



## 15101 - A high-definition study of the brightest lensed galaxy in the universe

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

### INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
<b>Dr. Haakon Dahle (PI) (ESA Member) (Contact )</b>	University of Oslo	<b>hdahle@astro.uio.no</b>
Dr. Matthew Bayliss (CoI) (AdminUSPI)	Massachusetts Institute of Technology	mbbayliss@gmail.com
Dr. Jane R. Rigby (CoI)	NASA Goddard Space Flight Center	jane.r.rigby@nasa.gov
Prof. Michael D. Gladders (CoI)	University of Chicago	gladders@oddjob.uchicago.edu
Prof. Keren Sharon (CoI)	University of Michigan	kerens@umich.edu
Dr. T. Emil Rivera-Thorsen (CoI) (ESA Member)	University of Oslo	emil.rivera-thorsen@astro.uio.no
Ms. Traci Lin Johnson (CoI)	University of Michigan	tljohn@umich.edu

### 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) PSZ1G311.65-18.48	ACS/WFC	2	27-Mar-2019 14:00:39.0	yes
02	(1) PSZ1G311.65-18.48	WFC3/IR WFC3/UVIS	3	27-Mar-2019 14:00:42.0	yes
06	(1) PSZ1G311.65-18.48	WFC3/IR WFC3/UVIS	3	27-Mar-2019 14:00:44.0	yes
03	(1) PSZ1G311.65-18.48	WFC3/UVIS	4	27-Mar-2019 14:00:45.0	yes
04	(2) PSZ1G311.65-18.48-ARC	WFC3/IR	2	27-Mar-2019 14:00:46.0	yes
05	(2) PSZ1G311.65-18.48-ARC	WFC3/IR	3	27-Mar-2019 14:00:48.0	yes

17 Total Orbits Used

## **ABSTRACT**

We propose ACS/WFC3 broad-band and medium-band imaging and WFC3/IR grism spectroscopy of a uniquely bright ( $R=17.8$ ) star forming galaxy at  $z=2.37$ . This target is likely to be the brightest lensed galaxy that will ever be discovered. The galaxy is gravitationally lensed into a 55" long arc, with a total magnification factor most likely in excess of 50x. The proposed observations will be used to construct a lensing mass model to precisely measure the lensing magnification at each location along the arc. This will allow us to probe the spectral energy distributions, star formation rates, metallicities and ionization parameters of individual star forming regions, while also mapping the relative distribution of Ly $\alpha$  emission and stellar UV continuum on scales down to <100 pc. The spatial resolution of HST is required to reveal the unprecedented amount of information available for a galaxy seen at the star-formation peak epoch of the universe.

## **OBSERVING DESCRIPTION**

We need 5 orbits of broad-band imaging, 5 orbits of grism spectroscopy, and 4 orbits of F410M medium band imaging.

Update 03/27/19: Visit 06 is added as a replacement for failed visit 02.

Visit 1: ACS/WFC imaging. This is programmed as a 2-orbit visit in the F814W filter. A total of 8 frames are taken per filter, four per orbit with a gap-crossing dither step between two pairs of frames in each orbit and a larger 8" offset between the two orbits using POS TARG. The ORIENT ranges are constrained to avoid having the extended main target straddle the gap between the ACS chips.

Visit 2: WFC3/UVIS and WFC3/IR imaging. The first two orbits are in the UVIS channel using the F555W filter.

In a similar strategy as for the ACS imaging in visit 1, a total of 8 frames are taken in this filter, four per orbit with gap-crossing dithers and POS TARG offsets between the two orbits.

The third orbit is dedicated to WFC3-IR imaging in two filters, following the strategy of similar observations in program GO13003 and GO13337. A total of 8 exposures are made - 4 per filter with small box dithers for PSF reconstruction. Again, the ORIENT ranges are constrained to avoid having the target straddle the gap between the WFC3/UVIS chips.

Visit 3: F410M WFC3/UVIS imaging in 4 different dither positions, one position per orbit for a total of 4 orbits. Exposure times are kept long due to

the narrower bandpass of the F410M filter and to limit

postflash to 1 second. As for the other imaging, the ORIENT ranges are constrained to avoid having the target straddle the gap between the WFC3/UVIS chips. A dither line pattern spanning multiple orbits is employed to cover the gap between the chips.

Visit 4 and 5: Grism spectroscopy.

