



## 17071 - The Ionizing EUV Continua of Quasars: Minding the Gap

Cycle: 30, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

### INVESTIGATORS

| <i>Name</i>                                  | <i>Institution</i>                       | <i>E-Mail</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           | (1) SBS-1010+535               | COS/NUV                             | 3                  | 29-Nov-2022 11:00:38.0        | yes                           |
| 02           | (2) WISEA-J125140.81+080718.2  | COS/NUV                             | 2                  | 29-Nov-2022 11:00:39.0        | yes                           |
| 03           | (3) WISEA-J083850.15+261105.5  | COS/NUV                             | 2                  | 29-Nov-2022 11:00:41.0        | yes                           |
| 04           | (4) VV2006-J094209.2+520714    | COS/NUV                             | 2                  | 29-Nov-2022 11:00:42.0        | yes                           |
| 05           | (5) PG-1115+080A1              | COS/NUV                             | 2                  | 29-Nov-2022 11:00:43.0        | yes                           |
| 06           | (6) 2MASS-J15485478+1211200    | COS/NUV                             | 2                  | 29-Nov-2022 11:00:44.0        | yes                           |
| 07           | (7) WISEA-J091532.60+172143.9  | COS/NUV                             | 2                  | 29-Nov-2022 11:00:45.0        | yes                           |
| 08           | (8) HB89-0202-172              | COS/NUV                             | 2                  | 29-Nov-2022 11:00:46.0        | yes                           |
| 09           | (9) WISE-J075054.64+425219.2   | COS/NUV                             | 3                  | 29-Nov-2022 11:00:48.0        | yes                           |
| 10           | (10) WISEA-J234015.74-472635.5 | COS/NUV                             | 2                  | 29-Nov-2022 11:00:50.0        | yes                           |
| 11           | (11) HB89-1621+392             | COS/NUV                             | 2                  | 29-Nov-2022 11:00:51.0        | 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> |
|--------------|------------------------------|-------------------------------------|--------------------|-------------------------------|-------------------------------|
| 12           | (12) SBS-1307+462            | COS/NUV                             | 2                  | 29-Nov-2022 11:00:52.0        | yes                           |

26 Total Orbits Used

## ABSTRACT

Despite several decades of UV observations, the rest-frame ionizing spectrum of QSOs remains uncertain, primarily because of insufficient wavelength coverage to identify strong absorbers and measure spectral curvature between the EUV/FUV and NUV/Optical. The primary goal of this proposal is to define the continuum of QSOs, for ionizing (Lyman continuum) wavelengths through the NUV and optical. This requires "filling the NUV gap" for intermediate-redshift AGN ( $z = 1.5-2.2$ ) with existing COS/G140L (FUV) and optical (SDSS) spectra. To fit the continuum over a broad wavelength interval, with access to windows of line-free continuum, we need spectra (2000-3500Å) that connect FUV and optical wavelengths. This region contains important absorption-line diagnostics, including higher Lyman lines associated with LLS and pLLS absorbers. We request 26 orbits to obtain COS/G230L near-UV spectra of 12 AGN at redshifts  $z = 1.51-2.12$  with existing far-UV (COS/G140L) and optical spectra (SDSS/6dF). This will extend the AGN composite spectrum down to 360-420Å and investigate possible spectral hardening at wavelengths below 600Å. We will also derive limits on EUV turn-overs and the He I continuum edge (504Å) predicted in some models of accretion disks. Our spectra will also measure higher Lyman lines associated with strong (LLS/pLLS) absorbers and prominent QSO broad emission lines in the EUV that contaminate the underlying continuum.

## OBSERVING DESCRIPTION

We propose to observe 12 AGN, concentrating on UV-bright AGN at intermediate redshifts ( $z=1.51-2.13$ ) that provide improvement in EUV wavelength coverage down to 360-400 Angstroms in the AGN rest-frame. Observing in the NUV gap will connect the EUV/FUV to the optical spectra available with SDSS (or 6dF), enabling us to construct a wide-band composite spectrum from 400 Angstroms into the optical band, accounting for spectral curvature and breaks. This will be useful for photoionization models of the IGM/CGM and sufficient to set physical limits on EUV turnovers, suggestive in some models of smaller inner edges of accretion disks produced by black hole spin.

We request a total of 26 orbits (COS/G230L) on 12 AGN targets (Table 1) at redshifts ranging from  $z = 1.51$  to 2.13. These AGN all have existing COS/G140L (far-UV) spectra that probe wavelengths in the QSO rest-frame EUV down to 360-420 Å. Eleven of the 12 have optical spectra (SDSS or 6dF). The G140L spectra become noisy at observed wavelengths  $\lambda > 1900$  Å, which makes it difficult to anchor the continuum at longer wavelengths. This issue is especially a problem for two of our targets with LLS at 1895 Å and 2080 Å. The lack of NUV spectral

Proposal 17071 (STScI Edit Number: 0, Created: Tuesday, November 29, 2022 at 11:00:52 AM Eastern Standard Time) - Overview observations is a general problem in measuring UV/EUV continua, sometimes exacerbated by the presence of LLS or pLLS near the end of G140L band or falling in the NUV gap. The absence of an NUV spectrum means that we cannot predict the continuum shape, if there are strong H I absorbers longward of 2000 Ang. The proposed observations will remove these uncertainties.

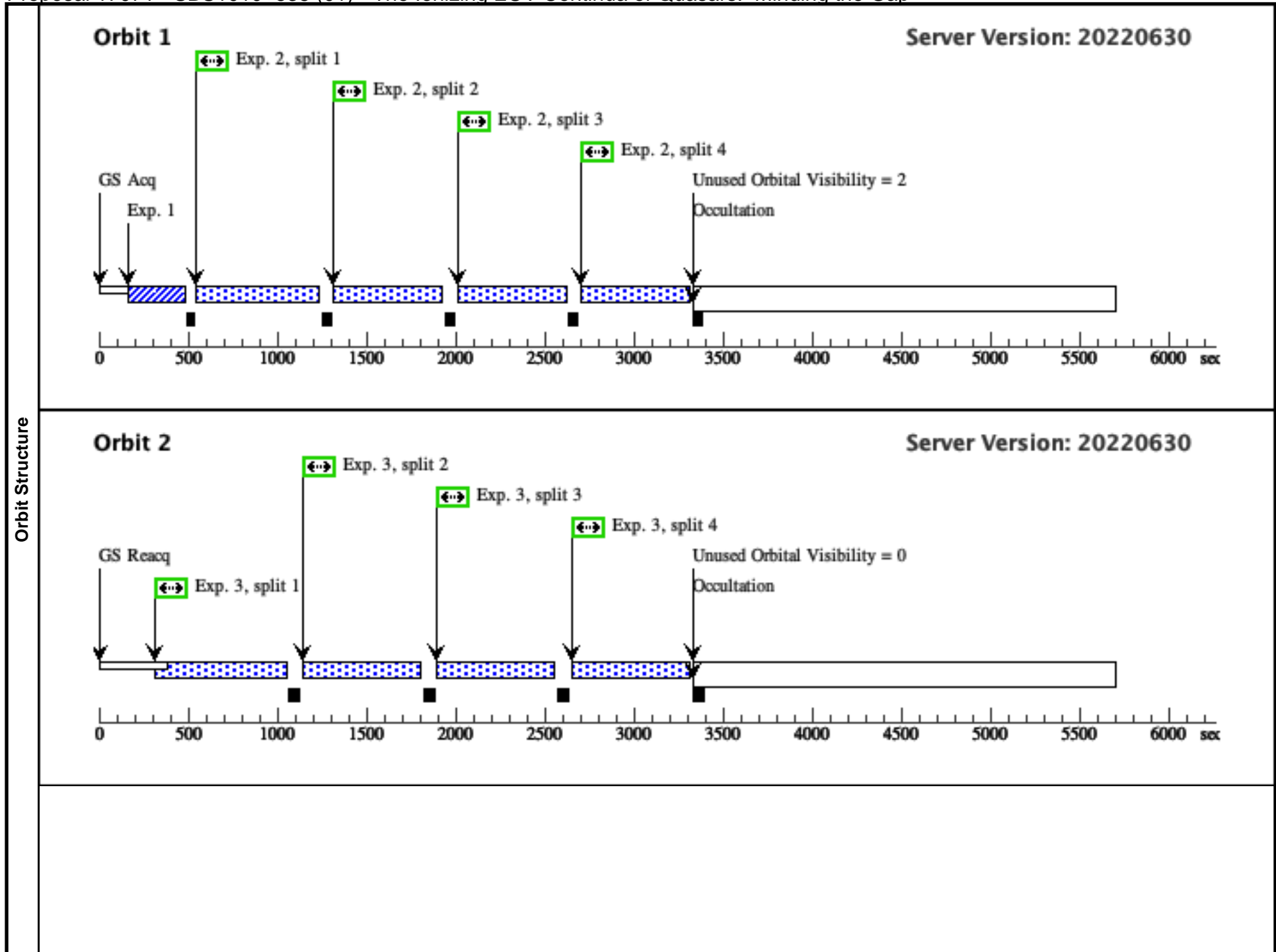
Ten of these AGN will be observed for 2 orbits each with G230L: one orbit in each of two settings (CenWaves 3000 and 3360). These observations will cover the NUV from 1700-3500 Ang, except for a gap between 2457-2801 Ang. This gap should not significantly affect the continuum fitting. This technique will allow us to extract an accurate EUV/FUV/NUV continuum, correct for strong absorbers (LLS or pLLS), and measure absorption in the higher Lyman series. Two targets, HS 0747+4259 (Fig. 2a) and SBS 1010+535 (Fig. 2b), have strong HI absorbers with Lyman continuum edges that confuse continuum fits at the long-wavelength end of the G140L band. These two QSOs will be observed in 3 settings (Cen- Waves 3000, 3360, 2635) for complete coverage of the NUV and an FUV continuum anchor between 1600-1730 Ang. In order to obtain a spectroscopic quality necessary for absorption-line measurements in the NUV, with S/N = 10-15 across the sensitive portion of the NUV, all exposures require one-orbit per G230L setting. The two bright targets with 3 settings (see Table 1 and Figure 2) will reach somewhat higher S/N.

