



18056 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Cycle: 33, Proposal Category: GO

(UV Initiative)

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>
Prof. David Rupke (PI) (Contact)	Rhodes College
Dr. Christy A. Tremonti (CoI)	University of Wisconsin - Madison
Dr. Alison L. Coil (CoI)	University of California - San Diego
Dr. Paul H Sell (CoI)	University of Florida
Prof. Gregory Howard Rudnick (CoI)	University of Kansas Center for Research, Inc.
Dr. Aleksandar M. Diamond-Stanic (CoI)	Bates College
Dr. Ryan C. Hickox (CoI)	Dartmouth College
Dr. Jim Geach (CoI) (ESA Member)	University of Hertfordshire
Kelly E Whalen (CoI)	NASA Goddard Space Flight Center
Prof. Sean Johnson (CoI)	University of Michigan

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) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:14.0	yes
02	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:15.0	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>
03	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:15.0	yes
04	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:16.0	yes
05	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:16.0	yes
06	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:17.0	yes
07	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:17.0	yes
08	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:18.0	yes
09	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:18.0	yes
10	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:19.0	yes
11	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:19.0	yes
12	(1) MAKANI	COS/FUV COS/NUV	2	11-Sep-2025 10:00:20.0	yes

24 Total Orbits Used

ABSTRACT

Models of the circumgalactic medium (CGM) show that it is fed by outflows from galaxies. These outflows expel cool clouds into a hot medium, where the clouds can grow by turbulent mixing and radiative cooling. Recent deep HST-UV images of the giant, luminous wind surrounding the massive, star-forming Makani galaxy show that $T \sim 10^{5.5}$ K gas--as revealed by O VI 1032, 1038 Angstrom emission--has the same morphology as the cooler gas emitting [OII], implicating this mixing process. We propose deep COS spectroscopy to directly detect and spectrally resolve O VI in emission and absorption from the nebula center. This will complete the spatial+spectral picture of O VI in Makani and allow us to calculate the

Proposal 18056 (STScI Edit Number: 0, Created: Thursday, September 11, 2025, 9:00:20AM Eastern Standard Time) - Overview density and mass of the warm-hot phase of the wind-CGM interaction. We can then compare to galaxies of lower mass and star-formation rate. Makani is only the second galaxy imaged in O VI, and thus represents a key benchmark for future UV space missions like HWO. Fully characterizing its O VI nebula will best inform design requirements for such a mission.

OBSERVING DESCRIPTION

The primary goal is to achieve sufficient S/N to detect and characterize the O VI emission and absorption lines in Makani, an interacting system at $z=0.459$. These arise at an observed wavelength of 1510 Å. Secondary goals include measuring the Ly α line at 1774 Å and the Ly continuum (LyC) below 1331 Å observed-frame. We select the G140L grating, which spectrally resolves the O VI lines which we expect to be quite broad (FWHM 1000 km/s) while maximizing S/N per resolution element. The 800 Å wavelength position, covering wavelengths 800 to 1950 Å, will probe OVI+Ly α and the stellar continuum while maximizing our sensitivity to any LyC leakage.

The observing program is quite straightforward, and involves repeated exposures of one target with the same grating and central wavelength to maximize the signal-to-noise. We group the exposures into visits of 2 orbits each. The first orbit consists of an ACQ/IMAGE, followed by exposures at the first two FP-POS. The second orbit covers FP-POS 3 and 4.

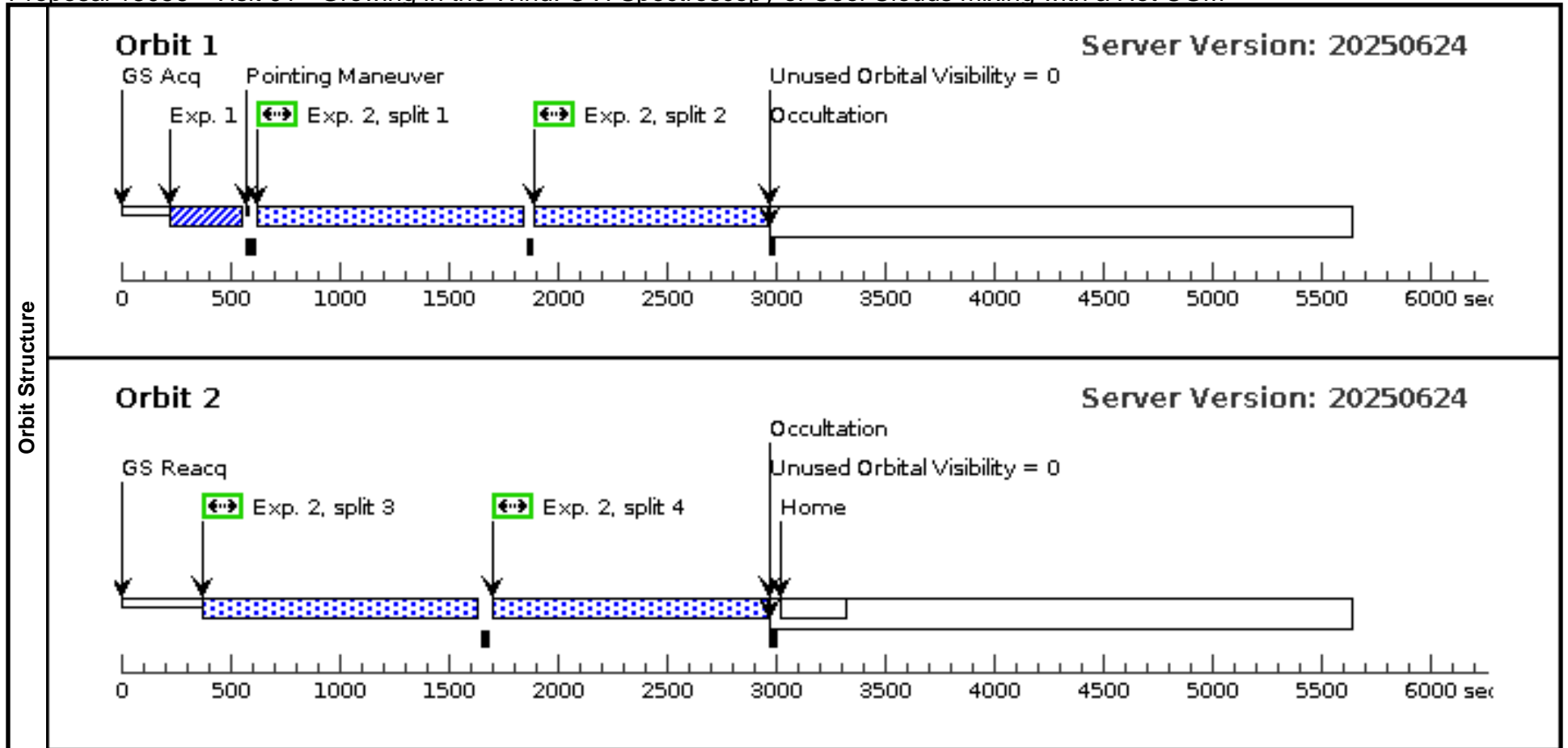
Acquisition: The target's coordinates are well-constrained by HST WFC3 imaging, registered to Gaia, to $\sim 0.02''$ in either direction. (These are also consistent within $<0.1''$ with the lower-precision SDSS and WISE catalog coordinates.) The target has a bright core, effectively a point source with FWHM $\sim 0.05''$, that contains about half of the total UV light. (The rest is distributed over a larger, $\sim 1''$ area). Thus, the total GALEX NUV magnitude of 20.90 becomes 21.65 within the central point source. We use this to estimate the time needed to achieve S/N=20 for an ACQ/IMAGE of a spectrally flat point source and get 43 seconds. Using another method, we target a point source with observed flux $7e-17$ erg/s/cm²/Å at 1605 Å based on ACS SBC F150LP imaging and a Kinney SB1 template redshifted to $z=0.459$ and extinguished by $E(B-V)=0.5$. This yields 28 seconds to achieve S/N=20 in an ACQ/IMAGE. In the actual visit, we use a 60 second ACQ/IMAGE to be slightly conservative. The peak flux in ct/s/pix for a 43 s ACQ/IMAGE is 1.3.