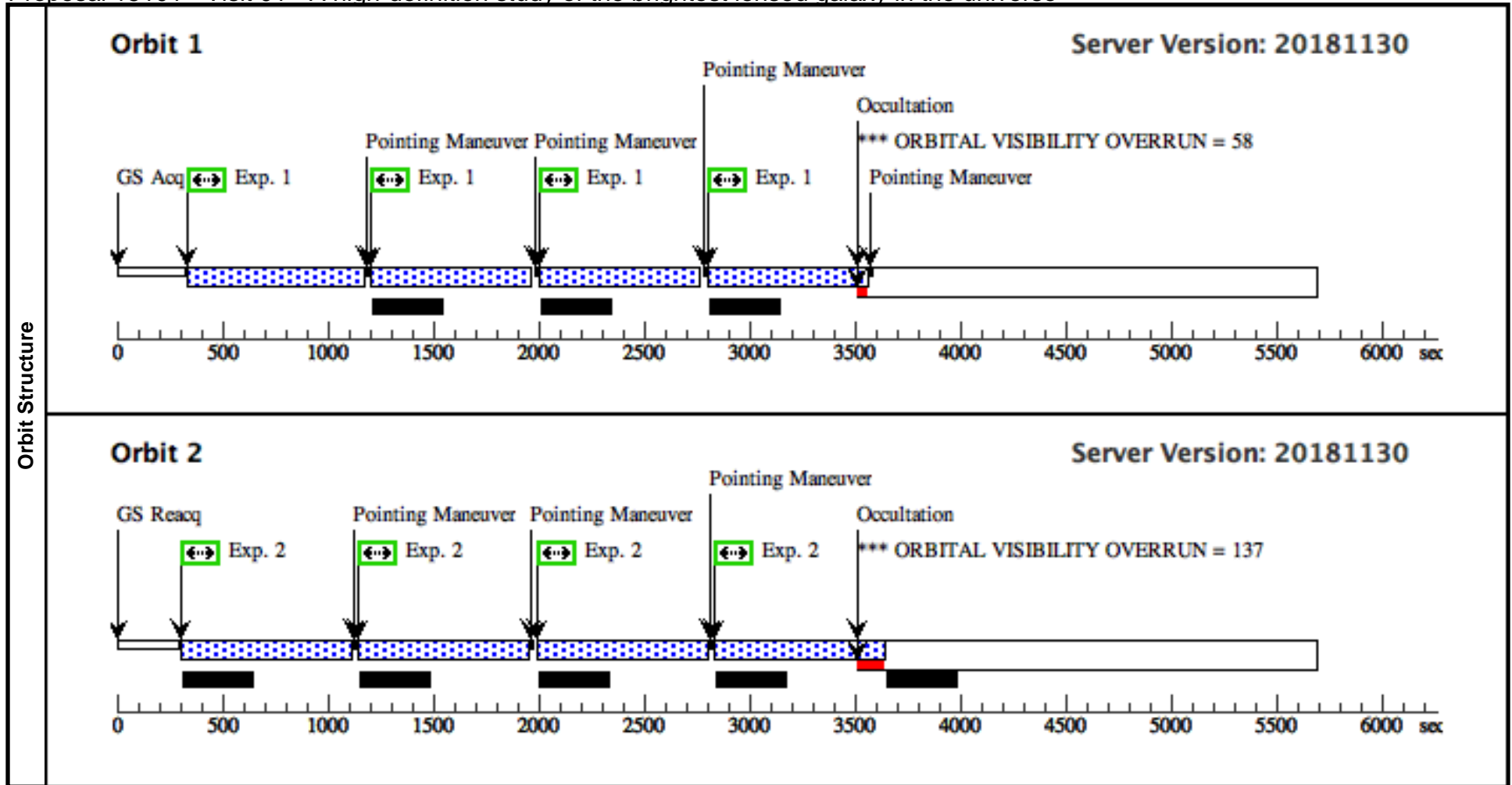
We adapt the strategy of 3D-HST. We adopt the 3D-HST four point dithering strategy to enable 2x2 interlacing, using POS TARG to specify the dither offsets. For the 3 orbit grism observations (Visit 5), we repeat the first 2 dither positions but with a one pixel offset in each of x and y, for increased robustness to bad pixels. We choose two orients to work around contamination from cluster galaxies and field stars. The ORIENTS are highly constrained, because the lensed galaxy is curved and extended, we want to maximise the resolution by dispersing perpendicular to the long axes of the two brightest segments of the arc. In addition, we need to avoid dispersed emission from cluster galaxies and field stars. This results in tight scheduling constraints, but these observations *\*are schedulable\** and the visits only 2 and 3 orbits long, respectively. In the event of severe scheduling conflicts with other programs during the visibility periods, we may relax these ORIENT constraints if necessary.

Visit 6 is a copy of Visit 2 which failed due to Gyro 3 issues.