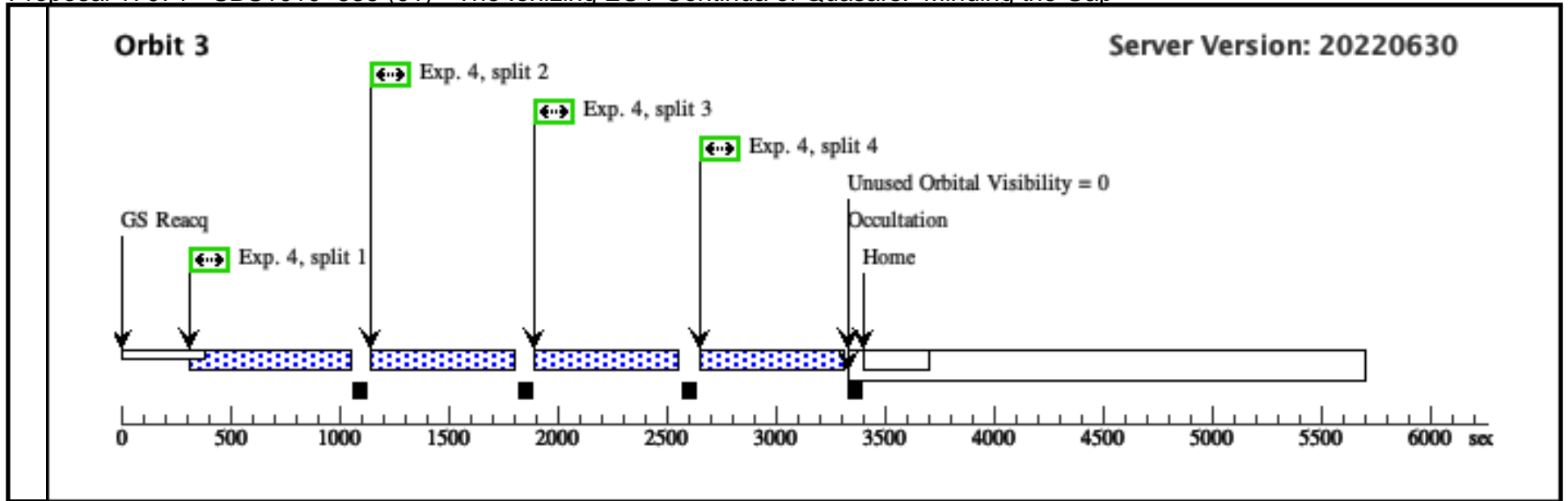
Based on existing G140L observations, all our targets are UV-bright, with 2000 Ang fluxes listed in Table 1. We used the HST exposure time calculator to confirm that (one-orbit) exposure times (52-56-minute visibility per orbit) will yield S/N = 10-15 over most of the G230L range, particularly at wavelengths needed to fix the continuum. The existing FUV spectra have broad coverage from 1120 Ang up to 2000 Ang, where the detector noise becomes large. In the 1105 Ang setting, the existing G140L data have continuous coverage and high sensitivity with no detector gap in side-A. With the new NUV spectra, we will be able to characterize the spectral curvature, identify QSO emission lines and LLS/pLLS, and model the underlying continuum through key line-free wavelength bands. Combining the G140L data with the NUV spectra and existing optical (SDSS or 6dF) spectra, we will produce a composite rest-frame spectrum, using spline fitting over absorption lines and identifying any strong absorbers (LLS and pLLS).

Selection of Targets. Our goal was to make a significant improvement in the COS composite spectrum at  $\lambda < 600$  Ang, where fewer than 10 AGN contributed (Stevens et al. 2014). Only 2 targets probed to 500 Ang. We also wanted AGN with previous COS/G140L data, in order to connect FUV and NUV spectra. We looked for AGN with optical spectra, mostly from SDSS. We examined the 11 AGN observed by Tilton et al. (2016) and 5 others from the G140L archives ( $z = 1.5-2.2$ ). We dropped 4 from 11 with  $z < 1.5$  from the first group. The UVBQ survey (Monroe et al. 2016) found 217 AGN with with FUV mag  $< 18.5$ , but only three were at  $z = 1.5-1.9$ , and they lacked G140L data. Our final sample was 12 AGN, eight at redshifts  $z > 1.7$ . The requested 26 orbits form a reasonably sized request for a sizable increase (from 3 to 11) in AGN that probe below 500 Ang.

Summary: The order-of-magnitude improvement in sensitivity of COS over previous UV spectrographs has increased the number of AGN covering the rest-frame EUV. We request 26 orbits to obtain COS/G230L near-UV spectra of 12 AGN at  $z = 1.51-2.13$ . This will extend the AGN composite spectrum down to 360-420 Ang and statistically confirm (or refute) the spectral hardening at  $\lambda < 600$  Ang seen by Tilton et al. (2016). We will also derive better limits on the He I continuum edge (504 Ang) expected in some models of accretion disks. Our spectra will also measure higher Lyman lines associated with LLS and pLLS absorbers and prominent QSO broad emission lines in the EUV that contaminate the underlying continuum.



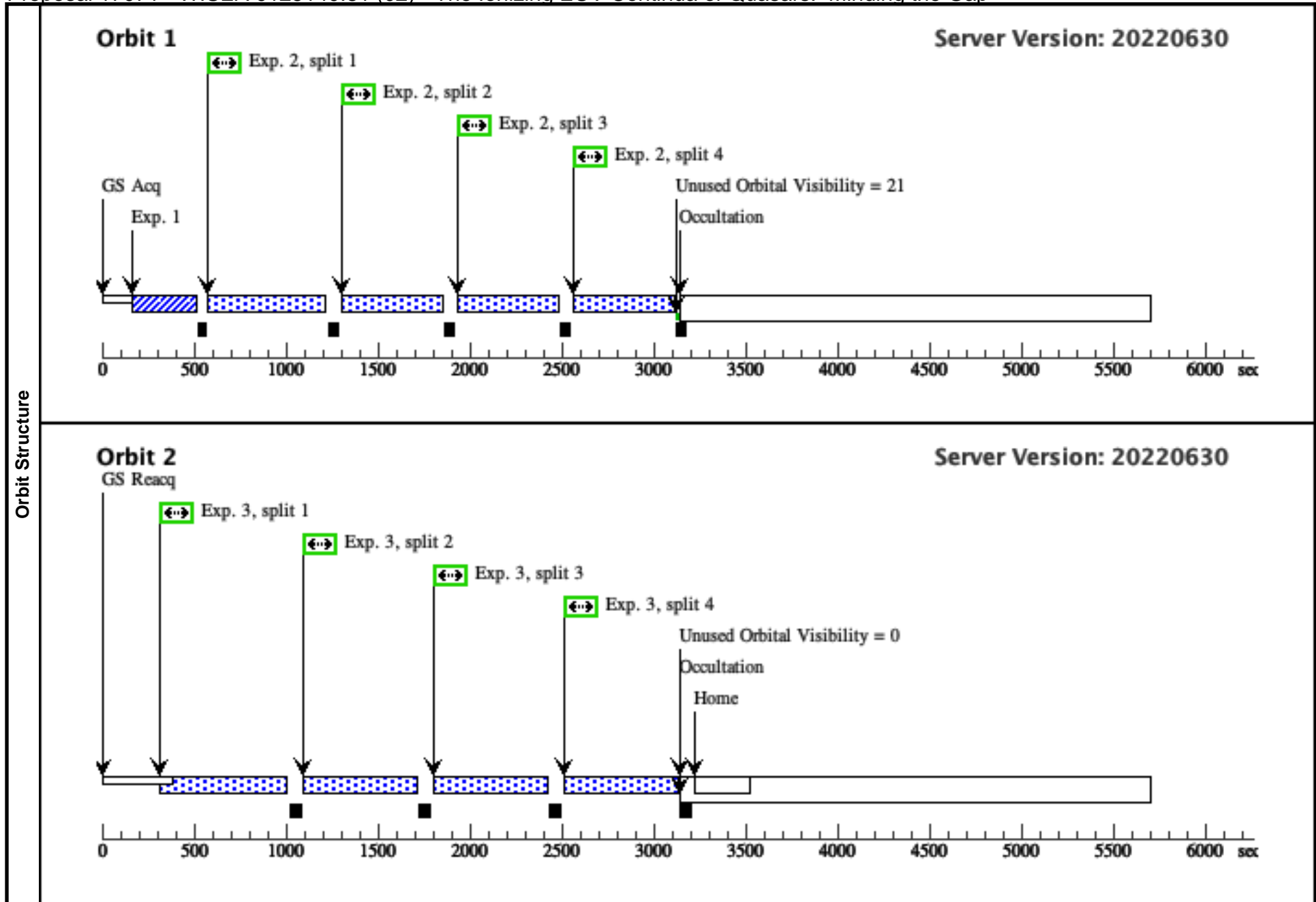




Proposal 17071 - WISEA-J125140.81 (02) - The Ionizing EUV Continua of Quasars: Minding the Gap

