Configurations used in Visit* | *Orbits Used* | *Last Orbit Planner Run* | *OP Current with Visit?* |
|---|---|---|---|---|---|
| 08 | (4) SDSS-J141258.17+045602.2 | COS/FUV | 3 | 11-Jul-2023 16:00:44.0 | yes |
| 09 | (4) SDSS-J141258.17+045602.2 | COS/FUV | 1 | 11-Jul-2023 16:00:45.0 | yes |
| 10 | (6) SBSS-1540+505 | COS/FUV | 2 | 11-Jul-2023 16:00:46.0 | yes |
| 11 | (6) SBSS-1540+505 | COS/FUV | 2 | 11-Jul-2023 16:00:48.0 | yes |

29 Total Orbits Used

**ABSTRACT**

Aims: This proposal focuses on obtaining accurate temperatures and abundances for white dwarfs near the blue edge of the helium instability strip.

Context: The observed location of the helium white dwarf instability strip in the temperature/log g plane is a strong indicator of convective efficiency in WD atmospheres, and by extension in all stellar envelopes. The blue edge's location was considered well established until the confirmation by Kepler K2 that the hot DB PG0112+105 is a pulsator. The empirical blue edge of the instability strip is now unknown. Uncertainties as large as 3000 K in the optical spectroscopic temperature scale for DBs presents considerable problems in accurately the location of the blue edge through optical data alone. Obtaining UV spectra and light curves of DBs near the blue edge of the DB instability strip will provide a definitive location in the temperature/log g plane for the initiation of pulsations. This result can then be used to 1) calibrate mixing length theory used in all stellar models, 2) validate 3D hydrodynamic simulations, 3) constrain contributions of different driving mechanisms initiating pulsations, and 4) improve our understanding of mixing and diffusion of different elements in white dwarf convection zones..

Methods: This proposal presents the justification for COS observations of 6 DB white dwarfs with temperatures between 35,000 and 29,000 K. The observations will determine 1) accurate temperatures, surface gravities, and chemical abundances, 2) determine if each target is pulsating and lies in the strip, and 3) determine an accurate empirical blue edge for the helium instability strip.

**OBSERVING DESCRIPTION**

The proposed observations will determine the temperature and photospheric composition of 5 helium atmosphere white dwarfs with temperatures near the suspected blue edge of the helium instability strip. The goal is to constrain the location of the blue edge of the instability strip.

We have 5 targets: EGGR-409, SDSSJ095256.69+015407.7, SDSSJ140028.43+475644.1, SDSSJ141258.17+045602.2 and SBSS-1540+505.

The observations are relatively straight forward. We have selected the gratings and central wavelengths to detect photospheric lines of hydrogen, carbon, oxygen, silicon and other elements in the spectra of the two targets.
White dwarf stars are known for their nearly pure photospheres of either hydrogen or helium, at least at optical wavelengths. The UV wavelength range, however, contains numerous sensistive transitions that are important
for determining trace abundances of the elements of interest. Given the limits on Lyman alpha observations with G130M, we have decided to include a hydrogen line at 1025 Angstroms. The G130M grating with a central
wavelength of 1096 Angstroms will access HI 1025 Angstroms, CII 1037 Angstroms, CIII 1175 Angstroms, CI 1993 Angstroms, and Si II at 1193 Angstroms. G130M with a central wavelength of 1222 Angstroms will cover SiII 1260,
1264 Angstroms, OII 1305 Angstroms, and CII 1335 Angstroms, For 1 target (SDSSJ140028), our orbit allocation was sufficent to also include G130M 1055.

The limitations of the response of G160M at certain wavelengths were not as significant to our science as first anticipated. G160M with a central wavelength of 1589 Angstroms will give detailed coverage of
the important HeII 1640 line as well as SiII lines at 1533 Angstroms. With the exception SDSSJ140028, we have substituted G160M for G230L. We believe the importance of the HeII line at 1640 outweighs the low resolution wavelength coverage of
G230L. Most For SDSSJ140028, our orbit allocation was sufficient to include G230L and G160M. We have not exceeded our orbital allocation and our signal to noise for other exposures remains sufficient for our science needs.

Measuring the strengths of photospheric lines from different transitions such as CII and CIII can be an important diagnostic for temperature. A second method to determine temperature is these hot objects is to measure the slope of
the UV continuum. G140L combined with the G130M and G160M grating observations will result in a detailed measurement of the
UV flux between 916 and 2148 Angstroms. The temperature determined from these measurements will confirm the effective temperatures of the targets.

We have use the COS Spectroscopy Target Acquisiton and COS Spectroscopy Exposure Time SImulators to determine our exposure times. Our targets do not exceed the brightness limits for COS, and are isolated with good coordinates.

For target acquistion, we determined the time required to reach a signal to noise of at least 40. White dwarf stars are faint and can have high proper motions. GAIA has reduced this issue by determining many proper motions.
However, to be safe, we will acquire our targets using ACQ/SEARCH, ACQ/PEAKXD, and ACQ/PEAKD. For our science observations, we have determined exposure times to achieve a S/N of 15-20 at a wavelength of 1150 Angstroms for the G130M
grating, and a S/N of 15-20 at 1500 Angstroms for the G160M and G140L gratings.

The science observations will be done in TIME-TAG mode. This will enable us to search variability. All of our targets are near the blue edge of the helium instability strip. Our goal is to determine the location of this edge. Time tagged COS
observations will allow us to determine the pulsational stability of each target. The pulsations are expected to be about 10 millimagnitudes or less.

## Visit

**Proposal 17178, EGGR409 (01), scheduling**

Tue Jul 11 20:00:49 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

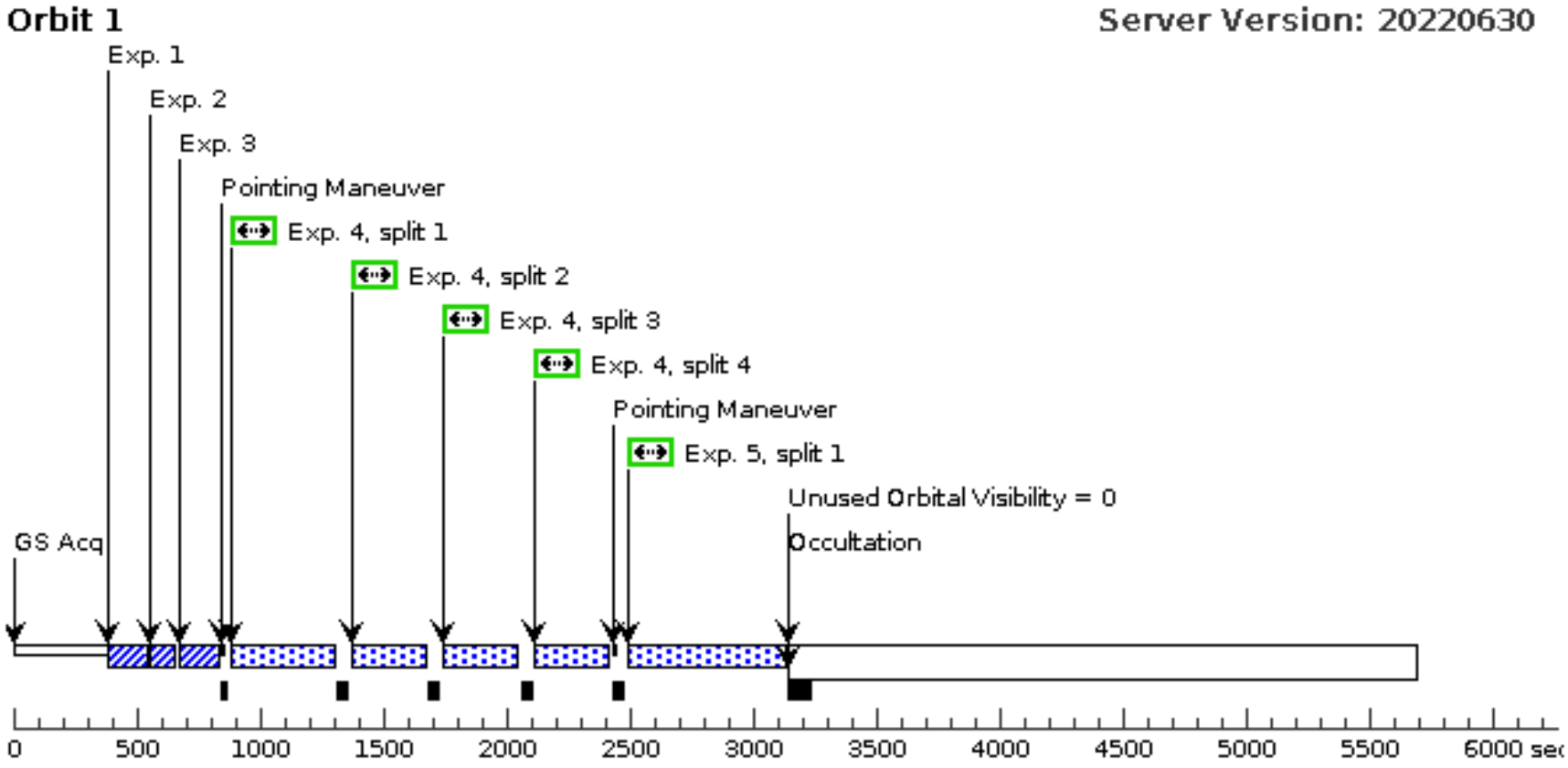
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (1) | EGGR-409 | RA: 01 14 37.6539 (18.6568913d)<br>Dec: +10 41 4.76 (10.68466d)<br>Equinox: J2000 | Proper Motion RA: -0.001743629097763028 sec of time/yr<br>Proper Motion Dec: -0.04499500000747503 arcsec/yr<br>Parallax: 0.009"<br>Epoch of Position: 2000 | V=15.41+/-0.02<br>B=15.27,<br>R=15.69,<br>G=15.365 | Reference Frame: ICRS |

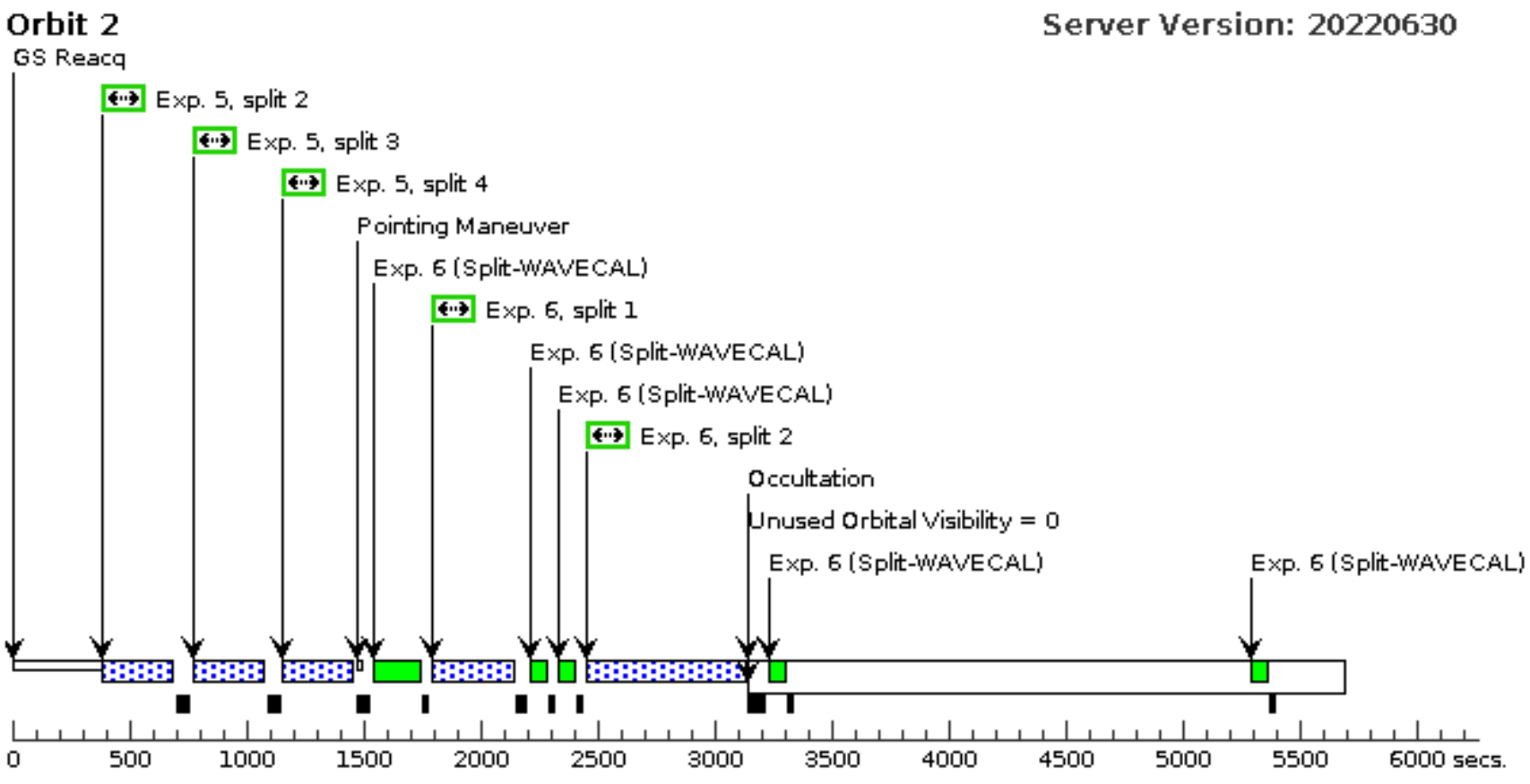
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

