



15136 - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and the highest [OIII]/[OII] ratios

Cycle: 25, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Dr. Yuri I. Izotov (PI) (Contact)	Ukrainian National Academy of Sciences, BITP	yizotov@bitp.kiev.ua
Dr. Natalia G. Guseva (CoI)	Ukrainian National Academy of Sciences, BITP	nguseva@bitp.kiev.ua
Prof. Trinh Xuan Thuan (CoI) (AdminUSPI)	The University of Virginia	txt@virginia.edu
Prof. Daniel Schaerer (CoI) (ESA Member)	Observatoire de Geneve	daniel.schaerer@unige.ch
Dr. Anne Verhamme (CoI) (ESA Member)	Observatoire de Geneve	anne.verhamme@unige.ch
Dr. Gabor Worseck (CoI) (ESA Member)	Universitat Potsdam	gworseck@uni-potsdam.de
Dr. Ivana Orlitova (CoI) (ESA Member)	Astronomical Institute, Academy of Sciences of CR	ivana.orlitova@unige.ch

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) J0007+0226	COS/FUV COS/NUV	3	12-Nov-2018 12:00:32.0	yes
02	(2) J0159+0751	COS/FUV COS/NUV	2	12-Nov-2018 12:00:33.0	yes
03	(3) J0820+5431	COS/FUV COS/NUV	3	12-Nov-2018 12:00:34.0	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>
04	(4) J0926+4504	COS/FUV COS/NUV	3	12-Nov-2018 12:00:35.0	yes
05	(5) J1032+4919	COS/FUV COS/NUV	2	12-Nov-2018 12:00:36.0	yes
06	(6) J1205+4551	COS/FUV COS/NUV	3	12-Nov-2018 12:00:37.0	yes
07	(7) J1242+4851	COS/FUV COS/NUV	3	12-Nov-2018 12:00:38.0	yes
08	(8) J1355+4651	COS/FUV COS/NUV	3	12-Nov-2018 12:00:39.0	yes
53	(3) J0820+5431	COS/FUV COS/NUV	3	12-Nov-2018 12:00:39.0	yes

25 Total Orbits Used

ABSTRACT

The Lyman alpha line of hydrogen is the strongest emission line in galaxies and the tool of predilection for identifying and studying star-forming galaxies over a wide range of redshifts, especially in the early universe. However, it has become clear over the years that not all of the Lyman alpha radiation escapes, due to its resonant scattering on the interstellar and intergalactic medium, and absorption by dust. Although our knowledge of the high- z universe depends crucially on that line, we still do not have a complete understanding of the mechanisms behind the production, radiative transfer and escape of Lyman alpha in galaxies. We wish here to investigate these mechanisms by studying the properties of the ISM in a unique sample of 8 extreme star-forming galaxies (SFGs) that have the highest excitation in the SDSS spectral data base. These dwarf SFGs have considerably lower stellar masses and metallicities, and higher equivalent widths and [OIII]5007/[OII]3727 ratios compared to all nearby SFGs with Lyman alpha emission studied so far with COS. They are, however, very similar to the dwarf Lyman alpha emitters at redshifts ~ 3 -6, which are thought to be the main sources of reionization in the early Universe. By combining the HST/COS UV data with data in the optical range, and using photoionization and radiative transfer codes, we will be able to study the properties of the Lyman alpha in these unique objects, derive column densities of the neutral hydrogen $N(\text{HI})$ and compare them with $N(\text{HI})$ obtained from the HeI emission-line ratios in the optical spectra. We will derive Lyman alpha escape fractions and indirectly Lyman continuum escape fractions.

OBSERVING DESCRIPTION

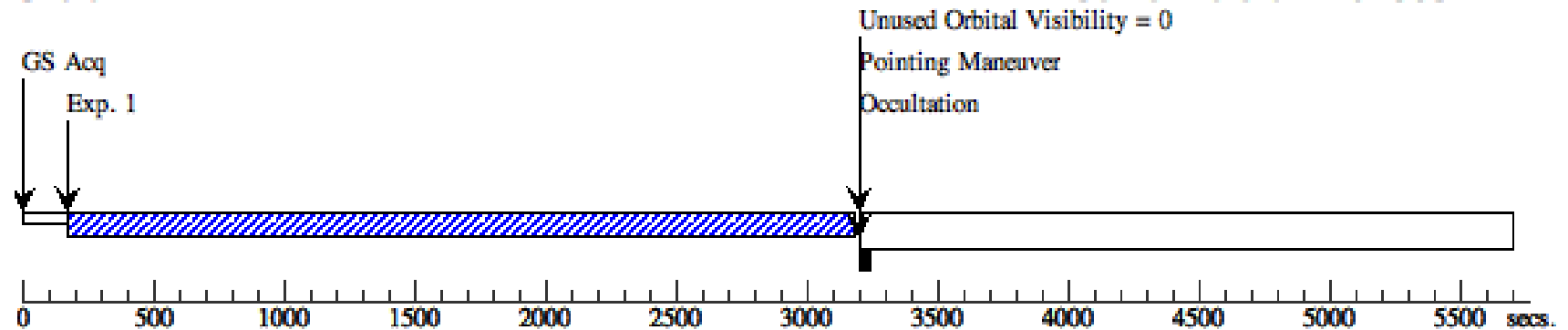
We adopt an observing strategy allowing to compare two independent indirect methods for the determination of the LyC escape fraction, one is from the Ly-alpha profile derived using these observations and another using HeI emission-line ratios from independent optical observations with ground-based telescopes. In this proposal we selected the range of $[OIII]/[OII] = 23 - 39$ to observe eight compact galaxies at redshifts $z \sim 0.03 - 0.07$. These galaxies are bright enough to ensure that we obtain within a reasonable observing time a spectrum with a S/N high enough in the FUV region to measure well the Ly-alpha profile. They have a compact or unresolved morphology in the SDSS image so that the 2.5 arcsec diameter COS aperture measures the totality of the galaxy's light and global quantities can be derived. NUV acquisition images of the targets will be obtained with the standard MirrorA and the ACQ/IMAGE mode to reach a $S/N \sim 40$ inside a 9×9 pixel box centered on the brightest part of the galaxy. The total time needed for acquisition depends on the NUV magnitude of the object and its compactness. The NUV magnitudes are obtained from the GALEX database, and the NUV angular radii are assumed to be $R_{05} \sim 0.15$ arcsec, similar to angular radii of GPs observed in the proposal GO. Therefore, the surface brightness per square arcsec of our galaxies is $\text{flux(NUV)} / (\pi R_{05}^2)$. The acquisition exposure times were calculated selecting the "EXTENDED" option and adopting a S/N of 40. As a bonus, we will be able to study the morphology of the selected objects with these acquisition images. The TAs are up to one orbit long. We plan to use COS in combination with the medium-resolution G130M grating with central wavelength 1223Å to observe the Ly-alpha line at wavelengths greater than 1250Å in selected galaxies. The geocoronal Ly-alpha with this grating falls into the gap between segments A and B ensuring that the COS safety condition is satisfied. Adopting the same extrapolation of the SED derived from the SDSS spectrum we have calculated for each object the required exposure time to obtain a $S/N > 5$ for a 10-pixel binned spectrum, enough to measure any residual intensity in the LIS lines. The ETC "EXTENDED" mode was adopted. Buffer times for science exposures were adopted to be 2/3 of the values returned by ETC for G130M grating. The 4 FP-POS split was used in all cases.