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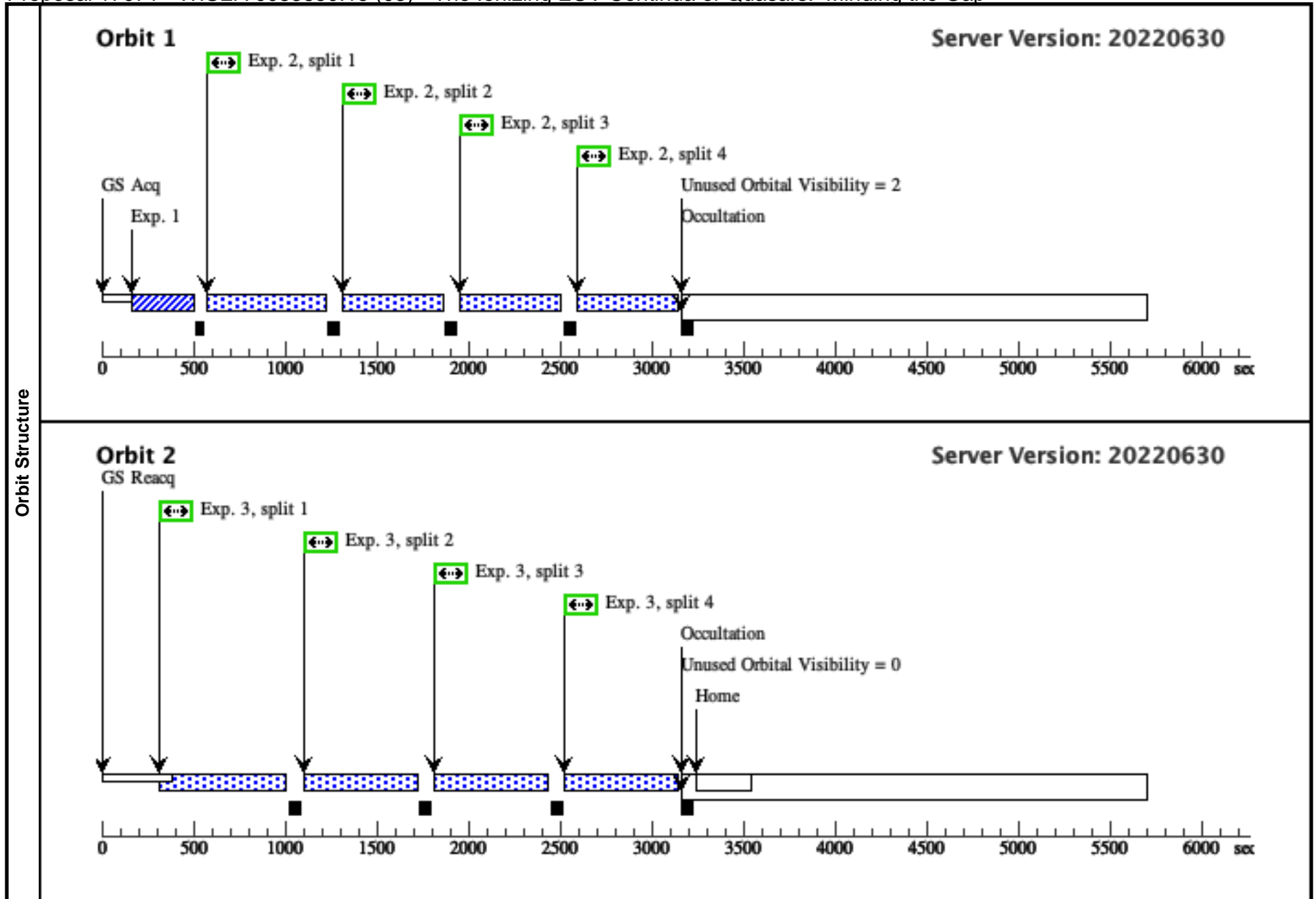
| Visit   | <b>Proposal 17071, WISEA-J125140.81 (02), implementation</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |                               |                                     |                       |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|---|---|--|-------------------------------|-------------------------------------|-----------------------|---------------------------------|---------------|--|---------------------------------|-------|--|---|------|--------------------|--------------------------|--------|---------------|-----|---------------------------|--|--|-------------------------------------|-----------------------|---|--|--|--|--|
|   | Fixed Targets   | <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>WISEA-J125140.81+080718.2</td> <td>RA: 12 51 40.8312 (192.9201300d)<br/>Dec: +08 07 18.48 (8.12180d)<br/>Equinox: J2000</td> <td></td> <td>V=17.4<br/>F(2000)=1.4E-15 (z=1.600)</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=GALAXY</i><br/> <i>Description=[ACCRETION DISK, QSO, QUASAR]</i><br/> <i>Extended=NO</i> </td> </tr> </tbody> </table> |                               |                                     |                       |                                 |               |  |                                 |       |  | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (2) | WISEA-J125140.81+080718.2 | RA: 12 51 40.8312 (192.9201300d)<br>Dec: +08 07 18.48 (8.12180d)<br>Equinox: J2000 |  | V=17.4<br>F(2000)=1.4E-15 (z=1.600) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br><i>Category=GALAXY</i><br><i>Description=[ACCRETION DISK, QSO, QUASAR]</i><br><i>Extended=NO</i> |  |  |  |  |
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| Exposures   | #   | Label (ETC Run)  | Target                        | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                    | Special Reqs. | Groups   | Exp. Time (Total)/[Actual Dur.] | Orbit |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   | 1   | (COS.ta.183 4426)  | (2) WISEA-J125140.81+080718.2 | COS/NUV, ACQ/IMAGE, PSA             | MIRRORB               |                                 |               |  | 28 Secs (28 Secs)               |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   |   |  |                               |                                     |                       |                                 |               |  | [==>]                           | [1]   |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   | 2   | (COS.sp.180 9083)  | (2) WISEA-J125140.81+080718.2 | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |  | 500 Secs (2132 Secs)            |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   |   |  |                               |                                     |                       |                                 |               | [==>533.0 Secs (Split 1)]<br>[==>533.0 Secs (Split 2)]<br>[==>533.0 Secs (Split 3)]<br>[==>533.0 Secs (Split 4)] | [1]                             |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   | 3   | (COS.sp.180 9083)  | (2) WISEA-J125140.81+080718.2 | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |  | 500 Secs (2408 Secs)            |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   |   |  |                               |                                     |                       |                                 |               | [==>602.0 Secs (Split 1)]<br>[==>602.0 Secs (Split 2)]<br>[==>602.0 Secs (Split 3)]<br>[==>602.0 Secs (Split 4)] | [2]                             |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |



Proposal 17071 - WISEA-J083850.15 (03) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

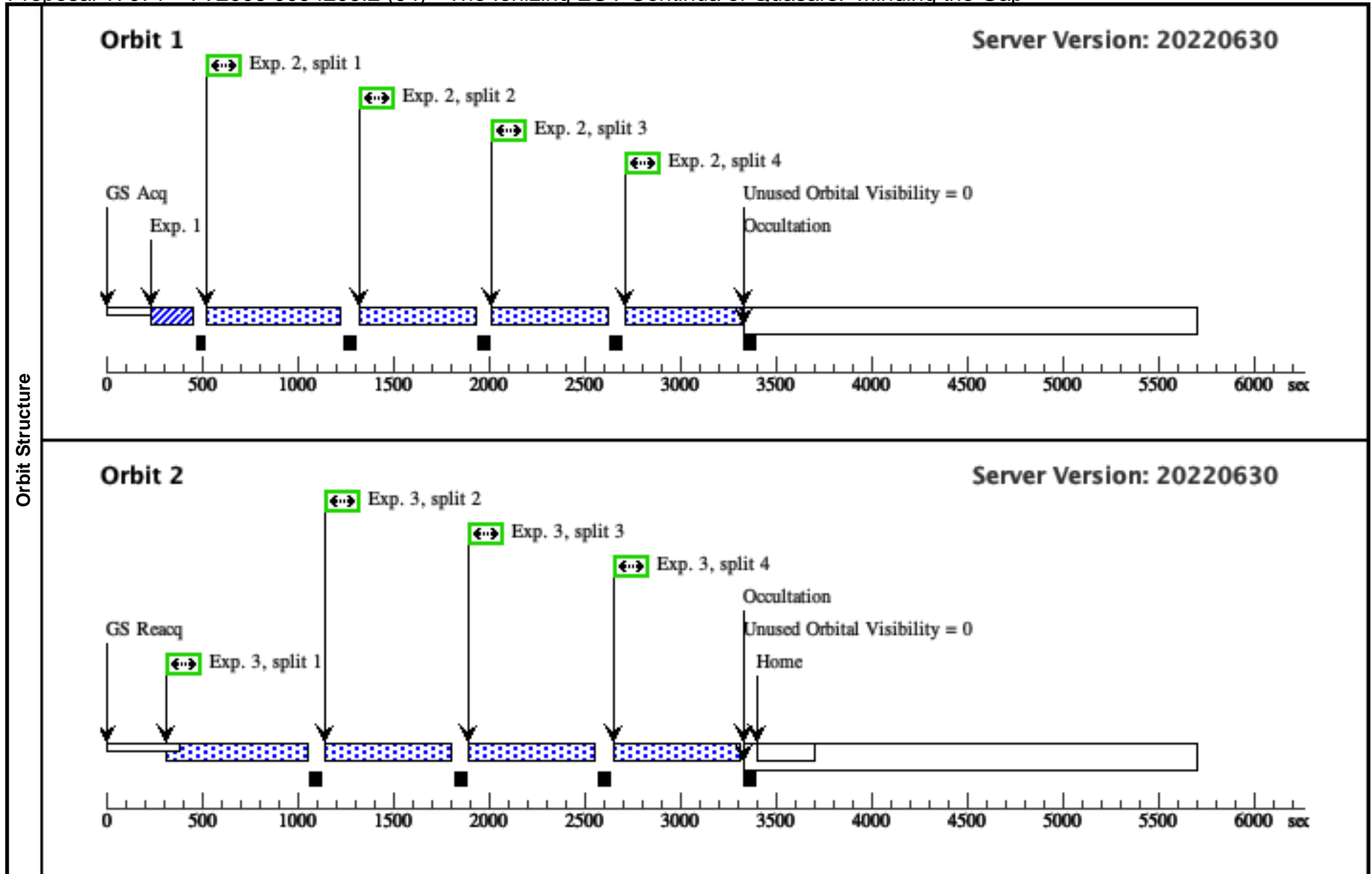
| Visit   | <b>Proposal 17071, WISEA-J083850.15 (03), implementation</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |                               |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
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| #   | Name  | Target Coordinates   | Targ. Coord. Corrections      | Fluxes                              | Miscellaneous         |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
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| Exposures   | #   | Label (ETC Run)  | Target                        | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                    | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
|   | 1   | (COS.ta.183 4427)  | (3) WISEA-J083850.15+261105.5 | COS/NUV, ACQ/IMAGE, PSA             | MIRRORB               |                                 |               |        | 26 Secs (26 Secs)<br>[==>]   | [1]   |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |
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|   | 3   | (COS.sp.180 9083)  | (3) WISEA-J083850.15+261105.5 | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 500 Secs (2428 Secs)<br>[==>607.0 Secs (Split 1)]<br>[==>607.0 Secs (Split 2)]<br>[==>607.0 Secs (Split 3)]<br>[==>607.0 Secs (Split 4)] | [2]   |  |   |      |                    |                          |        |               |     |                           |  |  |                                     |                       |   |  |  |  |  |



