



# 16747 - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

Cycle: 29, Proposal Category: GO

(UV Initiative)

(Availability Mode: AVAILABLE)

## INVESTIGATORS

| <i>Name</i>                            | <i>Institution</i>                         |
|--|--|
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## VISITS

| <i>Visit</i> | <i>Targets used in Visit</i> | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 01           | (3) HD200775<br>NONE         | STIS/CCD                            | 1                  | 02-Aug-2024 09:00:32.0        | yes                           |
| 02           | (4) SIGORI<br>NONE           | STIS/CCD                            | 1                  | 02-Aug-2024 09:00:34.0        | yes                           |

Proposal 16747 (STScI Edit Number: 8, Created: Friday, August 2, 2024 at 8:01:08 AM Eastern Standard Time) - Overview

| <i>Visit</i> | <i>Targets used in Visit</i>                | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|---|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 03           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:36.0        | yes                           |
| 04           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:37.0        | yes                           |
| 05           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:39.0        | yes                           |
| 06           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 3                  | 02-Aug-2024 09:00:41.0        | yes                           |
| 29           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 3                  | 02-Aug-2024 09:00:43.0        | yes                           |
| 07           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 2                  | 02-Aug-2024 09:00:45.0        | yes                           |
| 08           | (1) NGC7023<br>(3) HD200775<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 2                  | 02-Aug-2024 09:00:47.0        | yes                           |
| 09           | (6) NGC7023BACKGROUND<br>WAVE               | STIS/FUV-MAMA<br>STIS/NUV-MAMA      | 1                  | 02-Aug-2024 09:00:48.0        | yes                           |

Proposal 16747 (STScI Edit Number: 8, Created: Friday, August 2, 2024 at 8:01:08 AM Eastern Standard Time) - Overview

| <i>Visit</i> | <i>Targets used in Visit</i>                           | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|--|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 10           | (1) NGC7023<br>(3) HD200775<br>CCDFLAT<br>WAVE         | STIS/CCD                            | 3                  | 02-Aug-2024 09:00:49.0        | yes                           |
| 11           | (6) NGC7023BACKGROUND<br>CCDFLAT<br>WAVE               | STIS/CCD                            | 1                  | 02-Aug-2024 09:00:50.0        | yes                           |
| 12           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:52.0        | yes                           |
| 13           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:53.0        | yes                           |
| 23           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/FUV-MAMA   | 2                  | 02-Aug-2024 09:00:54.0        | yes                           |
| 14           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 3                  | 02-Aug-2024 09:00:56.0        | yes                           |
| 15           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>NONE<br>WAVE | STIS<br>STIS/CCD<br>STIS/NUV-MAMA   | 3                  | 02-Aug-2024 09:00:58.0        | yes                           |
| 17           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>WAVE         | STIS/CCD                            | 2                  | 02-Aug-2024 09:00:59.0        | yes                           |

Proposal 16747 (STScI Edit Number: 8, Created: Friday, August 2, 2024 at 8:01:08 AM Eastern Standard Time) - Overview

| <i>Visit</i> | <i>Targets used in Visit</i>                              | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|---|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 18           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>WAVE            | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:00.0        | yes                           |
| 19           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:01.0        | yes                           |
| 25           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:02.0        | yes                           |
| 31           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:03.0        | yes                           |
| 26           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:04.0        | yes                           |
| 32           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:05.0        | yes                           |
| 27           | (2) HORSEHEAD<br>(5) MSJ2009L1630MIR14<br>CCDFLAT<br>WAVE | STIS/CCD                            | 2                  | 02-Aug-2024 09:01:06.0        | yes                           |
| 22           | (7) HORSEHEADBACKGROUND<br>WAVE                           | STIS/FUV-MAMA<br>STIS/NUV-MAMA      | 1                  | 02-Aug-2024 09:01:06.0        | yes                           |
| 24           | (7) HORSEHEADBACKGROUND<br>WAVE                           | STIS/CCD                            | 1                  | 02-Aug-2024 09:01:07.0        | yes                           |

| <i>Visit</i> | <i>Targets used in Visit</i>               | <i>Configurations used in Visit</i> | <i>Orbits Used</i> | <i>Last Orbit Planner Run</i> | <i>OP Current with Visit?</i> |
|--------------|--|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 28           | (7) HORSEHEADBACKGROUND<br>CCDFLAT<br>WAVE | STIS/CCD                            | 1                  | 02-Aug-2024 09:01:07.0        | yes                           |

54 Total Orbits Used

## **ABSTRACT**

Photodissociation regions (PDRs) are predominantly neutral regions of the ISM in which the heating and chemistry are mainly regulated by far ultraviolet photons. They are extended regions at the interface between bright stars and molecular clouds, and contain dense structures and clumps immersed in a more diffuse medium which are subjected to photo-evaporation, which brings fresh matter into the diffuse hotter zone. The interaction of stellar radiation with in situ material includes: 1) the disruption of grain mantles/clusters and coagulated grains formed in shielded dense regions, 2) ionization and dissociation of the gas and 3) gas and dust heating. Studies of nearby PDRs have shown that these processes are strongly stratified and active on angular scales that can be as small as  $\sim 1''$  (0.002 pc/400 au at a distance of 400 pc), indicating that the physical conditions vary over orders of magnitude on small spatial-scales in PDRs. Nearby PDRs are therefore unique targets to study rapid variations in the dust and gas components as a function of the excitation and physical conditions. In light of the importance of PDRs in understanding ISM physics and chemistry, we propose to use STIS on HST to study two emblematic PDRs, the Horsehead and NGC7023, at wavelengths covering the dominant energy input into the PDR, the optical and UV. These data will provide data that complements an accepted JWST GTO program combining imaging and spectroscopy of both PDRs. We will observe regions matched to the apertures defined in the JWST program from  $\sim 100$ -1000 nm using four STIS gratings, two paired with the STIS MAMA detectors and two with the STIS CCD detectors, all four in low resolution.

## **OBSERVING DESCRIPTION**

08/07/2023 - Added Visit 29 to replace failed visit 06 under HOPR 92588.

10/13/2022 - Modified Horsehead CCD visits to minimize read noise penalty per review: Reduced total integration count, split out Optical backgrounds and restructured observations to accommodate longer integrations.

10/12/2002.a - updated all UV visits (i.e. including the G230L) to use MSOFF ZERO/RESTORE to maintain alignment of G140 and G230 internally.

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10/12/2022 - Updated Horsehead visits: Split out UV backgrounds. Added POS TARG of 3.5" in Y to G140L observations to account to spatial offset due to repeller wire avoidance. Added MSOFF=zero to all G140L visits to disable monthly 'random' updates to offsets to assure that G140L spatial position matches the G230L (and optical). The later requires "Allow Restricted" and "Supported" to be selected. Modified the NGC7023 G140L visits in the same fashion. Approval for MSOFF changes given by Svea Hernandez.

All remaining warnings are due to mapping the PDR front using offsets from a single target position - "POS TARG OUTSIDE OF APERTURE". Expected. "Target acquisition should be performed..." warning is on background exposures where exact pointing is not necessary so no target acquisition is required.

08/10/2022 - Updated position of NGC7023 backgrounds to avoid any bright stars for all possible orients. Updated background integration for NGC7023 to fill the available time in orbit.

08/02/2022 - revision to separate out background observations for NGC 7023 from on-source orbits. Necessary to allow tools to properly ingest/schedule the program.

Observations are in the STIS low dispersion modes G140L, G230L, G230LB, G430L, and G750L with the 52x2 slit.

Exposure times on exciting stars and target acqs were computed using synthetic stellar spectra and the ETC. On the nebular sources, using a synthetic Orion SED scaled to the relevant surface brightness as estimated in Phase I proposal. S/N on nebular sources reported as 'averages' in ETC; line SN will be higher, continuum will be binned spectrally to reach a S/N of 10.

Differences from Phase I proposal:

- 1) On exciting star visits (HD200775 and Sigma Orionis), request CCD fringe flats with 4 repetitions to attempt to match high SN on exciting star targets; exciting star may be included in calspec database.
- 2) Added background exposures for both nebular sources. Backgrounds were NOT requested in Phase I proposal. The inclusion of backgrounds is driven by data obtained in GO 12556 (cycle 19) and discussion with STIS experts during the data analysis in that program. Briefly, variable detector backgrounds, especially in the UV, resulted in poor background correction and a reduction in the science return of the data. Additionally, since the nebular observations will largely fill the slit in both spatial dimensions, dedicated backgrounds in all gratings will facilitate an estimation of the contribution of unassociated astronomical signal present in the target data.

EXPLANATION OF WARNINGS:

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- 1) Sigma Ori + HD200775: "MISSING FRINGE FLAT CALIBRATION". Fringe flats are specified manually to allow high SN flats (4 repeats).
- 2) All visits with "STIS SCIENCE TOO FAR FROM WAVECAL" have wave cals in occultations and at least 1 per orbit which should be sufficient.
- 3) Some visits (Those with POS TARG +/-1.5 in X) have "POS TARG OUTSIDE OF APERTURE" warnings due to the fact that we are using POSTARG to map a region that overlaps with the JWST IFU maps on these targets rather than absolute pointings. So the 'target' is not the actual target in those cases so the warning is not relevant.

Depth at each POS TARG is the same on each object/grating with the exception of HH G750L where optimal orbit usage required slightly less depth at the 1.5 and -1.5 POS TARG positions. Since, to reach the required depth, all pointings perpendicular to the PDR front will be combined in a representative SED of the entire map, slightly different coverages at the different POS TARG positions should be of negligible impact.

Notes on individual targets/visits:

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HD200775

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High SN spectra of the exciting star for NGC7023 used to separate out scattered light contribution at the PDR. Gain=4 selected to avoid A/D saturation, exposure times selected to achieve 1/2 full well per exposure. HD200775 is also used as acquisition target for NGC7023 nebular observations as it is close enough to the front.

Request 4 fringe flat repetitions to match high target S/N and match approach used in CALSPEC targets.

sigma Orionis

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High SN spectra of the exciting star for the Horsehead used to separate out scattered light contribution at the PDR. Gain=4 selected to avoid A/D saturation, exposure times selected to avoid A/D saturation. Not used as acquisition target for Horsehead PDR given separation.

Request 4 fringe flat repetitions to match high target S/N and match approach used in CALSPEC targets.

MSJ2009-L1630MIR14

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2MASS source very near Horsehead PDR, used for target acquisition on the PDR front for the Horsehead. No spectral type for L1630MIR-14. Assume M2V, use  $J=9.703$  (2mass) to normalize. Assume  $E(B-V)=0.1$  Go for longer than you might expect! 10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)

NGC7023

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Observations are constructed using XPOSTARG with 4 values (-1.5, -0.5, 0.5, 1.5). With the 2" slit, this should provide a mapping roughly 5" wide perpendicular to the PDR front. Slit orientation is restricted to a PA of 188 degrees (OR 8 degrees) to maintain perpendicular alignment to the PDR along the line of sight to the exciting star and roughly match the IFU maps obtained with JWST. With the G104L, the PA at scheduling will result in somewhat different penetrations spatially in to the molecular cloud with no appreciable impact on science return. For SN reasons, in the continuum, the map will be summed in the 5" direction, parallel to the PDR front.

All MAMA visits were defined to keep individual exposures below 300 seconds. For the CCDS,  $< \sim 450$  seconds. Iterations of each pattern were set to reach the final desired exposure time given the constraints on the individual exposure lengths. Total exposure times were matched to those requested in Phase 1 proposal, with slight changes to optimize orbital usage/filling and best estimates of SN in each grating .

G140L - 2 separate visits (to keep each visit at or below 3 orbits). For each visit, exposures set to 280 seconds, 11 iterations of the 4 pattern pointings for a total 6160 seconds per visit and 12320 seconds total on the PDR. 8 orbits total

G230L - 3 separate visits (to keep each visit at or below 3 orbits). For each visit, exposures set to 285 seconds, 14 iterations of the 4 pattern pointings of 15568 seconds total on the PDR. 6 orbits total

G430L - 1 visit, 2 orbits. 760 seconds with CR split=2 with 4 pattern pointings for a total of 3040 seconds on source

G750L - 1 visit, 2 orbits. 756 seconds with CR split=2 with 4 pattern pointings for a total of 3024 seconds on source



## Horsehead

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Observations are constructed using XPOSTARG with 4 values (-1.5, -0.5, 0.5, 1.5). With the 2" slit, this should provide a mapping roughly 5" wide perpendicular to the PDR front. Slit orientation is restricted to a PA of 301 degrees (OR 121 degrees) to maintain perpendicular alignment to the PDR along the line of sight to the exciting star and roughly match the IFU maps obtained with JWST. With the G104L, the PA at scheduling will result in somewhat different penetrations spatially in to the molecular cloud with no appreciable impact on science return. For SN reasons, in the continuum, the map will be summed in the 5" direction, parallel to the PDR front.

All MAMA visits were defined to keep individual exposures below 310 seconds - where optimal orbit usage was served by slightly longer exposures, individual exposures were allowed to exceed 300 seconds by up to 10 seconds. For the CCDS, <~450 seconds. Iterations of each pattern were set to reach the final desired exposure time given the constraints on the individual exposure lengths and optimal use of orbital visibility. Total exposure times were matched to those requested in Phase 1 proposal, with slight changes to optimize orbital usage/filling and best estimates of SN in each grating.

G140L - 2 separate visits (to keep each visit at or below 3 orbits). For each visit, exposures set to 310 seconds, 7 iterations of at 0.5 and -0.5, 6 at 1.5 and -1.5 pattern pointings for 8060 seconds total on the PDR. 5 orbits total

G230L - 3 separate visits (to keep each visit at or below 3 orbits). For each visit, exposures set to 306 seconds, 10 iterations of the 4 pattern pointings for a total of 12240 seconds total on the PDR. 8 orbits total

G430L - 2 visits. Individual exposure length was set to 313 seconds/exposure and CR split set to optimize orbit filling while maintaining constant exposure length and equivalent depth on all 4 pattern pointings, total of 7512 seconds on source, 5 orbits total.

G750L - 3 visits. Individual exposure length was set to 257 seconds/exposure and CR split set to optimize orbit filling while maintaining constant exposure length; depth is approximately the same at all 4 pointings, though 257 seconds shorter and 514 seconds shorted at 1.5 and -1.5 positions. Total on source is 14649 seconds. 9 orbits total.

## Backgrounds

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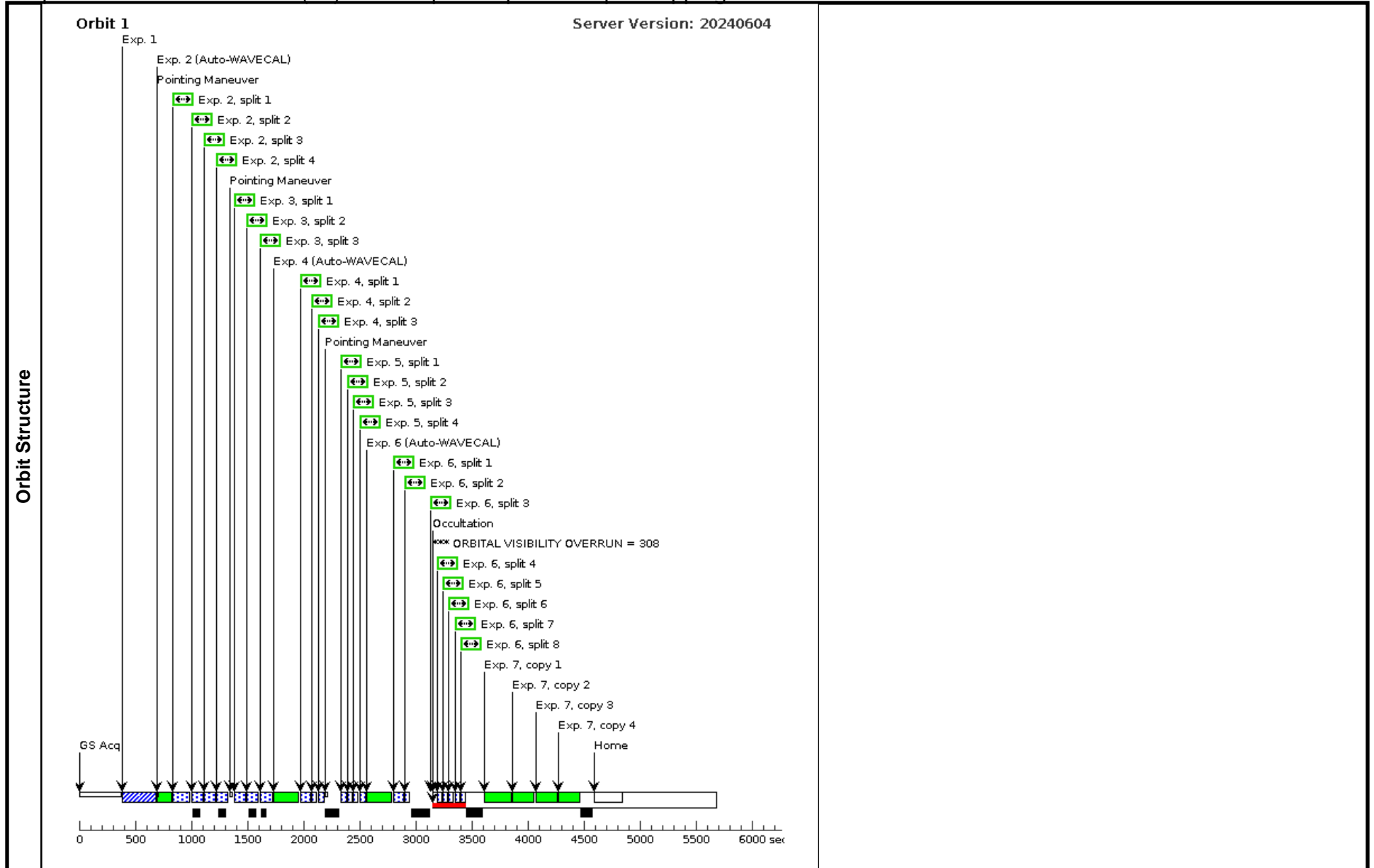
Both targets have dedicated backgrounds. The backgrounds are matched to on source exposures (slit + single exposure duration) to track instrumental backgrounds/effects.

Proposal 16747 - HD200775 (01) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>         | Proposal 16747, HD200775 (01), completed <span style="float: right;">Fri Aug 02 13:01:08 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: (none)<br><i>Comments: Re: Warning on missing fring flat - The fringe flat is manually specified to allow higher SN than default 2 exposure sequence.</i> |   |   |                          |                       |               |   |      |                    |                          |        |               |     |          |   |   |                |
|----------------------|--|---|---|--------------------------|-----------------------|---------------|---|------|--------------------|--------------------------|--------|---------------|-----|----------|---|---|----------------|
|                      | <b>Diagnostics</b>   | (HD200775 (01)) Warning (Orbit Planner): MISSING FRINGE FLAT CALIBRATION<br>(HD200775 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |   |                          |                       |               |   |      |                    |                          |        |               |     |          |   |   |                |
| <b>Fixed Targets</b> |  | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(3)</td> <td>HD200775</td> <td>RA: 21 01 36.9185 (315.4038271d)<br/>Dec: +68 09 47.77 (68.16327d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 8.336 mas/yr<br/>Proper Motion Dec: -1.566 mas/yr<br/>Epoch of Position: 2000</td> <td>V=7.36+/-0.011</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Will be used for Target aquisition on NGC7023.<br/>Category=EXT-STAR<br/>Description=[B0-B2 V-IV]<br/>Extended=NO</i></p> |   |                          |                       |               | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (3) | HD200775 | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011 |
|                      | #  | Name  | Target Coordinates  | Targ. Coord. Corrections | Fluxes                | Miscellaneous |   |      |                    |                          |        |               |     |          |   |   |                |
| (3)                  | HD200775   | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000   | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011           | Reference Frame: ICRS |               |   |      |                    |                          |        |               |     |          |   |   |                |

Proposal 16747 - HD200775 (01) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| Exposures  | #   | Label<br>(ETC Run)    | Target                    | Config,Mode,Aperture    | Spectral Els.                | Opt. Params.          | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]   | Orbit   |     |
|--|---|-----------------------|---------------------------|-------------------------|------------------------------|-----------------------|---------------|--------|---|---|-----|
|  | 1   | (STIS.ta.153<br>4687) | (3) HD200775              | STIS/CCD, ACQ, F25ND3   | MIRROR                       |                       |               |        |   | 1 Secs (1 Secs)<br>[==>]  | [1] |
|  | <i>Comments: 25 seconds gives SN of ~55</i>   |                       |                           |                         |                              |                       |               |        |   |   |     |
|  | 2   | (STIS.sp.15<br>34690) | (3) HD200775              | STIS/CCD, ACCUM, 52X2   | G230LB<br>2375 A             | CR-SPLIT=4;<br>GAIN=4 |               |        |   | 280 Secs (280 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)] | [1] |
|  | <i>Comments: S/N of ~200 in each of the 70 second CR-Splits, exp time 1/2 well.</i>                   |                       |                           |                         |                              |                       |               |        |   |   |     |
|  | 3   |                       | (3) HD200775              | STIS/CCD, ACCUM, 52X2E1 | G230LB<br>2375 A             | CR-SPLIT=3;<br>GAIN=4 |               |        |   | 210 Secs (210 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]                   | [1] |
|  | 4   | (STIS.sp.15<br>34691) | (3) HD200775              | STIS/CCD, ACCUM, 52X2E1 | G430L<br>4300 A              | GAIN=4;<br>CR-SPLIT=3 |               |        |   | 39 Secs (39 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]                     | [1] |
|  | <i>Comments: S/N of ~500 per 13 second exposure in CR-SPLIT 3; saturation at 25 seconds, 1/2 well</i> |                       |                           |                         |                              |                       |               |        |   |   |     |
| 5  |   | (3) HD200775          | STIS/CCD, ACCUM, 52X2     | G430L<br>4300 A         | GAIN=4;<br>CR-SPLIT=4        |                       |               |        | 52 Secs (52 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)]   | [1]   |     |
| 6  | (STIS.sp.15<br>34692)   | (3) HD200775          | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | GAIN=4;<br>CR-SPLIT=8        |                       |               |        | 72 Secs (72 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)]<br>[==>(Split 5)]<br>[==>(Split 6)]<br>[==>(Split 7)]<br>[==>(Split 8)] | [1]   |     |
| <i>Comments: S/N ~300 in 9 second exposure, CRSPLIT 8, ~1/2 well per exposure.</i> |   |                       |                           |                         |                              |                       |               |        |   |   |     |
| 7  | STIS G750L<br>fringe  | NONE                  | STIS/CCD, ACCUM, 0.3X0.09 | G750L<br>7751 A         | LAMP=TUNGSTE<br>N;<br>GAIN=4 |                       |               |        | 120 Secs X 4 (480 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]   | [1]   |     |

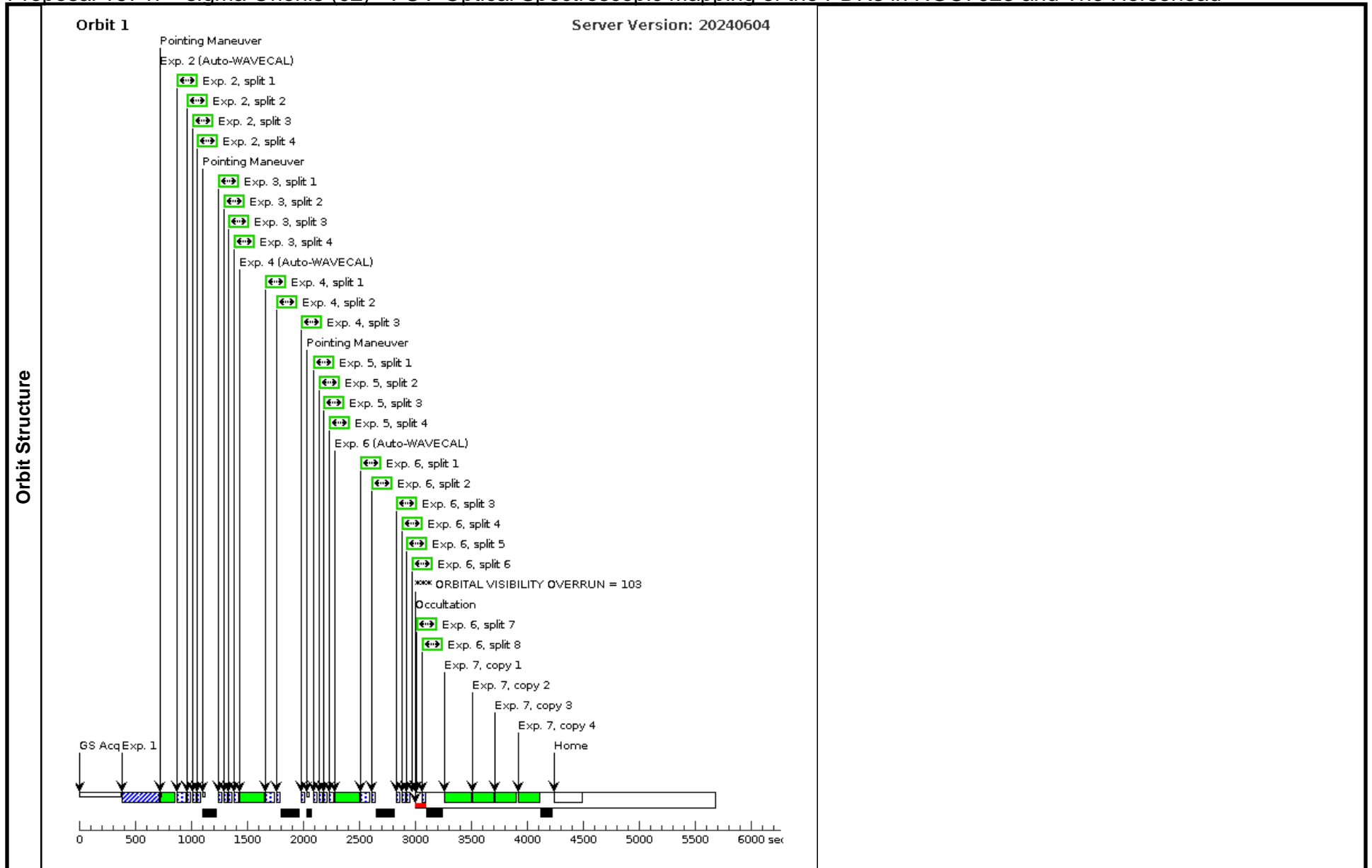


Proposal 16747 - sigma Orionis (02) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>   | <b>Proposal 16747, sigma Orionis (02), completed</b> <span style="float: right;">Fri Aug 02 13:01:08 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: (none)<br><i>Comments: Re: Warning on missing fring flat - The fringe flat is manually specified to allow higher SN than default 2 exposure sequence.</i>                     |   |                    |                          |                       |               |      |                    |                          |        |               |     |        |   |  |        |                       |
|--|--|---|--------------------|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|--------|---|--|--------|-----------------------|
|  | <b>Diagnosics</b><br>(sigma Orionis (02)) Warning (Orbit Planner): MISSING FRINGE FLAT CALIBRATION<br>(sigma Orionis (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |   |                    |                          |                       |               |      |                    |                          |        |               |     |        |   |  |        |                       |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(4)</td> <td>SIGORI</td> <td>RA: 05 38 44.7665 (84.6865271d)<br/>Dec: -02 36 0.28 (-2.60008d)<br/>Equinox: J2000</td> <td></td> <td>V=3.79</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> |   |                    |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (4) | SIGORI | RA: 05 38 44.7665 (84.6865271d)<br>Dec: -02 36 0.28 (-2.60008d)<br>Equinox: J2000 |  | V=3.79 | Reference Frame: ICRS |
|  | #  | Name  | Target Coordinates | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |        |   |  |        |                       |
| (4)  | SIGORI   | RA: 05 38 44.7665 (84.6865271d)<br>Dec: -02 36 0.28 (-2.60008d)<br>Equinox: J2000 |                    | V=3.79                   | Reference Frame: ICRS |               |      |                    |                          |        |               |     |        |   |  |        |                       |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |  |   |                    |                          |                       |               |      |                    |                          |        |               |     |        |   |  |        |                       |

Proposal 16747 - sigma Orionis (02) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #   | Label<br>(ETC Run)  | Target                           | Config,Mode,Aperture      | Spectral Els.         | Opt. Params.                 | Special Reqs. | Groups  | Exp. Time (Total)/[Actual Dur.]   | Orbit |
|---|---|----------------------------------|---------------------------|-----------------------|------------------------------|---------------|---|---|-------|
| Exposures   | 1   | (STIS.ta.153 (4) SIGORI<br>4693) | STIS/CCD, ACQ, F25ND5     | MIRROR                |                              |               |   | 10 Secs (10 Secs)<br>[==>]  | [1]   |
|   | <i>Comments: SN of 50 in ~1 second, 72 seconds to saturation.<br/>10 seconds gives SN of 180.</i> |                                  |                           |                       |                              |               |   |   |       |
|   | 2   | (STIS.sp.15 (4) SIGORI<br>34695) | STIS/CCD, ACCUM, 52X2     | G230LB<br>2375 A      | CR-SPLIT=4;<br>GAIN=4        |               |   | 2.4 Secs (2.4 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)] | [1]   |
|   | <i>Comments: S/N ~390 in 0.6 second exposure; saturation at ~1.25sec, expose to ~1/2 well.</i>    |                                  |                           |                       |                              |               |   |   |       |
|   | 3   | (4) SIGORI                       | STIS/CCD, ACCUM, 52X2E1   | G230LB<br>2375 A      | CR-SPLIT=4;<br>GAIN=4        |               |   | 2.4 Secs (2.4 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)] | [1]   |
|   | 4   | (STIS.sp.15 (4) SIGORI<br>34696) | STIS/CCD, ACCUM, 52X2E1   | G430L<br>4300 A       | CR-SPLIT=3;<br>GAIN=4        |               |   | 0.9 Secs (0.9 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]                   | [1]   |
|   | <i>Comments: S/N ~560/0.3 second exposure. Saturation at ~0.55 seconds, expose to ~1/2 well</i>   |                                  |                           |                       |                              |               |   |   |       |
| 5   | (4) SIGORI  | STIS/CCD, ACCUM, 52X2            | G430L<br>4300 A           | CR-SPLIT=4;<br>GAIN=4 |                              |               | 1.2 Secs (1.2 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)]   | [1]   |       |
| 6   | (4) SIGORI  | STIS/CCD, ACCUM, 52X2            | G750L<br>7751 A           | CR-SPLIT=8;<br>GAIN=4 |                              |               | 2.4 Secs (2.4 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)]<br>[==>(Split 4)]<br>[==>(Split 5)]<br>[==>(Split 6)]<br>[==>(Split 7)]<br>[==>(Split 8)] | [1]   |       |
| <i>Comments: S/N ~280 in 0.3 second exposure. Saturation at 0.67 seconds, expose to ~1/2 well</i> |   |                                  |                           |                       |                              |               |   |   |       |
| 7   | STIS G750L<br>fringe  | NONE                             | STIS/CCD, ACCUM, 0.3X0.09 | G750L<br>7751 A       | LAMP=TUNGSTE<br>N;<br>GAIN=4 |               |   | 120 Secs X 4 (480 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)] | [1]   |



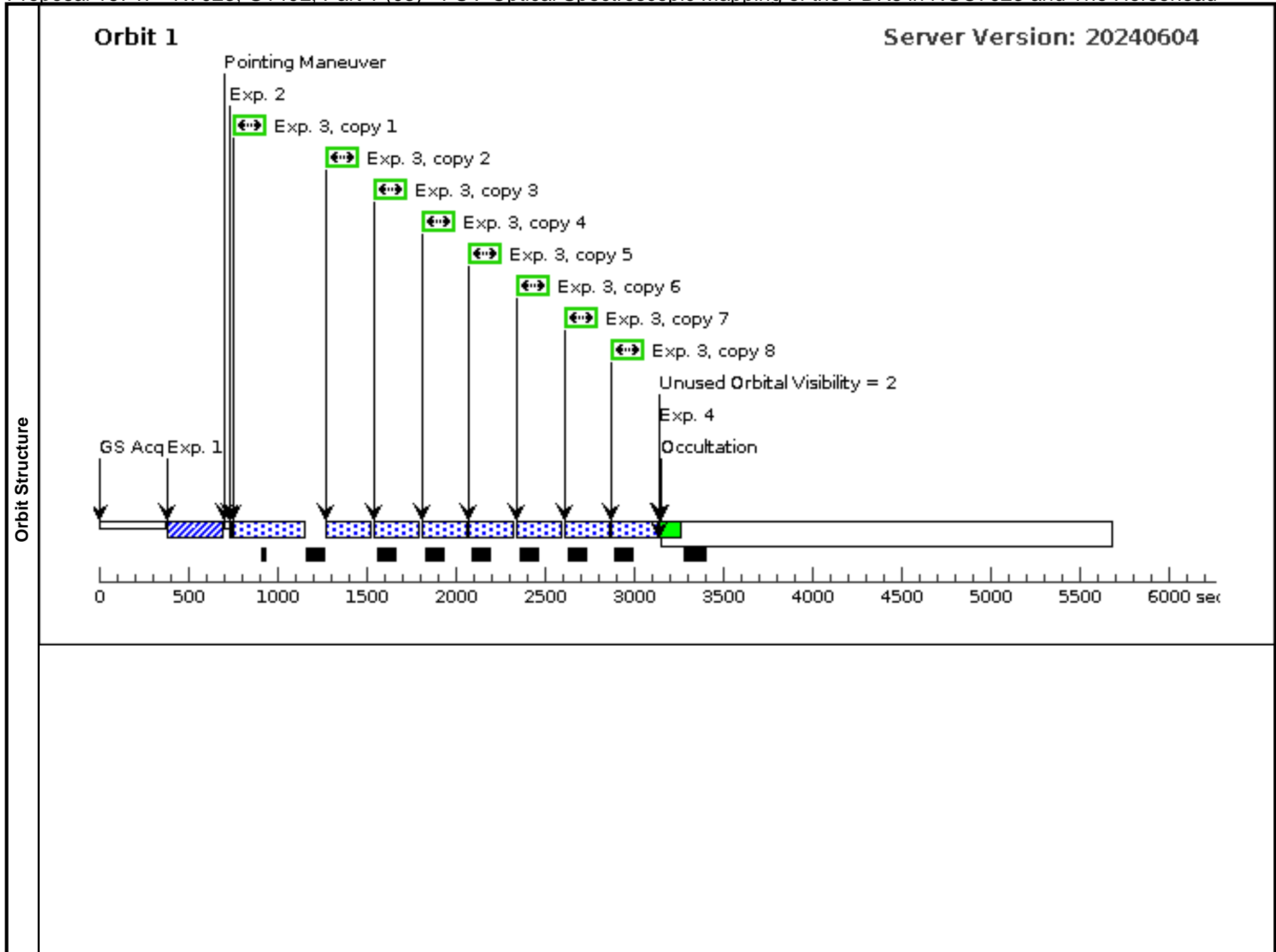


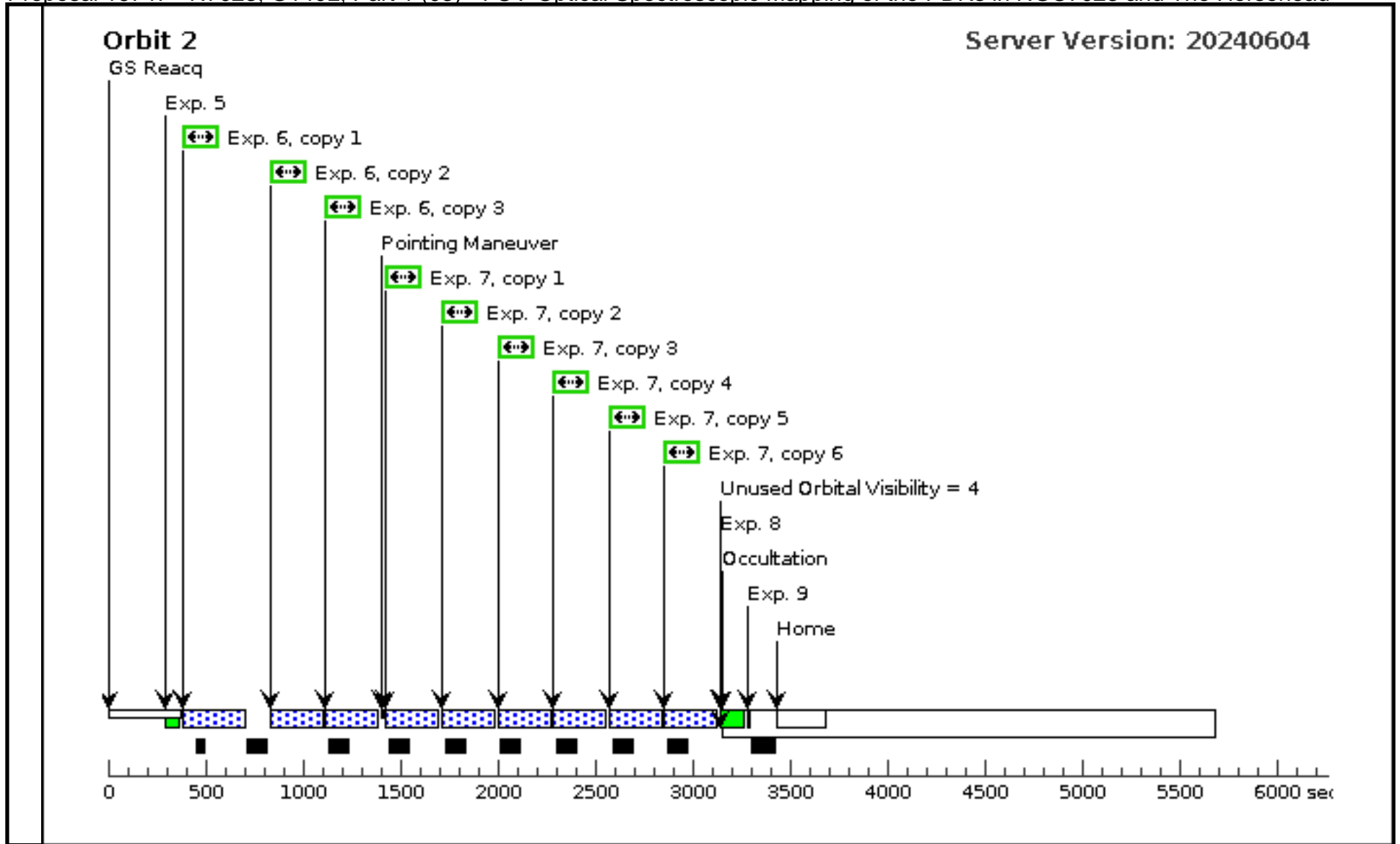
Proposal 16747 - N7023, G140L, Part 1 (03) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| Visit | Proposal 16747, N7023, G140L, Part 1 (03), implementation <span style="float: right;">Fri Aug 02 13:01:08 GMT 2024</span><br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: STIS/CCD, STIS, STIS/FUV-MAMA<br>Special Requirements: ORIENT 179D TO 188 D; ORIENT 8D TO 8 D |   |   |                    |                          |                       |
|-------|---|---|---|--------------------|--------------------------|-----------------------|
|       | Fixed Targets   | #   | Name  | Target Coordinates | Targ. Coord. Corrections | Fluxes                |
| (1)   |   | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000<br><br><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |                    | V=20+/-20                | Reference Frame: ICRS |
| (3)   | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000<br><br><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000   | V=7.36+/-0.011     | Reference Frame: ICRS    |                       |