Science: We estimate an O VI flux (integrated over both 1032 and 1038 Å lines) in the COS aperture of order $4e-16$ erg/s/cm². Similarly, the central Ly α flux is approximately $4e-15$ erg/s/cm². The continuum flux density is given above. We start with the Kinney SB1 starburst template spectrum; redshift it to $z = 0.459$ and extinct it by $E(B-V) = 0.5$; normalize to the Makani point source continuum emission; and add O VI and Ly α emission lines. These parameters go into the exposure time calculator for a 1100 s exposure. Splitting the FP-POS among two orbits results in exposures of duration 1000-1200 s.

Proposal 18056 - Visit 01 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:20 GMT 2025

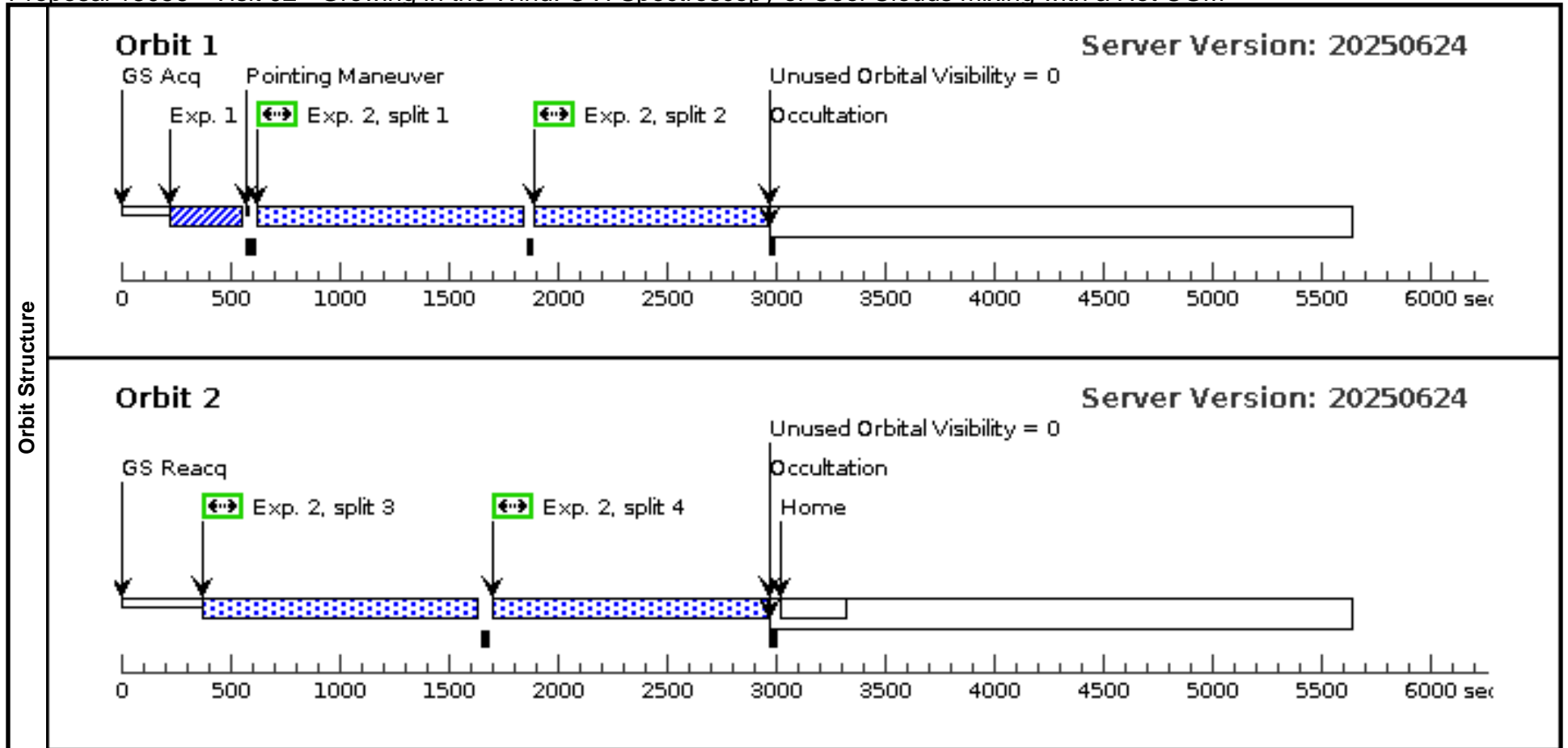
Visit	Proposal 18056, Visit 01 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs)	
									[==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs)	
								[==>1012.0 Secs (Split 1)]	[1]	
								[==>1013.0 Secs (Split 2)]		
								[==>1210.0 Secs (Split 3)]		
								[==>1210.0 Secs (Split 4)]	[2]	