Proposal 15101 - Visit 01 - A high-definition study of the brightest lensed galaxy in the universe

Wed Mar 27 18:00:48 GMT 2019

<b>Visit</b>	<b>Proposal 15101, Visit 01, completed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: ACS/WFC Special Requirements: ORIENT 280D TO 330 D; ORIENT 110D TO 150 D									
	(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(1)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.265 Line Spacing=5.011	Coordinate Frame=POS-TARG Pattern Orientation=20.67 Angle Between Sides=69.05 Center Pattern=false		(1)					
(4)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=5.11	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(2)						
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	PSZ1G311.65-18.48	RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000		V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time (Total)/[Actual Dur.]</b>	<b>Orbit</b>
	1		(1) PSZ1G311.65-18.48	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.0,0.0	Pattern 1, Exps 1-1 in Visit 01 (1)	2700 Secs (2544 Secs) [==>636 Secs (Pattern 1)] [==>636 Secs (Pattern 2)] [==>636 Secs (Pattern 3)] [==>636 Secs (Pattern 4)]	[1]
2		(1) PSZ1G311.65-18.48	ACS/WFC, ACCUM, WFCENTER	F814W		POS TARG 0.4,8	Pattern 4, Exps 2-2 in Visit 01 (4)	600 Secs (2736 Secs) [==>684.0 Secs (Pattern 1)] [==>684.0 Secs (Pattern 2)] [==>684.0 Secs (Pattern 3)] [==>684.0 Secs (Pattern 4)]	[2]	



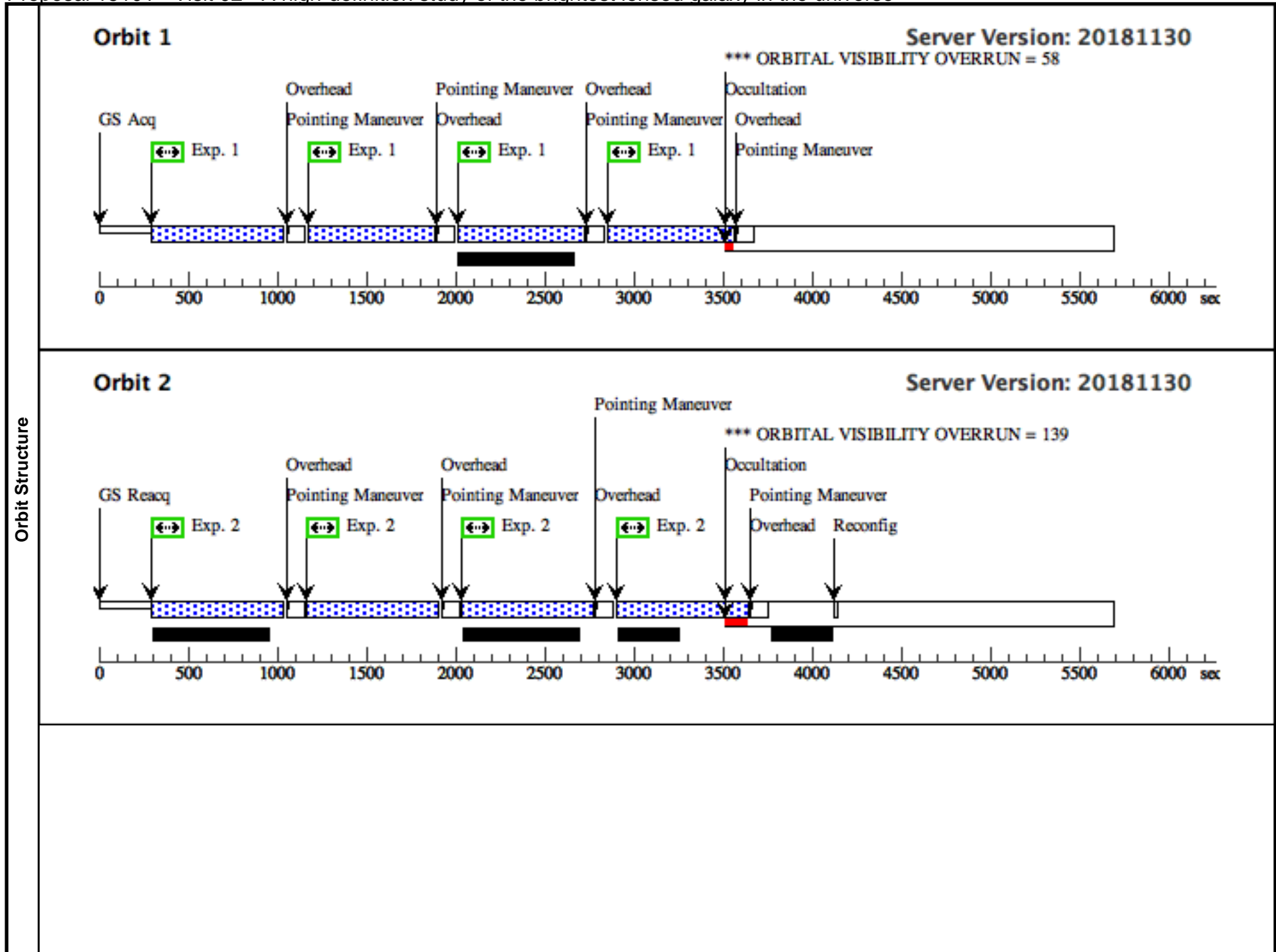
Proposal 15101 - Visit 02 - A high-definition study of the brightest lensed galaxy in the universe

