



15313 - The AGN Impact on the Circumgalactic Medium of Cen A

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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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) IRAS13224-3809	COS/FUV	4	11-Jun-2019 17:00:20.0	yes
02	(2) UVQSJ131119.83-393009.9	COS/FUV	4	11-Jun-2019 17:00:22.0	yes
03	(2) UVQSJ131119.83-393009.9	COS/FUV	4	11-Jun-2019 17:00:24.0	yes
04	(3) UVQSJ130808.98-455417.9	COS/FUV	3	11-Jun-2019 17:00:25.0	yes
05	(3) UVQSJ130808.98-455417.9	COS/FUV	3	11-Jun-2019 17:00:27.0	yes
06	(4) UVQSJ125706.42-443520.0	COS/FUV	4	11-Jun-2019 17:00:28.0	yes
07	(4) UVQSJ125706.42-443520.0	COS/FUV	4	11-Jun-2019 17:00:30.0	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>
08	(5) PKS1355-41	COS/FUV	3	11-Jun-2019 17:00:33.0	yes
53	(2) UVQSJ131119.83-393009.9	COS/FUV COS/NUV	4	11-Jun-2019 17:00:35.0	yes
54	(3) UVQSJ130808.98-455417.9	COS/FUV COS/NUV	3	11-Jun-2019 17:00:36.0	yes

36 Total Orbits Used

ABSTRACT

There seems to be broad agreement that feedback from AGN plays a critical role in transforming massive star forming galaxies to quiescent ones and keeping them quenched thereafter. Through the emission of copious amounts of radiation emitted in the active QSO/AGN phase and the deposition of thermal and mechanical energy on scales of hundreds of kpc during the radio phase, AGN feedback shifts the temperatures and ionization states of the gas in the circumgalactic medium (CGM) of these galaxies to higher energies, suppressing cooling that might otherwise provide fuel for new star formation. We propose to observe absorption lines from the CGM of the nearby, very well-studied giant radio-lobe galaxy Cen A to search directly for the signal of AGN feedback impacting the CGM of a galaxy. We will target 4 background QSOs projected 270-340 kpc from the galaxy at a range of azimuthal angles relative to the 300 kpc-long jets and 1 "control" sight line well away from the jets. These spectra will provide probes of the ionization balance and kinematic structure of the cool/warm CGM. This will be the first attempt to dissect the cool/warm gas in a CGM undergoing interactions with an active AGN.

OBSERVING DESCRIPTION

For the COS G130M and G160M, our S/N~11-15 per resolution element near the key species (OI 1302, CII 1334, SiII 1190, 1193, 1523, SiIII 1206, SiIV 1393, 1402, CIV 1548, 1550) is driven by our previous studies of the CGM of other galaxies using the same chemical elements. While the phase II S/N varies somewhat from sightlines to sightlines and between the G130M and G160M gratings, the S/N is always high enough to undertake our science goals and is similar or better than the COS-Halos and COS-Dwarfs programs that studied the CGM of galaxies at low redshift. Cen A CGM absorption is expected to be detected at the rest wavelengths of these species +~0-5 Angstroms.

Both COS G130M and G160M gratings are required because CIV cannot be observed with a single grating setting with the other ions. CIV is the most important high ion to directly probe coronal gas. G160M will also give SiII 1523, AlII 1670, and FeII 1608.

We set the central wavelength for grating G130M to 1291 and use two FP-POS to satisfy the revised Cycle 25 instructions. The 1291 setting is preferred over 1222 or 1223 because we need to cover the wavelength near SiIII 1206. For G160M, we use two central wavelengths (1589 and 1611) with 4 FP-POS in each setting. The settings 1589, 1611 are chosen to ensure that CIV is not near the edge of the detector or the gain sag. We chose two central wavelengths to cover the wavelength gap between the two segments as well as avoid the gain-sag holes in the G160M data. We checked that the S/N in the individual is large enough (about 5) to reliably coadd the individual exposures.

All the 5 proposed targets are confirmed FUV bright QSOs by GALEX. We also use the cross-mission search at MAST to find any existing UV spectra; we found 2 QSOs with a UV spectrum. Using the online COS ETC, we estimated the exposure time required to reach S/N~11-15 near 1334 (CII) and 1548 (CIV) using the FUV GALEX magnitudes or UV fluxes when available.

According to the bright object tool in the APT, there are bright stars in the field of view of targets 1, 3, and 4. However, there is no warning when the GALEX BOT is run, implying no safety issue for COS. Therefore none of these QSOs or stars in their fields should pose a bright limit threat to COS.

Any visits requiring more than 5 orbits were segmented in two visits to satisfy the SAA restrictions. This resulted into 3-4 orbits per visit for our program.

Proposal 15313 - Visit 01 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:37 GMT 2019

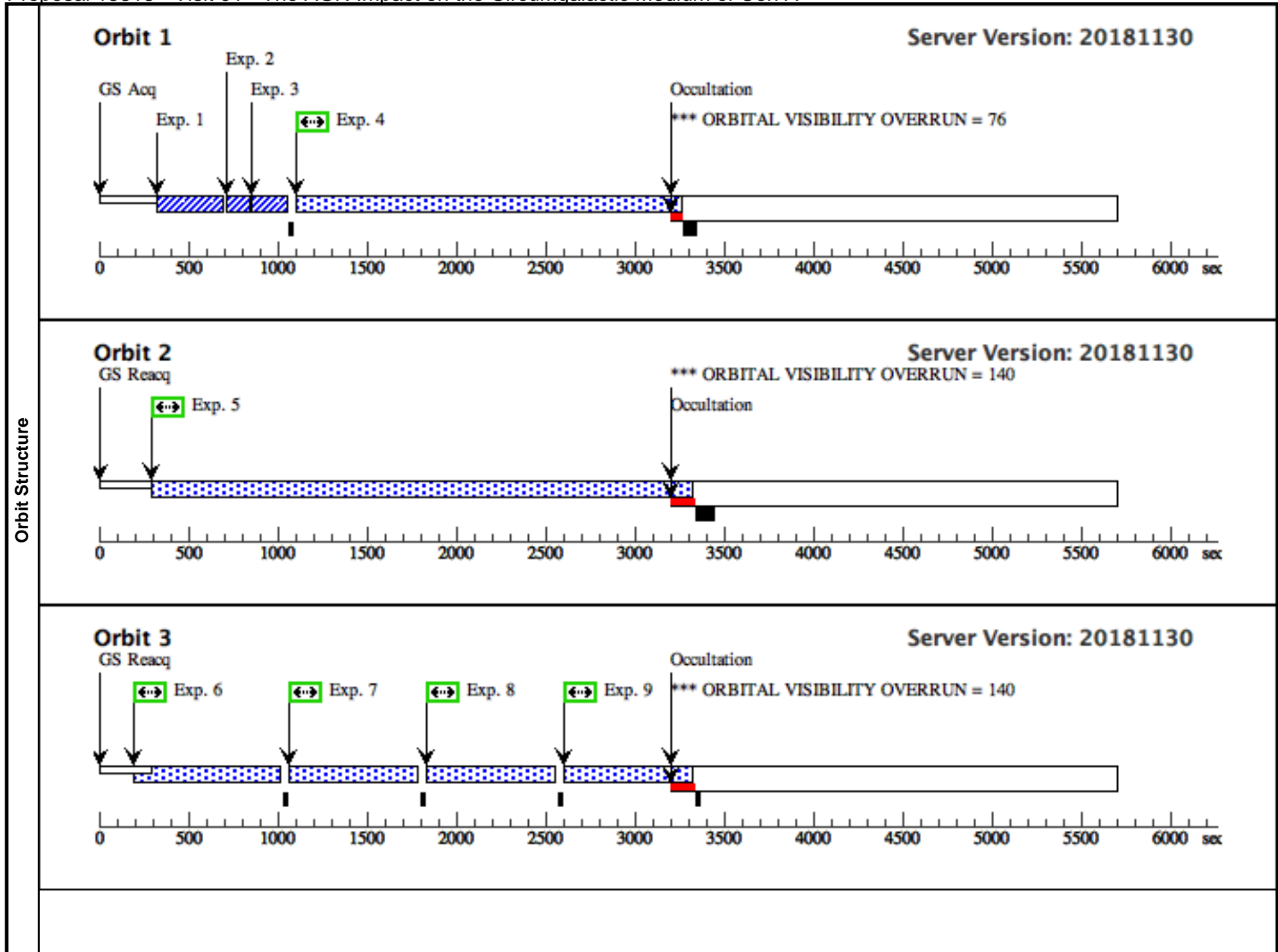
Visit	Proposal 15313, Visit 01, completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)					
Diagnostics	(Visit 01) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	IRAS13224-3809	RA: 13 25 19.2800 (201.3303333d) Dec: -38 24 53.50 (-38.41486d) Equinox: J2000		V=13.80 STIS G140L F=6.5e-15 cgs; GA LEX FUV=17.76	Reference Frame: ICRS
	<i>Comments:</i> <i>Category=GALAXY</i> <i>Description=[QSO, QUASAR]</i> <i>Extended=NO</i>					