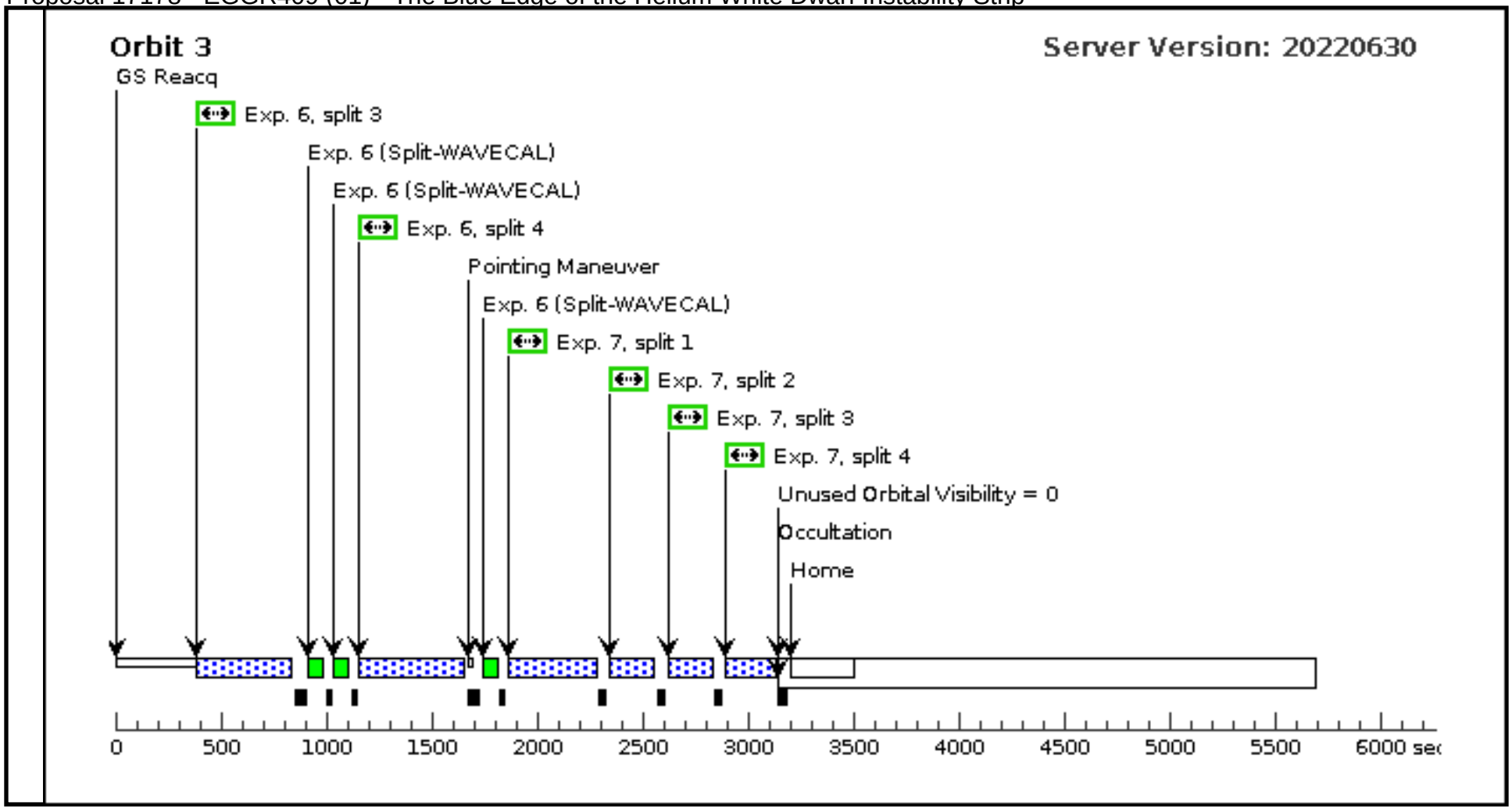
**Exposures**

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810058) | (1) EGGR-409 | COS/FUV, ACQ/SEARCH, PSA | G130M 1291 A | CENTER=FLUX-WT; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.767 | | | 1 Secs (1 Secs)<br>*[==>]* | ***[1]*** |
| 2 | PeakXD (1810058) | (1) EGGR-409 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1291 A | SEGMENT=BOTH; CENTER=FLUX-WT; NUM-POS=3; STEP-SIZE=1.3 | | | 1 Secs (1 Secs)<br>*[==>]* | ***[1]*** |
| 3 | PeakD (1810058) | (1) EGGR-409 | COS/FUV, ACQ/PEAKD, PSA | G130M 1291 A | CENTER=FLUX-WT-FLR; SEGMENT=BOTH; NUM-POS=5; STEP-SIZE=0.9 | | | 1 Secs (1 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G130 M 1096 (1810063) | (1) EGGR-409 | COS/FUV, TIME-TAG, PSA | G130M 1096 A | BUFFER-TIME=1072; FP-POS=ALL; SEGMENT=BOTH | | | 250 Secs (1000 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]* | ***[1]*** |
| 5 | G130M 1222 (1810340) | (1) EGGR-409 | COS/FUV, TIME-TAG, PSA | G130M 1222 A | BUFFER-TIME=617; FP-POS=ALL; SEGMENT=BOTH | | | 250 Secs (1238 Secs)<br>*[==>488.0 Secs (Split 1)]* ***[1]***<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]* ***[2]*** |
| 6 | G160M 1589 (1810338) | (1) EGGR-409 | COS/FUV, TIME-TAG, PSA | G160M 1589 A | BUFFER-TIME=1077; FP-POS=ALL; SEGMENT=BOTH | | | 300 Secs (1781 Secs)<br>*[==>(Split 1)]*<br>*[==>631.0 Secs (Split 2)]* ***[2]***<br>*[==>400.0 Secs (Split 3)]*<br>*[==>450.0 Secs (Split 4)]* ***[3]*** |
| 7 | G140L 1280 (1810339) | (1) EGGR-409 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=800; FP-POS=ALL; SEGMENT=BOTH | | | 160 Secs (666 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>186.0 Secs (Split 4)]* ***[3]*** |

Orbit Structure




Orbit 2
Server Version: 20220630
GS Reacq
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Pointing Maneuver
Exp. 6 (Split-WAVECAL)
Exp. 6, split 1
Exp. 6 (Split-WAVECAL)
Exp. 6 (Split-WAVECAL)
Exp. 6, split 2
Occultation
Unused Orbital Visibility = 0
Exp. 6 (Split-WAVECAL)
Exp. 6 (Split-WAVECAL)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 secs.


Orbit 3
Server Version: 20220630
GS Reacq
Exp. 6, split 3
Exp. 6 (Split-WAVECAL)
Exp. 6 (Split-WAVECAL)
Exp. 6, split 4
Pointing Maneuver
Exp. 6 (Split-WAVECAL)
Exp. 7, split 1
Exp. 7, split 2
Exp. 7, split 3
Exp. 7, split 4
Unused Orbital Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, SDSSJ095 G130 (02), scheduling** Tue Jul 11 20:00:49 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

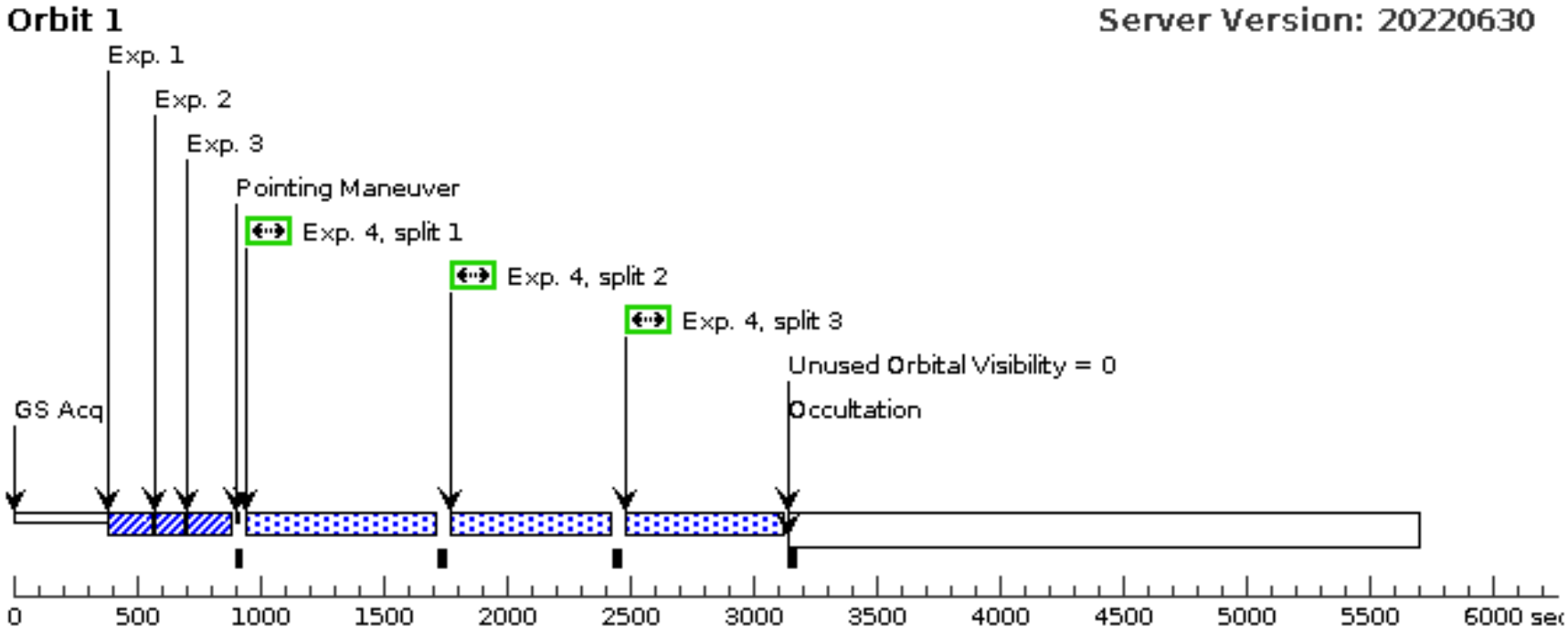
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | SDSS-J095256.69+015407.7 | RA: 09 52 56.6848 (148.2361867d)<br>Dec: +01 54 7.73 (1.90215d)<br>Equinox: J2000 | Proper Motion RA: 8.651433633801974E-5 sec of time/yr<br>Proper Motion Dec: -0.009886999941954855 arcsec/yr<br>Parallax: 0.00337"<br>Epoch of Position: 2000 | V=17.7+/-0.1<br>G=17.67 | Reference Frame: ICRS |

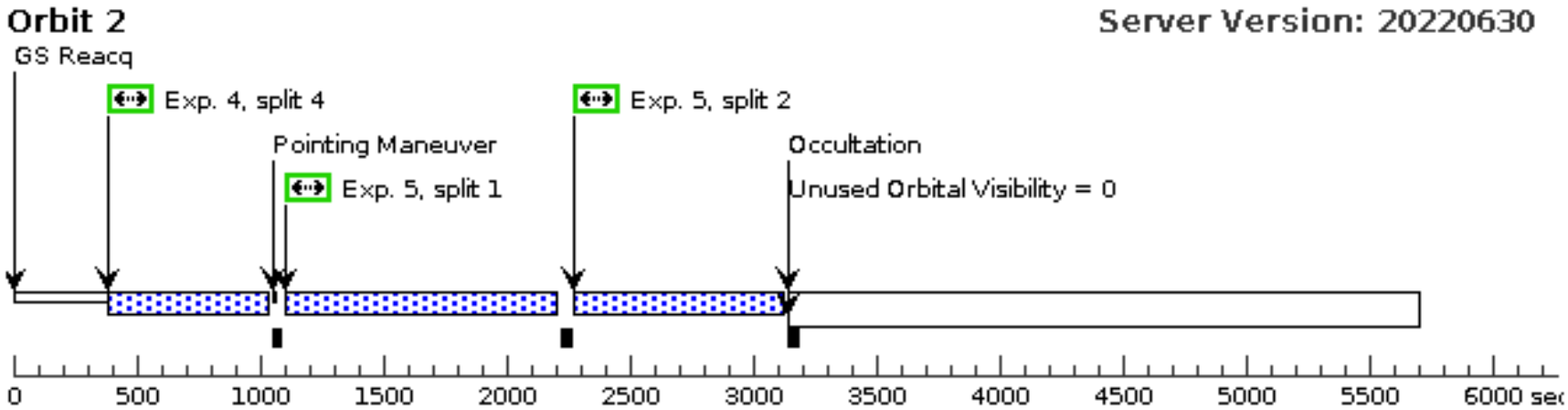
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

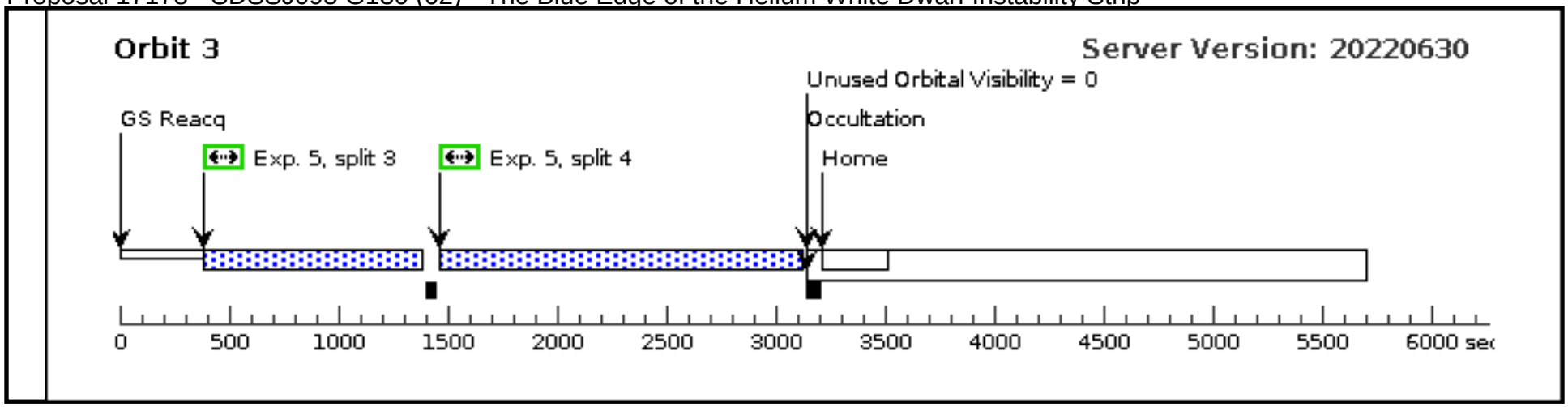
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810075) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/SEARCH, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.767 | | | 6 Secs (6 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | PeakXD (1810075) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1291 A | SEGMENT=BOTH;<br>CENTER=FLUX-WT;<br>NUM-POS=3;<br>STEP-SIZE=1.3 | | | 6 Secs (6 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | Peak D (1810075) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKD, PSA | G130M 1291 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>SEGMENT=BOTH;<br>STEP-SIZE=0.9 | | | 6 Secs (6 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | G130 1096 (1810078) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G130M 1096 A | BUFFER-TIME=3560;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 600 Secs (2388 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>588.0 Secs (Split 3)]*<br>*[==>(Split 4)]* | <br>***[1]***<br><br>***[2]*** |
| 5 | G130M 1222 (1810079) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G130M 1222 A | BUFFER-TIME=3312;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 950 Secs (4308 Secs)<br>*[==>(Split 1)]*<br>*[==>796.0 Secs (Split 2)]*<br>*[==>(Split 3)]*<br>*[==>1612.0 Secs (Split 4)]* | <br>***[2]***<br><br>***[3]*** |