Proposal 18056 - Visit 02 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

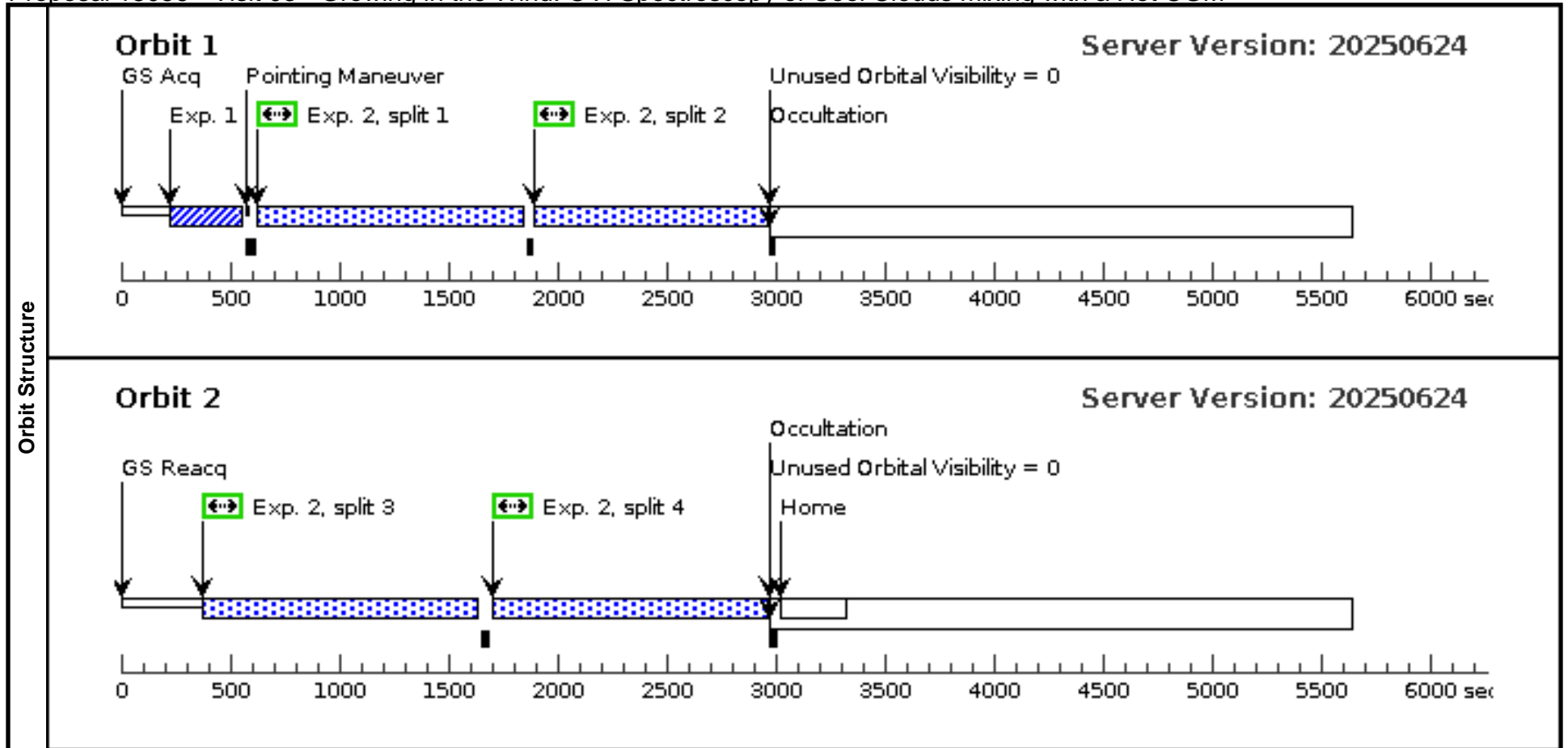
Visit	Proposal 18056, Visit 02 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs)	
									[==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs)	
								[==>1012.0 Secs (Split 1)]		
								[==>1013.0 Secs (Split 2)]		
								[==>1210.0 Secs (Split 3)]		
								[==>1210.0 Secs (Split 4)]	[2]	