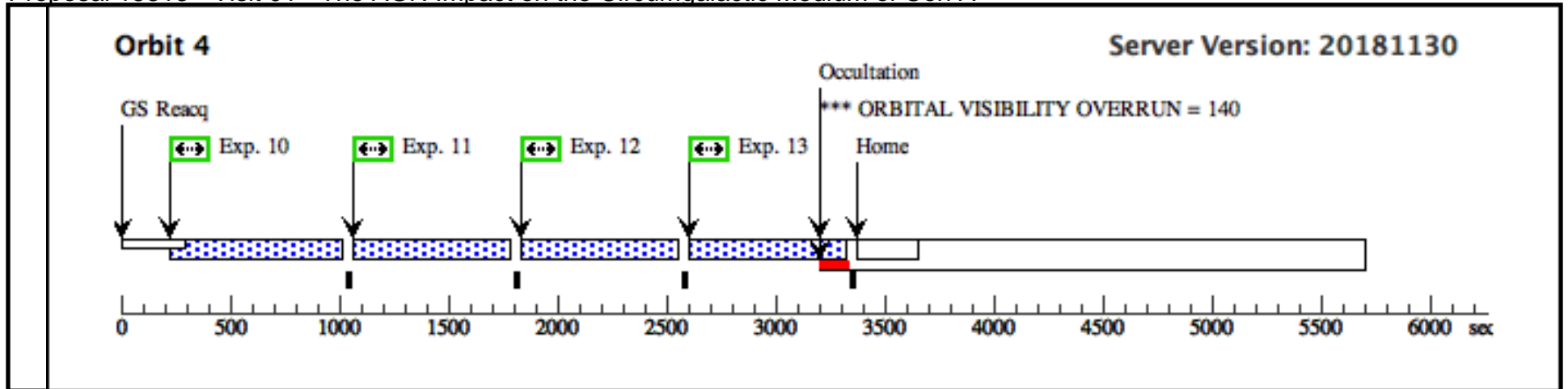
Proposal 15313 - Visit 01 - The AGN Impact on the Circumgalactic Medium of Cen A

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(COS.sa.100 (1) IRAS13224-3809 9537)	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			9.2 Secs (9.2 Secs) [==>]	[1]
	2	(COS.sa.100 (1) IRAS13224-3809 9537)	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			9.2 Secs (9.2 Secs) [==>]	[1]
	3	(COS.sa.100 (1) IRAS13224-3809 9537)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			9.2 Secs (9.2 Secs) [==>]	[1]
	4	(COS.sp.100 (1) IRAS13224-3809 9621)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=33 26; FLASH=YES			2110 Secs (2110 Secs) [==>]	[1]
	5	(COS.sp.100 (1) IRAS13224-3809 9621)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=33 26; FLASH=YES			2974 Secs (2974 Secs) [==>]	[2]
	6	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=85 22; FLASH=YES			662 Secs (662 Secs) [==>]	[3]
	7	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=85 22; FLASH=YES			665 Secs (665 Secs) [==>]	[3]
	8	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=85 22; FLASH=YES			665 Secs (665 Secs) [==>]	[3]
	9	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=85 22; FLASH=YES			665 Secs (665 Secs) [==>]	[3]
	10	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=85 22; FLASH=YES			664 Secs (664 Secs) [==>]	[4]
	11	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=85 22; FLASH=YES			665 Secs (665 Secs) [==>]	[4]
	12	(COS.sp.100 (1) IRAS13224-3809 9625)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=85 22; FLASH=YES			665 Secs (665 Secs) [==>]	[4]

Proposal 15313 - Visit 01 - The AGN Impact on the Circumgalactic Medium of Cen A

	13 (COS.sp.100 (1) IRAS13224-3809 COS/FUV, TIME-TAG, PSA 9625)	G160M 1611 A	FP-POS=4; BUFFER-TIME=85 22; FLASH=YES	665 Secs (665 Secs) [==>]	[4]
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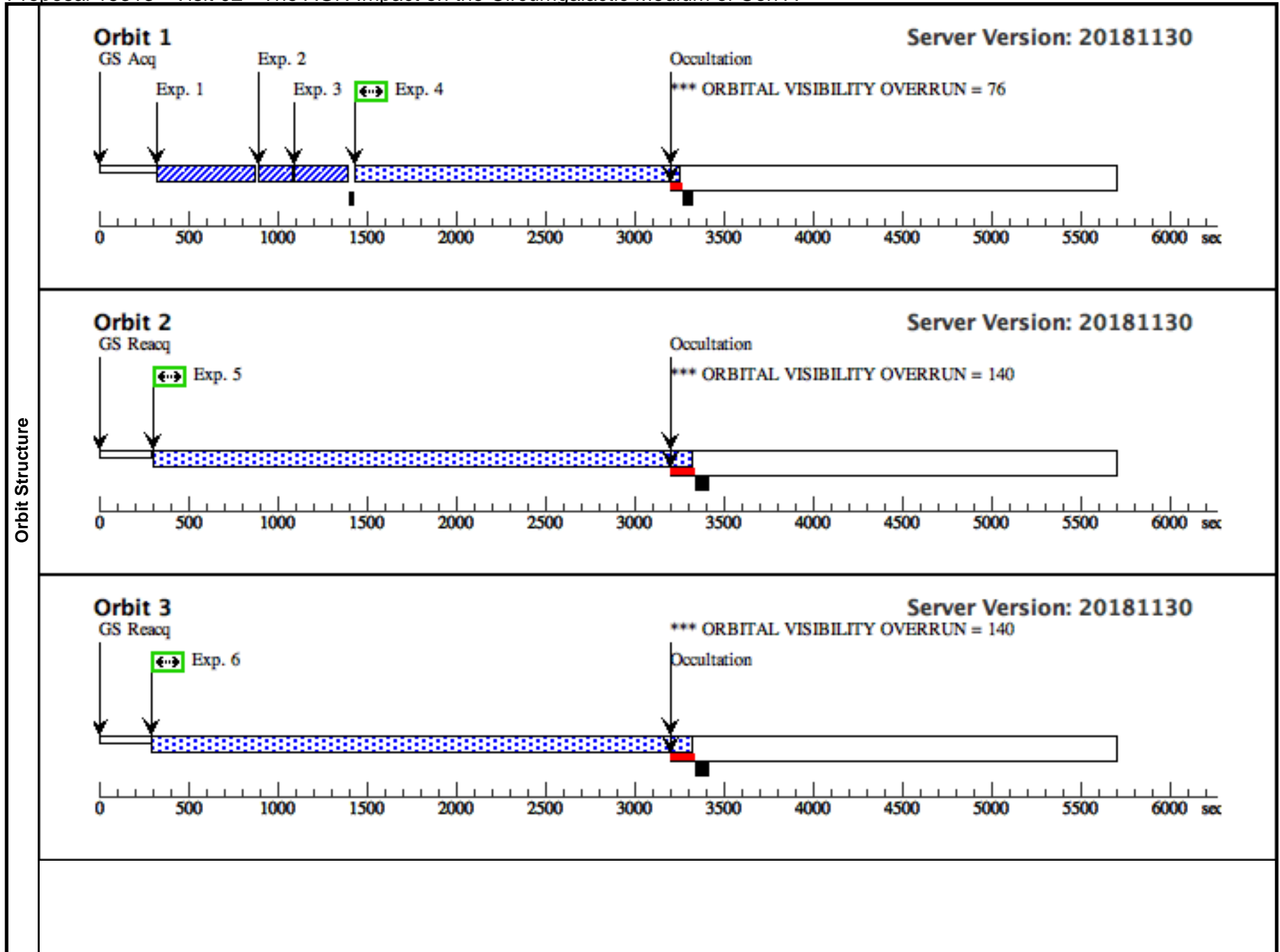