Orbit Structure




Orbit 3
Server Version: 20220630
Unused Orbital Visibility = 0
GS Reacq
Occultation
Exp. 5, split 3
Exp. 5, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, SDSSJ095 G160M (03), scheduling** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

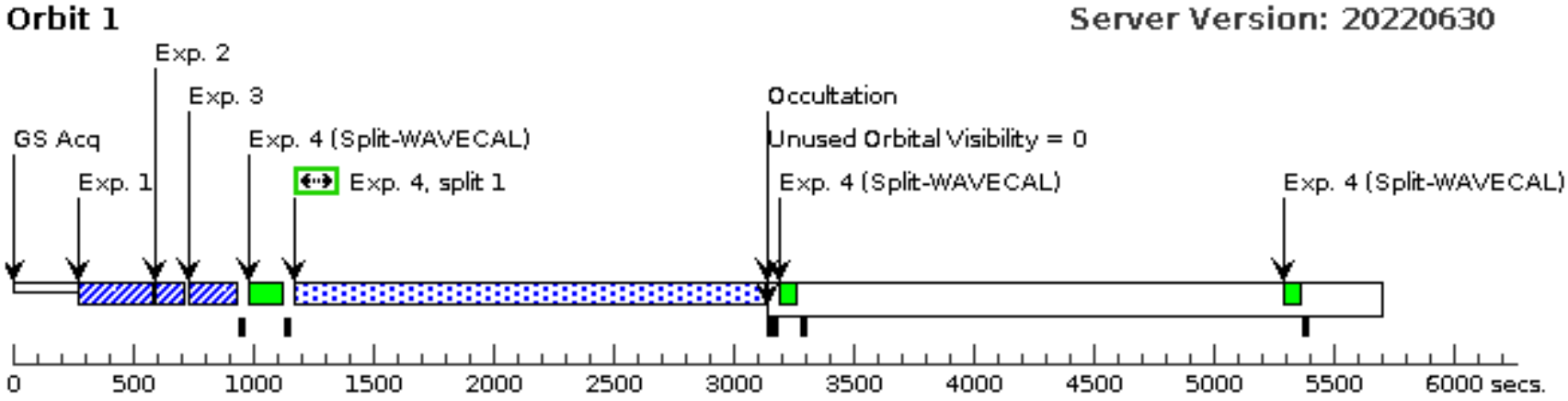
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | SDSS-J095256.69+015407.7 | RA: 09 52 56.6848 (148.2361867d)<br>Dec: +01 54 7.73 (1.90215d)<br>Equinox: J2000 | Proper Motion RA: 8.651433633801974E-5 sec of time/yr<br>Proper Motion Dec: -0.009886999941954855 arcsec/yr<br>Parallax: 0.00337"<br>Epoch of Position: 2000 | V=17.7+/-0.1<br>G=17.67 | Reference Frame: ICRS |

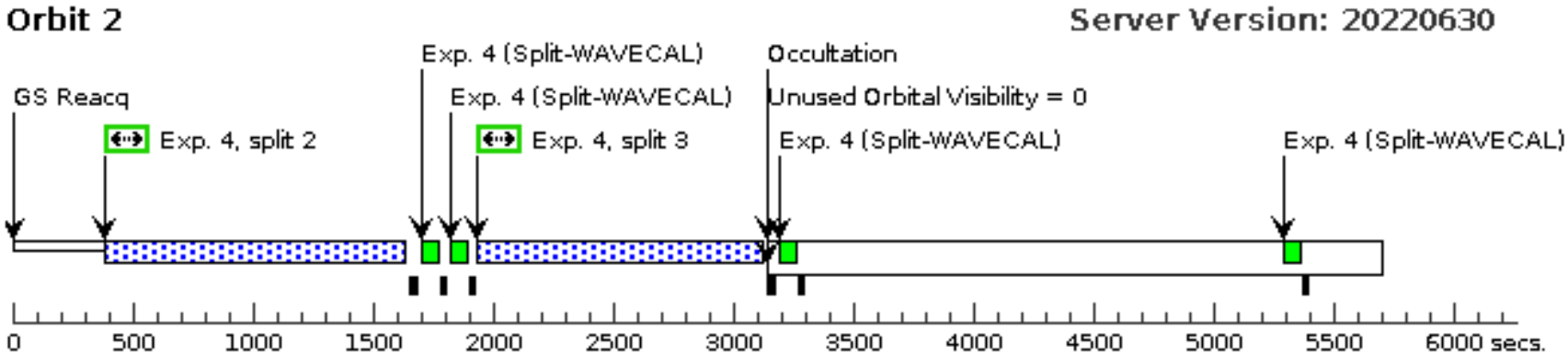
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

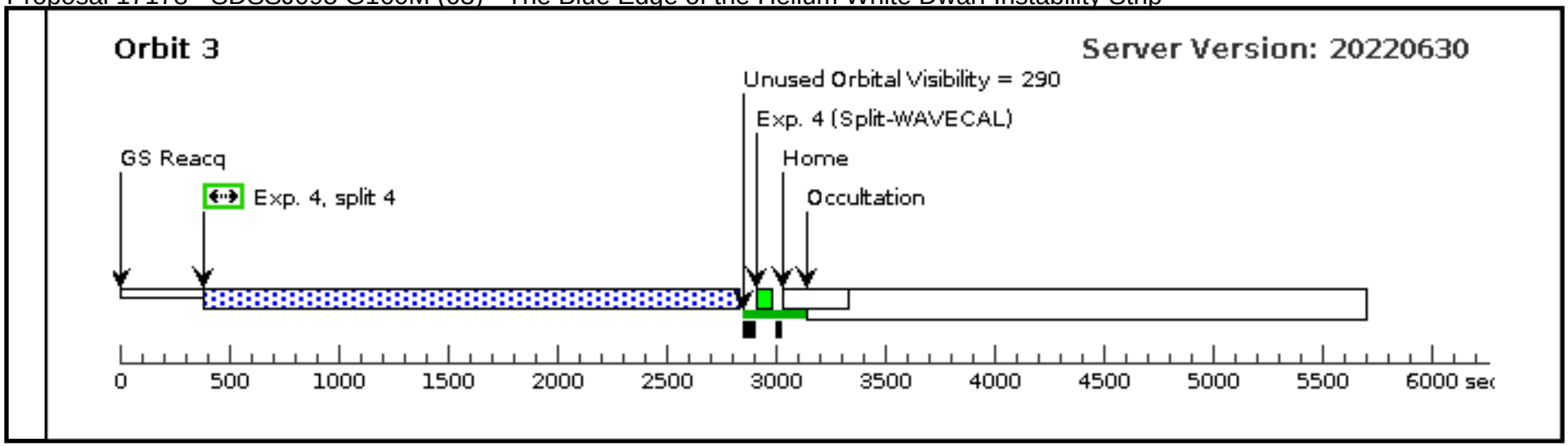
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810143) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/SEARCH, PSA | G160M 1589 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.767 | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | Peakxd (1810143) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKXD, PSA | G160M 1589 A | NUM-POS=3;<br>CENTER=FLUX-WT;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.3 | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | Peakd (1810143) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKD, PSA | G160M 1589 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>SEGMENT=BOTH;<br>STEP-SIZE=0.9 | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | G160M 1589 (1810148) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G160M 1589 A | BUFFER-TIME=5738;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 1200 Secs (6644 Secs)<br>*[==>1906.0 Secs (Split 1)]*<br>*[==>(Split 2)]*<br>*[==>1138.0 Secs (Split 3)]*<br>*[==>2400.0 Secs (Split 4)]* | <br>***[1]***<br>***[2]***<br>***[3]*** |

Orbit Structure




Orbit 3
Server Version: 20220630
Unused Orbital Visibility = 290
Exp. 4 (Split-WAVECAL)
GS Reacq
Home
Exp. 4, split 4
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, SDSSJ095 G140L (04), failed** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

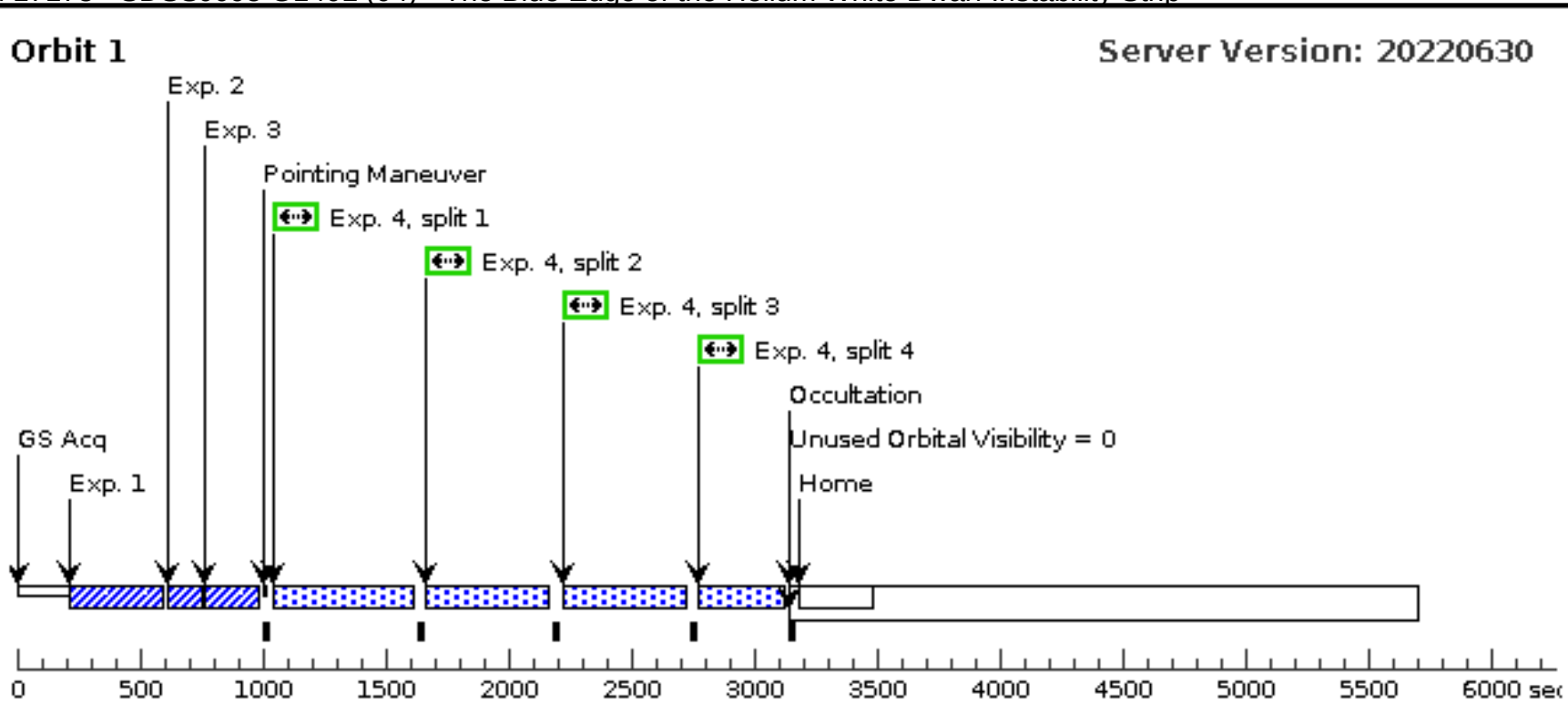
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | SDSS-J095256.69+015407.7 | RA: 09 52 56.6848 (148.2361867d)<br>Dec: +01 54 7.73 (1.90215d)<br>Equinox: J2000 | Proper Motion RA: 8.651433633801974E-5 sec of time/yr<br>Proper Motion Dec: -0.009886999941954855 arcsec/yr<br>Parallax: 0.00337"<br>Epoch of Position: 2000 | V=17.7+/-0.1<br>G=17.67 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | searc (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/SEARCH, PSA | G140L 1280 A | CENTER=FLUX-WT; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.767 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 2 | peakxd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=3; SEGMENT=BOTH; STEP-SIZE=1.3 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 3 | peakd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G140L (1812365) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=4160; FP-POS=ALL; SEGMENT=BOTH | | | 450 Secs (1647 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>297.0 Secs (Split 4)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17178, REPEAT SDSSJ095 G140L Redo of Visit 4 (12), failed** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