Proposal 18056 - Visit 03 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

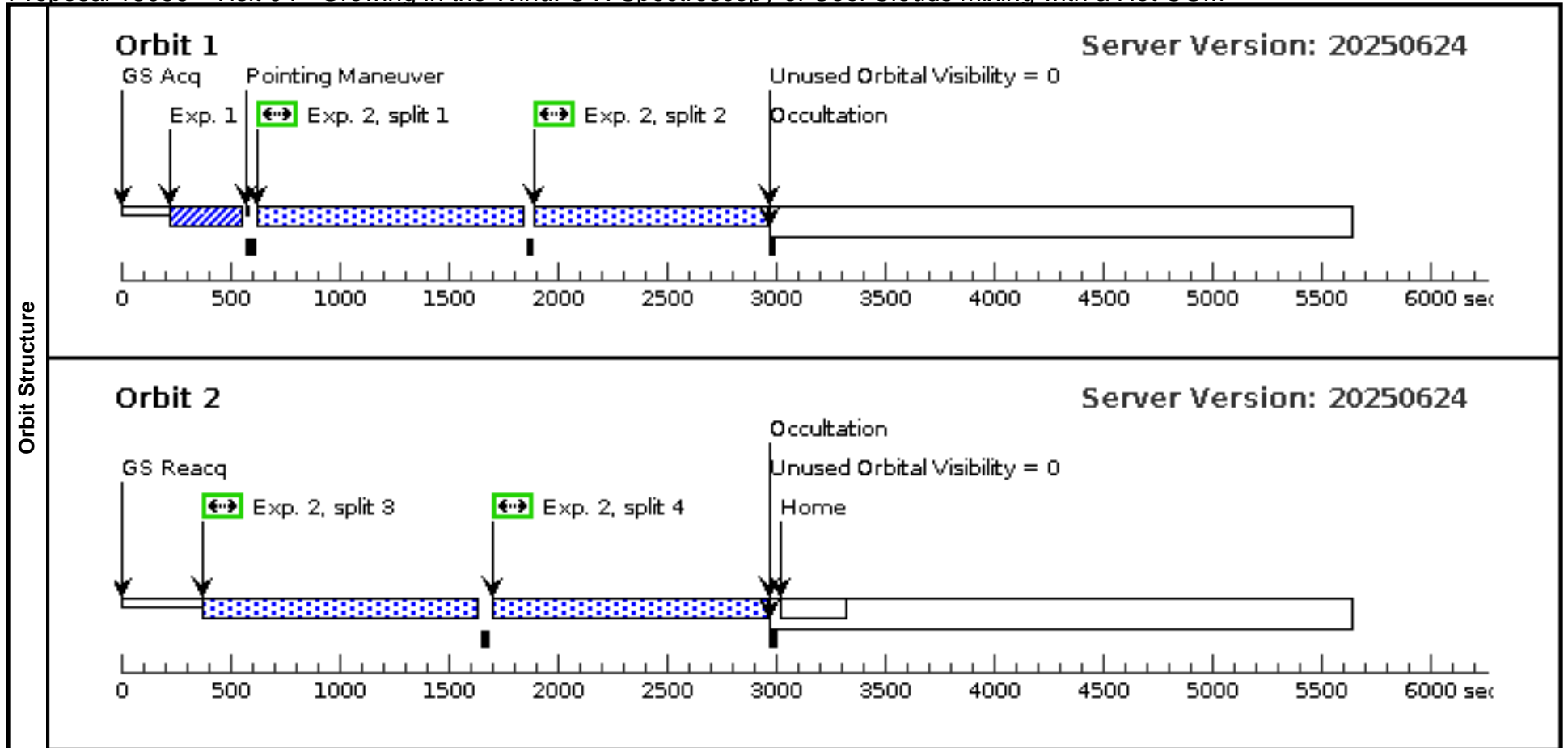
Visit	Proposal 18056, Visit 03 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]	



Proposal 18056 - Visit 04 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

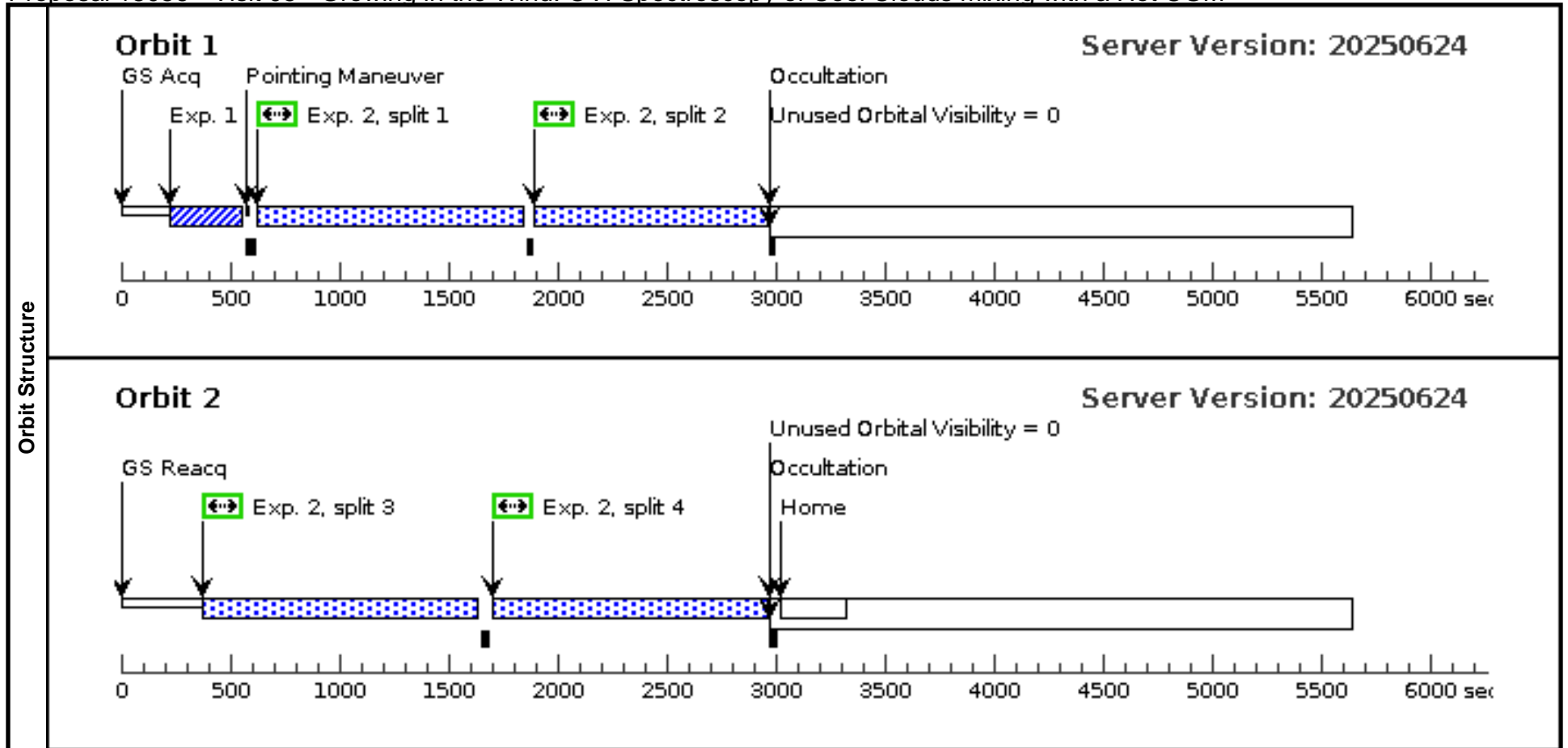
Visit	Proposal 18056, Visit 04 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs)	
									[==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs)	
								[==>1012.0 Secs (Split 1)]	[1]	
								[==>1013.0 Secs (Split 2)]		
								[==>1210.0 Secs (Split 3)]		
								[==>1210.0 Secs (Split 4)]	[2]	