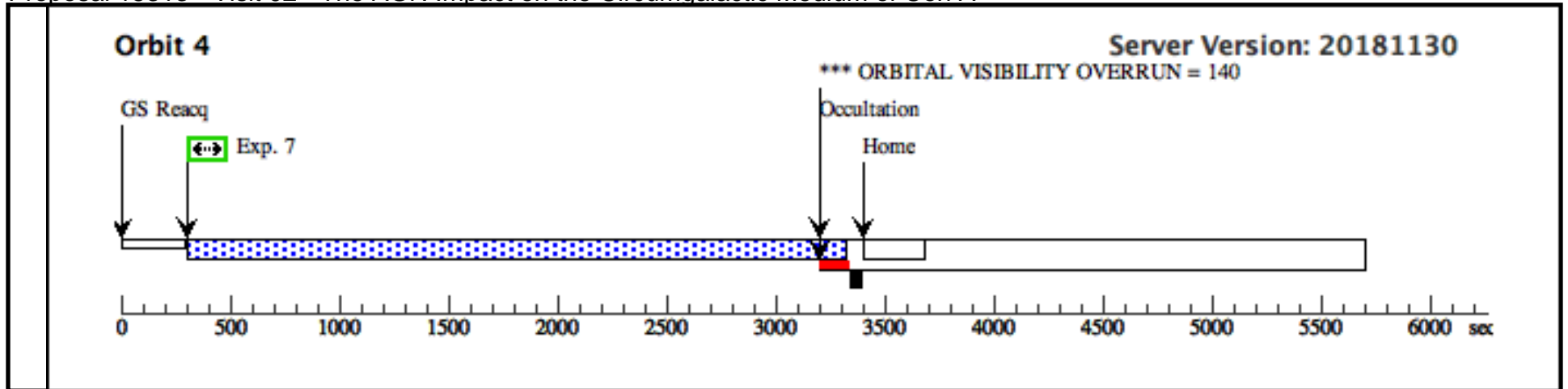


Proposal 15313 - Visit 02 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:37 GMT 2019

Visit	Proposal 15313, Visit 02, completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)																																																																																			
	(Visit 02) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																																																																																			
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1	(COS.sa.100 9539)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			29 Secs (29 Secs) [==>]	[1]																																																																											
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4	(COS.sp.100 9626)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=45 20; FLASH=YES			1774 Secs (1774 Secs) [==>]	[1]																																																																											
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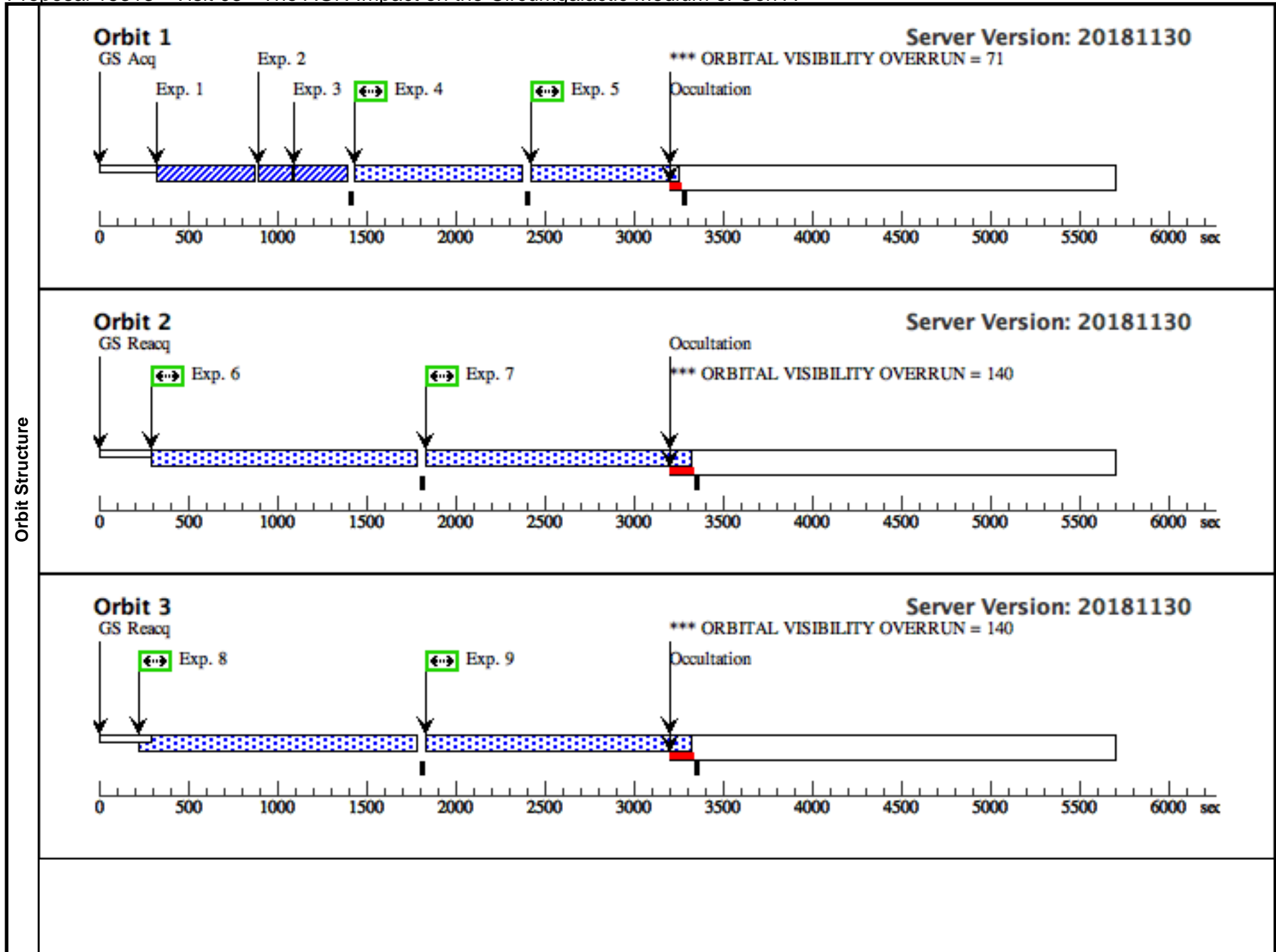
Proposal 15313 - Visit 03 - The AGN Impact on the Circumgalactic Medium of Cen A

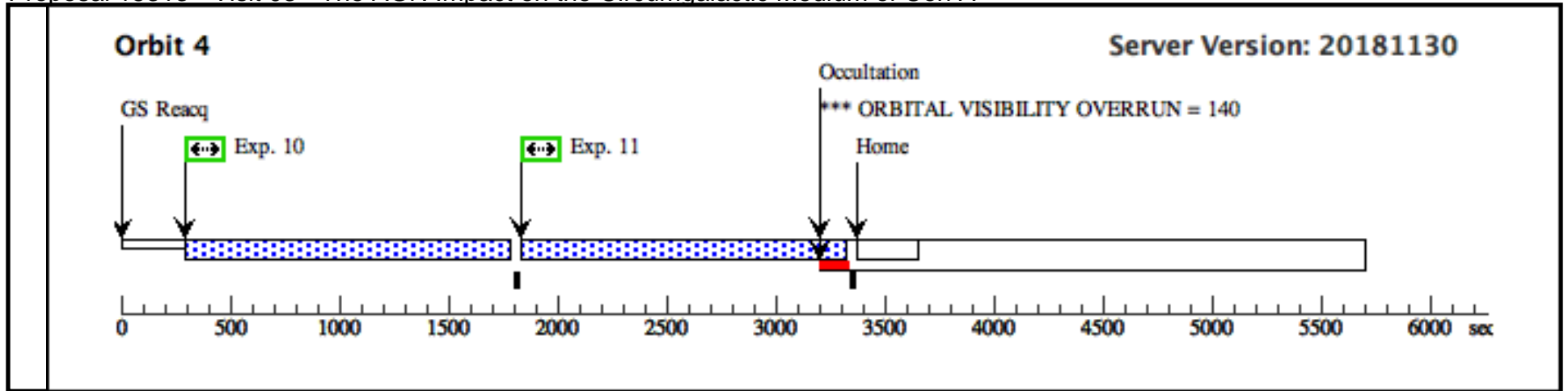
Tue Jun 11 21:00:37 GMT 2019

Visit	<p>Proposal 15313, Visit 03, failed</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p>																
Diagnostics	<p>(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>																
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Proposal 15313 - Visit 03 - The AGN Impact on the Circumgalactic Medium of Cen A

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.100 9539)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			29 Secs (29 Secs) [==>]	[1]
	2	(COS.sa.100 9539)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			29 Secs (29 Secs) [==>]	[1]
	3	(COS.sa.100 9539)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			29 Secs (29 Secs) [==>]	[1]
	4	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			778 Secs (778 Secs) [==>]	[1]
	5	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			775 Secs (775 Secs) [==>]	[1]
	6	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			1434 Secs (1434 Secs) [==>]	[2]
	7	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			1435 Secs (1435 Secs) [==>]	[2]
	8	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			1434 Secs (1434 Secs) [==>]	[3]
	9	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			1435 Secs (1435 Secs) [==>]	[3]
	10	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			1434 Secs (1434 Secs) [==>]	[4]
11	(COS.sp.100 9628)	(2) UVQSJ131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			1435 Secs (1435 Secs) [==>]	[4]	