Proposal 15136 - J0007+0226 - 3 orbits (01) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J0007+0226 - 3 orbits (01), completed								Mon Nov 12 17:00:40 GMT 2018	
	Diagnostic Status: Warning									
	Scientific Instruments: COS/FUV, COS/NUV									
	Special Requirements: (none)									
Diagnostics	(J0007+0226 - 3 orbits (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(J0007+0226 - 3 orbits (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(1)	J0007+0226	RA: 00 07 24.4900 (1.8520417d) Dec: +02 26 27.20 (2.44089d) Equinox: J2000	Redshift: 0.0636		V=19.73+/-0.10 FUV=21.39, NUV=21.51, acq=1450s, http://etc.stsci.edu/etc/results/COS.ta.930822/ , exp=8600s, http://etc.stsci.edu/etc/results/COS.sp.930845/		Reference Frame: ICRS		
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0007+0226 _ACQ (COS.ta.930822)	(1) J0007+0226	COS/NUV, ACQ/IMAGE, PSA	MIRRORA		GS ACQ SCENARI O BASE1B3		1398 Secs (1398 Secs)	
									[==>]	[1]
	Comments: Galex NUV mag for this target is 21.39. The ETC run listed here uses the "Extended source that fills the aperture (1.25 arcsec radius)" option. We estimate that our target has $R < 0.2''$, so that the actual r equired time to $S/N = 40$ is 4-5 times shorter (8000s in the ETC run converts to ~1600s for this target). The exposure time used here is the maximum time possible for an ACQ/IMAGE and is our best TA strategy. This t arget has one of the faintest Galex NUV mag of the targets in this program. The other ACQ/IMAGE ETC runs in this program will use the placeholder ETC run for their Galex NUV mags. The COS.ta.930822 ETC run demonstrates that all TAs in this program are with extremely low brightest pixel counts rates (~ 0.1 cps).									
	2	J0007+0226 _G130M (COS.sp.1004386)	(1) J0007+0226	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			1404 Secs (5616 Secs)	
									[==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2] [3]
Comments: This ETC run assumes that the target is more compact than our ACQ/IMAGE estimate ($R=0.2''$) and is 6x brighter than our expected flux at 1300.0. This ETC shows that our count rates are safe to the instrum ent. As all of our targets are fainter than this ETC run, we use this ETC run for all G130M exposures in this program. The Buffer time for the G130M for this ETC run is $2/3 * 30,000 = 20,000$. We will use this buffer r time for all G130M exposures in this program.										