Proposal 17071 - VV2006-J094209.2 (04) - The Ionizing EUV Continua of Quasars: Minding the Gap

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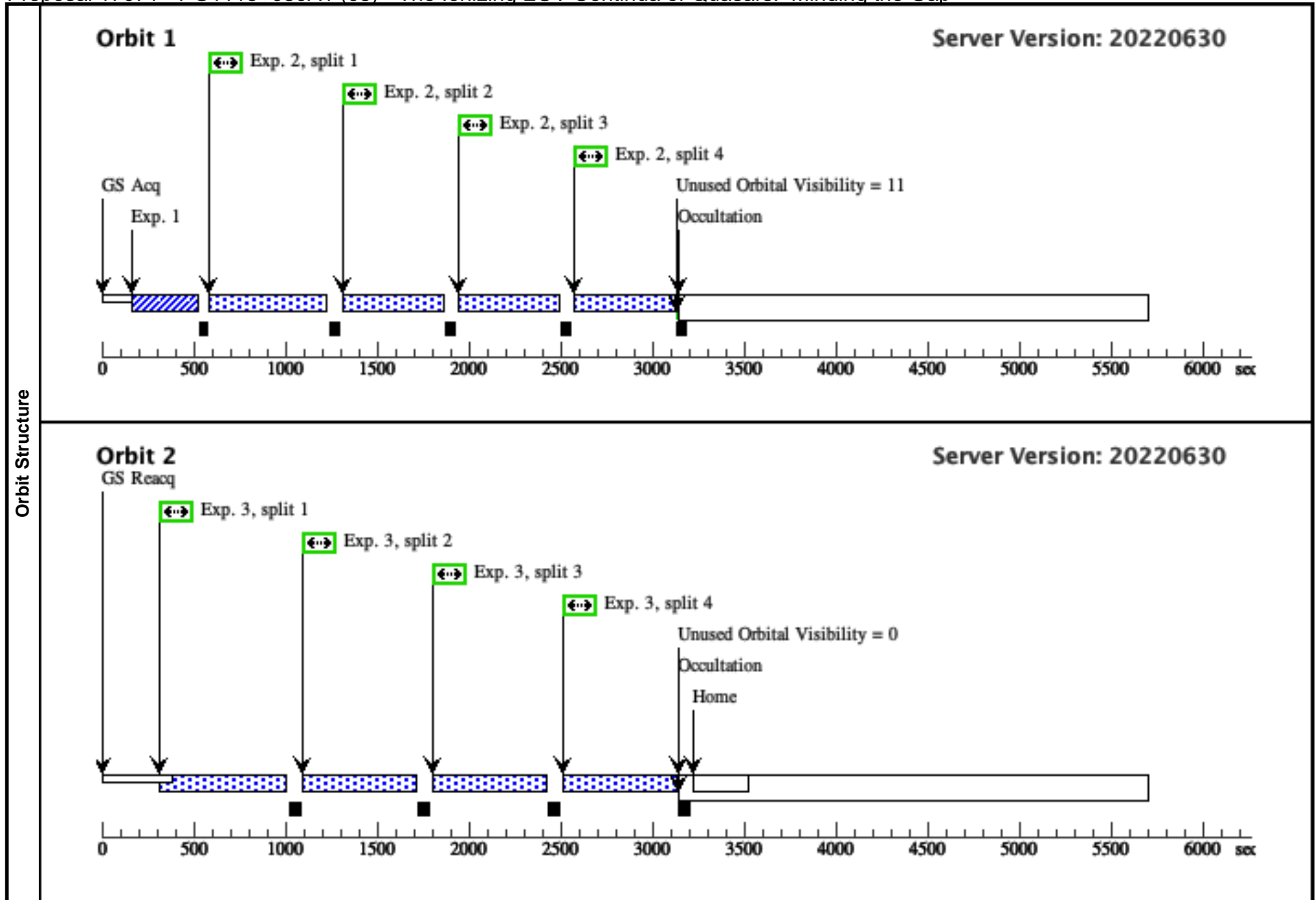
| Visit   | <b>Proposal 17071, VV2006-J094209.2 (04), scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |   |   |                                     |                                 |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
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| (4)   | VV2006-J094209.2+520714   | RA: 09 42 9.1518 (145.5381325d)<br>Dec: +52 07 14.68 (52.12074d)<br>Equinox: J2000  | Proper Motion RA: -3.3659095124362004E-6 sec of time/yr<br>Proper Motion Dec: 1.499999999999997E-5 arcsec/yr<br>Epoch of Position: 2015.5 | V=16.7<br>F(2000)=1.0E-15 (z=1.648) | Reference Frame: ICRS           |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |   |   |   |                                     |                                 |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
| Exposures   | #   | Label (ETC Run)   | Target  | Config,Mode,Aperture                | Spectral Els.                   | Opt. Params.                    | Special Reqs. | Groups   | Exp. Time (Total)/[Actual Dur.] | Orbit |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
|   | 1   | (COS.ta.180 9108)   | (4) VV2006-J094209.2+520714   | COS/NUV, ACQ/IMAGE, PSA             | MIRRORA                         |                                 |               |  | 2 Secs (2 Secs)                 |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
|   |   |   |   |                                     |                                 |                                 |               |  | [==>]                           | [1]   |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
|   | 2   | (COS.sp.180 9083)   | (4) VV2006-J094209.2+520714   | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A                 | BUFFER-TIME=1200;<br>FP-POS=ALL |               |  | 500 Secs (2360 Secs)            |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
|   |   |   |   |                                     |                                 |                                 |               | [==>590.0 Secs (Split 1)]<br>[==>590.0 Secs (Split 2)]<br>[==>590.0 Secs (Split 3)]<br>[==>590.0 Secs (Split 4)] | [1]                             |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
| 3   | (COS.sp.180 9083)   | (4) VV2006-J094209.2+520714   | COS/NUV, TIME-TAG, PSA  | G230L<br>3360 A                     | BUFFER-TIME=1200;<br>FP-POS=ALL |                                 |               | 500 Secs (2596 Secs)   |                                 |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |
|   |   |   |   |                                     |                                 |                                 |               | [==>649.0 Secs (Split 1)]<br>[==>649.0 Secs (Split 2)]<br>[==>649.0 Secs (Split 3)]<br>[==>649.0 Secs (Split 4)] | [2]                             |       |  |   |      |                    |                          |        |               |     |                         |  |   |                                     |                       |   |  |  |  |  |



Proposal 17071 - PG1115+080A1 (05) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

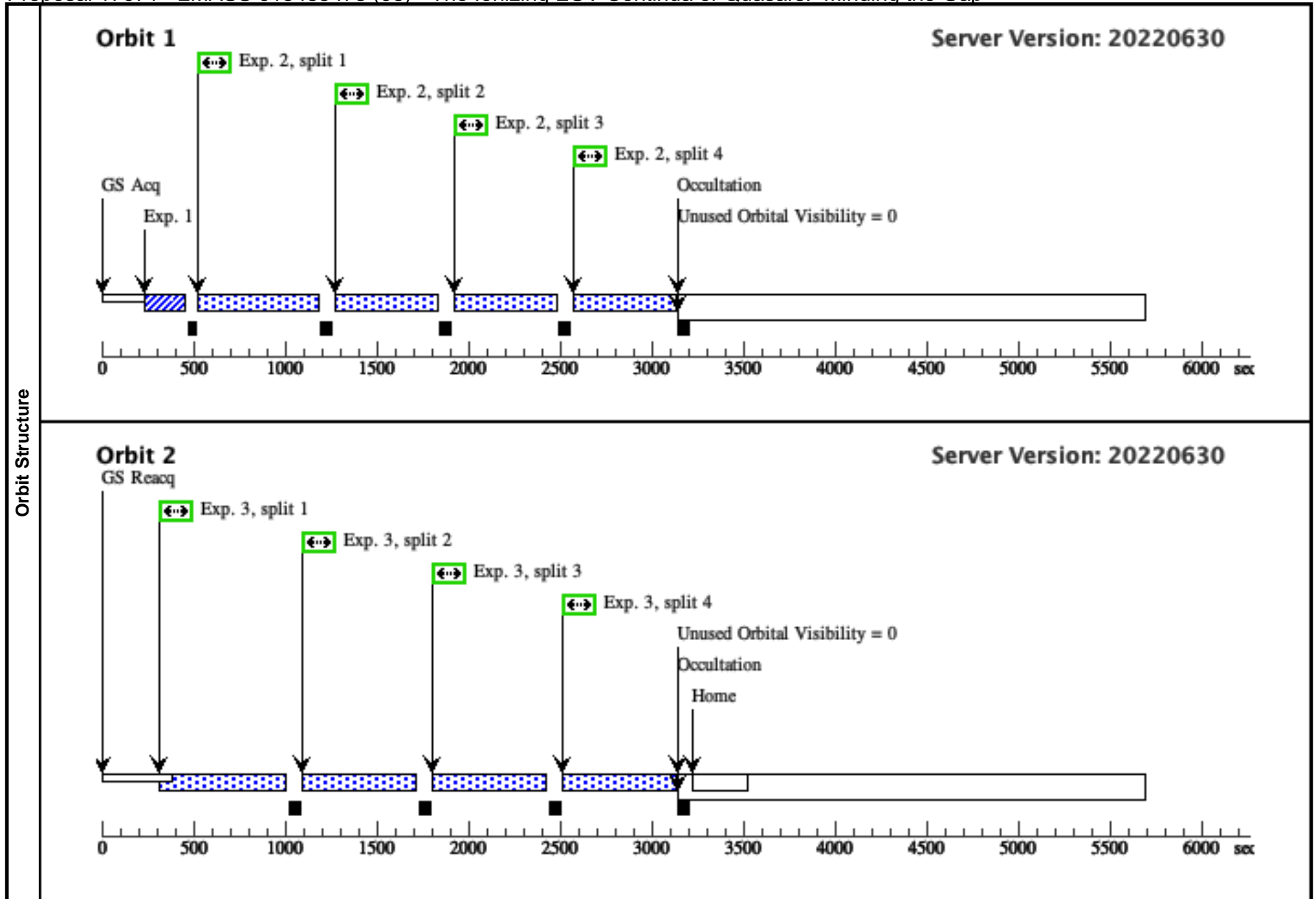
| Visit   | <b>Proposal 17071, PG1115+080A1 (05), implementation</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |                          |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
|---|---|--|--------------------------|-------------------------------------|-----------------------|---------------------------------|---------------|--------|--|-------|--|---|------|--------------------|--------------------------|--------|---------------|-----|---------------|--|--|-------------------------------------|-----------------------|---|--|--|--|--|
|   | Fixed Targets   | <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>(5)</td> <td>PG-1115+080A1</td> <td>RA: 11 18 16.9824 (169.5707600d)<br/>Dec: +07 45 59.40 (7.76650d)<br/>Equinox: J2000</td> <td></td> <td>V=16.4<br/>F(2000)=1.2E-15 (z=1.733)</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/> <i>Category=GALAXY</i><br/> <i>Description=[ACCRETION DISK, QSO, QUASAR]</i><br/> <i>Extended=NO</i> </td> </tr> </tbody> </table> |                          |                                     |                       |                                 |               |        |  |       |  | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (5) | PG-1115+080A1 | RA: 11 18 16.9824 (169.5707600d)<br>Dec: +07 45 59.40 (7.76650d)<br>Equinox: J2000 |  | V=16.4<br>F(2000)=1.2E-15 (z=1.733) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br><i>Category=GALAXY</i><br><i>Description=[ACCRETION DISK, QSO, QUASAR]</i><br><i>Extended=NO</i> |  |  |  |  |
| #   | Name  | Target Coordinates   | Targ. Coord. Corrections | Fluxes                              | Miscellaneous         |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
| (5)   | PG-1115+080A1   | RA: 11 18 16.9824 (169.5707600d)<br>Dec: +07 45 59.40 (7.76650d)<br>Equinox: J2000   |                          | V=16.4<br>F(2000)=1.2E-15 (z=1.733) | Reference Frame: ICRS |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br><i>Category=GALAXY</i><br><i>Description=[ACCRETION DISK, QSO, QUASAR]</i><br><i>Extended=NO</i> |   |  |                          |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
| Exposures   | #   | Label (ETC Run)  | Target                   | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                    | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
|   | 1   | (COS.ta.183 4428)  | (5) PG-1115+080A1        | COS/NUV, ACQ/IMAGE, PSA             | MIRRORB               |                                 |               |        | 33 Secs (33 Secs)<br>[==>]   | [1]   |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
|   | 2   | (COS.sp.180 9083)  | (5) PG-1115+080A1        | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 500 Secs (2132 Secs)<br>[==>533.0 Secs (Split 1)]<br>[==>533.0 Secs (Split 2)]<br>[==>533.0 Secs (Split 3)]<br>[==>533.0 Secs (Split 4)] | [1]   |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |
|   | 3   | (COS.sp.180 9083)  | (5) PG-1115+080A1        | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 500 Secs (2408 Secs)<br>[==>602.0 Secs (Split 1)]<br>[==>602.0 Secs (Split 2)]<br>[==>602.0 Secs (Split 3)]<br>[==>602.0 Secs (Split 4)] | [2]   |  |   |      |                    |                          |        |               |     |               |  |  |                                     |                       |   |  |  |  |  |



Proposal 17071 - 2MASS-J15485478 (06) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

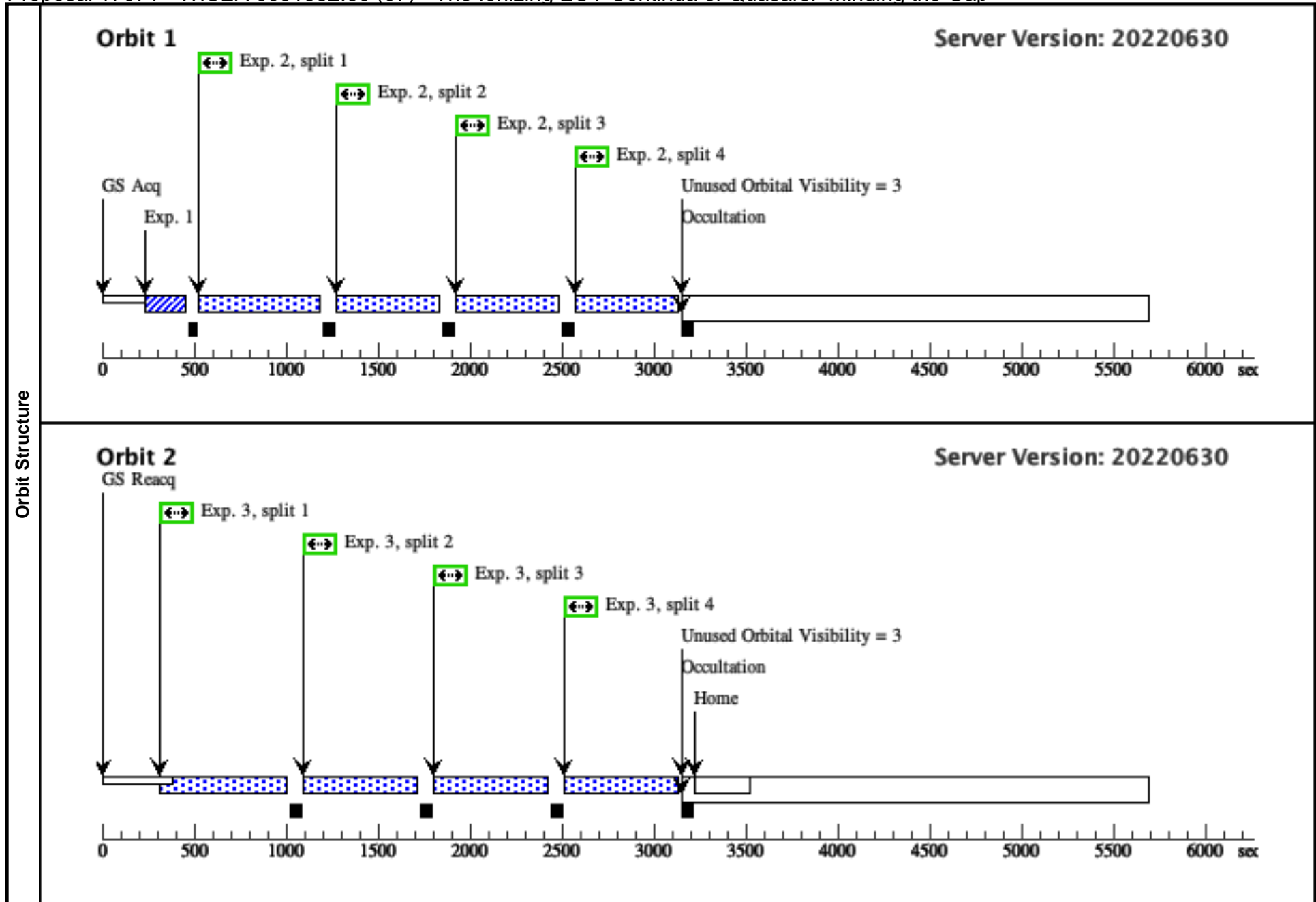
| Visit   | <b>Proposal 17071, 2MASS-J15485478 (06), scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |   |                                     |                                 |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|---|--|--|---|-------------------------------------|---------------------------------|---------------------------------|---------------|--|---------------------------------|-------|--|---|------|--------------------|--------------------------|--------|---------------|-----|-------------------------|---|---|-------------------------------------|-----------------------|---|--|--|--|--|
|   | Fixed Targets  | <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>2MASS-J15485478+1211200</td> <td>RA: 15 48 54.7902 (237.2282925d)<br/>Dec: +12 11 19.97 (12.18888d)<br/>Equinox: J2000</td> <td>Proper Motion RA: -2.0461260420712454E-7 sec of time/yr<br/>Proper Motion Dec: -1.0000576367019676E-6 arcsec/yr<br/>Epoch of Position: 2015.5</td> <td>V=17.2<br/>F(2000)=1.5E-15 (z=1.737)</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=GALAXY<br/>                     Description=[ACCRETION DISK, QSO, QUASAR]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |   |                                     |                                 |                                 |               |  |                                 |       |  | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (6) | 2MASS-J15485478+1211200 | RA: 15 48 54.7902 (237.2282925d)<br>Dec: +12 11 19.97 (12.18888d)<br>Equinox: J2000 | Proper Motion RA: -2.0461260420712454E-7 sec of time/yr<br>Proper Motion Dec: -1.0000576367019676E-6 arcsec/yr<br>Epoch of Position: 2015.5 | V=17.2<br>F(2000)=1.5E-15 (z=1.737) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |  |  |
| #   |  | Name   | Target Coordinates  | Targ. Coord. Corrections            | Fluxes                          | Miscellaneous                   |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
| (6)   | 2MASS-J15485478+1211200  | RA: 15 48 54.7902 (237.2282925d)<br>Dec: +12 11 19.97 (12.18888d)<br>Equinox: J2000  | Proper Motion RA: -2.0461260420712454E-7 sec of time/yr<br>Proper Motion Dec: -1.0000576367019676E-6 arcsec/yr<br>Epoch of Position: 2015.5 | V=17.2<br>F(2000)=1.5E-15 (z=1.737) | Reference Frame: ICRS           |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |   |                                     |                                 |                                 |               |  |                                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
| Exposures   | #  | Label (ETC Run)  | Target  | Config,Mode,Aperture                | Spectral Els.                   | Opt. Params.                    | Special Reqs. | Groups   | Exp. Time (Total)/[Actual Dur.] | Orbit |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|   | 1  | (COS.ta.180 9108)  | (6) 2MASS-J15485478+1211200   | COS/NUV, ACQ/IMAGE, PSA             | MIRRORA                         |                                 |               |  | 2 Secs (2 Secs)                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|   |  |  |   |                                     |                                 |                                 |               |  | [==>]                           | [1]   |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|   | 2  | (COS.sp.180 9083)  | (6) 2MASS-J15485478+1211200   | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A                 | BUFFER-TIME=1200;<br>FP-POS=ALL |               |  | 500 Secs (2176 Secs)            |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|   |  |  |   |                                     |                                 |                                 |               | [==>544.0 Secs (Split 1)]<br>[==>544.0 Secs (Split 2)]<br>[==>544.0 Secs (Split 3)]<br>[==>544.0 Secs (Split 4)] | [1]                             |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
| 3   | (COS.sp.180 9083)  | (6) 2MASS-J15485478+1211200  | COS/NUV, TIME-TAG, PSA  | G230L<br>3360 A                     | BUFFER-TIME=1200;<br>FP-POS=ALL |                                 |               | 500 Secs (2412 Secs)   |                                 |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |
|   |  |  |   |                                     |                                 |                                 |               | [==>603.0 Secs (Split 1)]<br>[==>603.0 Secs (Split 2)]<br>[==>603.0 Secs (Split 3)]<br>[==>603.0 Secs (Split 4)] | [2]                             |       |  |   |      |                    |                          |        |               |     |                         |   |   |                                     |                       |   |  |  |  |  |



Proposal 17071 - WISEA-J091532.60 (07) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

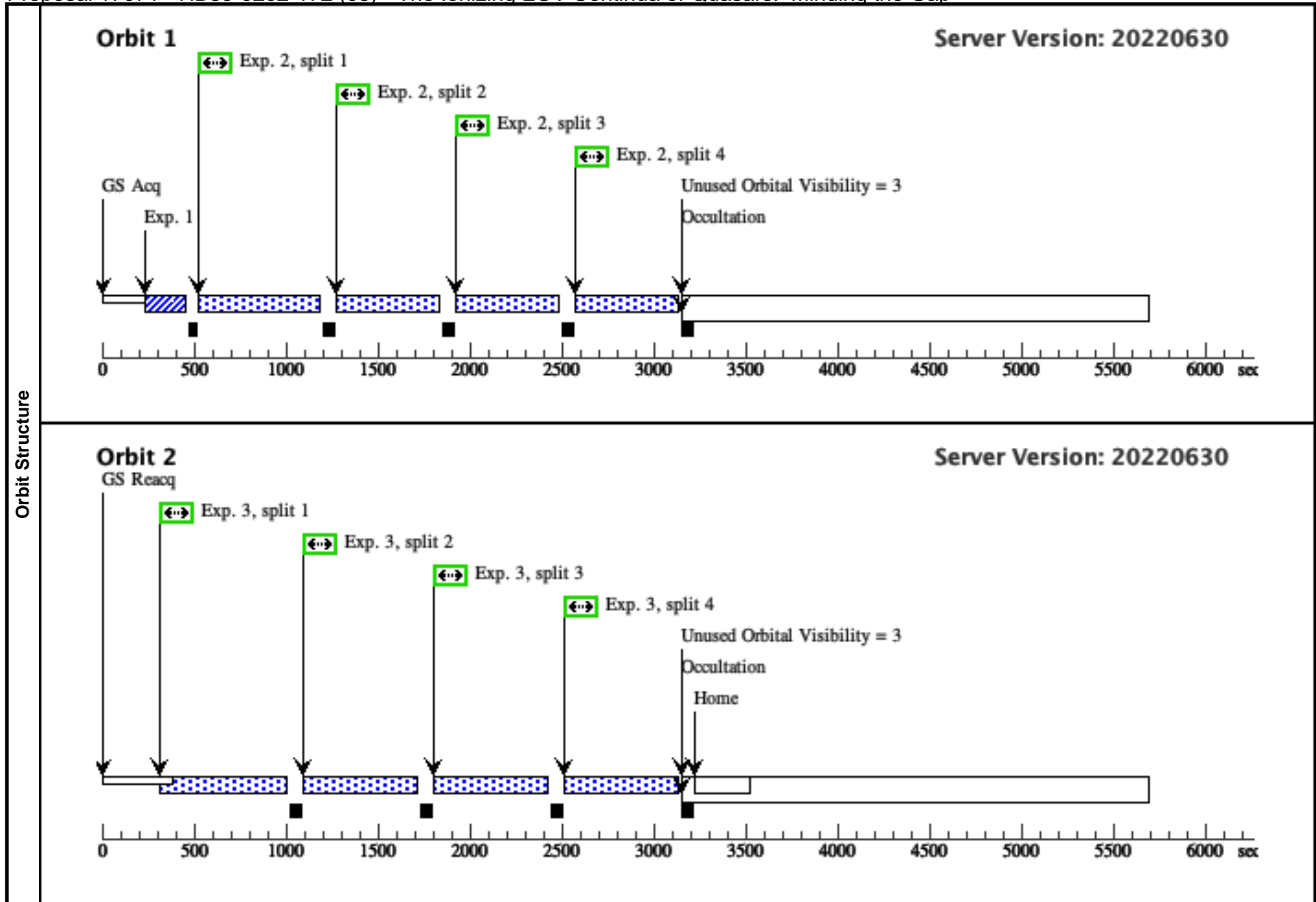
| Visit  | <b>Proposal 17071, WISEA-J091532.60 (07), scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |                               |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
|--|---|--|-------------------------------|-------------------------------------|-----------------------|---------------------------------|---------------|--------|--|-------|--|---|------|--------------------|--------------------------|--------|---------------|-----|---------------------------|---|--|-------------------------------------|-----------------------|--|--|--|--|--|
|  | Fixed Targets   | <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>(7)</td> <td>WISEA-J091532.60+172143.9</td> <td>RA: 09 15 32.5968 (138.8858200d)<br/>Dec: +17 21 43.99 (17.36222d)<br/>Equinox: J2000</td> <td></td> <td>V=17.7<br/>F(2000)=1.2E-15 (z=1.743)</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/>                     Category=GALAXY<br/>                     Description=[ACCRETION DISK, QSO, QUASAR]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |                               |                                     |                       |                                 |               |        |  |       |  | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (7) | WISEA-J091532.60+172143.9 | RA: 09 15 32.5968 (138.8858200d)<br>Dec: +17 21 43.99 (17.36222d)<br>Equinox: J2000 |  | V=17.7<br>F(2000)=1.2E-15 (z=1.743) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |  |  |
| #  | Name  | Target Coordinates   | Targ. Coord. Corrections      | Fluxes                              | Miscellaneous         |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
| (7)  | WISEA-J091532.60+172143.9   | RA: 09 15 32.5968 (138.8858200d)<br>Dec: +17 21 43.99 (17.36222d)<br>Equinox: J2000  |                               | V=17.7<br>F(2000)=1.2E-15 (z=1.743) | Reference Frame: ICRS |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |   |  |                               |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
| Exposures  | #   | Label (ETC Run)  | Target                        | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                    | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
|  | 1   | (COS.ta.180 9108)  | (7) WISEA-J091532.60+172143.9 | COS/NUV, ACQ/IMAGE, PSA             | MIRRORA               |                                 |               |        | 2 Secs (2 Secs)<br>[==>]   | [1]   |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
|  | 2   | (COS.sp.180 9083)  | (7) WISEA-J091532.60+172143.9 | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 500 Secs (2180 Secs)<br>[==>545.0 Secs (Split 1)]<br>[==>545.0 Secs (Split 2)]<br>[==>545.0 Secs (Split 3)]<br>[==>545.0 Secs (Split 4)] | [1]   |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |
|  | 3   | (COS.sp.180 9083)  | (7) WISEA-J091532.60+172143.9 | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 500 Secs (2416 Secs)<br>[==>604.0 Secs (Split 1)]<br>[==>604.0 Secs (Split 2)]<br>[==>604.0 Secs (Split 3)]<br>[==>604.0 Secs (Split 4)] | [2]   |  |   |      |                    |                          |        |               |     |                           |   |  |                                     |                       |  |  |  |  |  |



Proposal 17071 - HB89-0202-172 (08) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

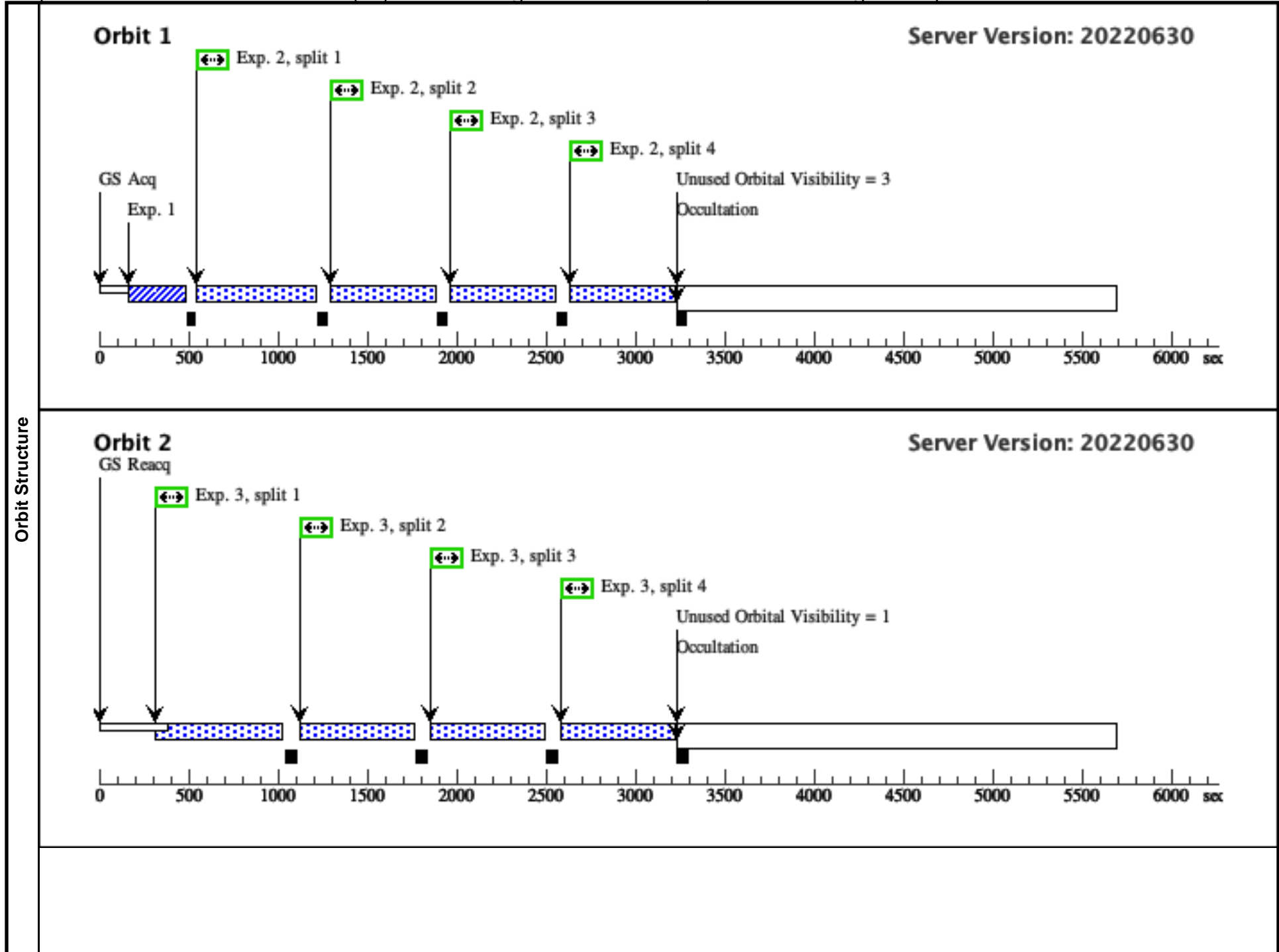
| Visit     | Proposal 17071, HB89-0202-172 (08), scheduling<br>Diagnostic Status: No Diagnostics<br>Scientific Instruments: COS/NUV<br>Special Requirements: (none)                               |                   |   |                         |                                     |                                     |               |        |  |       |
|-----------|--|-------------------|---|-------------------------|-------------------------------------|-------------------------------------|---------------|--------|--|-------|
|           | Fixed Targets  | #                 | Name  | Target Coordinates      | Targ. Coord. Corrections            | Fluxes                              | Miscellaneous |        |  |       |
|           | (8)  | HB89-0202-172     | RA: 02 04 57.6744 (31.2403100d)<br>Dec: -17 01 19.85 (-17.02218d)<br>Equinox: J2000 |                         | V=18.0<br>F(2000)=0.8E-15 (z=1.739) | Reference Frame: ICRS               |               |        |  |       |
|           | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |                   |   |                         |                                     |                                     |               |        |  |       |
| Exposures | #  | Label (ETC Run)   | Target  | Config,Mode,Aperture    | Spectral Els.                       | Opt. Params.                        | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |
|           | 1  | (COS.ta.180 9108) | (8) HB89-0202-172   | COS/NUV, ACQ/IMAGE, PSA | MIRRORA                             |                                     |               |        | 2 Secs (2 Secs)<br>[==>]   | [1]   |
|           | 2  | (COS.sp.180 9083) | (8) HB89-0202-172   | COS/NUV, TIME-TAG, PSA  | G230L<br>3000 A                     | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2180 Secs)<br>[==>545.0 Secs (Split 1)]<br>[==>545.0 Secs (Split 2)]<br>[==>545.0 Secs (Split 3)]<br>[==>545.0 Secs (Split 4)] | [1]   |
|           | 3  | (COS.sp.180 9083) | (8) HB89-0202-172   | COS/NUV, TIME-TAG, PSA  | G230L<br>3360 A                     | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2416 Secs)<br>[==>604.0 Secs (Split 1)]<br>[==>604.0 Secs (Split 2)]<br>[==>604.0 Secs (Split 3)]<br>[==>604.0 Secs (Split 4)] | [2]   |

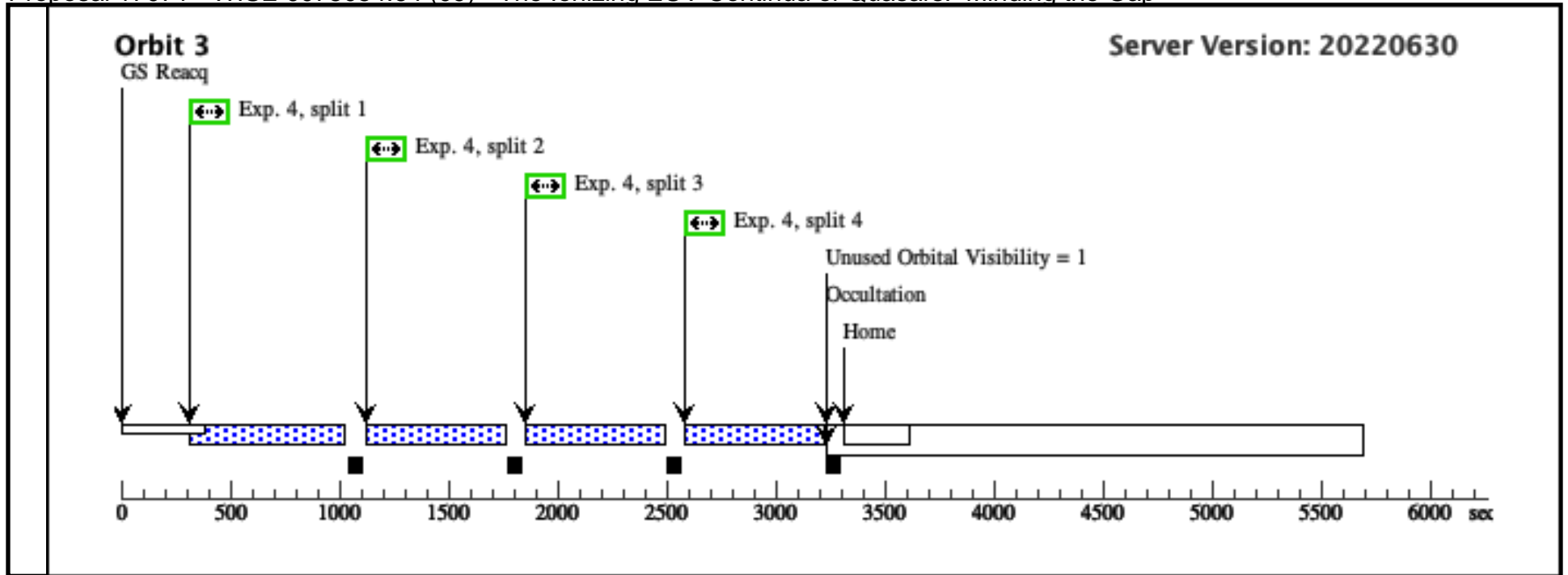


Proposal 17071 - WISE-J075054.64 (09) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

| Visit  | <b>Proposal 17071, WISE-J075054.64 (09), implementation</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |   |                               |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
|--|--|---|-------------------------------|-------------------------------------|-----------------------|---------------------------------|---------------|--------|--|-------|--|---|------|--------------------|--------------------------|--------|---------------|-----|--------------------------|---|--|-------------------------------------|-----------------------|--|--|--|--|--|
|  | Fixed Targets  | <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>(9)</td> <td>WISE-J075054.64+425219.2</td> <td>RA: 07 50 54.6528 (117.7277200d)<br/>Dec: +42 52 18.98 (42.87194d)<br/>Equinox: J2000</td> <td></td> <td>V=16.2<br/>F(2000)=3.1E-15 (z=1.899)</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/>                     Category=GALAXY<br/>                     Description=[ACCRETION DISK, QSO, QUASAR]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |                               |                                     |                       |                                 |               |        |  |       |  | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (9) | WISE-J075054.64+425219.2 | RA: 07 50 54.6528 (117.7277200d)<br>Dec: +42 52 18.98 (42.87194d)<br>Equinox: J2000 |  | V=16.2<br>F(2000)=3.1E-15 (z=1.899) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |  |  |
| #  | Name   | Target Coordinates  | Targ. Coord. Corrections      | Fluxes                              | Miscellaneous         |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
| (9)  | WISE-J075054.64+425219.2   | RA: 07 50 54.6528 (117.7277200d)<br>Dec: +42 52 18.98 (42.87194d)<br>Equinox: J2000   |                               | V=16.2<br>F(2000)=3.1E-15 (z=1.899) | Reference Frame: ICRS |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |   |                               |                                     |                       |                                 |               |        |  |       |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
| Exposures  | #  | Label (ETC Run)   | Target                        | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                    | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
|  | 1  | (COS.ta.180 9107)   | (9) WISE-J075054.6 4+425219.2 | COS/NUV, ACQ/IMAGE, PSA             | MIRRORB               |                                 |               |        | 13 Secs (13 Secs)<br>[==>]   | [1]   |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
|  | 2  | (COS.sp.180 9083)   | (9) WISE-J075054.6 4+425219.2 | COS/NUV, TIME-TAG, PSA              | G230L<br>2635 A       | BUFFER-TIME=1600;<br>FP-POS=ALL |               |        | 500 Secs (2273 Secs)<br>[==>557.0 Secs (Split 1)]<br>[==>572.0 Secs (Split 2)]<br>[==>572.0 Secs (Split 3)]<br>[==>572.0 Secs (Split 4)] | [1]   |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
|  | 3  | (COS.sp.180 9083)   | (9) WISE-J075054.6 4+425219.2 | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 600 Secs (2500 Secs)<br>[==>625.0 Secs (Split 1)]<br>[==>625.0 Secs (Split 2)]<br>[==>625.0 Secs (Split 3)]<br>[==>625.0 Secs (Split 4)] | [2]   |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |
|  | 4  | (COS.sp.180 9083)   | (9) WISE-J075054.6 4+425219.2 | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=1200;<br>FP-POS=ALL |               |        | 600 Secs (2500 Secs)<br>[==>625.0 Secs (Split 1)]<br>[==>625.0 Secs (Split 2)]<br>[==>625.0 Secs (Split 3)]<br>[==>625.0 Secs (Split 4)] | [3]   |  |   |      |                    |                          |        |               |     |                          |   |  |                                     |                       |  |  |  |  |  |