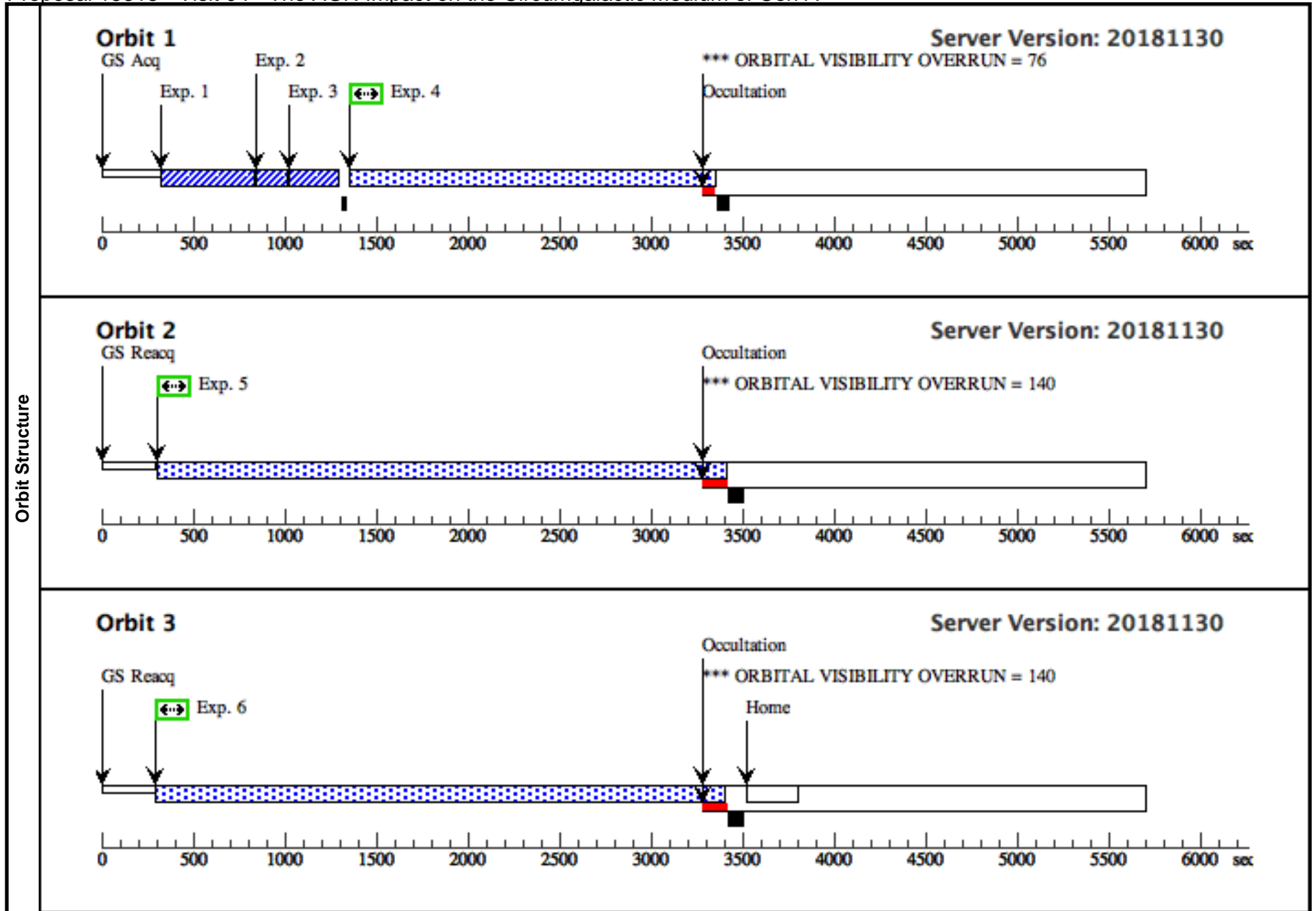




Proposal 15313 - Visit 04 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:37 GMT 2019

Visit	Proposal 15313, Visit 04, failed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)										
	(Visit 04) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(3)	UVQSJ130808.98-455417.9	RA: 13 08 9.0000 (197.0375000d) Dec: -45 54 18.00 (-45.90500d) Equinox: J2000			V= 17.42 GALEX FUV=17.64	Reference Frame: ICRS				
<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i> Category=GALAXY Description=[QSO, QUASAR] 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.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			23.8 Secs (23.8 Secs)	[==>]	[1]
	2	(COS.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			23.8 Secs (23.8 Secs)	[==>]	[1]
	3	(COS.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			23.8 Secs (23.8 Secs)	[==>]	[1]
	4	(COS.sp.100 9630)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			1946 Secs (1946 Secs)	[==>]	[1]
	5	(COS.sp.100 9630)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			3059 Secs (3059 Secs)	[==>]	[2]
	6	(COS.sp.100 9630)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=39 63; FLASH=YES			3059 Secs (3059 Secs)	[==>]	[3]

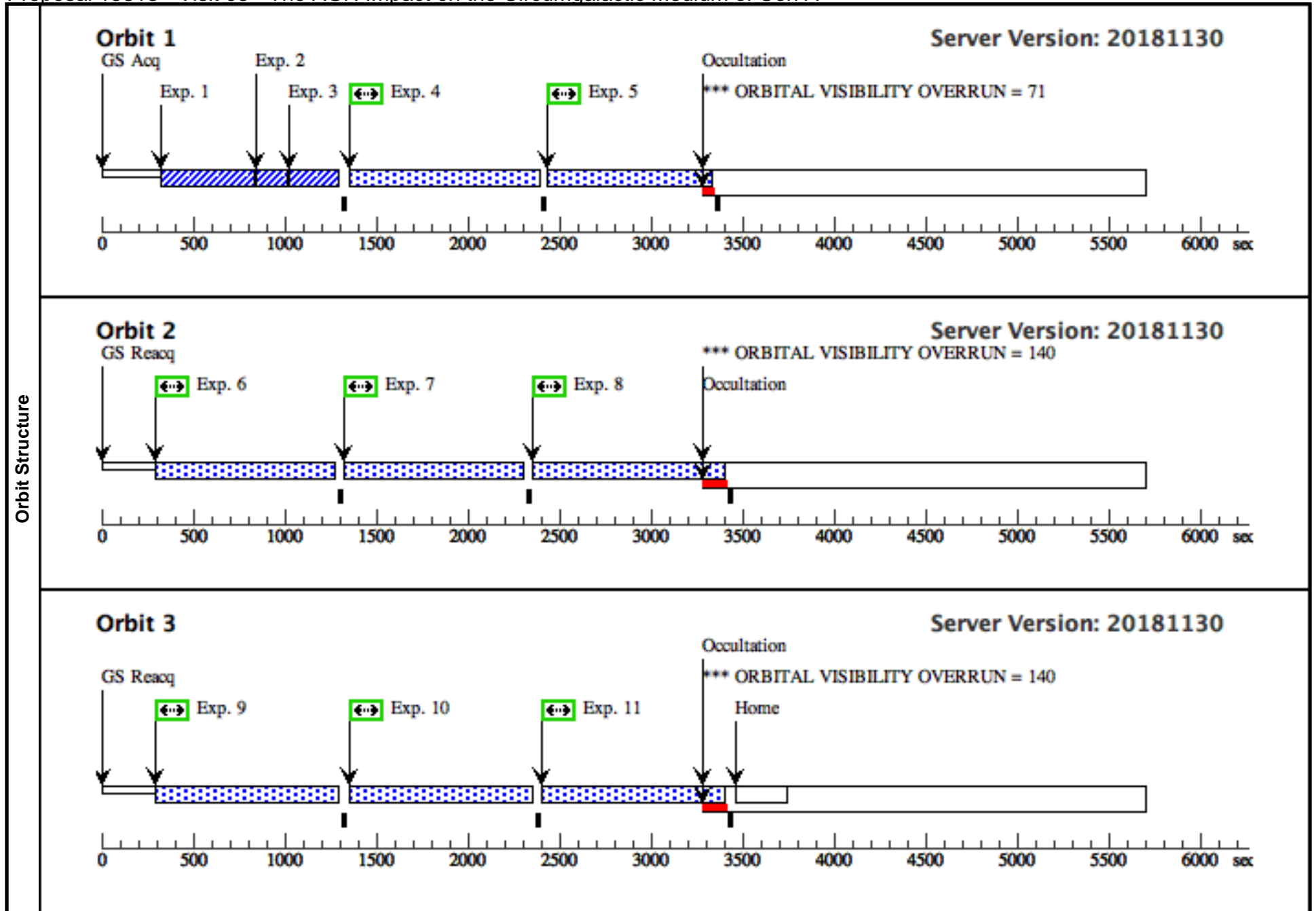


Proposal 15313 - Visit 05 - The AGN Impact on the Circumgalactic Medium of Cen A

Visit	Proposal 15313, Visit 05, completed Tue Jun 11 21:00:37 GMT 2019 Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)																
	Diagnostics	(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN															
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>(3)</td> <td>UVQSI130808.98-455417.9</td> <td>RA: 13 08 9.0000 (197.0375000d) Dec: -45 54 18.00 (-45.90500d) Equinox: J2000</td> <td></td> <td>V= 17.42 GALEX FUV=17.64</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(3)	UVQSI130808.98-455417.9	RA: 13 08 9.0000 (197.0375000d) Dec: -45 54 18.00 (-45.90500d) Equinox: J2000		V= 17.42 GALEX FUV=17.64
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(3)	UVQSI130808.98-455417.9	RA: 13 08 9.0000 (197.0375000d) Dec: -45 54 18.00 (-45.90500d) Equinox: J2000		V= 17.42 GALEX FUV=17.64	Reference Frame: ICRS												
<i>Comments: This object was generated by the targetselector and retrieved from the NED database. Category=GALAXY Description=[QSO, QUASAR] Extended=NO</i>																	