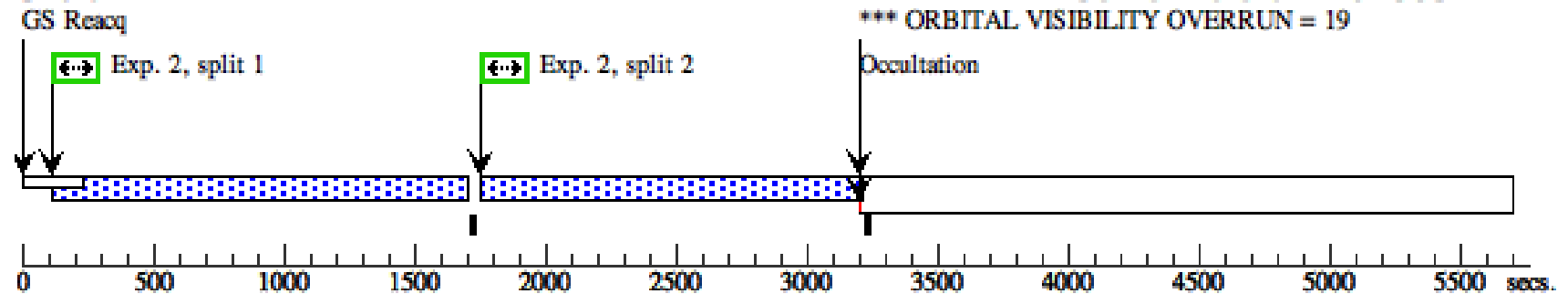
Orbit 1

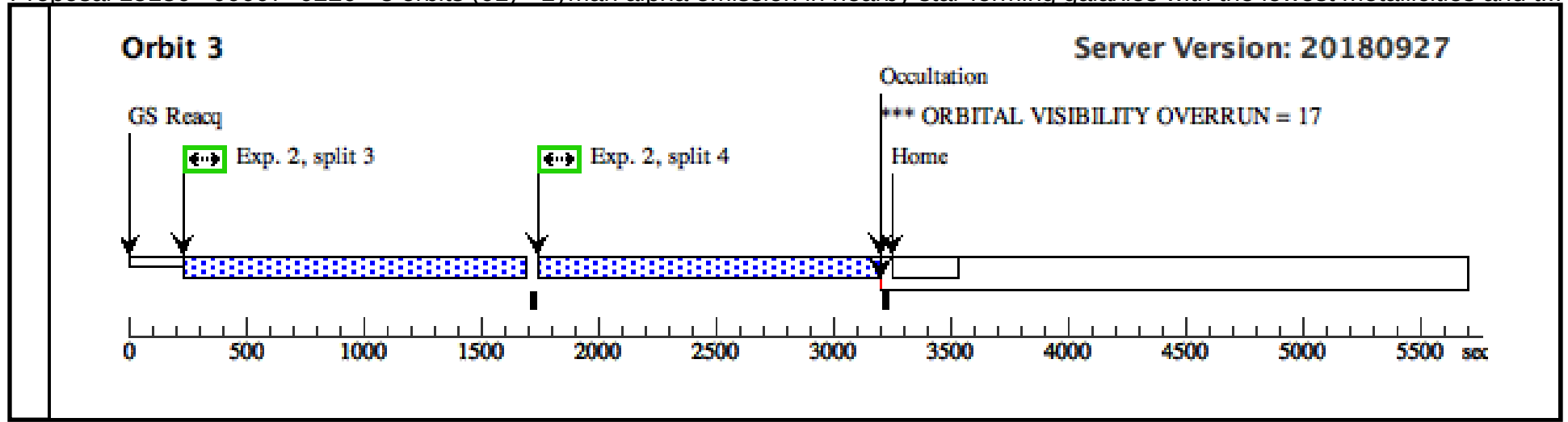
Server Version: 20180927



Orbit 2

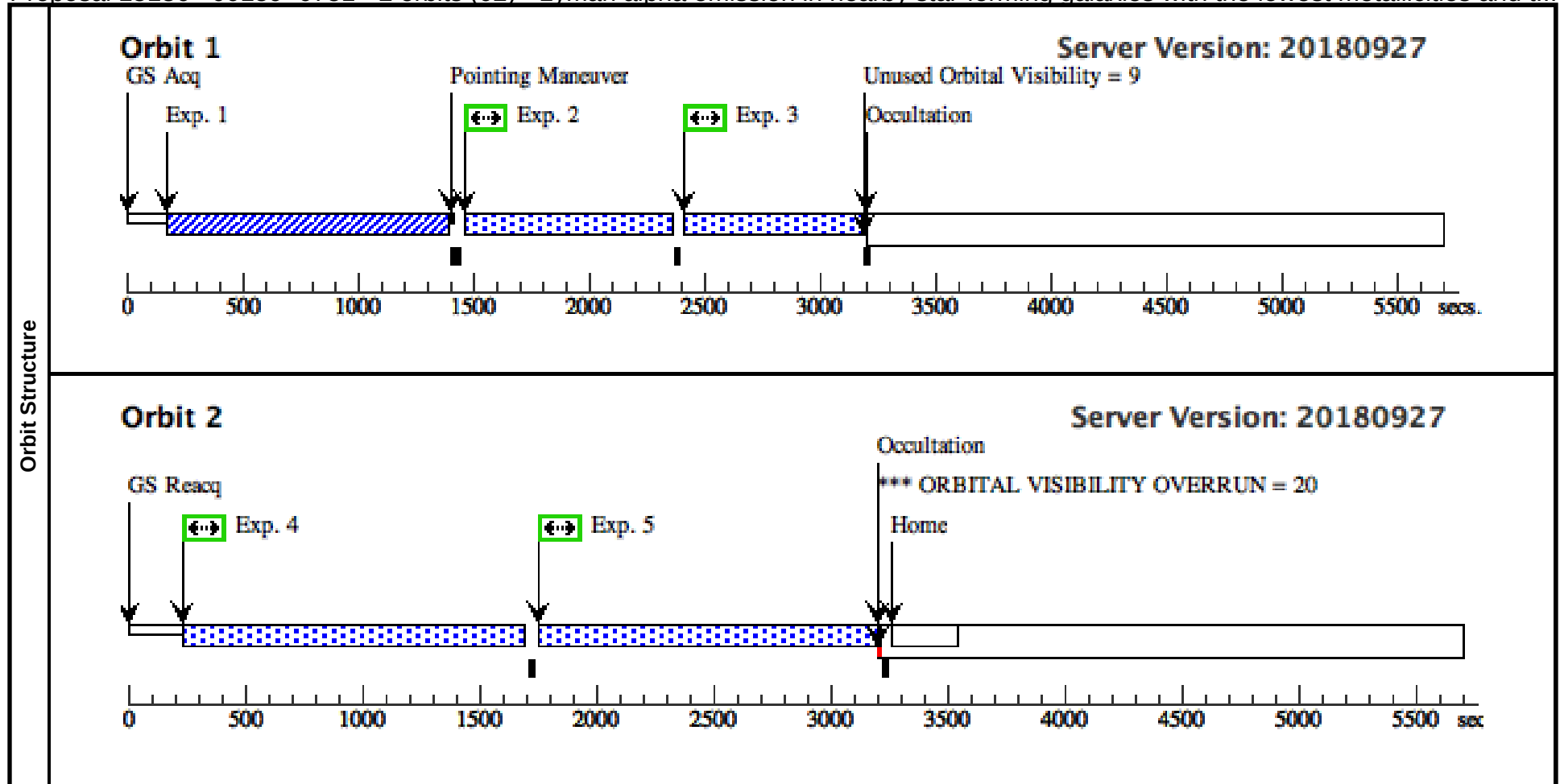
Server Version: 20180927





Proposal 15136 - J0159+0751 - 2 orbits (02) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J0159+0751 - 2 orbits (02), completed								Mon Nov 12 17:00:40 GMT 2018	
	Diagnostic Status: Warning									
	Scientific Instruments: COS/FUV, COS/NUV									
	Special Requirements: (none)									
Diagnostics	(J0159+0751 - 2 orbits (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	J0159+0751	RA: 01 59 52.7500 (29.9697917d) Dec: +07 51 48.80 (7.86356d) Equinox: J2000	Redshift: 0.0611	V=19.47+/-0.10 FUV=20.64, NUV=20.43, acq=505s, http://etc.stsci.edu/etc/results/COS.ta.930823/ , exp=2900s, http://etc.stsci.edu/etc/results/COS.sp.930847/	Reference Frame: ICRS				
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0159+0751 _ACQ (COS.ta.930823)	(2) J0159+0751	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				500 Secs (500 Secs) [==>]	[1]
	2	J0159+0751 _G130M (COS.sp.1004387)	(2) J0159+0751	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=1; SEGMENT=BOTH			715.0 Secs (715 Secs) [==>]	[1]
	3	J0159+0751 _G130M (COS.sp.1004387)	(2) J0159+0751	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=2; SEGMENT=BOTH			716.0 Secs (716 Secs) [==>]	[1]
	4	J0159+0751 _G130M (COS.sp.1004387)	(2) J0159+0751	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=3; SEGMENT=BOTH			1407.0 Secs (1407 Secs) [==>]	[2]
	5	J0159+0751 _G130M (COS.sp.1004387)	(2) J0159+0751	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			1407.0 Secs (1407 Secs) [==>]	[2]

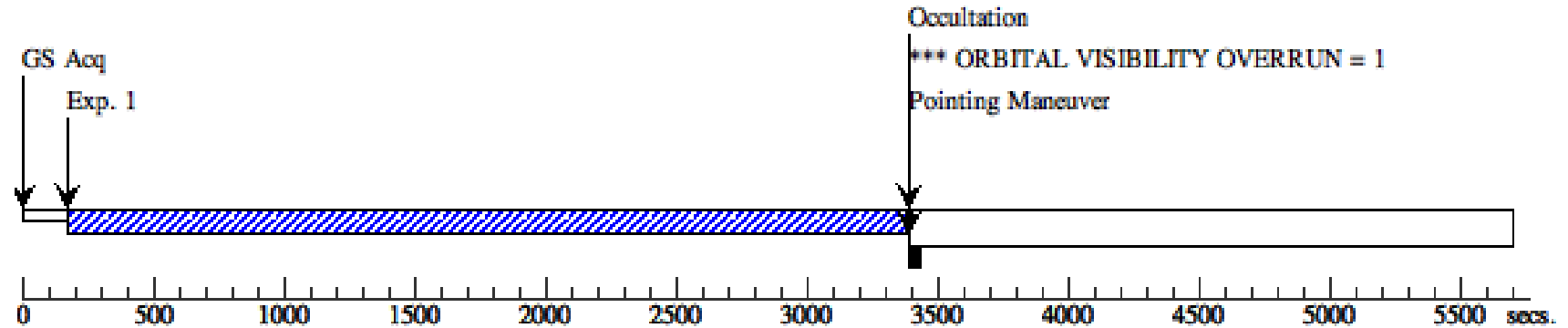


Proposal 15136 - J0820+5431 - 3 orbits (03) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J0820+5431 - 3 orbits (03), completed										Mon Nov 12 17:00:40 GMT 2018	
	Diagnostic Status: Warning											
	Scientific Instruments: COS/FUV, COS/NUV											
	Special Requirements: (none)											
Diagnostics	(J0820+5431 - 3 orbits (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(J0820+5431 - 3 orbits (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(J0820+5431 - 3 orbits (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
Fixed Targets	#	Name	Target Coordinates		Targ. Coord. Corrections		Fluxes		Miscellaneous			
	(3)	J0820+5431	RA: 08 20 19.2700 (125.0802917d) Dec: +54 31 40.10 (54.52781d) Equinox: J2000		Redshift: 0.0386		V=20.41+/-0.10 FUV=21.67, NUV=21.58, acq=1500s, http://etc.stsci.edu/etc/results/COS.ta.930825/ , exp=13380s, http://etc.stsci.edu/etc/results/COS.sp.930850/		Reference Frame: ICRS			
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit	
	1	J0820+5431 _ACQ (COS.ta.930825)	(3) J0820+5431	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1494 Secs (1494 Secs) [==>]		[1]	
	2	J0820+5431 _G130M (COS.sp.1004388)	(3) J0820+5431	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			1500 Secs (6000 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]		[2] [3]	