Proposal 18056 - Visit 05 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

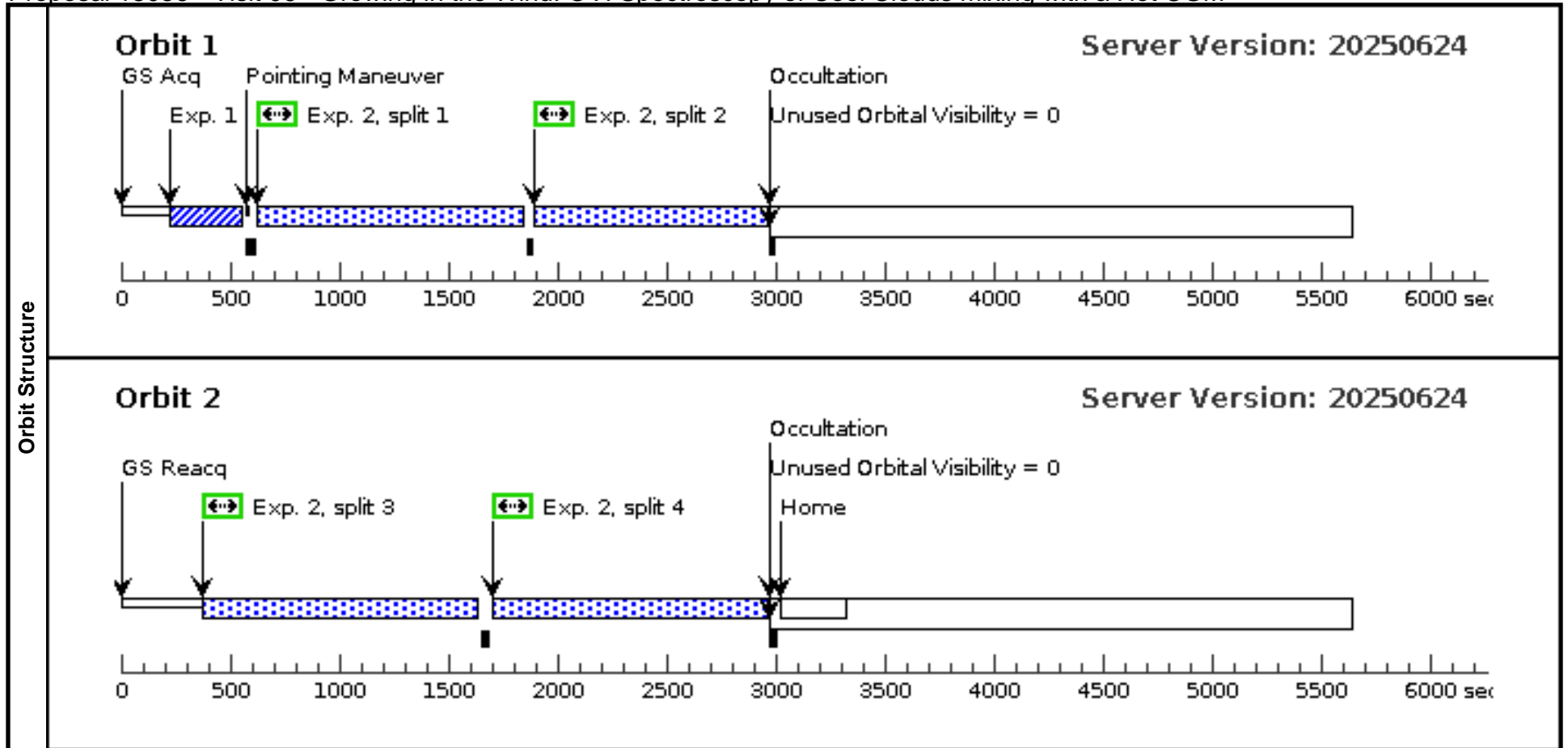
Visit	Proposal 18056, Visit 05 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs)	
									[==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs)	
								[==>1012.0 Secs (Split 1)]	[1]	
								[==>1013.0 Secs (Split 2)]		
								[==>1210.0 Secs (Split 3)]		
								[==>1210.0 Secs (Split 4)]	[2]	



Proposal 18056 - Visit 06 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

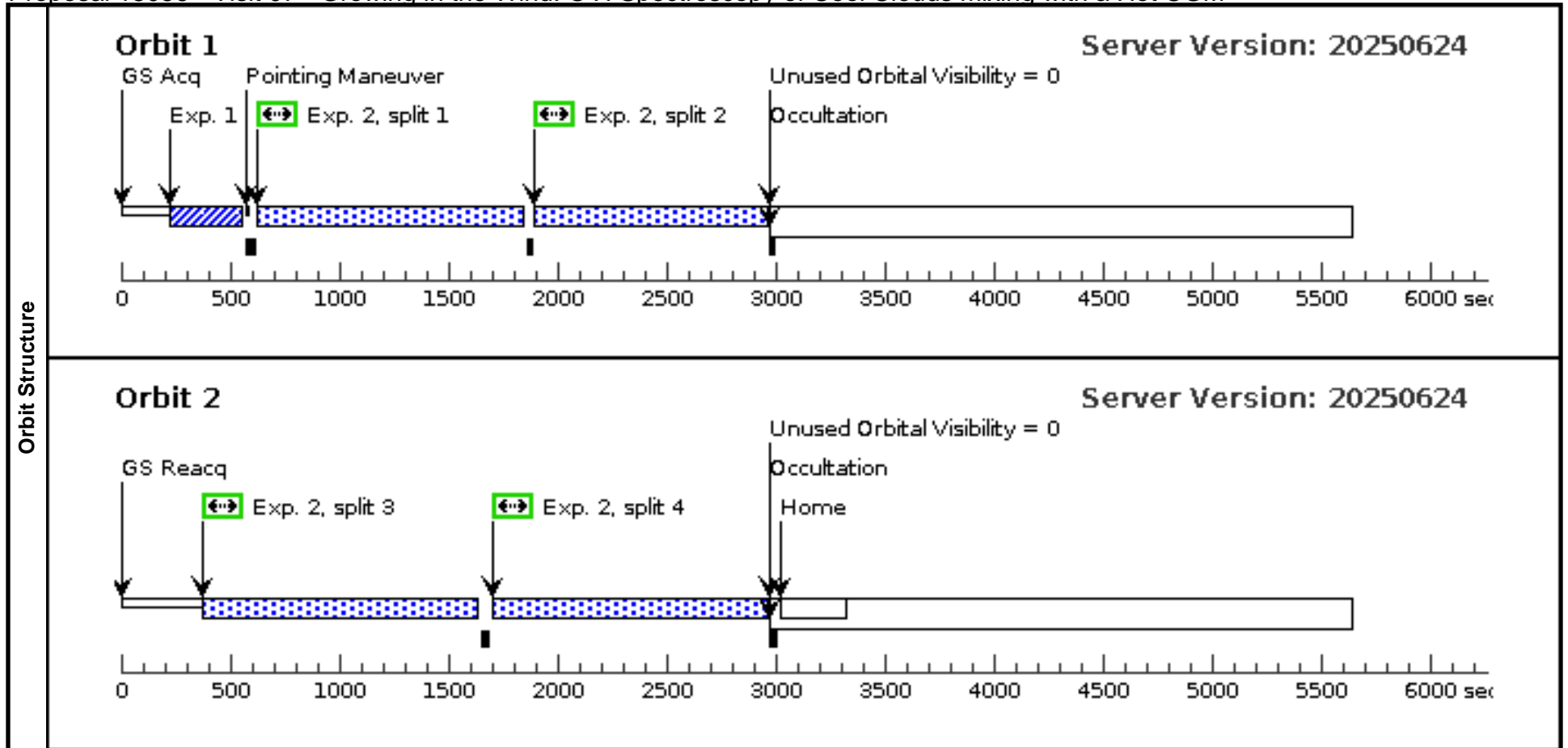
Visit	Proposal 18056, Visit 06 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs)	
									[==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs)	
									[==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]