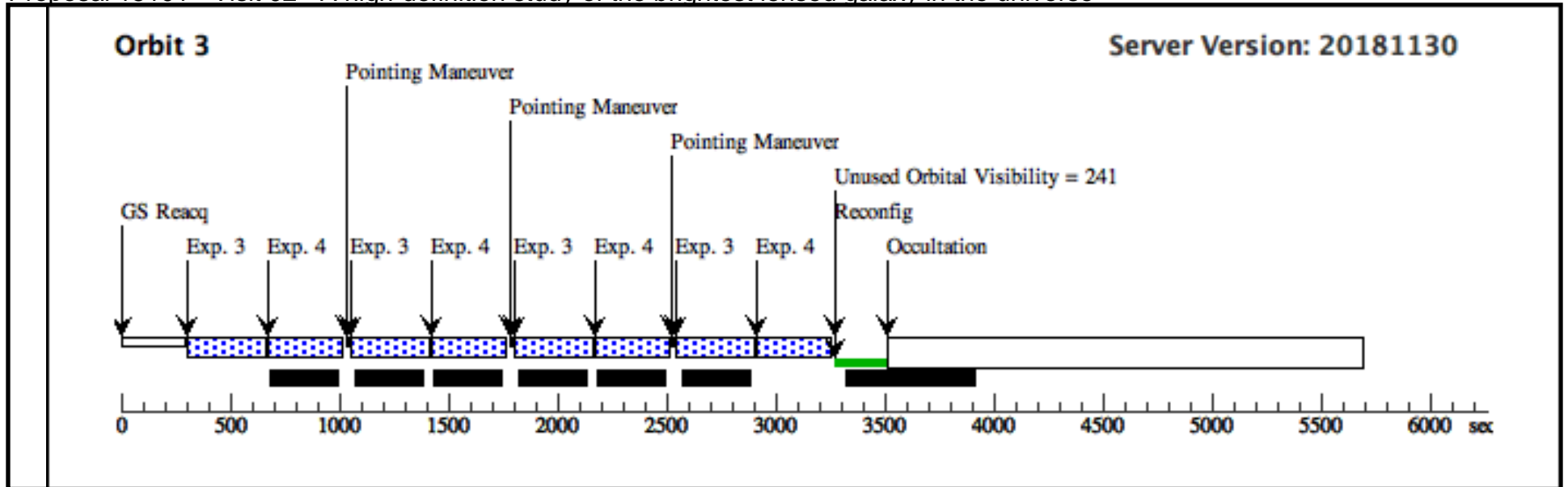
Wed Mar 27 18:00:48 GMT 2019

<b>Visit</b>	<b>Proposal 15101, Visit 02, failed</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 55D TO 110 D; ORIENT 235D TO 280 D					
	(Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN					
<b>Diagnosics</b>						
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>		
	(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=2.500	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)	
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=2.4	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(2)	
	(5)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3-4)	
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>
	(1)	PSZ1G311.65-18.48	RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000		V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Reference Frame: ICRS
Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]						

Proposal 15101 - Visit 02 - A high-definition study of the brightest lensed galaxy in the universe

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) PSZ1G311.65-18 .48	WFC3/UVIS, ACCUM, UVIS-CENTER	F555W			Pattern 2, Exps 1-1 i n Visit 02 (2)	600 Secs (2852 Secs) [=>713.0 Secs (Pattern 1)] [=>713.0 Secs (Pattern 2)] [=>713.0 Secs (Pattern 3)] [=>713.0 Secs (Pattern 4)]	[1]
	2		(1) PSZ1G311.65-18 .48	WFC3/UVIS, ACCUM, UVIS-CENTER	F555W		POS TARG 0.3,4	Pattern 3, Exps 2-2 i n Visit 02 (3)	2700 Secs (2964 Secs) [=>741.0 Secs (Pattern 1)] [=>741.0 Secs (Pattern 2)] [=>741.0 Secs (Pattern 3)] [=>741.0 Secs (Pattern 4)]	[2]
	3		(1) PSZ1G311.65-18 .48	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG null,-4	Pattern 5, Exps 3-4 i n Visit 02 (5)	327.938986 Secs (1311.756 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4		(1) PSZ1G311.65-18 .48	WFC3/IR, MULTIACCUM, IR-FIX	F105W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG null,-4	Pattern 5, Exps 3-4 i n Visit 02 (5)	327.938986 Secs (1311.756 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]