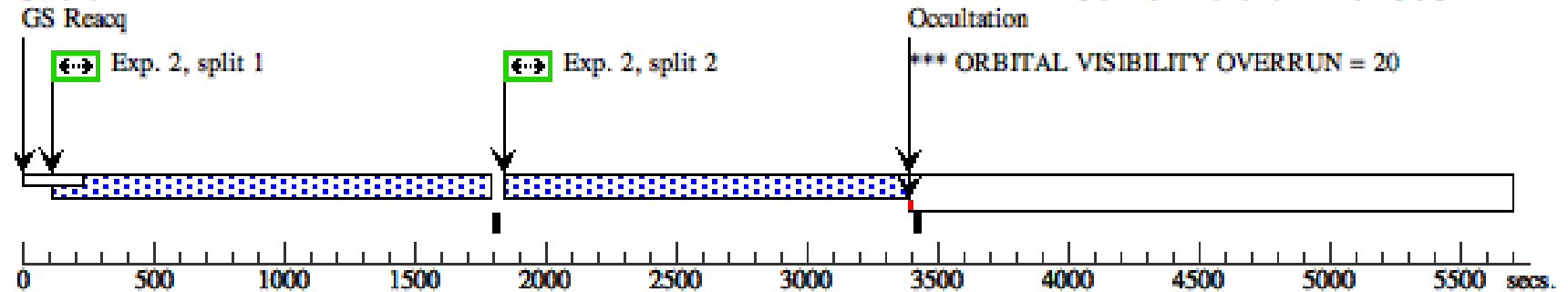
Orbit 1

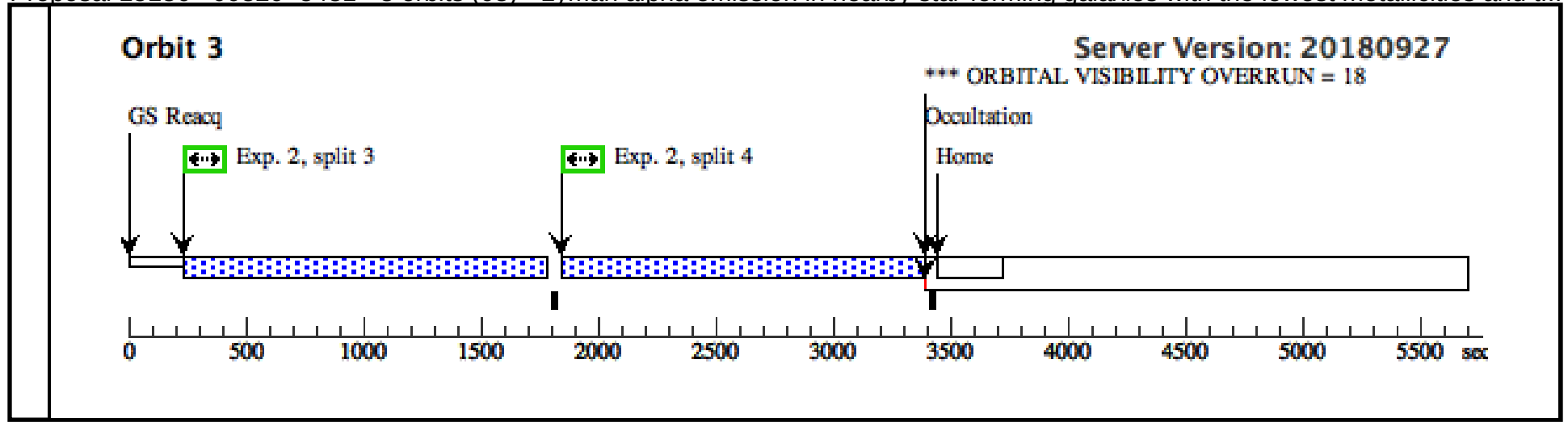
Server Version: 20180927



Orbit 2

Server Version: 20180927



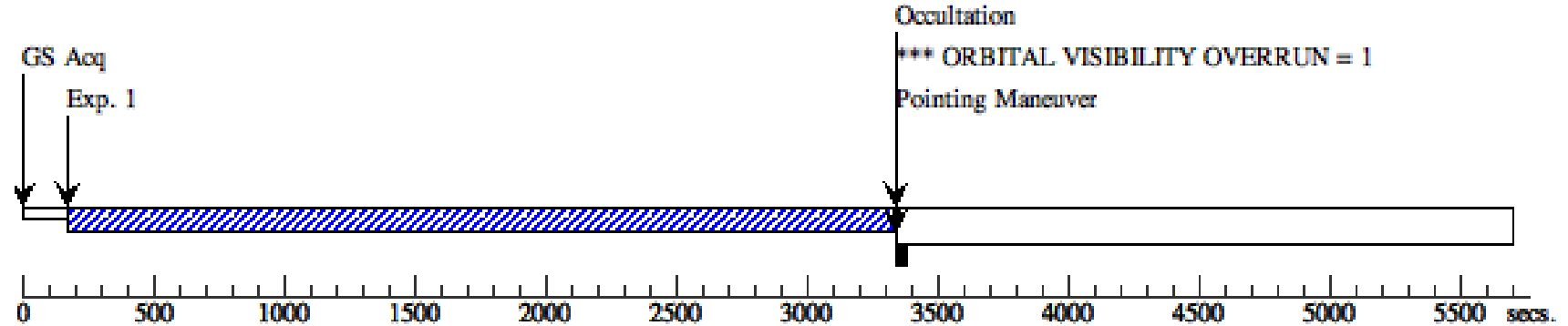


Proposal 15136 - J0926+4504 - 3 orbits (04) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J0926+4504 - 3 orbits (04), scheduling										Mon Nov 12 17:00:40 GMT 2018	
	Diagnostic Status: Warning											
	Scientific Instruments: COS/FUV, COS/NUV											
	Special Requirements: (none)											
Diagnostics	(J0926+4504 - 3 orbits (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(J0926+4504 - 3 orbits (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(J0926+4504 - 3 orbits (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
Fixed Targets	#	Name	Target Coordinates			Targ. Coord. Corrections		Fluxes		Miscellaneous		
	(4)	J0926+4504	RA: 09 26 55.4400 (141.7310000d) Dec: +45 04 32.30 (45.07564d) Equinox: J2000			Redshift: 0.0426		V=19.92+/-0.10 FUV=22.12, NUV=21.74, acq=1500s, http://etc.stsci.edu/etc/results/COS.ta.930825/, exp=6200s, http://etc.stsci.edu/etc/results/COS.sp.930857/		Reference Frame: ICRS		
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture		Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit
	1	J0926+5431 _ACQ (COS.ta.930825)	(4) J0926+4504	COS/NUV, ACQ/IMAGE, PSA		MIRRORA				1470 Secs (1470 Secs) [==>]		[1]
	2	J0926+4504 _G130M (COS.sp.1004389)	(4) J0926+4504	COS/FUV, TIME-TAG, PSA		G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			1476 Secs (5904 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]		[2] [3]