Proposal 18056 - Visit 07 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

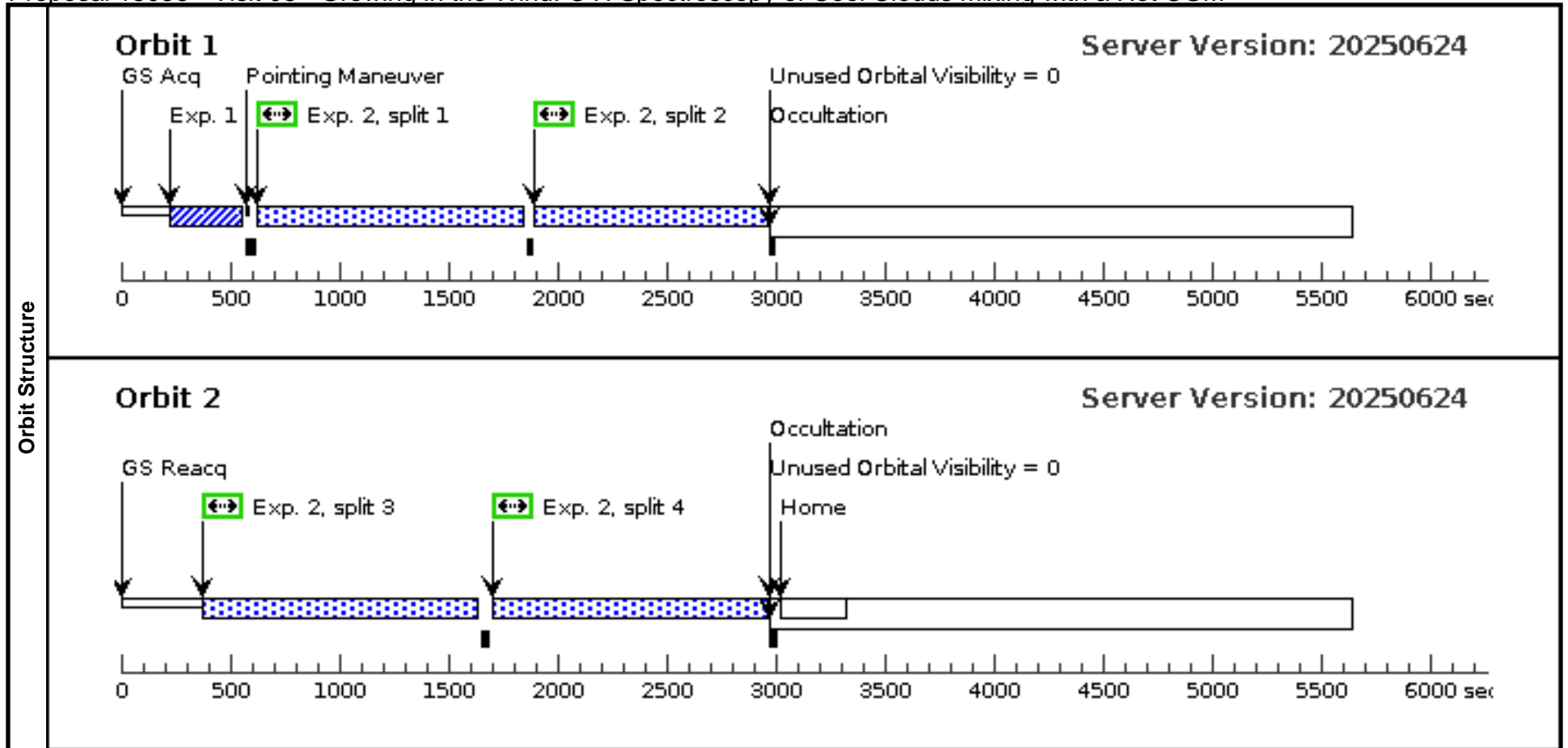
Visit	Proposal 18056, Visit 07 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]	