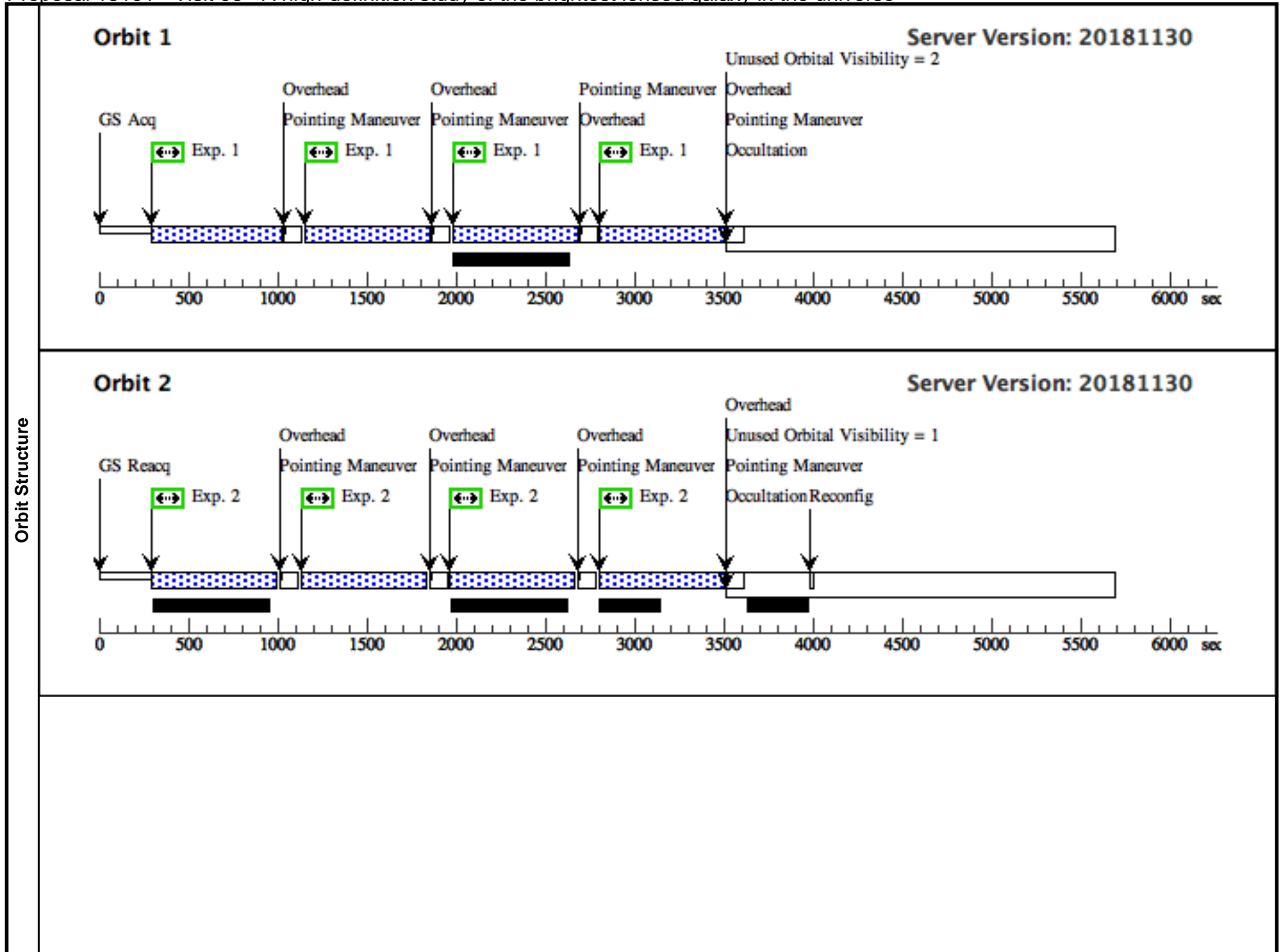
Proposal 15101 - Visit 06 - A high-definition study of the brightest lensed galaxy in the universe

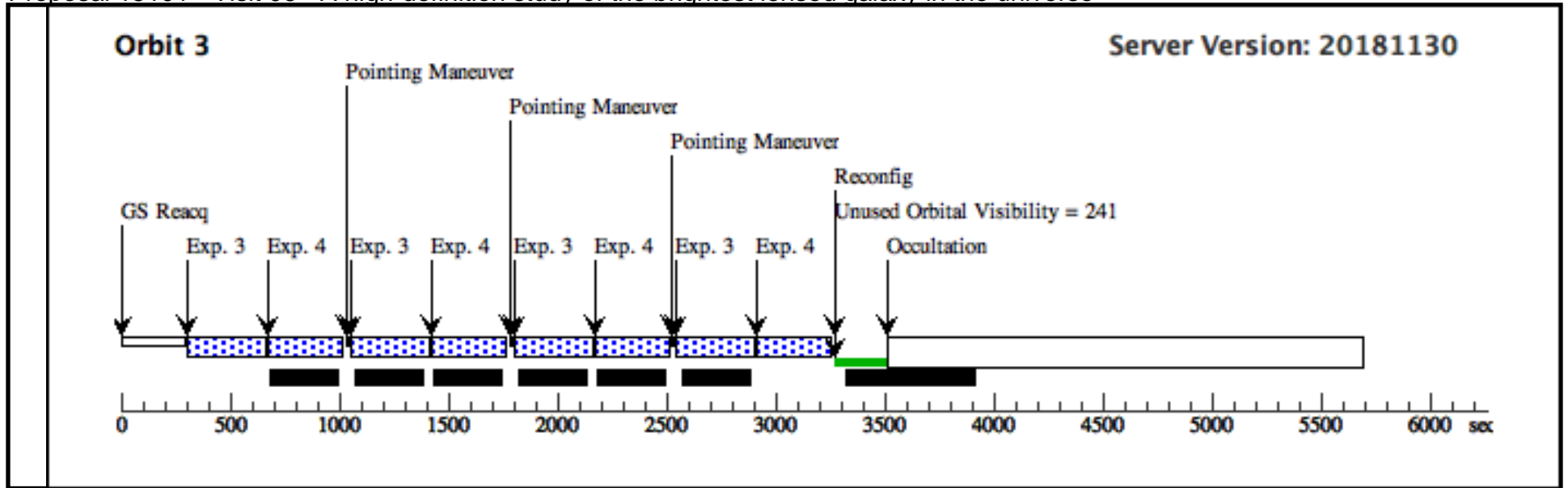
Wed Mar 27 18:00:49 GMT 2019

Visit	<b>Proposal 15101, Visit 06</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: WFC3/IR, WFC3/UVIS Special Requirements: ORIENT 55D TO 110 D; ORIENT 235D TO 280 D					
	#	Primary Pattern	Secondary Pattern	Exposures		
Patterns	(2)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=2.500 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)		
	(3)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=2.4 Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(2)		
	(5)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365 Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(3-4)		
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	PSZ1G311.65-18.48	RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000		V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Reference Frame: ICRS
Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]						

Proposal 15101 - Visit 06 - A high-definition study of the brightest lensed galaxy in the universe

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) PSZ1G311.65-18 .48	WFC3/UVIS, ACCUM, UVIS-CENTER	F555W			Pattern 2, Exps 1-1 i n Visit 06 (2)	600 Secs (2792 Secs) [=>698.0 Secs (Pattern 1)] [=>698.0 Secs (Pattern 2)] [=>698.0 Secs (Pattern 3)] [=>698.0 Secs (Pattern 4)]	[1]
	2		(1) PSZ1G311.65-18 .48	WFC3/UVIS, ACCUM, UVIS-CENTER	F555W		POS TARG 0.3,4	Pattern 3, Exps 2-2 i n Visit 06 (3)	2700 Secs (2824 Secs) [=>706.0 Secs (Pattern 1)] [=>706.0 Secs (Pattern 2)] [=>706.0 Secs (Pattern 3)] [=>706.0 Secs (Pattern 4)]	[2]
	3		(1) PSZ1G311.65-18 .48	WFC3/IR, MULTIACCUM, IR-FIX	F140W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG null,-4	Pattern 5, Exps 3-4 i n Visit 06 (5)	327.938986 Secs (1311.756 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]
	4		(1) PSZ1G311.65-18 .48	WFC3/IR, MULTIACCUM, IR-FIX	F105W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG null,-4	Pattern 5, Exps 3-4 i n Visit 06 (5)	327.938986 Secs (1311.756 Secs) [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)]	[3]