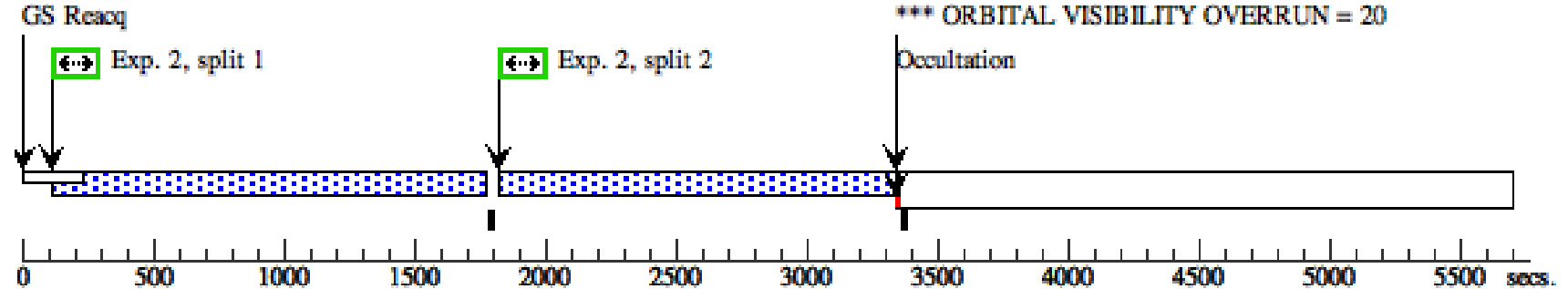
Orbit 1

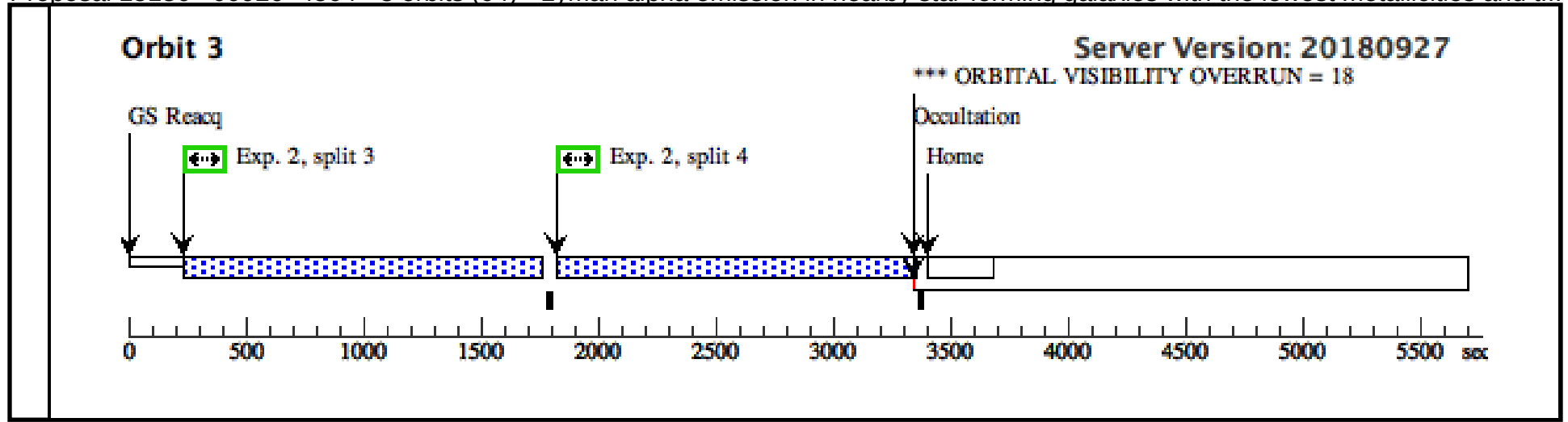
Server Version: 20180927



Orbit 2

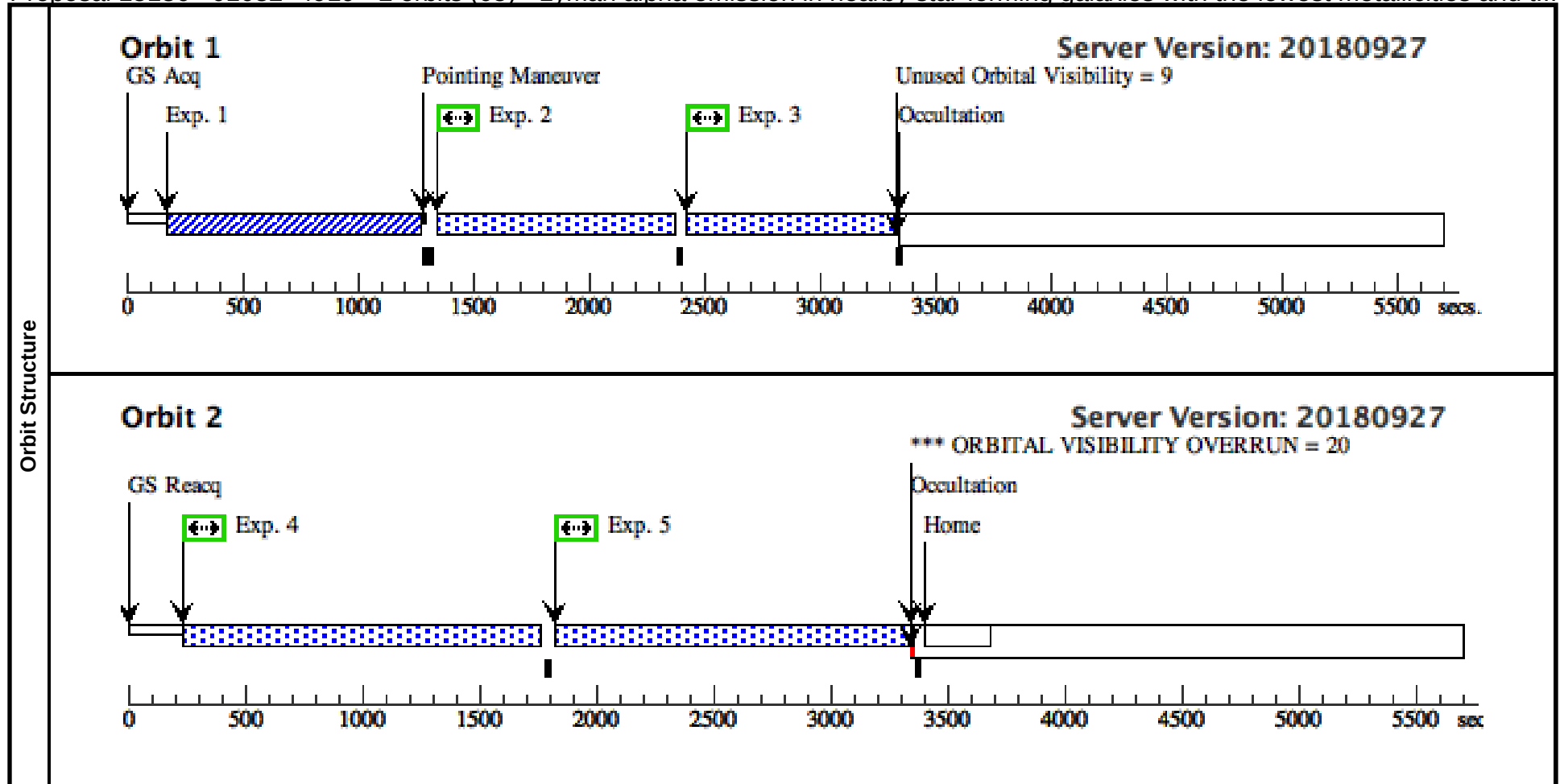
Server Version: 20180927





Proposal 15136 - J1032+4919 - 2 orbits (05) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J1032+4919 - 2 orbits (05), scheduled										Mon Nov 12 17:00:40 GMT 2018
	Diagnostic Status: Warning										
	Scientific Instruments: COS/FUV, COS/NUV										
	Special Requirements: (none)										
Diagnostics	(J1032+4919 - 2 orbits (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(5)	J1032+4919	RA: 10 32 56.7200 (158.2363333d) Dec: +49 19 47.24 (49.32979d) Equinox: J2000	Redshift: 0.0442	V=18.67+/-0.10 FUV=20.26, NUV=20.25, acq=440s, http://etc.stsci.edu/etc/results/COS.ta.930829/, exp=1970s, http://etc.stsci.edu/etc/results/COS.sp.930862/	Reference Frame: ICRS					
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	J1032+4919 _ACQ (COS.ta.930829)	(5) J1032+4919	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				440 Secs (440 Secs) [==>]	[1]	
	2	J1032+4919 _G130M (COS.sp.1004390)	(5) J1032+4919	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=1; SEGMENT=BOTH			846 Secs (846 Secs) [==>]	[1]	
	3	J1032+4919 _G130M (COS.sp.1004390)	(5) J1032+4919	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=2; SEGMENT=BOTH			845 Secs (845 Secs) [==>]	[1]	
	4	J1032+4919 _G130M (COS.sp.1004390)	(5) J1032+4919	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=3; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]	[2]	
	5	J1032+4919 _G130M (COS.sp.1004390)	(5) J1032+4919	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]	[2]	