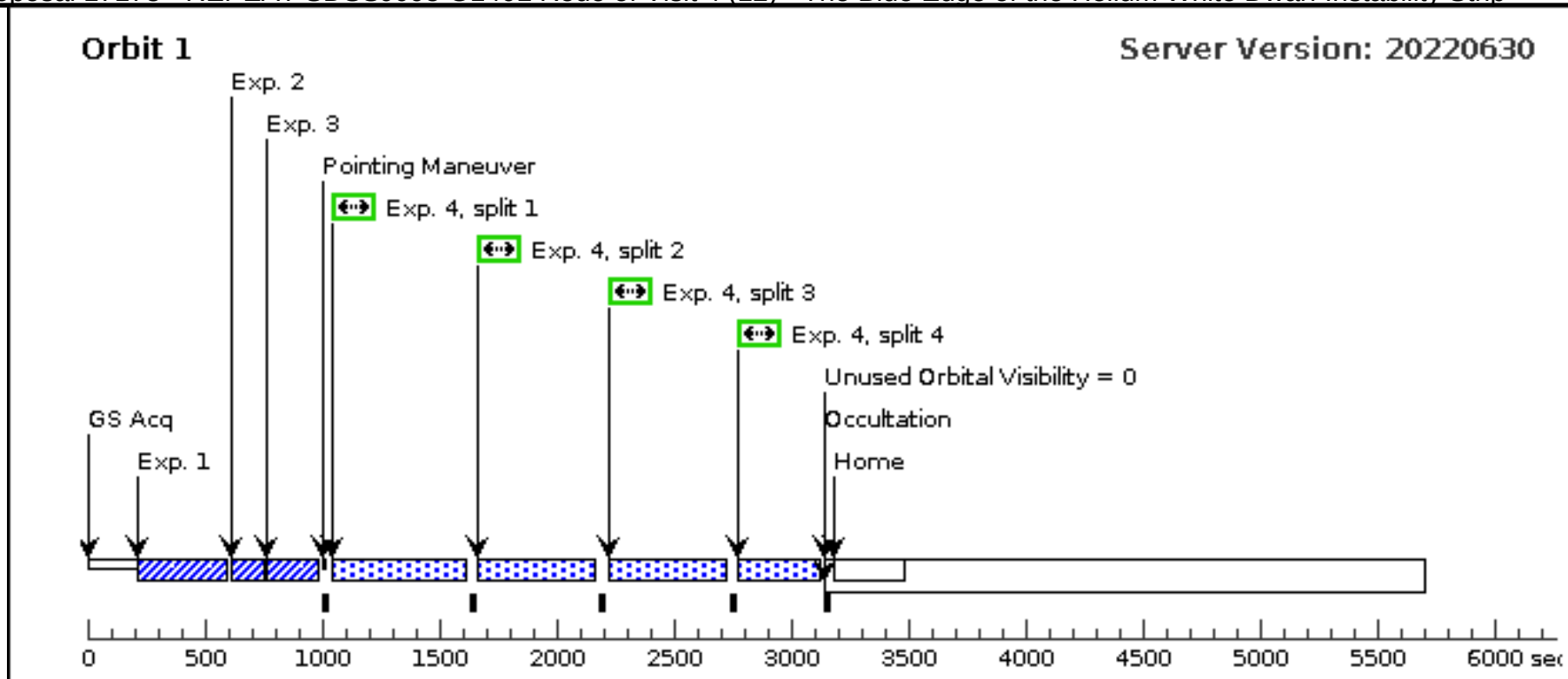
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | SDSS-J095256.69+015407.7 | RA: 09 52 56.6848 (148.2361867d)<br>Dec: +01 54 7.73 (1.90215d)<br>Equinox: J2000 | Proper Motion RA: 8.651433633801974E-5 sec of time/yr<br>Proper Motion Dec: -0.009886999941954855 arcsec/yr<br>Parallax: 0.00337"<br>Epoch of Position: 2000 | V=17.7+/-0.1<br>G=17.67 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | searc (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/SEARCH, PSA | G140L 1280 A | CENTER=FLUX-WT; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.767 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 2 | peakxd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=3; SEGMENT=BOTH; STEP-SIZE=1.3 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 3 | peakd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G140L (1812365) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=4160; FP-POS=ALL; SEGMENT=BOTH | | | 450 Secs (1647 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>297.0 Secs (Split 4)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17178, REPEAT SDSSJ095 G140L Visit 12 (13)** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

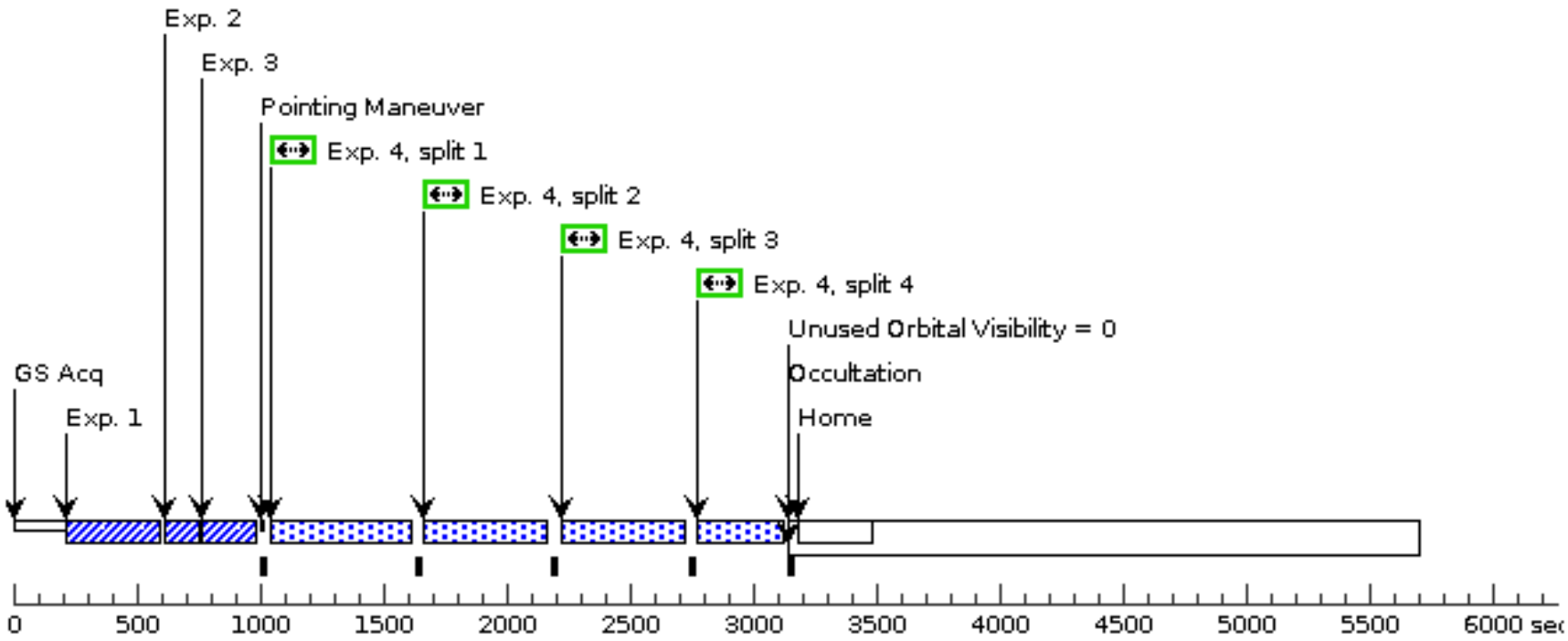
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (2) | SDSS-J095256.69+015407.7 | RA: 09 52 56.6848 (148.2361867d)<br>Dec: +01 54 7.73 (1.90215d)<br>Equinox: J2000 | Proper Motion RA: 8.651433633801974E-5 sec of time/yr<br>Proper Motion Dec: -0.009886999941954855 arcsec/yr<br>Parallax: 0.00337"<br>Epoch of Position: 2000 | V=17.7+/-0.1<br>G=17.67 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | searc (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/SEARCH, PSA | G140L 1280 A | CENTER=FLUX-WT; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.767 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 2 | peakxd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=3; SEGMENT=BOTH; STEP-SIZE=1.3 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 3 | peakd (1810353) | (2) SDSS-J095256.69+015407.7 | COS/FUV, ACQ/PEAKD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G140L (1812365) | (2) SDSS-J095256.69+015407.7 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=4160; FP-POS=ALL; SEGMENT=BOTH | | | 450 Secs (1647 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>297.0 Secs (Split 4)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17178, J140028 G130M (05), scheduling** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

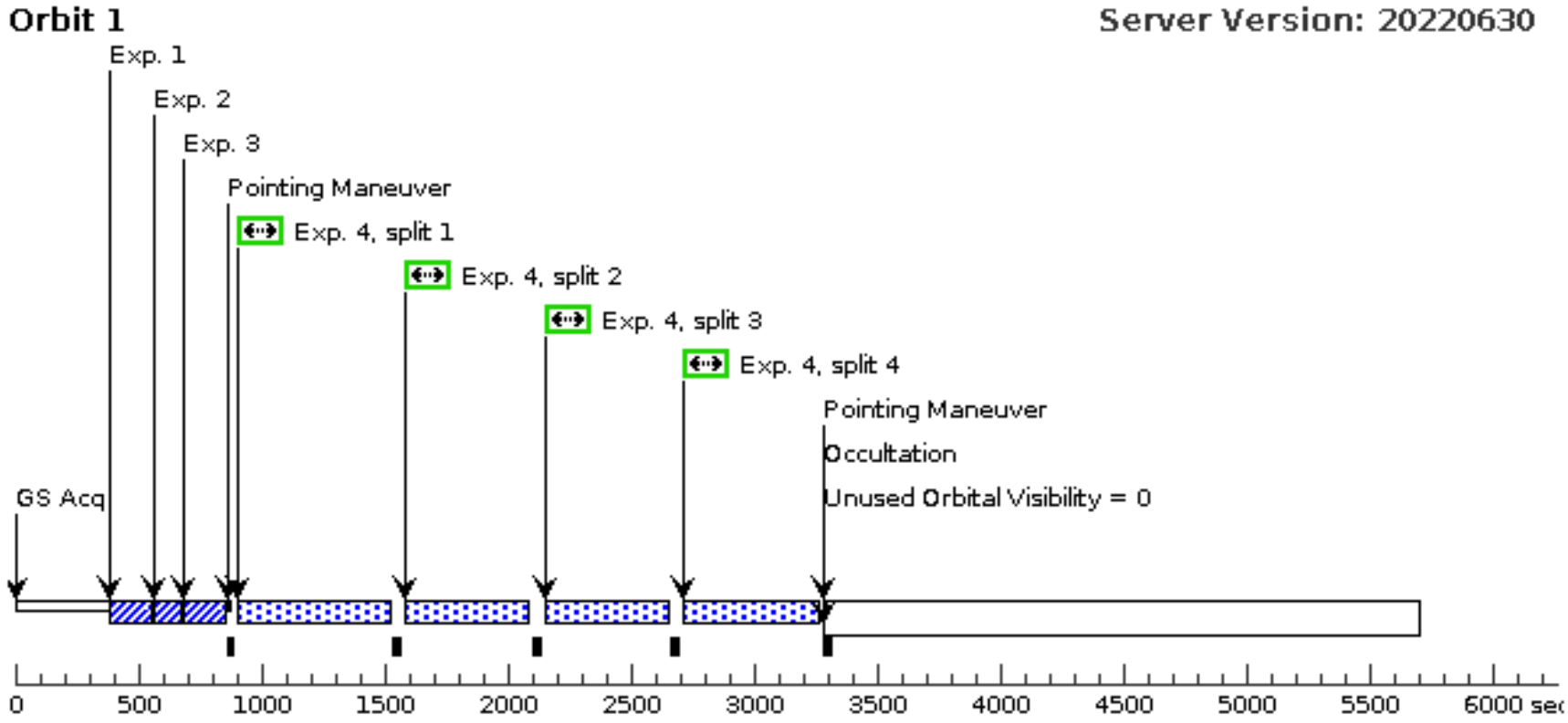
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | SDSS-J140028.43+475644.1 | RA: 14 00 28.4480 (210.1185333d)<br>Dec: +47 56 44.04 (47.94557d)<br>Equinox: J2000 | Proper Motion RA: -0.0026842406452275763 sec of time/yr<br>Proper Motion Dec: 0.01251 arcsec/yr<br>Parallax: 0.0039151"<br>Epoch of Position: 2000 | V=17.6+/-0.2<br>g=17.063,<br>G=17.268 | Reference Frame: ICRS |

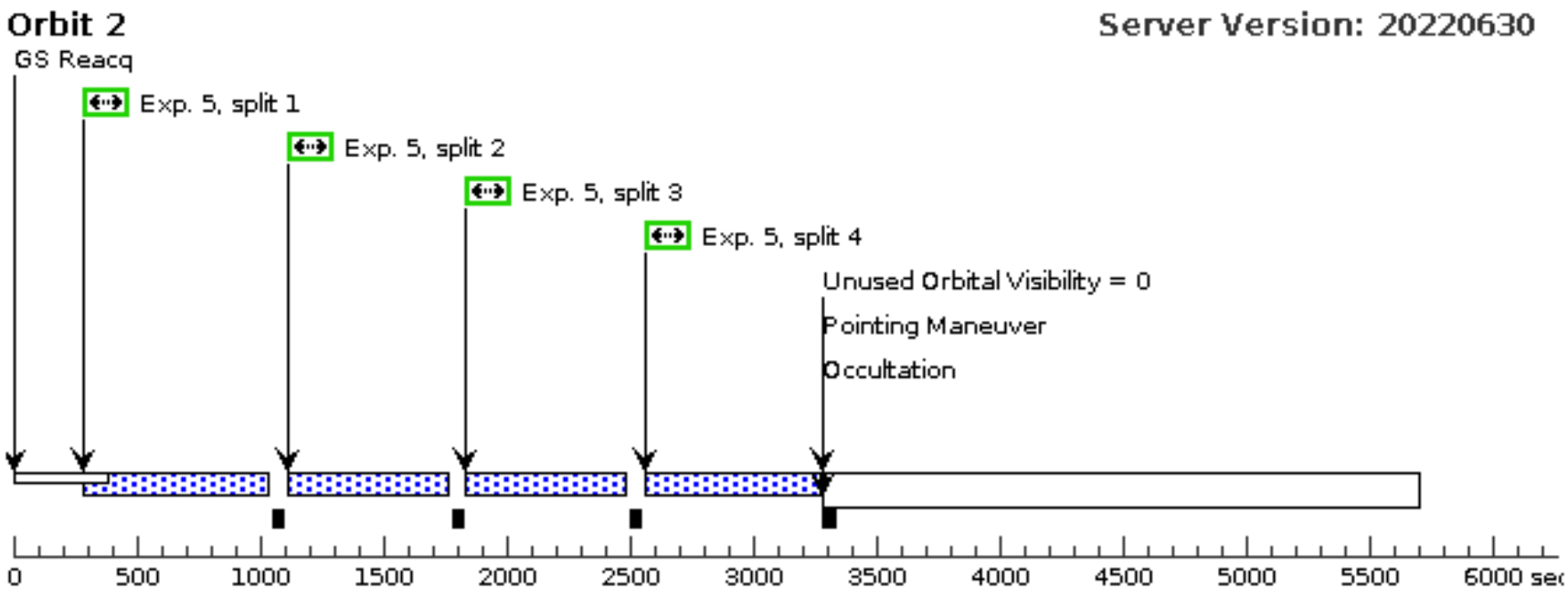
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