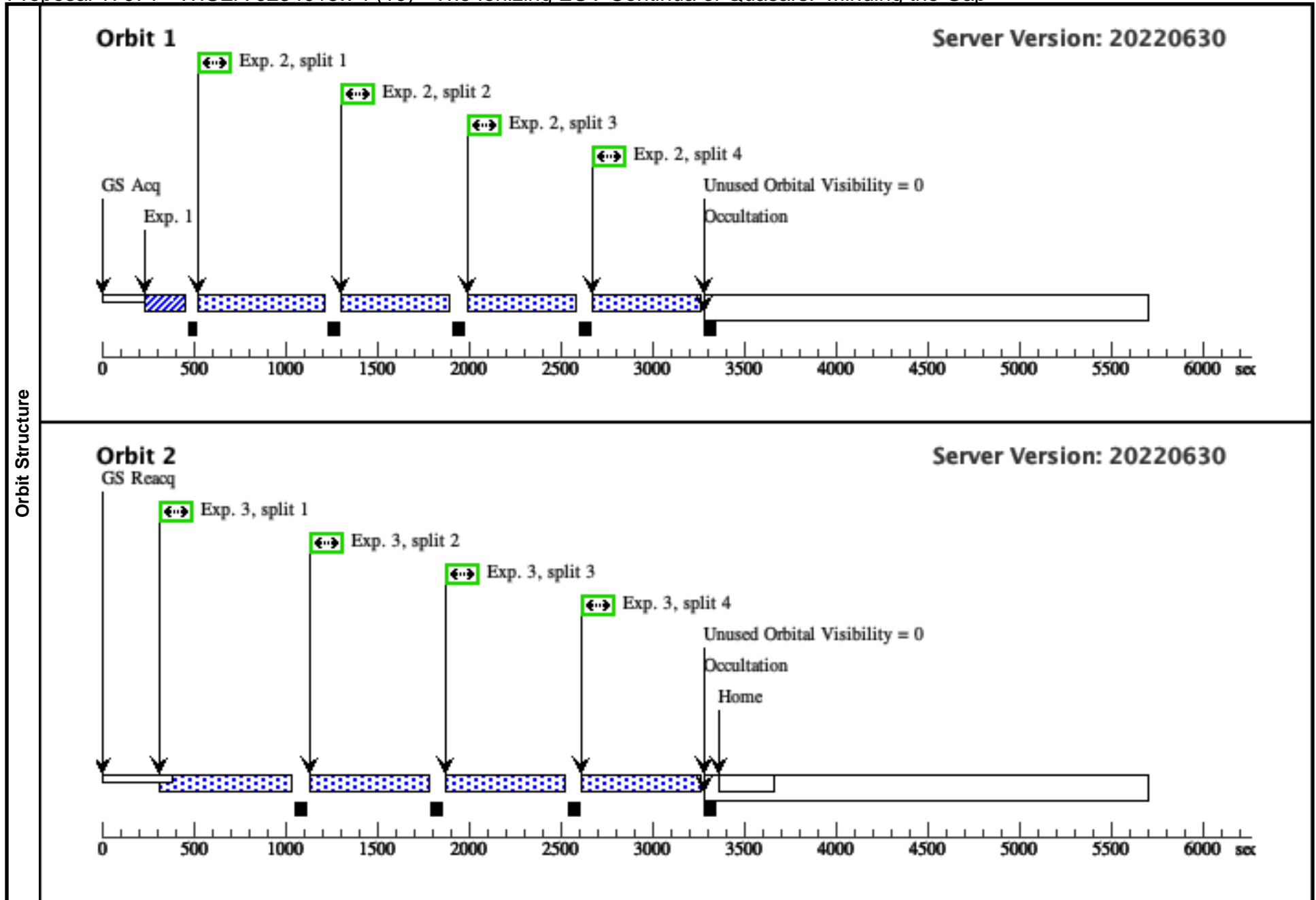




Proposal 17071 - WISEA-J234015.74 (10) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

| Visit  | <b>Proposal 17071, WISEA-J234015.74 (10), scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |   |                                 |                                    |                       |                                     |               |        |  |       |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
|--|---|---|---------------------------------|------------------------------------|-----------------------|-------------------------------------|---------------|--------|--|-------|---|------|--------------------|--------------------------|--------|---------------|------|---------------------------|--|--|------------------------------------|-----------------------|--|--|--|--|--|
|  | Fixed Targets   | <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>(10)</td> <td>WISEA-J234015.74-472635.5</td> <td>RA: 23 40 15.7296 (355.0655400d)<br/>Dec: -47 26 36.10 (-47.44336d)<br/>Equinox: J2000</td> <td></td> <td>V=17.6<br/>F(2000)=1.0E-15 (z=1.96)</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"> <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br/>                     Category=GALAXY<br/>                     Description=[ACCRETION DISK, QSO, QUASAR]<br/>                     Extended=NO                 </td> </tr> </tbody> </table> |                                 |                                    |                       |                                     |               |        |  |       | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | (10) | WISEA-J234015.74-472635.5 | RA: 23 40 15.7296 (355.0655400d)<br>Dec: -47 26 36.10 (-47.44336d)<br>Equinox: J2000 |  | V=17.6<br>F(2000)=1.0E-15 (z=1.96) | Reference Frame: ICRS | <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |  |  |
| #  | Name  | Target Coordinates  | Targ. Coord. Corrections        | Fluxes                             | Miscellaneous         |                                     |               |        |  |       |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
| (10)   | WISEA-J234015.74-472635.5   | RA: 23 40 15.7296 (355.0655400d)<br>Dec: -47 26 36.10 (-47.44336d)<br>Equinox: J2000  |                                 | V=17.6<br>F(2000)=1.0E-15 (z=1.96) | Reference Frame: ICRS |                                     |               |        |  |       |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |   |   |                                 |                                    |                       |                                     |               |        |  |       |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
| Exposures  | #   | Label (ETC Run)   | Target                          | Config,Mode,Aperture               | Spectral Els.         | Opt. Params.                        | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
|  | 1   | (COS.ta.180 9108)   | (10) WISEA-J23401 5.74-472635.5 | COS/NUV, ACQ/IMAGE, PSA            | MIRRORA               |                                     |               |        | 2 Secs (2 Secs)<br>[==>]   | [1]   |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
|  | 2   | (COS.sp.180 9083)   | (10) WISEA-J23401 5.74-472635.5 | COS/NUV, TIME-TAG, PSA             | G230L<br>3000 A       | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2312 Secs)<br>[==>578.0 Secs (Split 1)]<br>[==>578.0 Secs (Split 2)]<br>[==>578.0 Secs (Split 3)]<br>[==>578.0 Secs (Split 4)] | [1]   |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |
|  | 3   | (COS.sp.180 9083)   | (10) WISEA-J23401 5.74-472635.5 | COS/NUV, TIME-TAG, PSA             | G230L<br>3360 A       | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2548 Secs)<br>[==>637.0 Secs (Split 1)]<br>[==>637.0 Secs (Split 2)]<br>[==>637.0 Secs (Split 3)]<br>[==>637.0 Secs (Split 4)] | [2]   |   |      |                    |                          |        |               |      |                           |  |  |                                    |                       |  |  |  |  |  |



Proposal 17071 - HB89-1621+392 (11) - The Ionizing EUV Continua of Quasars: Minding the Gap

Tue Nov 29 16:00:53 GMT 2022

| Visit  | <b>Proposal 17071, HB89-1621+392 (11), scheduling</b><br><b>Diagnostic Status: No Diagnostics</b><br>Scientific Instruments: COS/NUV<br>Special Requirements: (none) |  |                          |                                     |                       |                                     |               |        |  |       |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
|--|--|--|--------------------------|-------------------------------------|-----------------------|-------------------------------------|---------------|--------|--|-------|--|---|------|--------------------|--------------------------|--------|---------------|------|---------------|--|--|-------------------------------------|-----------------------|--|--|--|--|--|
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| #  | Name   | Target Coordinates   | Targ. Coord. Corrections | Fluxes                              | Miscellaneous         |                                     |               |        |  |       |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
| (11)   | HB89-1621+392  | RA: 16 23 7.6224 (245.7817600d)<br>Dec: +39 09 32.40 (39.15900d)<br>Equinox: J2000   |                          | V=17.2<br>F(2000)=0.8E-15 (z=1.978) | Reference Frame: ICRS |                                     |               |        |  |       |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
| <i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i><br>Category=GALAXY<br>Description=[ACCRETION DISK, QSO, QUASAR]<br>Extended=NO |  |  |                          |                                     |                       |                                     |               |        |  |       |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
| Exposures  | #  | Label (ETC Run)  | Target                   | Config,Mode,Aperture                | Spectral Els.         | Opt. Params.                        | Special Reqs. | Groups | Exp. Time (Total)/[Actual Dur.]  | Orbit |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
|  | 1  | (COS.ta.180 9108)  | (11) HB89-1621+39 2      | COS/NUV, ACQ/IMAGE, PSA             | MIRRORA               |                                     |               |        | 2 Secs (2 Secs)<br>[==>]   | [1]   |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
|  | 2  | (COS.sp.180 9083)  | (11) HB89-1621+39 2      | COS/NUV, TIME-TAG, PSA              | G230L<br>3000 A       | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2224 Secs)<br>[==>556.0 Secs (Split 1)]<br>[==>556.0 Secs (Split 2)]<br>[==>556.0 Secs (Split 3)]<br>[==>556.0 Secs (Split 4)] | [1]   |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |
|  | 3  | (COS.sp.180 9083)  | (11) HB89-1621+39 2      | COS/NUV, TIME-TAG, PSA              | G230L<br>3360 A       | BUFFER-TIME=12<br>00;<br>FP-POS=ALL |               |        | 500 Secs (2460 Secs)<br>[==>615.0 Secs (Split 1)]<br>[==>615.0 Secs (Split 2)]<br>[==>615.0 Secs (Split 3)]<br>[==>615.0 Secs (Split 4)] | [2]   |  |   |      |                    |                          |        |               |      |               |  |  |                                     |                       |  |  |  |  |  |