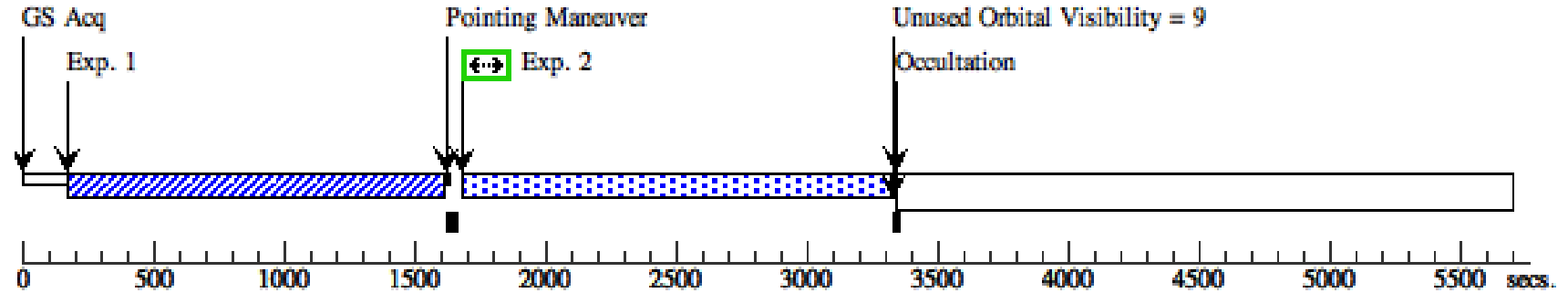


Proposal 15136 - J1205+4551 - 3 orbits (06) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J1205+4551 - 3 orbits (06), scheduling										Mon Nov 12 17:00:41 GMT 2018
	Diagnostic Status: Warning										
	Scientific Instruments: COS/FUV, COS/NUV										
	Special Requirements: (none)										
Diagnostics	(J1205+4551 - 3 orbits (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
	(J1205+4551 - 3 orbits (06)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(6)	J1205+4551	RA: 12 05 3.5500 (181.2647917d) Dec: +45 51 50.94 (45.86415d) Equinox: J2000	Redshift: 0.0654	V=19.74+/-0.10 FUV=21.04, NUV=20.58, acq=610s, http://etc.stsci.edu/etc/results/COS.ta.930831/, exp=4900s, http://etc.stsci.edu/etc/results/COS.sp.930865/	Reference Frame: ICRS					
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	J1205+4551 _ACQ (COS.ta.930831)	(6) J1205+4551	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				610 Secs (610 Secs)		
									[==>]	[1]	
	2	J1205+4551 _G130M (COS.sp.1004391)	(6) J1205+4551	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=1; SEGMENT=BOTH			1456 Secs (1456 Secs)		
									[==>]	[1]	
	3	J1205+4551 _G130M (COS.sp.1004391)	(6) J1205+4551	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=2; SEGMENT=BOTH			1477 Secs (1477 Secs)		
									[==>]	[2]	
	4	J1205+4551 _G130M (COS.sp.1004391)	(6) J1205+4551	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=3; SEGMENT=BOTH			1477 Secs (1477 Secs)		
									[==>]	[2]	
	5	J1205+4551 _G130M (COS.sp.1004391)	(6) J1205+4551	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			3059 Secs (3059 Secs)		
								[==>]	[3]		