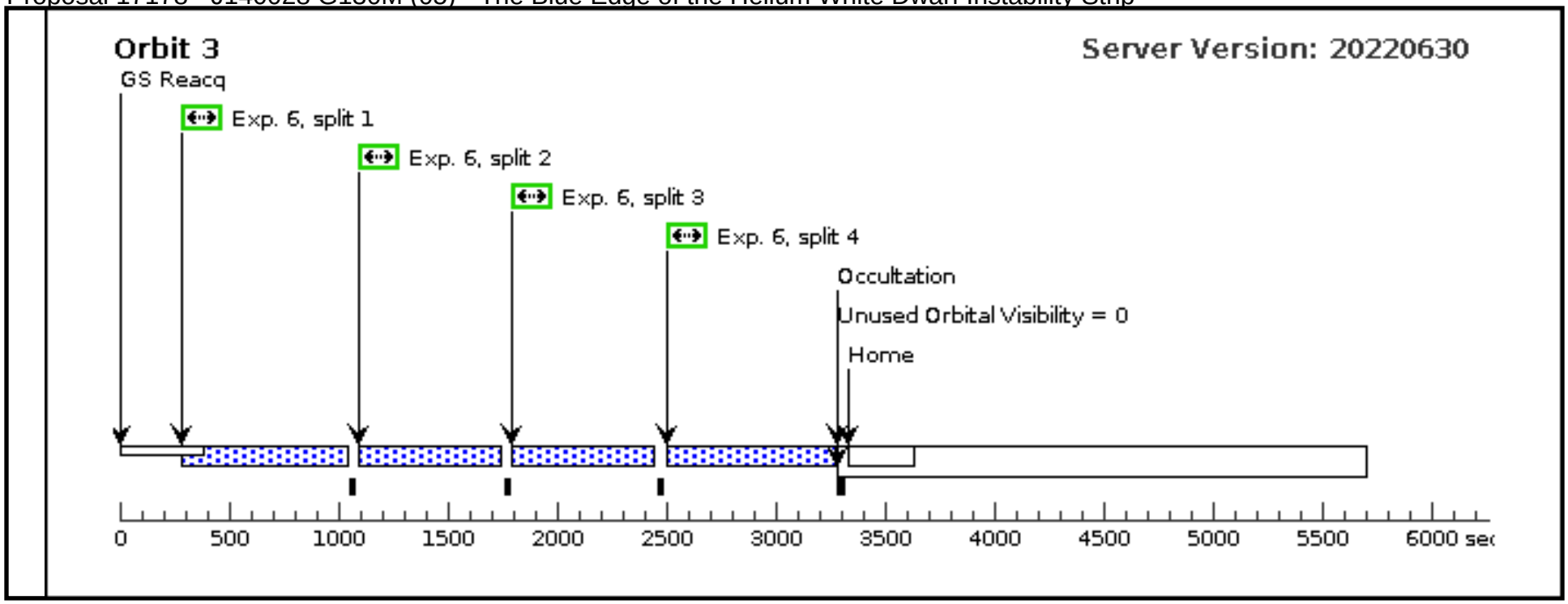
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810152) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/SEARCH, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.767 | | | 3 Secs (3 Secs)<br>*[==>]* | ***[1]*** |
| 2 | Peakxd (1810152) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>NUM-POS=3;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.3 | | | 3 Secs (3 Secs)<br>*[==>]* | ***[1]*** |
| 3 | Peakd (1810152) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/PEAKD, PSA | G130M 1291 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>STEP-SIZE=0.9;<br>SEGMENT=BOTH | | | 3 Secs (3 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G130M 1096 (1810157) | (3) SDSS-J140028.43+475644.1 | COS/FUV, TIME-TAG, PSA | G130M 1096 A | BUFFER-TIME=2557;<br>SEGMENT=BOTH;<br>FP-POS=ALL | | | 450 Secs (1852 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>502.0 Secs (Split 4)]* | ***[1]*** |
| 5 | G130M 1222 (1812368) | (3) SDSS-J140028.43+475644.1 | COS/FUV, TIME-TAG, PSA | G130M 1222 A | BUFFER-TIME=1895;<br>SEGMENT=BOTH;<br>FP-POS=ALL | | | 600 Secs (2457 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>657.0 Secs (Split 4)]* | ***[2]*** |
| 6 | G130M 1055 (1810167) | (3) SDSS-J140028.43+475644.1 | COS/FUV, TIME-TAG, PSA | G130M 1055 A | BUFFER-TIME=5492;<br>SEGMENT=BOTH;<br>FP-POS=ALL | | | 600 Secs (2514 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>714.0 Secs (Split 4)]* | ***[3]*** |

Orbit Structure




Orbit 2
Server Version: 20220630
GS Reacq
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Unused Orbital Visibility = 0
Pointing Maneuver
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec


Orbit 3
Server Version: 20220630
GS Reacq
Exp. 6, split 1
Exp. 6, split 2
Exp. 6, split 3
Exp. 6, split 4
Occultation
Unused Orbital Visibility = 0
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, J140028 G160M (06), scheduling** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

## Fixed Targets

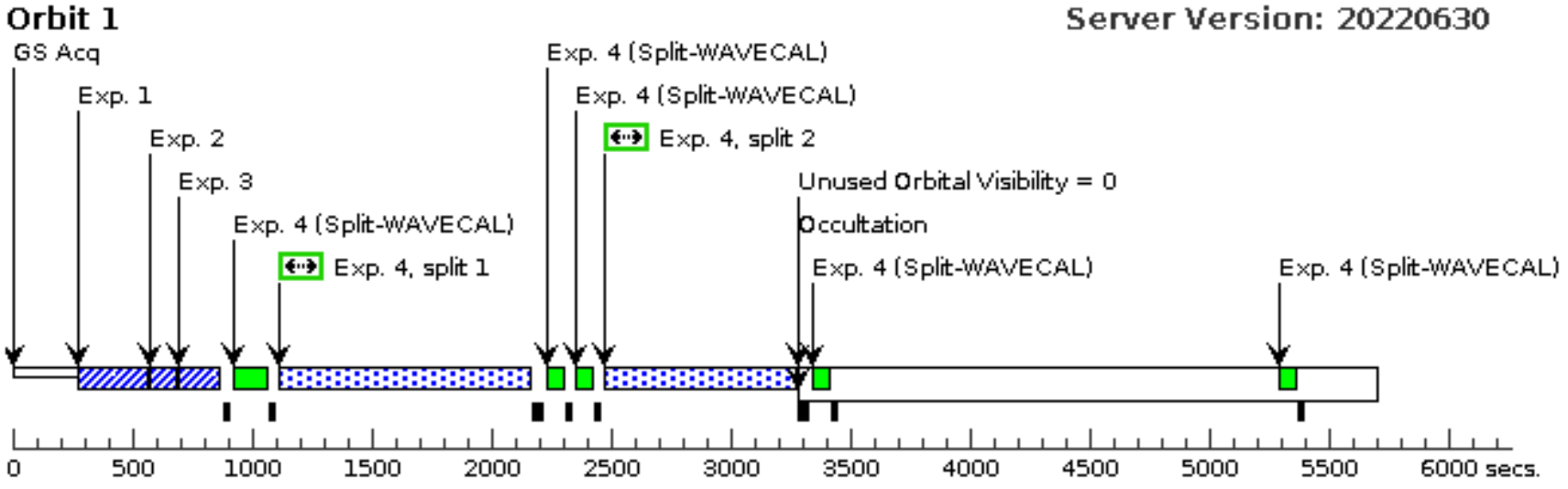
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (3) | SDSS-J140028.43+475644.1 | RA: 14 00 28.4480 (210.1185333d)<br>Dec: +47 56 44.04 (47.94557d)<br>Equinox: J2000 | Proper Motion RA: -0.0026842406452275763 sec of time/yr<br>Proper Motion Dec: 0.01251 arcsec/yr<br>Parallax: 0.0039151"<br>Epoch of Position: 2000 | V=17.6+/-0.2<br>g=17.063,<br>G=17.268 | Reference Frame: ICRS |

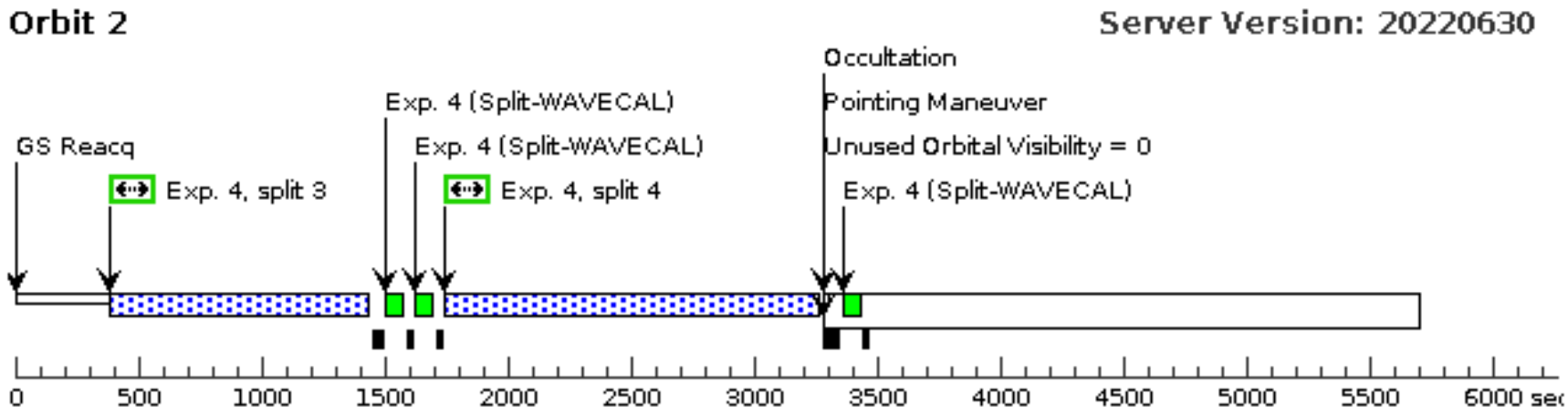
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

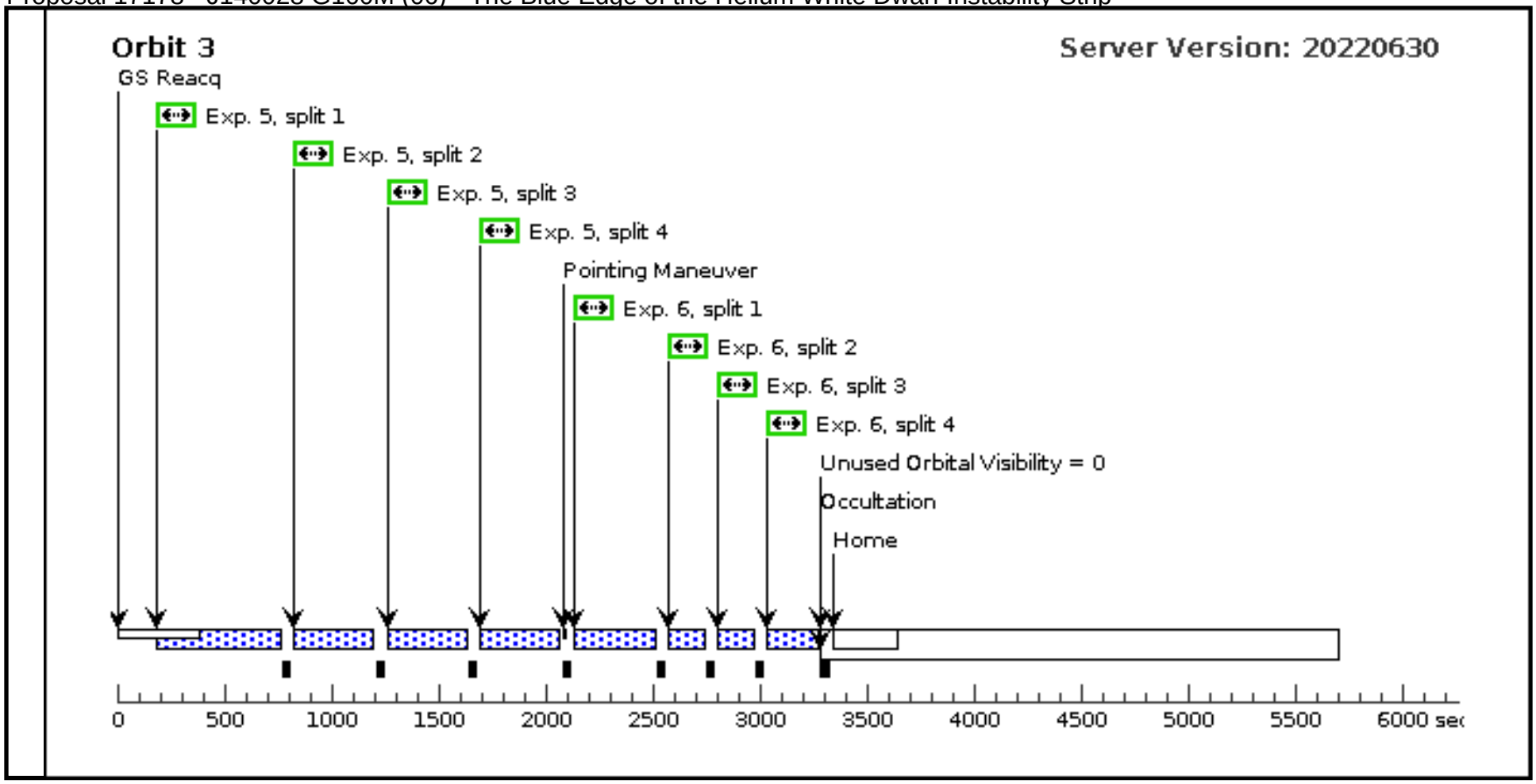
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810171) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/SEARCH, PSA | G160M 1589 A | CENTER=FLUX-WT; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.767 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | Peakxd (1810171) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/PEAKXD, PSA | G160M 1589 A | NUM-POS=3; SEGMENT=BOTH; CENTER=FLUX-WT; STEP-SIZE=1.3 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | Peakd (1810171) | (3) SDSS-J140028.43+475644.1 | COS/FUV, ACQ/PEAKD, PSA | G160M 1589 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | G160M 1589 (1810175) | (3) SDSS-J140028.43+475644.1 | COS/FUV, TIME-TAG, PSA | G160M 1589 A | BUFFER-TIME=3141; FP-POS=ALL; SEGMENT=BOTH | | | 1000 Secs (4220 Secs)<br>*[==>(Split 1)]*<br>*[==>748.0 Secs (Split 2)]*<br>*[==>(Split 3)]*<br>*[==>1472.0 Secs (Split 4)]* | <br>***[1]***<br>***[2]*** |
| 5 | G140L 1280 (1810178) | (3) SDSS-J140028.43+475644.1 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=2395; FP-POS=ALL; SEGMENT=BOTH | | | 320 Secs (1280 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]* | <br>***[3]*** |
| 6 | G230L (1810373) | (3) SDSS-J140028.43+475644.1 | COS/NUV, TIME-TAG, PSA | G230L 3000 A | FP-POS=ALL; BUFFER-TIME=925 | | | 150 Secs (673 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>223.0 Secs (Split 4)]* | <br>***[3]*** |