Proposal 16747 - N7023, G140L, Part 1 (03) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label (ETC Run)  | Target  | Config,Mode,Aperture         | Spectral Els.                | Opt. Params.                        | Special Reqs.     | Groups   | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|---|------------------------------|------------------------------|-------------------------------------|-------------------|--|--|-------|
| Exposures  | 1  | ACQ (3) HD200775<br>(STIS.ta.153 5078)              | STIS/CCD, ACQ, F25ND3        | MIRROR                       |                                     |                   |  | 5 Secs (5 Secs)<br>[==>]   | [1]   |
|  | <i>Comments: SN 350</i>  |   |                              |                              |                                     |                   |  |  |       |
|  | 2  | MSOFF ZE NONE<br>RO                                 | STIS, MSMOFF                 |                              | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |                   |  | [==>]  | [1]   |
|  | 3  | N7023, 8 repeats, 0.5 of fset<br>(STIS.sp.15 35952) | (1) NGC7023                  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A                     | WAVECAL=NO        | POS TARG 0.5,3.5   | 280 Secs X 8 (1960 Secs)<br>[==>245.0 Secs (Copy 1)]<br>[==>245.0 Secs (Copy 2)]<br>[==>245.0 Secs (Copy 3)]<br>[==>245.0 Secs (Copy 4)]<br>[==>245.0 Secs (Copy 5)]<br>[==>245.0 Secs (Copy 6)]<br>[==>245.0 Secs (Copy 7)]<br>[==>245.0 Secs (Copy 8)] | [1]   |
|  | <i>Comments: With total exposure time of 12320 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |   |                              |                              |                                     |                   |  |  |       |
|  | 4  | Manual Wav ecal                                     | WAVE                         | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A                     |                   |  | [==>]  | [1]   |
|  | 5  | Manual Wav ecal                                     | WAVE                         | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A                     |                   |  | [==>]  | [2]   |
|  | 6  | N7023, 3 repeats, 0.5 of fset<br>(STIS.sp.15 35952) | (1) NGC7023                  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A                     | WAVECAL=NO        | POS TARG 0.5,3.5   | 280 Secs X 3 (792 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]  | [2]   |
|  | <i>Comments: With total exposure time of 12320 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |   |                              |                              |                                     |                   |  |  |       |
| 7  | N7023, 6 repeats, -0.5 offset<br>(STIS.sp.15 35952)  | (1) NGC7023   | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A              | WAVECAL=NO                          | POS TARG -0.5,3.5 | 280 Secs X 6 (1584 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]<br>[==>264.0 Secs (Copy 4)]<br>[==>264.0 Secs (Copy 5)]<br>[==>264.0 Secs (Copy 6)] | [2]  |       |
| <i>Comments: With total exposure time of 12320 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |   |                              |                              |                                     |                   |  |  |       |
| 8  | Manual Wav ecal  | WAVE  | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A              |                                     |                   | [==>]  | [2]  |       |
| 9  | MSOFF Res tore   | NONE  | STIS, MSMOFF                 |                              | GRATING1=ALL;<br>SETOFFSET=RES TORE |                   | [==>]  | [2]  |       |

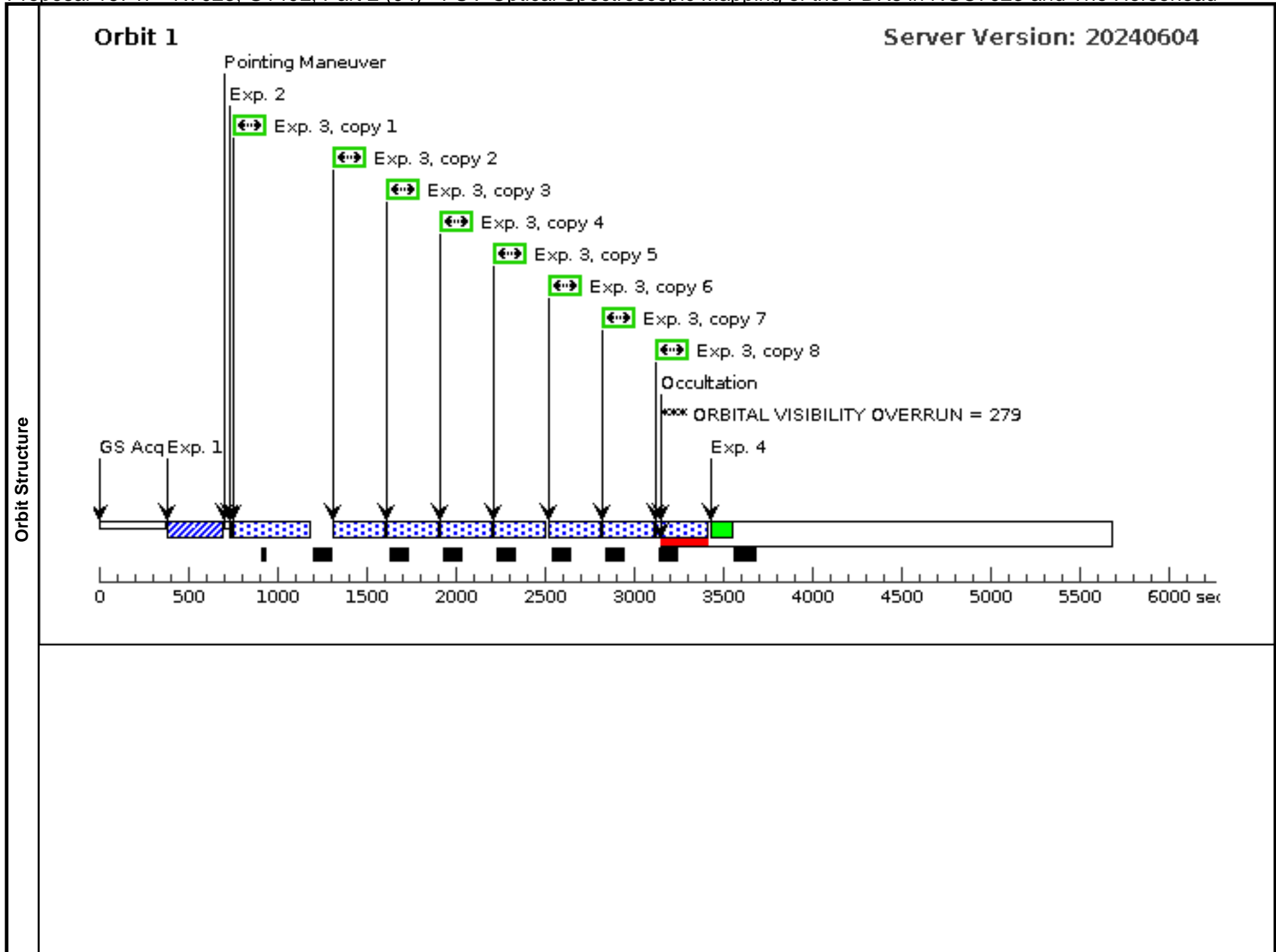


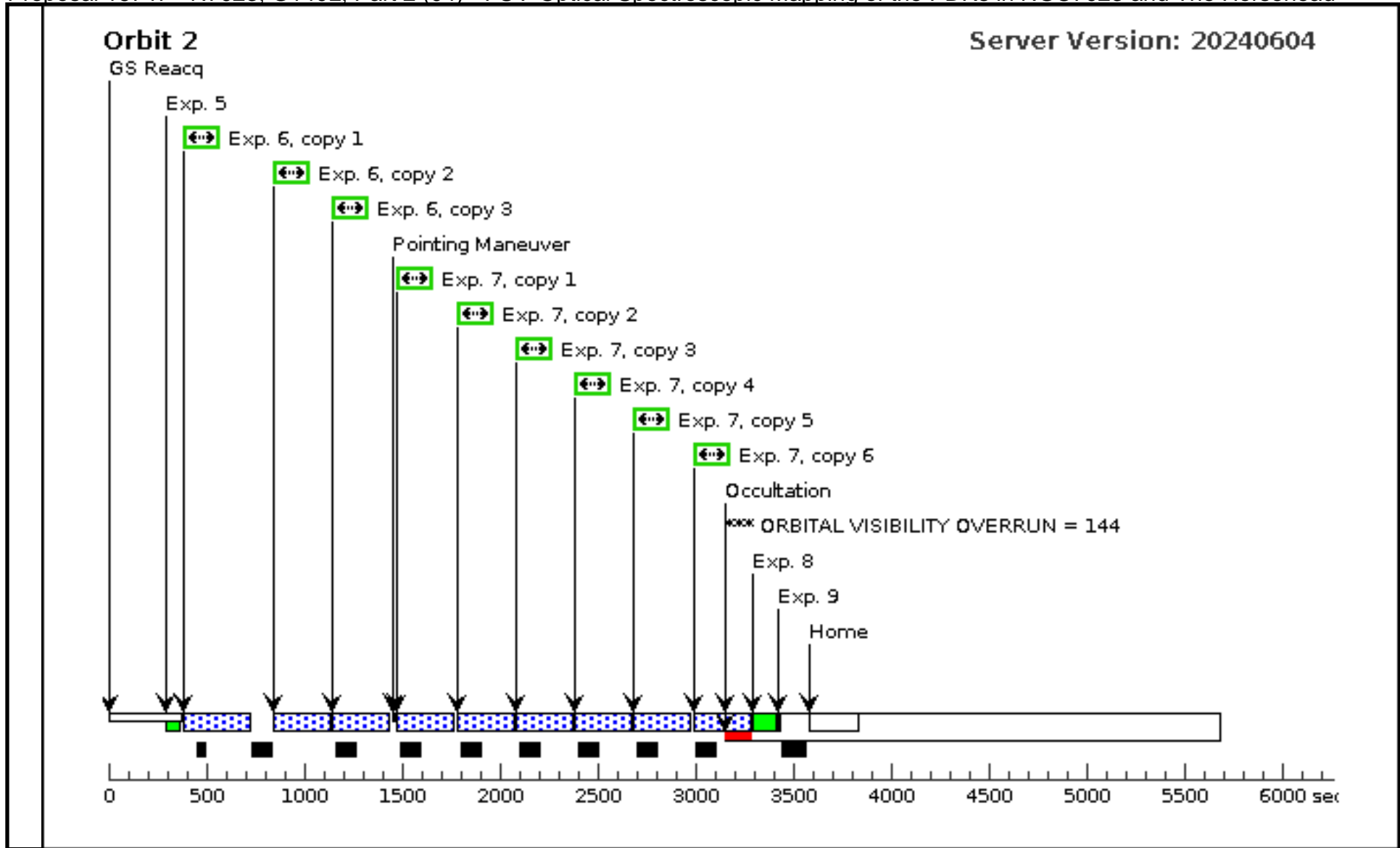




Proposal 16747 - N7023, G140L, Part 2 (04) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)   | Target  | Config,Mode,Aperture            | Spectral Els.                   | Opt. Params.                           | Special Reqs.                       | Groups   | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|---|---------------------------------|---------------------------------|--|-------------------------------------|--|--|-------|
| Exposures  | 1  | ACQ<br>(STIS.ta.153<br>5078)                                  | (3) HD200775                    | STIS/CCD, ACQ, F25ND3           | MIRROR                                 |                                     |  | 5 Secs (5 Secs)<br>[==>]   | [1]   |
|  | <i>Comments: SN 350</i>  |   |                                 |                                 |  |                                     |  |  |       |
|  | 2  | MSOFF ZE<br>RO  | NONE                            | STIS, MSMOFF                    |  | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |  | [==>]  | [1]   |
|  | 3  | N7023, 8 re<br>peats, 1.5 of<br>fset<br>(STIS.sp.15<br>35952) | (1) NGC7023                     | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                        | WAVECAL=NO                          | POS TARG 1.5,3.5   | 280 Secs X 8 (2240 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]<br>[==>(Copy 7)]<br>[==>(Copy 8)] | [1]   |
|  | <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |   |                                 |                                 |  |                                     |  |  |       |
|  | 4  | Manual Wav<br>ecal  | WAVE                            | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A                        |                                     |  | [==>]  | [1]   |
|  | 5  | Manual Wav<br>ecal  | WAVE                            | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A                        |                                     |  | [==>]  | [2]   |
|  | 6  | N7023, 3 re<br>peats, 1.5 of<br>fset<br>(STIS.sp.15<br>35952) | (1) NGC7023                     | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                        | WAVECAL=NO                          | POS TARG 1.5,3.5   | 280 Secs X 3 (840 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]   | [2]   |
|  | <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |   |                                 |                                 |  |                                     |  |  |       |
| 7  | N7023, 6 re<br>peats, -1.5 o<br>ffset<br>(STIS.sp.15<br>35952)   | (1) NGC7023   | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                 | WAVECAL=NO                             | POS TARG -1.5,3.5                   | 280 Secs X 6 (1680 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)] | [2]  |       |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |   |                                 |                                 |  |                                     |  |  |       |
| 8  | Manual Wav<br>ecal   | WAVE  | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A                 |  |                                     | [==>]  | [2]  |       |
| 9  | MSOFF Res<br>tore  | NONE  | STIS, MSMOFF                    |                                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                                     | [==>]  | [2]  |       |







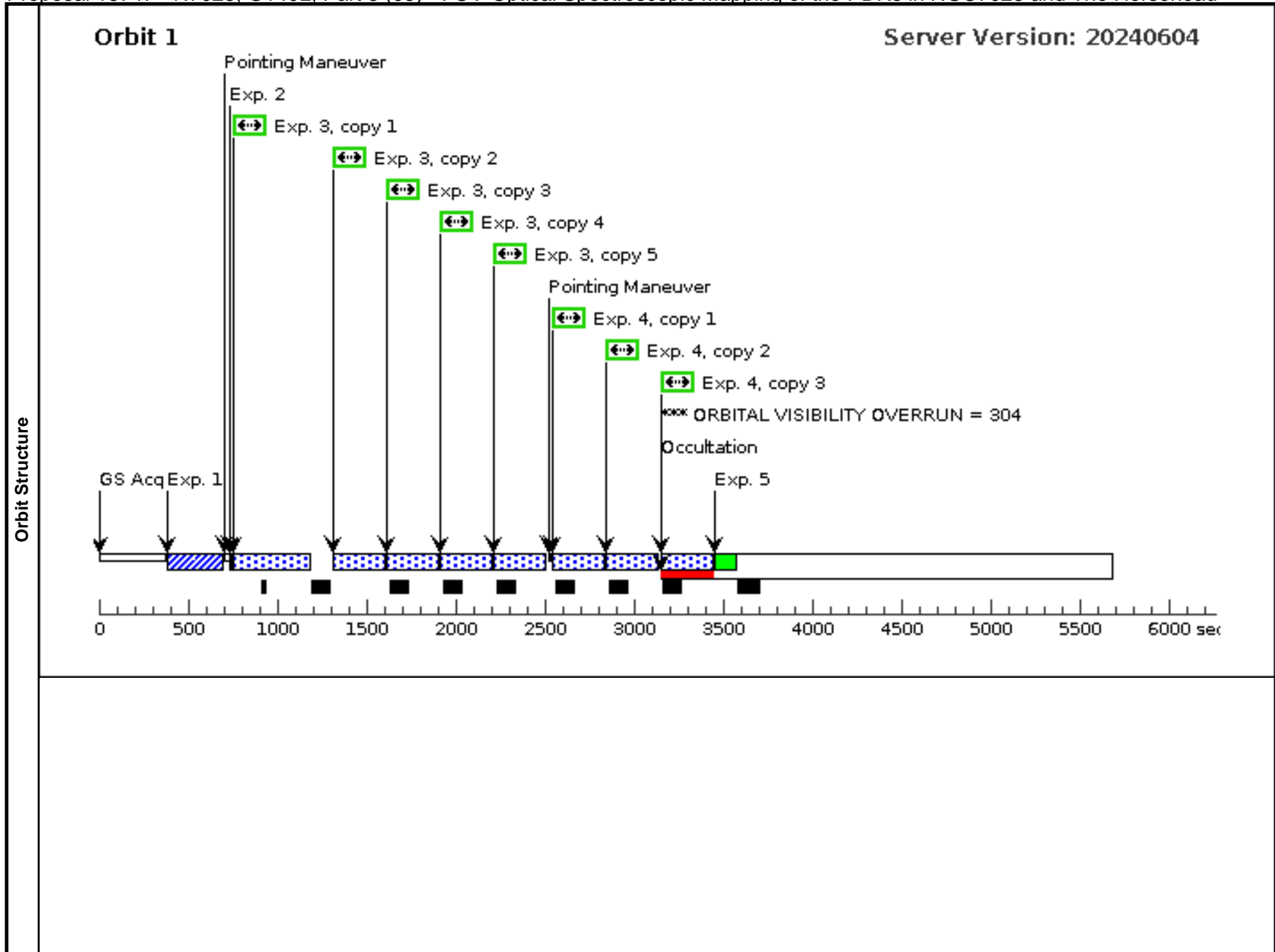
Proposal 16747 - N7023, G140L, Part 3 (05) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

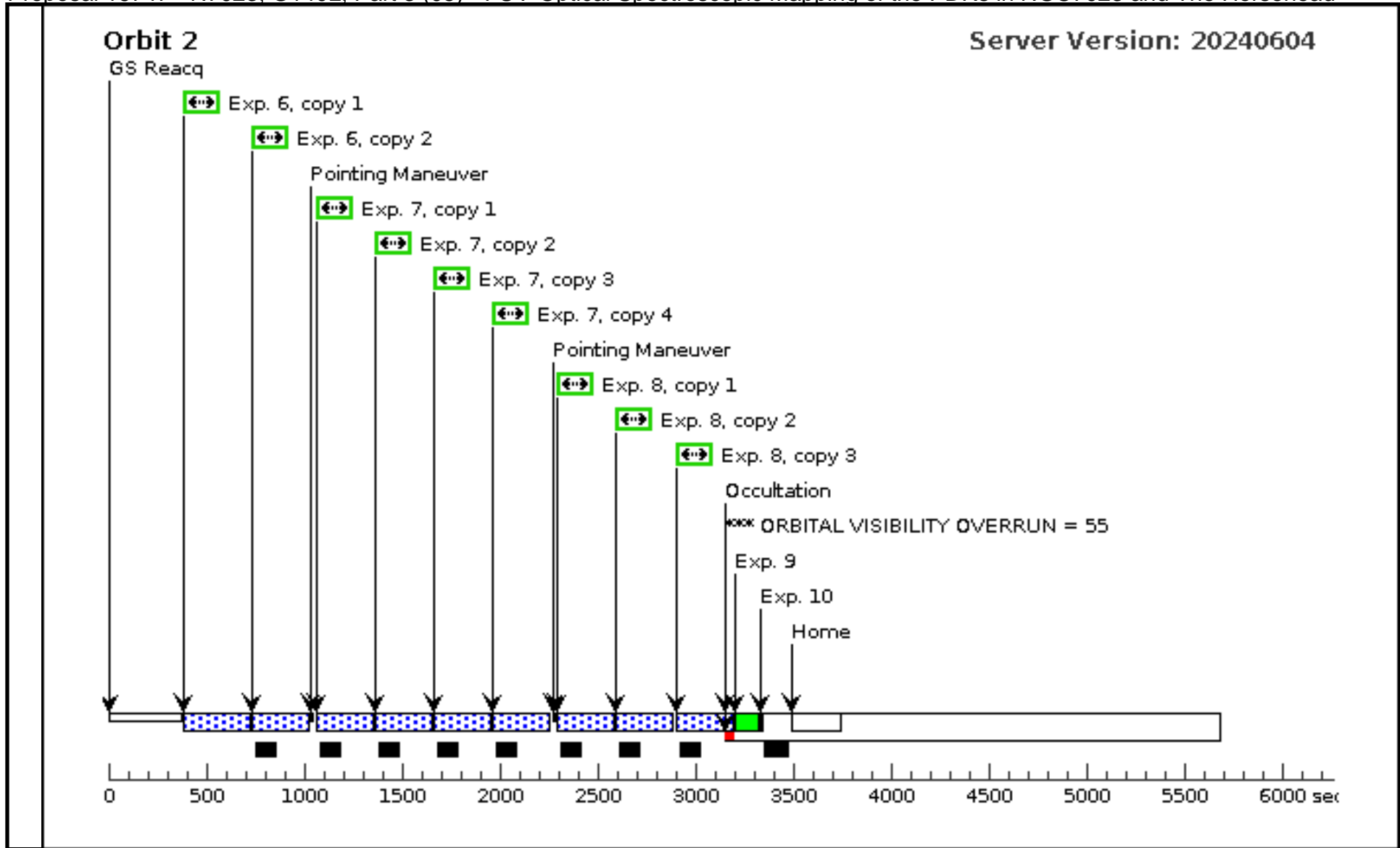
| <b>Visit</b>   | Proposal 16747, N7023, G140L, Part 3 (05), completed <span style="float: right;">Fri Aug 02 13:01:08 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD, STIS, STIS/FUV-MAMA<br>Special Requirements: ORIENT 188D TO 188 D; ORIENT 8D TO 8 D  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|--------------------------|--------------------------|-----------------------|---------------|-----|---------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|----------|---|---|----------------|-----------------------|--|--|--|--|--|--|--|--|--|--|
|  | <b>Diagnosics</b><br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G140L, Part 3 (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC7023</td> <td>RA: 21 01 31.8800 (315.3828333d)<br/>Dec: +68 10 24.50 (68.17347d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(3)</td> <td>HD200775</td> <td>RA: 21 01 36.9185 (315.4038271d)<br/>Dec: +68 09 47.77 (68.16327d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 8.336 mas/yr<br/>Proper Motion Dec: -1.566 mas/yr<br/>Epoch of Position: 2000</td> <td>V=7.36+/-0.011</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Will be used for Target aquisition on NGC7023.<br/>                     Category=EXT-STAR<br/>                     Description=[B0-B2 V-IV]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> | #   | Name  | Target Coordinates       | Targ. Coord. Corrections | Fluxes                | Miscellaneous | (1) | NGC7023 | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (3) | HD200775 | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |  |  |  |  |  |  |  |  |  |
|  | #   | Name  | Target Coordinates  | Targ. Coord. Corrections | Fluxes                   | Miscellaneous         |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (1)   | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000           |                          | V=20+/-20                | Reference Frame: ICRS |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES               |   |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| (3)  | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011           | Reference Frame: ICRS    |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |   |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |

Proposal 16747 - N7023, G140L, Part 3 (05) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label (ETC Run)                                  | Target       | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.                           | Special Reqs.     | Groups | Exp. Time (Total)/[Actual Dur.]   | Orbit |
|--|--|--------------|------------------------------|-----------------|--|-------------------|--------|---|-------|
| 1  | ACQ (STIS.ta.153 5078)                           | (3) HD200775 | STIS/CCD, ACQ, F25ND3        | MIRROR          |  |                   |        | 5 Secs (5 Secs)<br>[==>]  | [1]   |
| <i>Comments: SN 350</i>  |  |              |                              |                 |  |                   |        |   |       |
| 2  | MSOFF ZE RO                                      | NONE         | STIS, MSMOFF                 |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL    |                   |        | [==>]   | [1]   |
| 3  | N7023, 5 repeats, -0.5 offset (STIS.sp.15 35952) | (1) NGC7023  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -0.5,3.5 |        | 280 Secs X 5 (1400 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)] | [1]   |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |  |                   |        |   |       |
| 4  | N7023, 3 repeats, -1.5 offset (STIS.sp.15 35952) | (1) NGC7023  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -1.5,3.5 |        | 280 Secs X 3 (840 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]                                    | [1]   |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |  |                   |        |   |       |
| 5  | Manual Wave ecal                                 | WAVE         | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A |  |                   |        | [==>]   | [1]   |
| 6  | N7023, 2 repeats, -1.5 offset (STIS.sp.15 35952) | (1) NGC7023  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -1.5,3.5 |        | 280 Secs X 2 (560 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]   | [2]   |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |  |                   |        |   |       |
| 7  | N7023, 4 repeats, 0.5 offset (STIS.sp.15 35952)  | (1) NGC7023  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A | WAVECAL=NO                             | POS TARG 0.5,3.5  |        | 280 Secs X 4 (1120 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]                  | [2]   |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |  |                   |        |   |       |
| 8  | N7023, 3 repeats, -0.5 offset (STIS.sp.15 35952) | (1) NGC7023  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -0.5,3.5 |        | 280 Secs X 3 (840 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]                                    | [2]   |
| <i>Comments: With total exposure time of 12320 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |  |                   |        |   |       |
| 9  | Manual Wave ecal                                 | WAVE         | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A |  |                   |        | [==>]   | [2]   |
| 10   | MSOFF Res tore                                   | NONE         | STIS, MSMOFF                 |                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                   |        | [==>]   | [2]   |

Exposures





Proposal 16747 - N7023, G230L, Part 1 (06) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

Fri Aug 02 13:01:08 GMT 2024

|  |   |   |   |                                 |                |                       |
|--|---|---|---|---------------------------------|----------------|-----------------------|
| <b>Visit</b>   | <b>Proposal 16747, N7023, G230L, Part 1 (06), failed</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/CCD, STIS<br>Special Requirements: ORIENT 188D TO 188 D; ORIENT 8D TO 8 D  |   |   |                                 |                |                       |
|  | <b>Diagnosics</b><br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 1 (06)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE |   |   |                                 |                |                       |
| <b>Fixed Targets</b>   | <b>#</b>  | <b>Name</b>   | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b> | <b>Fluxes</b>  | <b>Miscellaneous</b>  |
|  | (1)   | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000           |                                 | V=20+/-20      | Reference Frame: ICRS |
|  | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |   |   |                                 |                |                       |
| (3)  | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 |                                 | V=7.36+/-0.011 | Reference Frame: ICRS |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |   |   |   |                                 |                |                       |

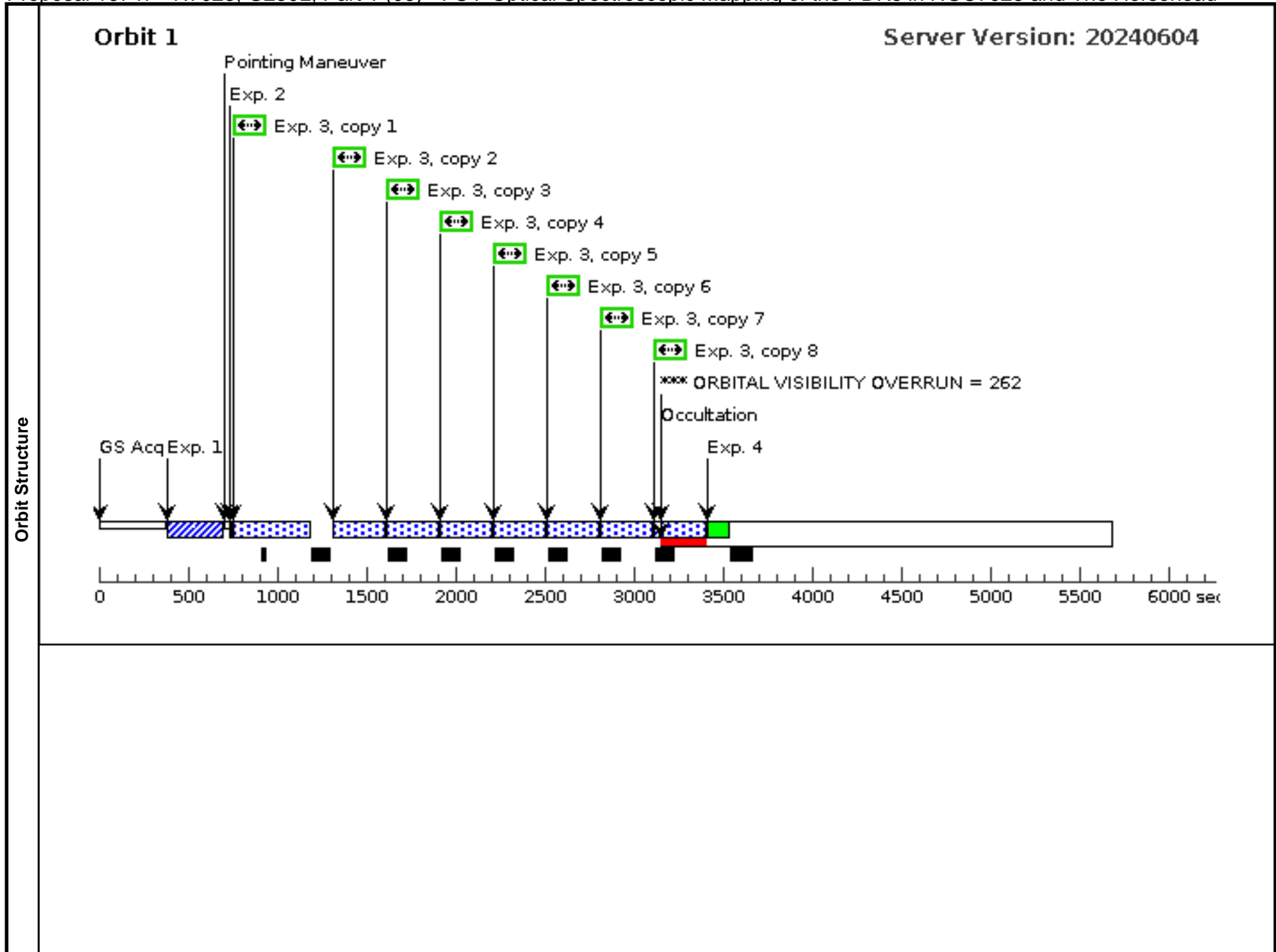
Proposal 16747 - N7023, G230L, Part 1 (06) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label (ETC Run)                                  | Target       | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.                        | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|--------------|------------------------------|-----------------|-------------------------------------|--------------------|--------|--|-------|
| 1  | ACQ (STIS.ta.153 5078)                           | (3) HD200775 | STIS/CCD, ACQ, F25ND3        | MIRROR          |                                     |                    |        | 5 Secs (5 Secs)<br>[==>]   | [1]   |
| <i>Comments: SN 350</i>  |  |              |                              |                 |                                     |                    |        |  |       |
| 2  | MSOFF ZE RO                                      | NONE         | STIS, MSMOFF                 |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |                    |        | [==>]  | [1]   |
| 3  | N7023, 8 repeats, 0.5 of fset (STIS.sp.15 3595)  | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 0.5,null  |        | 278 Secs X 8 (2224 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]<br>[==>(Copy 7)]<br>[==>(Copy 8)] | [1]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 4  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [1]   |
| 5  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 6  | N7023, 3 repeats, 0.5 of fset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 0.5,null  |        | 278 Secs X 3 (834 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]   | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 7  | N7023, 6 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 6 (1668 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]                                   | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 8  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 9  | N7023, 5 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 5 (1390 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]  | [3]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |

Exposures

Proposal 16747 - N7023, G230L, Part 1 (06) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

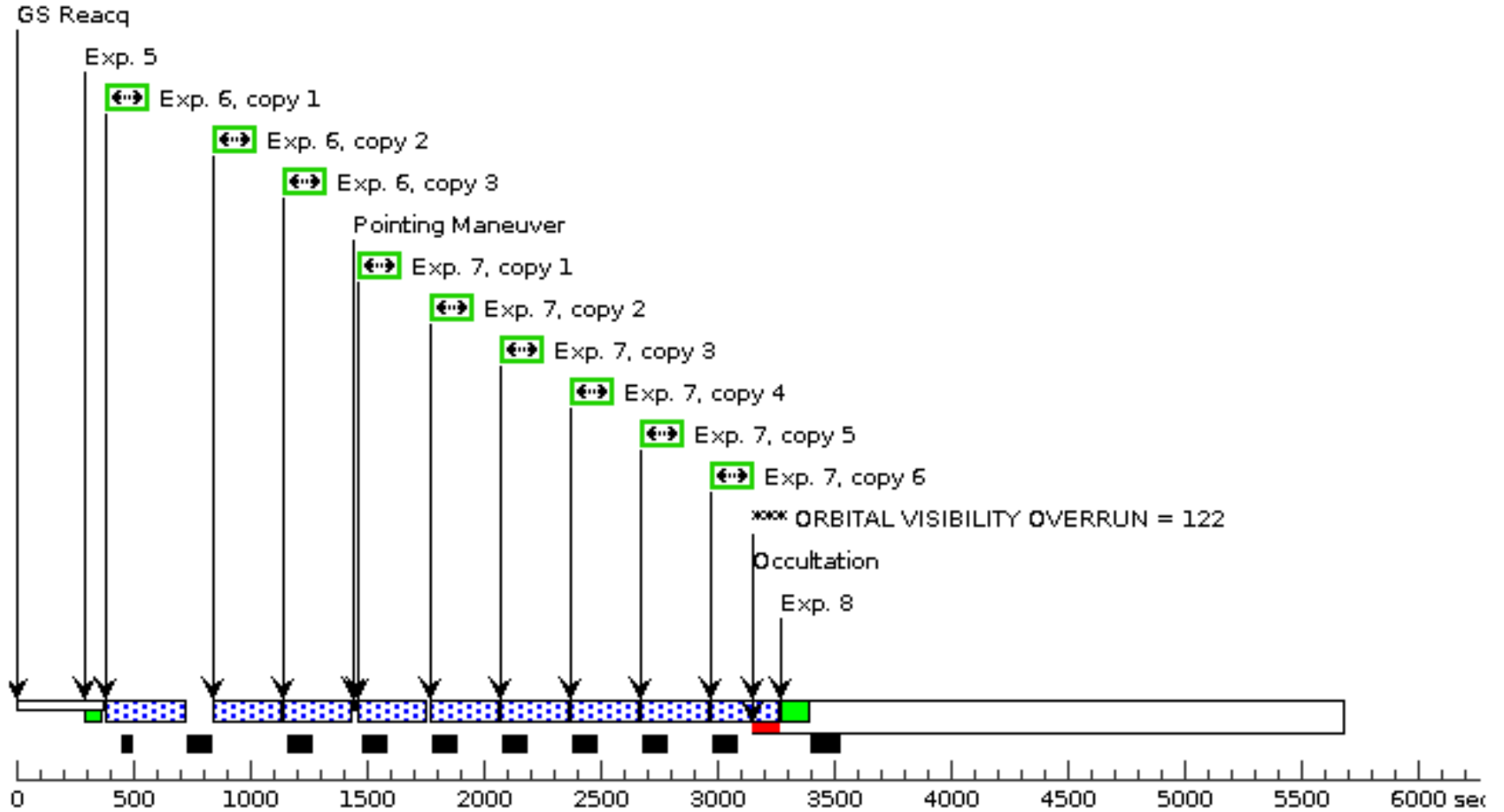
|  |   |             |                              |  |            |                    |   |     |
|--|---|-------------|------------------------------|--|------------|--------------------|---|-----|
| 10   | N7023, 5 repeats, -1.5 offset (STIS.sp.1535954) | (1) NGC7023 | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A                        | WAVECAL=NO | POS TARG -1.5,null | 278 Secs X 5 (1390 Secs)  | [3] |
|  |   |             |                              |  |            |                    | [==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)] |     |
| <i>Comments: With total exposure time of 15568 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |   |             |                              |  |            |                    |   |     |
| 11   | Manual Wavecal                                  | WAVE        | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A                        |            |                    | [==>]   | [3] |
| 12   | MSOFF Res                                       | NONE        | STIS, MSMOFF                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |            | [==>]              |   | [3] |

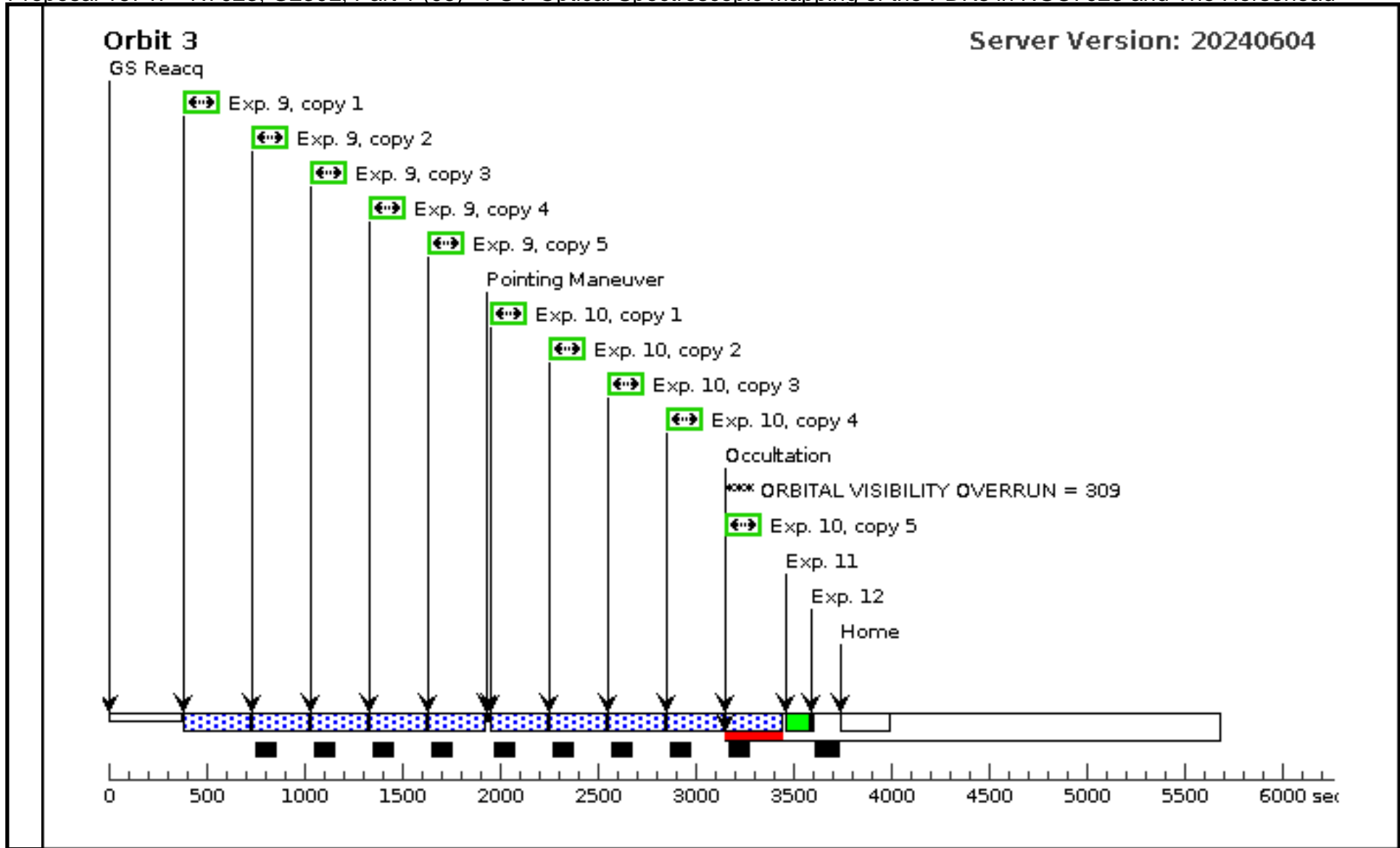




**Orbit 2**

Server Version: 20240604





Proposal 16747 - N7023, G230L, Part 1 (HOPR 92588) (29) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