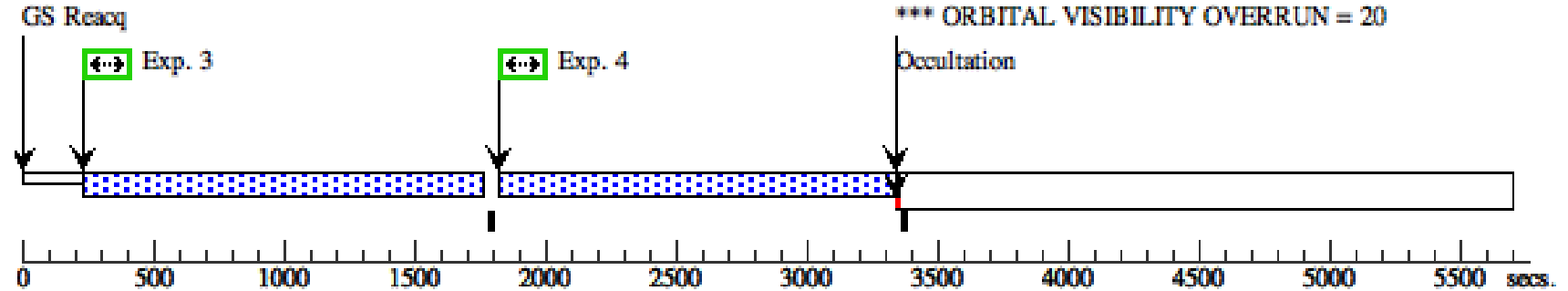
Orbit 1

Server Version: 20180927



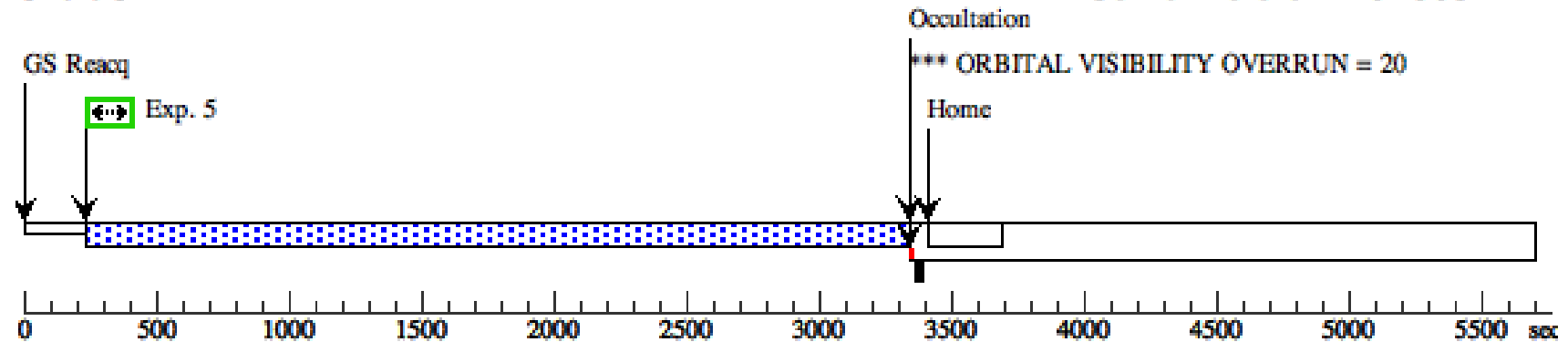
Orbit 2

Server Version: 20180927



Orbit 3

Server Version: 20180927

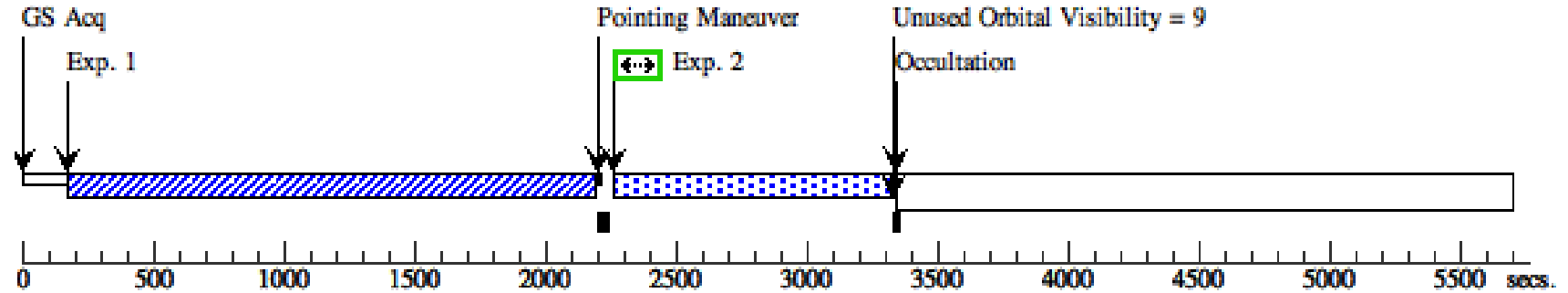


Proposal 15136 - J1242+4851 - 3 orbits (07) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J1242+4851 - 3 orbits (07), scheduling										Mon Nov 12 17:00:41 GMT 2018
	Diagnostic Status: Warning										
	Scientific Instruments: COS/FUV, COS/NUV										
	Special Requirements: (none)										
Diagnostics	(J1242+4851 - 3 orbits (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
	(J1242+4851 - 3 orbits (07)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(7)	J1242+4851	RA: 12 42 26.4600 (190.6102500d) Dec: +48 51 57.67 (48.86602d) Equinox: J2000	Redshift: 0.0622	V=20.35+/-0.10 FUV=21.50, NUV=21.31, acq=1200s, http://etc.stsci.edu/etc/results/COS.ta.930833/, exp=9900s, http://etc.stsci.edu/etc/results/COS.sp.930867/	Reference Frame: ICRS					
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	J1242+4851 _ACQ (COS.ta.930833)	(7) J1242+4851	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				900 Secs (900 Secs) [==>]	[1]	
	2	J1242+4851 _G130M (COS.sp.1004393)	(7) J1242+4851	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=1; SEGMENT=BOTH			876 Secs (876 Secs) [==>]	[1]	
	3	J1242+4851 _G130M (COS.sp.1004393)	(7) J1242+4851	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=2; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]	[2]	
	4	J1242+4851 _G130M (COS.sp.1004393)	(7) J1242+4851	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=3; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]	[2]	
	5	J1242+4851 _G130M (COS.sp.1004393)	(7) J1242+4851	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			3059 Secs (3059 Secs) [==>]	[3]	

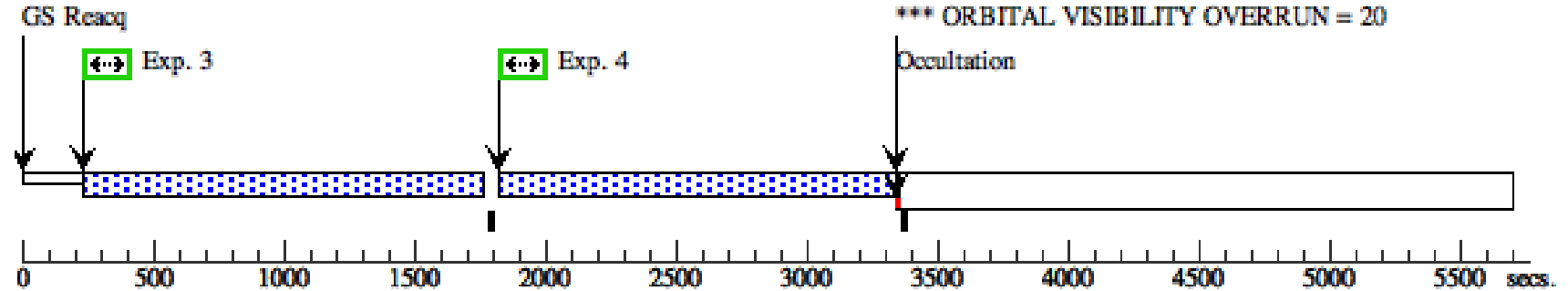
Orbit 1

Server Version: 20180927



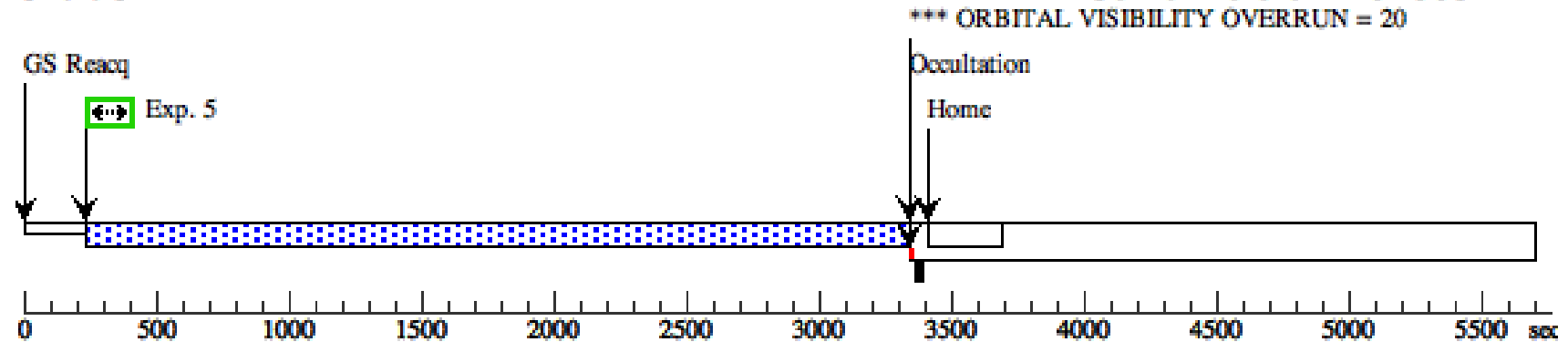
Orbit 2

Server Version: 20180927



Orbit 3

Server Version: 20180927

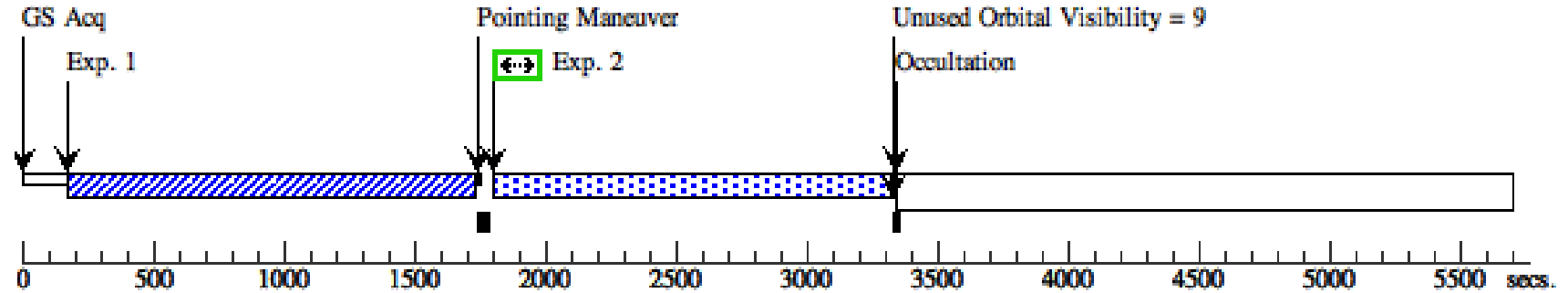


Proposal 15136 - J1355+4651 - 3 orbits (08) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J1355+4651 - 3 orbits (08), scheduling										Mon Nov 12 17:00:41 GMT 2018	
	Diagnostic Status: Warning											
	Scientific Instruments: COS/FUV, COS/NUV											
	Special Requirements: (none)											
Diagnostics	(J1355+4651 - 3 orbits (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
	(J1355+4651 - 3 orbits (08)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN											
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous						
	(8)	J1355+4651	RA: 13 55 25.6600 (208.8569167d) Dec: +46 51 51.34 (46.86426d) Equinox: J2000	Redshift: 0.0281	V=19.22+/-0.10 FUV=20.54, NUV=20.66, acq=670s, http://etc.stsci.edu/etc/results/COS.ta.930835/, exp=2500s, http://etc.stsci.edu/etc/results/COS.sp.930869/	Reference Frame: ICRS						
	Comments: Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]		Orbit	
	1	J1355+4651 _ACQ (COS.ta.930835)	(8) J1355+4651	COS/NUV, ACQ/IMAGE, PSA	MIRRORA		GS ACQ SCENARI O BASE1B3		670 Secs (670 Secs) [==>]		[1]	
	2	J1355+4651 _G130M (COS.sp.1004394)	(8) J1355+4651	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20 000.0; FLASH=YES; FP-POS=1; SEGMENT=BOTH			1336 Secs (1336 Secs) [==>]		[1]	
	3	J1355+4651 _G130M (COS.sp.1004394)	(8) J1355+4651	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20 000.0; FLASH=YES; FP-POS=2; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]		[2]	
	4	J1355+4651 _G130M (COS.sp.1004394)	(8) J1355+4651	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20 000.0; FLASH=YES; FP-POS=3; SEGMENT=BOTH			1477 Secs (1477 Secs) [==>]		[2]	
	5	J1355+4651 _G130M (COS.sp.1004394)	(8) J1355+4651	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20 000.0; FLASH=YES; FP-POS=4; SEGMENT=BOTH			3059 Secs (3059 Secs) [==>]		[3]	