Orbit Structure




Orbit 3
Server Version: 20220630
GS Reacq
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Pointing Maneuver
Exp. 6, split 1
Exp. 6, split 2
Exp. 6, split 3
Exp. 6, split 4
Unused Orbital Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, J141258 G130M (07), completed** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

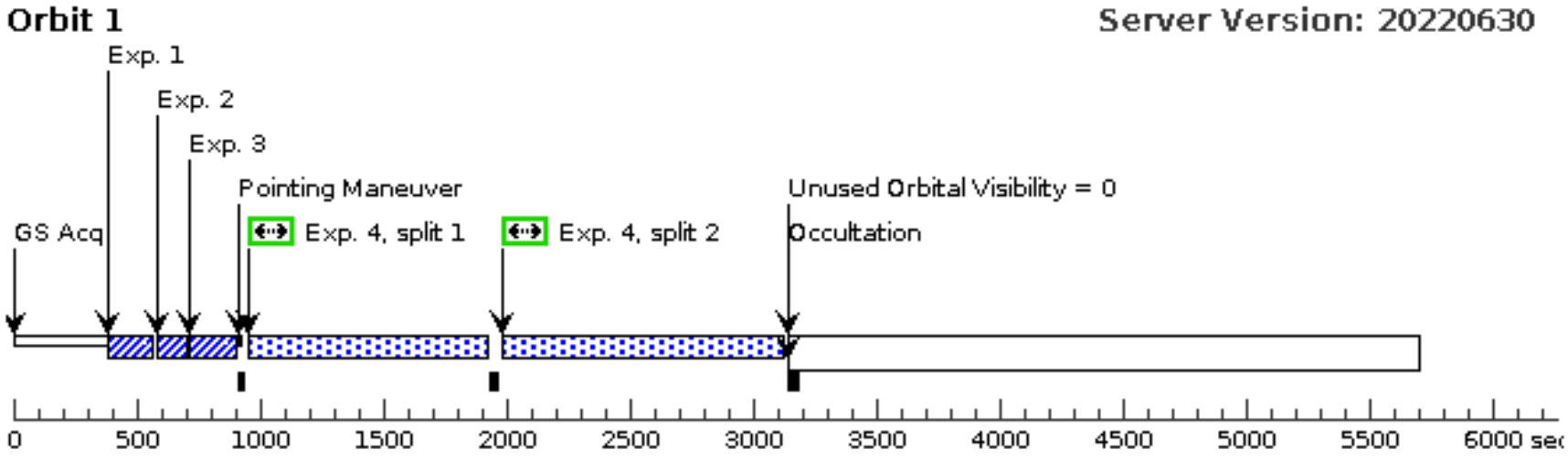
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | SDSS-J141258.17+045602.2 | RA: 14 12 58.1751 (213.2423962d)<br>Dec: +04 56 2.25 (4.93396d)<br>Equinox: J2000 | Proper Motion RA: 2.319929461775613E-4 sec of time/yr<br>Proper Motion Dec: -0.02485400004843541 arcsec/yr<br>Parallax: 0.0038491"<br>Epoch of Position: 2000 | V=17.6+/-0.1<br>g=17.35,<br>G=17.57 | Reference Frame: ICRS |

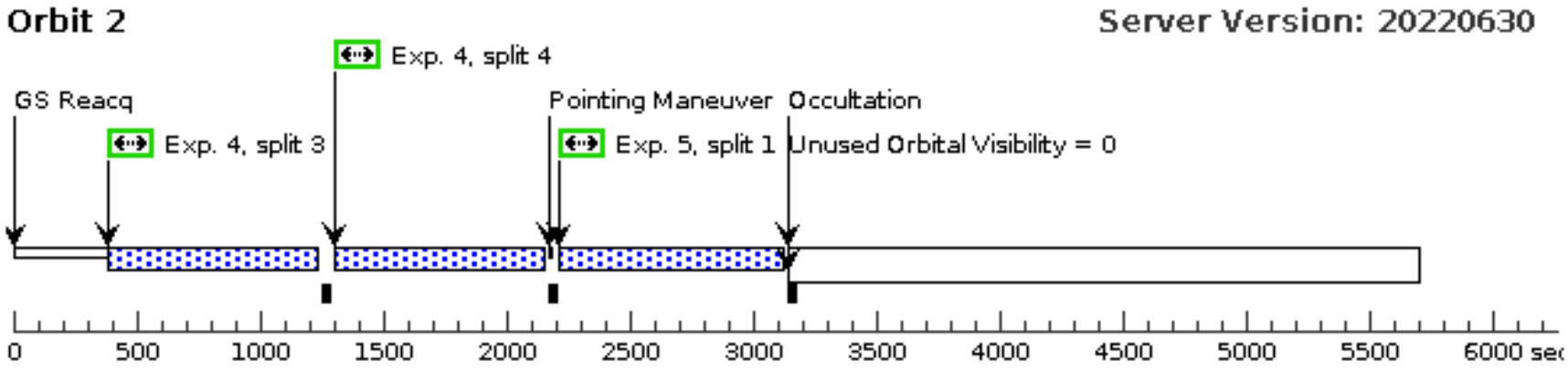
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

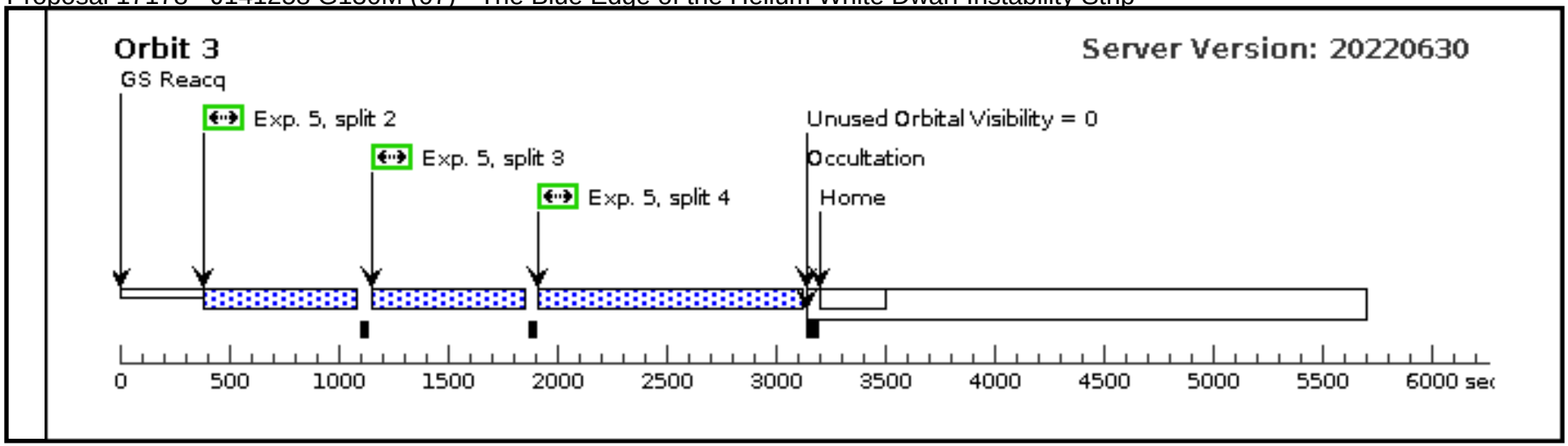
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810291) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/SEARCH, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>STEP-SIZE=1.767;<br>SEGMENT=BOTH | | | 7 Secs (7 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | peakxd (1810291) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>NUM-POS=3;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.3 | | | 7 Secs (7 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | peakd (1810291) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKD, PSA | G130M 1291 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>SEGMENT=BOTH;<br>STEP-SIZE=0.9 | | | 7 Secs (7 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | G130M 1096 (1810292) | (4) SDSS-J141258.17+045602.2 | COS/FUV, TIME-TAG, PSA | G130M 1096 A | BUFFER-TIME=3655;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 800 Secs (3491 Secs)<br>*[==>(Split 1)]*<br>*[==>1091.0 Secs (Split 2)]*<br>*[==>(Split 3)]*<br>*[==>(Split 4)]* | <br>***[1]***<br>***[2]*** |
| 5 | G130M 1222 (1810293) | (4) SDSS-J141258.17+045602.2 | COS/FUV, TIME-TAG, PSA | G130M 1222 A | BUFFER-TIME=3453;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 650 Secs (3211 Secs)<br>*[==>755.0 Secs (Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>1156.0 Secs (Split 4)]* | <br>***[2]***<br>***[3]*** |

Orbit Structure




Orbit 3
Server Version: 20220630
GS Reacq
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Unused Orbital Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, J141258 G160M (08), scheduling** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: Warning**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Diagnostics

(J141258 G160M (08)) Warning (Orbit Planner): COS LP6 EXPOSURE WITH MORE THAN 2400 SECONDS VISIBILITY

## Fixed Targets

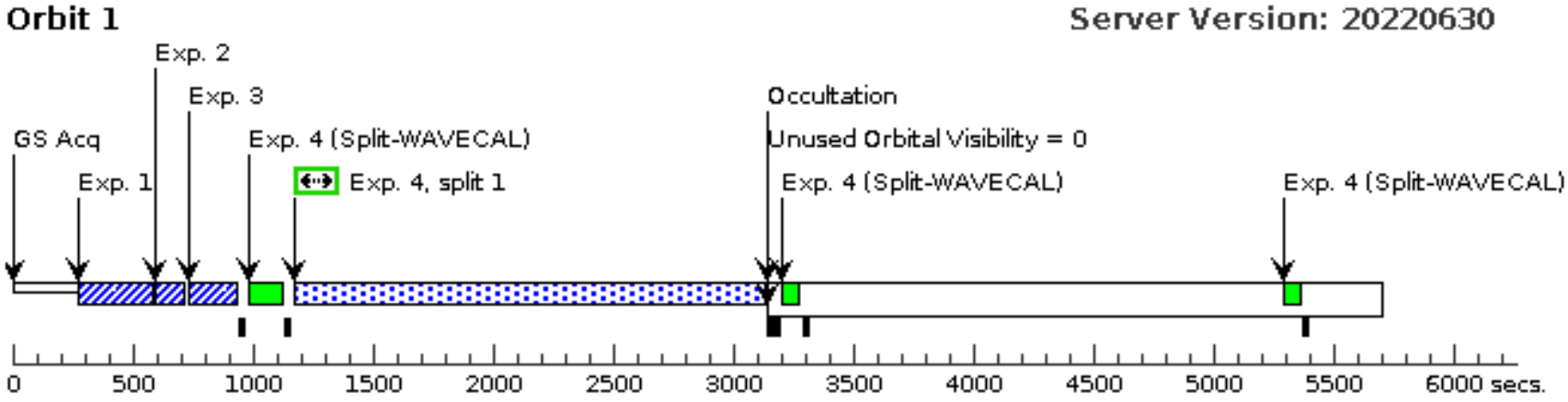
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | SDSS-J141258.17+045602.2 | RA: 14 12 58.1751 (213.2423962d)<br>Dec: +04 56 2.25 (4.93396d)<br>Equinox: J2000 | Proper Motion RA: 2.319929461775613E-4 sec of time/yr<br>Proper Motion Dec: -0.02485400004843541 arcsec/yr<br>Parallax: 0.0038491"<br>Epoch of Position: 2000 | V=17.6+/-0.1<br>g=17.35,<br>G=17.57 | Reference Frame: ICRS |