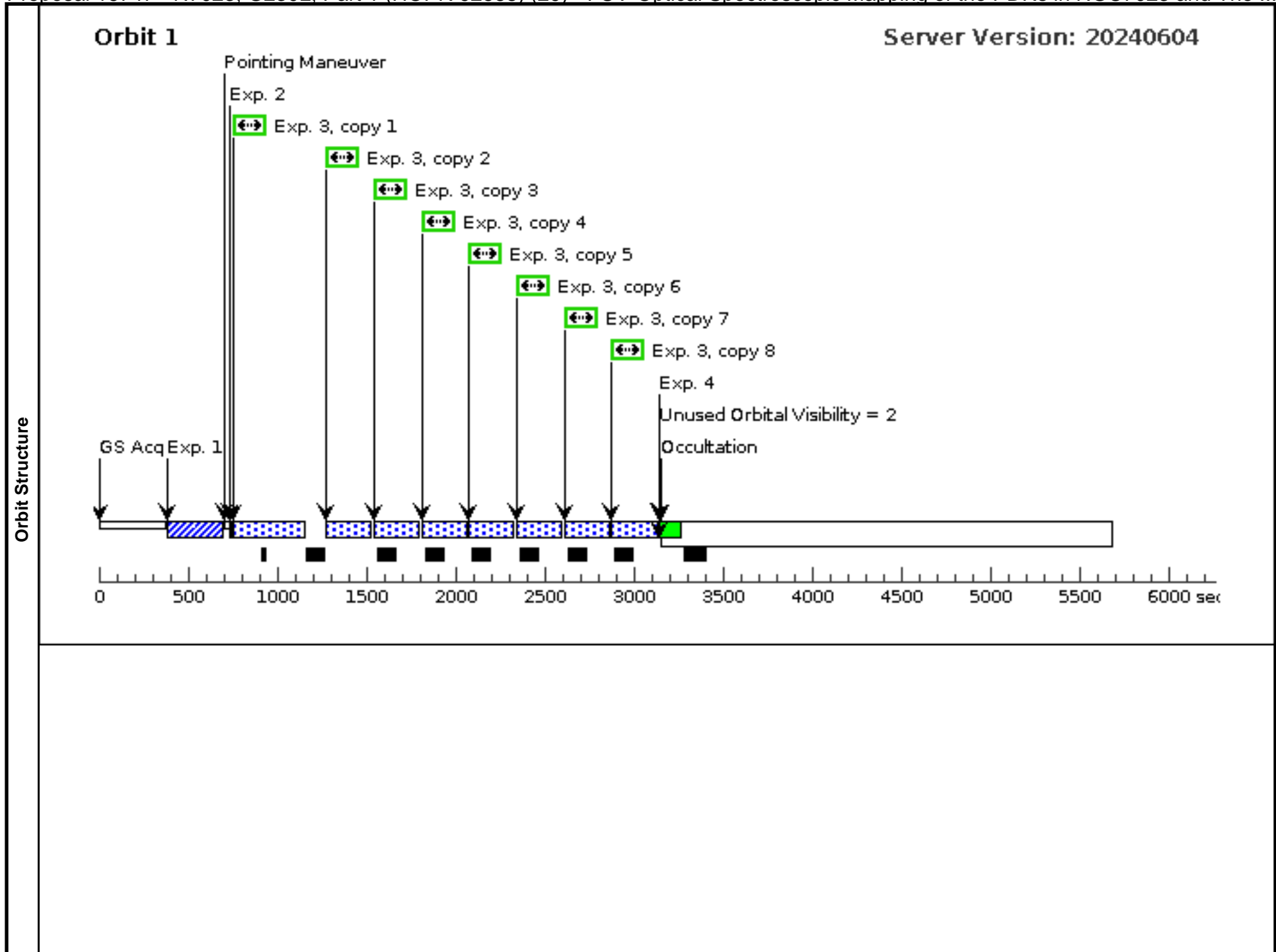
| <b>Visit</b>   | <b>Proposal 16747, N7023, G230L, Part 1 (HOPR 92588) (29), implementation</b> <span style="float: right;">Fri Aug 02 13:01:08 GMT 2024</span>   |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|--------------------------|--------------------------|-----------------------|---------------|-----|---------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|----------|---|---|----------------|-----------------------|--|--|--|--|--|--|--|--|--|--|
|  | <b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/CCD, STIS<br>Special Requirements: ORIENT 188D TO 188 D; ORIENT 8D TO 8 D  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <b>Diagnostics</b>   | (N7023, G230L, Part 1 (HOPR 92588) (29)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (N7023, G230L, Part 1 (HOPR 92588) (29)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (N7023, G230L, Part 1 (HOPR 92588) (29)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (N7023, G230L, Part 1 (HOPR 92588) (29)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (N7023, G230L, Part 1 (HOPR 92588) (29)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC7023</td> <td>RA: 21 01 31.8800 (315.3828333d)<br/>Dec: +68 10 24.50 (68.17347d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(3)</td> <td>HD200775</td> <td>RA: 21 01 36.9185 (315.4038271d)<br/>Dec: +68 09 47.77 (68.16327d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 8.336 mas/yr<br/>Proper Motion Dec: -1.566 mas/yr<br/>Epoch of Position: 2000</td> <td>V=7.36+/-0.011</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Will be used for Target aquisition on NGC7023.<br/>                     Category=EXT-STAR<br/>                     Description=[B0-B2 V-IV]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> | #   | Name  | Target Coordinates       | Targ. Coord. Corrections | Fluxes                | Miscellaneous | (1) | NGC7023 | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (3) | HD200775 | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |  |  |  |  |  |  |  |  |  |
|  | #   | Name  | Target Coordinates  | Targ. Coord. Corrections | Fluxes                   | Miscellaneous         |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
|  | (1)   | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000           |                          | V=20+/-20                | Reference Frame: ICRS |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES               |   |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| (3)  | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011           | Reference Frame: ICRS    |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |   |   |   |                          |                          |                       |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |  |  |  |  |

Proposal 16747 - N7023, G230L, Part 1 (HOPR 92588) (29) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

| #  | Label (ETC Run)                                  | Target       | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.                        | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|--------------|------------------------------|-----------------|-------------------------------------|--------------------|--------|--|-------|
| 1  | ACQ (STIS.ta.153 5078)                           | (3) HD200775 | STIS/CCD, ACQ, F25ND3        | MIRROR          |                                     |                    |        | 5 Secs (5 Secs)<br>[==>]   | [1]   |
| <i>Comments: SN 350</i>  |  |              |                              |                 |                                     |                    |        |  |       |
| 2  | MSOFF ZE RO                                      | NONE         | STIS, MSMOFF                 |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |                    |        | [==>]  | [1]   |
| 3  | N7023, 8 repeats, 0.5 of fset (STIS.sp.15 3595)  | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 0.5,null  |        | 278 Secs X 8 (1960 Secs)<br>[==>245.0 Secs (Copy 1)]<br>[==>245.0 Secs (Copy 2)]<br>[==>245.0 Secs (Copy 3)]<br>[==>245.0 Secs (Copy 4)]<br>[==>245.0 Secs (Copy 5)]<br>[==>245.0 Secs (Copy 6)]<br>[==>245.0 Secs (Copy 7)]<br>[==>245.0 Secs (Copy 8)] | [1]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 4  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [1]   |
| 5  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 6  | N7023, 3 repeats, 0.5 of fset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 0.5,null  |        | 278 Secs X 3 (792 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]  | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 7  | N7023, 6 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 6 (1584 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]<br>[==>264.0 Secs (Copy 4)]<br>[==>264.0 Secs (Copy 5)]<br>[==>264.0 Secs (Copy 6)]   | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 8  | Manual Wav ecal                                  | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 9  | N7023, 5 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 5 (1235 Secs)<br>[==>247.0 Secs (Copy 1)]<br>[==>247.0 Secs (Copy 2)]<br>[==>247.0 Secs (Copy 3)]<br>[==>247.0 Secs (Copy 4)]<br>[==>247.0 Secs (Copy 5)]   | [3]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |

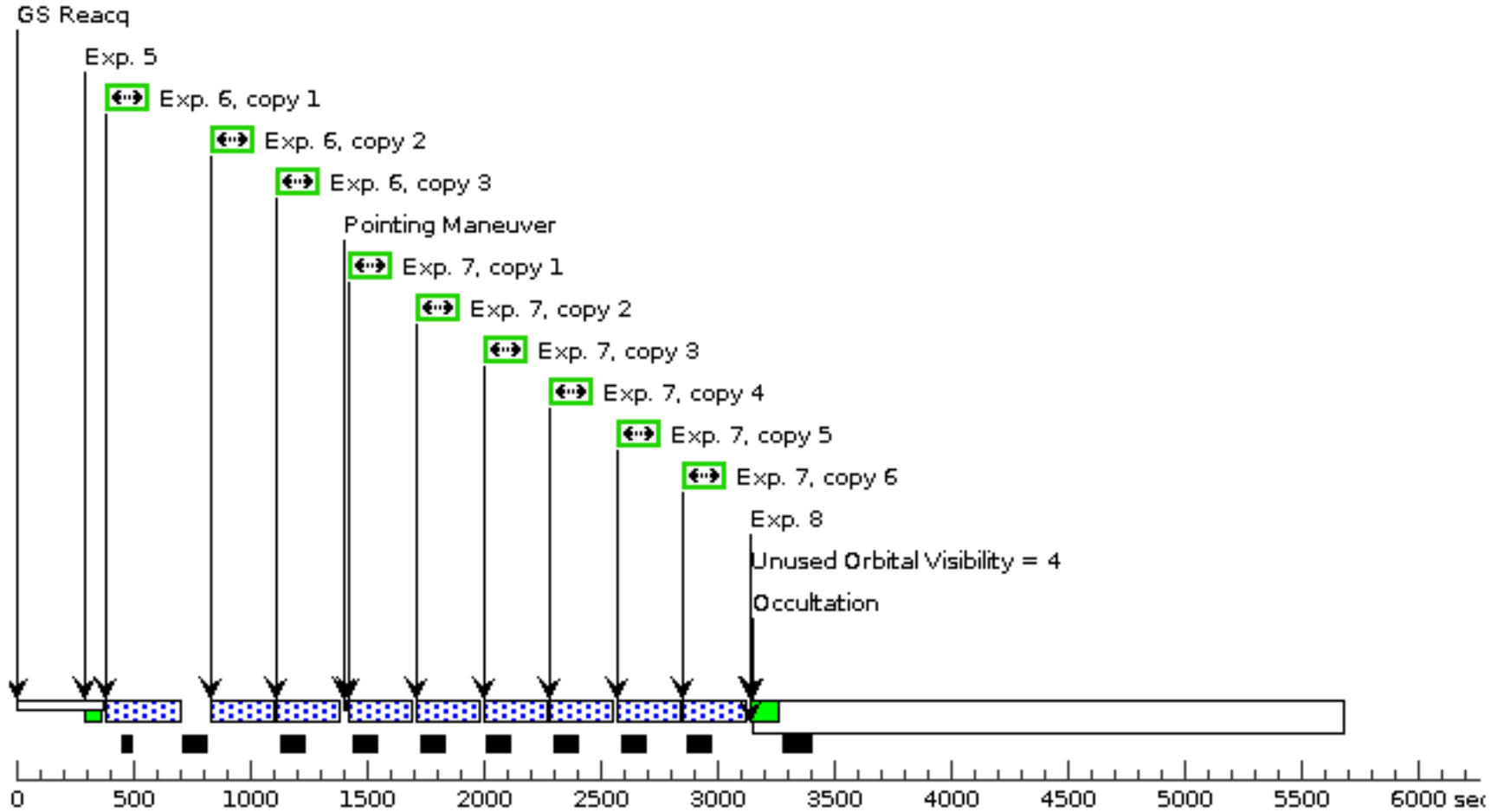
Proposal 16747 - N7023, G230L, Part 1 (HOPR 92588) (29) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

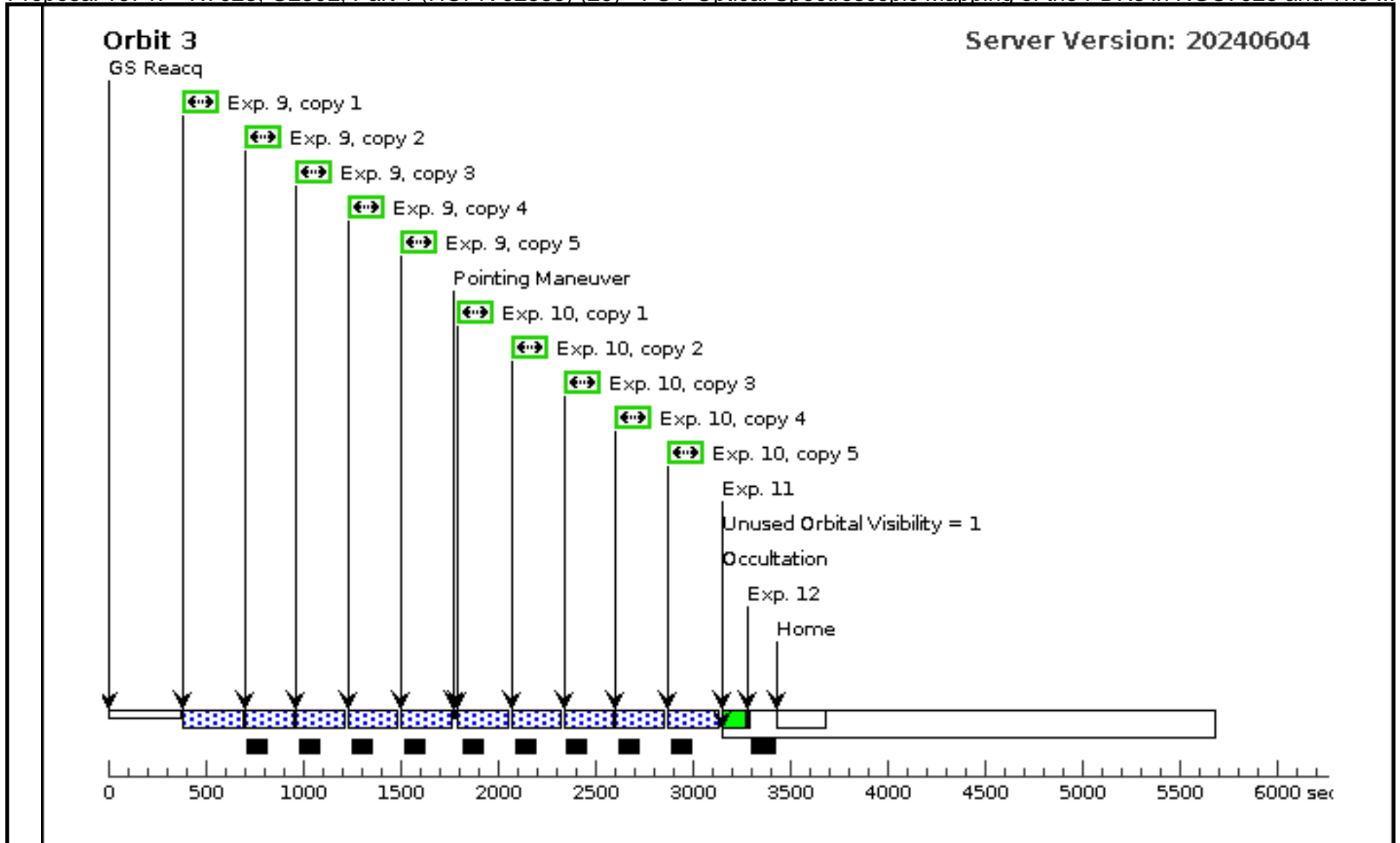
|  |  |             |                       |        |               |                          |                          |     |
|--|--|-------------|-----------------------|--------|---------------|--------------------------|--------------------------|-----|
| 10   | N7023, 5 repeats, -1.5 offset (STIS.sp.15 35954) | (1) NGC7023 | STIS/NUV-MAMA, ACCUM, | G230L  | WAVECAL=NO    | POS TARG -1.5,null       | 278 Secs X 5 (1235 Secs) |     |
|  |  |             | 52X2                  | 2376 A |               |                          | [==>247.0 Secs (Copy 1)] |     |
|  |  |             |                       |        |               |                          | [==>247.0 Secs (Copy 2)] |     |
|  |  |             |                       |        |               |                          | [==>247.0 Secs (Copy 3)] | [3] |
|  |  |             |                       |        |               |                          | [==>247.0 Secs (Copy 4)] |     |
|  |  |             |                       |        |               | [==>247.0 Secs (Copy 5)] |                          |     |
| <i>Comments: With total exposure time of 15568 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |             |                       |        |               |                          |                          |     |
| 11   | Manual Wavecal                                   | WAVE        | STIS/NUV-MAMA, ACCUM, | G230L  |               |                          | [==>]                    | [3] |
|  |  |             | 52X0.2                | 2376 A |               |                          |                          |     |
| 12   | MSOFF Res  | NONE        | STIS, MSMOFF          |        | GRATING1=ALL; |                          | [==>]                    | [3] |
|  | tore   |             |                       |        | SETOFFSET=RES |                          |                          |     |
|  |  |             |                       |        | TORE          |                          |                          |     |



**Orbit 2**

Server Version: 20240604



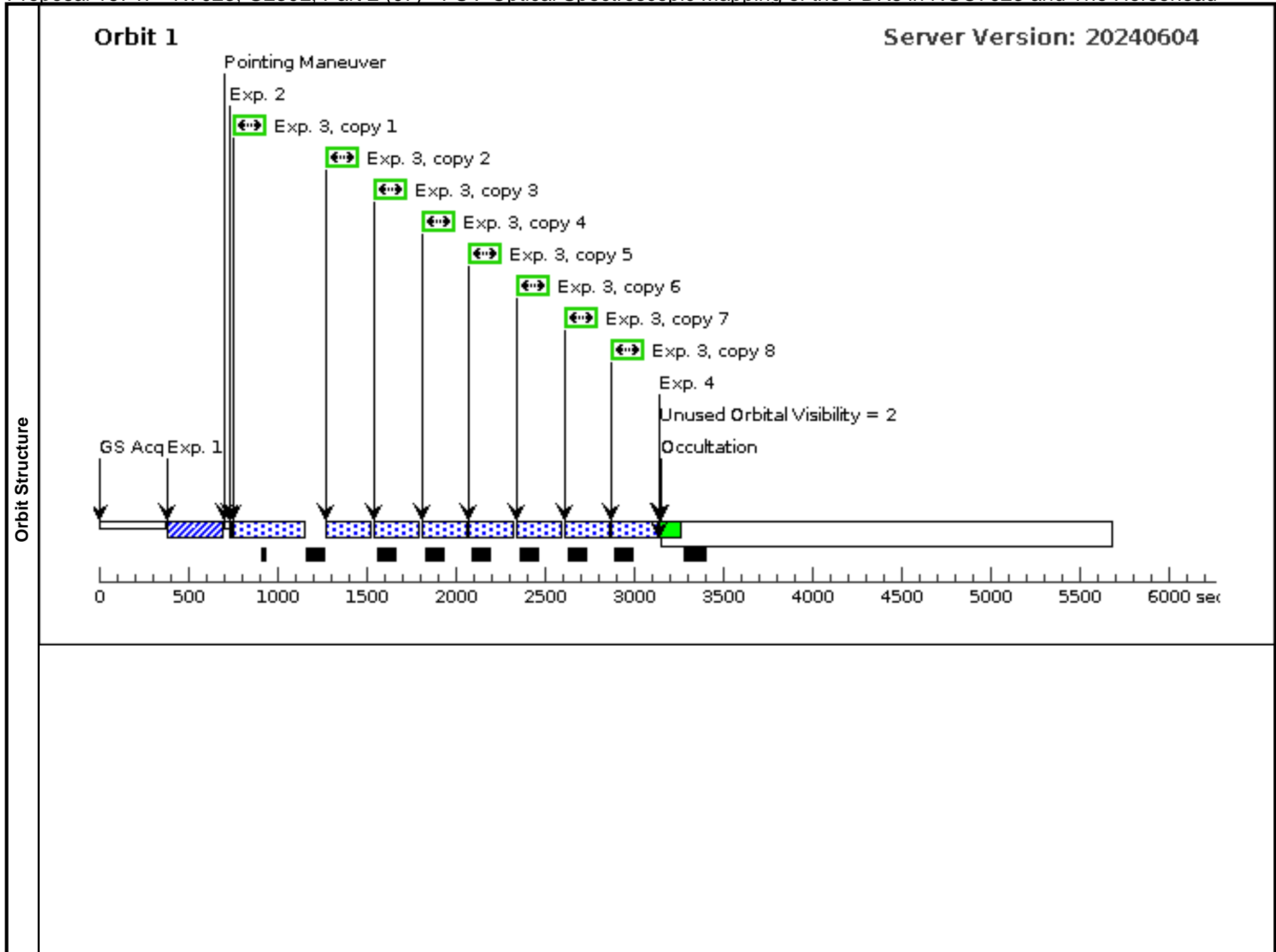


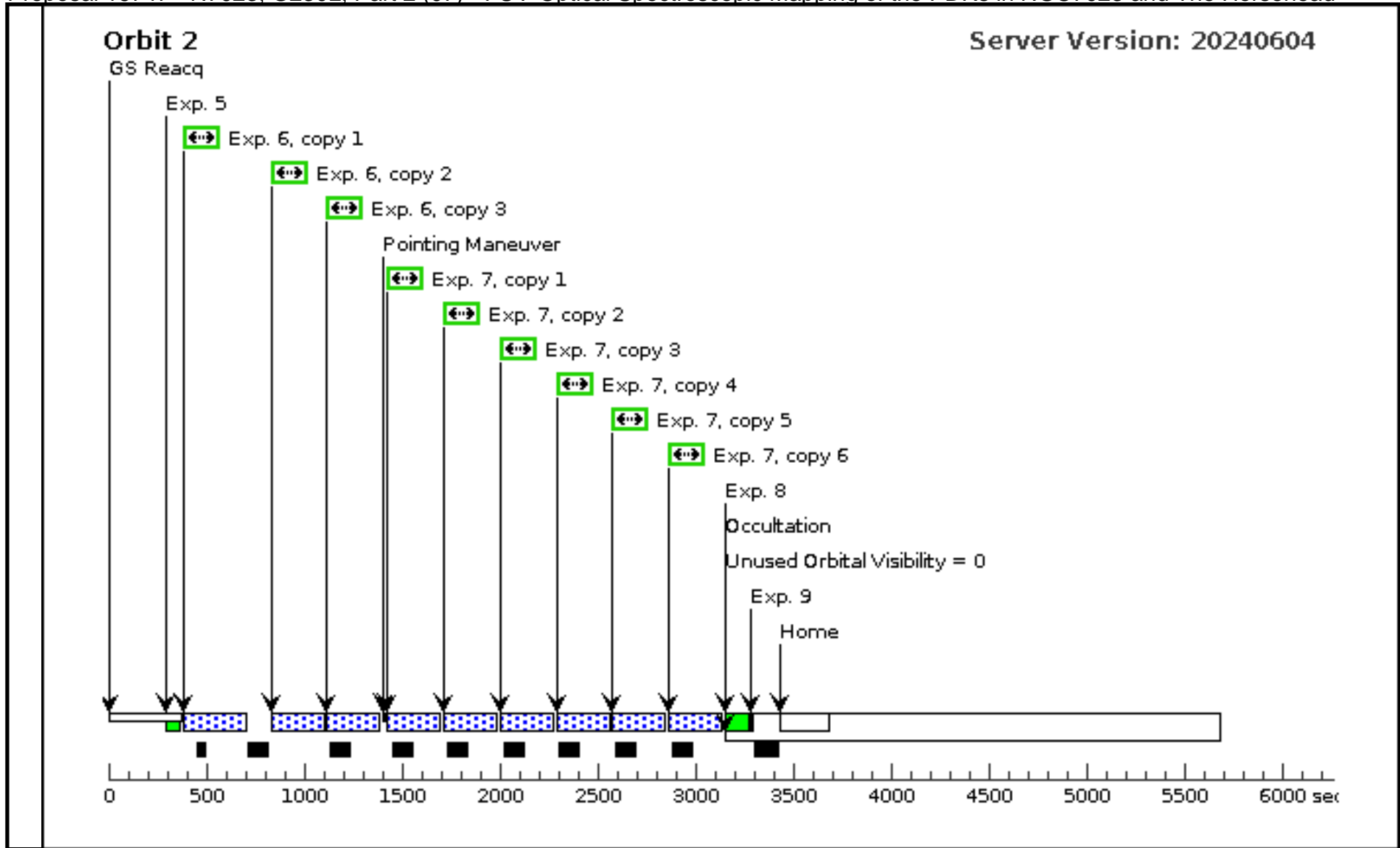




Proposal 16747 - N7023, G230L, Part 2 (07) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label (ETC Run)  | Target   | Config,Mode,Aperture         | Spectral Els.                | Opt. Params.                           | Special Reqs.                   | Groups   | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|--|------------------------------|------------------------------|--|---------------------------------|--|--|-------|
| Exposures  | 1  | ACQ (STIS.ta.153 5078)                           | (3) HD200775                 | STIS/CCD, ACQ, F25ND3        | MIRROR                                 |                                 |  | 5 Secs (5 Secs)<br>[==>]   | [1]   |
|  | <i>Comments: SN 350</i>  |  |                              |                              |  |                                 |  |  |       |
|  | 2  | MSOFF ZE RO                                      | NONE                         | STIS, MSMOFF                 |  | SETOFFSET=ZERO;<br>GRATING1=ALL |  | [==>]  | [1]   |
|  | 3  | N7023, 8 repeats, 1.5 of fset (STIS.sp.15 35954) | (1) NGC7023                  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A                        | WAVECAL=NO                      | POS TARG 1.5,null  | 278 Secs X 8 (1960 Secs)<br>[==>245.0 Secs (Copy 1)]<br>[==>245.0 Secs (Copy 2)]<br>[==>245.0 Secs (Copy 3)]<br>[==>245.0 Secs (Copy 4)]<br>[==>245.0 Secs (Copy 5)]<br>[==>245.0 Secs (Copy 6)]<br>[==>245.0 Secs (Copy 7)]<br>[==>245.0 Secs (Copy 8)] | [1]   |
|  | <i>Comments: With total exposure time of 15568 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |                              |                              |  |                                 |  |  |       |
|  | 4  | Manual Wav ecal                                  | WAVE                         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A                        |                                 |  | [==>]  | [1]   |
|  | 5  | Manual Wav ecal                                  | WAVE                         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A                        |                                 |  | [==>]  | [2]   |
|  | 6  | N7023, 3 repeats, 1.5 of fset (STIS.sp.15 35954) | (1) NGC7023                  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A                        | WAVECAL=NO                      | POS TARG 1.5,null  | 278 Secs X 3 (792 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]  | [2]   |
|  | <i>Comments: With total exposure time of 15568 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |                              |                              |  |                                 |  |  |       |
| 7  | N7023, 6 repeats, -1.5 of fset (STIS.sp.15 35954)  | (1) NGC7023                                      | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A              | WAVECAL=NO                             | POS TARG -1.5,null              | 278 Secs X 6 (1584 Secs)<br>[==>264.0 Secs (Copy 1)]<br>[==>264.0 Secs (Copy 2)]<br>[==>264.0 Secs (Copy 3)]<br>[==>264.0 Secs (Copy 4)]<br>[==>264.0 Secs (Copy 5)]<br>[==>264.0 Secs (Copy 6)] | [2]  |       |
| <i>Comments: With total exposure time of 15568 seconds, SN in continuum is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |  |                              |                              |  |                                 |  |  |       |
| 8  | Manual Wav ecal  | WAVE   | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A              |  |                                 | [==>]  | [2]  |       |
| 9  | MSOFF Res tore   | NONE   | STIS, MSMOFF                 |                              | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                                 | [==>]  | [2]  |       |





Proposal 16747 - N7023, G230L, Part 3 (08) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

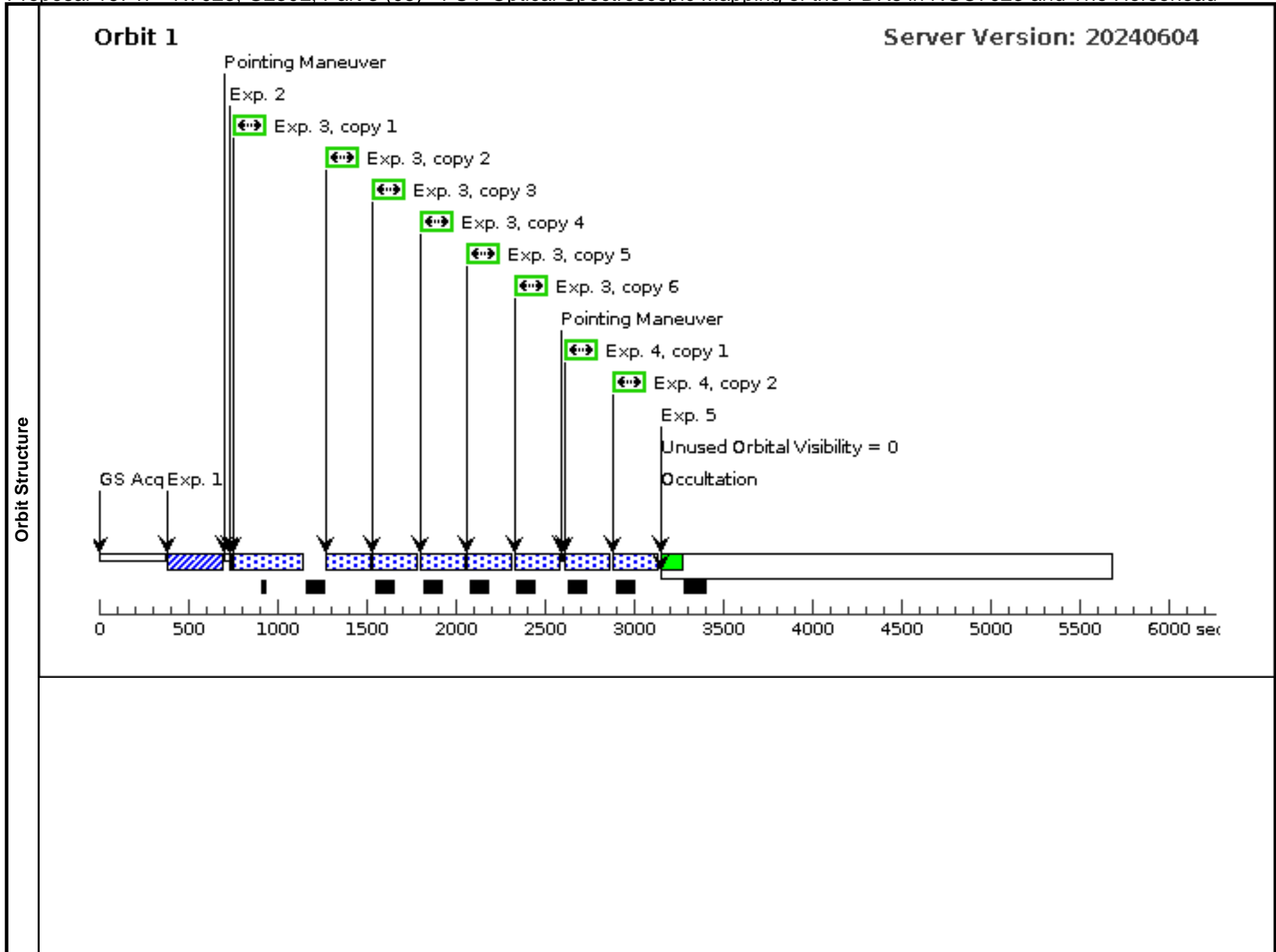
Fri Aug 02 13:01:09 GMT 2024

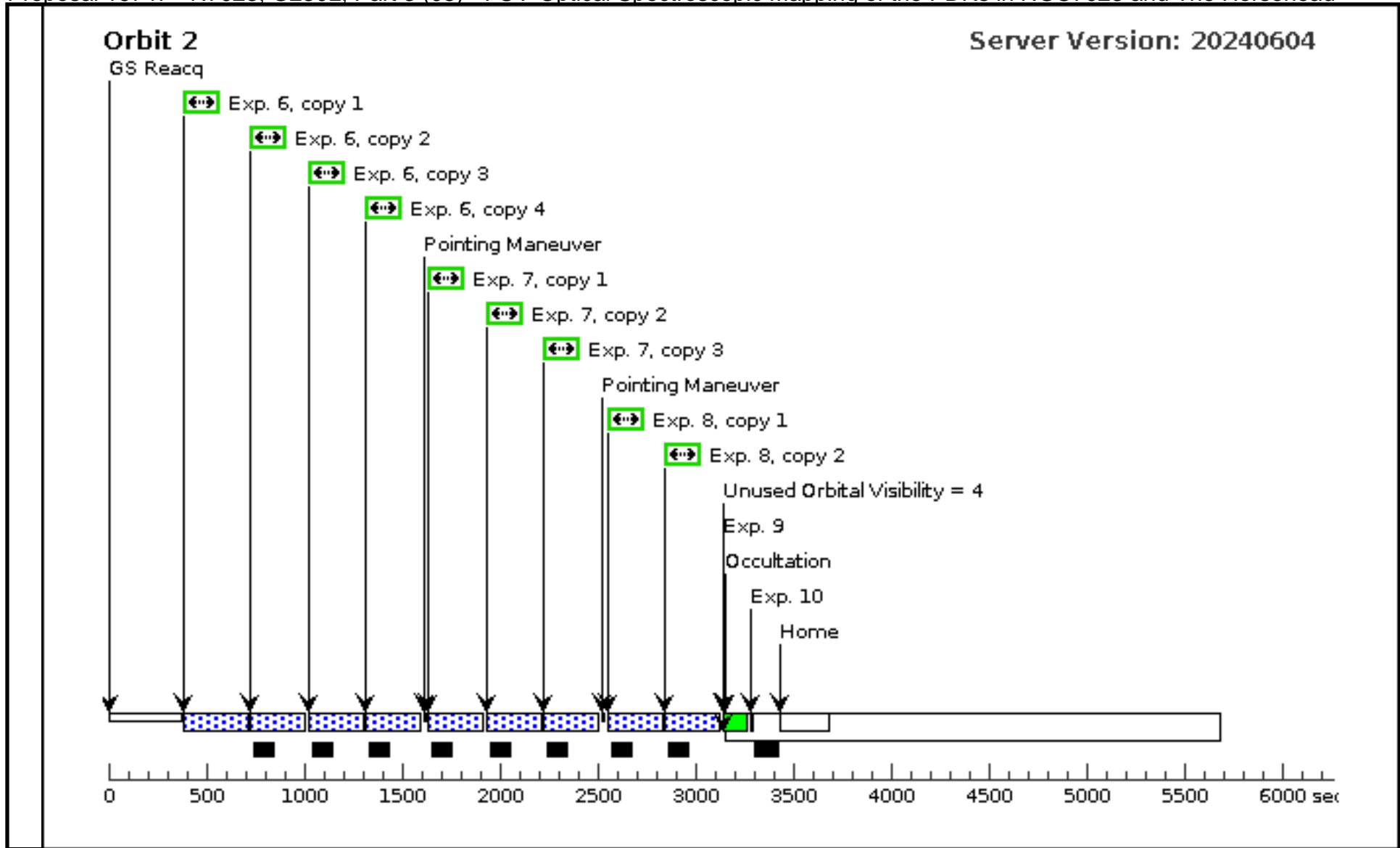
| <b>Visit</b>   | <b>Proposal 16747, N7023, G230L, Part 3 (08), implementation</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/CCD, STIS<br>Special Requirements: ORIENT 188D TO 188 D; ORIENT 8D TO 8 D  |   |   |                          |                       |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
|--|---|---|---|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|---------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|----------|---|---|----------------|-----------------------|--|--|--|--|--|--|
|  | <b>Diagnosics</b><br>(N7023, G230L, Part 3 (08)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 3 (08)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 3 (08)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 3 (08)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(N7023, G230L, Part 3 (08)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |   |   |                          |                       |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>NGC7023</td> <td>RA: 21 01 31.8800 (315.3828333d)<br/>Dec: +68 10 24.50 (68.17347d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(3)</td> <td>HD200775</td> <td>RA: 21 01 36.9185 (315.4038271d)<br/>Dec: +68 09 47.77 (68.16327d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 8.336 mas/yr<br/>Proper Motion Dec: -1.566 mas/yr<br/>Epoch of Position: 2000</td> <td>V=7.36+/-0.011</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Will be used for Target aquisition on NGC7023.<br/>                     Category=EXT-STAR<br/>                     Description=[B0-B2 V-IV]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |   |   |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (1) | NGC7023 | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (3) | HD200775 | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |  |  |  |  |  |
|  | #   | Name  | Target Coordinates  | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
| (1)  | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000 |   | V=20+/-20                | Reference Frame: ICRS |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES               |   |   |   |                          |                       |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
| (3)  | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011           | Reference Frame: ICRS |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |   |   |   |                          |                       |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |
|  |   |   |   |                          |                       |               |      |                    |                          |        |               |     |         |   |  |           |                       |  |  |  |  |  |  |     |          |   |   |                |                       |  |  |  |  |  |  |

Proposal 16747 - N7023, G230L, Part 3 (08) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label (ETC Run)                                  | Target       | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.                        | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|--|--------------|------------------------------|-----------------|-------------------------------------|--------------------|--------|--|-------|
| 1  | ACQ (STIS.ta.153 5078)                           | (3) HD200775 | STIS/CCD, ACQ, F25ND3        | MIRROR          |                                     |                    |        | 5 Secs (5 Secs)<br>[==>]   | [1]   |
| <i>Comments: SN 350</i>  |  |              |                              |                 |                                     |                    |        |  |       |
| 2  | MSOFF ZE RO                                      | NONE         | STIS, MSMOFF                 |                 | SETOFFSET=ZERO;<br>GRATING1=ALL     |                    |        | [==>]  | [1]   |
| 3  | N7023, 6 repeats, 0.5 of fset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 0.5,null  |        | 278 Secs X 6 (1452 Secs)<br>[==>242.0 Secs (Copy 1)]<br>[==>242.0 Secs (Copy 2)]<br>[==>242.0 Secs (Copy 3)]<br>[==>242.0 Secs (Copy 4)]<br>[==>242.0 Secs (Copy 5)]<br>[==>242.0 Secs (Copy 6)] | [1]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 4  | N7023, 2 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 2 (484 Secs)<br>[==>242.0 Secs (Copy 1)]<br>[==>242.0 Secs (Copy 2)]  | [1]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 5  | Manual Wave ecal                                 | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [1]   |
| 6  | N7023, 4 repeats, -0.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -0.5,null |        | 278 Secs X 4 (1092 Secs)<br>[==>273.0 Secs (Copy 1)]<br>[==>273.0 Secs (Copy 2)]<br>[==>273.0 Secs (Copy 3)]<br>[==>273.0 Secs (Copy 4)]   | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 7  | N7023, 3 repeats, 1.5 of fset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 1.5,null  |        | 278 Secs X 3 (819 Secs)<br>[==>273.0 Secs (Copy 1)]<br>[==>273.0 Secs (Copy 2)]<br>[==>273.0 Secs (Copy 3)]  | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 8  | N7023, 2 repeats, -1.5 offset (STIS.sp.15 35954) | (1) NGC7023  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -1.5,null |        | 278 Secs X 2 (546 Secs)<br>[==>273.0 Secs (Copy 1)]<br>[==>273.0 Secs (Copy 2)]  | [2]   |
| <i>Comments: With total exposure time of 15568 seconds, SN in contium is 2-4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |              |                              |                 |                                     |                    |        |  |       |
| 9  | Manual Wave ecal                                 | WAVE         | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 10   | MSOFF Res tore                                   | NONE         | STIS, MSMOFF                 |                 | GRATING1=ALL;<br>SETOFFSET=RES TORE |                    |        | [==>]  | [2]   |