Proposal 15313 - Visit 05 - The AGN Impact on the Circumgalactic Medium of Cen A

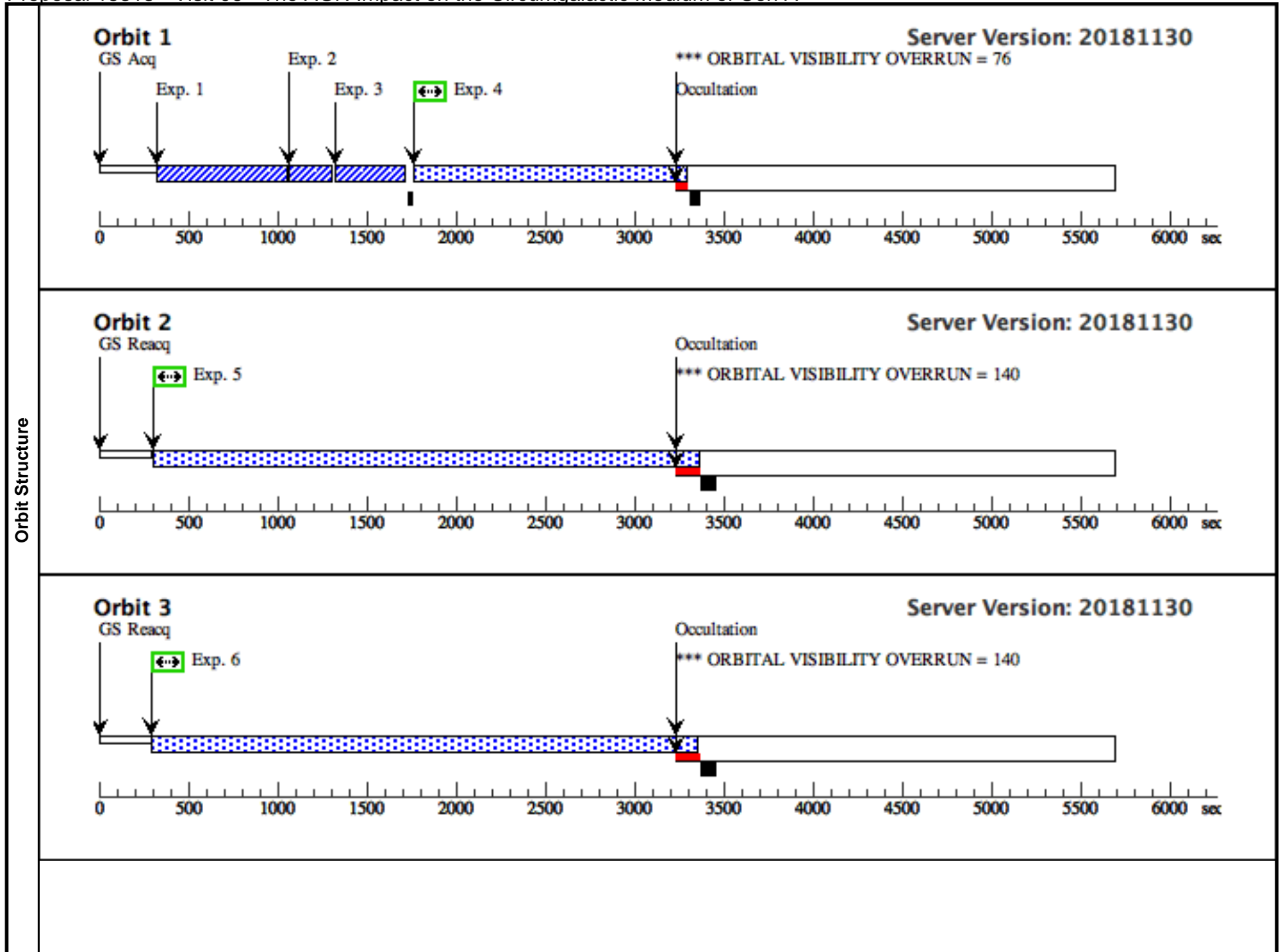
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			23.8 Secs (23.8 Secs) [==>]	[1]
	2	(COS.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			23.8 Secs (23.8 Secs) [==>]	[1]
	3	(COS.sa.100 9542)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			23.8 Secs (23.8 Secs) [==>]	[1]
	4	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			875 Secs (875 Secs) [==>]	[1]
	5	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			850 Secs (850 Secs) [==>]	[1]
	6	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			925 Secs (925 Secs) [==>]	[2]
	7	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			925 Secs (925 Secs) [==>]	[2]
	8	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			923 Secs (923 Secs) [==>]	[2]
	9	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			949 Secs (949 Secs) [==>]	[3]
	10	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			950 Secs (950 Secs) [==>]	[3]
11	(COS.sp.100 9633)	(3) UVQSJ130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			950 Secs (950 Secs) [==>]	[3]	

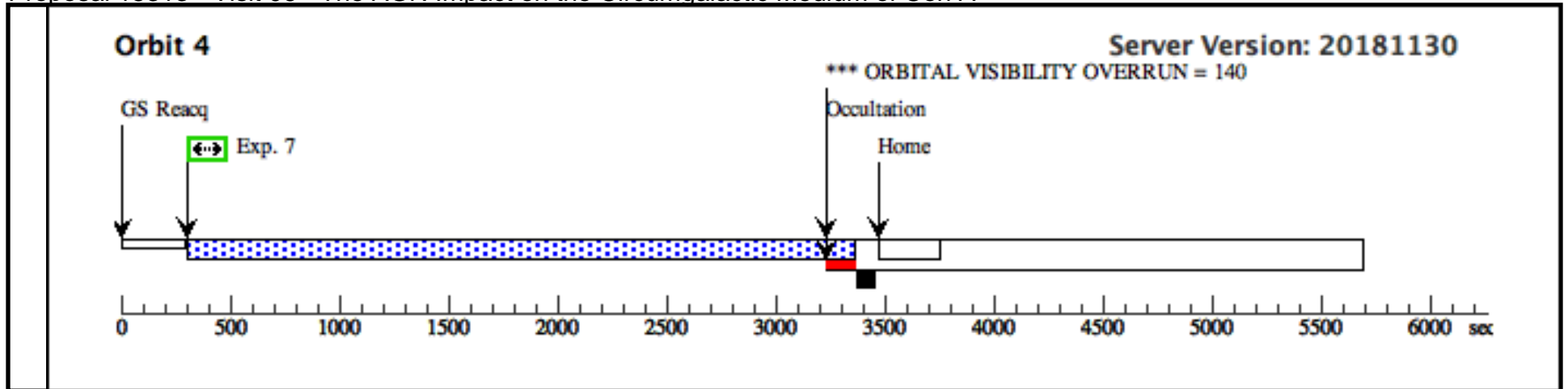


Proposal 15313 - Visit 06 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:37 GMT 2019

Visit	Proposal 15313, Visit 06, completed Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)																
	(Visit 06) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details. (Visit 06) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 06) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 06) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 06) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																
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>(4)</td> <td>UVQSJ125706.42-443520.0</td> <td>RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000</td> <td></td> <td>V=17.34 GALEX FUV=18.31</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.</i> Category=GALAXY Description=[QSO, QUASAR] Extended=NO</p>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(4)	UVQSJ125706.42-443520.0	RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000		V=17.34 GALEX FUV=18.31	Reference Frame: ICRS
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(4)	UVQSJ125706.42-443520.0	RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000		V=17.34 GALEX FUV=18.31	Reference Frame: ICRS												
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit							
	1	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			48.3 Secs (48.3 Secs) [==>]	[1]							
	2	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			48.3 Secs (48.3 Secs) [==>]	[1]							
	3	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			48.3 Secs (48.3 Secs) [==>]	[1]							
	4	(COS.sp.100 9635)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			1483 Secs (1483 Secs) [==>]	[1]							
	5	(COS.sp.100 9635)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			3012 Secs (3012 Secs) [==>]	[2]							
	6	(COS.sp.100 9635)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=39 63; FLASH=YES			3012 Secs (3012 Secs) [==>]	[3]							
	7	(COS.sp.100 9635)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=39 63; FLASH=YES			3012 Secs (3012 Secs) [==>]	[4]							



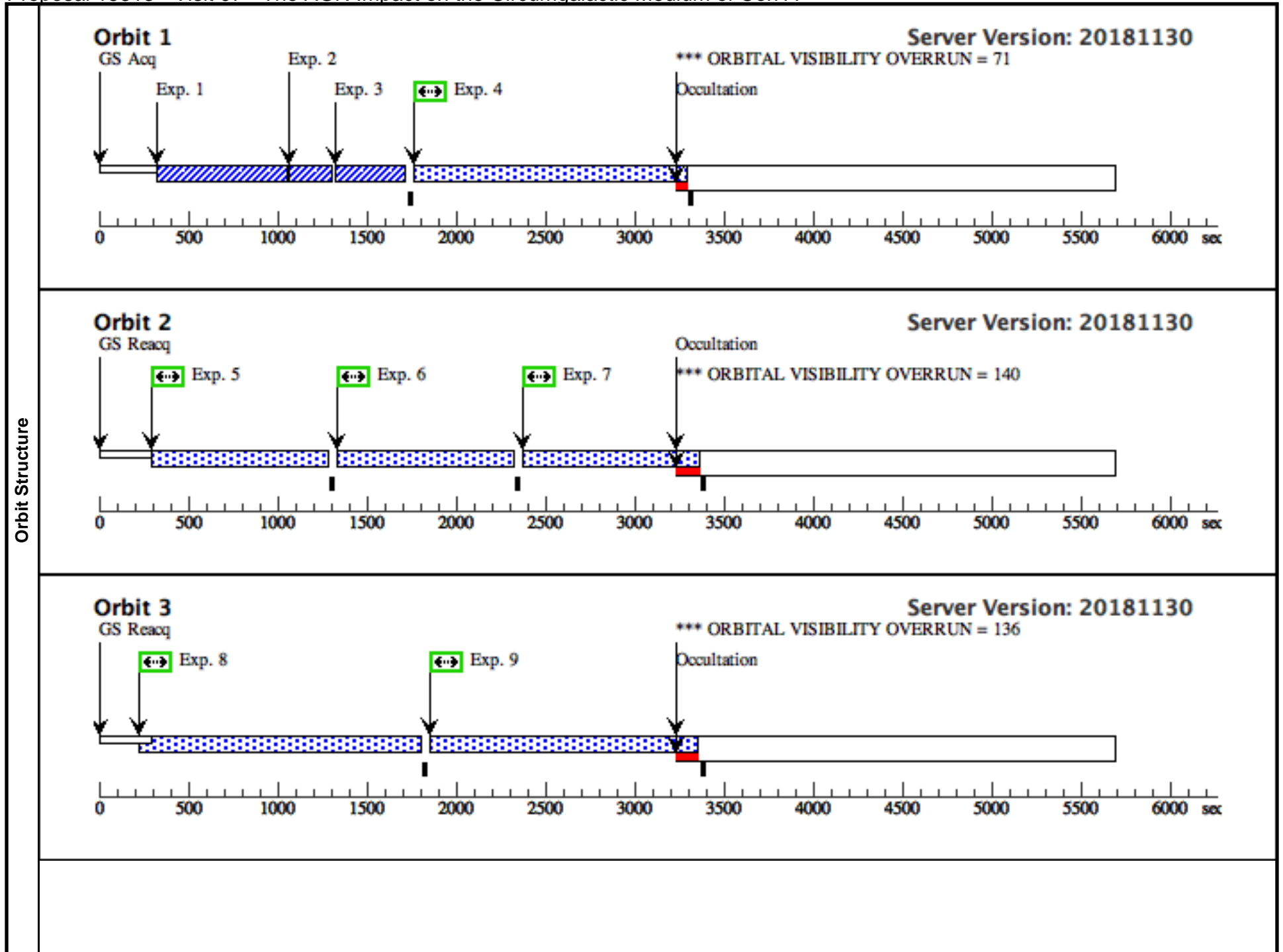


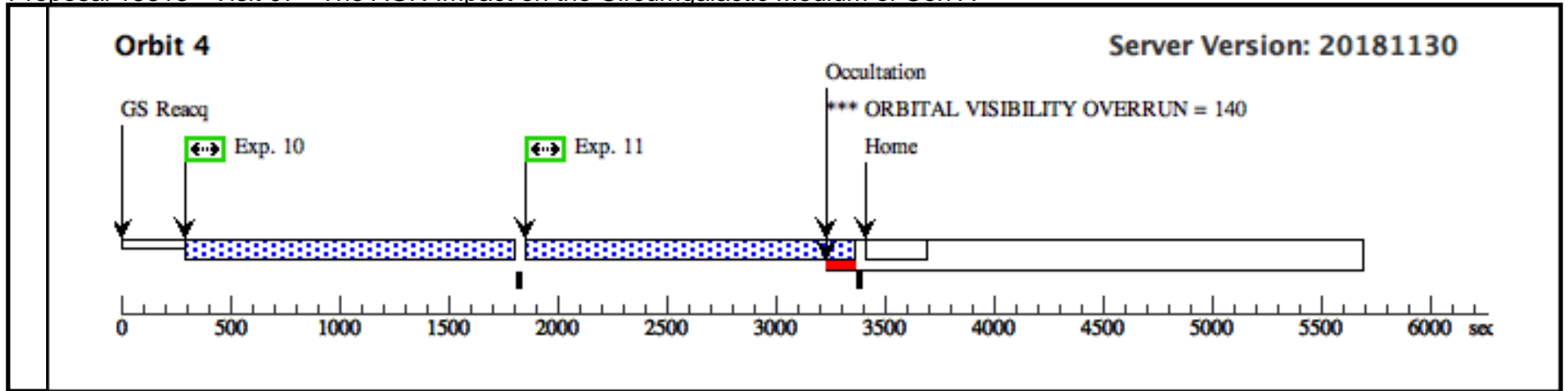
Proposal 15313 - Visit 07 - The AGN Impact on the Circumgalactic Medium of Cen A

Visit	Proposal 15313, Visit 07, completed Tue Jun 11 21:00:38 GMT 2019 Diagnostic Status: Warning Scientific Instruments: COS/FUV Special Requirements: (none)																
	Diagnostics	(Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 07) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN															
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>(4)</td> <td>UVQSI125706.42-443520.0</td> <td>RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000</td> <td></td> <td>V=17.34 GALEX FUV=18.31</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. Category=GALAXY Description=[QSO, QUASAR] Extended=NO</i></p>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(4)	UVQSI125706.42-443520.0	RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000		V=17.34 GALEX FUV=18.31
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(4)	UVQSI125706.42-443520.0	RA: 12 57 6.4000 (194.2766667d) Dec: -44 35 20.00 (-44.58889d) Equinox: J2000		V=17.34 GALEX FUV=18.31	Reference Frame: ICRS												

Proposal 15313 - Visit 07 - The AGN Impact on the Circumgalactic Medium of Cen A

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			48.3 Secs (48.3 Secs) [==>]	[1]
	2	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			48.3 Secs (48.3 Secs) [==>]	[1]
	3	(COS.sa.100 9543)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			48.3 Secs (48.3 Secs) [==>]	[1]
	4	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			1367 Secs (1367 Secs) [==>]	[1]
	5	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			933 Secs (933 Secs) [==>]	[2]
	6	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			934 Secs (934 Secs) [==>]	[2]
	7	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			935 Secs (935 Secs) [==>]	[2]
	8	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			1451 Secs (1451 Secs) [==>]	[3]
	9	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			1452 Secs (1452 Secs) [==>]	[3]
	10	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			1453 Secs (1453 Secs) [==>]	[4]
11	(COS.sp.100 9636)	(4) UVQSJ125706.4 2-443520.0	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			1454 Secs (1454 Secs) [==>]	[4]	