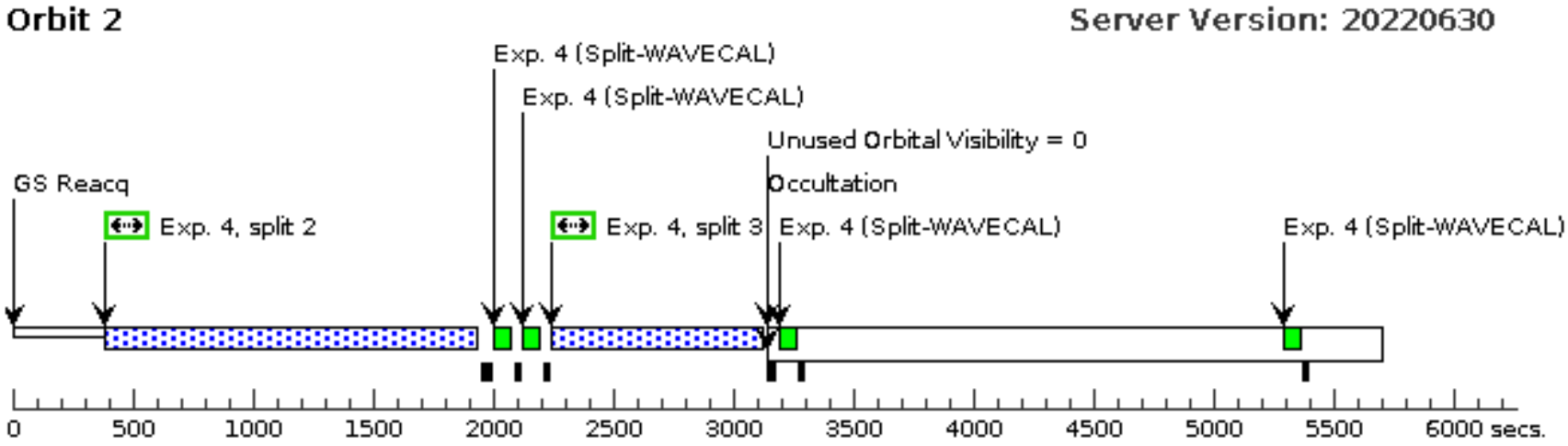
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

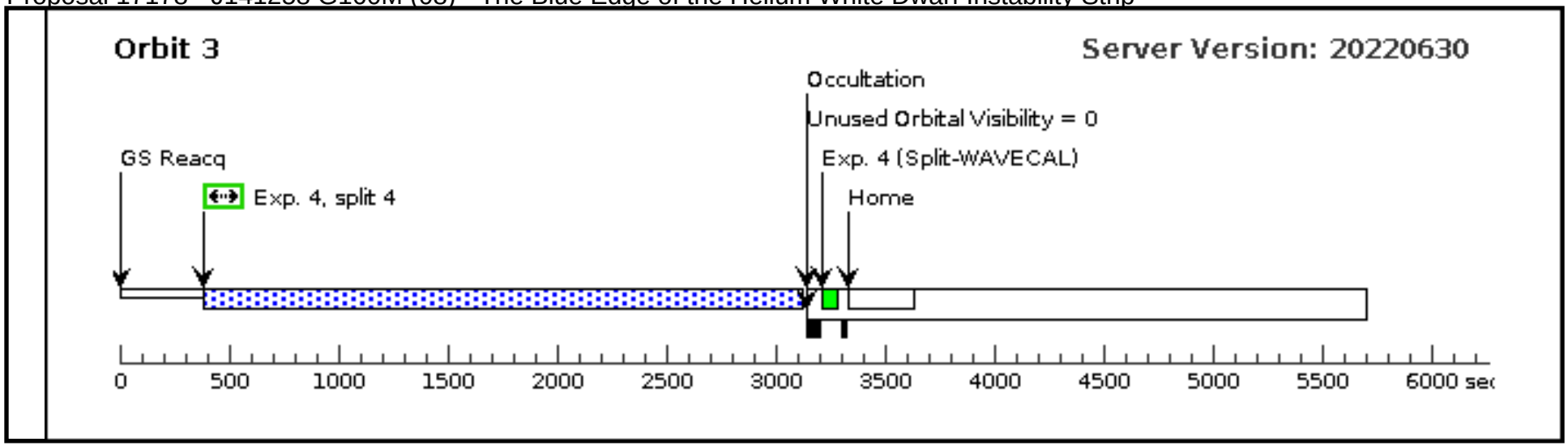
## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810296) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/SEARCH, PSA | G160M 1589 A | SCAN-SIZE=2; STEP-SIZE=1.767; CENTER=FLUX-WT; SEGMENT=BOTH | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | peakxd (1810296) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKXD, PSA | G160M 1589 A | CENTER=FLUX-WT; NUM-POS=3; SEGMENT=BOTH; STEP-SIZE=1.3 | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | peakd (1810296) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKD, PSA | G160M 1589 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 10 Secs (10 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | G160M 1589 (1812375) | (4) SDSS-J141258.17+045602.2 | COS/FUV, TIME-TAG, PSA | G160M 1589 A | BUFFER-TIME=5474; FP-POS=ALL; SEGMENT=BOTH | | | 1500 Secs (6925 Secs)<br>*[==>1906.0 Secs (Split 1)]*<br>*[==>(Split 2)]*<br>*[==>829.0 Secs (Split 3)]*<br>*[==>2690.0 Secs (Split 4)]* | <br>***[1]***<br>***[2]***<br>***[3]*** |

Orbit Structure




Orbit 3
Server Version: 20220630
Occultation
Unused Orbital Visibility = 0
GS Reacq
Exp. 4 (Split-WAVECAL)
Exp. 4, split 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, J141258 G140L (09), completed** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

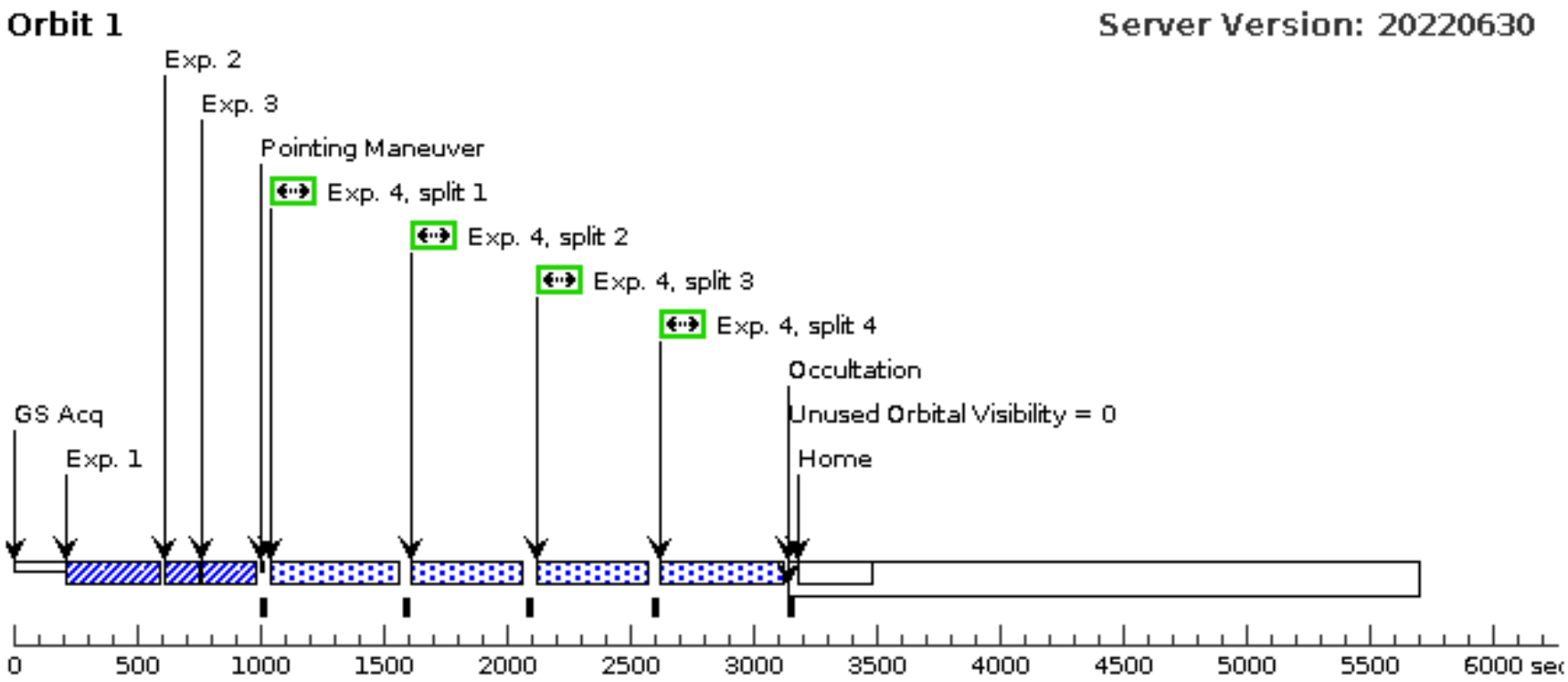
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (4) | SDSS-J141258.17+045602.2 | RA: 14 12 58.1751 (213.2423962d)<br>Dec: +04 56 2.25 (4.93396d)<br>Equinox: J2000 | Proper Motion RA: 2.319929461775613E-4 sec of time/yr<br>Proper Motion Dec: -0.02485400004843541 arcsec/yr<br>Parallax: 0.0038491"<br>Epoch of Position: 2000 | V=17.6+/-0.1<br>g=17.35,<br>G=17.57 | Reference Frame: ICRS |

*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810395) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/SEARCH, PSA | G140L 1280 A | CENTER=FLUX-WT; SEGMENT=BOTH; SCAN-SIZE=2; STEP-SIZE=1.767 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 2 | Peakxd (1810385) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | CENTER=FLUX-WT; NUM-POS=3; SEGMENT=BOTH; STEP-SIZE=1.3 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 3 | Peakd (1810385) | (4) SDSS-J141258.17+045602.2 | COS/FUV, ACQ/PEAKD, PSA | G140L 1280 A | CENTER=FLUX-WT-FLR; NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9 | | | 15 Secs (15 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G140L (1810386) | (4) SDSS-J141258.17+045602.2 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=4269; FP-POS=ALL; SEGMENT=BOTH | | | 400 Secs (1647 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>447.0 Secs (Split 4)]* | ***[1]*** |

Orbit Structure



## Visit

**Proposal 17178, SBSS1540 G130M (10), scheduling** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

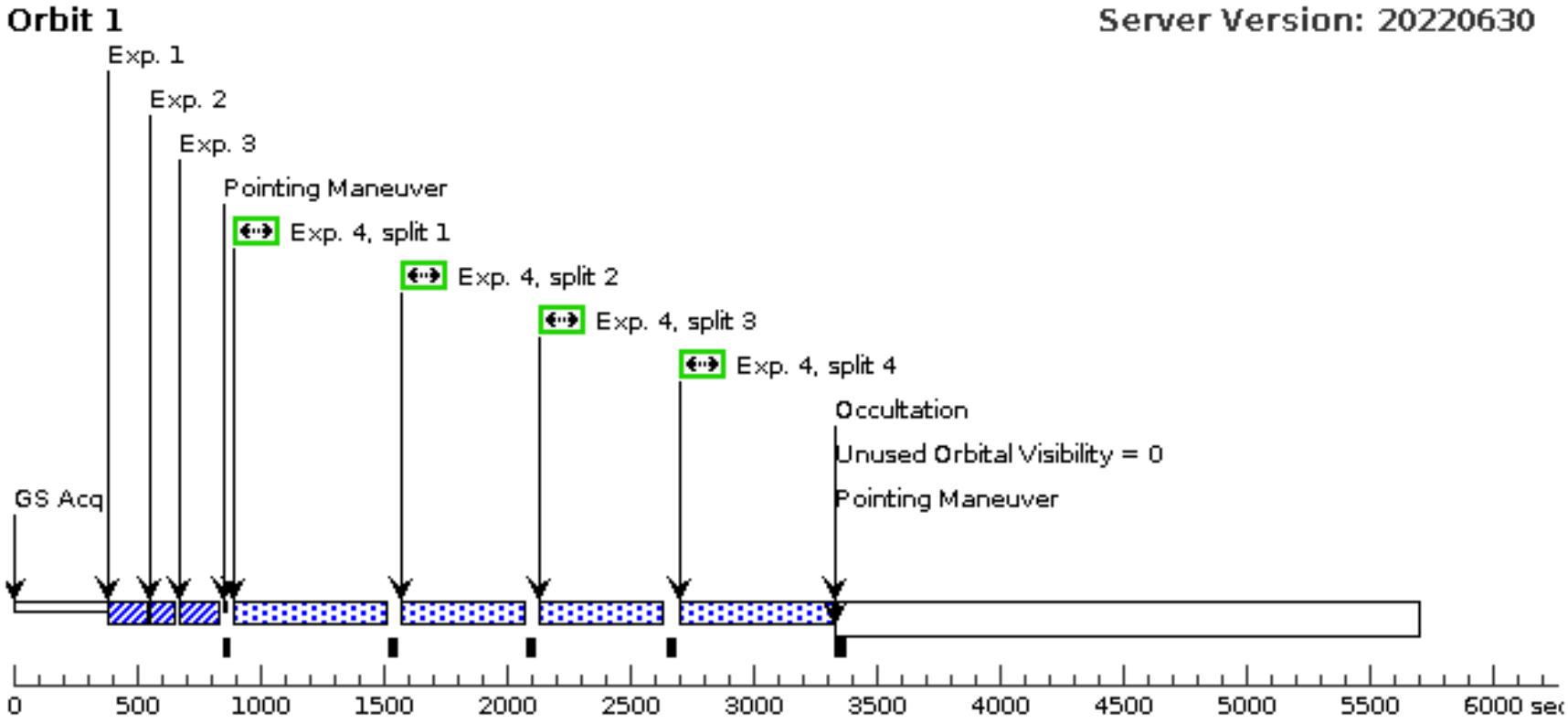
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | SBSS-1540+505 | RA: 15 42 1.4916 (235.5062150d)<br>Dec: +50 25 32.00 (50.42556d)<br>Equinox: J2000 | Proper Motion RA: -0.00208294246435237 sec of time/yr<br>Proper Motion Dec: 0.012569 arcsec/yr<br>Epoch of Position: 2000 | V=17.0+/-0.1<br>g=16.76,<br>G=16.958 | Reference Frame: ICRS |