Exposures

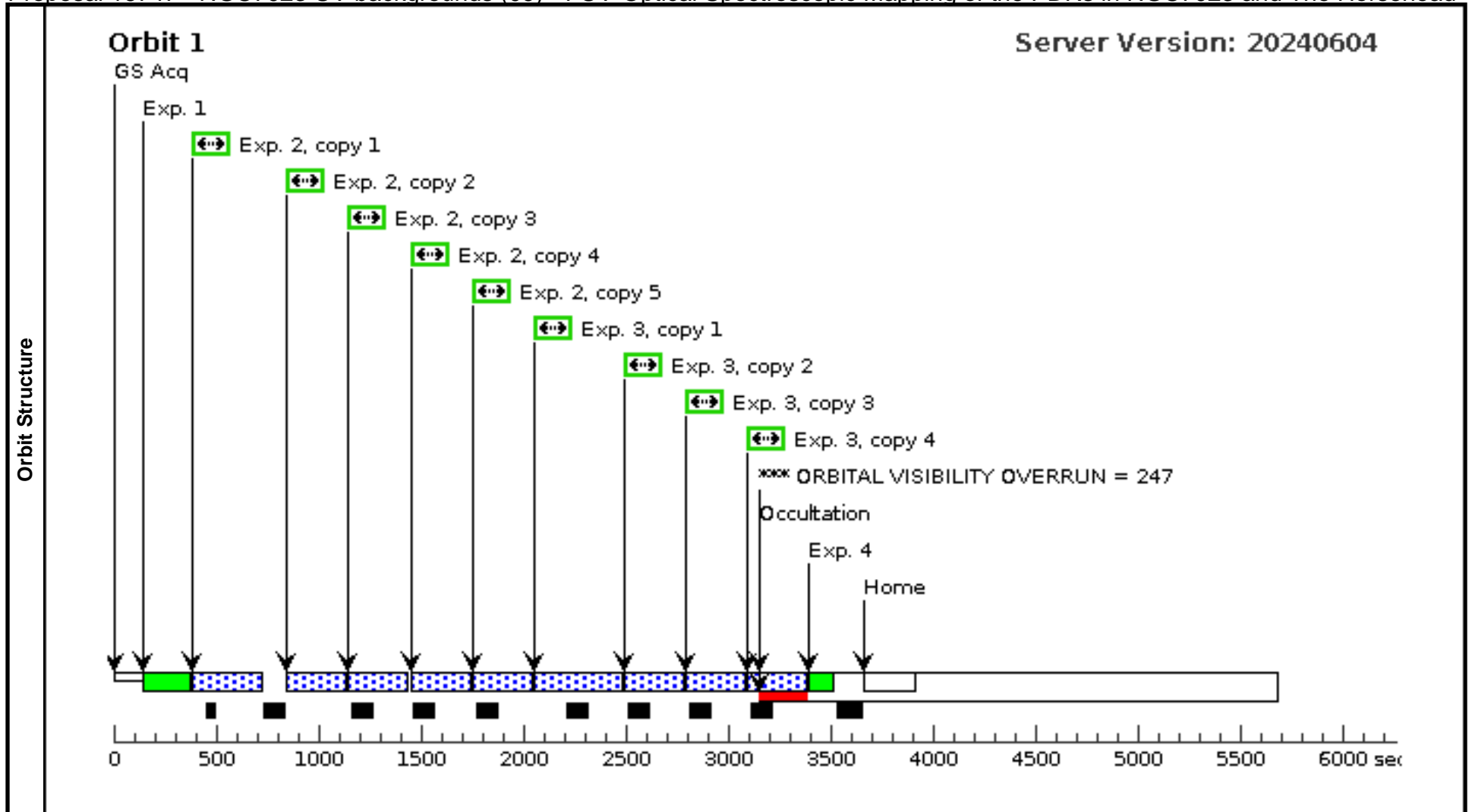






Proposal 16747 - NGC7023 UV backgrounds (09) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>         | Proposal 16747, NGC7023 UV backgrounds (09), completed <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/FUV-MAMA<br>Special Requirements: (none)   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|----------------------|---|---|------------------------------|------------------------------|--------------------------|---------------|---------------|---------------|---|---|-------|------|-----------------------|---|------------------------------|-----------------|--|--|--|-------|-----|---|--------------------------------------|------------------------|----------------------------|-----------------|--|--|--|---|-----|---|--------------------------------------|------------------------|----------------------------|-----------------|------------|--|--|--|-----|---|-----------------|------|------------------------------|-----------------|--|--|--|-------|-----|---|--|--|--|--|
|                      | (NGC7023 UV backgrounds (09)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.<br>(NGC7023 UV backgrounds (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN  |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
| <b>Diagnosics</b>    |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
| <b>Fixed Targets</b> | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(6)</td> <td>NGC7023BACKGROUN D</td> <td>RA: 21 00 16.1800 (315.0674167d)<br/>Dec: +68 20 25.10 (68.34031d)<br/>Equinox: J2000</td> <td></td> <td>V=15</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>  | #   | Name                         | Target Coordinates           | Targ. Coord. Corrections | Fluxes        | Miscellaneous | (6)           | NGC7023BACKGROUN D  | RA: 21 00 16.1800 (315.0674167d)<br>Dec: +68 20 25.10 (68.34031d)<br>Equinox: J2000 |       | V=15 | Reference Frame: ICRS | Comments: Background region selected from Gallex image to monitor instrumental background/stability.<br>Category=CALIBRATION<br>Description=[UNDESIGNATED]<br>Extended=NO |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      | #   | Name  | Target Coordinates           | Targ. Coord. Corrections     | Fluxes                   | Miscellaneous |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
| (6)                  | NGC7023BACKGROUN D  | RA: 21 00 16.1800 (315.0674167d)<br>Dec: +68 20 25.10 (68.34031d)<br>Equinox: J2000 |                              | V=15                         | Reference Frame: ICRS    |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
| <b>Exposures</b>     | <table border="1"> <thead> <tr> <th>#</th> <th>Label (ETC Run)</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time (Total)/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Manual Wav ecal</td> <td>WAVE</td> <td>STIS/FUV-MAMA, ACCUM, 52X0.2</td> <td>G140L<br/>1425 A</td> <td></td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>N7023 Back ground (STIS.sp.15 35952)</td> <td>(6) NGC7023BACK GROUND</td> <td>STIS/FUV-MAMA, ACCUM, 52X2</td> <td>G140L<br/>1425 A</td> <td></td> <td></td> <td></td> <td>280 Secs X 5 (1400 Secs)<br/>[==&gt;(Copy 1)]<br/>[==&gt;(Copy 2)]<br/>[==&gt;(Copy 3)]<br/>[==&gt;(Copy 4)]<br/>[==&gt;(Copy 5)]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>N7023 Back ground (STIS.sp.15 35954)</td> <td>(6) NGC7023BACK GROUND</td> <td>STIS/NUV-MAMA, ACCUM, 52X2</td> <td>G230L<br/>2376 A</td> <td>WAVECAL=NO</td> <td></td> <td></td> <td>278 Secs X 4 (1112 Secs)<br/>[==&gt;(Copy 1)]<br/>[==&gt;(Copy 2)]<br/>[==&gt;(Copy 3)]<br/>[==&gt;(Copy 4)]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td>Manual Wav ecal</td> <td>WAVE</td> <td>STIS/NUV-MAMA, ACCUM, 52X0.2</td> <td>G230L<br/>2376 A</td> <td></td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> </tbody> </table> | #   | Label (ETC Run)              | Target                       | Config,Mode,Aperture     | Spectral Els. | Opt. Params.  | Special Reqs. | Groups  | Exp. Time (Total)/[Actual Dur.]   | Orbit | 1    | Manual Wav ecal       | WAVE  | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A |  |  |  | [==>] | [1] | 2 | N7023 Back ground (STIS.sp.15 35952) | (6) NGC7023BACK GROUND | STIS/FUV-MAMA, ACCUM, 52X2 | G140L<br>1425 A |  |  |  | 280 Secs X 5 (1400 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)] | [1] | 3 | N7023 Back ground (STIS.sp.15 35954) | (6) NGC7023BACK GROUND | STIS/NUV-MAMA, ACCUM, 52X2 | G230L<br>2376 A | WAVECAL=NO |  |  | 278 Secs X 4 (1112 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)] | [1] | 4 | Manual Wav ecal | WAVE | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |  |  |  | [==>] | [1] | Comments: No ETC run performed. These are mainly targeted at instrumental background so are specified at the maximum exposure length on targets, not a specific SN target. ETC number is made up to reduce the number of yellow exclamation points I have to look at. |  |  |  |  |
|                      | #   | Label (ETC Run)   | Target                       | Config,Mode,Aperture         | Spectral Els.            | Opt. Params.  | Special Reqs. | Groups        | Exp. Time (Total)/[Actual Dur.]   | Orbit   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      | 1   | Manual Wav ecal   | WAVE                         | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A          |               |               |               | [==>]   | [1]   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      | 2   | N7023 Back ground (STIS.sp.15 35952)  | (6) NGC7023BACK GROUND       | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A          |               |               |               | 280 Secs X 5 (1400 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)] | [1]   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      | 3   | N7023 Back ground (STIS.sp.15 35954)  | (6) NGC7023BACK GROUND       | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A          | WAVECAL=NO    |               |               | 278 Secs X 4 (1112 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]                  | [1]   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
| 4                    | Manual Wav ecal   | WAVE  | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A              |                          |               |               | [==>]         | [1]   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |
|                      |   |   |                              |                              |                          |               |               |               |   |   |       |      |                       |   |                              |                 |  |  |  |       |     |   |                                      |                        |                            |                 |  |  |  |   |     |   |                                      |                        |                            |                 |            |  |  |  |     |   |                 |      |                              |                 |  |  |  |       |     |   |  |  |  |  |



Proposal 16747 - N7023, G430L/G750L (10) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

Fri Aug 02 13:01:09 GMT 2024

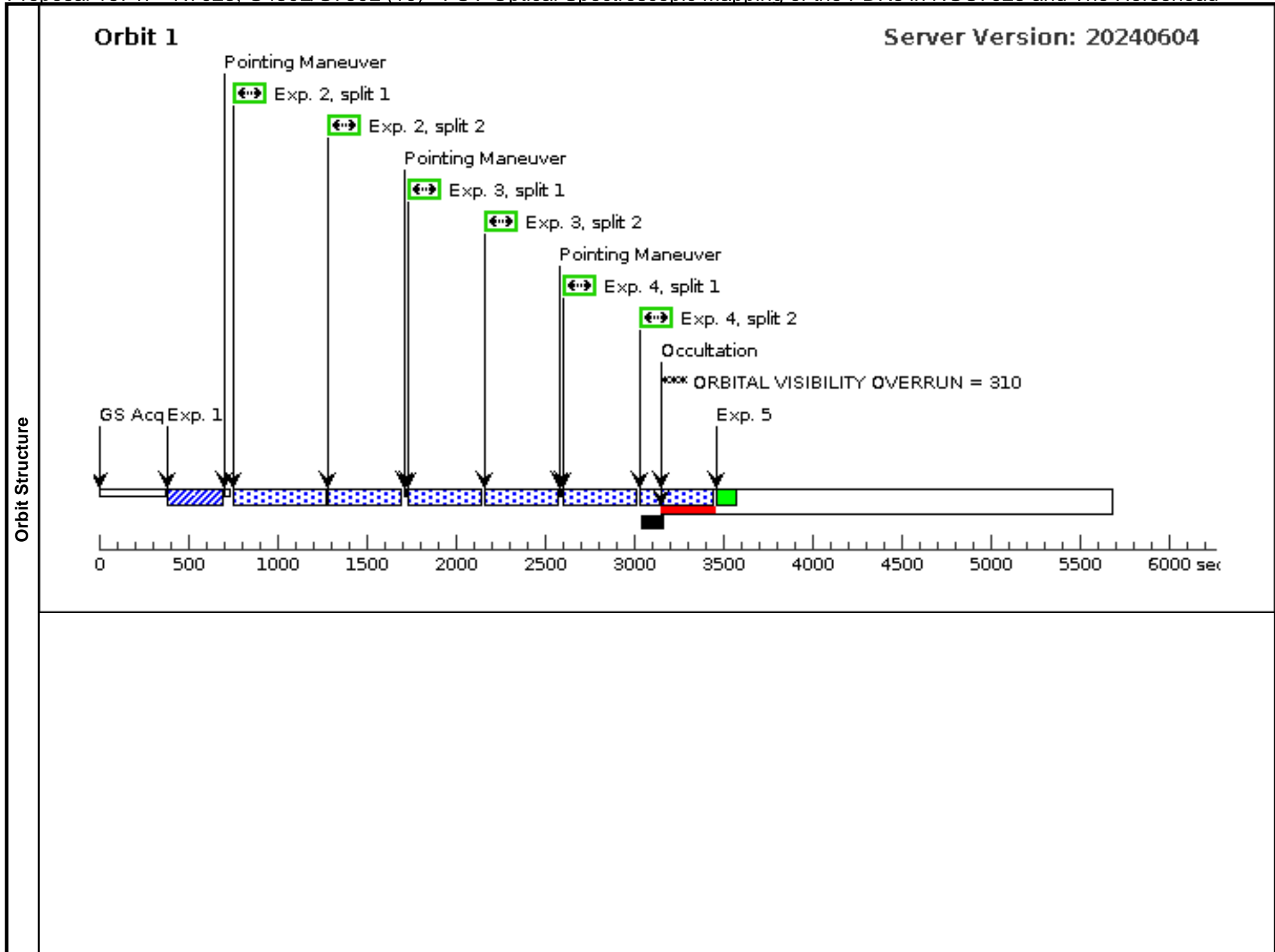
|   |   |   |   |   |                |
|---|---|---|---|---|----------------|
| <b>Visit</b>  | <b>Proposal 16747, N7023, G430L/G750L (10), completed</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 188D TO 188 D; ORIENT 8D TO 8 D    |   |   |   |                |
|   | <b>Diagnostics</b>  | (N7023, G430L/G750L (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| (N7023, G430L/G750L (10)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |   |   |                |
| <b>Fixed Targets</b>  | <b>#</b>  | <b>Name</b>   | <b>Target Coordinates</b>   | <b>Targ. Coord. Corrections</b>   | <b>Fluxes</b>  |
|   | (1)   | NGC7023   | RA: 21 01 31.8800 (315.3828333d)<br>Dec: +68 10 24.50 (68.17347d)<br>Equinox: J2000 |   | V=20+/-20      |
|   | Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |   |   |   |                |
|   | (3)   | HD200775  | RA: 21 01 36.9185 (315.4038271d)<br>Dec: +68 09 47.77 (68.16327d)<br>Equinox: J2000 | Proper Motion RA: 8.336 mas/yr<br>Proper Motion Dec: -1.566 mas/yr<br>Epoch of Position: 2000 | V=7.36+/-0.011 |
| Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br>Will be used for Target aquisition on NGC7023.<br>Category=EXT-STAR<br>Description=[B0-B2 V-IV]<br>Extended=NO |   |   |   |   |                |
| Reference Frame: ICRS   |   |   |   |   |                |

Proposal 16747 - N7023, G430L/G750L (10) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)  | Target       | Config,Mode,Aperture    | Spectral Els.   | Opt. Params.              | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]                         | Orbit |
|--|---|--------------|-------------------------|-----------------|---------------------------|--------------------|--------|---|-------|
| 1  | ACQ<br>(STIS.ta.153<br>5078)                                  | (3) HD200775 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                    |        | 5 Secs (5 Secs)<br>[==>]                                | [1]   |
| <i>Comments: SN 350</i>  |   |              |                         |                 |                           |                    |        |   |       |
| 2  | no offset, ce<br>nter pos. G4<br>30L<br>(STIS.sp.15<br>36371) | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A | CR-SPLIT=2;<br>WAVECAL=NO |                    |        | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
| <i>Comments: Total exposure time of 3040 seconds yields a S/N in the continuum is ~7. Line SN of 10-40. Spectral binning will be used in the continuum to increase SN.</i> |   |              |                         |                 |                           |                    |        |   |       |
| 3  | Offset, 0.5<br>G430L<br>(STIS.sp.15<br>36371)                 | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG 0.5,null  |        | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
| <i>Comments: Total exposure time of 3040 seconds yields a S/N in the continuum is ~7. Line SN of 10-40. Spectral binning will be used in the continuum to increase SN.</i> |   |              |                         |                 |                           |                    |        |   |       |
| 4  | Offset -0.5,<br>G430L<br>(STIS.sp.15<br>36371)                | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG -0.5,null |        | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]   |
| <i>Comments: Total exposure time of 3040 seconds yields a S/N in the continuum is ~7. Line SN of 10-40. Spectral binning will be used in the continuum to increase SN.</i> |   |              |                         |                 |                           |                    |        |   |       |
| 5  | Manual Wav<br>ecal  | WAVE         | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A |                           |                    |        | [==>]   | [1]   |
| 6  | Offset 1.5 G<br>403L<br>(STIS.sp.15<br>36371)                 | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG 1.5,null  |        | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |
| <i>Comments: Total exposure time of 3040 seconds yields a S/N in the continuum is ~7. Line SN of 10-40. Spectral binning will be used in the continuum to increase SN.</i> |   |              |                         |                 |                           |                    |        |   |       |
| 7  | Offset -1.5,<br>G430L<br>(STIS.sp.15<br>36371)                | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG -1.5,null |        | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |
| <i>Comments: Total exposure time of 3040 seconds yields a S/N in the continuum is ~7. Line SN of 10-40. Spectral binning will be used in the continuum to increase SN.</i> |   |              |                         |                 |                           |                    |        |   |       |
| 8  | Manual Wav<br>ecal  | WAVE         | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A |                           |                    |        | [==>]   | [2]   |
| 9  | Offset -1.5,<br>G750L<br>(STIS.sp.15<br>36373)                | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG -1.5,null |        | 756 Secs (756 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |
| <i>Comments: Total exposure time of 3024 seconds yields a S/N in the continuum is ~8-9. Line SN of ~15-50.</i>   |   |              |                         |                 |                           |                    |        |   |       |
| 10   | Manual Wav<br>ecal  | WAVE         | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |        | [==>]   | [2]   |
| 11   | Fringe Flat   | CCDFLAT      | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                    |        | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [2]   |
| 12   | Offset -0.5,<br>G750L<br>(STIS.sp.15<br>36373)                | (1) NGC7023  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG -0.5,null |        | 756 Secs (756 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [3]   |
| <i>Comments: Total exposure time of 3024 seconds yields a S/N in the continuum is ~8-9. Line SN of ~15-50.</i>   |   |              |                         |                 |                           |                    |        |   |       |

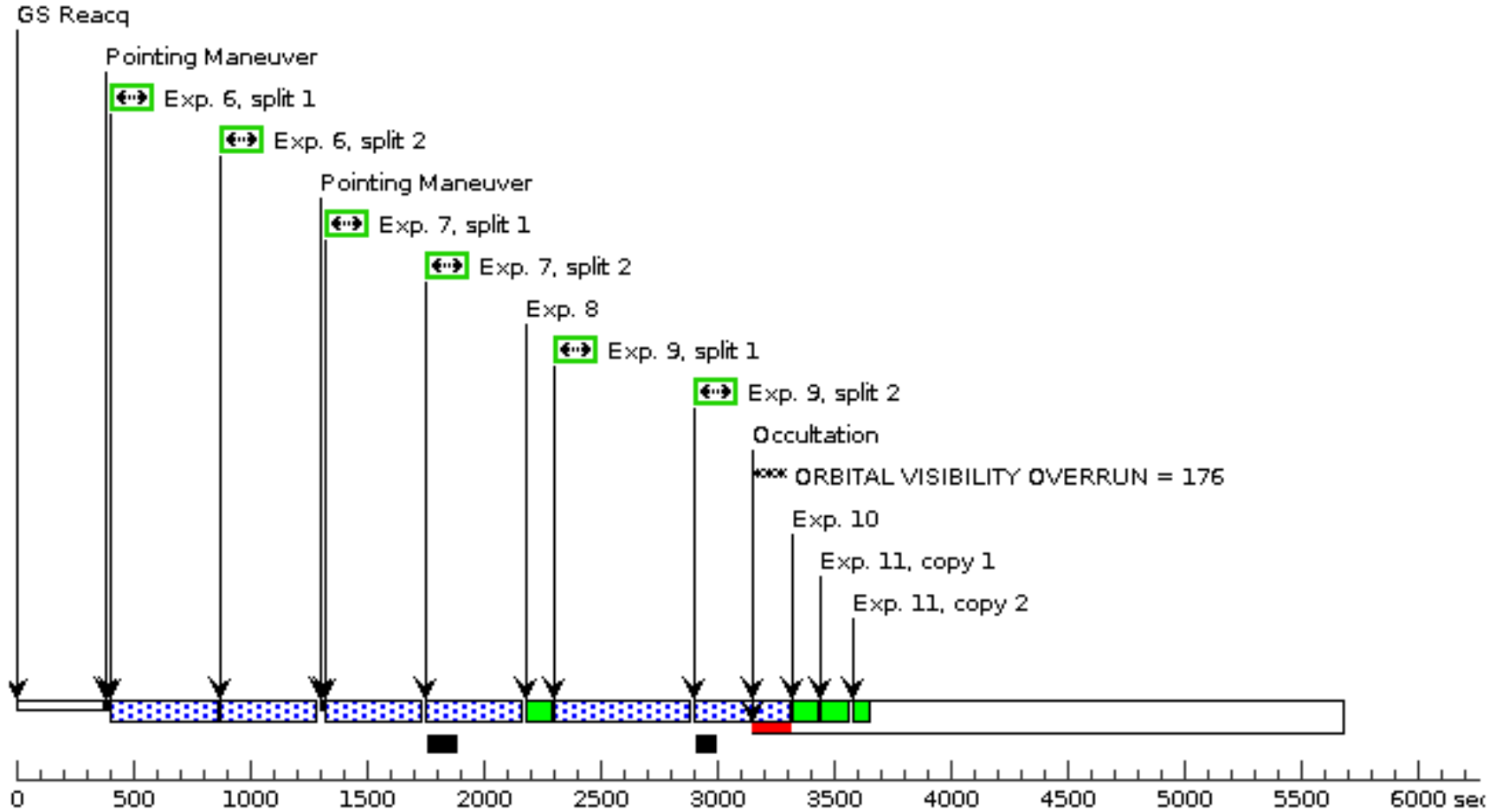
Proposal 16747 - N7023, G430L/G750L (10) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

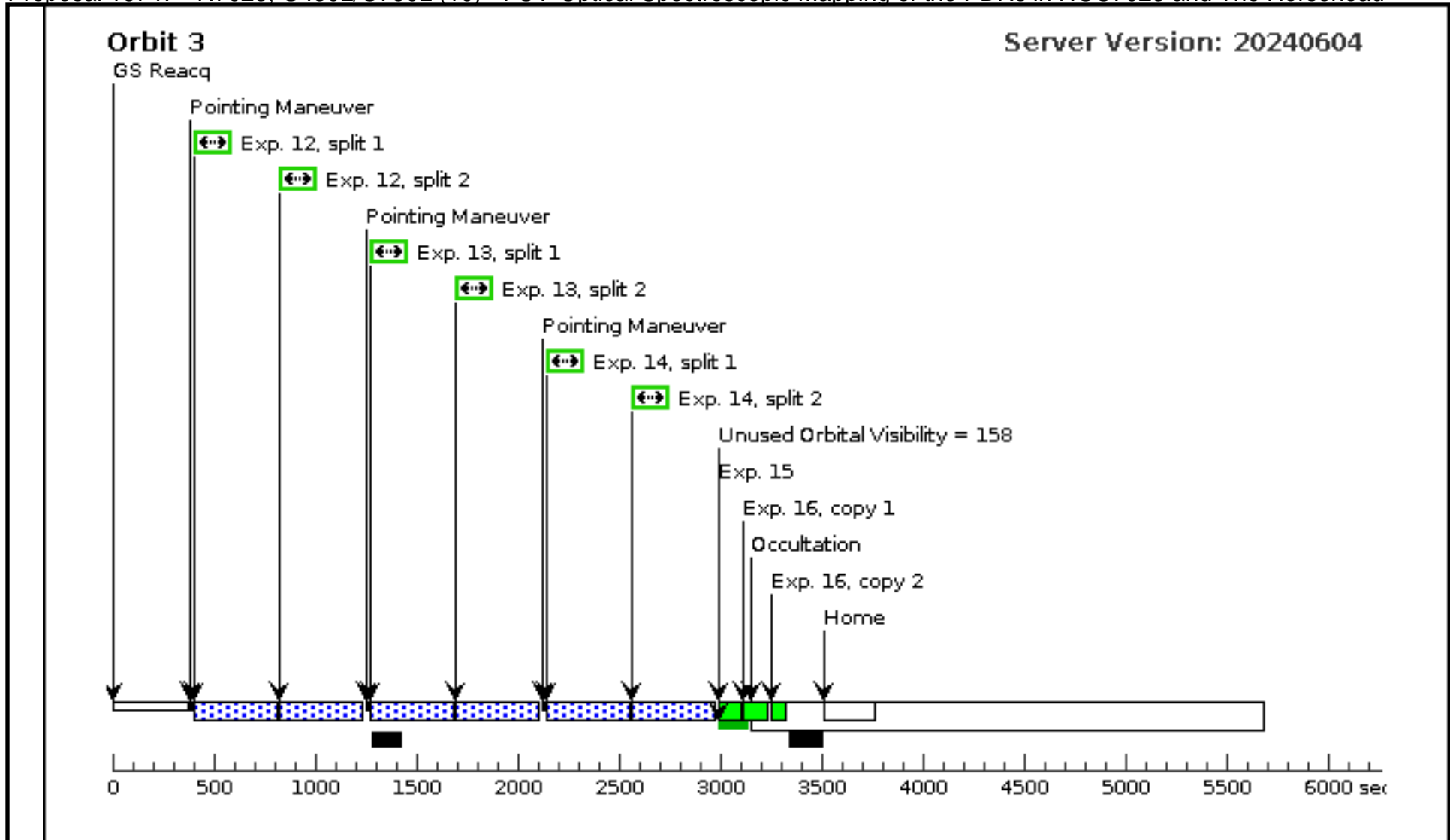
|  |  |             |                         |                 |                           |                   |                     |     |
|--|--|-------------|-------------------------|-----------------|---------------------------|-------------------|---------------------|-----|
| 13   | Offset, 0.5,<br>G750L<br>(STIS.sp.15<br>36373) | (1) NGC7023 | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG 0.5,null | 756 Secs (756 Secs) |     |
|  |  |             |                         |                 |                           |                   | [==>(Split 1)]      | [3] |
|  |  |             |                         |                 |                           |                   | [==>(Split 2)]      |     |
| <i>Comments: Total exposure time of 3024 seconds yields a S/N in the continuum is ~8-9. Line SN of ~15-50.</i> |  |             |                         |                 |                           |                   |                     |     |
| 14   | Offset 1.5,<br>G750L<br>(STIS.sp.15<br>36373)  | (1) NGC7023 | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO | POS TARG 1.5,null | 756 Secs (756 Secs) |     |
|  |  |             |                         |                 |                           |                   | [==>(Split 1)]      | [3] |
|  |  |             |                         |                 |                           |                   | [==>(Split 2)]      |     |
| <i>Comments: Total exposure time of 3024 seconds yields a S/N in the continuum is ~8-9. Line SN of ~15-50.</i> |  |             |                         |                 |                           |                   |                     |     |
| 15   | Manual Wav<br>ecal                             | WAVE        | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                   | [==>]               | [3] |
| 16   | Fringe Flat                                    | CCDFLAT     | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                   | [==>(Copy 1)]       | [3] |
|  |  |             |                         |                 |                           |                   | [==>(Copy 2)]       |     |



**Orbit 2**

Server Version: 20240604

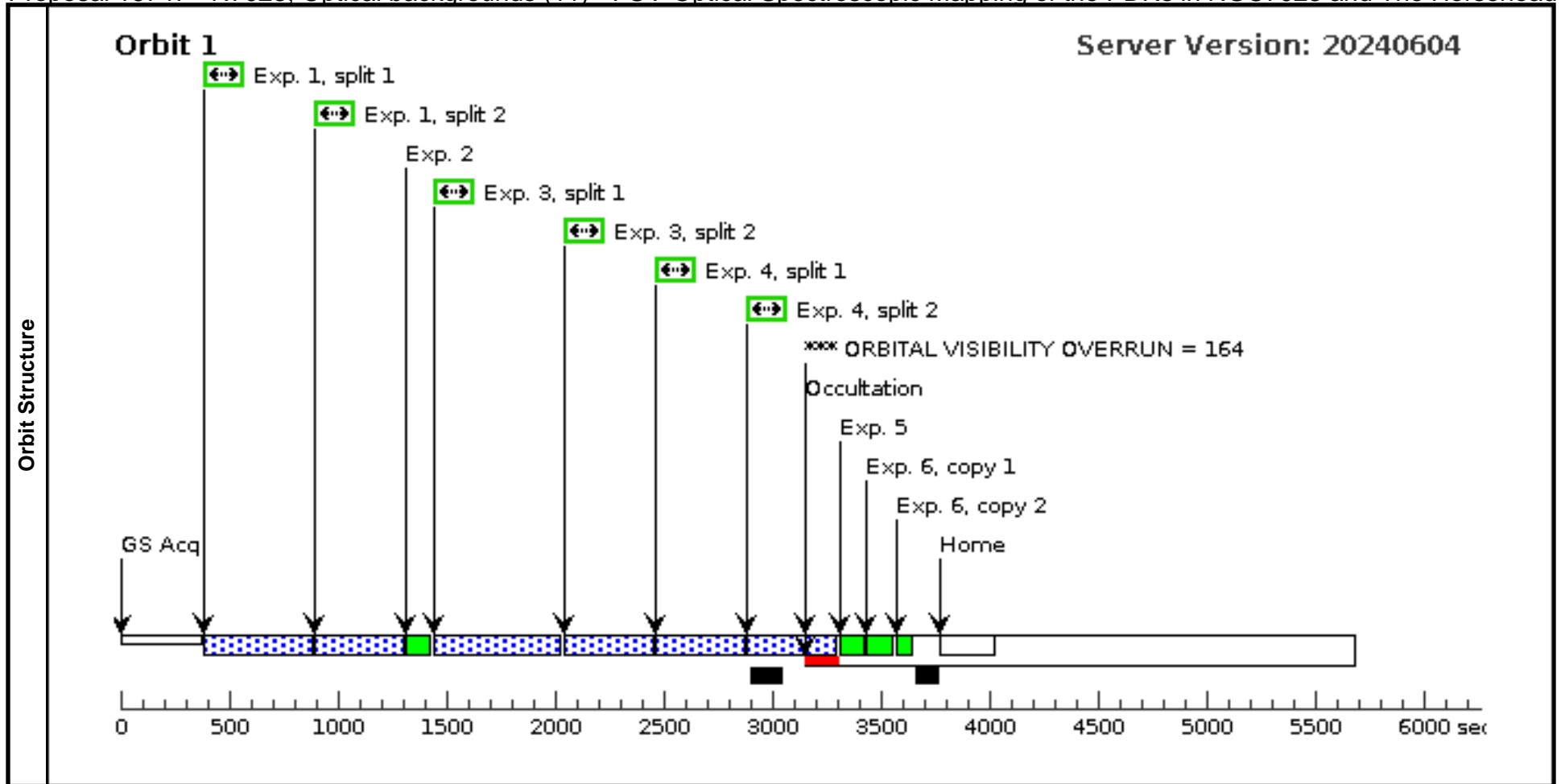






Proposal 16747 - N7023, Optical backgrounds (11) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>  | <b>Proposal 16747, N7023, Optical backgrounds (11), completed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: (none)   |   |                         |                          |                           |               |                 |   |                      |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
|---|--|---|-------------------------|--------------------------|---------------------------|---------------|-----------------|---|----------------------|--------------------------|--------------|---------------|--------|---------------------------------|---|---|-------------------------------|------------------------|-----------------------|-----------------|------------|--|--|---|-----|---|-----------------|------|-------------------------|-----------------|--|--|--|-------|-----|---|-------------------------------|------------------------|-----------------------|-----------------|---------------------------|--|--|---|-----|---|-------------------------------|------------------------|-----------------------|-----------------|---------------------------|--|--|---|-----|---|-----------------|------|-------------------------|-----------------|--|--|--|-------|-----|---|-------------|---------|-----------------------|-----------------|--|--|--|--------------------------------|-----|
|   | <b>Diagnosics</b><br>(N7023, Optical backgrounds (11)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.<br>(N7023, Optical backgrounds (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN  |   |                         |                          |                           |               |                 |   |                      |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| <b>Fixed Targets</b>  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(6)</td> <td>NGC7023BACKGROUN<br/>D</td> <td>RA: 21 00 16.1800 (315.0674167d)<br/>Dec: +68 20 25.10 (68.34031d)<br/>Equinox: J2000</td> <td></td> <td>V=15</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: Background region selected from Gallex image to monitor instrumental background/stability.</i><br/>                 Category=CALIBRATION<br/>                 Description=[UNDESIGNATED]<br/>                 Extended=NO</p> |   |                         |                          |                           |               | #               | Name  | Target Coordinates   | Targ. Coord. Corrections | Fluxes       | Miscellaneous | (6)    | NGC7023BACKGROUN<br>D           | RA: 21 00 16.1800 (315.0674167d)<br>Dec: +68 20 25.10 (68.34031d)<br>Equinox: J2000 |   | V=15                          | Reference Frame: ICRS  |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
|   | #  | Name  | Target Coordinates      | Targ. Coord. Corrections | Fluxes                    | Miscellaneous |                 |   |                      |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| (6)   | NGC7023BACKGROUN<br>D  | RA: 21 00 16.1800 (315.0674167d)<br>Dec: +68 20 25.10 (68.34031d)<br>Equinox: J2000 |                         | V=15                     | Reference Frame: ICRS     |               |                 |   |                      |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>#</th> <th>Label (ETC Run)</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time (Total)/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Background (STIS.sp.15 35955)</td> <td>(6) NGC7023BACK GROUND</td> <td>STIS/CCD, ACCUM, 52X2</td> <td>G430L<br/>4300 A</td> <td>WAVECAL=NO</td> <td></td> <td></td> <td>760 Secs (760 Secs)<br/>[==&gt;(Split 1)]<br/>[==&gt;(Split 2)]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>Manual Wav ecal</td> <td>WAVE</td> <td>STIS/CCD, ACCUM, 52X0.2</td> <td>G430L<br/>4300 A</td> <td></td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>Background (STIS.sp.15 36373)</td> <td>(6) NGC7023BACK GROUND</td> <td>STIS/CCD, ACCUM, 52X2</td> <td>G750L<br/>7751 A</td> <td>CR-SPLIT=2;<br/>WAVECAL=NO</td> <td></td> <td></td> <td>760 Secs (760 Secs)<br/>[==&gt;(Split 1)]<br/>[==&gt;(Split 2)]</td> <td>[1]</td> </tr> <tr> <td>4</td> <td>Background (STIS.sp.15 36373)</td> <td>(6) NGC7023BACK GROUND</td> <td>STIS/CCD, ACCUM, 52X2</td> <td>G750L<br/>7751 A</td> <td>CR-SPLIT=2;<br/>WAVECAL=NO</td> <td></td> <td></td> <td>760 Secs (760 Secs)<br/>[==&gt;(Split 1)]<br/>[==&gt;(Split 2)]</td> <td>[1]</td> </tr> <tr> <td>5</td> <td>Manual Wav ecal</td> <td>WAVE</td> <td>STIS/CCD, ACCUM, 52X0.2</td> <td>G750L<br/>7751 A</td> <td></td> <td></td> <td></td> <td>[==&gt;]</td> <td>[1]</td> </tr> <tr> <td>6</td> <td>Fringe Flat</td> <td>CCDFLAT</td> <td>STIS/CCD, ACCUM, 52X2</td> <td>G750L<br/>7751 A</td> <td></td> <td></td> <td></td> <td>[==&gt;(Copy 1)]<br/>[==&gt;(Copy 2)]</td> <td>[1]</td> </tr> </tbody> </table> |  |   |                         |                          |                           | #             | Label (ETC Run) | Target  | Config,Mode,Aperture | Spectral Els.            | Opt. Params. | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.] | Orbit   | 1 | Background (STIS.sp.15 35955) | (6) NGC7023BACK GROUND | STIS/CCD, ACCUM, 52X2 | G430L<br>4300 A | WAVECAL=NO |  |  | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1] | 2 | Manual Wav ecal | WAVE | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A |  |  |  | [==>] | [1] | 3 | Background (STIS.sp.15 36373) | (6) NGC7023BACK GROUND | STIS/CCD, ACCUM, 52X2 | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO |  |  | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1] | 4 | Background (STIS.sp.15 36373) | (6) NGC7023BACK GROUND | STIS/CCD, ACCUM, 52X2 | G750L<br>7751 A | CR-SPLIT=2;<br>WAVECAL=NO |  |  | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1] | 5 | Manual Wav ecal | WAVE | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |  |  |  | [==>] | [1] | 6 | Fringe Flat | CCDFLAT | STIS/CCD, ACCUM, 52X2 | G750L<br>7751 A |  |  |  | [==>(Copy 1)]<br>[==>(Copy 2)] | [1] |
| #   | Label (ETC Run)  | Target  | Config,Mode,Aperture    | Spectral Els.            | Opt. Params.              | Special Reqs. | Groups          | Exp. Time (Total)/[Actual Dur.]                         | Orbit                |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 1   | Background (STIS.sp.15 35955)  | (6) NGC7023BACK GROUND  | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A          | WAVECAL=NO                |               |                 | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 2   | Manual Wav ecal  | WAVE  | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A          |                           |               |                 | [==>]   | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 3   | Background (STIS.sp.15 36373)  | (6) NGC7023BACK GROUND  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A          | CR-SPLIT=2;<br>WAVECAL=NO |               |                 | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 4   | Background (STIS.sp.15 36373)  | (6) NGC7023BACK GROUND  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A          | CR-SPLIT=2;<br>WAVECAL=NO |               |                 | 760 Secs (760 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 5   | Manual Wav ecal  | WAVE  | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A          |                           |               |                 | [==>]   | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |
| 6   | Fringe Flat  | CCDFLAT   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A          |                           |               |                 | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [1]                  |                          |              |               |        |                                 |   |   |                               |                        |                       |                 |            |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                               |                        |                       |                 |                           |  |  |   |     |   |                 |      |                         |                 |  |  |  |       |     |   |             |         |                       |                 |  |  |  |                                |     |

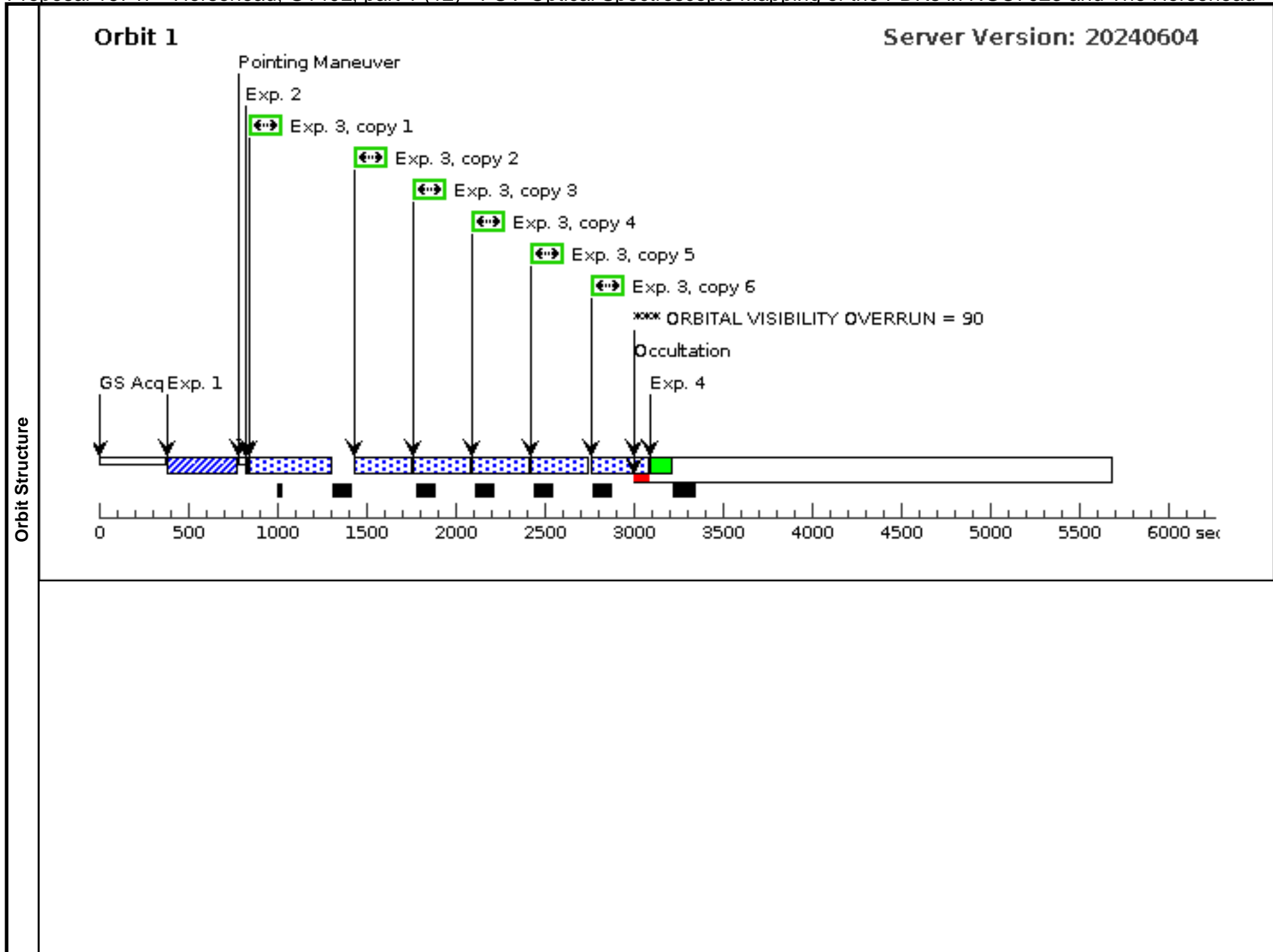


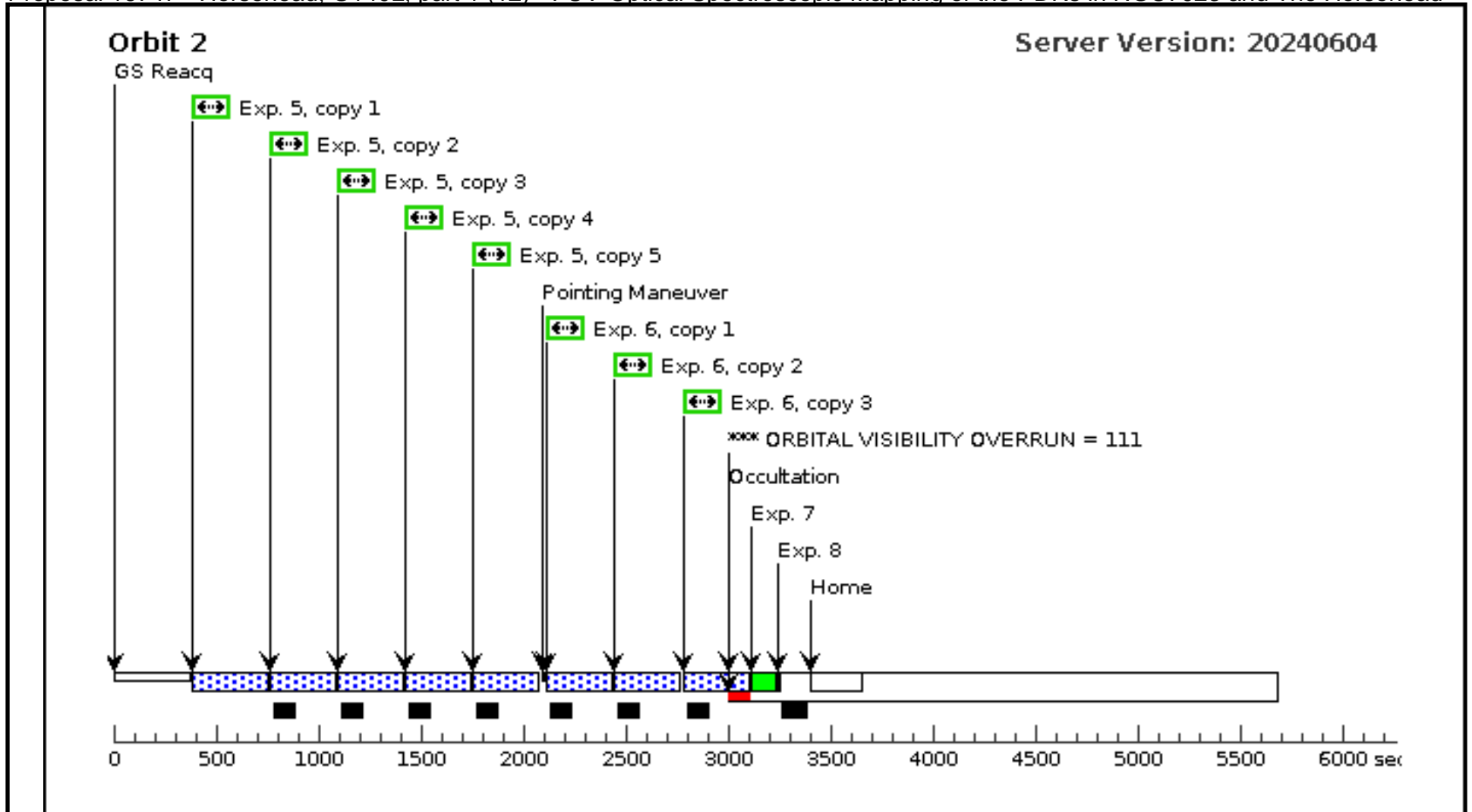
Proposal 16747 - Horsehead, G140L, part 1 (12) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>  | <b>Proposal 16747, Horsehead, G140L, part 1 (12), completed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD, STIS, STIS/FUV-MAMA<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
|---|--|--|--|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|---|--|--|--|--|--|
|   | <b>Diagnosics</b><br>(Horsehead, G140L, part 1 (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G140L, part 1 (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <b>Fixed Targets</b>  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">#</th> <th style="width: 20%;">Name</th> <th style="width: 25%;">Target Coordinates</th> <th style="width: 20%;">Targ. Coord. Corrections</th> <th style="width: 10%;">Fluxes</th> <th style="width: 20%;">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>                     RA: 05 40 53.6500 (85.2235417d)<br/>                     Dec: -02 28 4.30 (-2.46786d)<br/>                     Equinox: J2000                 </td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments:</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>                     RA: 05 40 49.6002 (85.2066675d)<br/>                     Dec: -02 28 56.22 (-2.48228d)<br/>                     Equinox: J2000                 </td> <td>                     Proper Motion RA: 1.373 mas/yr<br/>                     Proper Motion Dec: 1.865 mas/yr<br/>                     Epoch of Position: 2000                 </td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=EXT-STAR<br/>                     Description=[A0-A3 III-I]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |  |  |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |  |  |
|   | #  | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| (2)   | HORSEHEAD  | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20                | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| (5)   | MSJ2009L1630MIR14  | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |

Proposal 16747 - Horsehead, G140L, part 1 (12) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)   | Target   | Config,Mode,Aperture            | Spectral Els.                   | Opt. Params.                           | Special Reqs.                       | Groups           | Exp. Time (Total)/[Actual Dur.]  | Orbit  |     |
|--|--|--|---------------------------------|---------------------------------|--|-------------------------------------|------------------|--|--|-----|
| Exposures  | 1  | ACQ<br>(STIS.ta.153<br>5128)                                   | (5) MSJ2009L1630<br>MIR14       | STIS/CCD, ACQ, F25ND3           | MIRROR                                 |                                     |                  | 25 Secs (25 Secs)<br>[==>]   | [1]  |     |
|  | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |  |                                 |                                 |  |                                     |                  |  |  |     |
|  | 2  | MSOFF ZE<br>RO   | NONE                            | STIS, MSMOFF                    |  | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |                  |  | [==>]  | [1] |
|  | 3  | Horsehead 6<br>repeats, 0.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD                   | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                        | WAVECAL=NO                          | POS TARG 0.5,3.5 |  | 310 Secs X 6 (1860 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)] | [1] |
|  | <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |  |                                 |                                 |  |                                     |                  |  |  |     |
|  | 4  | Manual Wav<br>ecal   | WAVE                            | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A                        |                                     |                  |  | [==>]  | [1] |
|  | 5  | Horsehead 5<br>repeats, 0.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD                   | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                        | WAVECAL=NO                          | POS TARG 0.5,3.5 |  | 310 Secs X 5 (1550 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]                  | [2] |
|  | <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |  |                                 |                                 |  |                                     |                  |  |  |     |
| 6  | Horsehead 3<br>repeats, -0.5<br>offset<br>(STIS.sp.15<br>35935)  | (2) HORSEHEAD  | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A                 | WAVECAL=NO                             | POS TARG -0.5,3.5                   |                  | 310 Secs X 3 (930 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)] | [2]  |     |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |  |                                 |                                 |  |                                     |                  |  |  |     |
| 7  | Manual Wav<br>ecal   | WAVE   | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A                 |  |                                     |                  | [==>]  | [2]  |     |
| 8  | MSOFF Res<br>tore  | NONE   | STIS, MSMOFF                    |                                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                                     |                  | [==>]  | [2]  |     |





Proposal 16747 - Horsehead, G140L, part 2 (13) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

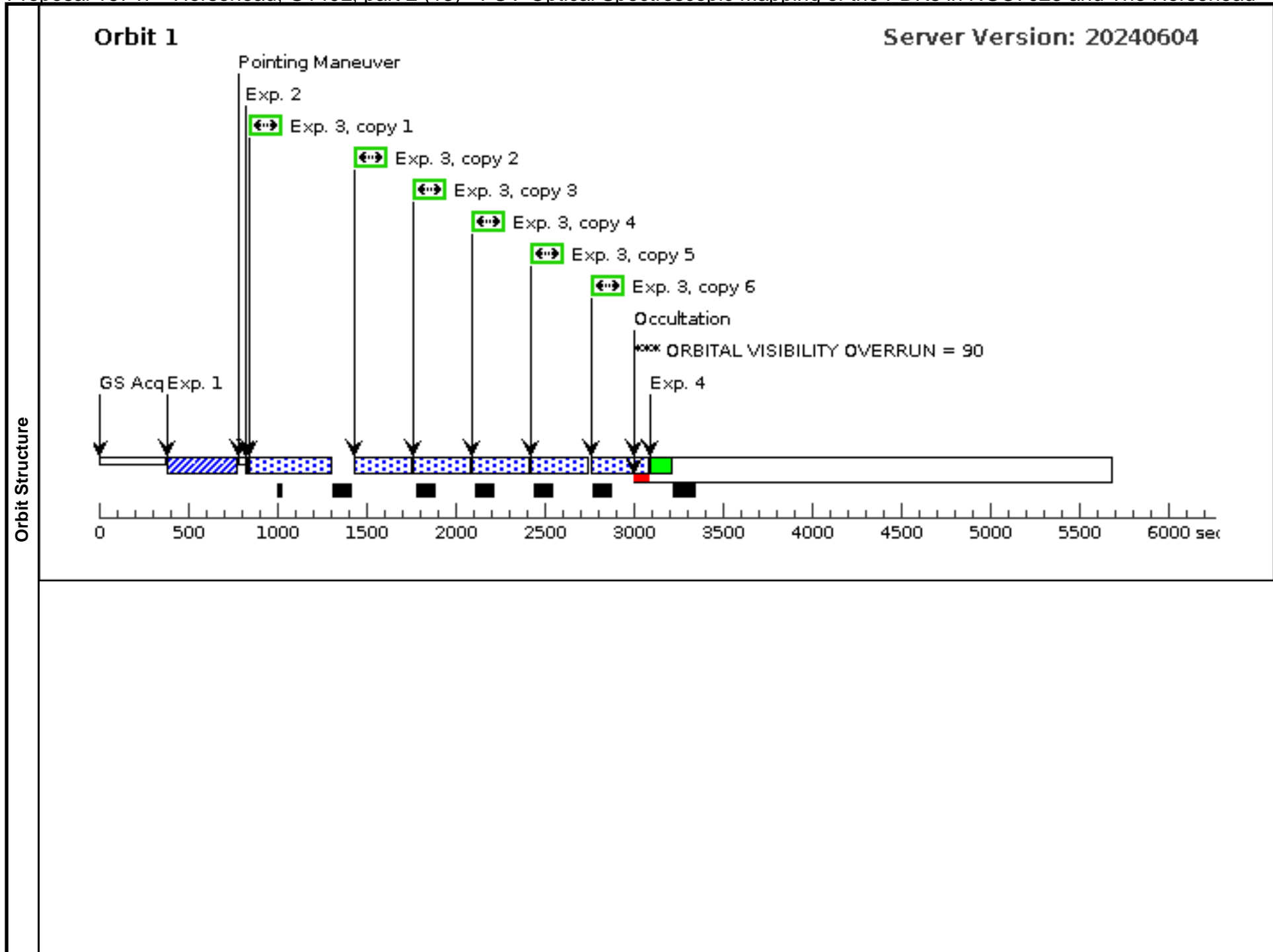
|   |   |   |  |                                 |                       |                       |
|---|---|---|--|---------------------------------|-----------------------|-----------------------|
| <b>Visit</b>  | <b>Proposal 16747, Horsehead, G140L, part 2 (13), completed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD, STIS, STIS/FUV-MAMA<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D |   |  |                                 |                       |                       |
|   | <b>Diagnostics</b>  | (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| (Horsehead, G140L, part 2 (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                                 |                       |                       |
| <b>Fixed Targets</b>  | <b>#</b>  | <b>Name</b>   | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b> | <b>Fluxes</b>         | <b>Miscellaneous</b>  |
|   | (2)   | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000            |                                 | V=20+/-20             | Reference Frame: ICRS |
|   | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |   |  |                                 |                       |                       |
| (5)   | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000  | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                        | Reference Frame: ICRS |                       |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |   |   |  |                                 |                       |                       |

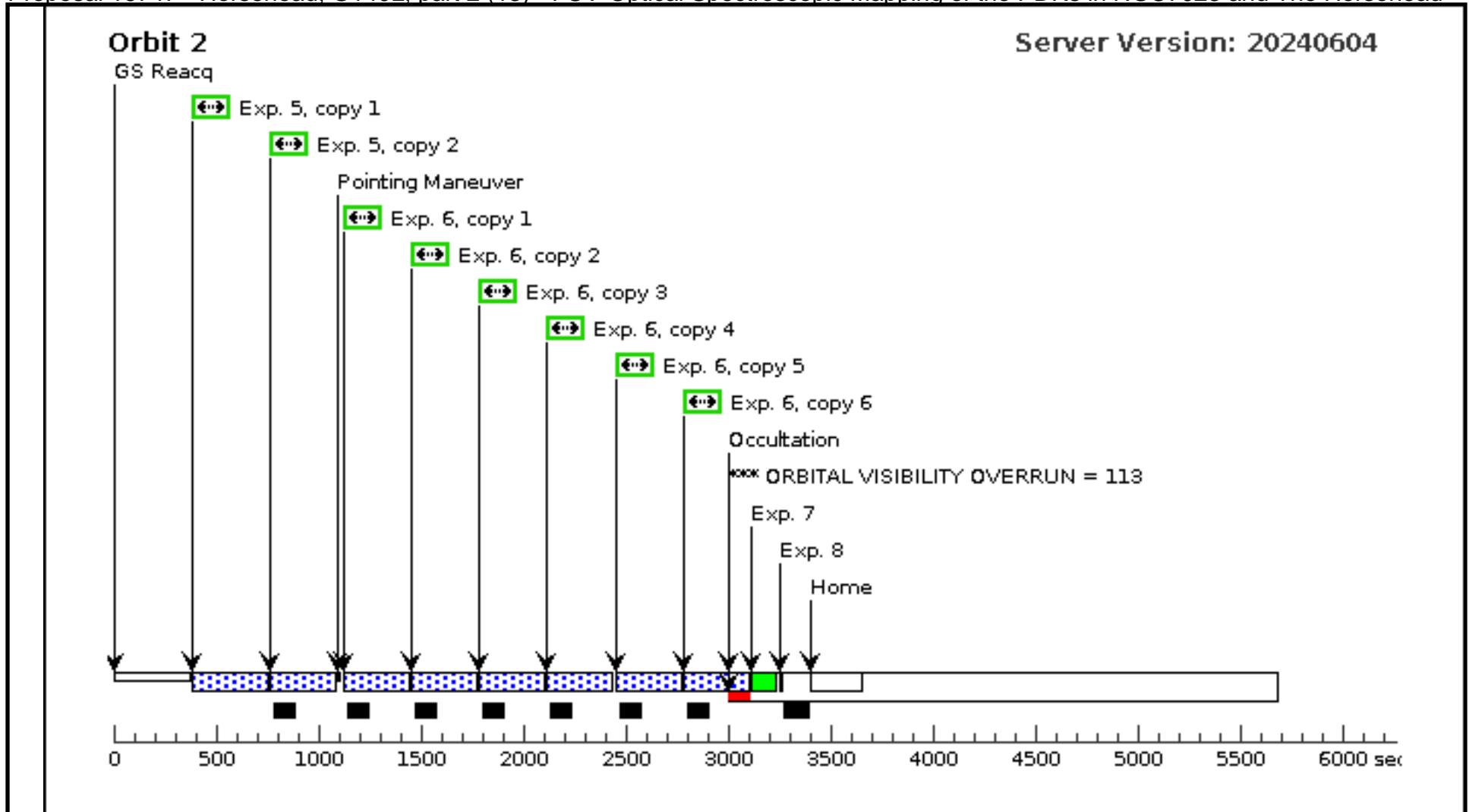
Proposal 16747 - Horsehead, G140L, part 2 (13) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)  | Target                    | Config,Mode,Aperture            | Spectral Els.   | Opt. Params.                           | Special Reqs.     | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|---|---------------------------|---------------------------------|-----------------|--|-------------------|--------|--|-------|
| 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3           | MIRROR          |  |                   |        | 25 Secs (25 Secs)<br>[==>]   | [1]   |
| <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                                 |                 |  |                   |        |  |       |
| 2  | MSOFF ZE<br>RO  | NONE                      | STIS, MSMOFF                    |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL    |                   |        | [==>]  | [1]   |
| 3  | Horsehead 6<br>repeats, -0.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -0.5,3.5 |        | 310 Secs X 6 (1860 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)] | [1]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 4  | Manual Wav<br>ecal  | WAVE                      | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A |  |                   |        | [==>]  | [1]   |
| 5  | Horsehead 2<br>repeats, -0.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -0.5,3.5 |        | 310 Secs X 2 (620 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]  | [2]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 6  | Horsehead 6<br>repeats, 1.5<br>offset<br>(STIS.sp.15<br>35935)  | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG 1.5,3.5  |        | 310 Secs X 6 (1860 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)] | [2]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 7  | Manual Wav<br>ecal  | WAVE                      | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A |  |                   |        | [==>]  | [2]   |
| 8  | MSOFF Res<br>tore   | NONE                      | STIS, MSMOFF                    |                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                   |        | [==>]  | [2]   |

Exposures





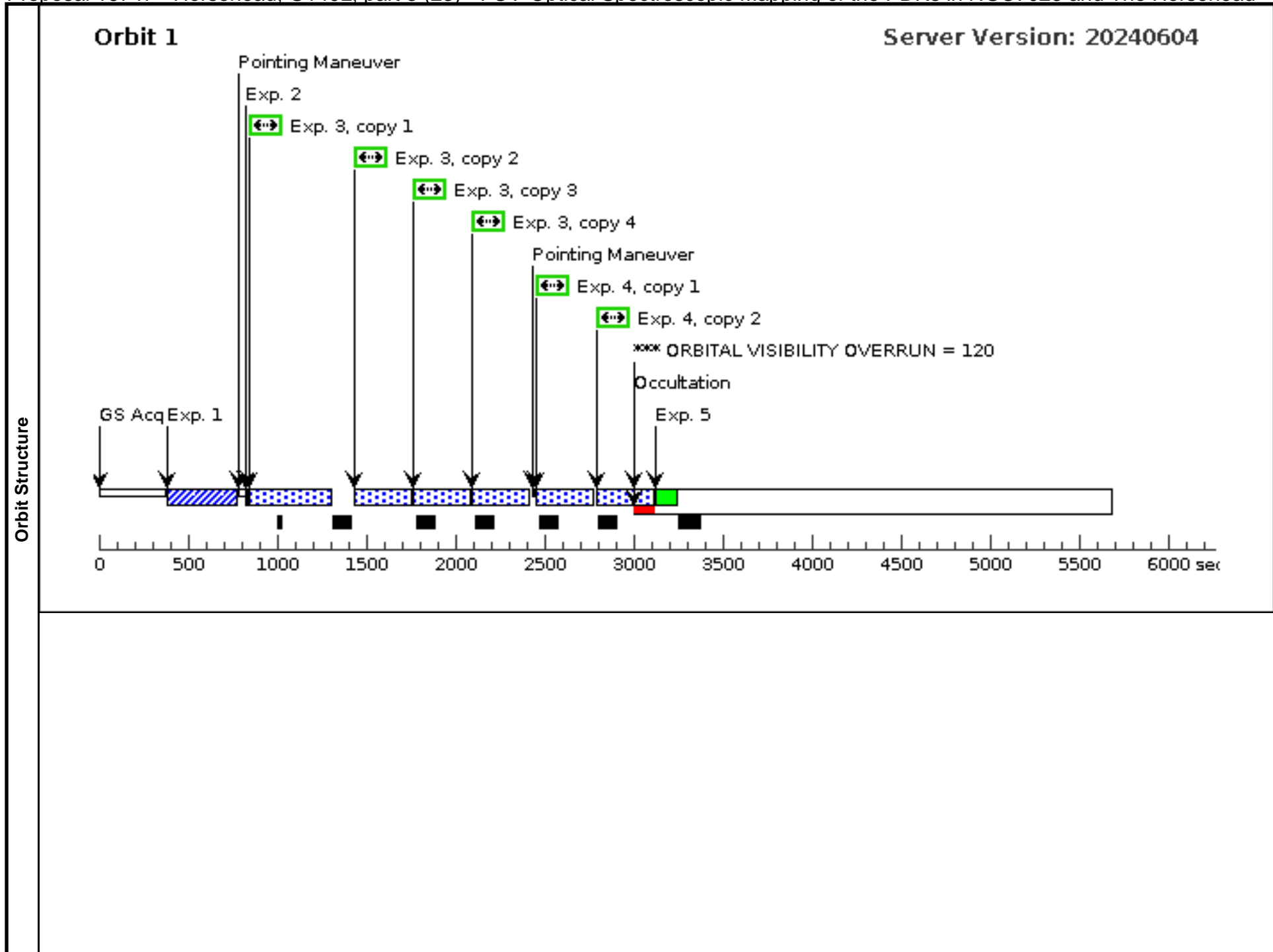


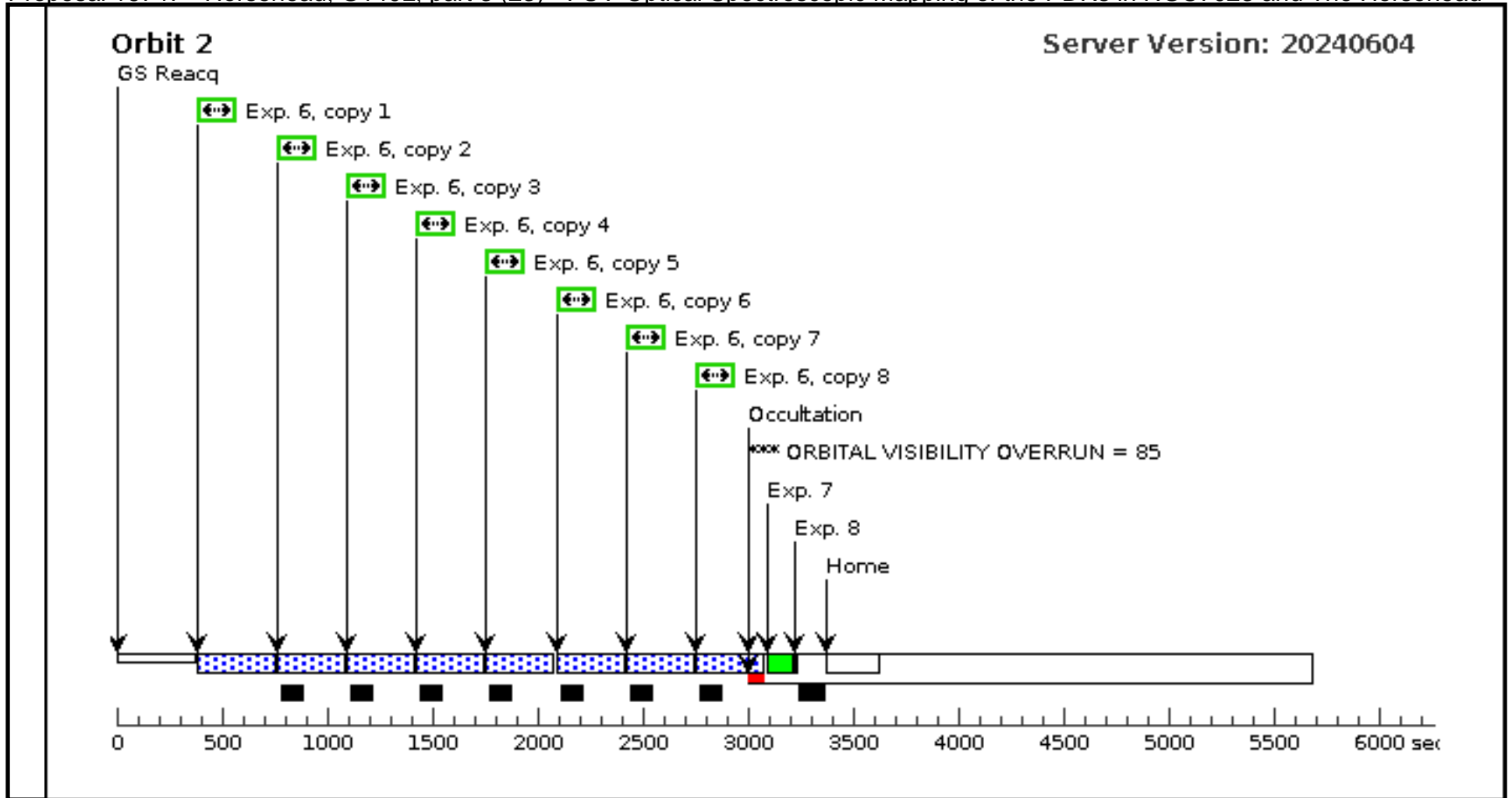


Proposal 16747 - Horsehead, G140L, part 3 (23) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)  | Target                    | Config,Mode,Aperture            | Spectral Els.   | Opt. Params.                           | Special Reqs.     | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|---|---------------------------|---------------------------------|-----------------|--|-------------------|--------|--|-------|
| 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3           | MIRROR          |  |                   |        | 25 Secs (25 Secs)<br>[==>]   | [1]   |
| <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                                 |                 |  |                   |        |  |       |
| 2  | MSOFF ZE<br>RO  | NONE                      | STIS, MSMOFF                    |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL    |                   |        | [==>]  | [1]   |
| 3  | Horsehead 4<br>repeats, 1.5<br>offset<br>(STIS.sp.15<br>35935)  | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG 1.5,3.5  |        | 310 Secs X 4 (1240 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]   | [1]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 4  | Horsehead 2<br>repeats, -1.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -1.5,3.5 |        | 310 Secs X 2 (620 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]  | [1]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 5  | Manual Wav<br>ecal  | WAVE                      | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A |  |                   |        | [==>]  | [1]   |
| 6  | Horsehead 8<br>repeats, -1.5<br>offset<br>(STIS.sp.15<br>35935) | (2) HORSEHEAD             | STIS/FUV-MAMA, ACCUM, 52X2      | G140L<br>1425 A | WAVECAL=NO                             | POS TARG -1.5,3.5 |        | 310 Secs X 8 (2480 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]<br>[==>(Copy 7)]<br>[==>(Copy 8)] | [2]   |
| <i>Comments: With total exposure time of 7880 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |  |                   |        |  |       |
| 7  | Manual Wav<br>ecal  | WAVE                      | STIS/FUV-MAMA, ACCUM,<br>52X0.2 | G140L<br>1425 A |  |                   |        | [==>]  | [2]   |
| 8  | MSOFF Res<br>tore   | NONE                      | STIS, MSMOFF                    |                 | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE |                   |        | [==>]  | [2]   |

Exposures





Proposal 16747 - Horsehead, G230L, part 1 (14) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>   | Proposal 16747, Horsehead, G230L, part 1 (14), completed <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/CCD, STIS<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D |  |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
|--|--|--|--|--------------------------|-----------------------|---------------|---|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|---|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|--|--|--|--|--|
|  | <b>Diagnostics</b>   | (Horsehead, G230L, part 1 (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G230L, part 1 (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G230L, part 1 (14)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN  |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
| <b>Fixed Targets</b>   |  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">#</th> <th style="width: 20%;">Name</th> <th style="width: 25%;">Target Coordinates</th> <th style="width: 20%;">Targ. Coord. Corrections</th> <th style="width: 10%;">Fluxes</th> <th style="width: 20%;">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> </td> </tr> </tbody> </table> |  |                          |                       |               | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |  |  |  |  |
|  | #  | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
| (2)  | HORSEHEAD  | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20                | Reference Frame: ICRS |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
| <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i>  |  |  |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
| (5)  | MSJ2009L1630MIR14  | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000   | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |  |  |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |

Proposal 16747 - Horsehead, G230L, part 1 (14) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

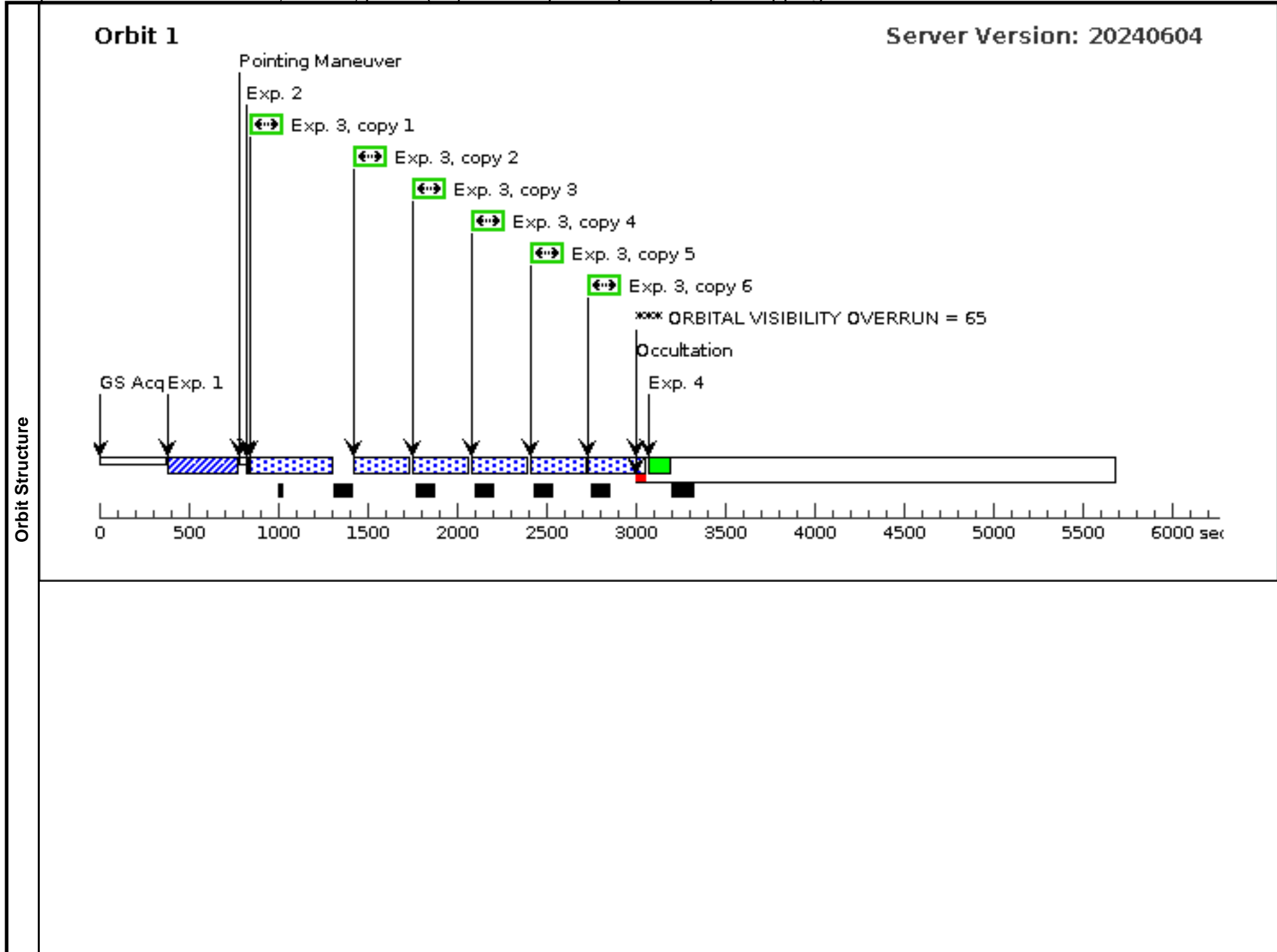
| #  | Label (ETC Run)                                     | Target           | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.                     | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|---|------------------|------------------------------|-----------------|----------------------------------|--------------------|--------|--|-------|
| 1  | ACQ (5) MSJ2009L1630 (STIS.ta.153 5128) MIR14       | (5) MSJ2009L1630 | STIS/CCD, ACQ, F25ND3        | MIRROR          |                                  |                    |        | 25 Secs (25 Secs)<br>[==>]   | [1]   |
| <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect! 10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                  |                              |                 |                                  |                    |        |  |       |
| 2  | MSOFF ZE RO   | NONE             | STIS, MSMOFF                 |                 | SETOFFSET=ZERO ;<br>GRATING1=ALL |                    |        | [==>]  | [1]   |
| 3  | Horsehead 6 repeats, 0.5 offset (STIS.sp.15 35942)  | (2) HORSEHEAD    | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                       | POS TARG 0.5,null  |        | 306 Secs X 6 (1836 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]                                   | [1]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>             |   |                  |                              |                 |                                  |                    |        |  |       |
| 4  | Manual Wav ecal                                     | WAVE             | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                  |                    |        | [==>]  | [1]   |
| 5  | Horsehead 5 repeats, 0.5 offset (STIS.sp.15 35942)  | (2) HORSEHEAD    | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                       | POS TARG 0.5,null  |        | 306 Secs X 5 (1530 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]  | [2]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>             |   |                  |                              |                 |                                  |                    |        |  |       |
| 6  | Horsehead 3 repeats, -0.5 offset (STIS.sp.15 35942) | (2) HORSEHEAD    | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                       | POS TARG -0.5,null |        | 306 Secs X 3 (918 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]   | [2]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>             |   |                  |                              |                 |                                  |                    |        |  |       |
| 7  | Manual Wav ecal                                     | WAVE             | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                  |                    |        | [==>]  | [2]   |
| 8  | Horsehead 8 repeats, -0.5 offset (STIS.sp.15 35942) | (2) HORSEHEAD    | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A | WAVECAL=NO                       | POS TARG -0.5,null |        | 306 Secs X 8 (2448 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)]<br>[==>(Copy 5)]<br>[==>(Copy 6)]<br>[==>(Copy 7)]<br>[==>(Copy 8)] | [3]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>             |   |                  |                              |                 |                                  |                    |        |  |       |
| 9  | Manual Wav ecal                                     | WAVE             | STIS/NUV-MAMA, ACCUM, 52X0.2 | G230L<br>2376 A |                                  |                    |        | [==>]  | [3]   |

Exposures



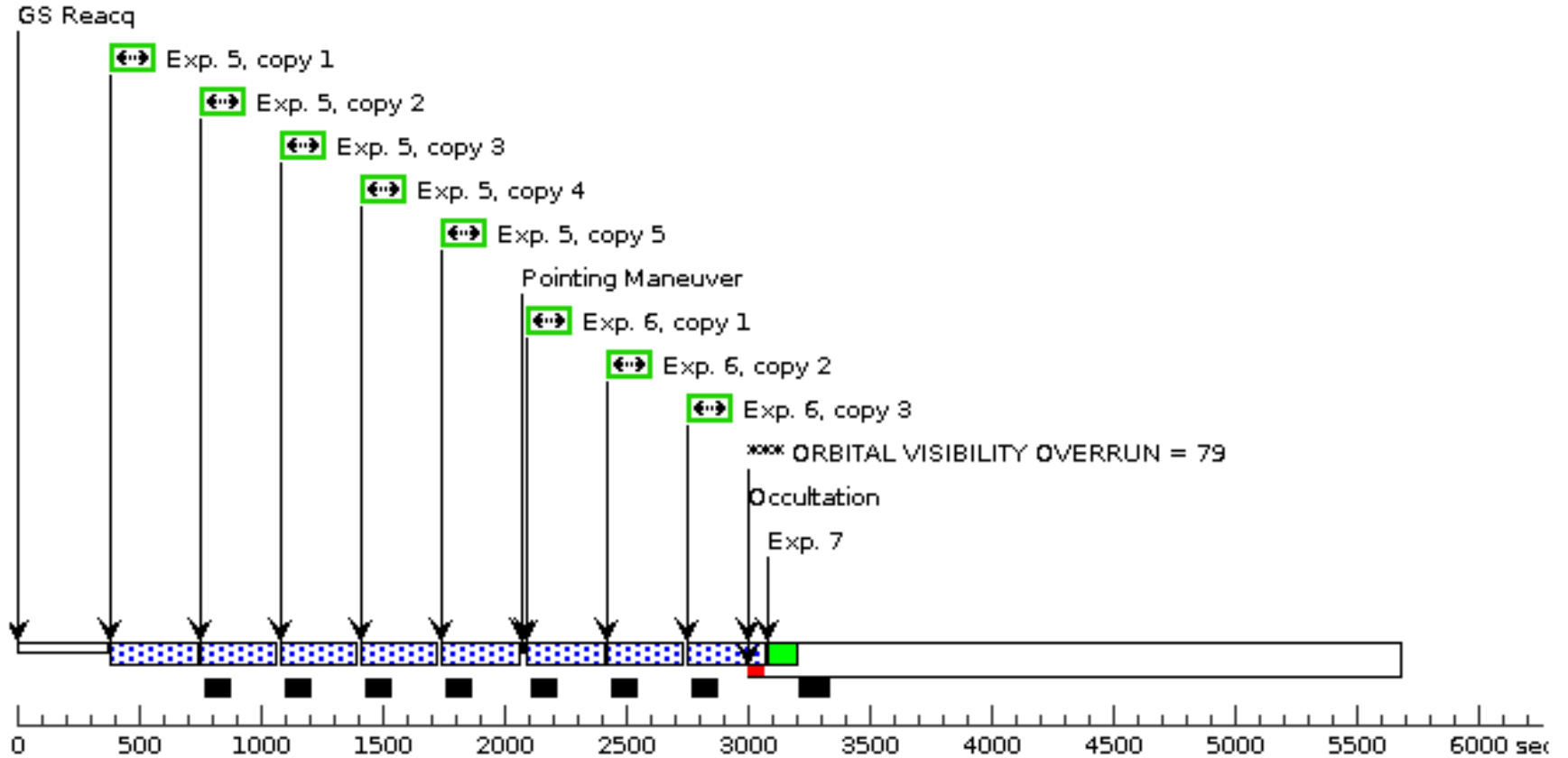
Proposal 16747 - Horsehead, G230L, part 1 (14) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

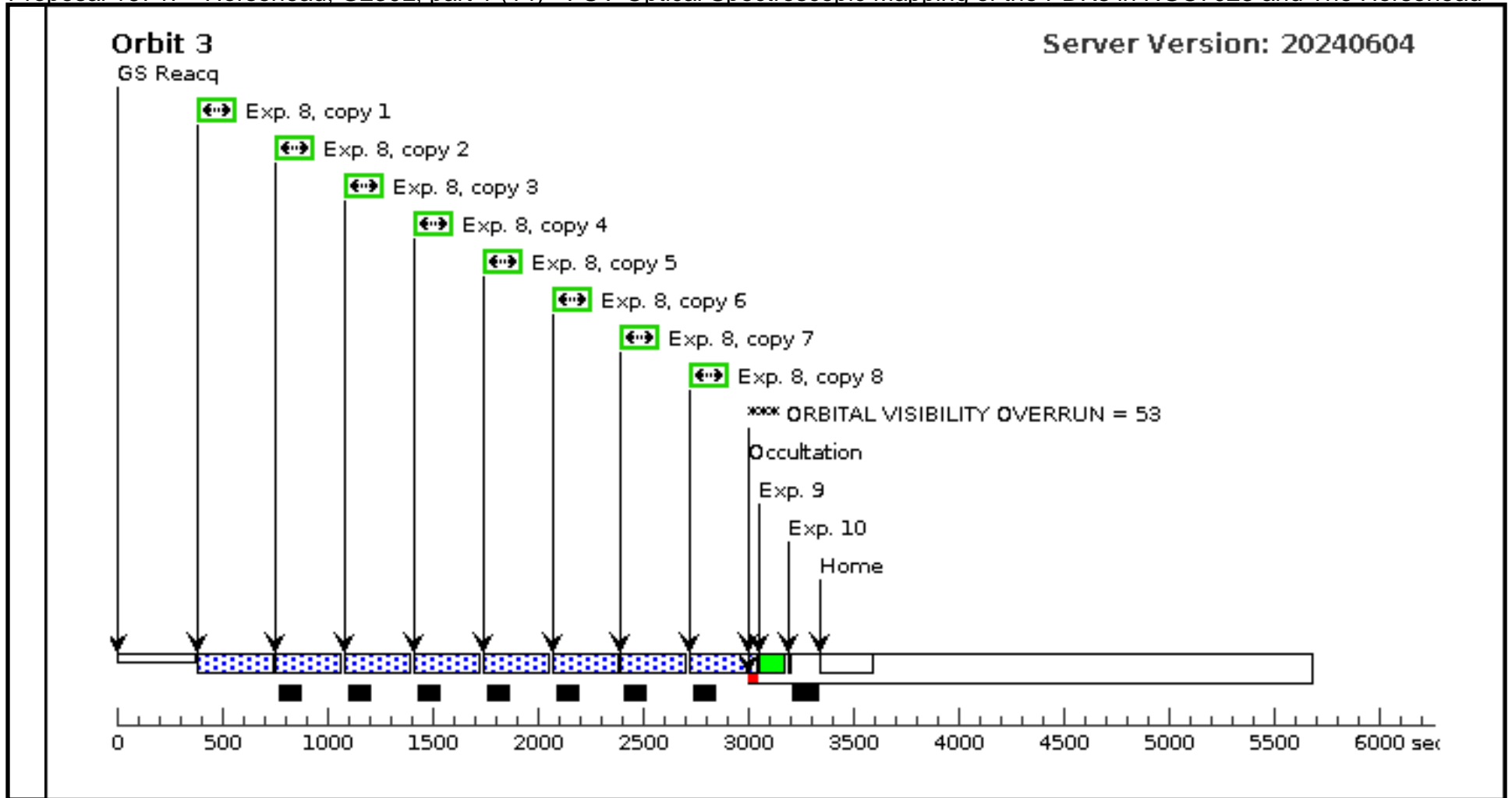
|    |                        |              |  |       |     |
|----|------------------------|--------------|--|-------|-----|
| 10 | MSOFF Res NONE<br>tore | STIS, MSMOFF | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE | [==>] | [3] |
|----|------------------------|--------------|--|-------|-----|



### Orbit 2

Server Version: 20240604







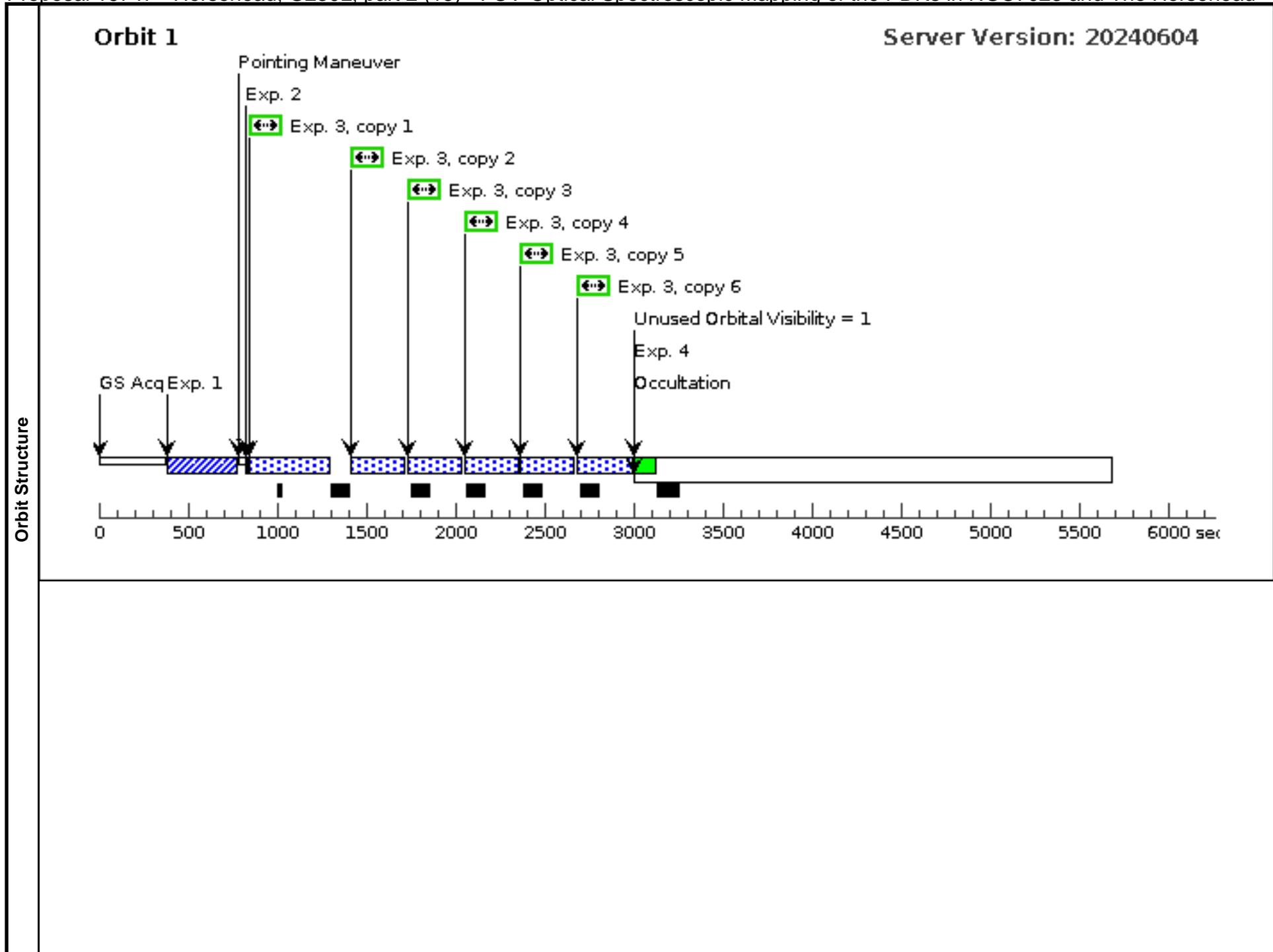
Proposal 16747 - Horsehead, G230L, part 2 (15) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| #  | Label<br>(ETC Run)  | Target                    | Config,Mode,Aperture            | Spectral Els.   | Opt. Params.                        | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|--|---|---------------------------|---------------------------------|-----------------|-------------------------------------|--------------------|--------|--|-------|
| 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3           | MIRROR          |                                     |                    |        | 25 Secs (25 Secs)<br>[==>]   | [1]   |
| <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                                 |                 |                                     |                    |        |  |       |
| 2  | MSOFF ZE<br>RO  | NONE                      | STIS, MSMOFF                    |                 | SETOFFSET=ZERO<br>;<br>GRATING1=ALL |                    |        | [==>]  | [1]   |
| 3  | Horsehead 6<br>repeats, 1.5<br>offset<br>(STIS.sp.15<br>35942)  | (2) HORSEHEAD             | STIS/NUV-MAMA, ACCUM,<br>52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 1.5,null  |        | 306 Secs X 6 (1770 Secs)<br>[==>295.0 Secs (Copy 1)]<br>[==>295.0 Secs (Copy 2)]<br>[==>295.0 Secs (Copy 3)]<br>[==>295.0 Secs (Copy 4)]<br>[==>295.0 Secs (Copy 5)]<br>[==>295.0 Secs (Copy 6)]   | [1]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |                                     |                    |        |  |       |
| 4  | Manual Wav<br>ecal  | WAVE                      | STIS/NUV-MAMA, ACCUM,<br>52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [1]   |
| 5  | Horsehead 5<br>repeats, 1.5<br>offset<br>(STIS.sp.15<br>35942)  | (2) HORSEHEAD             | STIS/NUV-MAMA, ACCUM,<br>52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG 1.5,null  |        | 306 Secs X 5 (1475 Secs)<br>[==>295.0 Secs (Copy 1)]<br>[==>295.0 Secs (Copy 2)]<br>[==>295.0 Secs (Copy 3)]<br>[==>295.0 Secs (Copy 4)]<br>[==>295.0 Secs (Copy 5)]   | [2]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |                                     |                    |        |  |       |
| 6  | Horsehead 3<br>repeats, -1.5<br>offset<br>(STIS.sp.15<br>35942) | (2) HORSEHEAD             | STIS/NUV-MAMA, ACCUM,<br>52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -1.5,null |        | 306 Secs X 3 (885 Secs)<br>[==>295.0 Secs (Copy 1)]<br>[==>295.0 Secs (Copy 2)]<br>[==>295.0 Secs (Copy 3)]  | [2]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |                                     |                    |        |  |       |
| 7  | Manual Wav<br>ecal  | WAVE                      | STIS/NUV-MAMA, ACCUM,<br>52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [2]   |
| 8  | Horsehead 8<br>repeats, -1.5<br>offset<br>(STIS.sp.15<br>35942) | (2) HORSEHEAD             | STIS/NUV-MAMA, ACCUM,<br>52X2   | G230L<br>2376 A | WAVECAL=NO                          | POS TARG -1.5,null |        | 306 Secs X 8 (2392 Secs)<br>[==>299.0 Secs (Copy 1)]<br>[==>299.0 Secs (Copy 2)]<br>[==>299.0 Secs (Copy 3)]<br>[==>299.0 Secs (Copy 4)]<br>[==>299.0 Secs (Copy 5)]<br>[==>299.0 Secs (Copy 6)]<br>[==>299.0 Secs (Copy 7)]<br>[==>299.0 Secs (Copy 8)] | [3]   |
| <i>Comments: With total exposure time of 12240 seconds, SN in contiuum is 2-3 We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                 |   |                           |                                 |                 |                                     |                    |        |  |       |
| 9  | Manual Wav<br>ecal  | WAVE                      | STIS/NUV-MAMA, ACCUM,<br>52X0.2 | G230L<br>2376 A |                                     |                    |        | [==>]  | [3]   |

Exposures

Proposal 16747 - Horsehead, G230L, part 2 (15) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

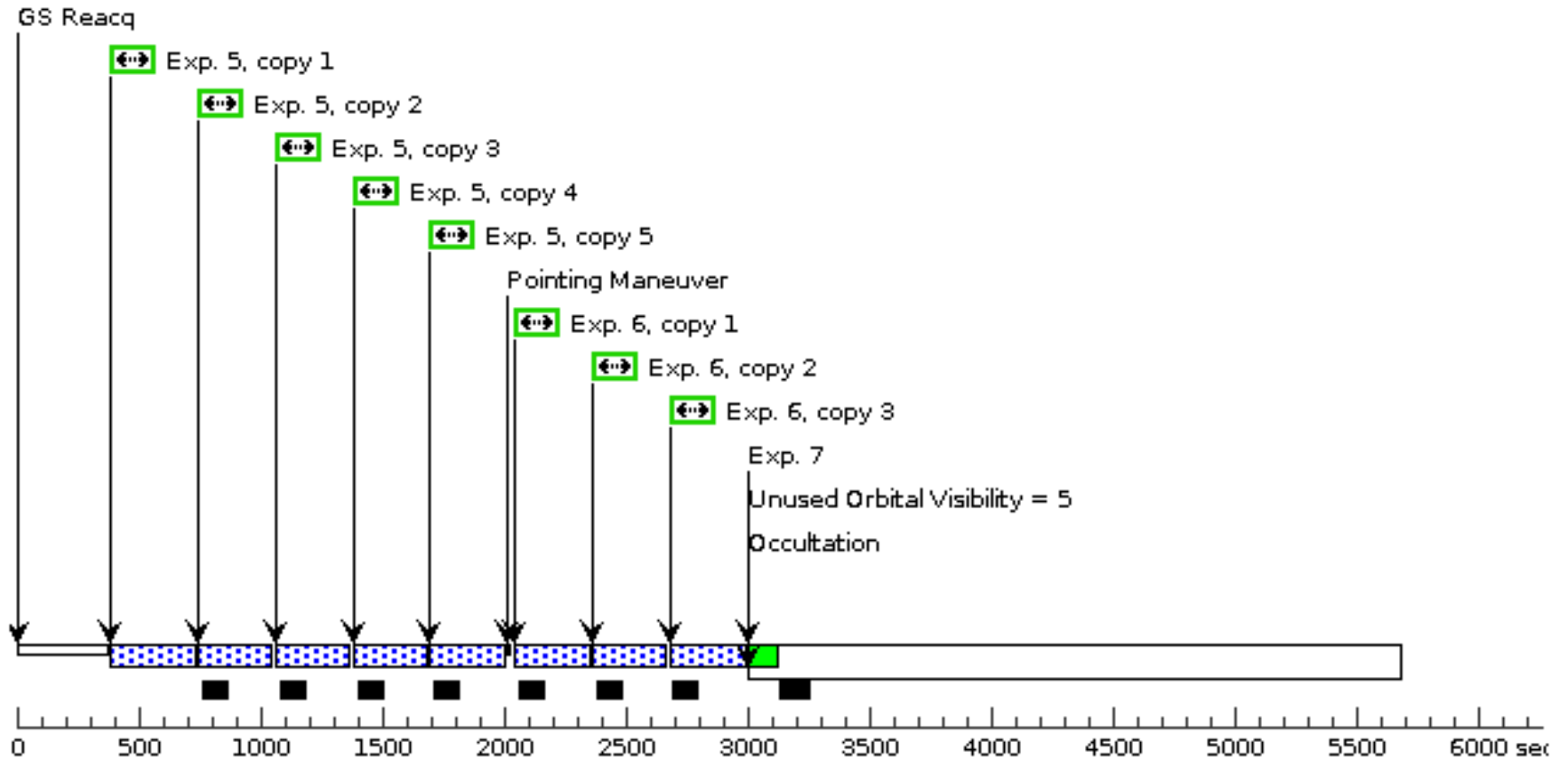
|    |                        |              |  |       |     |
|----|------------------------|--------------|--|-------|-----|
| 10 | MSOFF Res NONE<br>tore | STIS, MSMOFF | GRATING1=ALL;<br>SETOFFSET=RES<br>TORE | [==>] | [3] |
|----|------------------------|--------------|--|-------|-----|

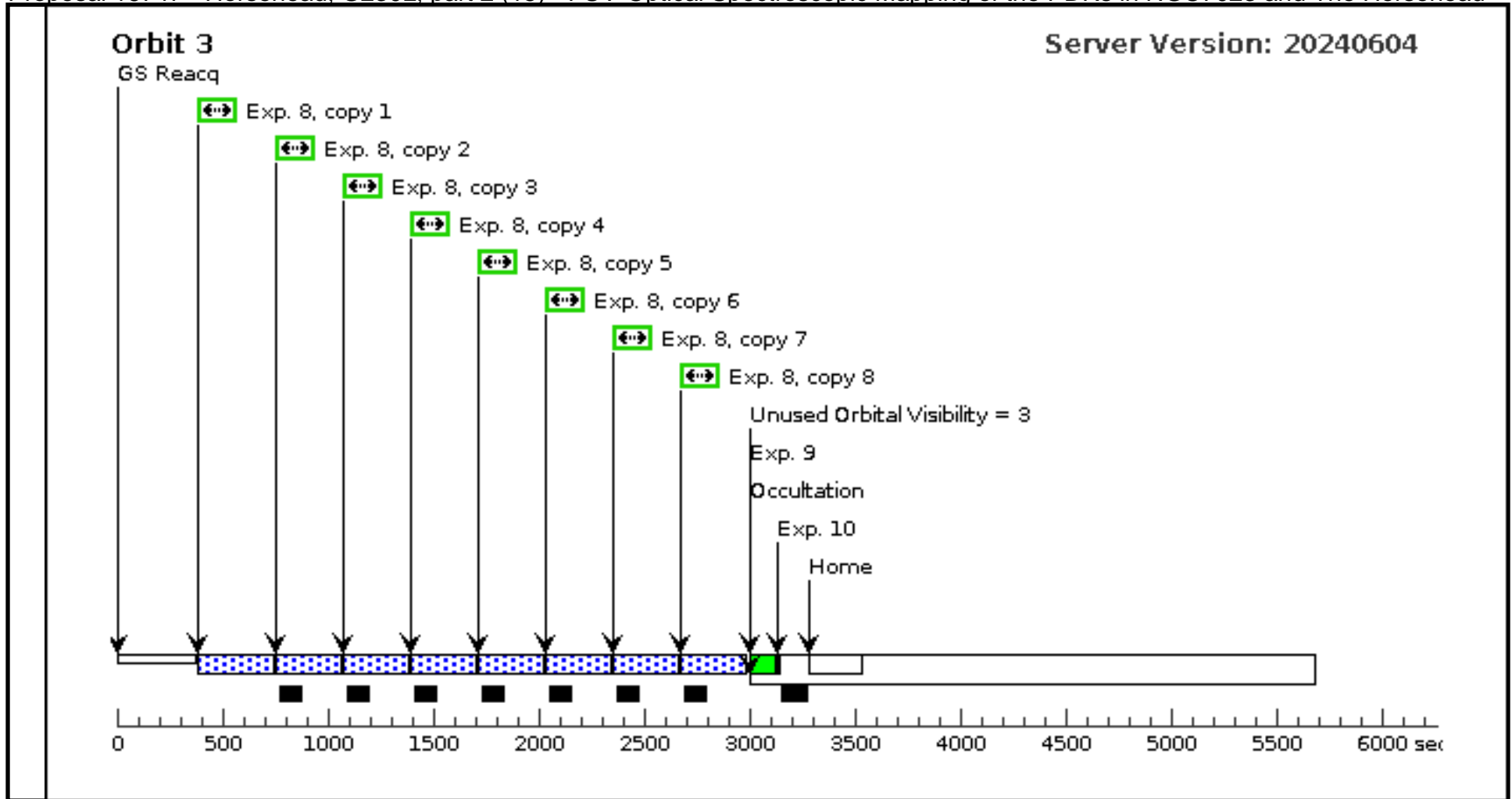




### Orbit 2

Server Version: 20240604





Proposal 16747 - Horsehead, G430L, part 1 (17) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

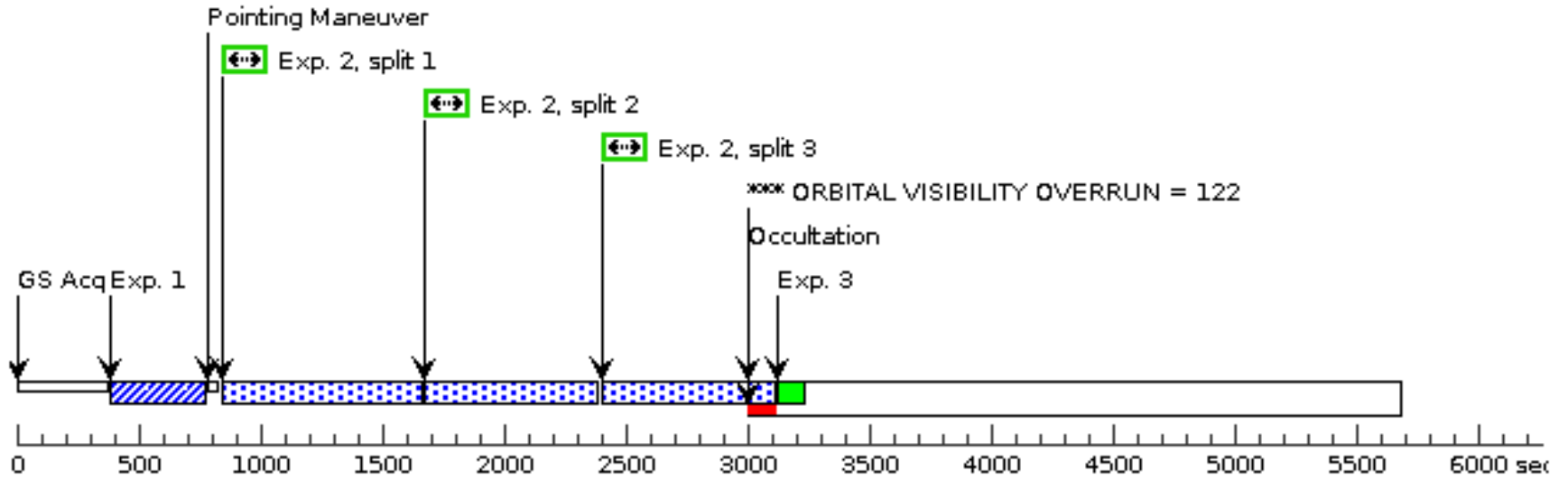
| <b>Visit</b>  | <b>Proposal 16747, Horsehead, G430L, part 1 (17), completed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D  |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
|---|---|---|--|--------------------------|--------------------------|-----------------------|---------------|-----|-----------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|---|--|--|--|--|--|--|--|--|--|
|   | <b>Diagnostics</b>  | (Horsehead, G430L, part 1 (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| (Horsehead, G430L, part 1 (17)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| (Horsehead, G430L, part 1 (17)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| (Horsehead, G430L, part 1 (17)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| (Horsehead, G430L, part 1 (17)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| <b>Fixed Targets</b>  | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments:</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=EXT-STAR<br/>                     Description=[A0-A3 III-I]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> | #   | Name   | Target Coordinates       | Targ. Coord. Corrections | Fluxes                | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |  |  |  |  |  |  |
|   | #   | Name  | Target Coordinates   | Targ. Coord. Corrections | Fluxes                   | Miscellaneous         |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
|   | (2)   | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000            |                          | V=20+/-20                | Reference Frame: ICRS |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| (5)   | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000  | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS    |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |   |   |  |                          |                          |                       |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |  |  |  |  |

Proposal 16747 - Horsehead, G430L, part 1 (17) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

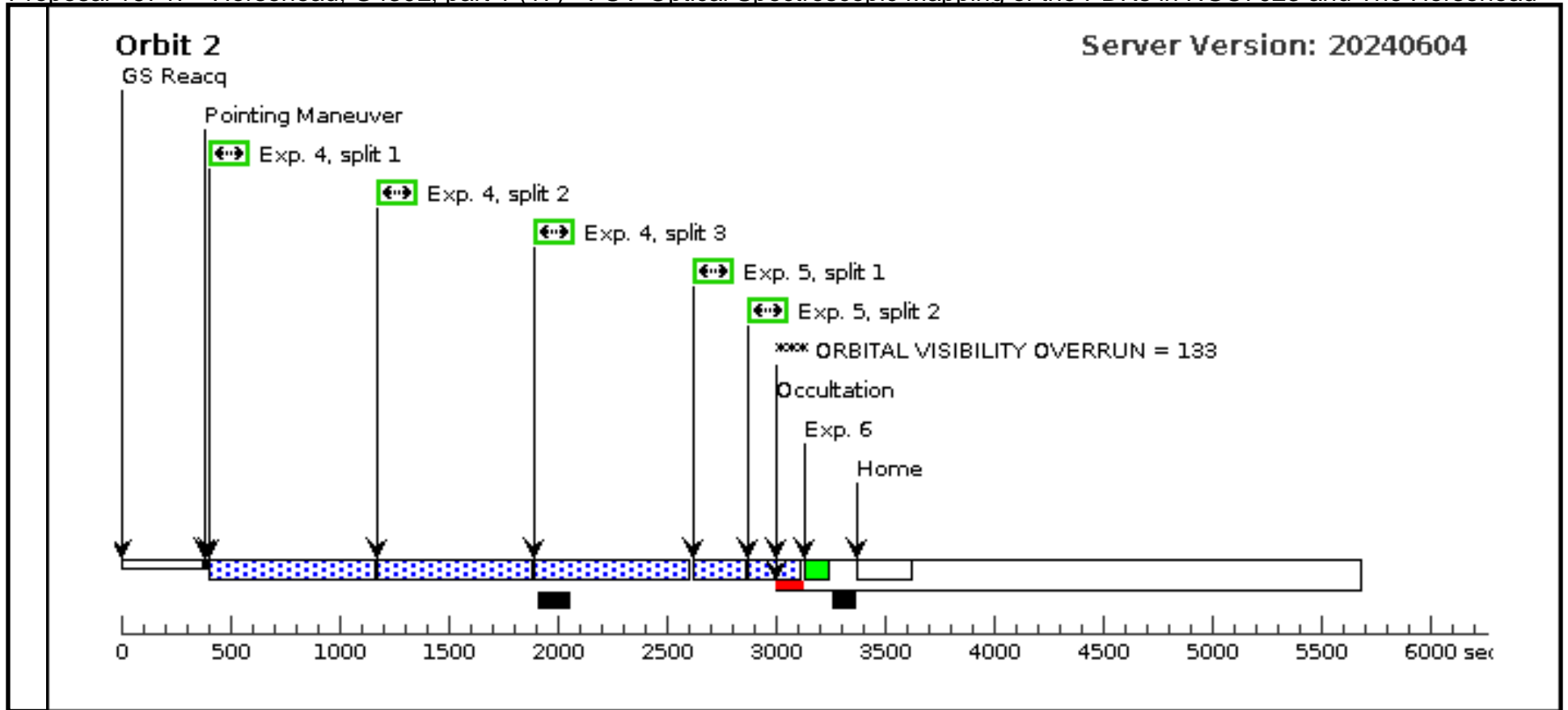
| Exposures   | #  | Label<br>(ETC Run)  | Target                    | Config,Mode,Aperture    | Spectral Els.             | Opt. Params.              | Special Reqs.      | Groups | Exp. Time (Total)/[Actual Dur.]   | Orbit   |     |
|---|--|---|---------------------------|-------------------------|---------------------------|---------------------------|--------------------|--------|---|---|-----|
|   | 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | G430L<br>4300 A           | MIRROR                    |                    |        |   | 25 Secs (25 Secs)<br>[==>]  | [1] |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                         |                           |                           |                    |        |   |   |     |
|   | 2  | Horsehead 3<br>repeats, -1.5<br>offset<br>(STIS.sp.15<br>35943) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A           | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG -1.5,null |        |   | 2040 Secs (2040 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                |   |                           |                         |                           |                           |                    |        |   |   |     |
|   | 3  | Manual Wav<br>ecal  | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A           |                           |                    |        |   | [==>]   | [1] |
| 4   | Horsehead 3<br>repeats, -0.5<br>offset<br>(STIS.sp.15<br>35943)  | (2) HORSEHEAD   | STIS/CCD, ACCUM, 52X2     | G430L<br>4300 A         | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG -0.5,null        |                    |        | 2040 Secs (2040 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2]   |     |
| <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |   |                           |                         |                           |                           |                    |        |   |   |     |
| 5   | Horsehead 2<br>SHORT rep<br>eats, -0.5 off<br>set<br>(STIS.sp.15<br>35943)   | (2) HORSEHEAD   | STIS/CCD, ACCUM, 52X2     | G430L<br>4300 A         | WAVECAL=NO                | POS TARG -0.5,null        |                    |        | 424 Secs (424 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]                     | [2]   |     |
| <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |   |                           |                         |                           |                           |                    |        |   |   |     |
| 6   | Manual Wav<br>ecal   | WAVE  | STIS/CCD, ACCUM, 52X0.2   | G430L<br>4300 A         |                           |                           |                    |        | [==>]   | [2]   |     |

**Orbit 1**

**Server Version: 20240604**



Orbit Structure



Proposal 16747 - Horsehead, G430L, part 2 (18) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| <b>Visit</b>  | Proposal 16747, Horsehead, G430L, part 2 (18), completed <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D |   |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
|---|---|---|--|--------------------------|-----------------------|---------------|---|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|---|--|--|--|--|
|   | <b>Diagnostics</b>  | (Horsehead, G430L, part 2 (18)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G430L, part 2 (18)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G430L, part 2 (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G430L, part 2 (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G430L, part 2 (18)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE   |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
| <b>Fixed Targets</b>  |   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments:</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=EXT-STAR<br/>                     Description=[A0-A3 III-I]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |  |                          |                       |               | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |  |
|   | #   | Name  | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
| (2)   | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000   |  | V=20+/-20                | Reference Frame: ICRS |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
| <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |   |   |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
| (5)   | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000  | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |   |   |  |                          |                       |               |   |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |

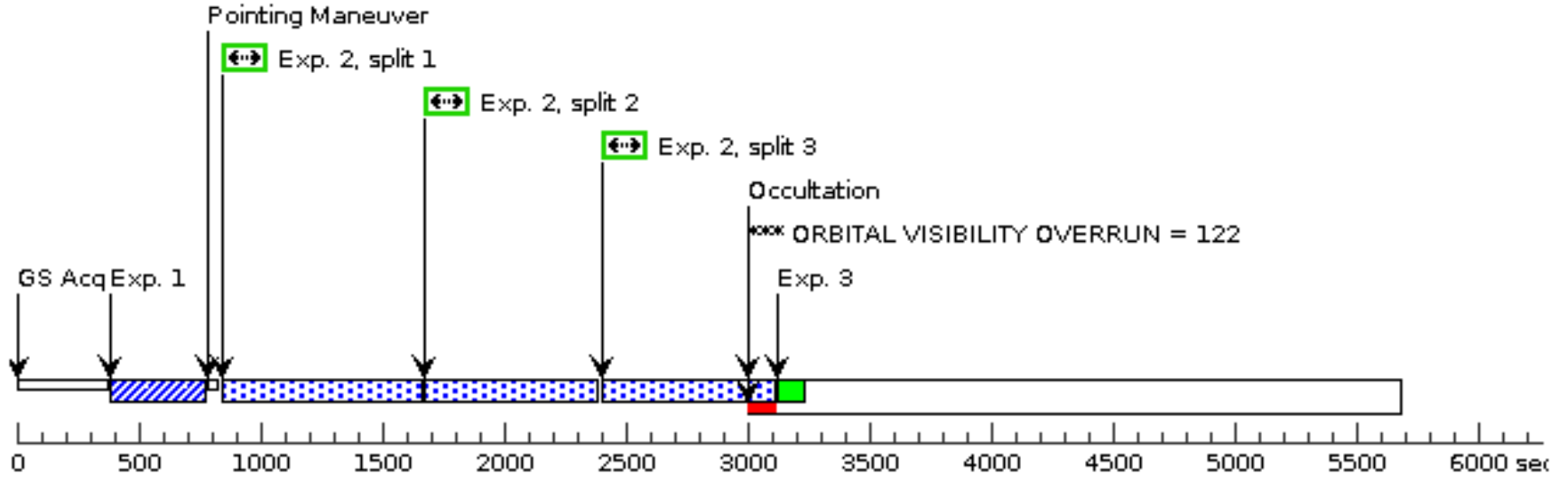
Proposal 16747 - Horsehead, G430L, part 2 (18) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

| Exposures   | #  | Label<br>(ETC Run)   | Target                    | Config,Mode,Aperture    | Spectral Els.             | Opt. Params.              | Special Reqs.     | Groups | Exp. Time (Total)/[Actual Dur.]   | Orbit   |     |
|---|--|--|---------------------------|-------------------------|---------------------------|---------------------------|-------------------|--------|---|---|-----|
|   | 1  | ACQ<br>(STIS.ta.153<br>5128)                                   | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | G430L<br>4300 A           | MIRROR                    |                   |        |   | 25 Secs (25 Secs)<br>[==>]  | [1] |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |  |                           |                         |                           |                           |                   |        |   |   |     |
|   | 2  | Horsehead 3<br>repeats, 1.5<br>offset<br>(STIS.sp.15<br>35943) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G430L<br>4300 A           | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG 1.5,null |        |   | 2040 Secs (2040 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i>                |  |                           |                         |                           |                           |                   |        |   |   |     |
|   | 3  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G430L<br>4300 A           |                           |                   |        |   | [==>]   | [1] |
| 4   | Horsehead 3<br>repeats, 0.5<br>offset<br>(STIS.sp.15<br>35943)   | (2) HORSEHEAD  | STIS/CCD, ACCUM, 52X2     | G430L<br>4300 A         | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG 0.5,null         |                   |        | 2040 Secs (2040 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2]   |     |
| <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |  |                           |                         |                           |                           |                   |        |   |   |     |
| 5   | Horsehead 2<br>SHORT rep<br>eats, 0.5 offs<br>et<br>(STIS.sp.15<br>35943)  | (2) HORSEHEAD  | STIS/CCD, ACCUM, 52X2     | G430L<br>4300 A         | WAVECAL=NO                | POS TARG 0.5,null         |                   |        | 424 Secs (424 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]                     | [2]   |     |
| <i>Comments: With total exposure time of 7512 seconds, SN in continuum is 3-5. We will bin spectrally (and spatially if necessary to read a SN ~&lt; 10. SN in any lines will be higher will not be binned.</i> |  |  |                           |                         |                           |                           |                   |        |   |   |     |
| 6   | Manual Wav<br>ecal   | WAVE   | STIS/CCD, ACCUM, 52X0.2   | G430L<br>4300 A         |                           |                           |                   |        | [==>]   | [2]   |     |

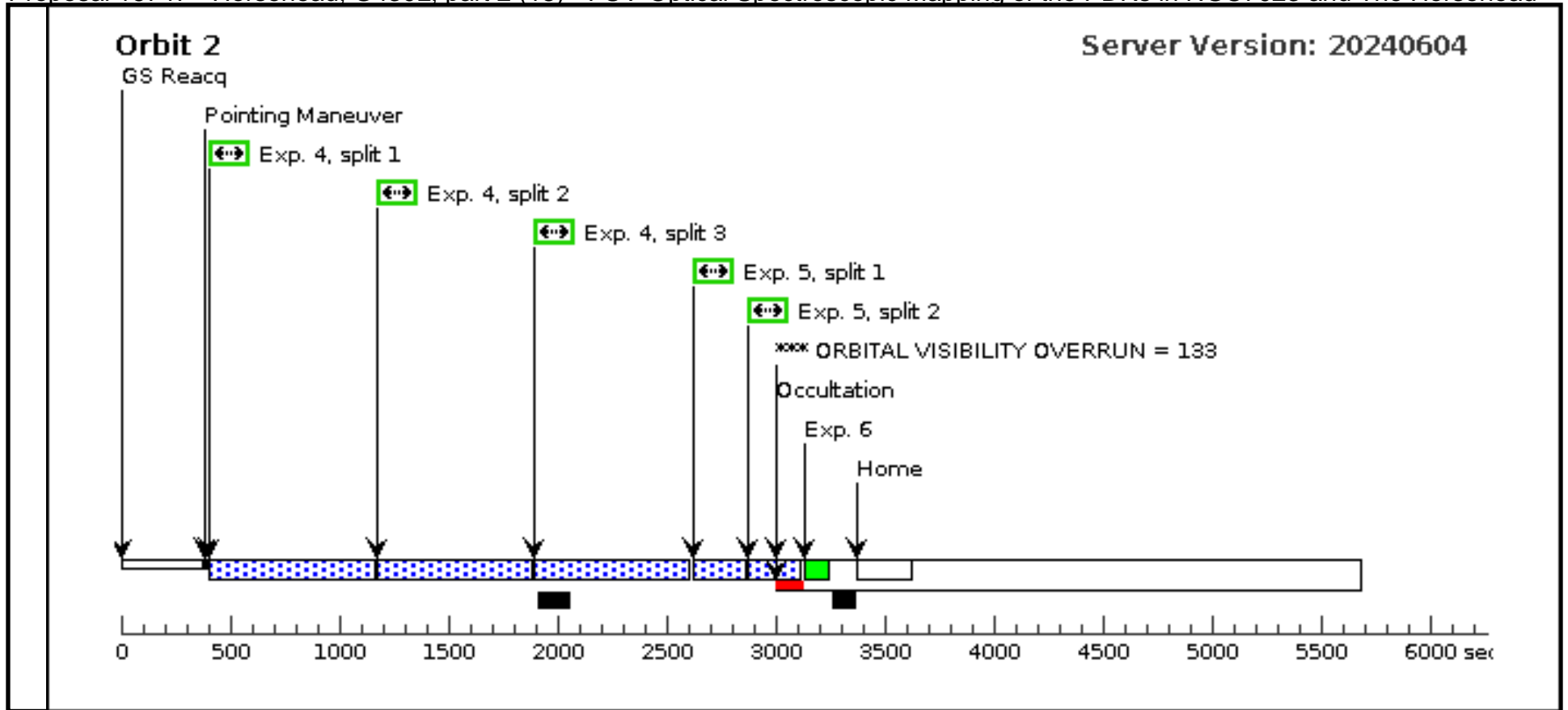


Orbit 1

Server Version: 20240604



Orbit Structure

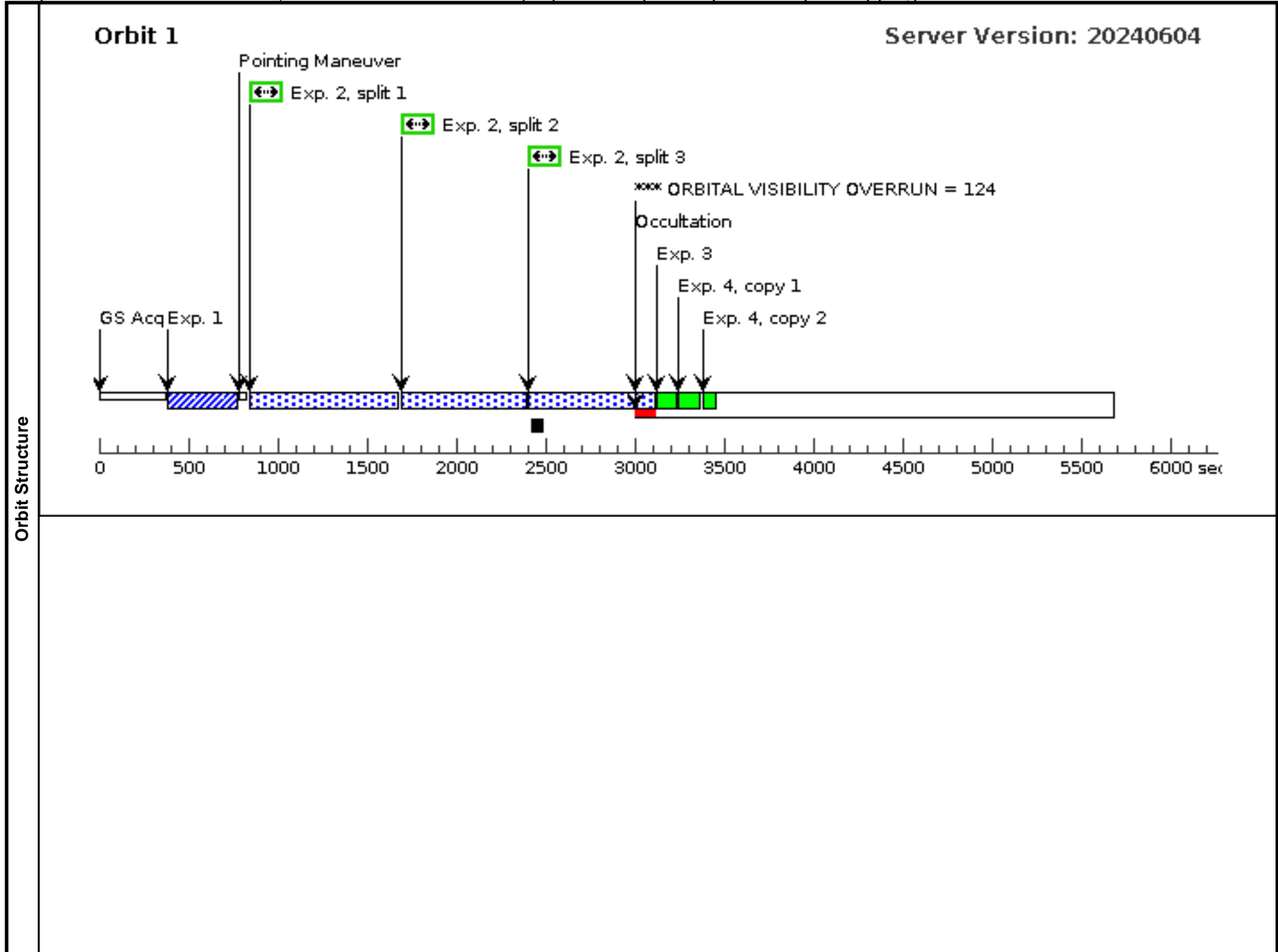


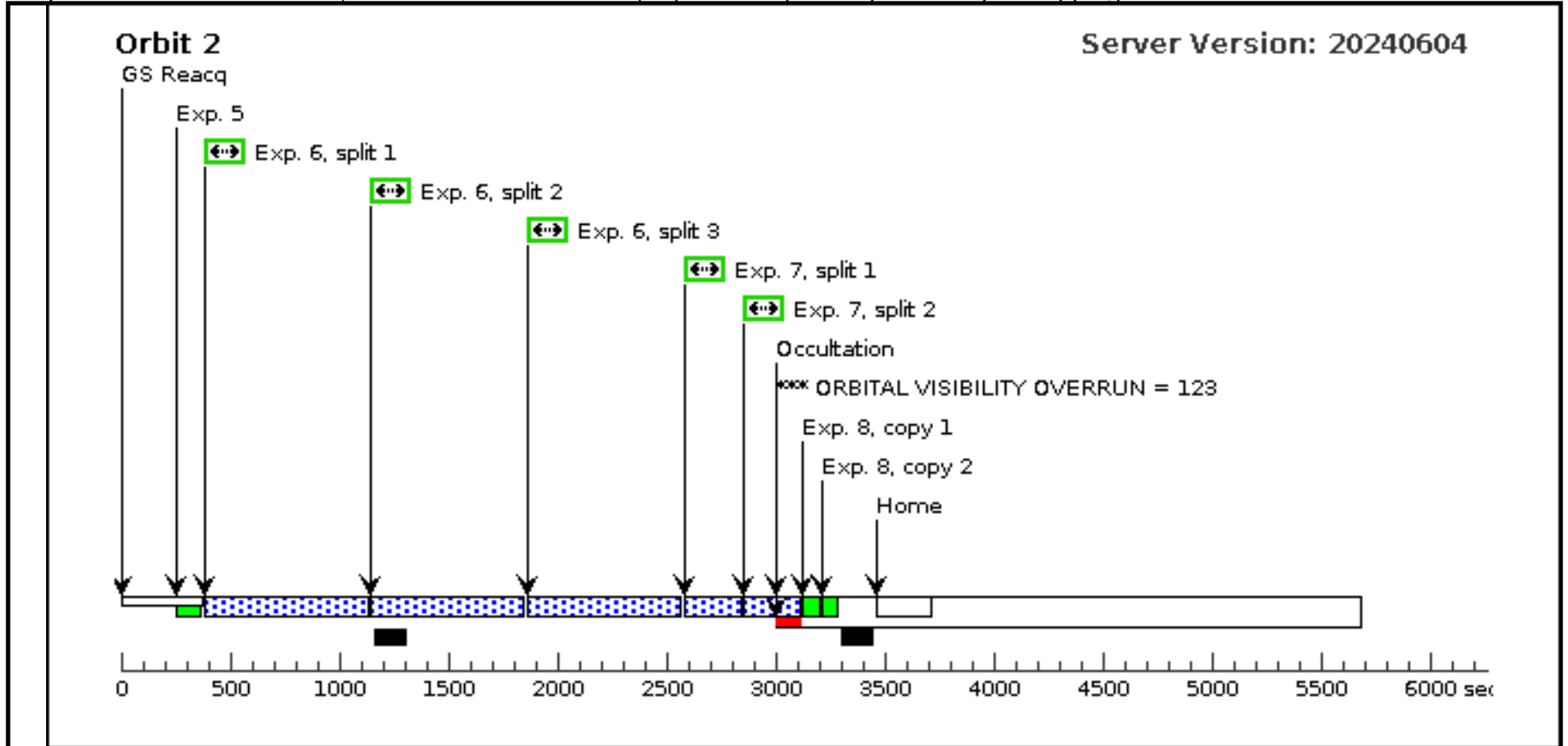
Proposal 16747 - Horsehead, G750L. Part 1 0.5 offset (19) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The H...

| <b>Visit</b>  | Proposal 16747, Horsehead, G750L. Part 1 0.5 offset (19), completed <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
|---|---|--|--|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|--|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|---|--|--|--|--|--|
|   | <b>Diagnosics</b><br>(Horsehead, G750L. Part 1 0.5 offset (19)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G750L. Part 1 0.5 offset (19)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <b>Fixed Targets</b>  | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments:</i><br/>                     Category=ISM<br/>                     Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>                     Extended=YES                 </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br/>                     Category=EXT-STAR<br/>                     Description=[A0-A3 III-I]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |  |  |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |  |  |
|   | #   | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| (2)   | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20                | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES  |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| (5)   | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |  |  |  |  |  |  |     |                   |  |  |          |                       |   |  |  |  |  |  |

Proposal 16747 - Horsehead, G750L. Part 1 0.5 offset (19) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The H...

| #   | Label<br>(ETC Run)   | Target  | Config,Mode,Aperture      | Spectral Els.           | Opt. Params.    | Special Reqs.             | Groups            | Exp. Time (Total)/[Actual Dur.]                         | Orbit   |     |
|---|--|---|---------------------------|-------------------------|-----------------|---------------------------|-------------------|---|---|-----|
| <b>Exposures</b>  | 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                   | 25 Secs (25 Secs)<br>[==>]                              | [1]   |     |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                         |                 |                           |                   |   |   |     |
|   | 2  | Horsehead 3<br>repeats, Offs<br>et 0.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG 0.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |   |                           |                         |                 |                           |                   |   |   |     |
|   | 3  | Manual Wav<br>ecal  | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                   |   | [==>]   | [1] |
|   | 4  | Fringe Flat   | CCDFLAT                   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                   |   | [==>(Copy 1)]<br>[==>(Copy 2)]  | [1] |
|   | 5  | Manual Wav<br>ecal  | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                   |   | [==>]   | [2] |
|   | 6  | Horsehead 3<br>repeats Offs<br>et 0.5<br>(STIS.sp.15<br>36390)  | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG 0.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2] |
| <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                           |                         |                 |                           |                   |   |   |     |
| 7   | Horsehead 2<br>SHORT RE<br>PEATS Offs<br>et 0.5<br>(STIS.sp.15<br>36390)   | (2) HORSEHEAD   | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | WAVECAL=NO      | POS TARG 0.5,null         |                   | 452 Secs (452 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |     |
| <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                           |                         |                 |                           |                   |   |   |     |
| 8   | Fringe Flat  | CCDFLAT   | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         |                 |                           |                   | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [2]   |     |





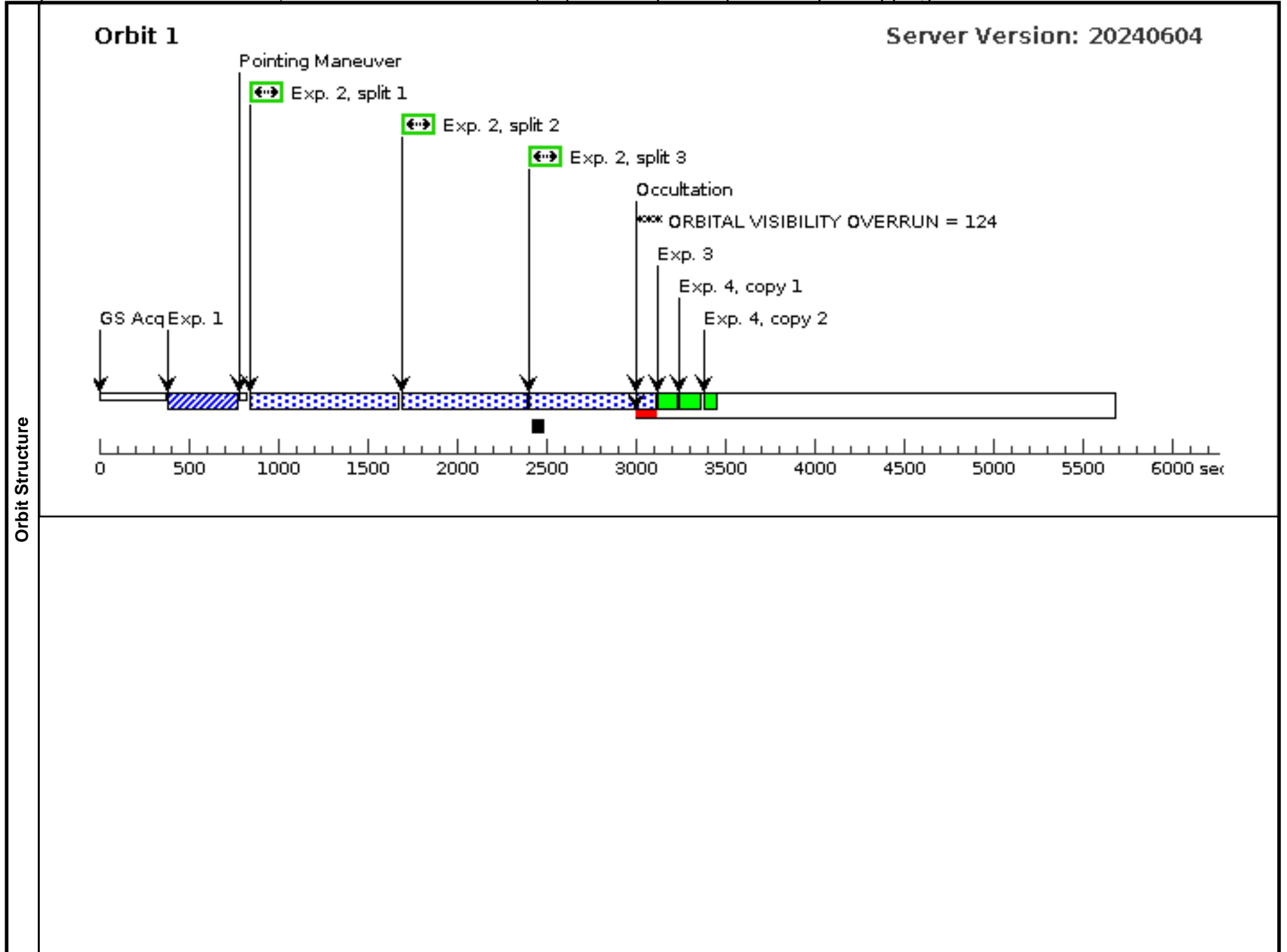
Proposal 16747 - Horsehead, G750L. Part 2 -0.5 offset (25) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

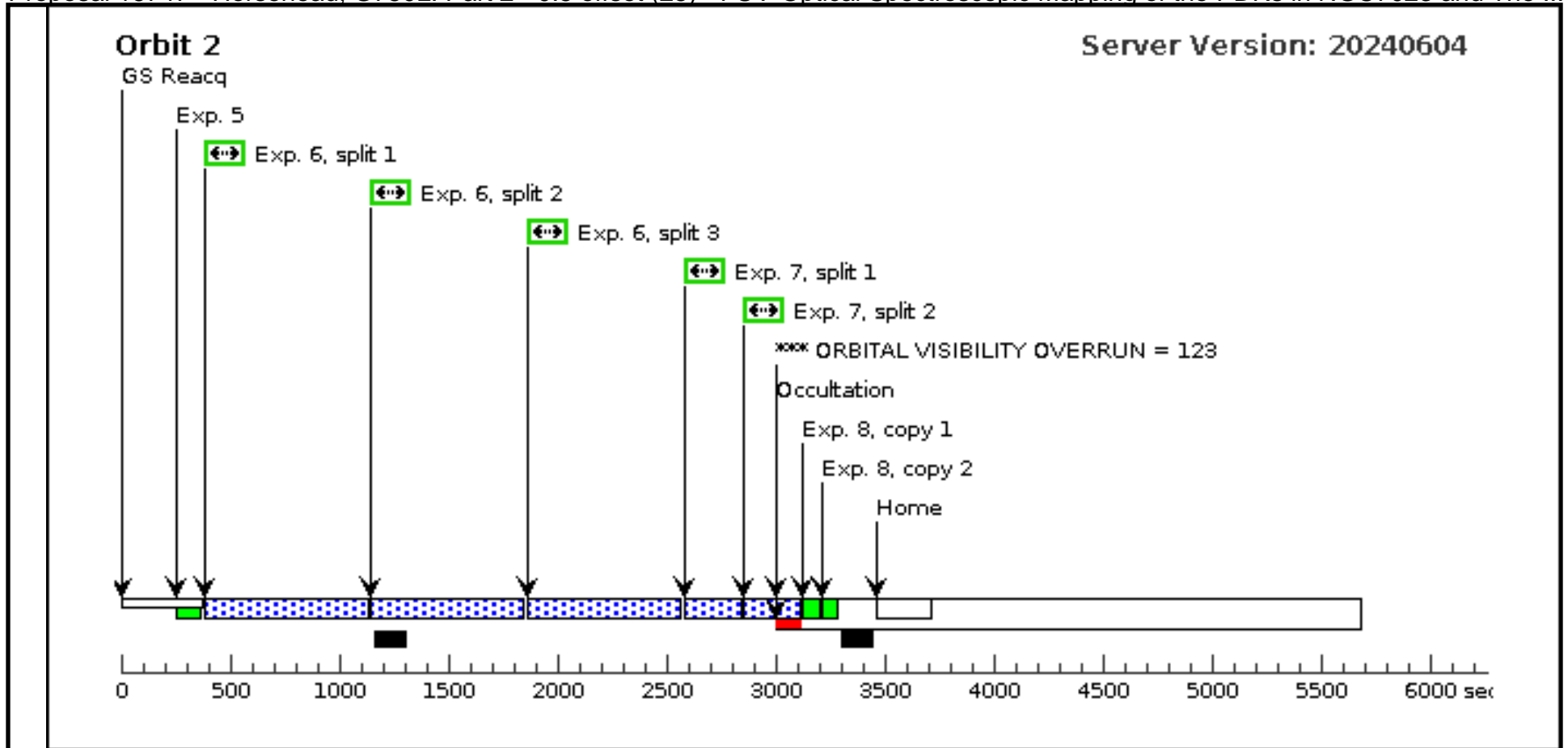
| <b>Visit</b>   | Proposal 16747, Horsehead, G750L. Part 2 -0.5 offset (25), failed <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
|--|---|--|--|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|---|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|--|--|--|--|--|--|
|  | <b>Diagnosics</b><br>(Horsehead, G750L. Part 2 -0.5 offset (25)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN<br>(Horsehead, G750L. Part 2 -0.5 offset (25)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> </td> </tr> </tbody> </table> |  |  |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |  |  |  |  |  |
|  | #   | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| (2)  | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20                | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i>  |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| (5)  | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |

Proposal 16747 - Horsehead, G750L. Part 2 -0.5 offset (25) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

| #   | Label<br>(ETC Run)   | Target   | Config,Mode,Aperture      | Spectral Els.           | Opt. Params.    | Special Reqs.             | Groups             | Exp. Time (Total)/[Actual Dur.]                         | Orbit   |     |
|---|--|--|---------------------------|-------------------------|-----------------|---------------------------|--------------------|---|---|-----|
| Exposures   | 1  | ACQ<br>(STIS.ta.153<br>5128)                                     | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                    | 25 Secs (25 Secs)<br>[==>]                              | [1]   |     |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |  |                           |                         |                 |                           |                    |   |   |     |
|   | 2  | Horsehead 3<br>repeats, Offs<br>et -0.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG -0.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |  |                           |                         |                 |                           |                    |   |   |     |
|   | 3  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]   | [1] |
|   | 4  | Fringe Flat  | CCDFLAT                   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                    |   | [==>(Copy 1)]<br>[==>(Copy 2)]  | [1] |
|   | 5  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]   | [2] |
|   | 6  | Horsehead 3<br>repeats, Offs<br>et -0.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG -0.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2] |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |   |     |
| 7   | Horsehead 2<br>SHORT RE<br>PEATS, Off<br>set -0.5<br>(STIS.sp.15<br>36390)   | (2) HORSEHEAD  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | WAVECAL=NO      | POS TARG -0.5,null        |                    | 452 Secs (452 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |     |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |   |     |
| 8   | Fringe Flat  | CCDFLAT  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         |                 |                           |                    | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [2]   |     |



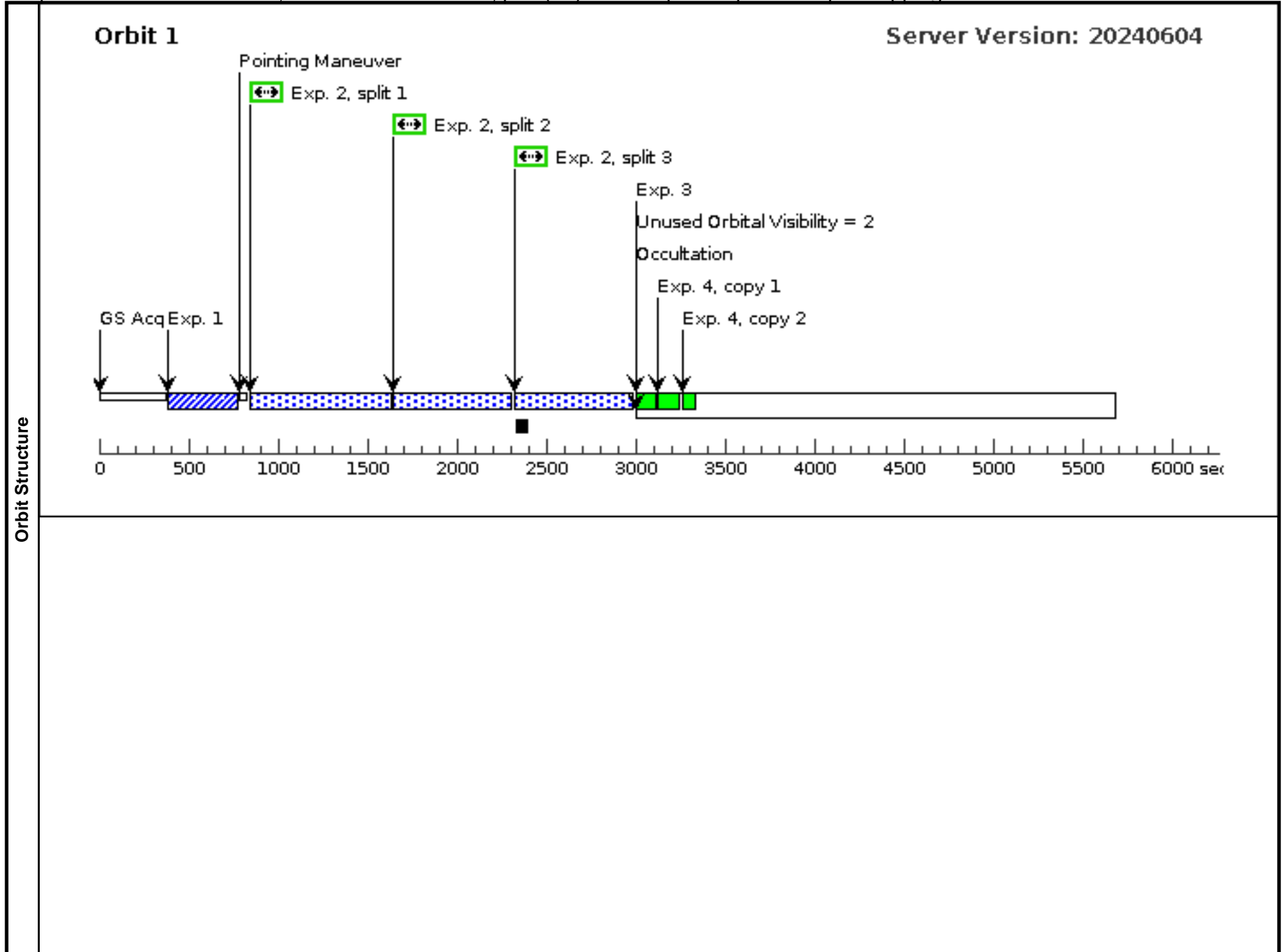


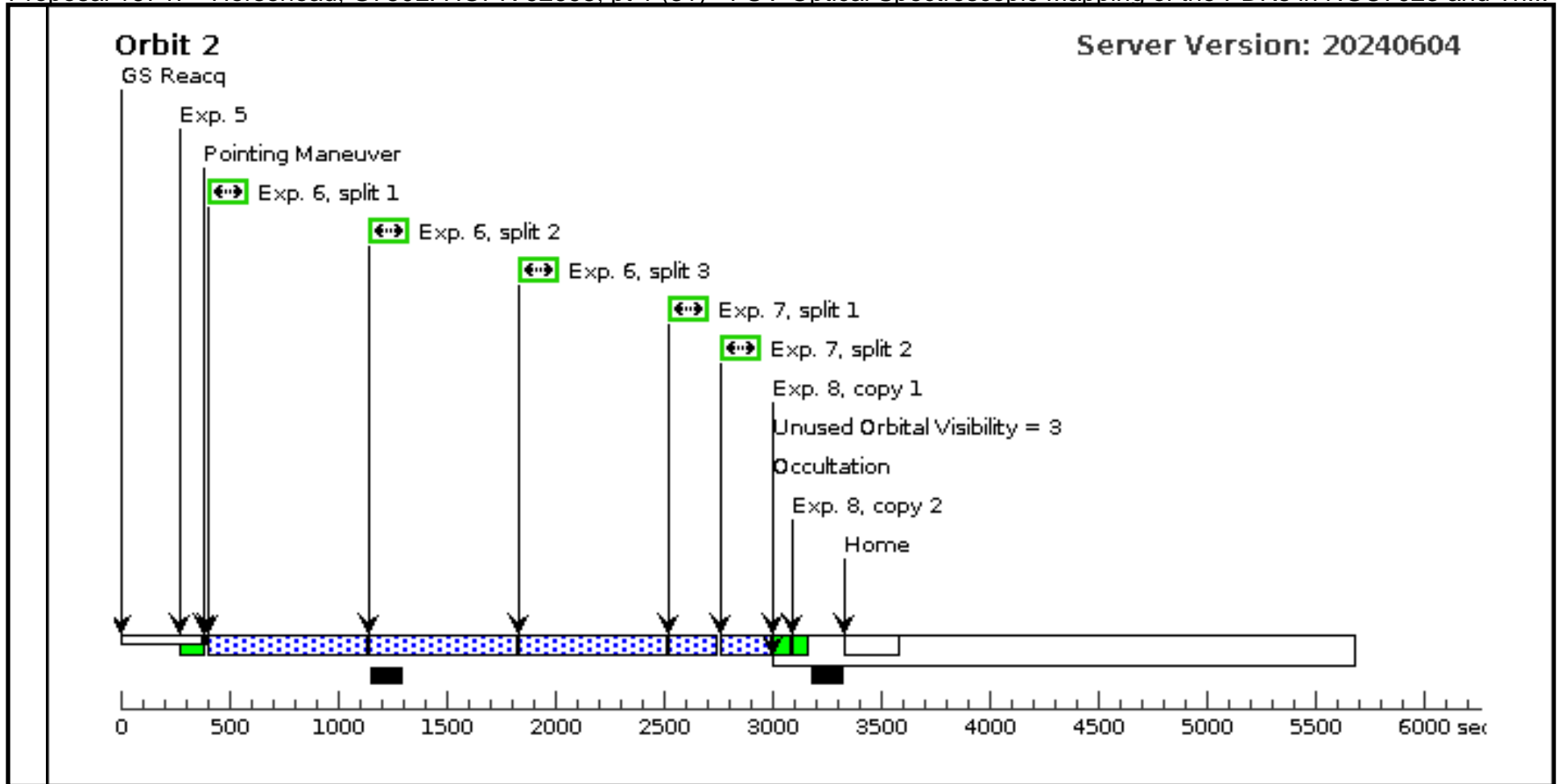


| <b>Visit</b>   | <b>Proposal 16747, Horsehead, G750L. HOPR 92698, pt 1 (31), implementation</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 299D TO 303 D; ORIENT 121D TO 121 D<br><i>Comments: complete -0.5" offset (2 of 3 failed in visit 25), partial at -1.5" offset (3 of 3 failed in visit 26)</i>  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
|--|---|--|--|--------------------------|-----------------------|---------------|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|---|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|--|--|--|--|--|--|
|  | <b>Diagnosics</b><br>(Horsehead, G750L. HOPR 92698, pt 1 (31)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 1 (31)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 1 (31)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <b>Fixed Targets</b>   | <table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>HORSEHEAD</td> <td>RA: 05 40 53.6500 (85.2235417d)<br/>Dec: -02 28 4.30 (-2.46786d)<br/>Equinox: J2000</td> <td></td> <td>V=20+/-20</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> </td> </tr> <tr> <td>(5)</td> <td>MSJ2009L1630MIR14</td> <td>RA: 05 40 49.6002 (85.2066675d)<br/>Dec: -02 28 56.22 (-2.48228d)<br/>Equinox: J2000</td> <td>Proper Motion RA: 1.373 mas/yr<br/>Proper Motion Dec: 1.865 mas/yr<br/>Epoch of Position: 2000</td> <td>V=12+/-1</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> </td> </tr> </tbody> </table> |  |  |                          |                       | #             | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i> |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |  |  |  |  |  |
|  | #   | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                | Miscellaneous |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| (2)  | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20                | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i>  |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| (5)  | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                 | Reference Frame: ICRS |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |   |  |  |                          |                       |               |      |                    |                          |        |               |     |           |   |  |           |                       |   |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |

Proposal 16747 - Horsehead, G750L. HOPR 92698, pt 1 (31) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and Th...

| #   | Label<br>(ETC Run)   | Target   | Config,Mode,Aperture      | Spectral Els.           | Opt. Params.    | Special Reqs.             | Groups             | Exp. Time (Total)/[Actual Dur.]   | Orbit  |     |
|---|--|--|---------------------------|-------------------------|-----------------|---------------------------|--------------------|---|--|-----|
| Exposures   | 1  | ACQ<br>(STIS.ta.153<br>5128)                                     | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                    | 25 Secs (25 Secs)<br>[==>]  | [1]  |     |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |  |                           |                         |                 |                           |                    |   |  |     |
|   | 2  | Horsehead 3<br>repeats, Offs<br>et -1.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG -1.5,null |   | 1955 Secs (1894.8 Secs)<br>[==>631.6 Secs (Split 1)]<br>[==>631.6 Secs (Split 2)]<br>[==>631.6 Secs (Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |  |                           |                         |                 |                           |                    |   |  |     |
|   | 3  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]  | [1] |
|   | 4  | Fringe Flat  | CCDFLAT                   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                    |   | [==>(Copy 1)]<br>[==>(Copy 2)]   | [1] |
|   | 5  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]  | [2] |
|   | 6  | Horsehead 3<br>repeats, Offs<br>et -0.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG -0.5,null |   | 2022 Secs (1938 Secs)<br>[==>646.0 Secs (Split 1)]<br>[==>646.0 Secs (Split 2)]<br>[==>646.0 Secs (Split 3)]   | [2] |
| <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |  |     |
| 7   | Horsehead 2<br>SHORT RE<br>PEATS, Off<br>set -0.5<br>(STIS.sp.15<br>36390)   | (2) HORSEHEAD  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | WAVECAL=NO      | POS TARG -0.5,null        |                    | 445 Secs (389 Secs)<br>[==>194.5 Secs (Split 1)]<br>[==>194.5 Secs (Split 2)] | [2]  |     |
| <i>Comments: With total exposure time of 14649 seconds, SN in contium is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |  |     |
| 8   | Fringe Flat  | CCDFLAT  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         |                 |                           |                    | [==>(Copy 1)]<br>[==>(Copy 2)]  | [2]  |     |





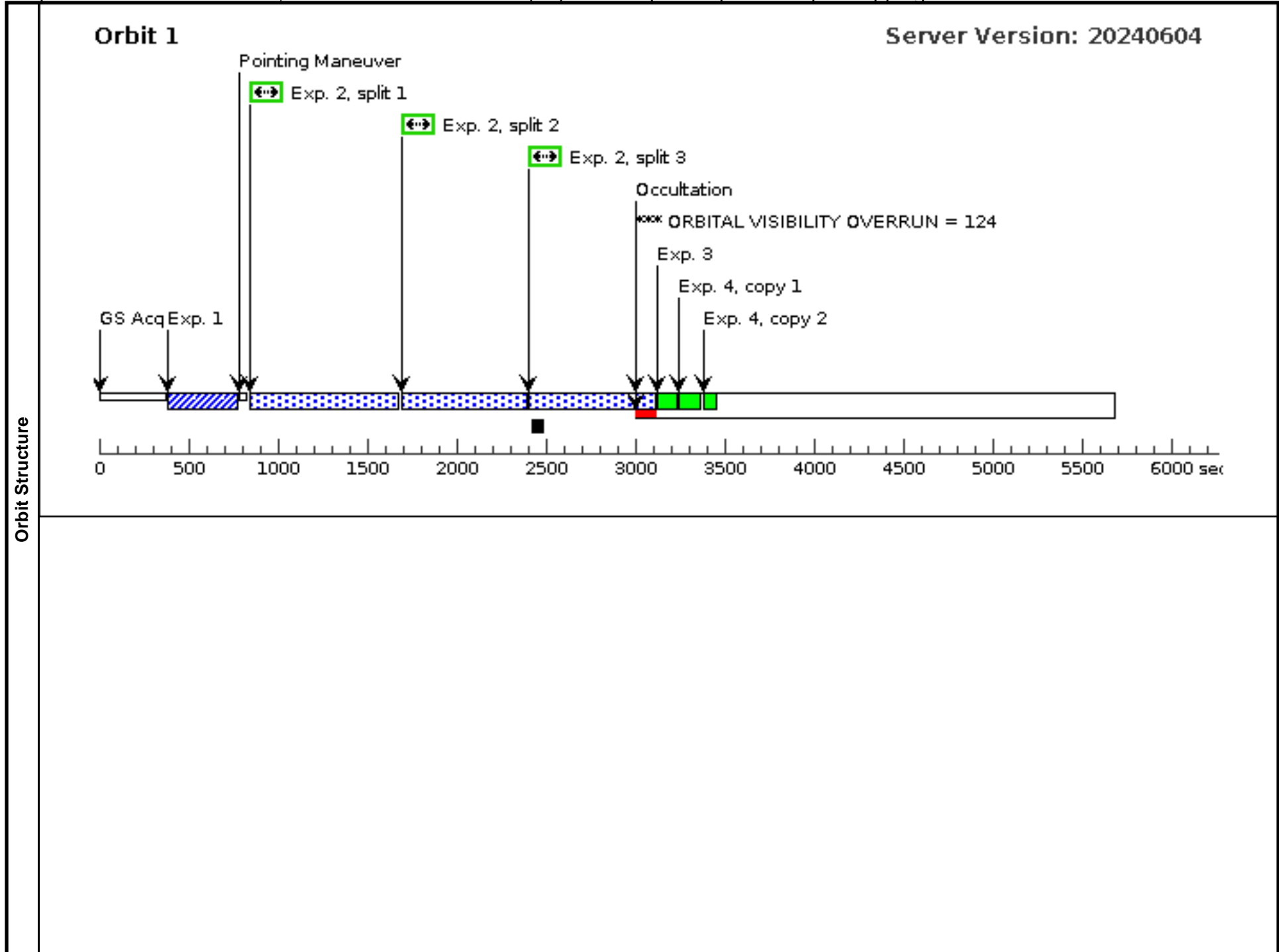
Proposal 16747 - Horsehead, G750L. Part 3 -1.5 offset (26) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

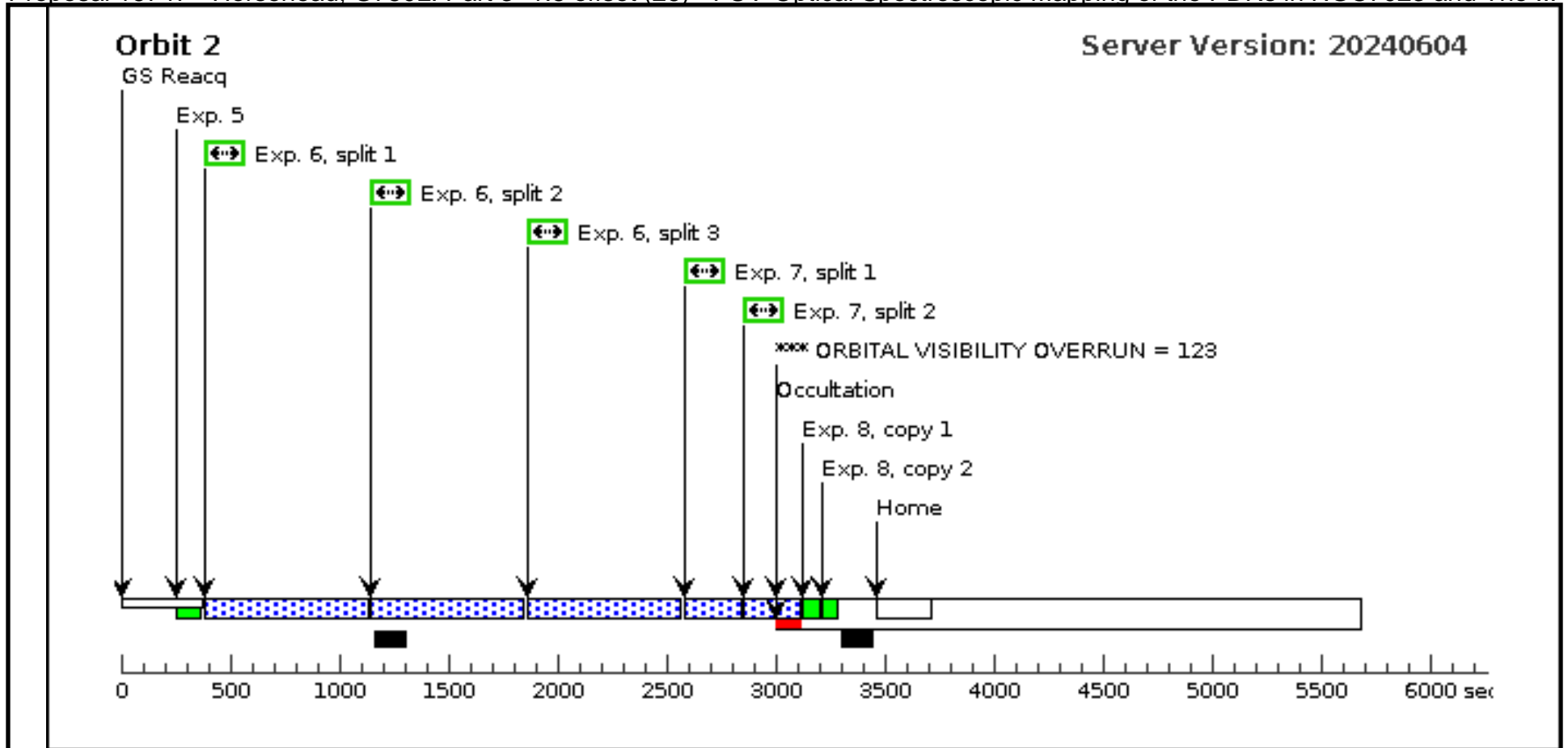
| Visit  | <p><b>Proposal 16747, Horsehead, G750L. Part 3 -1.5 offset (26), failed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: STIS/CCD</p> <p>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D</p>  |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
|--|---|--|--|-----------|-----------------------|---|------|--------------------|--------------------------|--------|---------------|-----|-----------|---|--|-----------|-----------------------|------------------|--|--|--|--|--|---------------------|--|--|--|--|--|---|--|--|--|--|--|---------------------|--|--|--|--|--|-----|-------------------|--|--|----------|-----------------------|--|--|--|--|--|--|--------------------------|--|--|--|--|--|----------------------------------|--|--|--|--|--|--------------------|--|--|--|--|--|
| Diagnostics  | <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p> <p>(Horsehead, G750L. Part 3 -1.5 offset (26)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</p>  |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| Fixed Targets  | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th data-bbox="136 544 241 576">#</th> <th data-bbox="241 544 472 576">Name</th> <th data-bbox="472 544 892 576">Target Coordinates</th> <th data-bbox="892 544 1228 576">Targ. Coord. Corrections</th> <th data-bbox="1228 544 1606 576">Fluxes</th> <th data-bbox="1606 544 2005 576">Miscellaneous</th> </tr> </thead> <tbody> <tr> <td data-bbox="136 576 241 771">(2)</td> <td data-bbox="241 576 472 771">HORSEHEAD</td> <td data-bbox="472 576 892 771">                     RA: 05 40 53.6500 (85.2235417d)<br/>                     Dec: -02 28 4.30 (-2.46786d)<br/>                     Equinox: J2000                 </td> <td data-bbox="892 576 1228 771"></td> <td data-bbox="1228 576 1606 771">V=20+/-20</td> <td data-bbox="1606 576 2005 771">Reference Frame: ICRS</td> </tr> <tr> <td colspan="6" data-bbox="136 771 2005 803"><i>Comments:</i></td> </tr> <tr> <td colspan="6" data-bbox="136 803 2005 836"><i>Category=ISM</i></td> </tr> <tr> <td colspan="6" data-bbox="136 836 2005 868"><i>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]</i></td> </tr> <tr> <td colspan="6" data-bbox="136 868 2005 901"><i>Extended=YES</i></td> </tr> <tr> <td data-bbox="136 901 241 950">(5)</td> <td data-bbox="241 901 472 950">MSJ2009L1630MIR14</td> <td data-bbox="472 901 892 950">                     RA: 05 40 49.6002 (85.2066675d)<br/>                     Dec: -02 28 56.22 (-2.48228d)<br/>                     Equinox: J2000                 </td> <td data-bbox="892 901 1228 950">                     Proper Motion RA: 1.373 mas/yr<br/>                     Proper Motion Dec: 1.865 mas/yr<br/>                     Epoch of Position: 2000                 </td> <td data-bbox="1228 901 1606 950">V=12+/-1</td> <td data-bbox="1606 901 2005 950">Reference Frame: ICRS</td> </tr> <tr> <td colspan="6" data-bbox="136 950 2005 982"><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></td> </tr> <tr> <td colspan="6" data-bbox="136 982 2005 1015"><i>Category=EXT-STAR</i></td> </tr> <tr> <td colspan="6" data-bbox="136 1015 2005 1047"><i>Description=[A0-A3 III-I]</i></td> </tr> <tr> <td colspan="6" data-bbox="136 1047 2005 1079"><i>Extended=NO</i></td> </tr> </tbody> </table> |  |  |           |                       | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | HORSEHEAD | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000 |  | V=20+/-20 | Reference Frame: ICRS | <i>Comments:</i> |  |  |  |  |  | <i>Category=ISM</i> |  |  |  |  |  | <i>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]</i> |  |  |  |  |  | <i>Extended=YES</i> |  |  |  |  |  | (5) | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1 | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |  |  |  |  |  | <i>Category=EXT-STAR</i> |  |  |  |  |  | <i>Description=[A0-A3 III-I]</i> |  |  |  |  |  | <i>Extended=NO</i> |  |  |  |  |  |
| #  | Name  | Target Coordinates   | Targ. Coord. Corrections   | Fluxes    | Miscellaneous         |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| (2)  | HORSEHEAD   | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20 | Reference Frame: ICRS |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Comments:</i>   |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Category=ISM</i>  |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]</i>                                  |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Extended=YES</i>  |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| (5)  | MSJ2009L1630MIR14   | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1  | Reference Frame: ICRS |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Category=EXT-STAR</i>   |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Description=[A0-A3 III-I]</i>   |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |
| <i>Extended=NO</i>   |   |  |  |           |                       |   |      |                    |                          |        |               |     |           |   |  |           |                       |                  |  |  |  |  |  |                     |  |  |  |  |  |   |  |  |  |  |  |                     |  |  |  |  |  |     |                   |  |  |          |                       |  |  |  |  |  |  |                          |  |  |  |  |  |                                  |  |  |  |  |  |                    |  |  |  |  |  |

Proposal 16747 - Horsehead, G750L. Part 3 -1.5 offset (26) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The ...

| #   | Label<br>(ETC Run)   | Target   | Config,Mode,Aperture      | Spectral Els.           | Opt. Params.    | Special Reqs.             | Groups             | Exp. Time (Total)/[Actual Dur.]                         | Orbit   |     |
|---|--|--|---------------------------|-------------------------|-----------------|---------------------------|--------------------|---|---|-----|
| <b>Exposures</b>  | 1  | ACQ<br>(STIS.ta.153<br>5128)                                     | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                    | 25 Secs (25 Secs)<br>[==>]                              | [1]   |     |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |  |                           |                         |                 |                           |                    |   |   |     |
|   | 2  | Horsehead 3<br>repeats, Offs<br>et -1.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG -1.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |  |                           |                         |                 |                           |                    |   |   |     |
|   | 3  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]   | [1] |
|   | 4  | Fringe Flat  | CCDFLAT                   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                    |   | [==>(Copy 1)]<br>[==>(Copy 2)]  | [1] |
|   | 5  | Manual Wav<br>ecal   | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]   | [2] |
|   | 6  | Horsehead 3<br>repeats Offs<br>et -1.5<br>(STIS.sp.15<br>36390)  | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG -1.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2] |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |   |     |
| 7   | Horsehead 2<br>SHORT RE<br>PEATS Offs<br>et -1.5<br>(STIS.sp.15<br>36390)  | (2) HORSEHEAD  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | WAVECAL=NO      | POS TARG -1.5,null        |                    | 452 Secs (452 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |     |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |  |                           |                         |                 |                           |                    |   |   |     |
| 8   | Fringe Flat  | CCDFLAT  | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         |                 |                           |                    | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [2]   |     |







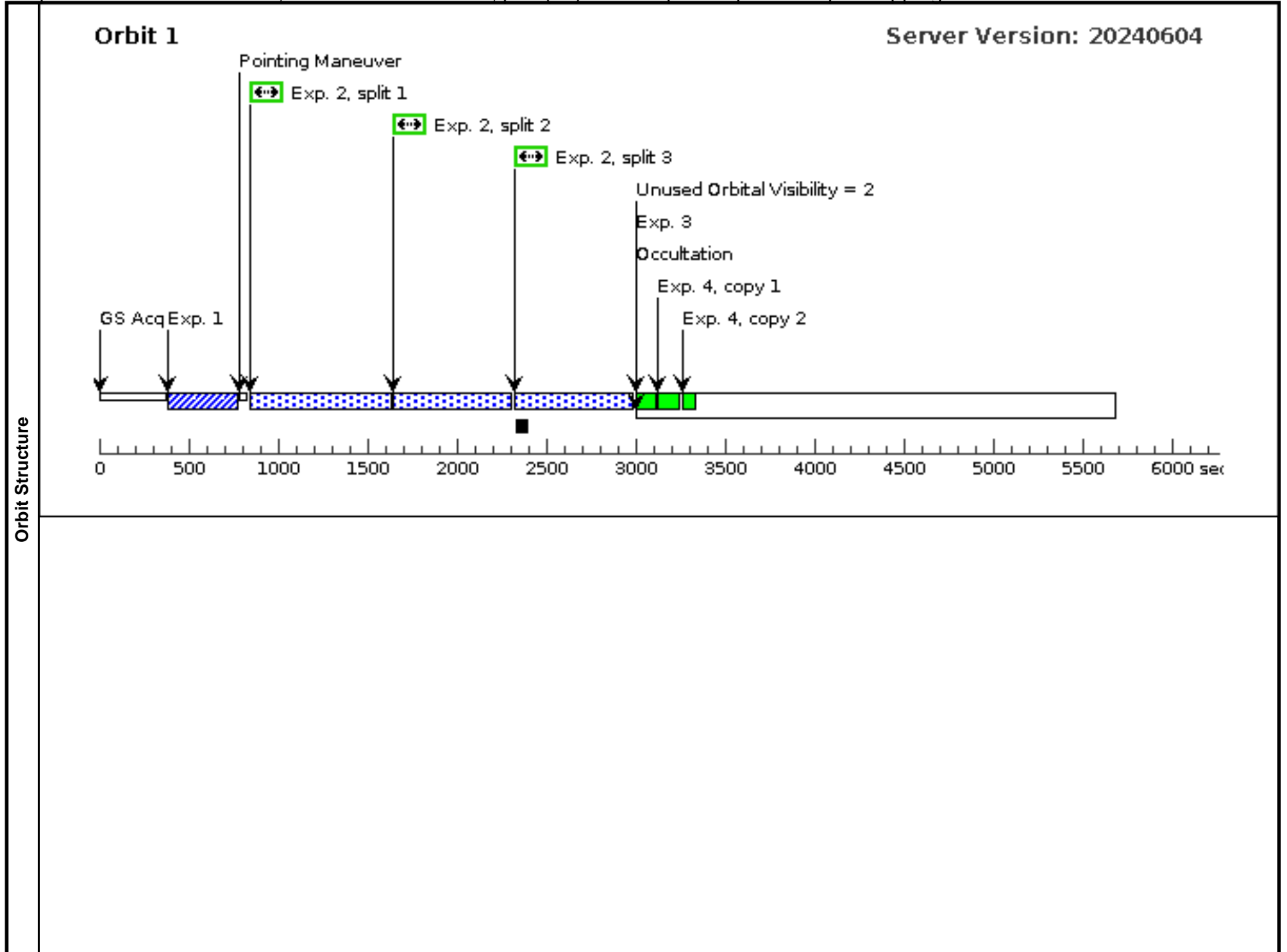
Proposal 16747 - Horsehead, G750L. HOPR 92698, pt 2 (32) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and Th...

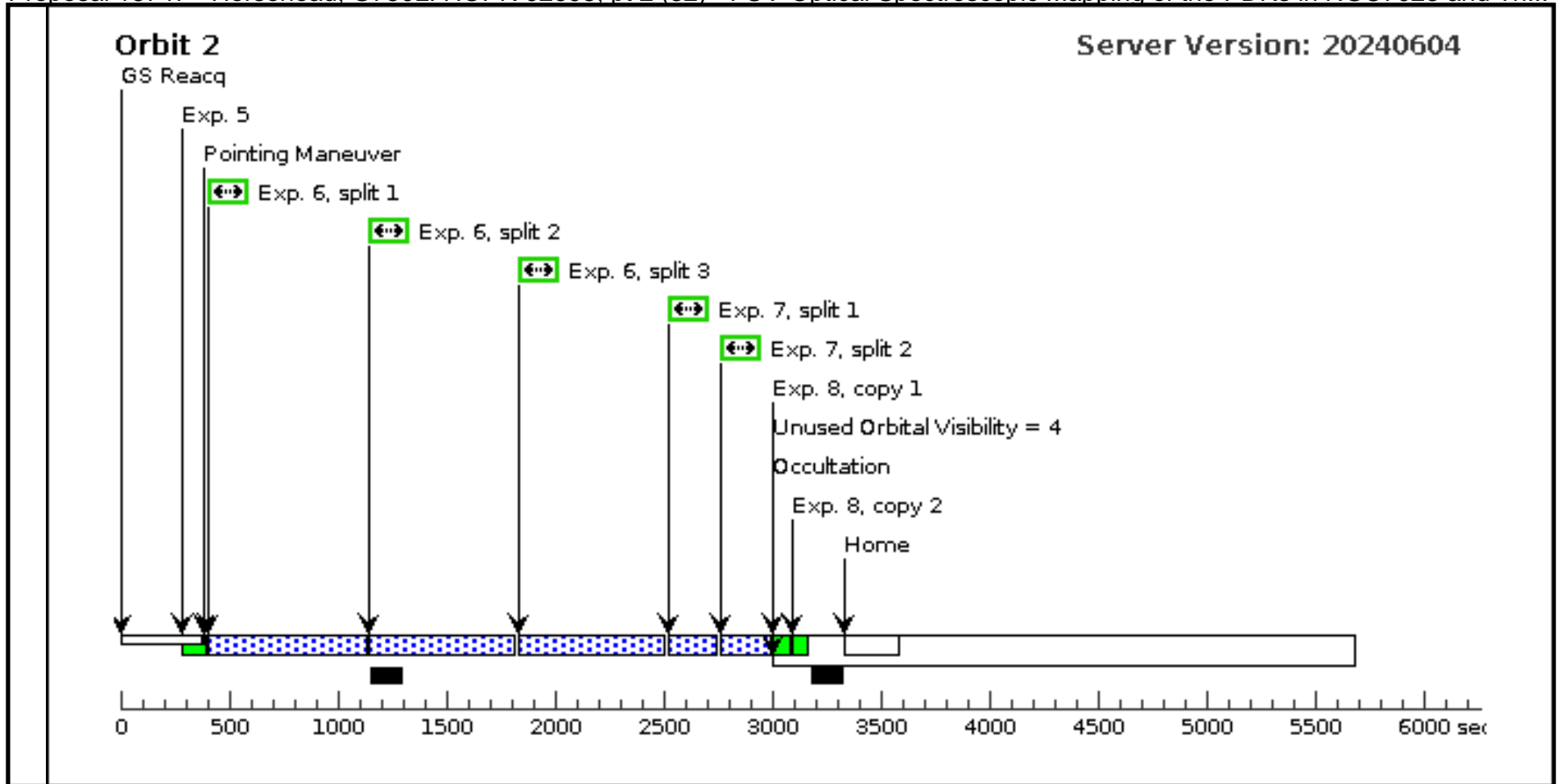
Fri Aug 02 13:01:09 GMT 2024

|  |  |                   |  |  |               |                       |
|--|--|-------------------|--|--|---------------|-----------------------|
| <b>Visit</b>   | <b>Proposal 16747, Horsehead, G750L. HOPR 92698, pt 2 (32), implementation</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 299D TO 303 D; ORIENT 121D TO 121 D<br><i>Comments: complete -1.5" offset (3 of 3 failed in visit 26) complete (partial) +1.5" offset (2 of 3 failed in visit 27)</i>  |                   |  |  |               |                       |
|  | (Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE<br>(Horsehead, G750L. HOPR 92698, pt 2 (32)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE |                   |  |  |               |                       |
| <b>Fixed Targets</b>   | <b>#</b>   | <b>Name</b>       | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b>  | <b>Fluxes</b> | <b>Miscellaneous</b>  |
|  | (2)  | HORSEHEAD         | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000  |  | V=20+/-20     | Reference Frame: ICRS |
|  | <i>Comments: Category=ISM<br/>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br/>Extended=YES</i>  |                   |  |  |               |                       |
|  | (5)  | MSJ2009L1630MIR14 | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000 | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1      | Reference Frame: ICRS |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.<br/>Category=EXT-STAR<br/>Description=[A0-A3 III-I]<br/>Extended=NO</i> |  |                   |  |  |               |                       |

Proposal 16747 - Horsehead, G750L. HOPR 92698, pt 2 (32) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and Th...

| #   | Label<br>(ETC Run)   | Target  | Config,Mode,Aperture      | Spectral Els.           | Opt. Params.    | Special Reqs.             | Groups             | Exp. Time (Total)/[Actual Dur.]   | Orbit  |     |
|---|--|---|---------------------------|-------------------------|-----------------|---------------------------|--------------------|---|--|-----|
| <b>Exposures</b>  | 1  | ACQ<br>(STIS.ta.153<br>5128)                                    | (5) MSJ2009L1630<br>MIR14 | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                    | 25 Secs (25 Secs)<br>[==>]  | [1]  |     |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                           |                         |                 |                           |                    |   |  |     |
|   | 2  | Horsehead 3<br>repeats, Offs<br>et 1.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG 1.5,null  |   | 1955 Secs (1894.8 Secs)<br>[==>631.6 Secs (Split 1)]<br>[==>631.6 Secs (Split 2)]<br>[==>631.6 Secs (Split 3)] | [1] |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |   |                           |                         |                 |                           |                    |   |  |     |
|   | 3  | Manual Wav<br>ecal  | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]  | [1] |
|   | 4  | Fringe Flat   | CCDFLAT                   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                    |   | [==>(Copy 1)]<br>[==>(Copy 2)]   | [1] |
|   | 5  | Manual Wav<br>ecal  | WAVE                      | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                    |   | [==>]  | [2] |
|   | 6  | Horsehead 3<br>repeats Offs<br>et -1.5<br>(STIS.sp.15<br>36390) | (2) HORSEHEAD             | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG -1.5,null |   | 2022 Secs (1935 Secs)<br>[==>645.0 Secs (Split 1)]<br>[==>645.0 Secs (Split 2)]<br>[==>645.0 Secs (Split 3)]   | [2] |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                           |                         |                 |                           |                    |   |  |     |
| 7   | Horsehead 2<br>SHORT RE<br>PEATS Offs<br>et -1.5<br>(STIS.sp.15<br>36390)  | (2) HORSEHEAD   | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         | WAVECAL=NO      | POS TARG -1.5,null        |                    | 445 Secs (387 Secs)<br>[==>193.5 Secs (Split 1)]<br>[==>193.5 Secs (Split 2)] | [2]  |     |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                           |                         |                 |                           |                    |   |  |     |
| 8   | Fringe Flat  | CCDFLAT   | STIS/CCD, ACCUM, 52X2     | G750L<br>7751 A         |                 |                           |                    | [==>(Copy 1)]<br>[==>(Copy 2)]  | [2]  |     |





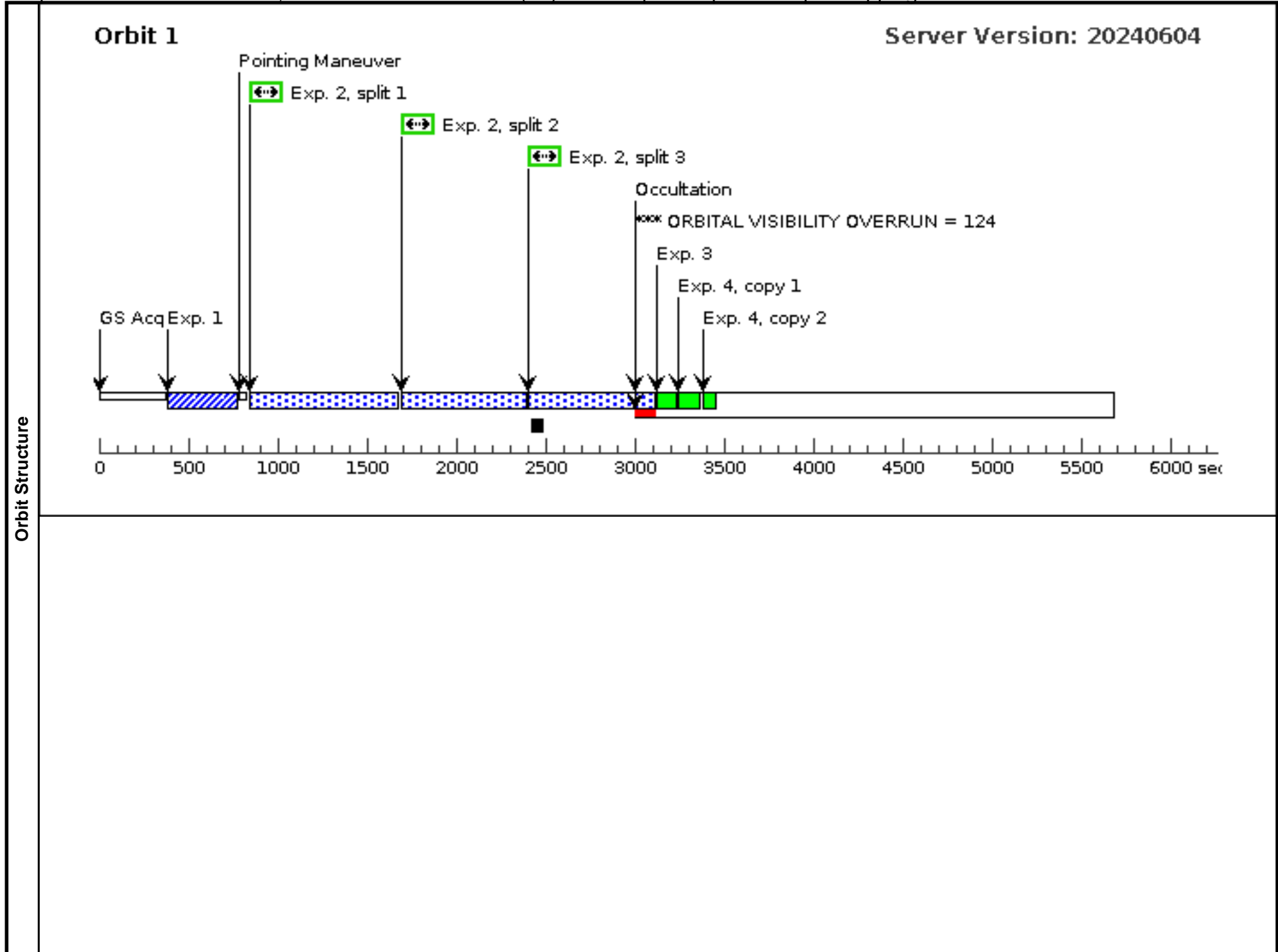
Proposal 16747 - Horsehead, G750L. Part 4 1.5 offset (27) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The H...

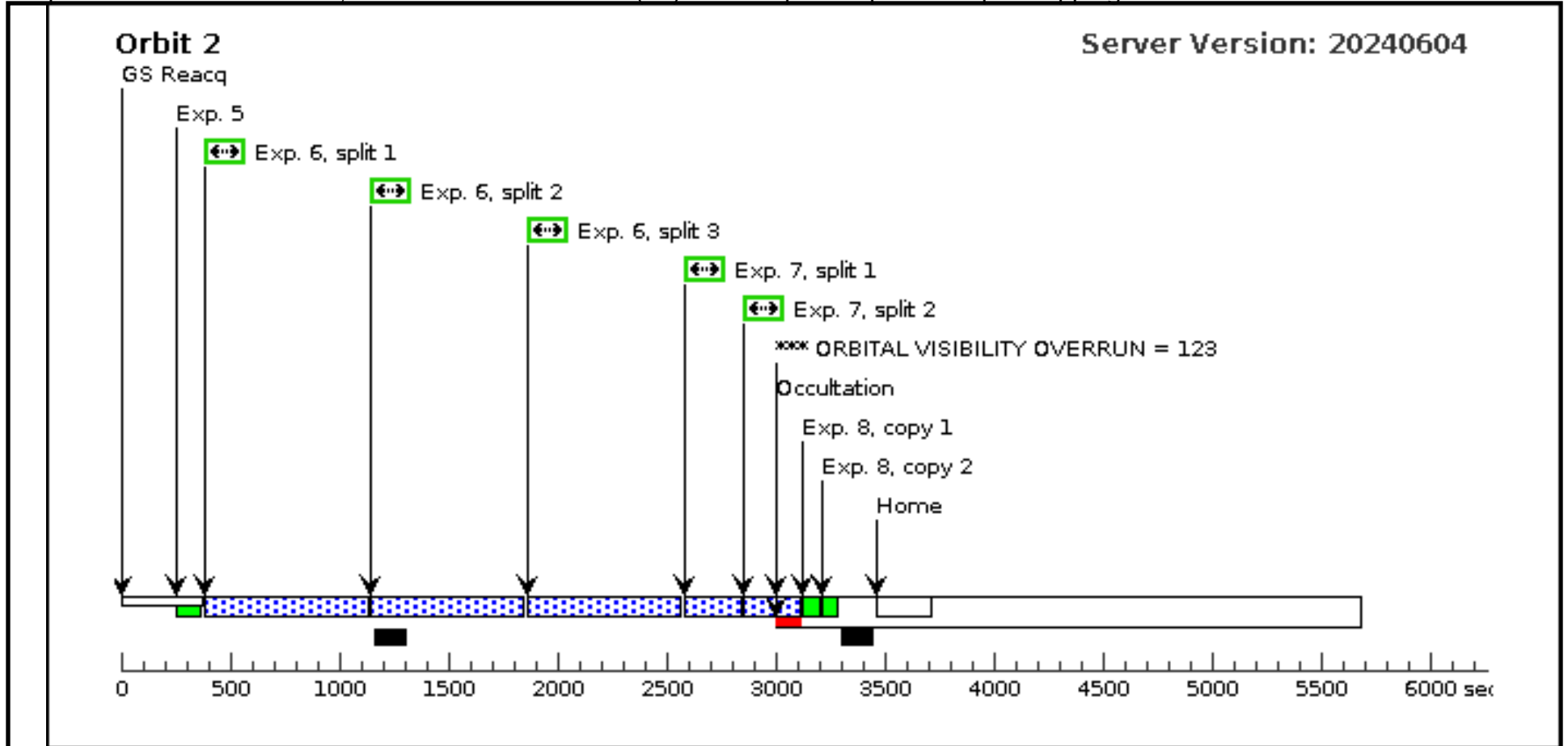
|   |  |  |  |                                 |                       |                       |
|---|--|--|--|---------------------------------|-----------------------|-----------------------|
| <b>Visit</b>  | <b>Proposal 16747, Horsehead, G750L. Part 4 1.5 offset (27), failed</b> <span style="float: right;">Fri Aug 02 13:01:09 GMT 2024</span><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: ORIENT 301D TO 301 D; ORIENT 121D TO 121 D |  |  |                                 |                       |                       |
|   | <b>Diagnostics</b>   | (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| (Horsehead, G750L. Part 4 1.5 offset (27)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE  |  |  |  |                                 |                       |                       |
| <b>Fixed Targets</b>  | <b>#</b>   | <b>Name</b>  | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b> | <b>Fluxes</b>         | <b>Miscellaneous</b>  |
|   | (2)  | HORSEHEAD  | RA: 05 40 53.6500 (85.2235417d)<br>Dec: -02 28 4.30 (-2.46786d)<br>Equinox: J2000            |                                 | V=20+/-20             | Reference Frame: ICRS |
|   | <i>Comments:</i><br>Category=ISM<br>Description=[HII REGION, IONIZATION FRONT, MOLECULAR CLOUD, PDR]<br>Extended=YES   |  |  |                                 |                       |                       |
| (5)   | MSJ2009L1630MIR14  | RA: 05 40 49.6002 (85.2066675d)<br>Dec: -02 28 56.22 (-2.48228d)<br>Equinox: J2000             | Proper Motion RA: 1.373 mas/yr<br>Proper Motion Dec: 1.865 mas/yr<br>Epoch of Position: 2000 | V=12+/-1                        | Reference Frame: ICRS |                       |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=EXT-STAR<br>Description=[A0-A3 III-I]<br>Extended=NO |  |  |  |                                 |                       |                       |

Proposal 16747 - Horsehead, G750L. Part 4 1.5 offset (27) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The H...

| #   | Label<br>(ETC Run)   | Target  | Config,Mode,Aperture    | Spectral Els.   | Opt. Params.              | Special Reqs.     | Groups  | Exp. Time (Total)/[Actual Dur.]   | Orbit |
|---|--|---|-------------------------|-----------------|---------------------------|-------------------|---|---|-------|
| <b>Exposures</b>  | 1  | ACQ (5) MSJ2009L1630<br>(STIS.ta.153 MIR14<br>5128)                           | STIS/CCD, ACQ, F25ND3   | MIRROR          |                           |                   |   | 25 Secs (25 Secs)<br>[==>]  | [1]   |
|   | <i>Comments: No spectral type for L1630MIR-14. Assume M2V, use J=9.703 (2mass) to normalize. Assume E(B-V)=0.1 Go for longer than you might expect!<br/>10 seconds predicts SN of 50 with ND3, go for 25 seconds. (~80 SN)</i> |   |                         |                 |                           |                   |   |   |       |
|   | 2  | Horsehead 3 (2) HORSEHEAD<br>repeats, Offs<br>et 1.5<br>(STIS.sp.15<br>36390) | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | WAVECAL=NO;<br>CR-SPLIT=3 | POS TARG 1.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]   |
|   | <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i>  |   |                         |                 |                           |                   |   |   |       |
|   | 3  | Manual Wav WAVE<br>ecal   | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                   |   | [==>]   | [1]   |
|   | 4  | Fringe Flat CCDFLAT   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A |                           |                   |   | [==>(Copy 1)]<br>[==>(Copy 2)]  | [1]   |
|   | 5  | Manual Wav WAVE<br>ecal   | STIS/CCD, ACCUM, 52X0.2 | G750L<br>7751 A |                           |                   |   | [==>]   | [2]   |
|   | 6  | Horsehead 3 (2) HORSEHEAD<br>repeats Offs<br>et 1.5<br>(STIS.sp.15<br>36390)  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO | POS TARG 1.5,null |   | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [2]   |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                         |                 |                           |                   |   |   |       |
| 7   | Horsehead 2 (2) HORSEHEAD<br>SHORT RE<br>PEATS Offs<br>et 1.5<br>(STIS.sp.15<br>36390)   | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A         | WAVECAL=NO      | POS TARG 1.5,null         |                   | 452 Secs (452 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)] | [2]   |       |
| <i>Comments: With total exposure time of 14649 seconds, SN in continuum is ~4. We will bin spectrally (and spatially if necessary) to reach a SN 10. Line SN is 5-40.</i> |  |   |                         |                 |                           |                   |   |   |       |
| 8   | Fringe Flat CCDFLAT  | STIS/CCD, ACCUM, 52X2   | G750L<br>7751 A         |                 |                           |                   | [==>(Copy 1)]<br>[==>(Copy 2)]                          | [2]   |       |



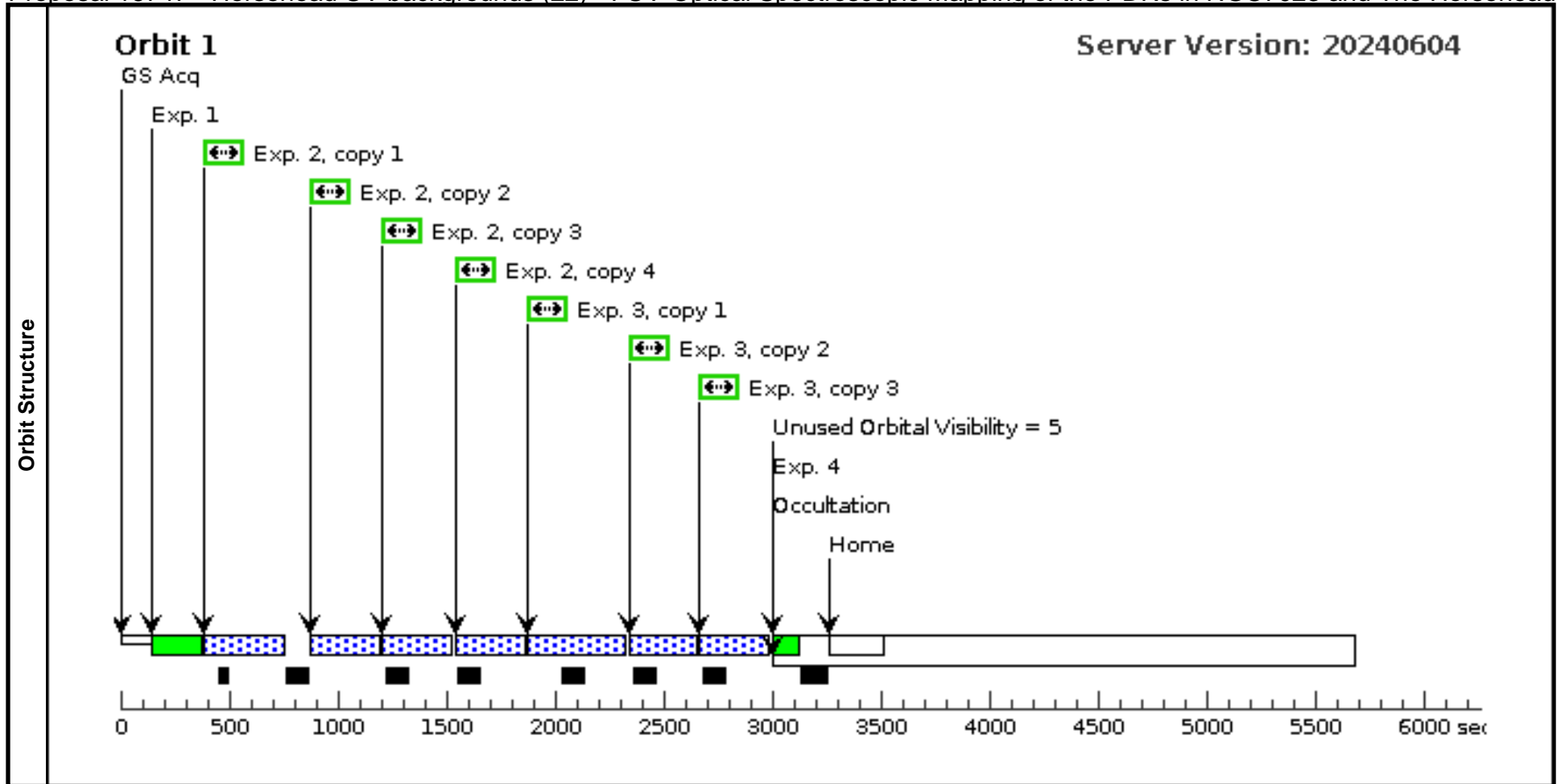




Proposal 16747 - Horsehead UV backgrounds (22) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horsehead

Fri Aug 02 13:01:09 GMT 2024

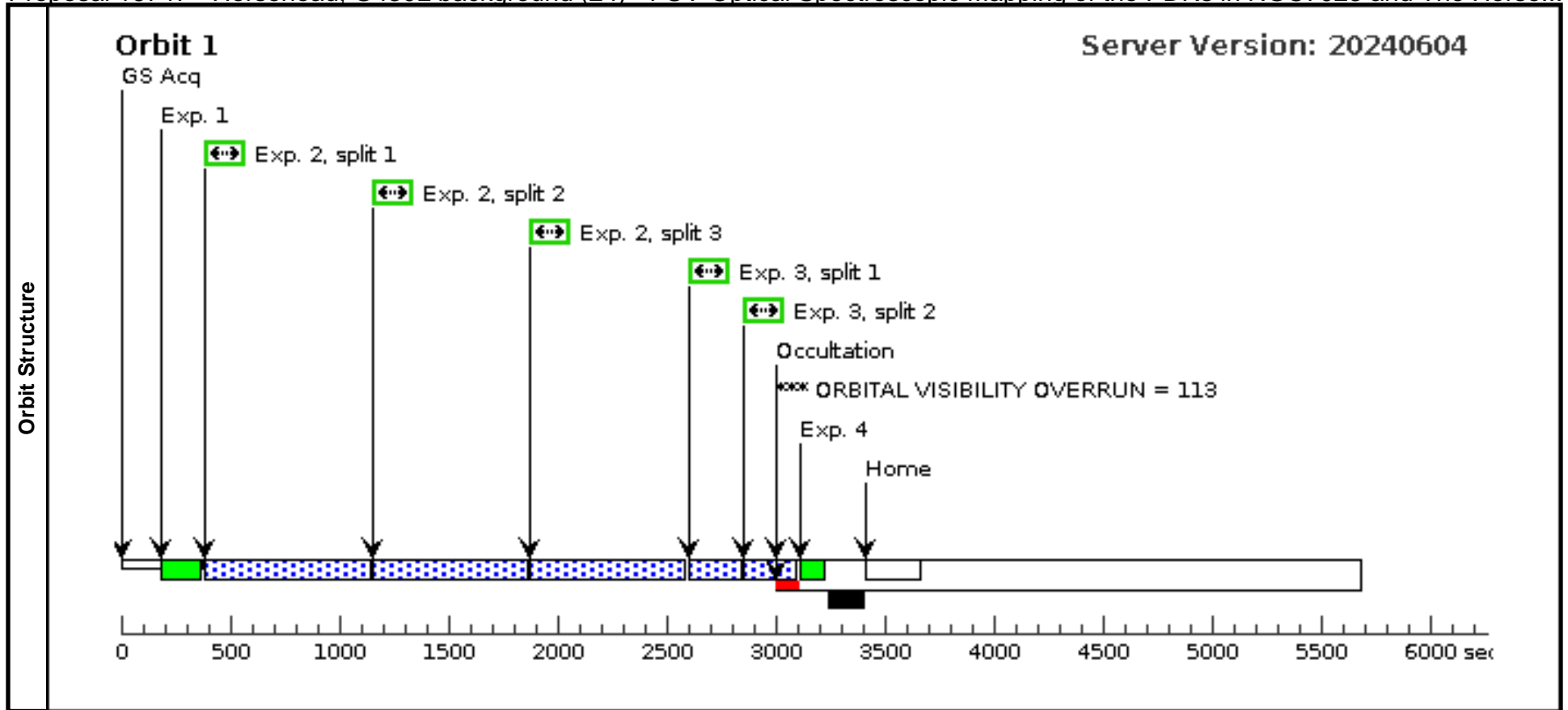
|   |   |  |  |                              |                 |                       |               |        |  |  |     |
|---|---|--|--|------------------------------|-----------------|-----------------------|---------------|--------|--|--|-----|
| <b>Visit</b>  | <b>Proposal 16747, Horsehead UV backgrounds (22), completed</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/NUV-MAMA, STIS/FUV-MAMA<br>Special Requirements: (none)  |  |  |                              |                 |                       |               |        |  |  |     |
|   | (Horsehead UV backgrounds (22)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.   |  |  |                              |                 |                       |               |        |  |  |     |
| <b>Fixed Targets</b>  | #   | Name   | Target Coordinates   | Targ. Coord. Corrections     | Fluxes          | Miscellaneous         |               |        |  |  |     |
|   | (7)   | HORSEHEADBACKGROUND                            | RA: 05 40 38.4200 (85.1600833d)<br>Dec: -02 27 39.50 (-2.46097d)<br>Equinox: J2000 |                              | V=15            | Reference Frame: ICRS |               |        |  |  |     |
| Comments: Background region to monitor instrumental background/stability.<br>Category=CALIBRATION<br>Description=[UNDESIGNATED]<br>Extended=NO  |   |  |  |                              |                 |                       |               |        |  |  |     |
| <b>Exposures</b>  | #   | Label (ETC Run)                                | Target   | Config,Mode,Aperture         | Spectral Els.   | Opt. Params.          | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit  |     |
|   | 1   | Manual Wav ecal                                | WAVE   | STIS/FUV-MAMA, ACCUM, 52X0.2 | G140L<br>1425 A |                       |               |        | [==>]  | [1]  |     |
|   | 2   | Horsehead G140L Back ground (STIS.sp.15 35952) | (7) HORSEHEADBACKGROUND  | STIS/FUV-MAMA, ACCUM, 52X2   | G140L<br>1425 A |                       |               |        | 310 Secs X 4 (1240 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)]<br>[==>(Copy 4)] | [1]  |     |
|   | Comments: No ETC run performed. These are mainly targeted at instrumental background so are specified at the maximum exposure length on targets, not a specific SN target. ETC number is made up to reduce the number of yellow exclamation points I have to look at. |  |  |                              |                 |                       |               |        |  |  |     |
|   | 3   | Horsehead G230L Back ground (STIS.sp.15 35954) | (7) HORSEHEADBACKGROUND  | STIS/NUV-MAMA, ACCUM, 52X2   | G230L<br>2376 A |                       | WAVECAL=NO    |        |  | 306 Secs X 3 (918 Secs)<br>[==>(Copy 1)]<br>[==>(Copy 2)]<br>[==>(Copy 3)] | [1] |
| Comments: No ETC run performed. These are mainly targeted at instrumental background so are specified at the maximum exposure length on targets, not a specific SN target. ETC number is made up to reduce the number of yellow exclamation points I have to look at. |   |  |  |                              |                 |                       |               |        |  |  |     |
| 4   | Manual Wav ecal   | WAVE   | STIS/NUV-MAMA, ACCUM, 52X0.2   | G230L<br>2376 A              |                 |                       |               |        | [==>]  | [1]  |     |



Proposal 16747 - Horsehead, G430L background (24) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horse...

Fri Aug 02 13:01:09 GMT 2024

|   |  |                               |  |                                 |                      |                           |                      |               |   |              |
|---|--|-------------------------------|--|---------------------------------|----------------------|---------------------------|----------------------|---------------|---|--------------|
| <b>Visit</b>  | <b>Proposal 16747, Horsehead, G430L background (24), completed</b><br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: (none)  |                               |  |                                 |                      |                           |                      |               |   |              |
|   | (Horsehead, G430L background (24)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.<br>(Horsehead, G430L background (24)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |                               |  |                                 |                      |                           |                      |               |   |              |
| <b>Diagnosics</b>   |  |                               |  |                                 |                      |                           |                      |               |   |              |
|   |  |                               |  |                                 |                      |                           |                      |               |   |              |
| <b>Fixed Targets</b>  | <b>#</b>   | <b>Name</b>                   | <b>Target Coordinates</b>  | <b>Targ. Coord. Corrections</b> | <b>Fluxes</b>        | <b>Miscellaneous</b>      |                      |               |   |              |
|   | (7)  | HORSEHEADBACKGROUND           | RA: 05 40 38.4200 (85.1600833d)<br>Dec: -02 27 39.50 (-2.46097d)<br>Equinox: J2000 |                                 | V=15                 | Reference Frame: ICRS     |                      |               |   |              |
| <i>Comments: Background region to monitor instrumental background/stability.</i><br>Category=CALIBRATION<br>Description=[UNDESIGNATED]<br>Extended=NO |  |                               |  |                                 |                      |                           |                      |               |   |              |
| <b>Exposures</b>  | <b>#</b>   | <b>Label (ETC Run)</b>        | <b>Target</b>  | <b>Config,Mode,Aperture</b>     | <b>Spectral Els.</b> | <b>Opt. Params.</b>       | <b>Special Reqs.</b> | <b>Groups</b> | <b>Exp. Time (Total)/[Actual Dur.]</b>                                      | <b>Orbit</b> |
|   | 1  | Manual Wav ecal               | WAVE   | STIS/CCD, ACCUM, 52X0.2         | G430L<br>4300 A      |                           |                      |               | [==>]   | [1]          |
|   | 2  | Background (STIS.sp.15 35955) | (7) HORSEHEADBACKGROUND  | STIS/CCD, ACCUM, 52X2           | G430L<br>4300 A      | WAVECAL=NO;<br>CR-SPLIT=3 |                      |               | 2040 Secs (2040 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]          |
|   | 3  | Background (STIS.sp.15 35955) | (7) HORSEHEADBACKGROUND  | STIS/CCD, ACCUM, 52X2           | G430L<br>4300 A      | WAVECAL=NO                |                      |               | 424 Secs (424 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]                     | [1]          |
|   | 4  | Manual Wav ecal               | WAVE   | STIS/CCD, ACCUM, 52X0.2         | G430L<br>4300 A      |                           |                      |               | [==>]   | [1]          |



Proposal 16747 - Horsehead, G750L background (28) - FUV-Optical Spectroscopic Mapping of the PDRs in NGC7023 and The Horse...

Fri Aug 02 13:01:09 GMT 2024

|  |  |                               |  |                          |                 |                           |               |        |   |       |
|--|--|-------------------------------|--|--------------------------|-----------------|---------------------------|---------------|--------|---|-------|
| <b>Visit</b>   | Proposal 16747, Horsehead, G750L background (28), completed<br><b>Diagnostic Status: Warning</b><br>Scientific Instruments: STIS/CCD<br>Special Requirements: (none)   |                               |  |                          |                 |                           |               |        |   |       |
|  | (Horsehead, G750L background (28)) Warning (Form): A target acquisition should probably be performed before doing spectroscopy or coronagraphy with STIS or COS.<br>(Horsehead, G750L background (28)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN |                               |  |                          |                 |                           |               |        |   |       |
| <b>Diagnosics</b>  |  |                               |  |                          |                 |                           |               |        |   |       |
|  |  |                               |  |                          |                 |                           |               |        |   |       |
| <b>Fixed Targets</b>   | #  | Name                          | Target Coordinates   | Targ. Coord. Corrections | Fluxes          | Miscellaneous             |               |        |   |       |
|  | (7)  | HORSEHEADBACKGROUND           | RA: 05 40 38.4200 (85.1600833d)<br>Dec: -02 27 39.50 (-2.46097d)<br>Equinox: J2000 |                          | V=15            | Reference Frame: ICRS     |               |        |   |       |
| Comments: Background region to monitor instrumental background/stability.<br>Category=CALIBRATION<br>Description=[UNDESIGNATED]<br>Extended=NO |  |                               |  |                          |                 |                           |               |        |   |       |
| <b>Exposures</b>   | #  | Label (ETC Run)               | Target   | Config,Mode,Aperture     | Spectral Els.   | Opt. Params.              | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]   | Orbit |
|  | 1  | Manual Wav ecal               | WAVE   | STIS/CCD, ACCUM, 52X0.2  | G750L<br>7751 A |                           |               |        | [==>]   | [1]   |
|  | 2  | Background (STIS.sp.15 36373) | (7) HORSEHEADBACKGROUND  | STIS/CCD, ACCUM, 52X2    | G750L<br>7751 A | CR-SPLIT=3;<br>WAVECAL=NO |               |        | 2022 Secs (2022 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]<br>[==>(Split 3)] | [1]   |
|  | 3  | Background (STIS.sp.15 36373) | (7) HORSEHEADBACKGROUND  | STIS/CCD, ACCUM, 52X2    | G750L<br>7751 A | WAVECAL=NO                |               |        | 452 Secs (452 Secs)<br>[==>(Split 1)]<br>[==>(Split 2)]                     | [1]   |
|  | 4  | Manual Wav ecal               | WAVE   | STIS/CCD, ACCUM, 52X0.2  | G750L<br>7751 A |                           |               |        | [==>]   | [1]   |
|  | 5  | Fringe Flat                   | CCDFLAT  | STIS/CCD, ACCUM, 52X2    | G750L<br>7751 A |                           |               |        | [==>(Copy 1)]<br>[==>(Copy 2)]  | [1]   |