Proposal 15313 - Visit 08 - The AGN Impact on the Circumgalactic Medium of Cen A

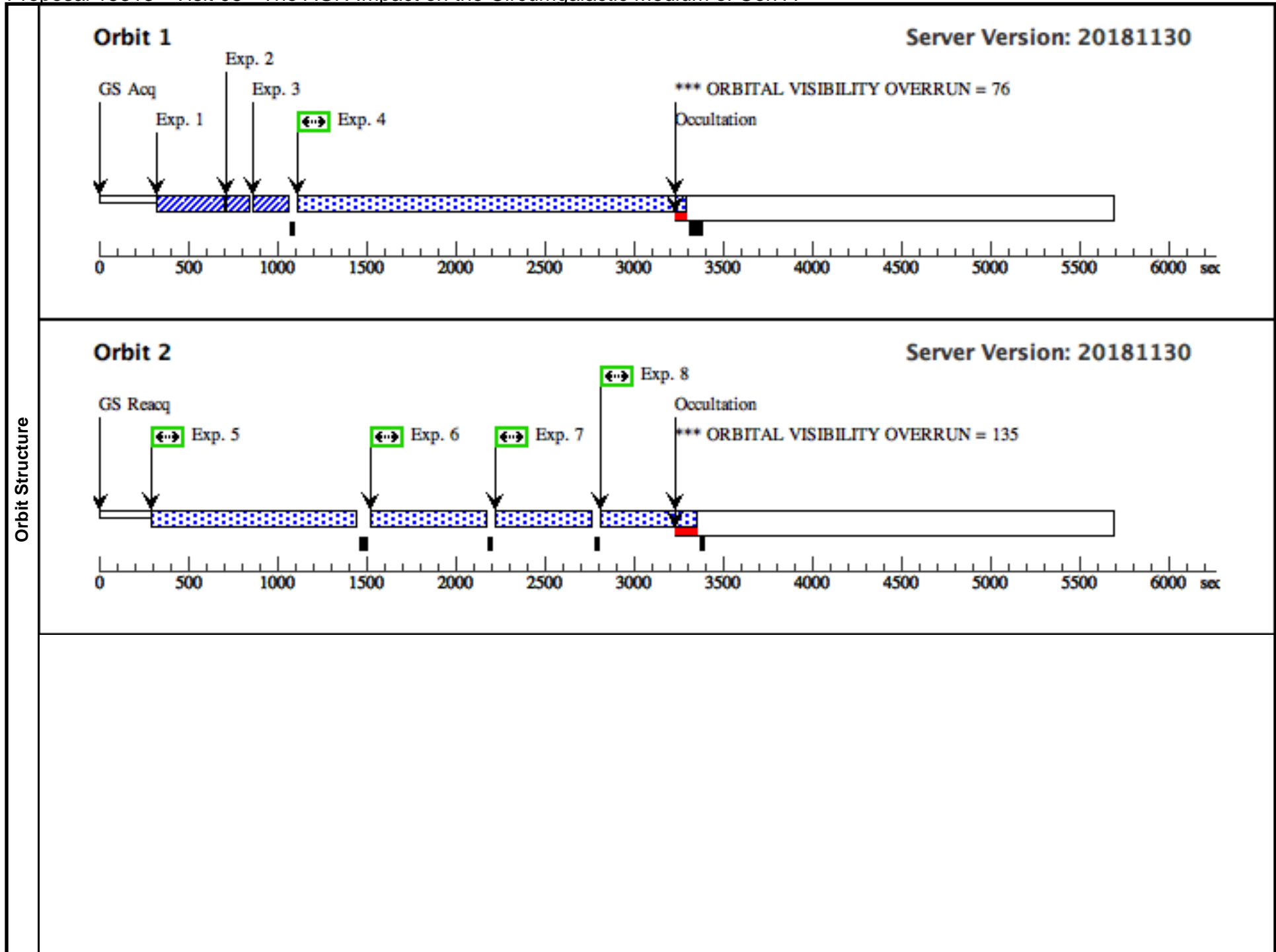
Visit	<p>Proposal 15313, Visit 08, completed Tue Jun 11 21:00:38 GMT 2019</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/FUV</p> <p>Special Requirements: (none)</p>																	
	Diagnostics	<p>(Visit 08) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details.</p> <p>(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p> <p>(Visit 08) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN</p>																
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 data-bbox="142 423 2007 521">(5)</td> <td data-bbox="142 423 2007 456">PKS1355-41</td> <td data-bbox="142 423 2007 488"> RA: 13 59 0.1895 (209.7507896d) Dec: -41 52 52.77 (-41.88133d) Equinox: J2000 </td> <td data-bbox="142 423 2007 456"></td> <td data-bbox="142 423 2007 488"> V=15.86 STIS FOS F=9e-15 cgs </td> <td data-bbox="142 423 2007 456">Reference Frame: ICRS</td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(5)	PKS1355-41	RA: 13 59 0.1895 (209.7507896d) Dec: -41 52 52.77 (-41.88133d) Equinox: J2000		V=15.86 STIS FOS F=9e-15 cgs	Reference Frame: ICRS	<p><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></p> <p><i>Category=GALAXY</i></p> <p><i>Description=[QSO, QUASAR]</i></p> <p><i>Extended=NO</i></p>				
	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous												
(5)	PKS1355-41	RA: 13 59 0.1895 (209.7507896d) Dec: -41 52 52.77 (-41.88133d) Equinox: J2000		V=15.86 STIS FOS F=9e-15 cgs	Reference Frame: ICRS													

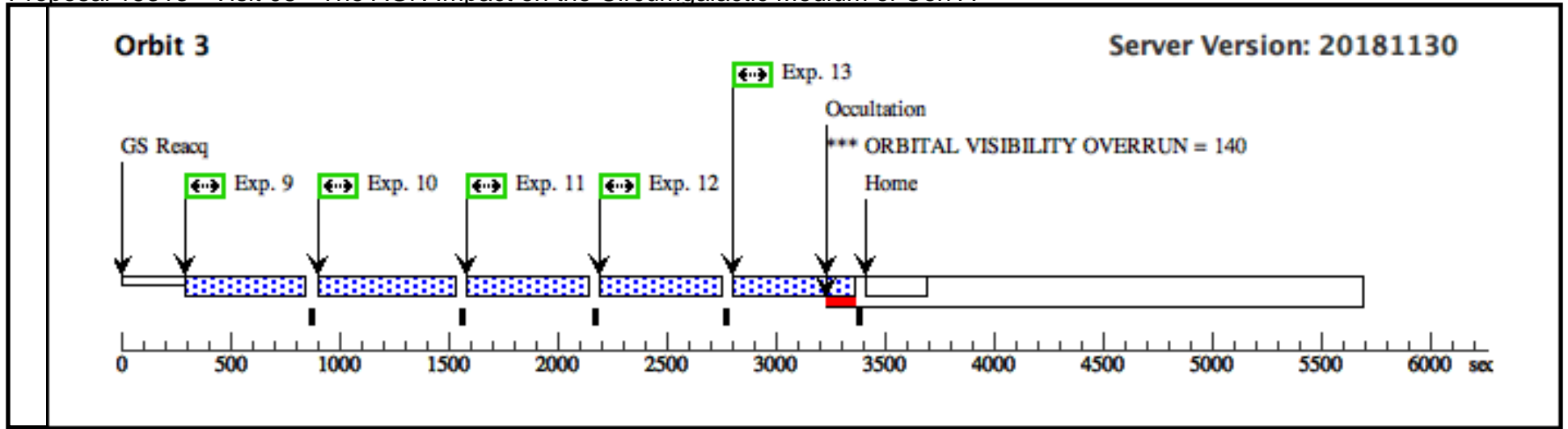
Proposal 15313 - Visit 08 - The AGN Impact on the Circumgalactic Medium of Cen A

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(COS.sa.100 (5) PKS1355-41 9544)	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	SCAN-SIZE=3; CENTER=FLUX-W T-FLR; SEGMENT=BOTH			10 Secs (10 Secs) [==>]	[1]
	2	(COS.sa.100 (5) PKS1355-41 9544)	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH			10 Secs (10 Secs) [==>]	[1]
	3	(COS.sa.100 (5) PKS1355-41 9544)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=5; SEGMENT=BOTH; STEP-SIZE=0.9			10 Secs (10 Secs) [==>]	[1]
	4	(COS.sp.100 (5) PKS1355-41 9639)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=33 26; FLASH=YES			2135 Secs (2135 Secs) [==>]	[1]
	5	(COS.sp.100 (5) PKS1355-41 9639)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=4; BUFFER-TIME=33 26; FLASH=YES			1101 Secs (1101 Secs) [==>]	[2]
	6	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=85 22; FLASH=YES			488 Secs (488 Secs) [==>]	[2]
	7	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=85 22; FLASH=YES			488 Secs (488 Secs) [==>]	[2]
	8	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=85 22; FLASH=YES			488 Secs (488 Secs) [==>]	[2]
	9	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=85 22; FLASH=YES			502 Secs (502 Secs) [==>]	[3]
	10	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=85 22; FLASH=YES			502 Secs (502 Secs) [==>]	[3]
	11	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=85 22; FLASH=YES			504 Secs (504 Secs) [==>]	[3]
	12	(COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=85 22; FLASH=YES			504 Secs (504 Secs) [==>]	[3]