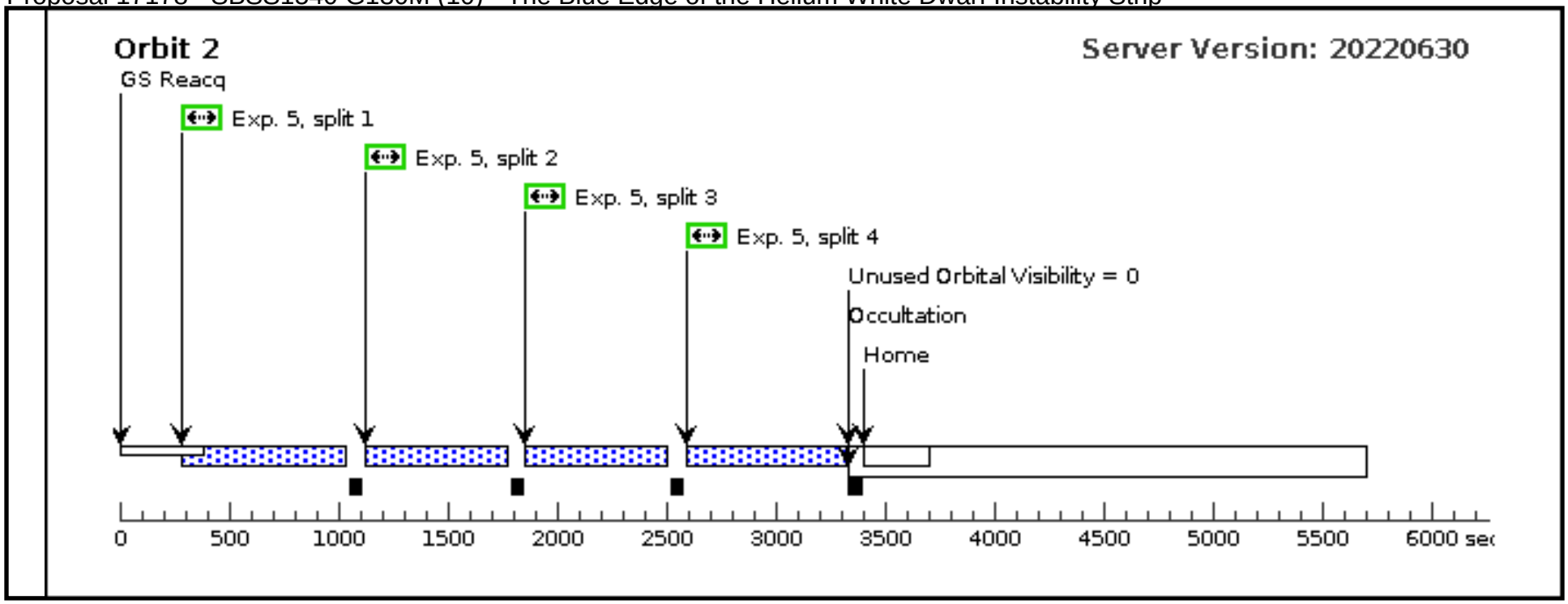
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810300) | (6) SBSS-1540+505 | COS/FUV, ACQ/SEARCH, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>STEP-SIZE=1.767;<br>SEGMENT=BOTH | | | 1.5 Secs (1.5 Secs)<br>*[==>]* | ***[1]*** |
| 2 | peakxd (1810300) | (6) SBSS-1540+505 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1291 A | CENTER=FLUX-WT;<br>NUM-POS=3;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.3 | | | 2 Secs (2 Secs)<br>*[==>]* | ***[1]*** |
| 3 | peakd (1810300) | (6) SBSS-1540+505 | COS/FUV, ACQ/PEAKD, PSA | G130M 1291 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>SEGMENT=BOTH;<br>STEP-SIZE=0.9 | | | 2 Secs (2 Secs)<br>*[==>]* | ***[1]*** |
| 4 | G130 1096 (1810390) | (6) SBSS-1540+505 | COS/FUV, TIME-TAG, PSA | G130M 1096 A | BUFFER-TIME=2338;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 450 Secs (1914 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>564.0 Secs (Split 4)]* | ***[1]*** |
| 5 | G130M 1222 (1812378) | (6) SBSS-1540+505 | COS/FUV, TIME-TAG, PSA | G130M 1222 A | BUFFER-TIME=1416;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 600 Secs (2475 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>(Split 3)]*<br>*[==>675.0 Secs (Split 4)]* | ***[2]*** |

Orbit Structure




Orbit 2
Server Version: 20220630
GS Reacq
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Unused Orbital Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

## Visit

**Proposal 17178, SBSS1540 G160M (11), scheduled** Tue Jul 11 20:00:50 GMT 2023

**Diagnostic Status: No Diagnostics**

Scientific Instruments: COS/FUV

Special Requirements: (none)

## Fixed Targets

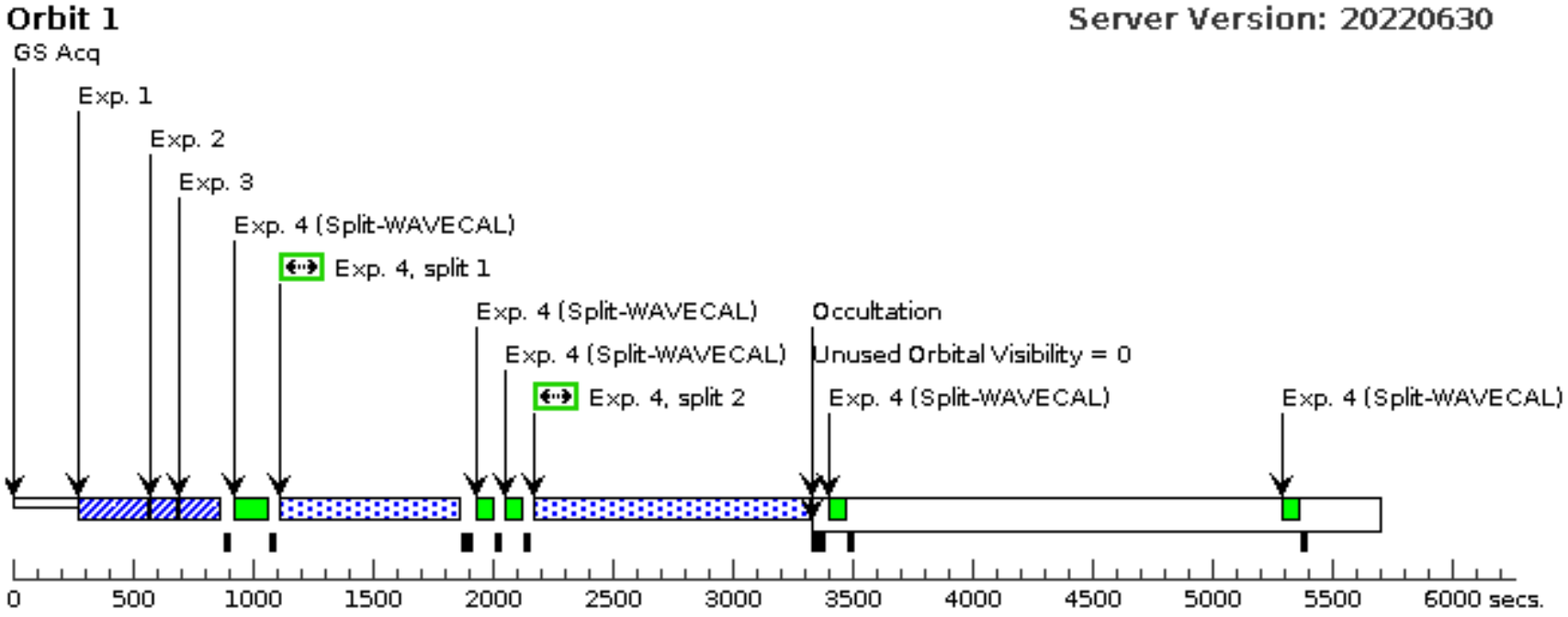
| # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|---|---|---|---|---|---|
| (6) | SBSS-1540+505 | RA: 15 42 1.4916 (235.5062150d)<br>Dec: +50 25 32.00 (50.42556d)<br>Equinox: J2000 | Proper Motion RA: -0.00208294246435237 sec of time/yr<br>Proper Motion Dec: 0.012569 arcsec/yr<br>Epoch of Position: 2000 | V=17.0+/-0.1<br>g=16.76,<br>G=16.958 | Reference Frame: ICRS |

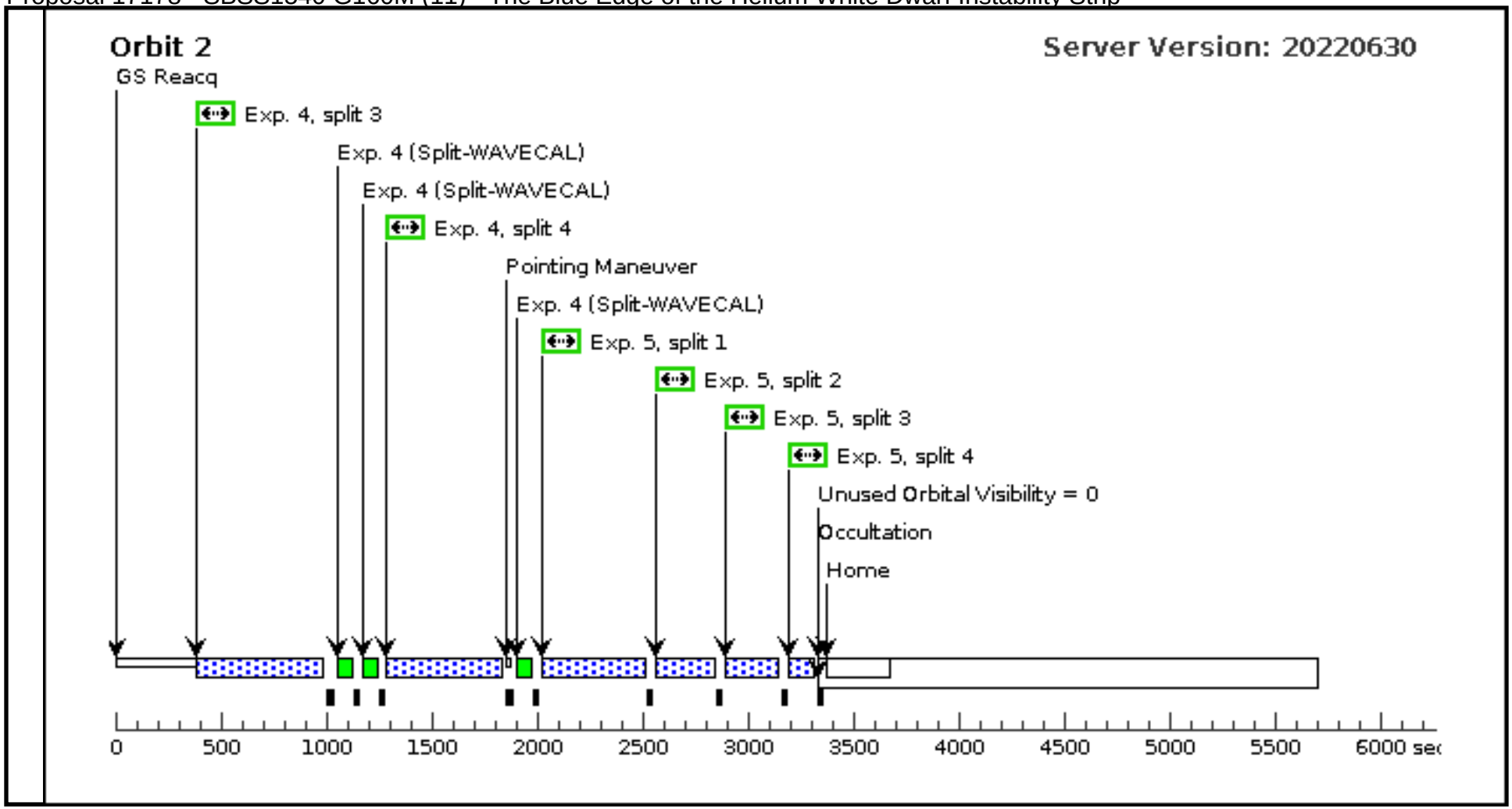
*Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.*
*Category=STAR*
*Description=[DB]*
*Extended=NO*

## Exposures

| # | Label (ETC Run) | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Search (1810395) | (6) SBSS-1540+505 | COS/FUV, ACQ/SEARCH, PSA | G160M 1589 A | CENTER=FLUX-WT;<br>SCAN-SIZE=2;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.767 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 2 | Peakxd (1810395) | (6) SBSS-1540+505 | COS/FUV, ACQ/PEAKXD, PSA | G160M 1589 A | CENTER=FLUX-WT;<br>NUM-POS=3;<br>SEGMENT=BOTH;<br>STEP-SIZE=1.3 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 3 | Peakd (1810395) | (6) SBSS-1540+505 | COS/FUV, ACQ/PEAKD, PSA | G160M 1589 A | CENTER=FLUX-WT-FLR;<br>NUM-POS=5;<br>SEGMENT=BOTH;<br>STEP-SIZE=0.9 | | | 5 Secs (5 Secs)<br>*[==>]* | <br>***[1]*** |
| 4 | SBSS1540 G160 M (1810396) | (6) SBSS-1540+505 | COS/FUV, TIME-TAG, PSA | G160M 1589 A | BUFFER-TIME=2878;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 700 Secs (2846 Secs)<br>*[==>(Split 1)]*<br>*[==>1096.0 Secs (Split 2)]*<br>*[==>550.0 Secs (Split 3)]*<br>*[==>500.0 Secs (Split 4)]* | <br>***[1]***<br>***[2]*** |
| 5 | G140L 1280 (1810397) | (6) SBSS-1540+505 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=2156;<br>FP-POS=ALL;<br>SEGMENT=BOTH | | | 225 Secs (718 Secs)<br>*[==>(Split 1)]*<br>*[==>(Split 2)]*<br>*[==>200.0 Secs (Split 3)]*<br>*[==>68.0 Secs (Split 4)]* | <br>***[2]*** |

Orbit Structure




Orbit 2
Server Version: 20220630
GS Reacq
Exp. 4, split 3
Exp. 4 (Split-WAVECAL)
Exp. 4 (Split-WAVECAL)
Exp. 4, split 4
Pointing Maneuver
Exp. 4 (Split-WAVECAL)
Exp. 5, split 1
Exp. 5, split 2
Exp. 5, split 3
Exp. 5, split 4
Unused Orbital Visibility = 0
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec