17428 - The M dwarf FUV Continuum: A Missing Driver of Atmospheric Hazes in Exoplanet Atmospheres

Cycle: 31, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*
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Dr. Adina Feinstein (CoI)	Michigan State University
Dr. John Sebastian Pineda (CoI)	University of Colorado at Boulder

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) V-AU-MIC	COS/FUV COS/NUV	2	28-Jan-2025 18:00:13.0	yes
Z1	(1) V-AU-MIC	COS/FUV COS/NUV	2	28-Jan-2025 18:00:14.0	yes
ZZ	(1) V-AU-MIC	COS/FUV COS/NUV	2	28-Jan-2025 18:00:15.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
02	(1) V-AU-MIC	COS/FUV COS/NUV	3	28-Jan-2025 18:00:16.0	yes
Z2	(1) V-AU-MIC	COS/FUV COS/NUV	3	28-Jan-2025 18:00:18.0	yes
03	(1) V-AU-MIC	COS/NUV	3	28-Jan-2025 18:00:18.0	yes
04	(1) V-AU-MIC	WFC3/UVIS	1	28-Jan-2025 18:00:19.0	yes
05	(2) V-AD-LEO	COS/FUV COS/NUV	2	28-Jan-2025 18:00:20.0	yes
06	(2) V-AD-LEO	STIS/CCD STIS/FUV-MAMA	3	28-Jan-2025 18:00:21.0	yes
07	(2) V-AD-LEO	COS/NUV	3	28-Jan-2025 18:00:22.0	yes
Z7	(2) V-AD-LEO	COS/NUV	3	28-Jan-2025 18:00:23.0	yes
08	(2) V-AD-LEO	WFC3/UVIS	1	28-Jan-2025 18:00:23.0	yes
09	(3) V-YZ-CMI	COS/FUV COS/NUV	2	28-Jan-2025 18:00:24.0	yes
Z9	(3) V-YZ-CMI	COS/FUV COS/NUV	2	28-Jan-2025 18:00:25.0	yes
10	(3) V-YZ-CMI	STIS/CCD STIS/FUV-MAMA	3	28-Jan-2025 18:00:25.0	yes
11	(3) V-YZ-CMI	COS/NUV	3	28-Jan-2025 18:00:26.0	yes
12	(3) V-YZ-CMI	WFC3/UVIS	1	28-Jan-2025 18:00:27.0	yes

39 Total Orbits Used

ABSTRACT

Photochemical hazes are common in exoplanetary systems, serving as important reservoirs for atmospheric molecules while influencing our ability to measure the local physical conditions in a planet's atmosphere. Characterization and modeling of aerosol and hazes have taken on added importance as JWST examines exoplanet atmospheres in exquisite detail. Understanding the formation and composition of atmospheric hazes on all types of

exoplanets requires knowledge of both the atmospheric spectra and the driving stellar ultraviolet radiation. A key area of uncertainty in modeling haze formation on planets around M dwarfs is the spectral shape and absolute flux level of the stellar far-ultraviolet (FUV) continuum. The quiescent FUV continuum flux is below the instrumental background level for essentially all of HST's previous M dwarf characterization programs, and resultant uncertainty in input conditions changes the predicted haze abundances by an order-of-magnitude on temperate exoplanets.

We propose a novel set of FUV spectroscopic observations with HST-COS to directly measure the quiescent FUV continuum flux in a small sample of benchmark M dwarfs for the first time. We will use a combination of COS G130M, G160M, and G185M settings to measure high-fidelity FUV continuum spectra in both quiescent and flare states, while avoiding the chromospheric emission lines that set the bright object avoidance levels for COS. We will release fully reduced FUV continuum spectra to support atmospheric models of haze formation, photochemistry, and simulated transmission spectra for a range of exoplanets observed with both HST and JWST.

OBSERVING DESCRIPTION

The target list includes three well-studied M dwarfs (Table 1); these are the brightest nearby M dwarfs and are the only stars for which sufficient archival data exists to ensure the feasibility of the observing program. By choosing historically well-studied M dwarfs, the proposed data set holds important legacy value as benchmark objects for the physics of low-mass stars and how those stars influence orbiting planets. These three targets have been safely observed by HST-COS or -STIS previously and satisfy bright-object protection restrictions when accounting for 'M dwarf flare safety margins' outlined by Osten et al (2017) in COS ISR 2017-01(v3).

We will employ three COS spectroscopic observing modes for each star, and augment those with FUV/NUV photometry from WFC3/UVIS. The COS spectroscopic modes are chosen to access hundreds of Angstroms of FUV continuum spectra while avoiding the brightest emission lines that are of concern for bright object protection (e.g., Ly-alpha, Si IV, C IV; these bright emission lines are well studied by previous authors, see, e.g., Pagano et al. 2000; Hawley et al. 2003; Melbourne et al. 2020 and references therein).

COS G130M CENWAVE 1222 is used to acquire spectra in the 1065-1207 Ang and 1224 -1365 range. This configuration has resulted in the only high-S/N measurement of the quiescent FUV continuum on M dwarfs to date (GO16164; Feinstein et al. 2022) and provides the empirical flux scaling used to estimate exposure times for this program (Figure 2).

COS G160M CENWAVE 1577, Segment A only, is used to acquire spectra in the 1565 - 1755 Ang range. We turn the FUV MCP Segment B high-voltage to LOW for these observations to mitigate bright object concerns from the C IV emission line.

COS G185M CENWAVE 1900 is used to acquire spectra in the 1782 - 1818 Ang, 1882 -1918 Ang, and 1982 - 2018 Ang regions in the three spectroscopic stripes on the COS
NUV MAMA detector.

All COS observations will be acquired in photon-counting time-tag mode (TTAG) to facilitate lightcurve creation on arbitrary timescales depending on the frequency and amplitude of any observed flares. This temporal separation will allow us to measure the spectrum of the FUV continuum from these objects in both flare and quiescent states. The COS M-mode gratings were selected because the high-S/N of these bright M dwarfs will allow us to confidently identify the emission line and continuum regions in the spectra (see, e.g., Feinstein et al. 2022). The COS M modes provide the optimal combination of sensitivity (to detect the faint FUV continuum) and spectral resolution to separate the line and continuum regions.

To connect the new COS spectroscopy of the FUV continuum with the better characterized, lambda > 2200 Ang NUV continuum and emission line spectra of M dwarfs (see, e.g., Loyd et al. 2016; Tilipman et al. 2021, Figure 2), we will acquire photometric observations with the WFC3 UVIS F218W (lambda1950 - 2450 Ang), FQ232N (lambda 2300 - 2350 Ang), and FQ243N (lambda 2400 - 2450 Ang) filters. S/N = 40 photometric

precision in all three filters can be achieved in approximately one orbit per star.

FUV Continuum Extraction: We will extract the FUV continuum from our observed spectra following the general procedures outlined by France et al. (2014). Because every high-S/N UV M dwarf spectrum reveals a wealth of strong and weak emission lines, we will create a spectral mask of the FUV continuum by hand, isolating 0.5- 0.7 Ang (approximately 7 spectral resolution elements) spectral regions that are free of observed emission line features. We will cross-reference these regions against M dwarf UV line lists (e.g., Pagano et al. 2000). We refer to these as "binned FUV continuum spectra". Each individual binned FUV continuum point is taken as the median of the flux in the 0.5 - 0.7Ang spectral window, and the error on each individual binned FUV continuum point is taken to be the standard deviation about the mean flux in the bin. This process yields 30 - 50 binned data points per 100 Ang of spectral coverage (Froning et al. 2019), demonstrating that there will be ample empirical samples of the FUV continuum emission across the FUV band. Finally, we will take two approaches to determining the overall FUV continuum spectrum for our targets: 1) we will scale M dwarf atmosphere models (such as Peacock et al. 2019, Figure 2 and Tilipman et al. 2021) to the measured, binned FUV continuum spectra to explore whether or not these models accurately reproduce the shape of the observed continuum, and 2) we will fit a simple polynomial function to the binned FUV continuum spectra (France et al. 2014) to provide an empirical flux level across the FUV band without introducing the biases of any particular spectral synthesis model.

Visit

Proposal 17428, Visit 01, failed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 01) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(Visit 01) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 01) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AU Mic_G130M PEAKXD (01.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

Fixed Targets

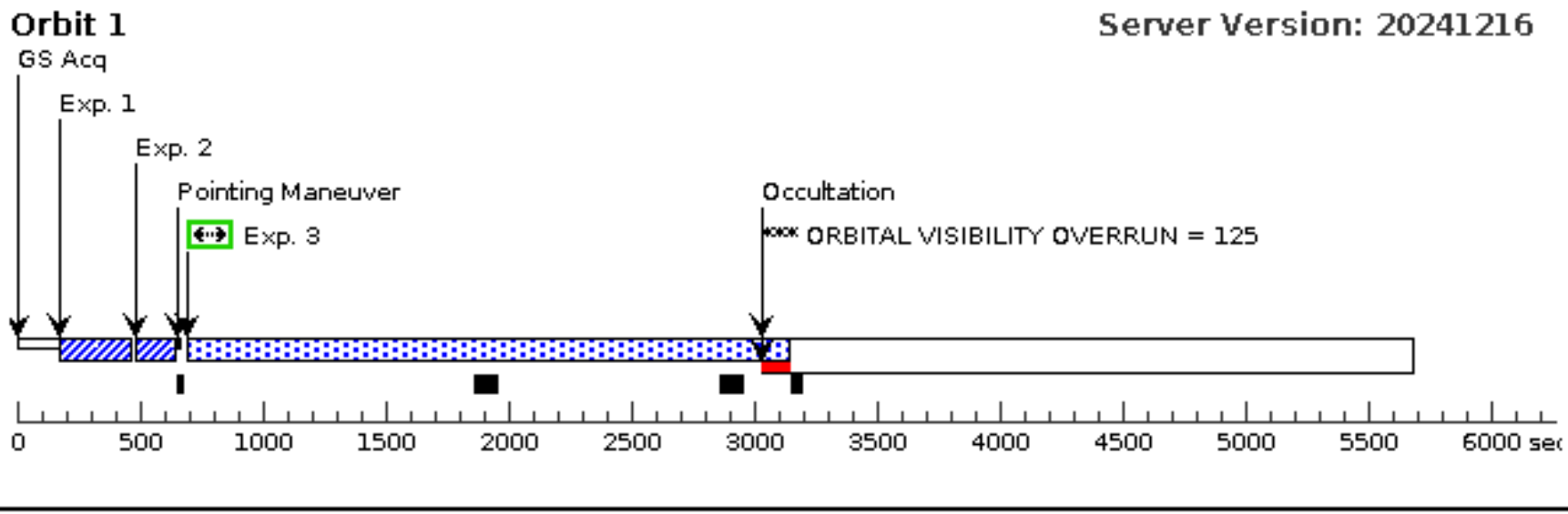
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

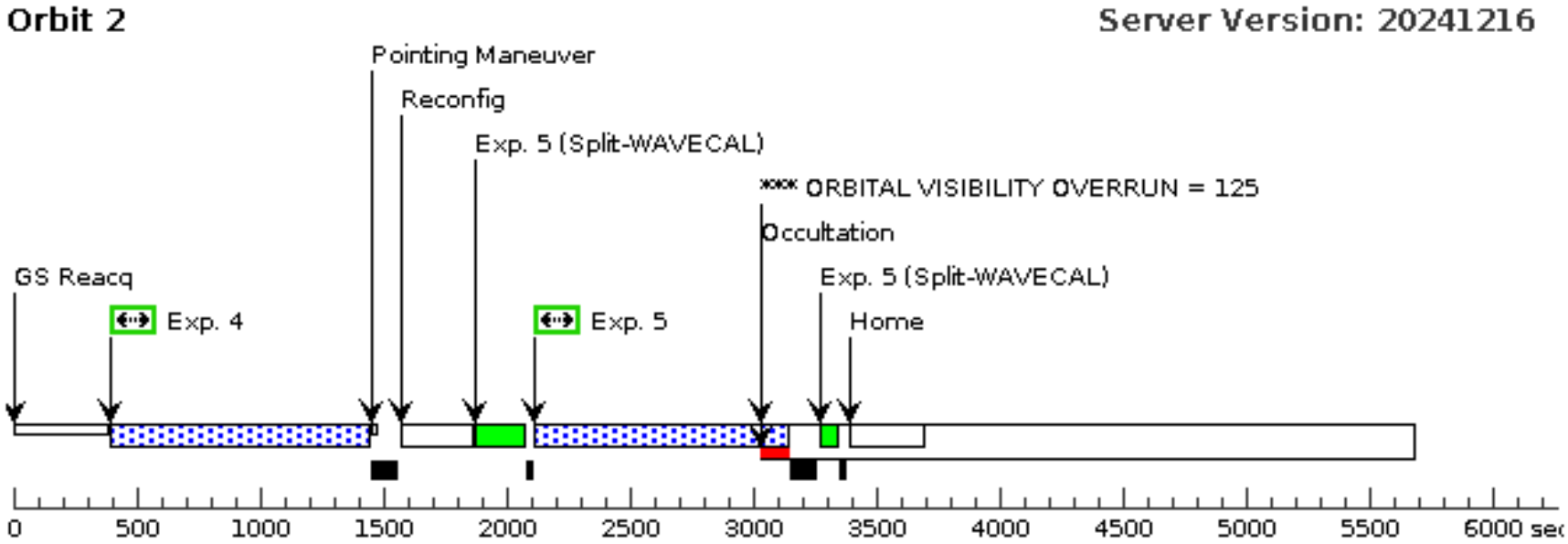
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G130M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM	GS ACQ SCENARIO BASE1BE		3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	AU Mic_G130M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	AUMic_G130M_1 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4			2267 Secs (2267 Secs) *[==>]*	***[1]***
4	AUMic_G130M_2 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000			1000 Secs (1000 Secs) *[==>]*	***[2]***
5	AUMic_G160M_1 (COS.sp.1686218)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=A			976 Secs (976 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 17428, Visit Z1, failed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR for failed visit 01

Diagnostics

(Visit Z1) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(Visit Z1) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit Z1) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

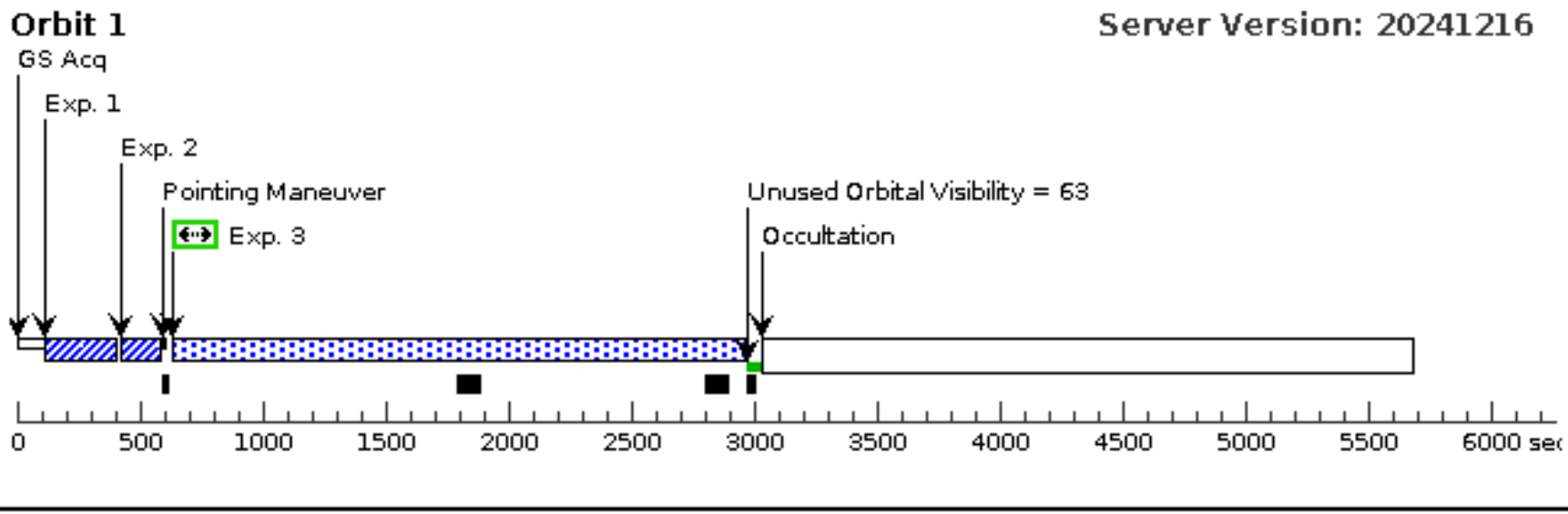
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

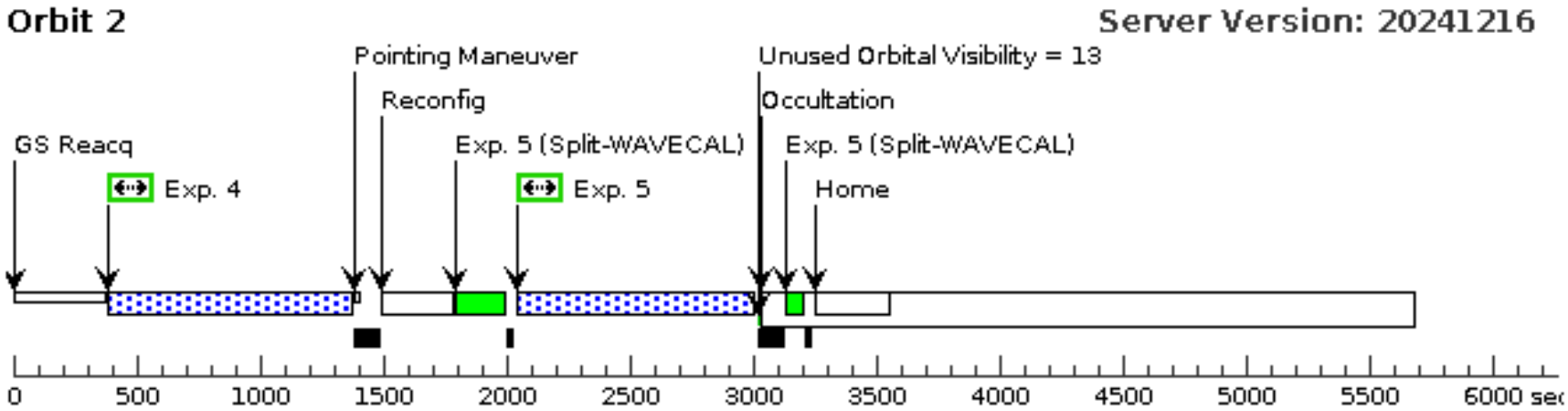
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G130M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	*[1]*
2	AU Mic_G130M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	*[1]*
3	AUMic_G130M_1 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4			2267 Secs (2142 Secs) *[==>2142.0 Secs]*	*[1]*
4	AUMic_G130M_2 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000			1000 Secs (937 Secs) *[==>937.0 Secs]*	*[2]*
5	AUMic_G160M_1 (COS.sp.1686218)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=A			976 Secs (913 Secs) *[==>913.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17428, HOPRHOPR (ZZ), scheduling Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR for failed visit Z1 which was a HOPR for failed 01

Diagnostics

(HOPRHOPR (ZZ)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(HOPRHOPR (ZZ)) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(HOPRHOPR (ZZ)) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

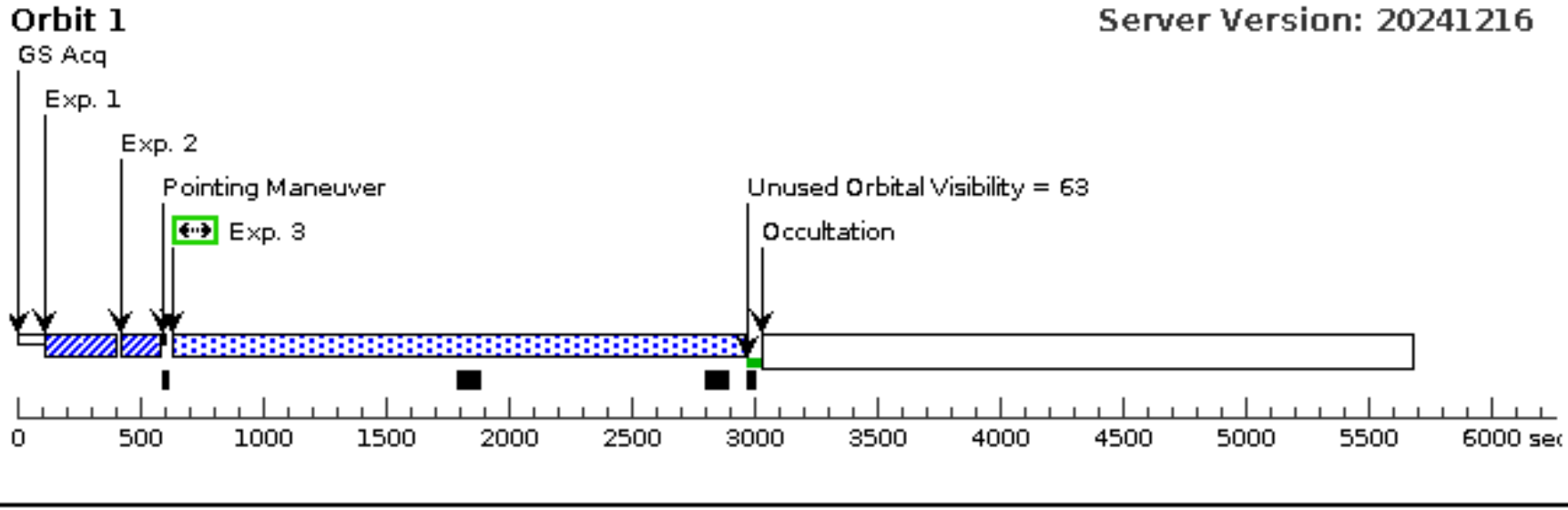
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

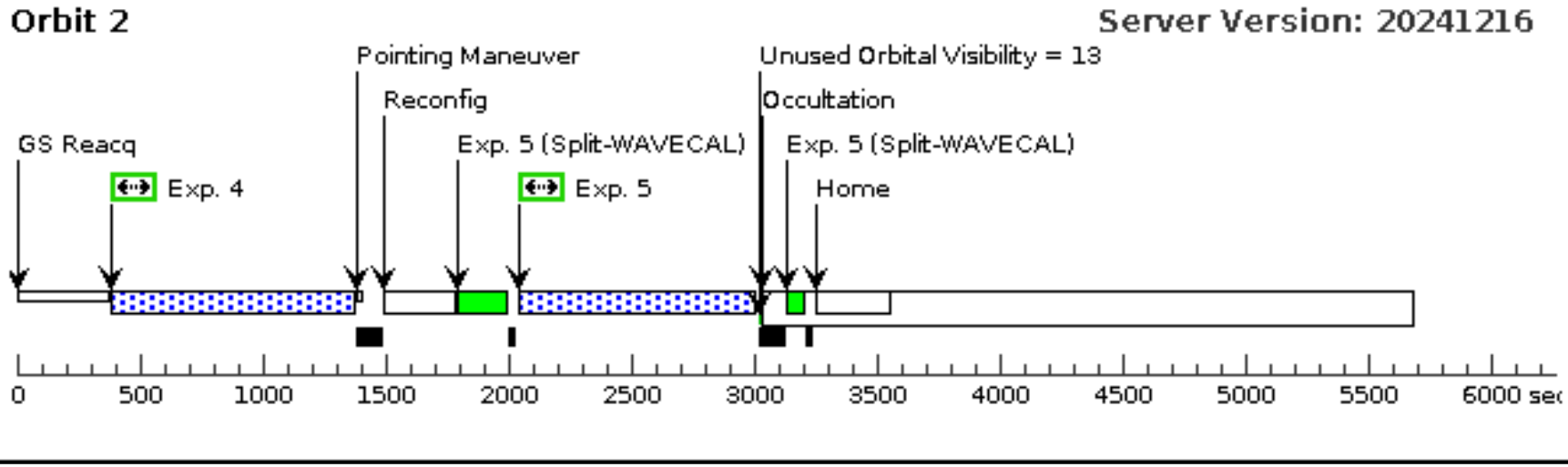
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G130M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	*[1]*
2	AU Mic_G130M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	*[1]*
3	AUMic_G130M_1 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4			2267 Secs (2142 Secs) *[==>2142.0 Secs]*	*[1]*
4	AUMic_G130M_2 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000			1000 Secs (937 Secs) *[==>937.0 Secs]*	*[2]*
5	AUMic_G160M_1 (COS.sp.1686218)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=A			976 Secs (913 Secs) *[==>913.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17428, Visit 02, failed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 02) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 02) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

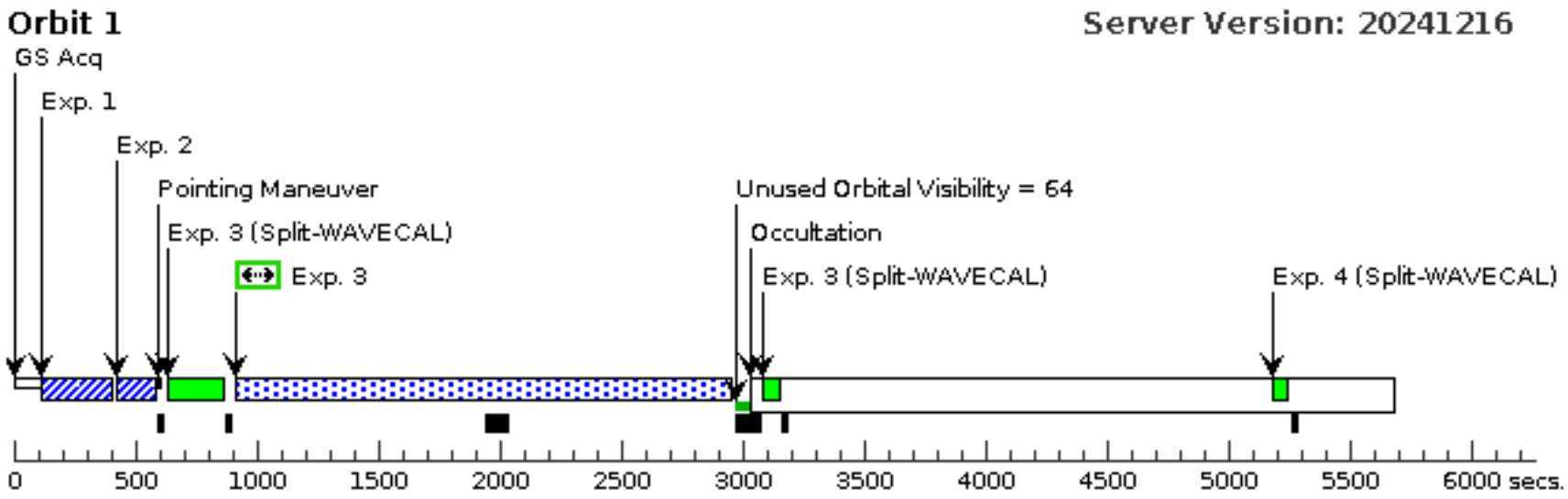
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

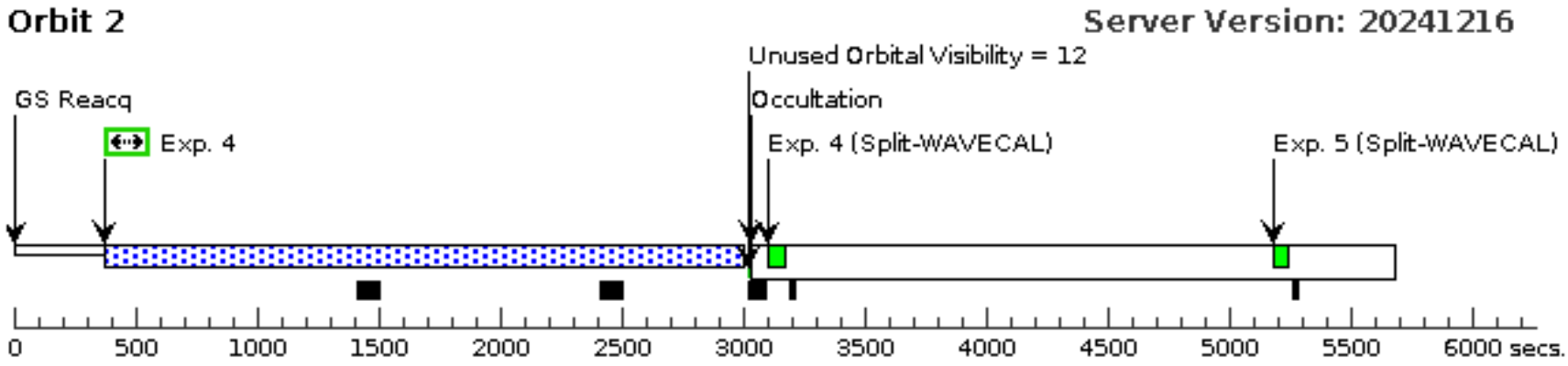
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

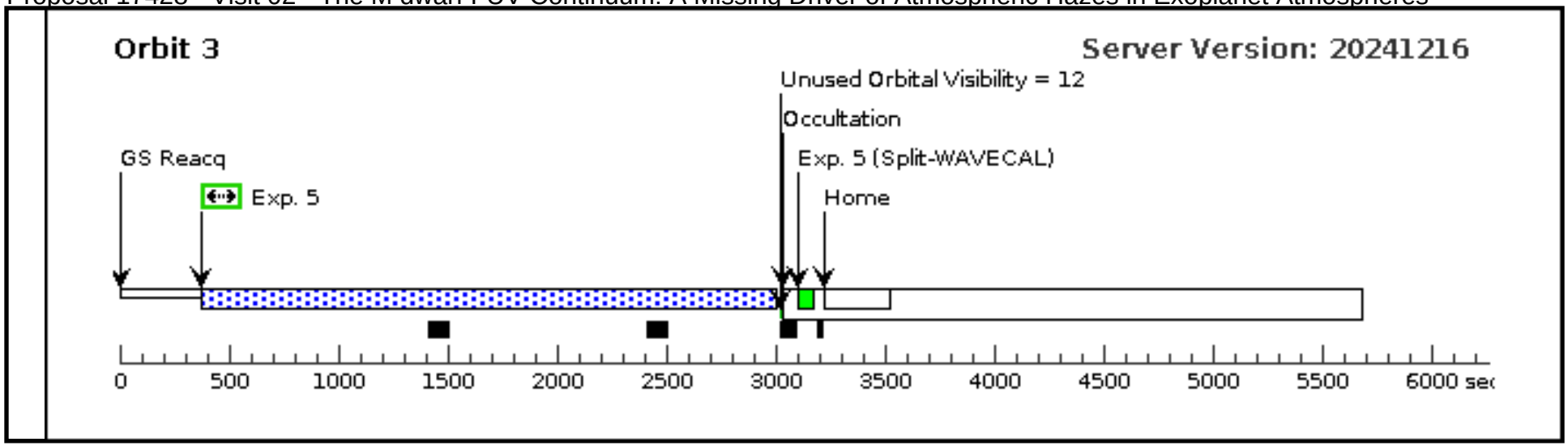
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G160M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	*[1]*
2	AU Mic_G160M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	*[1]*
3	AUMic_G160M_2 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=A			2119 Secs (1994 Secs) *[==>1994.0 Secs]*	*[1]*
4	AUMic_G160M_3 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=A			2707 Secs (2582 Secs) *[==>2582.0 Secs]*	*[2]*
5	AUMic_G160M_3 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=A			2707 Secs (2582 Secs) *[==>2582.0 Secs]*	*[3]*

Orbit Structure



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Server Version: 20241216
Unused Orbital Visibility = 12
Occultation
GS Reacq
Exp. 5
Exp. 5 (Split-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, HOPR (Z2), scheduling Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: HOPR for failed 02

Diagnostics

(HOPR (Z2)) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(HOPR (Z2)) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

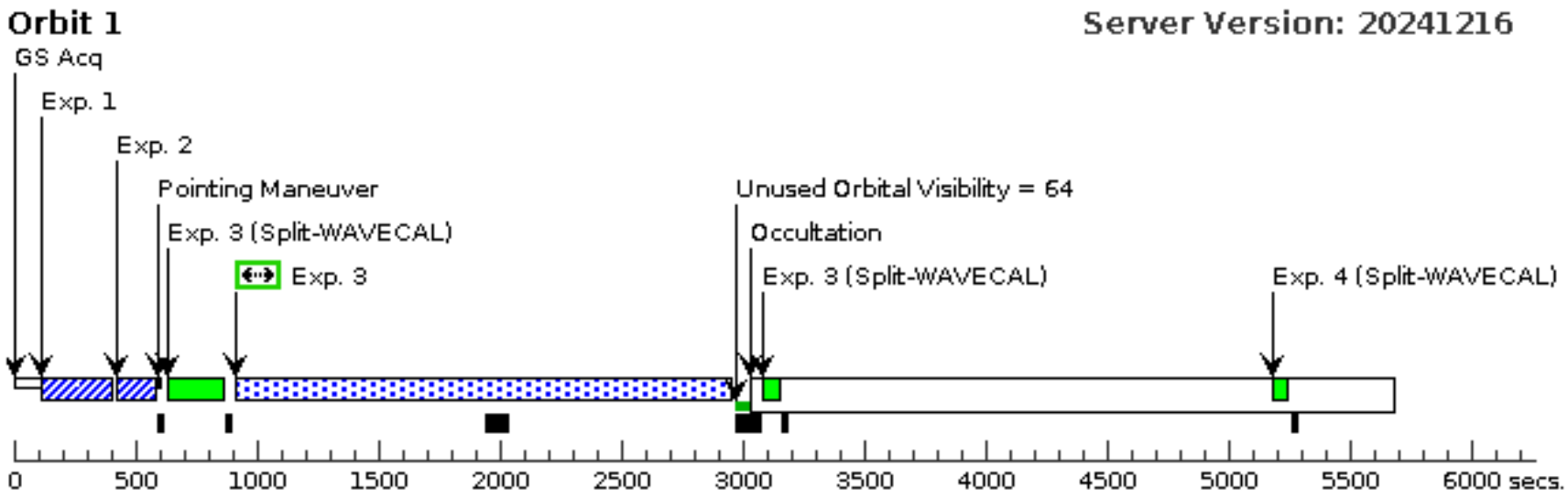
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

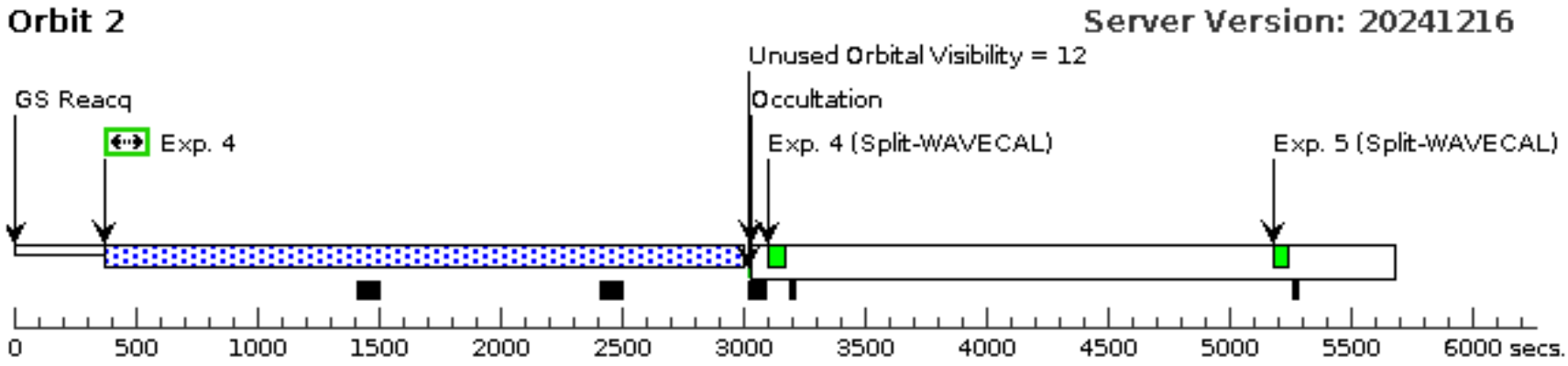
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

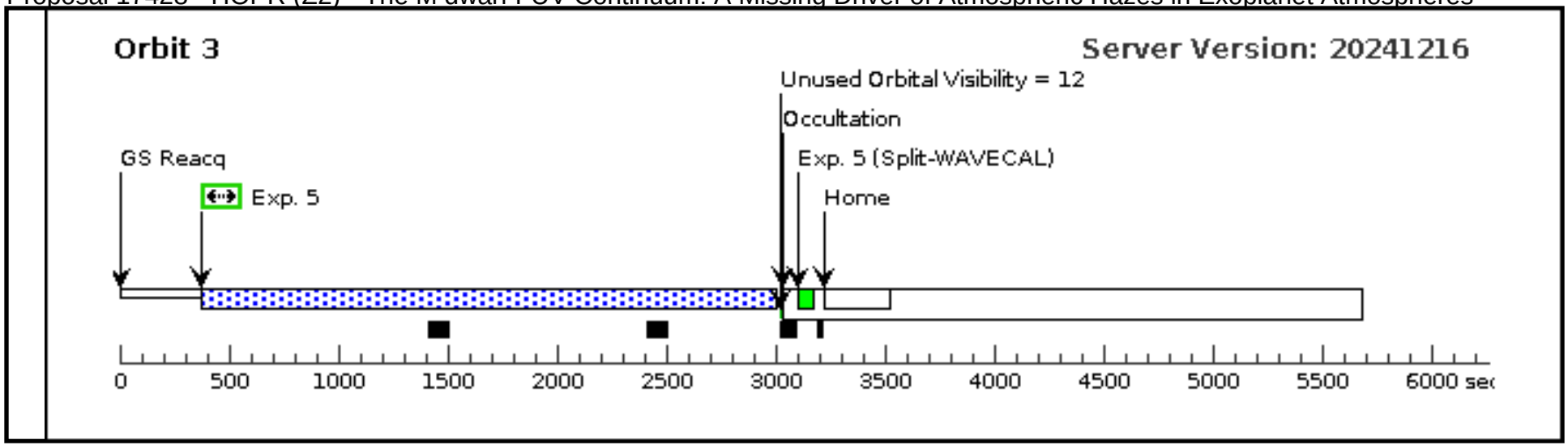
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G160M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	*[1]*
2	AU Mic_G160M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	*[1]*
3	AUMic_G160M_2 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=A			2119 Secs (1994 Secs) *[==>1994.0 Secs]*	*[1]*
4	AUMic_G160M_3 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=A			2707 Secs (2582 Secs) *[==>2582.0 Secs]*	*[2]*
5	AUMic_G160M_3 (COS.sp.1685957)	(1) V-AU-MIC	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=A			2707 Secs (2582 Secs) *[==>2582.0 Secs]*	*[3]*

Orbit Structure






Orbit 3
Server Version: 20241216
Unused Orbital Visibility = 12
Occultation
GS Reacq
Exp. 5 (Split-WAVECAL)
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 03, completed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 03) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 03) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 03) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AU Mic_G185M PEAKXD (03.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

Fixed Targets

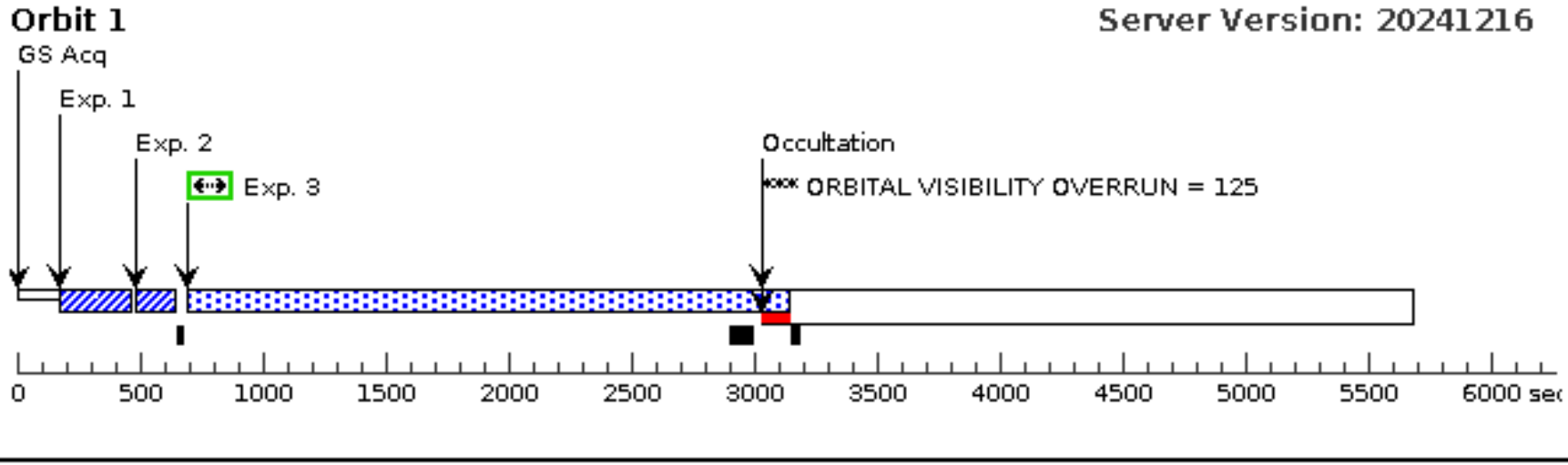
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

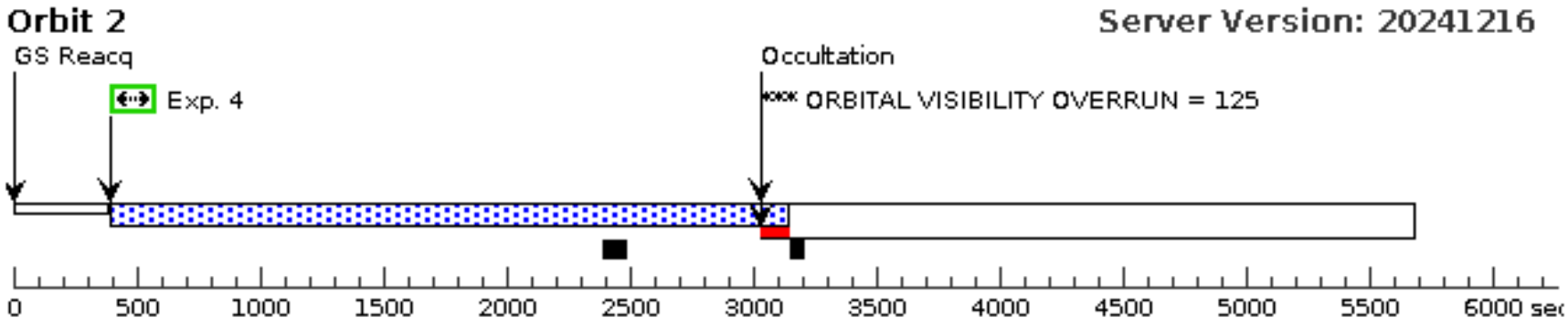
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

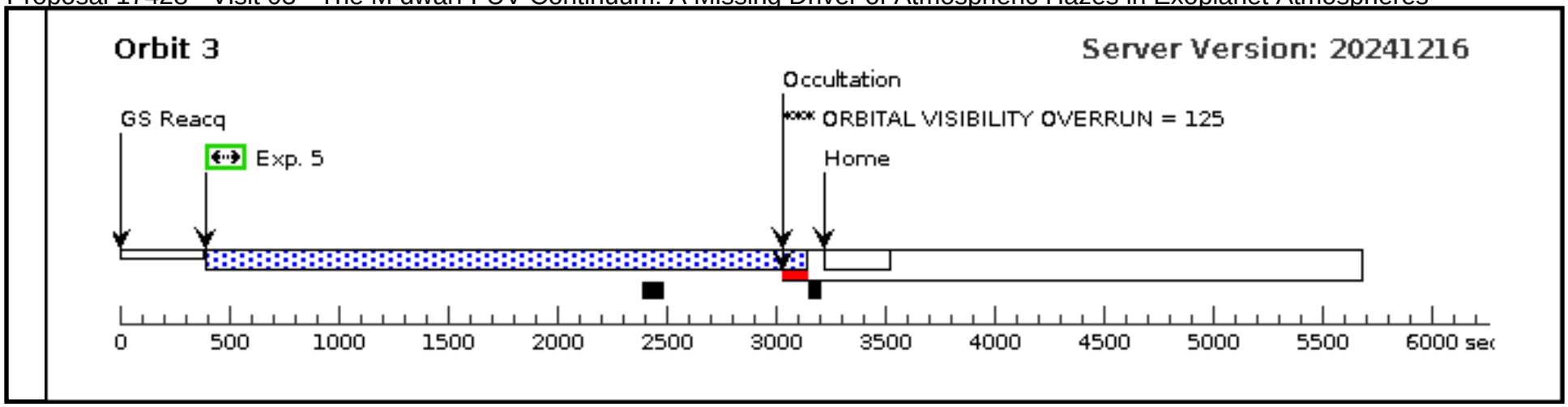
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_G185M PEAKXD (1452138)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM	GS ACQ SCENARIO BASE1BE		3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	AU Mic_G185M PEAKD (1452139)	(1) V-AU-MIC	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	AUMic_G185_1 (COS.sp.1686224)	(1) V-AU-MIC	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2226 Secs (2226 Secs) *[==>]*	***[1]***
4	AUMic_G185_1 (COS.sp.1686224)	(1) V-AU-MIC	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2740 Secs (2740 Secs) *[==>]*	***[2]***
5	AUMic_G185_1 (COS.sp.1686224)	(1) V-AU-MIC	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2740 Secs (2740 Secs) *[==>]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
Occultation
GS Reacq
*** ORBITAL VISIBILITY OVERRUN = 125
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 04, completed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(AU Mic_FQ232N_1 (04.006)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

(AU Mic_FQ243N_1 (04.007)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=SPIRAL	Coordinate Frame=POS-TARG		(6), (7)
	Purpose=DITHER	Pattern Orientation=46.86		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=0.145	Center Pattern=false		
	Line Spacing=			

Fixed Targets

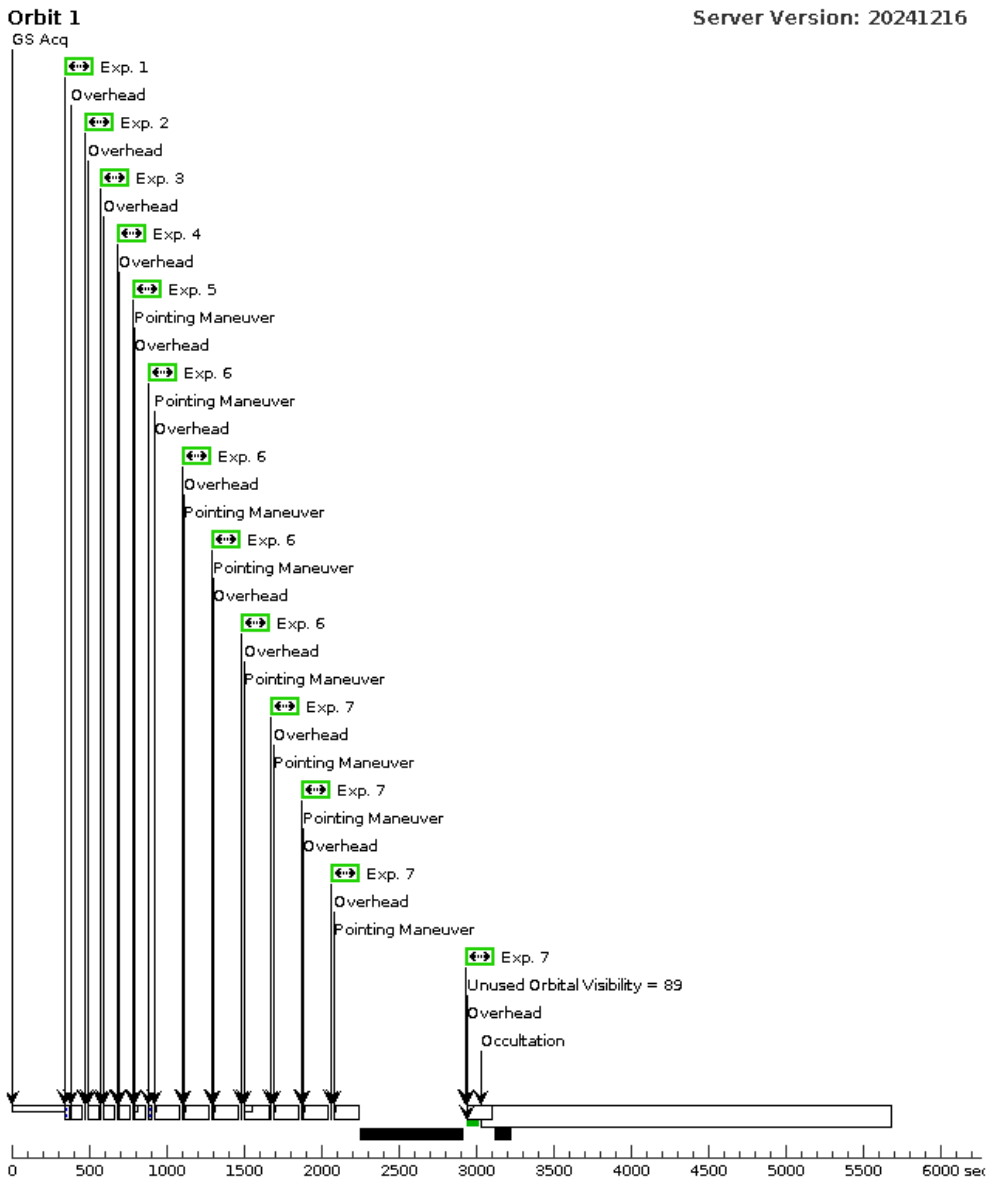
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	V-AU-MIC	RA: 20 45 9.8729 (311.2911371d) Dec: -31 20 32.82 (-31.34245d) Equinox: J2000	Proper Motion RA: 0.02196719120353366 sec of time/yr Proper Motion Dec: -0.35989499999686814 arcsec/yr Epoch of Position: 2015.5	V=8.627	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AU Mic_F218W_1 (WFC3UVIS.im.1717363)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (0.5 Secs) *[==>0.5 Secs]*	***[1]***
2	AU Mic_F218W_2 (WFC3UVIS.im.1717363)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (0.5 Secs) *[==>0.5 Secs]*	***[1]***
3	AU Mic_F218W_3 (WFC3UVIS.im.1717363)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (0.5 Secs) *[==>0.5 Secs]*	***[1]***
4	AU Mic_F218W_4 (WFC3UVIS.im.1717363)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (0.5 Secs) *[==>0.5 Secs]*	***[1]***
5	AU Mic_F218W_5 (WFC3UVIS.im.1717363)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (0.5 Secs) *[==>0.5 Secs]*	***[1]***
6	AU Mic_FQ232N_1 (WFC3UVIS.im.1717366)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ232N	FLASH=20		Pattern 2, Exps 6-6 in Visit 04 (2)	28 Secs (2 Secs) *[==>0.5 Secs (Pattern 1)]* *[==>0.5 Secs (Pattern 2)]* *[==>0.5 Secs (Pattern 3)]* *[==>0.5 Secs (Pattern 4)]*	***[1]***
7	AU Mic_FQ243N_1 (WFC3UVIS.im.1717526)	(1) V-AU-MIC	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ243N	FLASH=20		Pattern 2, Exps 7-7 in Visit 04 (2)	21 Secs (2 Secs) *[==>0.5 Secs (Pattern 1)]* *[==>0.5 Secs (Pattern 2)]* *[==>0.5 Secs (Pattern 3)]* *[==>0.5 Secs (Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 17428, Visit 05, completed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 05) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(Visit 05) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 05) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 05) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AD Leo_G130M PEAKXD (05.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

Fixed Targets

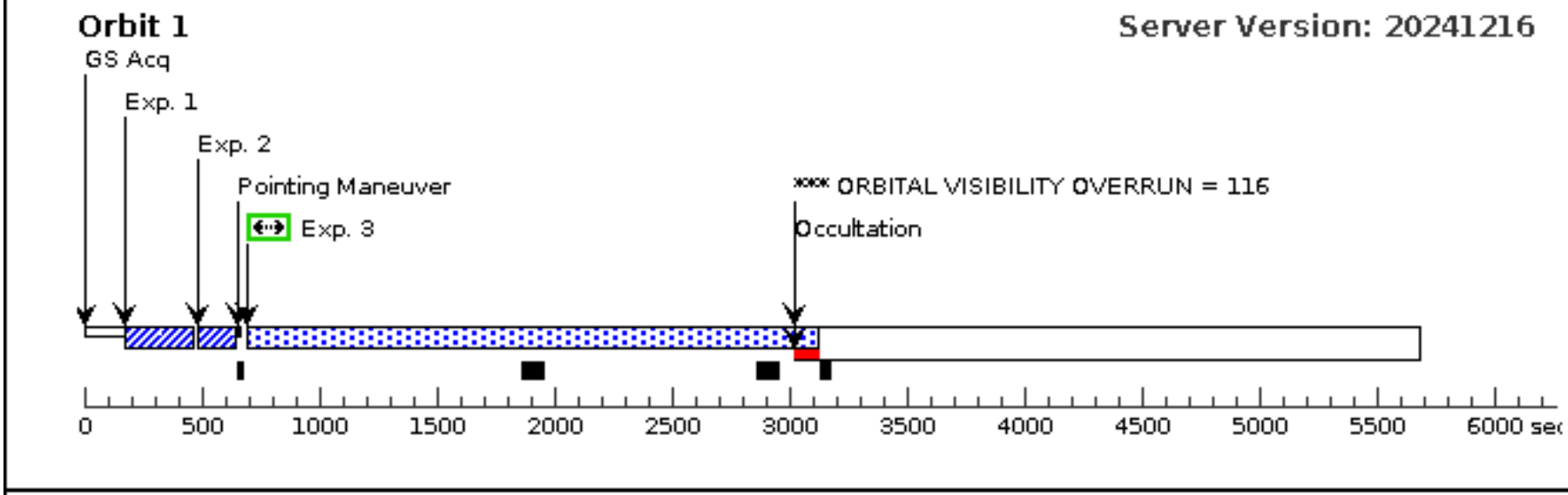
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	V-AD-LEO	RA: 10 19 35.7330 (154.8988875d) Dec: +19 52 11.34 (19.86982d) Equinox: J2000	Proper Motion RA: -0.035344485523978876 sec of time/yr Proper Motion Dec: -0.04368299989891966 arcsec/yr Epoch of Position: 2015.5	V=9.52	Reference Frame: ICRS

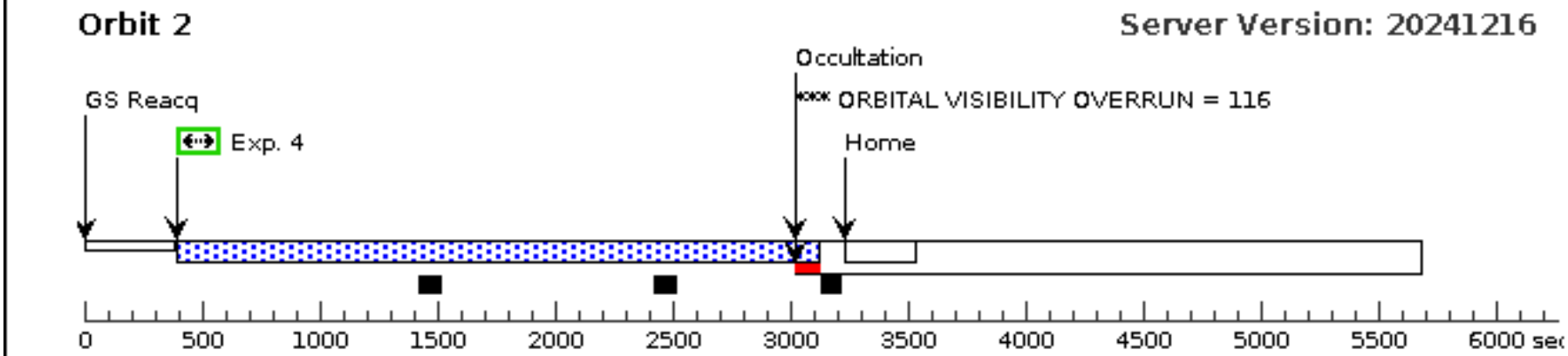
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AD Leo_G130M PEAKXD (1452138)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=MEDIUM	GS ACQ SCENARIO BASE1BE		3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	AD Leo_G130M PEAKD (1452139)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	AD Leo_G130M_1 (COS.sp.1685957)	(2) V-AD-LEO	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4; SEGMENT=B			2247 Secs (2247 Secs) *[==>]*	***[1]***
4	AD Leo_G130M_2 (COS.sp.1685957)	(2) V-AD-LEO	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000; SEGMENT=B			2683 Secs (2683 Secs) *[==>]*	***[2]***

Orbit Structure





Visit

Proposal 17428, Visit 06, completed Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: No Diagnostics

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Fixed Targets

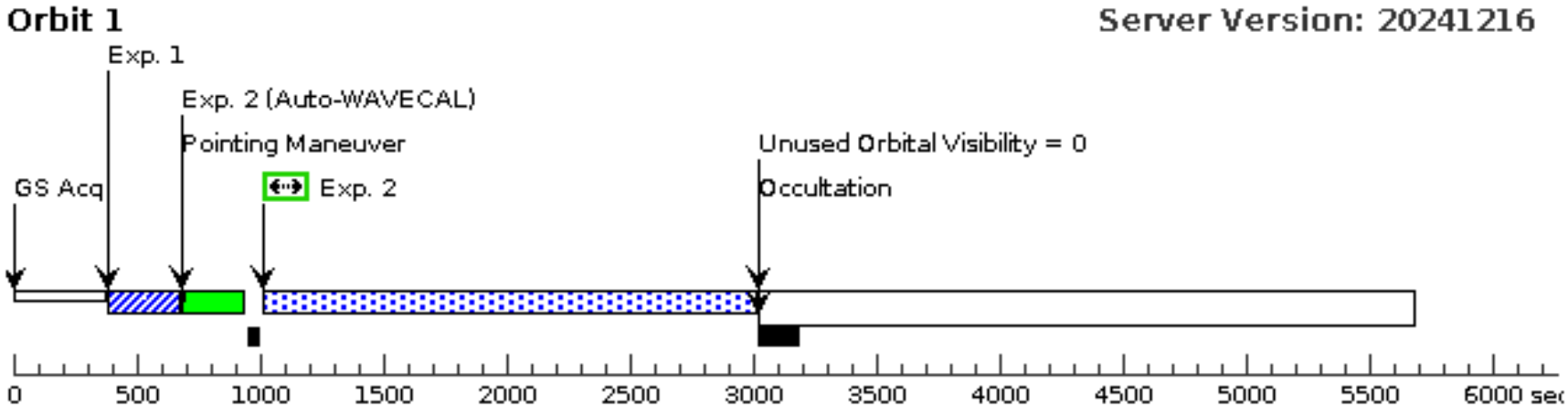
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	V-AD-LEO	RA: 10 19 35.7330 (154.8988875d) Dec: +19 52 11.34 (19.86982d) Equinox: J2000	Proper Motion RA: -0.035344485523978876 sec of time/yr Proper Motion Dec: -0.04368299989891966 arcsec/yr Epoch of Position: 2015.5	V=9.52	Reference Frame: ICRS

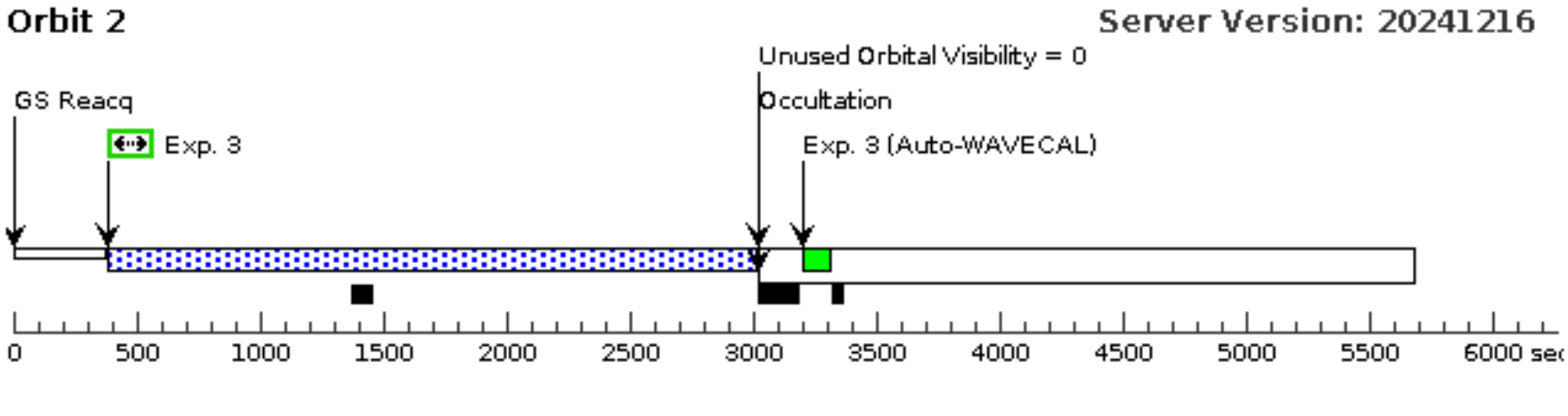
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

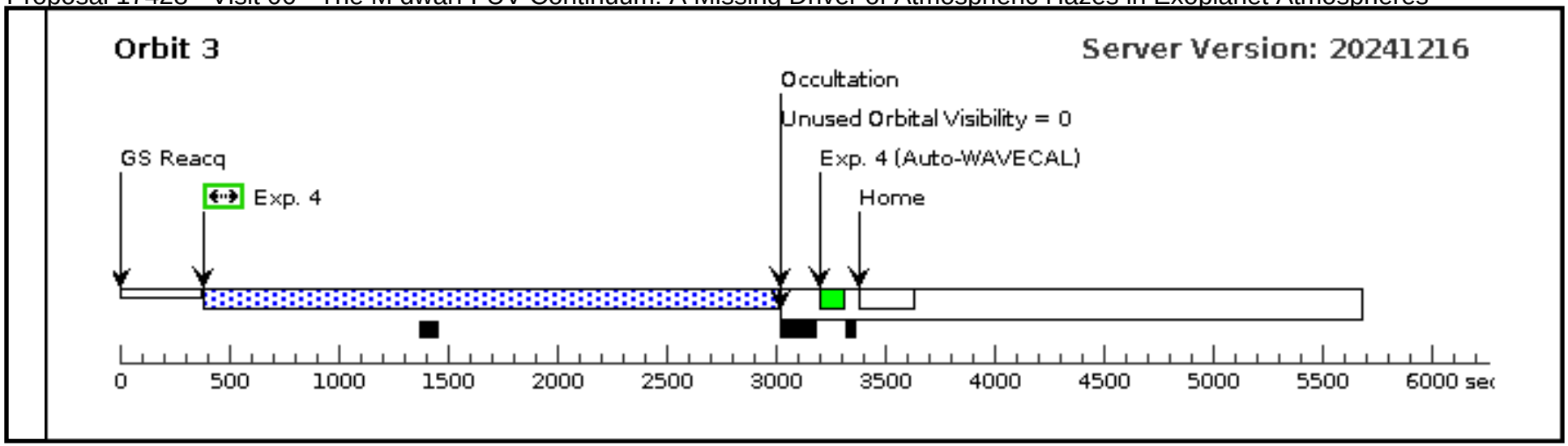
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AD Leo_STIS140M TA (STIS.ta.1898468)	(2) V-AD-LEO	STIS/CCD, ACQ, F25ND3	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	AD Leo_G140M1518_1 (STIS.sp.1898444)	(2) V-AD-LEO	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2036 Secs (1983 Secs) *[==>1983.0 Secs]*	***[1]***
3	AD Leo_G140M1518_2 (STIS.sp.1898444)	(2) V-AD-LEO	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2717 Secs (2613 Secs) *[==>2613.0 Secs]*	***[2]***
4	AD Leo_G140M1518_3 (STIS.sp.1898443)	(2) V-AD-LEO	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2717 Secs (2613 Secs) *[==>2613.0 Secs]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
Occultation
Unused Orbital Visibility = 0
GS Reacq
Exp. 4 (Auto-WAVECAL)
Exp. 4
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 07, failed

Tue Jan 28 23:00:28 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 07) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 07) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

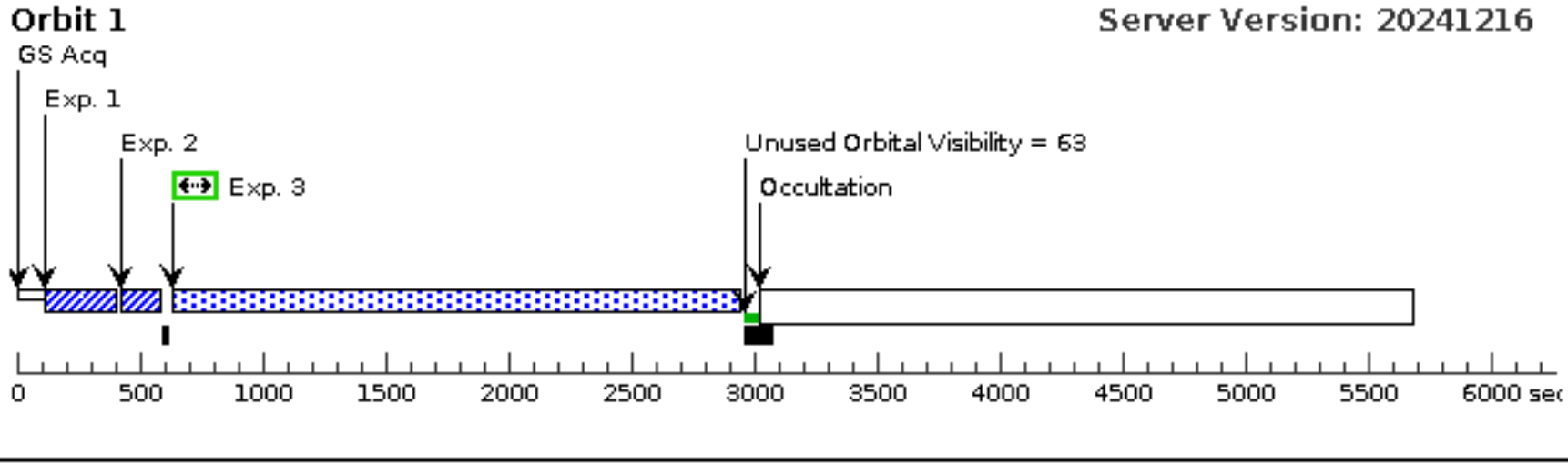
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	V-AD-LEO	RA: 10 19 35.7330 (154.8988875d) Dec: +19 52 11.34 (19.86982d) Equinox: J2000	Proper Motion RA: -0.035344485523978876 sec of time/yr Proper Motion Dec: -0.04368299989891966 arcsec/yr Epoch of Position: 2015.5	V=9.52	Reference Frame: ICRS

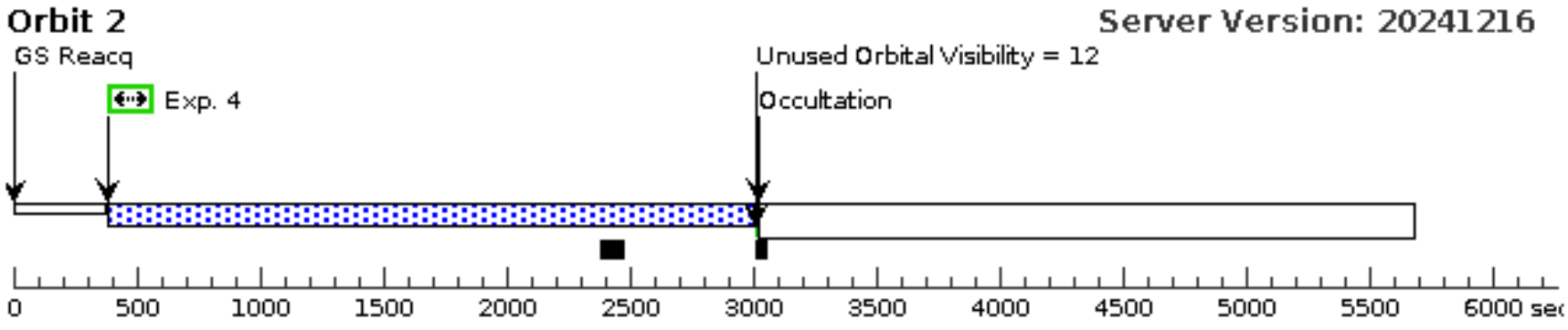
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

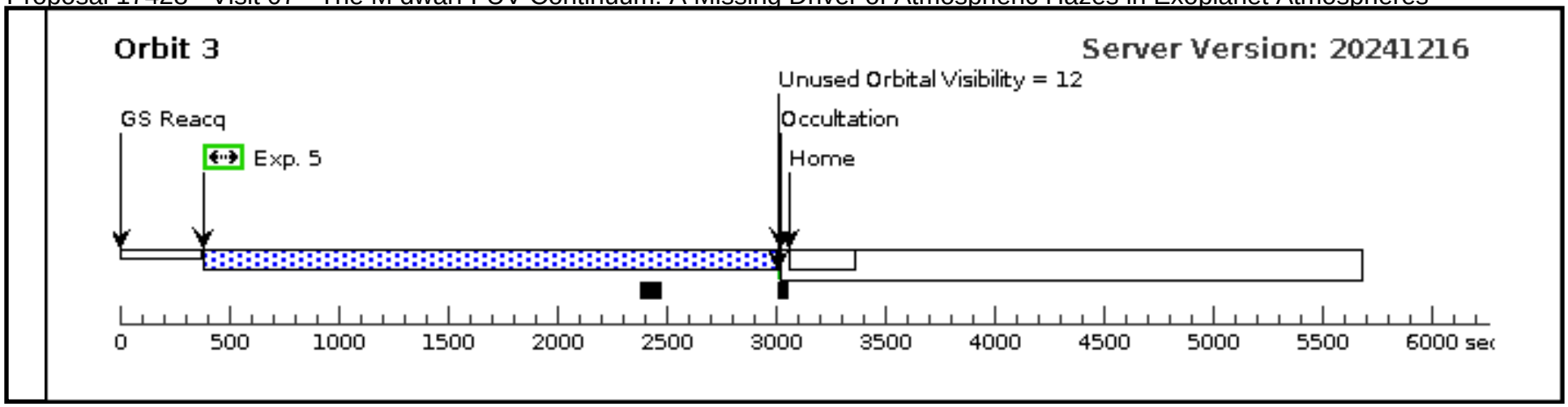
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AD Leo_G185M PEAKXD (1452138)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	AD Leo_G185M PEAKD (1452139)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2206 Secs (2090 Secs) *[==>2090.0 Secs]*	***[1]***
4	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2720 Secs (2604 Secs) *[==>2604.0 Secs]*	***[2]***
5	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2720 Secs (2604 Secs) *[==>2604.0 Secs]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
Unused Orbital Visibility = 12
GS Reacq
Exp. 5
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit Z7 Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: (none)

Comments: This is a HOPR repeat of failed visit 07.

Diagnostics

(Visit Z7) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit Z7) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

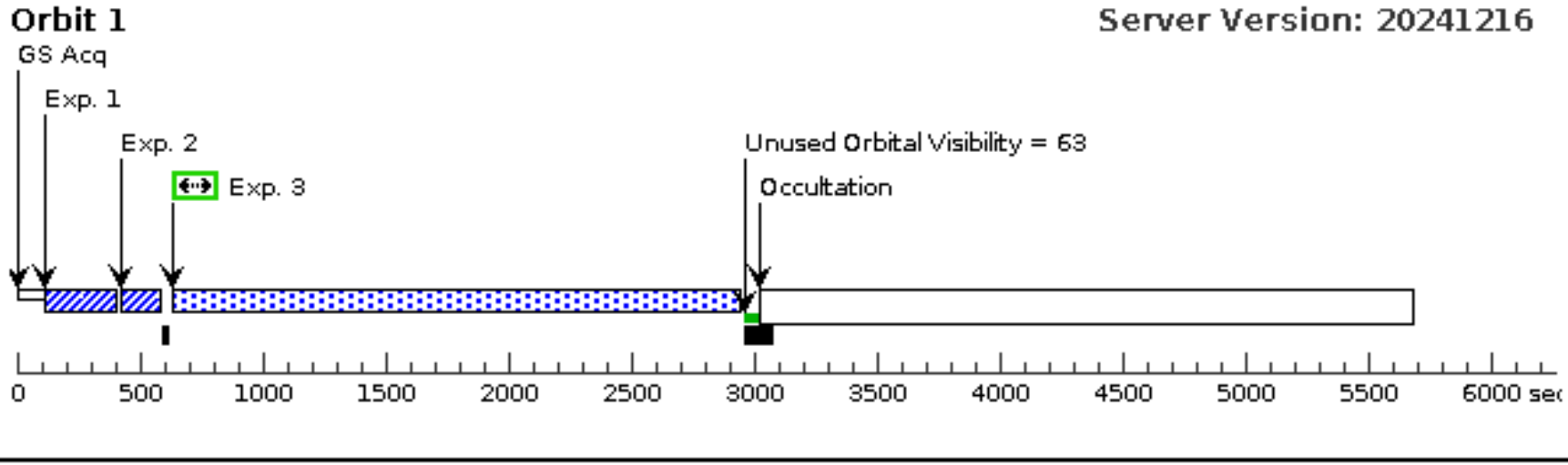
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	V-AD-LEO	RA: 10 19 35.7330 (154.8988875d) Dec: +19 52 11.34 (19.86982d) Equinox: J2000	Proper Motion RA: -0.035344485523978876 sec of time/yr Proper Motion Dec: -0.04368299989891966 arcsec/yr Epoch of Position: 2015.5	V=9.52	Reference Frame: ICRS

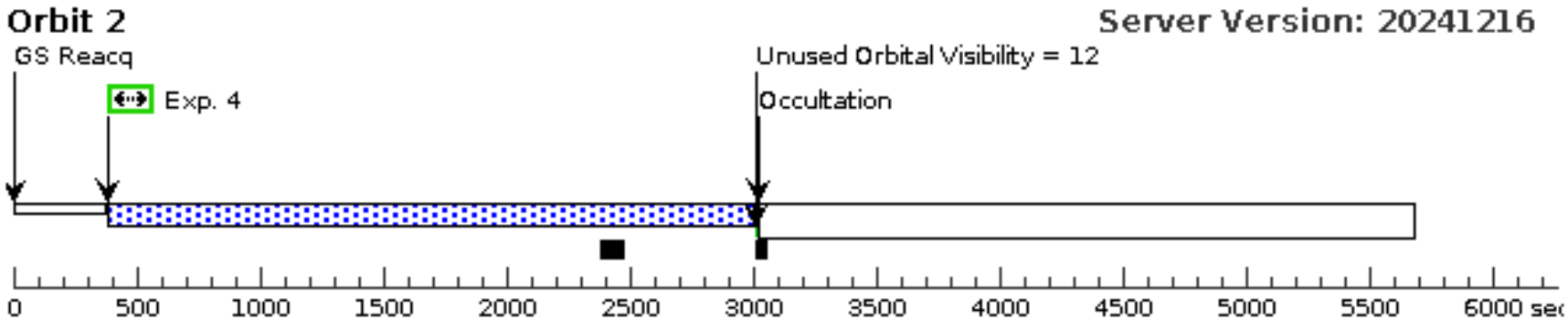
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

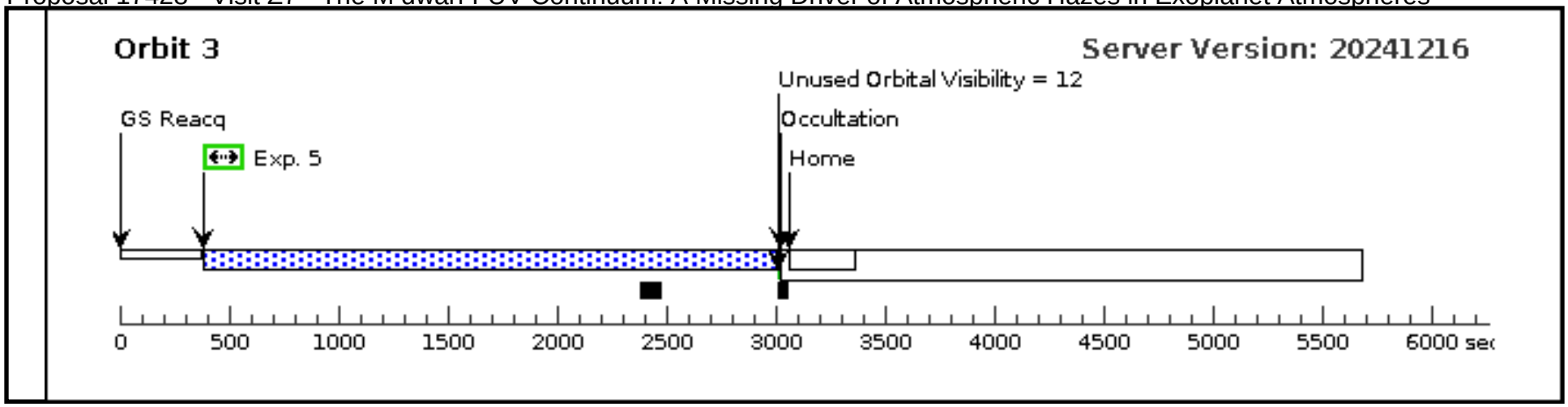
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AD Leo_G185M PEAKXD (1452138)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	AD Leo_G185M PEAKD (1452139)	(2) V-AD-LEO	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2206 Secs (2090 Secs) *[==>2090.0 Secs]*	***[1]***
4	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2720 Secs (2604 Secs) *[==>2604.0 Secs]*	***[2]***
5	AD Leo_G185_1 (COS.sp.1686224)	(2) V-AD-LEO	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=2000; FP-POS=3			2720 Secs (2604 Secs) *[==>2604.0 Secs]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
Unused Orbital Visibility = 12
GS Reacq
Exp. 5
Occultation
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 08, completed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(AD Leo_FQ232N_1 (08.006)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

(AD Leo_FQ243N_1 (08.007)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=SPIRAL	Coordinate Frame=POS-TARG		(6), (7)
	Purpose=DITHER	Pattern Orientation=46.86		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=0.145	Center Pattern=false		
	Line Spacing=			

Fixed Targets

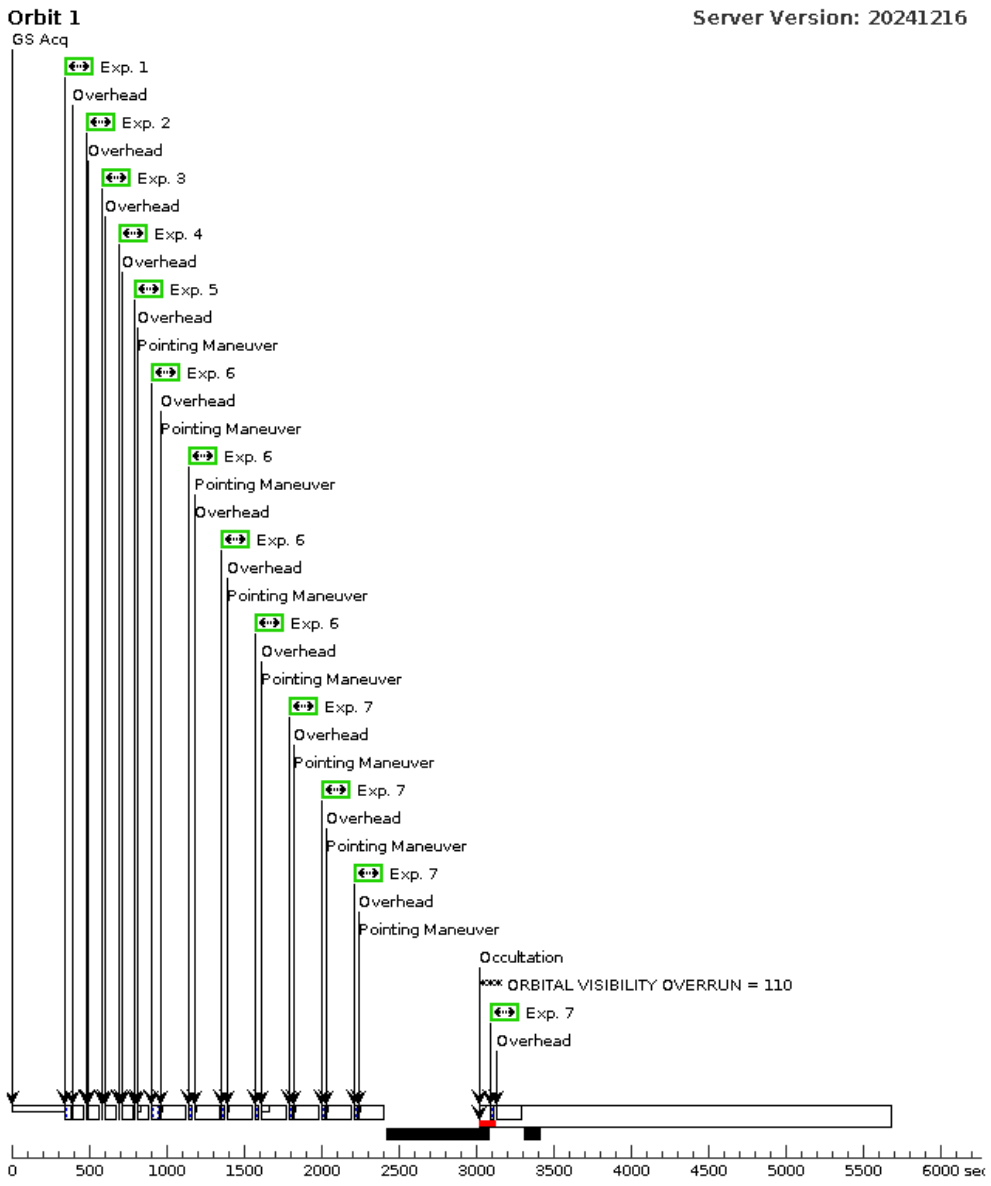
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	V-AD-LEO	RA: 10 19 35.7330 (154.8988875d) Dec: +19 52 11.34 (19.86982d) Equinox: J2000	Proper Motion RA: -0.035344485523978876 sec of time/yr Proper Motion Dec: -0.04368299989891966 arcsec/yr Epoch of Position: 2015.5	V=9.52	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	AD Leo_F218W_1 (WFC3UVIS.im.1717363)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			5 Secs (5 Secs) *[==>]*	***[1]***
2	AD Leo_F218W_2 (WFC3UVIS.im.1717363)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			5 Secs (5 Secs) *[==>]*	***[1]***
3	AD Leo_F218W_3 (WFC3UVIS.im.1717363)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			5 Secs (5 Secs) *[==>]*	***[1]***
4	AD Leo_F218W_4 (WFC3UVIS.im.1717363)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			5 Secs (5 Secs) *[==>]*	***[1]***
5	AD Leo_F218W_5 (WFC3UVIS.im.1717363)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			5 Secs (5 Secs) *[==>]*	***[1]***
6	AD Leo_FQ232N_1 (WFC3UVIS.im.1717366)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ232N	FLASH=20		Pattern 2, Exps 6-6 in Visit 08 (2)	24 Secs (96 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	AD Leo_FQ243N_1 (WFC3UVIS.im.1717526)	(2) V-AD-LEO	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ243N	FLASH=20		Pattern 2, Exps 7-7 in Visit 08 (2)	20 Secs (80 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure



Visit

Proposal 17428, Visit 09, failed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 09) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(Visit 09) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 09) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 09) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 09) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 09) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(YZ CMi_G130M PEAKXD (09.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

Fixed Targets

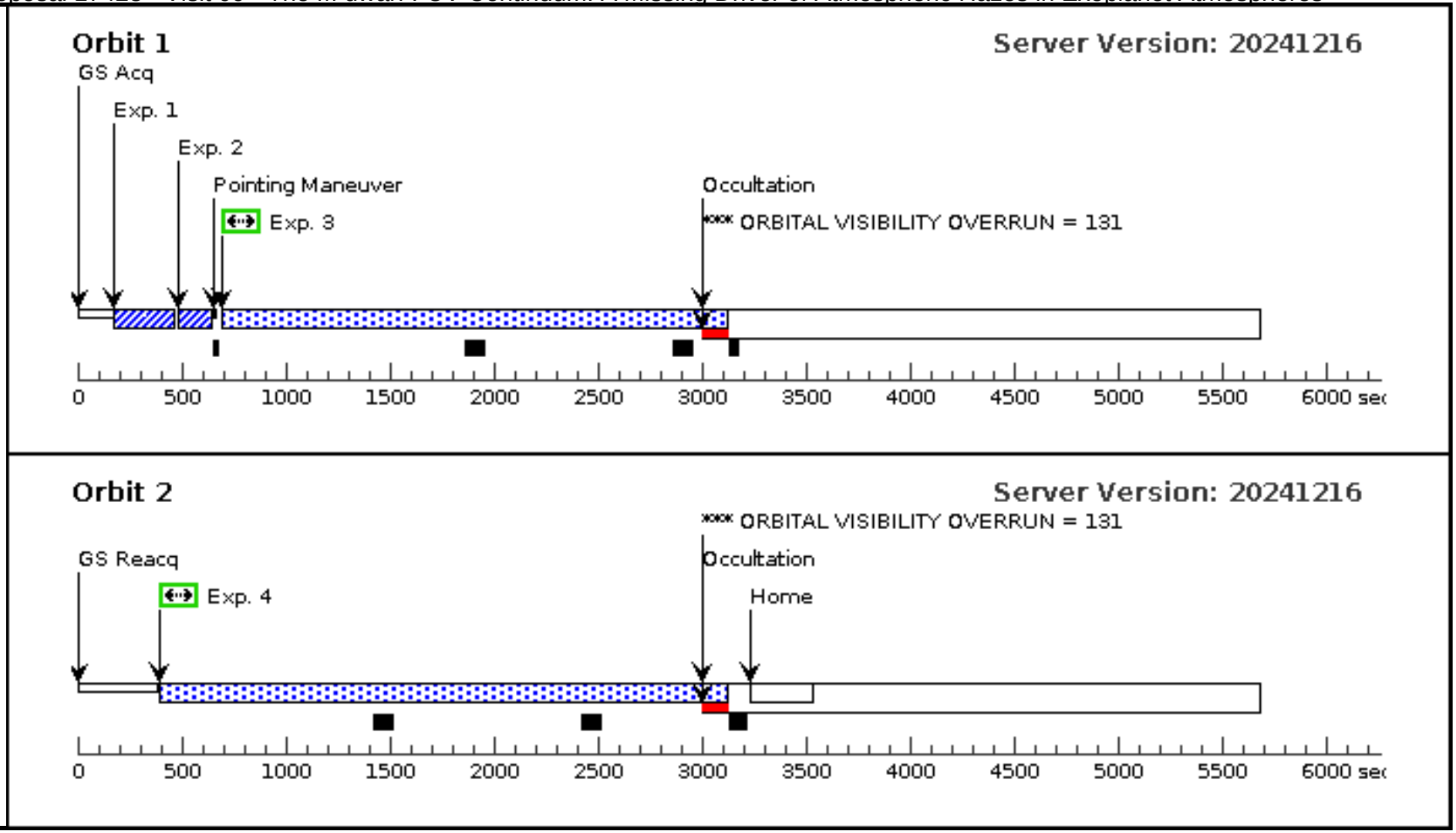
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	V-YZ-CMI	RA: 07 44 39.8123 (116.1658846d) Dec: +03 33 1.97 (3.55055d) Equinox: J2000	Proper Motion RA: -0.023230055530798252 sec of time/yr Proper Motion Dec: -0.44570199997906457 arcsec/yr Epoch of Position: 2015.5	V=11.225	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	YZ CMi_G130M PEAKXD (1452138)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM	GS ACQ SCENARIO BASE1BE		3.3 Secs (3.3 Secs) *[==>]*	***[1]***
2	YZ CMi_G130M PEAKD (1452139)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	***[1]***
3	YZ CMi_G130M_1 (COS.sp.1685957)	(3) V-YZ-CMI	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4			2244 Secs (2244 Secs) *[==>]*	***[1]***
4	YZ CMi_G130M_2 (COS.sp.1685957)	(3) V-YZ-CMI	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000			2680 Secs (2680 Secs) *[==>]*	***[2]***

Orbit Structure



Visit

Proposal 17428, Visit Z9, completed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Comments: This is a HOPR for failed visit 09

Diagnostics

(Visit Z9) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(Visit Z9) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit Z9) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

Fixed Targets

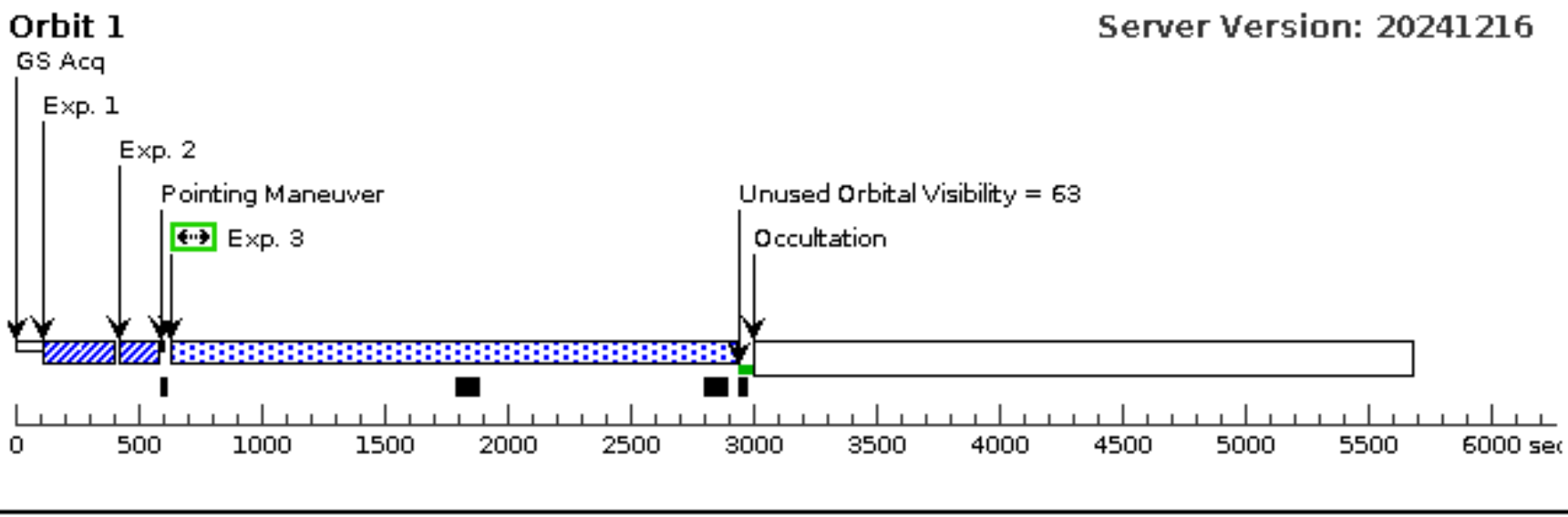
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	V-YZ-CMI	RA: 07 44 39.8123 (116.1658846d) Dec: +03 33 1.97 (3.55055d) Equinox: J2000	Proper Motion RA: -0.023230055530798252 sec of time/yr Proper Motion Dec: -0.44570199997906457 arcsec/yr Epoch of Position: 2015.5	V=11.225	Reference Frame: ICRS

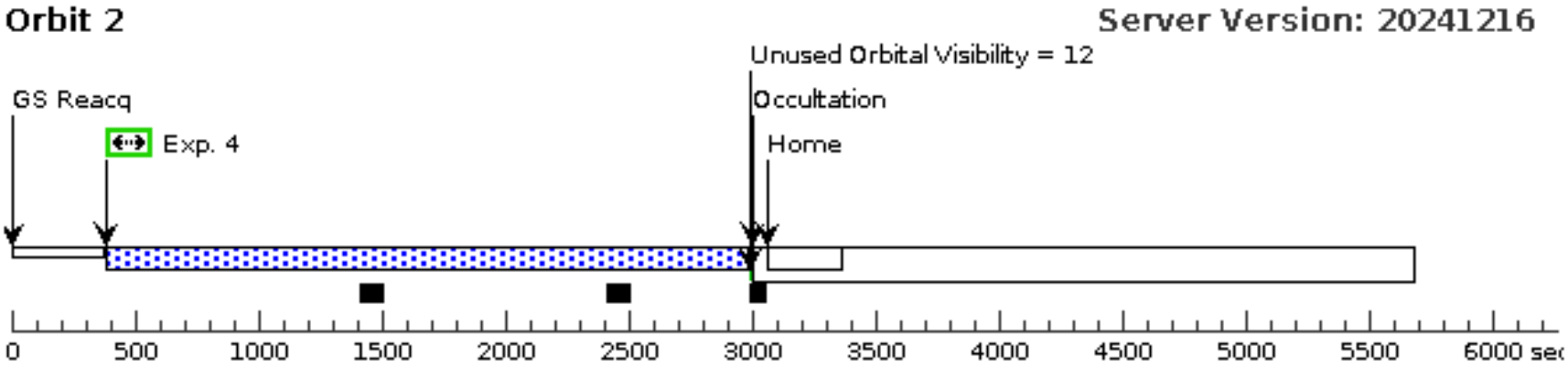
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	YZ CMi_G130M PEAKXD (1452138)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM			3.3 Secs (3.3 Secs) *[==>]*	*[1]*
2	YZ CMi_G130M PEAKD (1452139)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	*[1]*
3	YZ CMi_G130M_1 (COS.sp.1685957)	(3) V-YZ-CMI	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=1000; FP-POS=4			2244 Secs (2113 Secs) *[==>2113.0 Secs]*	*[1]*
4	YZ CMi_G130M_2 (COS.sp.1685957)	(3) V-YZ-CMI	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=4; BUFFER-TIME=1000			2680 Secs (2549 Secs) *[==>2549.0 Secs]*	*[2]*

Orbit Structure





Visit

Proposal 17428, Visit 10, completed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: STIS/CCD, STIS/FUV-MAMA

Special Requirements: (none)

Diagnostics

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 10) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

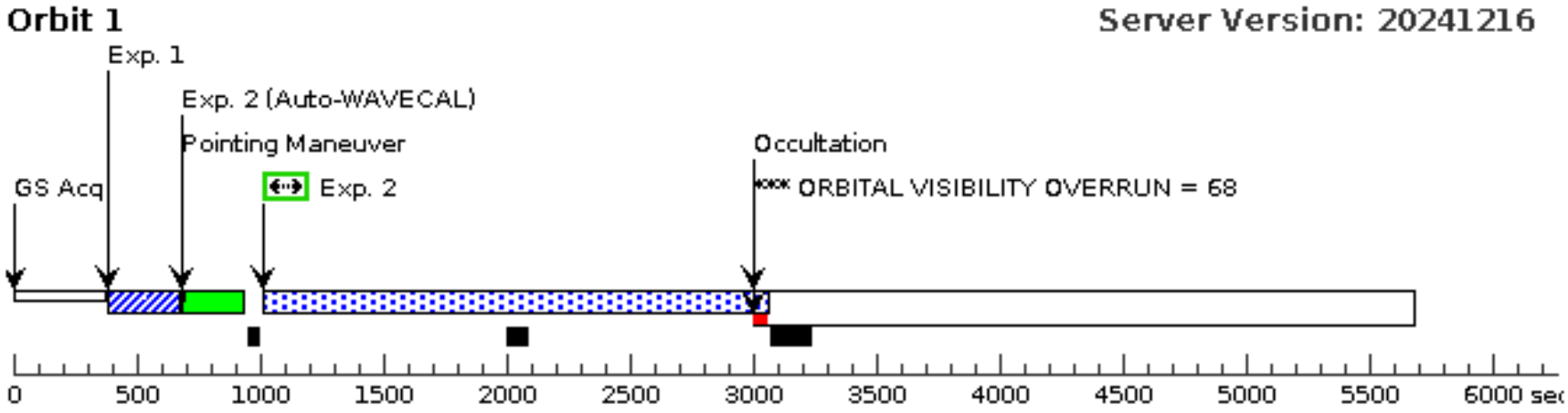
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	V-YZ-CMI	RA: 07 44 39.8123 (116.1658846d) Dec: +03 33 1.97 (3.55055d) Equinox: J2000	Proper Motion RA: -0.023230055530798252 sec of time/yr Proper Motion Dec: -0.44570199997906457 arcsec/yr Epoch of Position: 2015.5	V=11.225	Reference Frame: ICRS

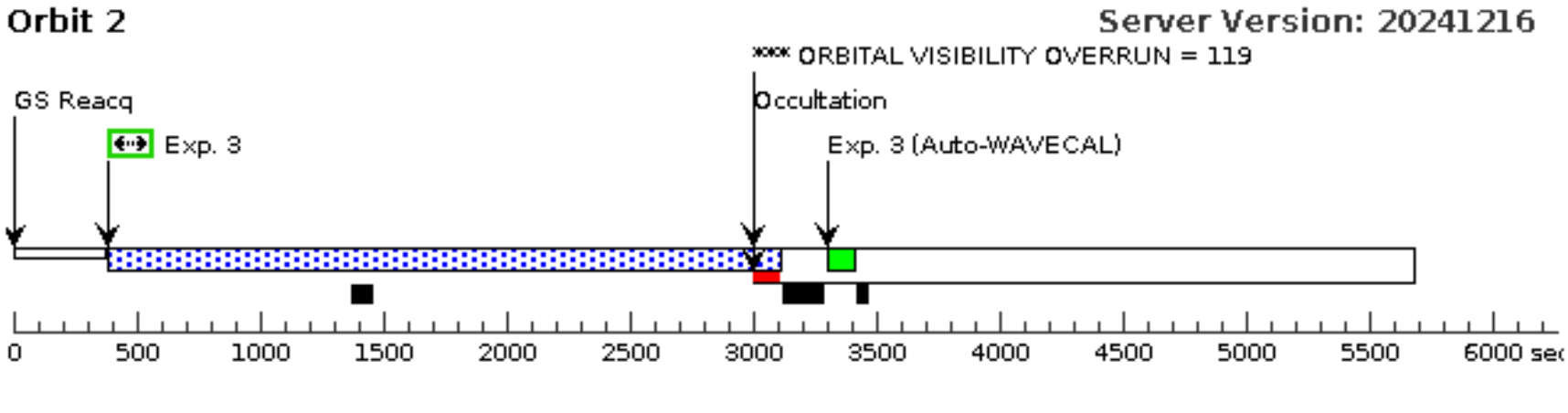
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