Proposal 18056 - Visit 08 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

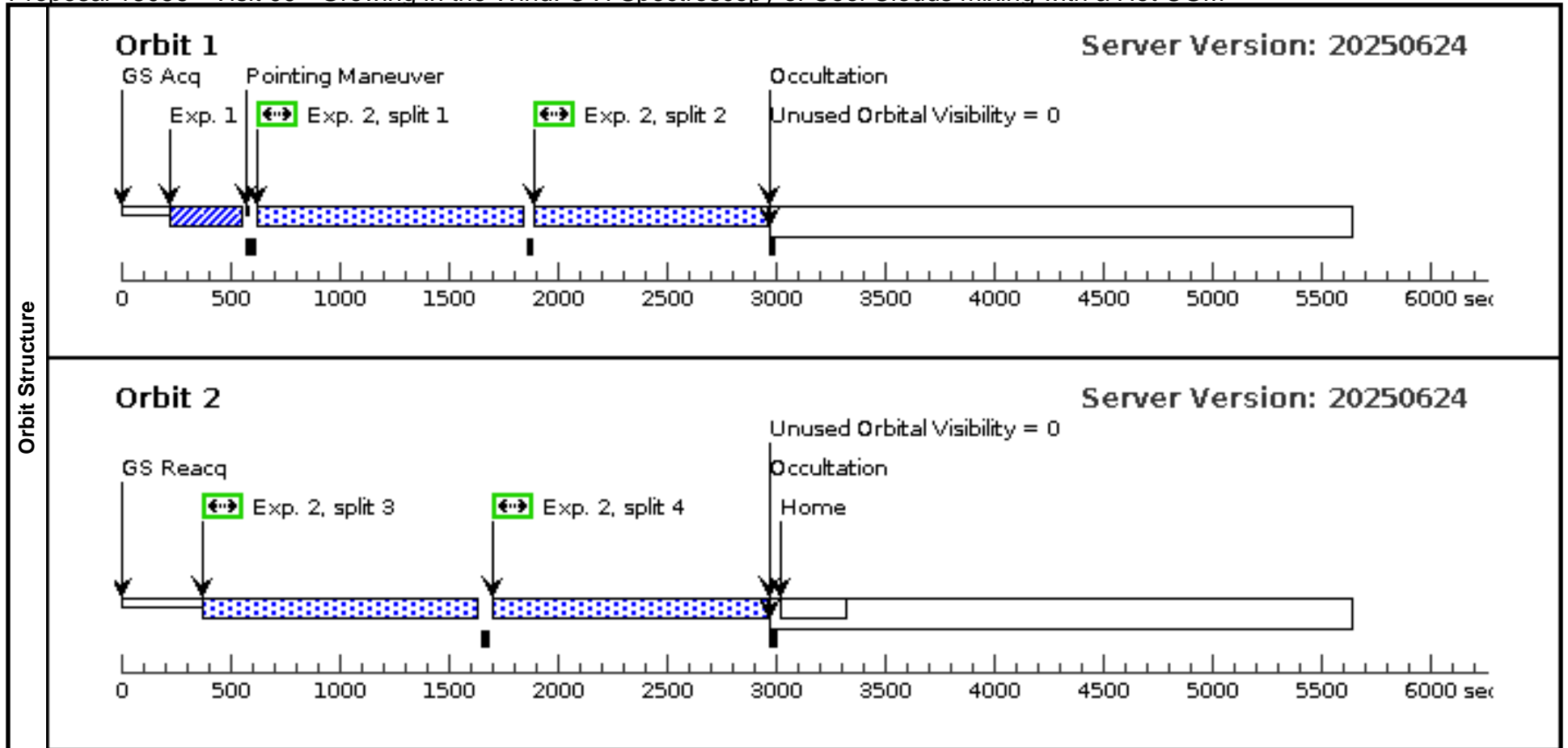
Visit	Proposal 18056, Visit 08 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)]	[1]
									[==>1013.0 Secs (Split 2)]	
[==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]									[2]	



Proposal 18056 - Visit 09 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

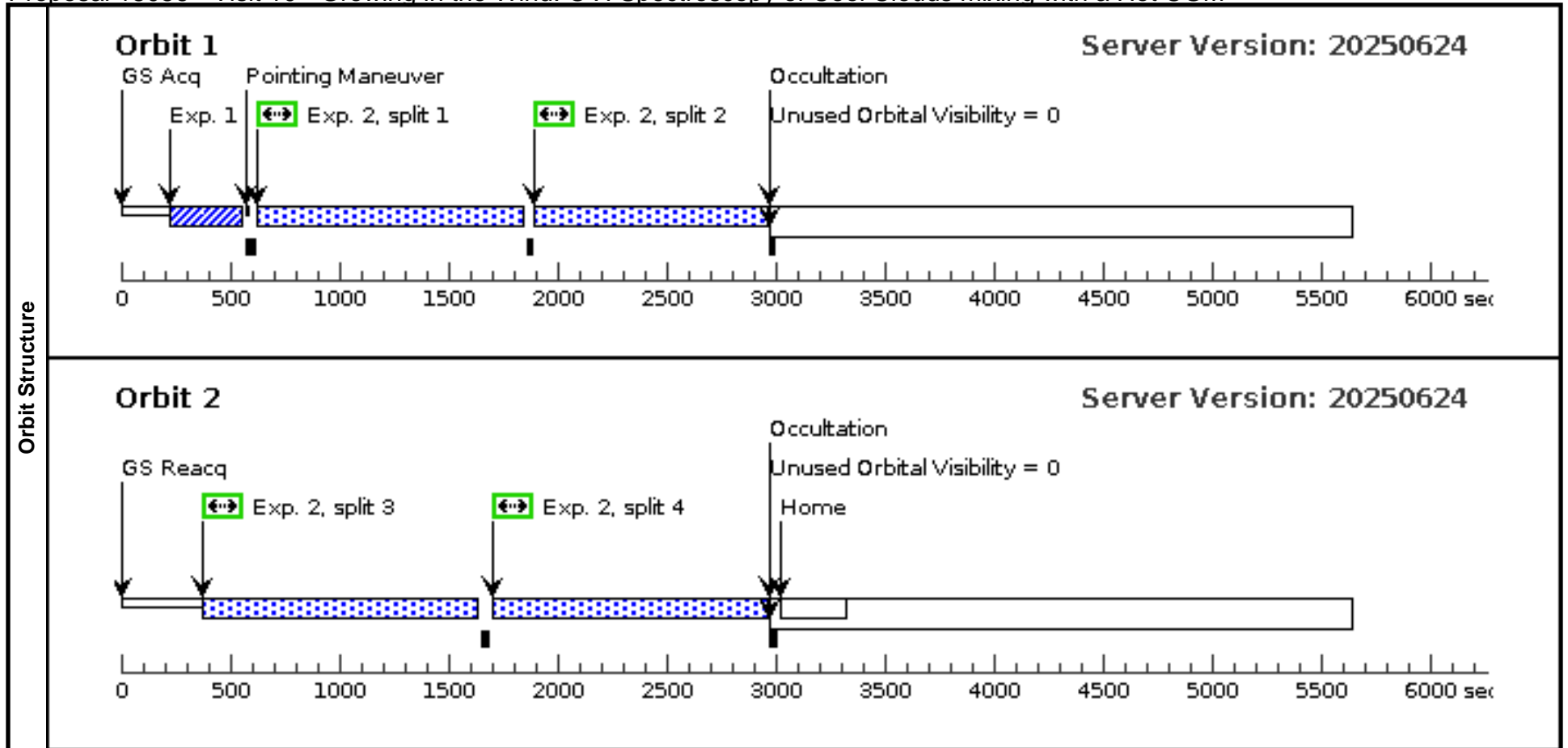
Visit	Proposal 18056, Visit 09 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]	



Proposal 18056 - Visit 10 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

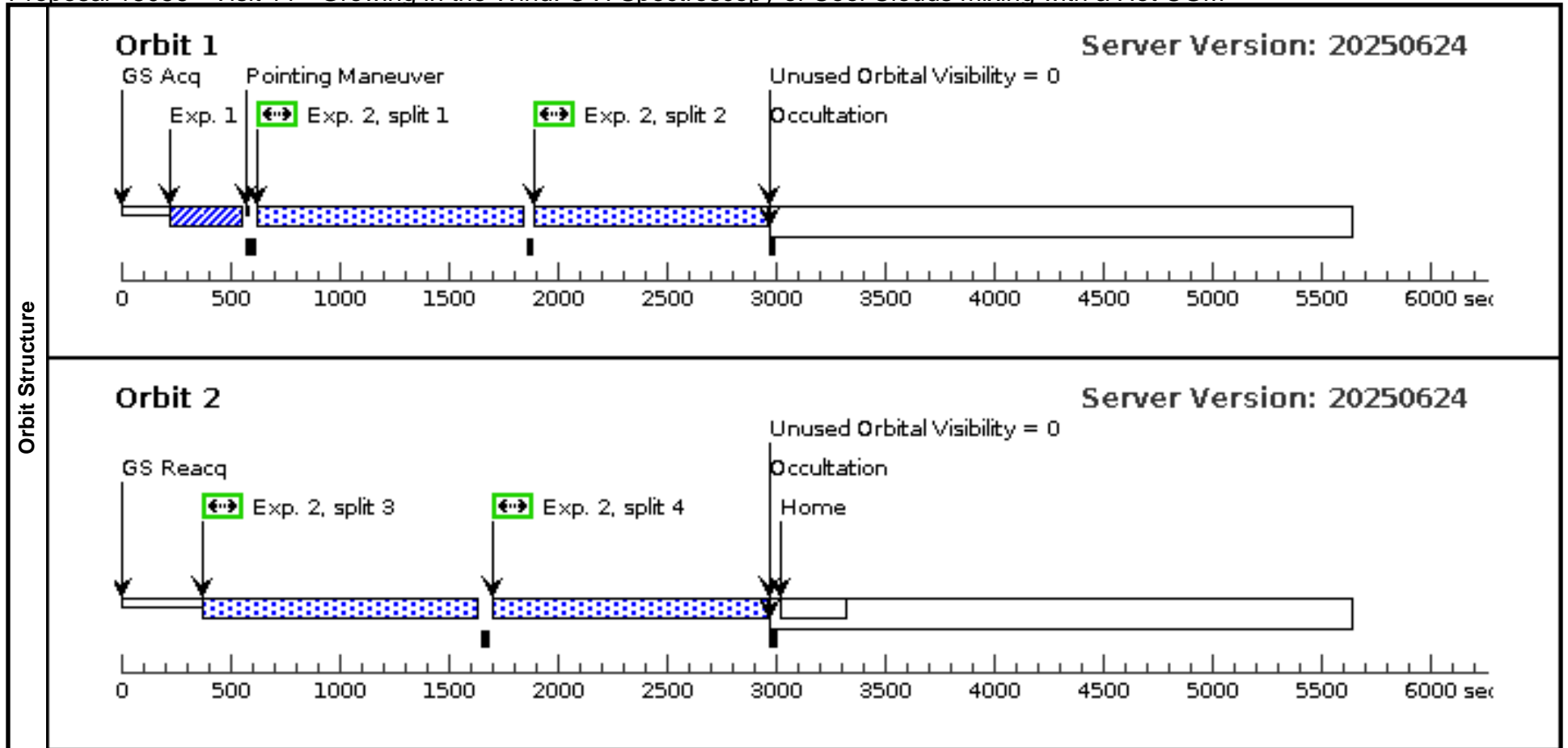
Visit	Proposal 18056, Visit 10 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]	



Proposal 18056 - Visit 11 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

Visit	Proposal 18056, Visit 11 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)] [==>1013.0 Secs (Split 2)] [==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]	[1] [2]



Proposal 18056 - Visit 12 - Growing in the Wind: OVI Spectroscopy of Cool Clouds mixing with a Hot CGM

Thu Sep 11 14:00:21 GMT 2025

Visit	Proposal 18056, Visit 12 Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
		(1)	MAKANI Alt Name1: SDSS- J211824.06+001729.4 Alt Name2: WISEA- J211824.05+001729.4	RA: 21 18 24.0572 (319.6002383d) Dec: +00 17 29.44 (.29151d) Equinox: J2000	Proper Motion RA: 0. mas/yr Proper Motion Dec: 0. mas/yr Parallax: 0." Epoch of Position: 2000 Redshift: 0.459	V=19.66 GALEX NUV = 20.89	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[INTERACTING GALAXY, 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	(COS.ta.202 5423)	(1) MAKANI	COS/NUV, ACQ/IMAGE, PSA	MIRRORA				60 Secs (60 Secs) [==>]	[1]
	2	(COS.sp.202 5512)	(1) MAKANI	COS/FUV, TIME-TAG, PSA	G140L 800 A	FP-POS=ALL; BUFFER-TIME=96 59			990 Secs (4445 Secs) [==>1012.0 Secs (Split 1)]	[1]
									[==>1013.0 Secs (Split 2)]	
[==>1210.0 Secs (Split 3)] [==>1210.0 Secs (Split 4)]									[2]	