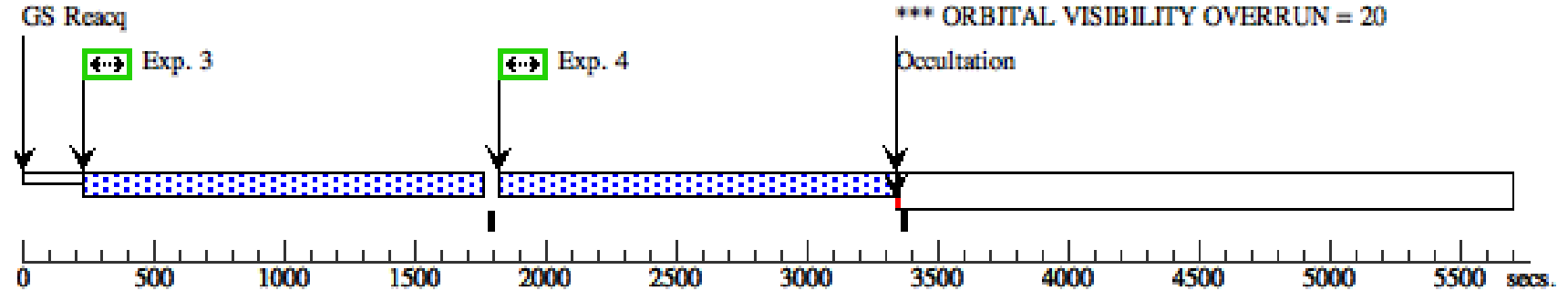
Orbit 1

Server Version: 20180927



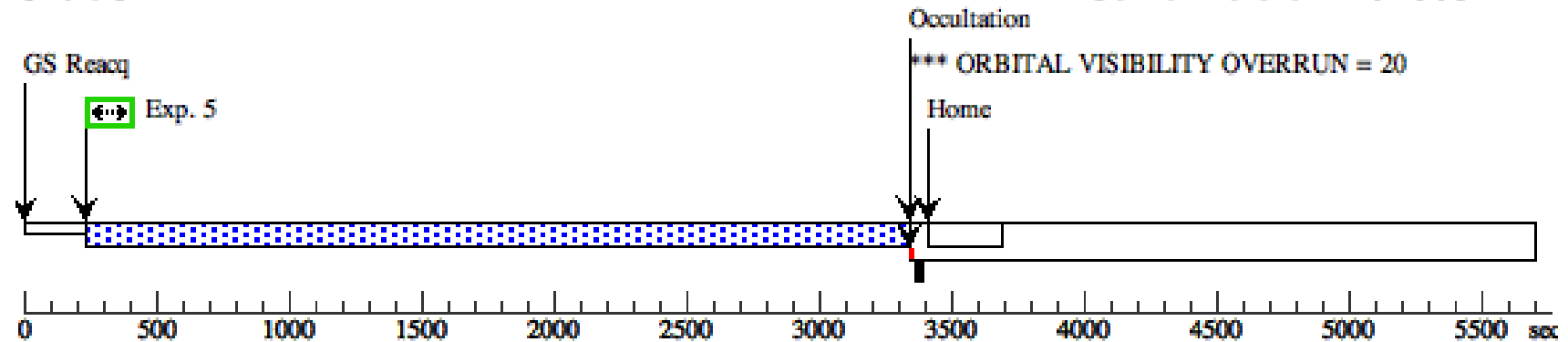
Orbit 2

Server Version: 20180927



Orbit 3

Server Version: 20180927

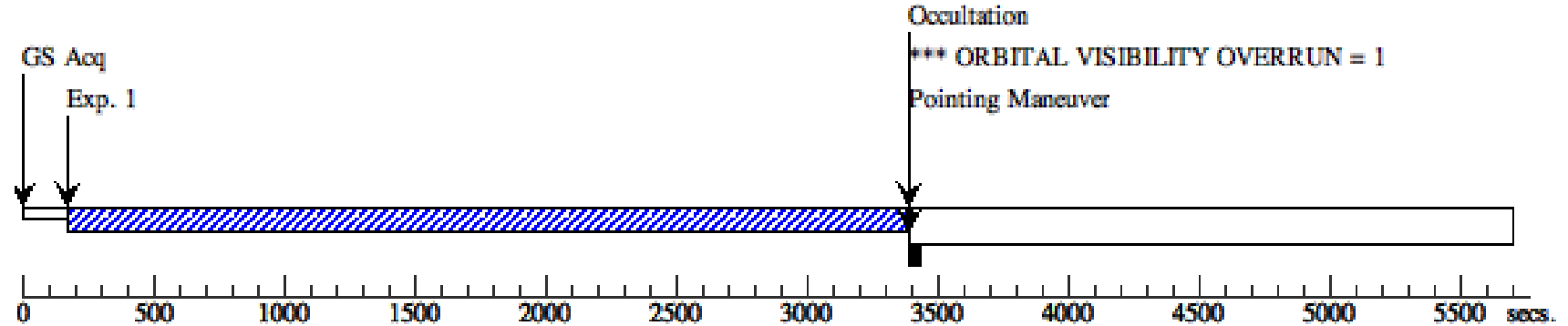


Proposal 15136 - J0820+5431 - 3 orbits (53) - Lyman alpha emission in nearby star-forming galaxies with the lowest metallicities and t...

Visit	Proposal 15136, J0820+5431 - 3 orbits (53)								Mon Nov 12 17:00:41 GMT 2018	
	Diagnostic Status: Warning									
	Scientific Instruments: COS/FUV, COS/NUV									
	Special Requirements: (none)									
Comments: Repeat of visit 3.										
Diagnostics	(J0820+5431 - 3 orbits (53)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(J0820+5431 - 3 orbits (53)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
	(J0820+5431 - 3 orbits (53)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	J0820+5431	RA: 08 20 19.2700 (125.0802917d) Dec: +54 31 40.10 (54.52781d) Equinox: J2000	Redshift: 0.0386	V=20.41+/-0.10 FUV=21.67, NUV=21.58, acq=1500s, http://etc.stsci.edu/etc/results/COS.ta.930825/, exp=13380s, http://etc.stsci.edu/etc/results/COS.sp.930850/	Reference Frame: ICRS				
	Comments:									
	Category=GALAXY Description=[DWARF COMPACT, EMISSION LINE NEBULA, STARBURST] Extended=NO									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0820+5431 _ACQ (COS.ta.930825)	(3) J0820+5431	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				1494 Secs (1494 Secs)	
									[==>]	[1]
	2	J0820+5431 _G130M (COS.sp.1004388)	(3) J0820+5431	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=20000.0; FLASH=YES; FP-POS=ALL; SEGMENT=BOTH			1500 Secs (6000 Secs)	
									[==>(Split 1)]	[2]
									[==>(Split 2)]	
								[==>(Split 3)]	[3]	
								[==>(Split 4)]		

Orbit 1

Server Version: 20180927



Orbit 2

Server Version: 20180927