Proposal 15313 - Visit 08 - The AGN Impact on the Circumgalactic Medium of Cen A

	13 (COS.sp.100 (5) PKS1355-41 9637)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=4; BUFFER-TIME=85 22; FLASH=YES	504 Secs (504 Secs) [==>]	[3]
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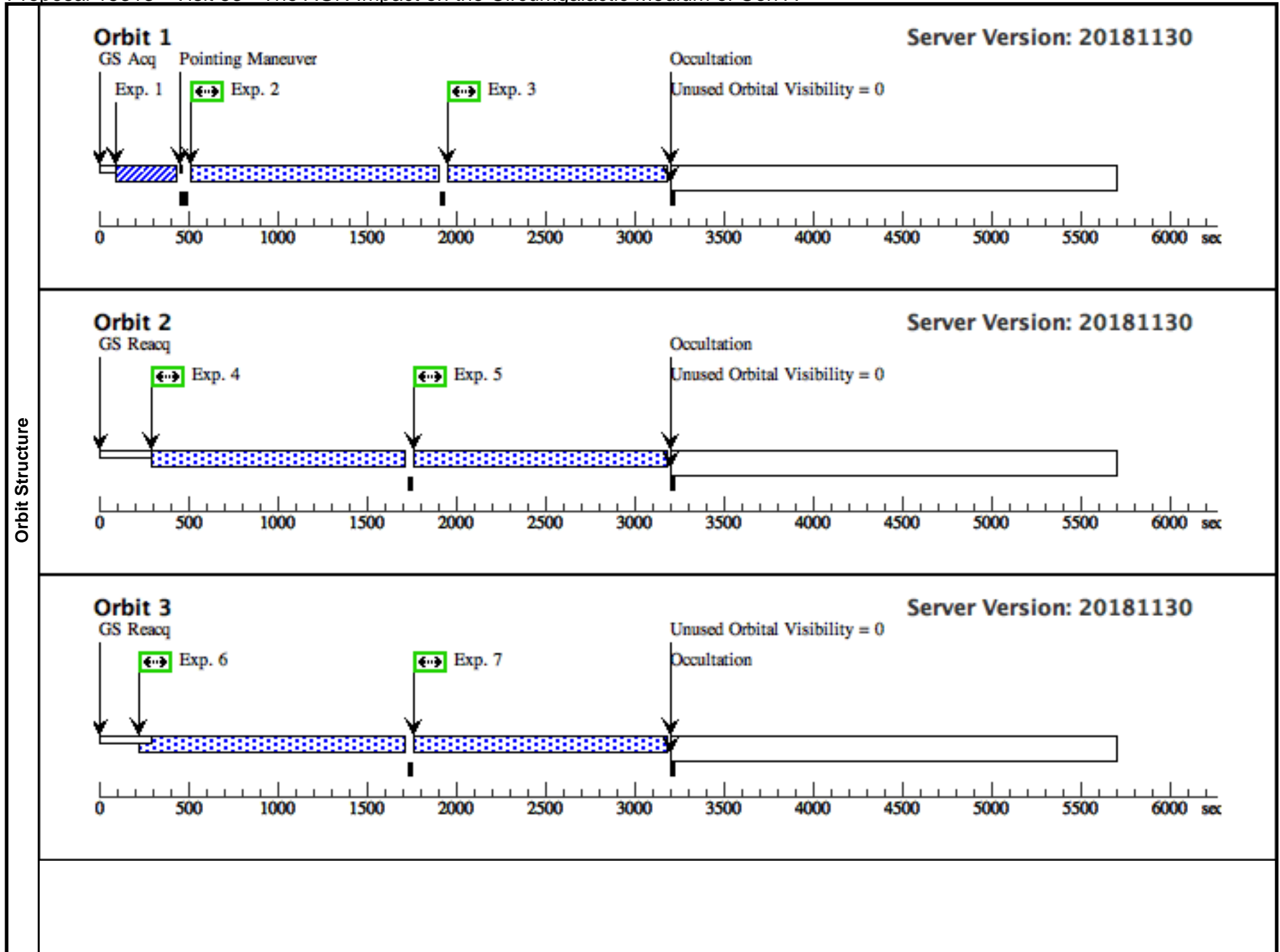


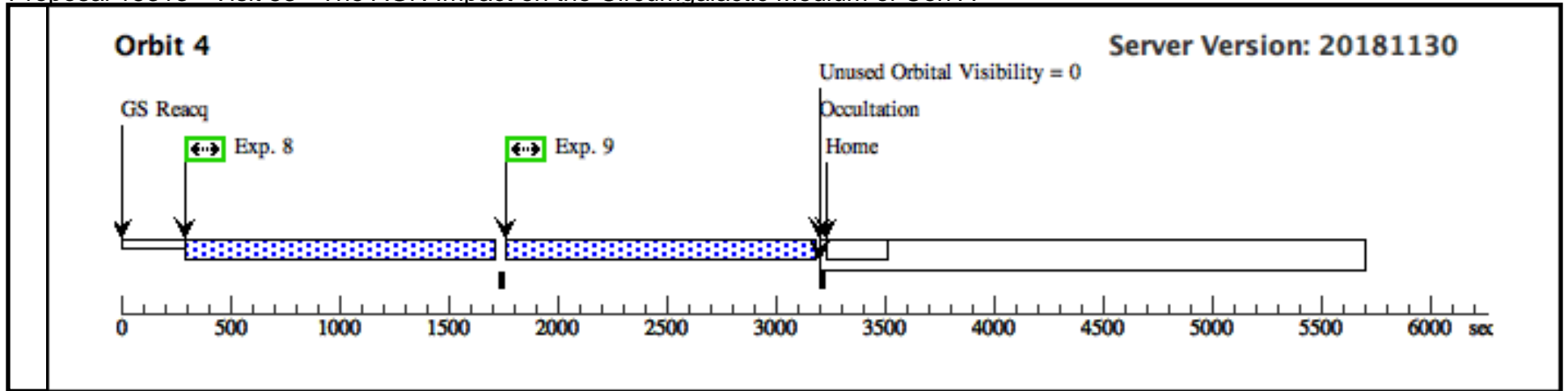


Proposal 15313 - Visit 53 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:38 GMT 2019

Visit	Proposal 15313, Visit 53, scheduling Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	UVQSI131119.83-393009.9	RA: 13 11 19.8000 (197.8325000d) Dec: -39 30 10.00 (-39.50278d) Equinox: J2000		V= 17.76 GALEX FUV=18.17	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[QSO, QUASAR] 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.135 6644)	(2) UVQSI131119.8 3-393009.9	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				24.1 Secs (24.1 Secs) [==>]	[1]
	<i>Comments: Used GALEX NUV = 17.76</i>									
	2	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			1177 Secs (1177 Secs) [==>]	[1]
	3	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			1180 Secs (1180 Secs) [==>]	[1]
	4	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			1364 Secs (1364 Secs) [==>]	[2]
	5	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			1365 Secs (1365 Secs) [==>]	[2]
	6	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=1; BUFFER-TIME=14 761; FLASH=YES			1364 Secs (1364 Secs) [==>]	[3]
	7	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=2; BUFFER-TIME=14 761; FLASH=YES			1365 Secs (1365 Secs) [==>]	[3]
	8	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=3; BUFFER-TIME=14 761; FLASH=YES			1364 Secs (1364 Secs) [==>]	[4]
9	(COS.sp.100 9628)	(2) UVQSI131119.8 3-393009.9	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=4; BUFFER-TIME=14 761; FLASH=YES			1365 Secs (1365 Secs) [==>]	[4]	





Proposal 15313 - Visit 54 - The AGN Impact on the Circumgalactic Medium of Cen A

Tue Jun 11 21:00:38 GMT 2019

Visit	Proposal 15313, Visit 54, pi Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	(Visit 54) Warning (Form): For the best data quality, it is strongly recommended that the maximum number of allowed FP-POS positions is used when observing at a given COS CENWAVE setting. See full description for details.									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	UVQSI130808.98-455417.9	RA: 13 08 9.0000 (197.0375000d) Dec: -45 54 18.00 (-45.90500d) Equinox: J2000		V= 17.42 GALEX FUV=17.64	Reference Frame: ICRS				
Comments: This object was generated by the targetselector and retrieved from the NED database. Category=GALAXY Description=[QSO, QUASAR] 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.135 6641)	(3) UVQSI130808.9 8-455417.9	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				17.5 Secs (17.5 Secs) [==>]	[1]
	Comments: used the GALEX NUV = 17.41									
	2	(COS.sp.100 9630)	(3) UVQSI130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=39 63; FP-POS=3; FLASH=YES			2604 Secs (2604 Secs) [==>]	[1]
	Comments: used the GALEX NUV = 17.41									
3	(COS.sp.100 9630)	(3) UVQSI130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			2919 Secs (2919 Secs) [==>]	[2]	
4	(COS.sp.100 9630)	(3) UVQSI130808.9 8-455417.9	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3; BUFFER-TIME=39 63; FLASH=YES			2919 Secs (2919 Secs) [==>]	[3]	