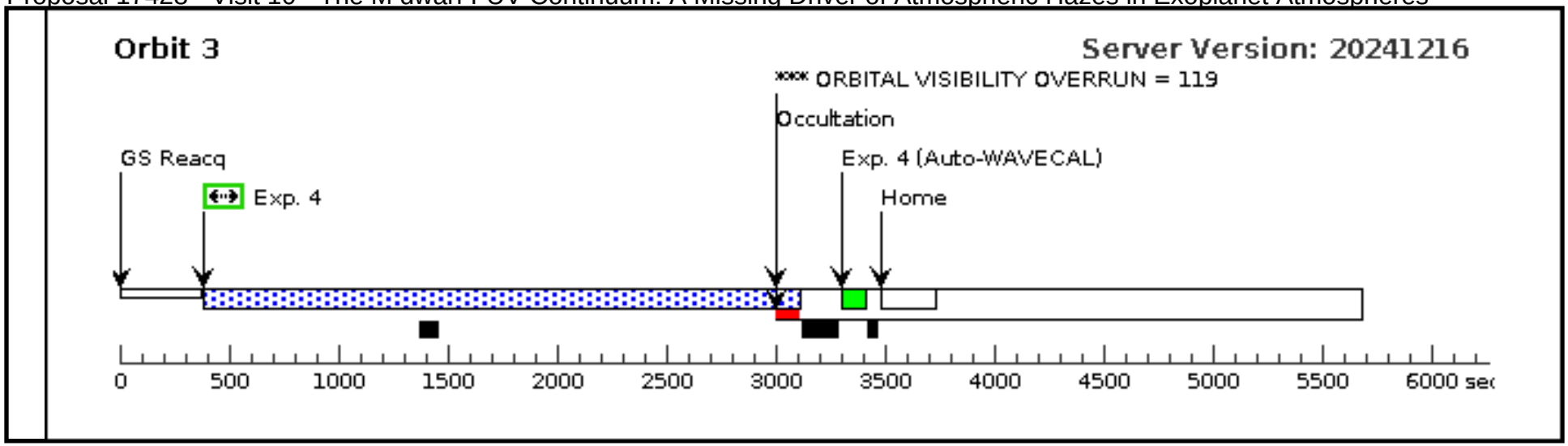
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	YZ CMi_STIS140M TA (STIS.ta.1898470)	(3) V-YZ-CMI	STIS/CCD, ACQ, F25ND3	MIRROR				0.5 Secs (0.5 Secs) *[==>]*	***[1]***
2	YZ CMi_G140M1518_1 (STIS.sp.1898444)	(3) V-YZ-CMI	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2033 Secs (2033 Secs) *[==>]*	***[1]***
3	YZ CMi_G140M1518_2 (STIS.sp.1898444)	(3) V-YZ-CMI	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2714 Secs (2714 Secs) *[==>]*	***[2]***
4	YZ CMi_G140M1518_3 (STIS.sp.1898443)	(3) V-YZ-CMI	STIS/FUV-MAMA, TIME-TAG, 52X0.2D1	G140M 1518 A	BUFFER-TIME=1000			2714 Secs (2714 Secs) *[==>]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
**** ORBITAL VISIBILITY OVERRUN = 119
Occultation
GS Reacq
Exp. 4
Exp. 4 (Auto-WAVECAL)
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 11, completed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: (none)

Diagnostics

(Visit 11) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 11) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS

(Visit 11) Warning (Orbit Planner): GS ACQ SCENARIO REQUESTED INCONSISTENT WITH VISIT GYRO MODE

(Visit 11) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 11) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(Visit 11) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(YZ CMi_G160M PEAKXD (11.001) special requirements) Warning (Form): The specified GS Acq Scenario is not in the current list of valid scenarios.

Fixed Targets

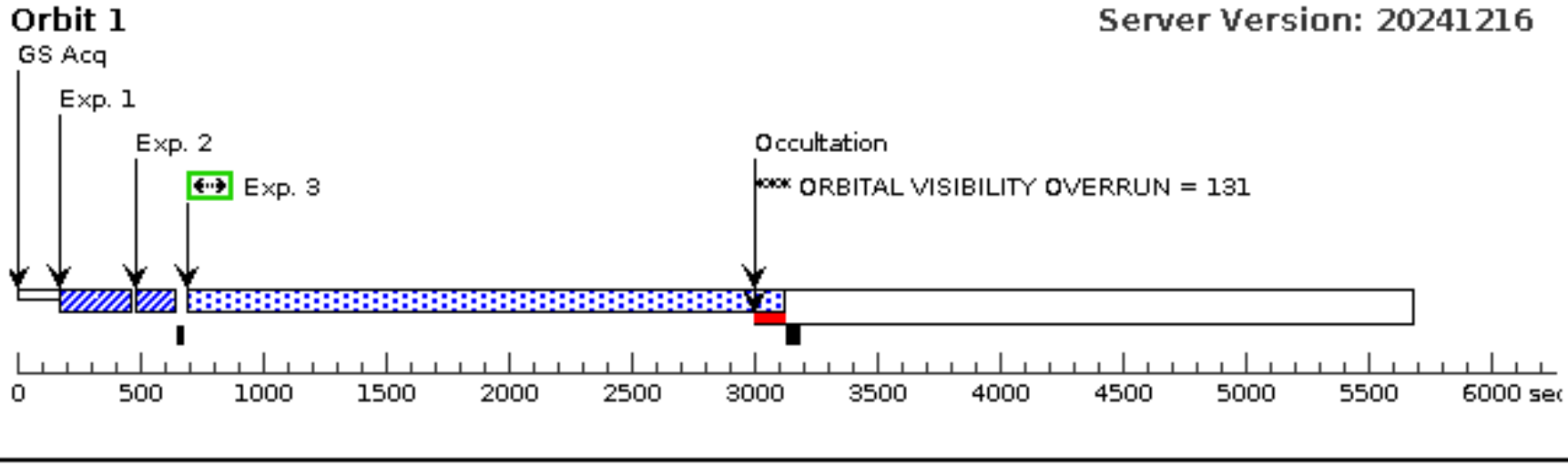
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	V-YZ-CMI	RA: 07 44 39.8123 (116.1658846d) Dec: +03 33 1.97 (3.55055d) Equinox: J2000	Proper Motion RA: -0.023230055530798252 sec of time/yr Proper Motion Dec: -0.44570199997906457 arcsec/yr Epoch of Position: 2015.5	V=11.225	Reference Frame: ICRS

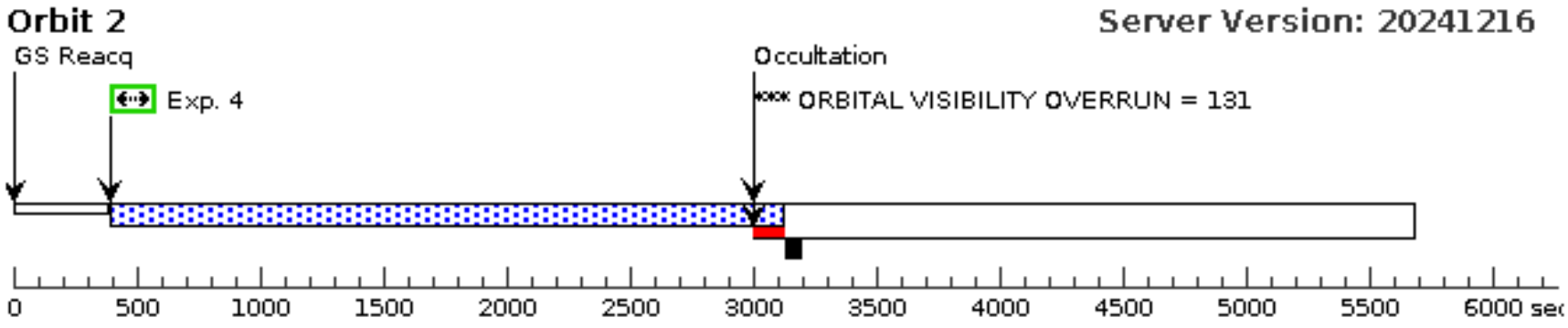
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

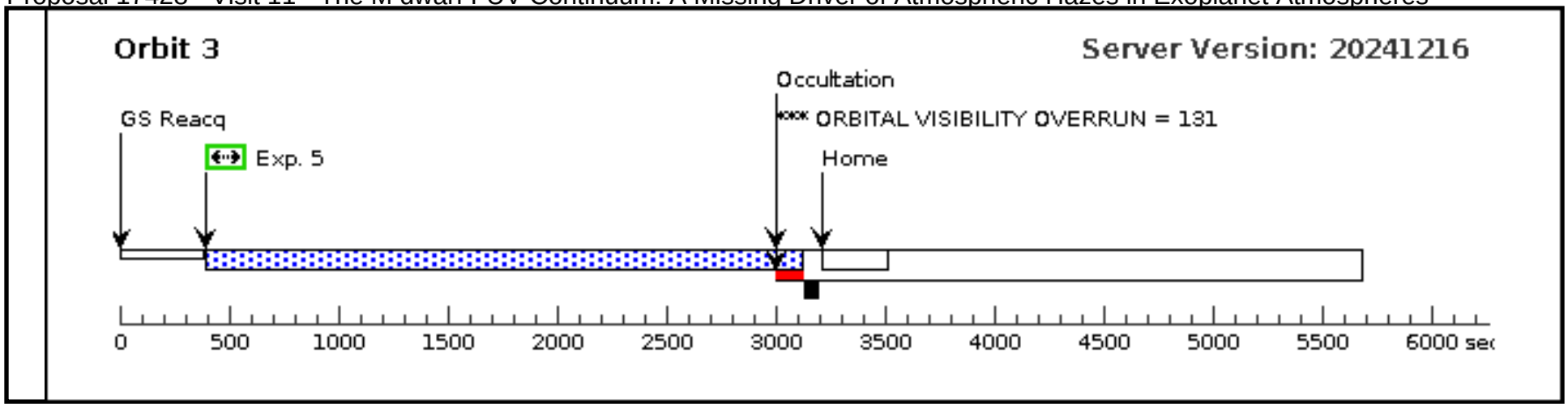
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	YZ CMi_G160M PEAKXD (1452138)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKXD, PSA	G230L 3000 A	STRIPE=MEDIUM	GS ACQ SCENARIO BASE1BE		3.3 Secs (3.3 Secs) *[==>]*	 ***[1]***
2	YZ CMi_G160M PEAKD (1452139)	(3) V-YZ-CMI	COS/NUV, ACQ/PEAKD, PSA	G230L 3000 A	STEP-SIZE=.9; NUM-POS=5; CENTER=FLUX-WT-FLR			2.8 Secs (2.8 Secs) *[==>]*	 ***[1]***
3	YZ CMi_G185_1 (COS.sp.1686224)	(3) V-YZ-CMI	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=6000; FP-POS=3			2203 Secs (2203 Secs) *[==>]*	 ***[1]***
4	YZ CMi_G185_1 (COS.sp.1686224)	(3) V-YZ-CMI	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=6000; FP-POS=3			2717 Secs (2717 Secs) *[==>]*	 ***[2]***
5	YZ CMi_G185_1 (COS.sp.1686224)	(3) V-YZ-CMI	COS/NUV, TIME-TAG, PSA	G185M 1900 A	BUFFER-TIME=6000; FP-POS=3			2717 Secs (2717 Secs) *[==>]*	 ***[3]***

Orbit Structure






Orbit 3
Server Version: 20241216
Occultation
GS Reacq
**** ORBITAL VISIBILITY OVERRUN = 131
Exp. 5
Home
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000 sec

Visit

Proposal 17428, Visit 12, completed Tue Jan 28 23:00:29 GMT 2025

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Diagnostics

(Visit 12) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(YZCMi_FQ232N_1 (12.006)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

(YZCMi_FQ243N_1 (12.007)) Warning (Form): POS TARG & PATTERN should be used carefully with WFC3 quad filters to avoid placing the target on the vignetted part of the field of view or moving it to another quadrant.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	Pattern Type=SPIRAL	Coordinate Frame=POS-TARG		(6), (7)
	Purpose=DITHER	Pattern Orientation=46.86		
	Number Of Points=4	Angle Between Sides=		
	Point Spacing=0.145	Center Pattern=false		
	Line Spacing=			

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	V-YZ-CMI	RA: 07 44 39.8123 (116.1658846d) Dec: +03 33 1.97 (3.55055d) Equinox: J2000	Proper Motion RA: -0.023230055530798252 sec of time/yr Proper Motion Dec: -0.44570199997906457 arcsec/yr Epoch of Position: 2015.5	V=11.225	Reference Frame: ICRS

Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.
Category=EXT-STAR
Description=[M V-IV]
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	YZCMi_F218W_1 (WFC3UVIS.im.1717363)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (4 Secs) *[==>]*	***[1]***
2	YZCMi_F218W_2 (WFC3UVIS.im.1717363)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (4 Secs) *[==>]*	***[1]***
3	YZCMi_F218W_3 (WFC3UVIS.im.1717363)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (4 Secs) *[==>]*	***[1]***
4	YZCMi_F218W_4 (WFC3UVIS.im.1717363)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (4 Secs) *[==>]*	***[1]***
5	YZCMi_F218W_5 (WFC3UVIS.im.1717363)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS2-C1K1C-SUB	F218W	FLASH=20			4 Secs (4 Secs) *[==>]*	***[1]***
6	YZCMi_FQ232N_1 (WFC3UVIS.im.1717366)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ232N	FLASH=20		Pattern 2, Exps 6-6 in Visit 12 (2)	25 Secs (100 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	YZCMi_FQ243N_1 (WFC3UVIS.im.1717526)	(3) V-YZ-CMI	WFC3/UVIS, ACCUM, UVIS-QUAD-SUB	FQ243N	FLASH=20		Pattern 2, Exps 7-7 in Visit 12 (2)	20 Secs (80 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***

Orbit Structure