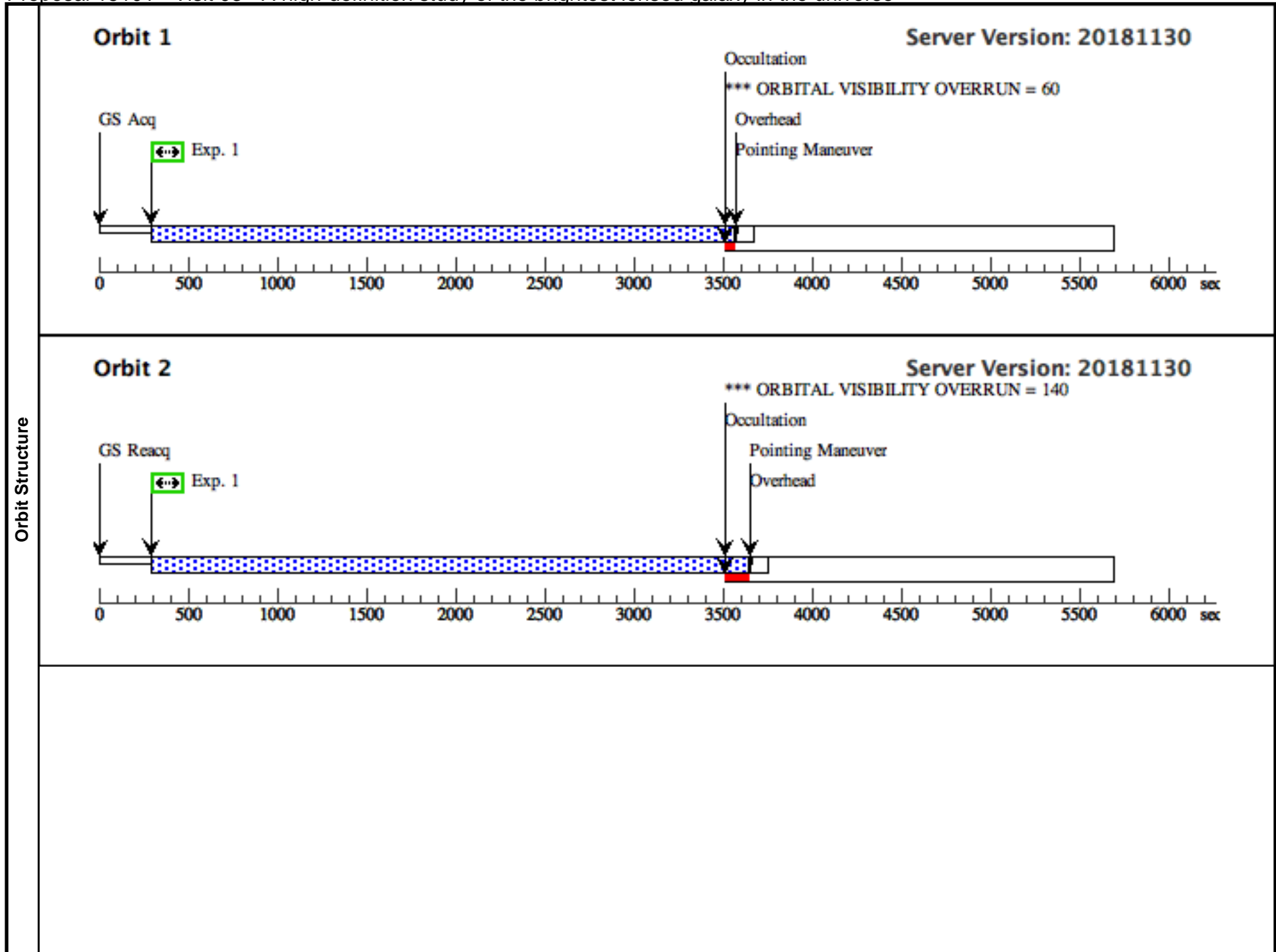


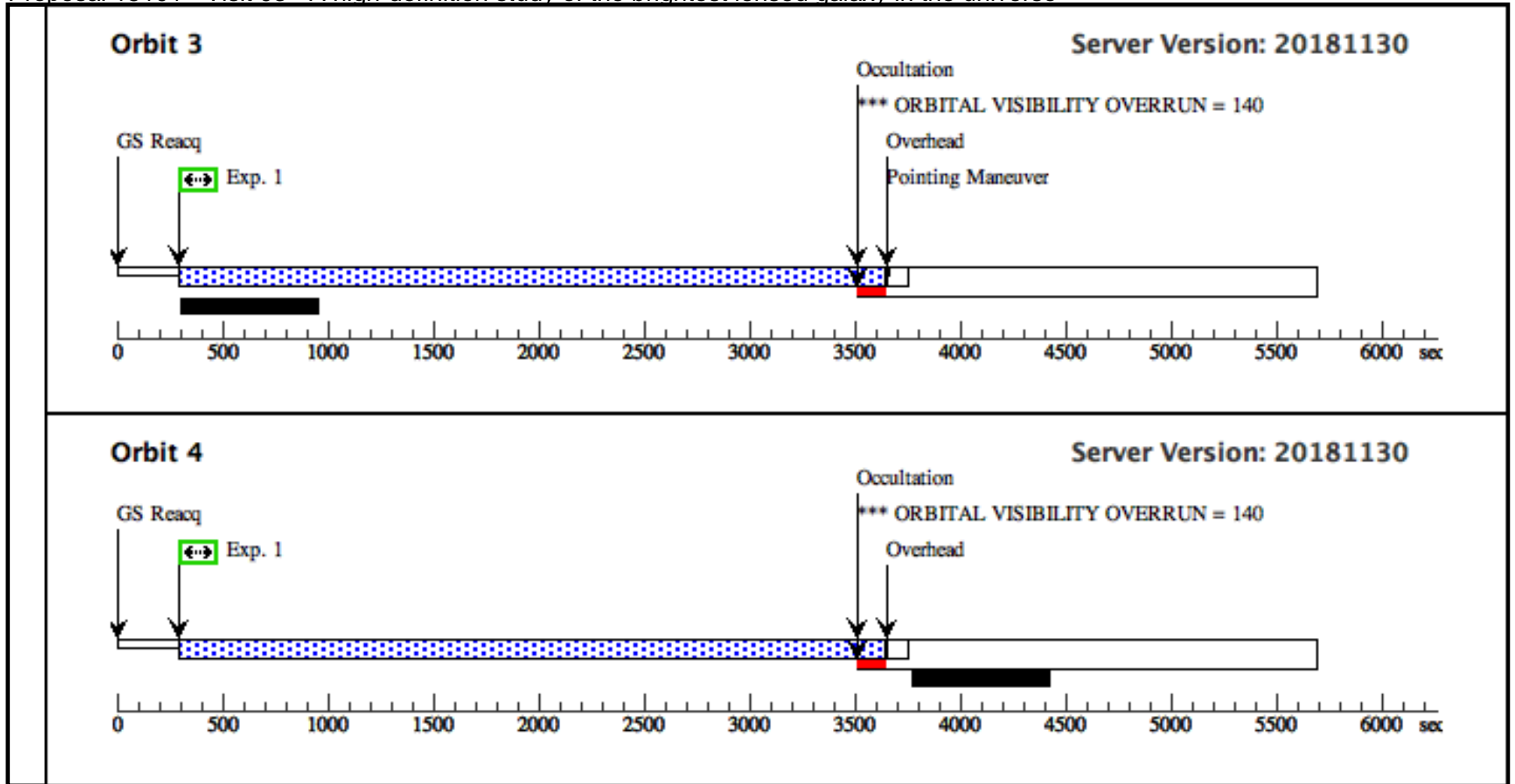


Proposal 15101 - Visit 03 - A high-definition study of the brightest lensed galaxy in the universe

Wed Mar 27 18:00:49 GMT 2019

<b>Visit</b>	<b>Proposal 15101, Visit 03, scheduling</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/UVIS Special Requirements: ORIENT 55D TO 110 D; ORIENT 235D TO 280 D									
	(Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 03) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
<b>Diagnosics</b>										
<b>Patterns</b>	<b>#</b>	<b>Primary Pattern</b>	<b>Secondary Pattern</b>	<b>Exposures</b>						
	(6)	Pattern Type=WFC3-UVIS-DITHER- LINE Purpose=DITHER Number Of Points=4 Point Spacing=2.5 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)						
<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>	<b>Miscellaneous</b>				
	(1)	PSZ1G311.65-18.48	RA: 15 50 7.0000 (237.5291667d) Dec: -78 11 32.00 (-78.19222d) Equinox: J2000		V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time (Total)/[Actual Dur.]</b>	<b>Orbit</b>
	1		(1) PSZ1G311.65-18.48	WFC3/UVIS, ACCUM, UVIS-FIX	F410M	FLASH=1		Pattern 6, Exps 1-1 in Visit 03 (6)	2540 Secs (13285 Secs)	
									[=>3238.0 Secs (Pattern 1)]	[1]
									[=>3349.0 Secs (Pattern 2)]	[2]
									[=>3349.0 Secs (Pattern 3)]	[3]
								[=>3349.0 Secs (Pattern 4)]	[4]	

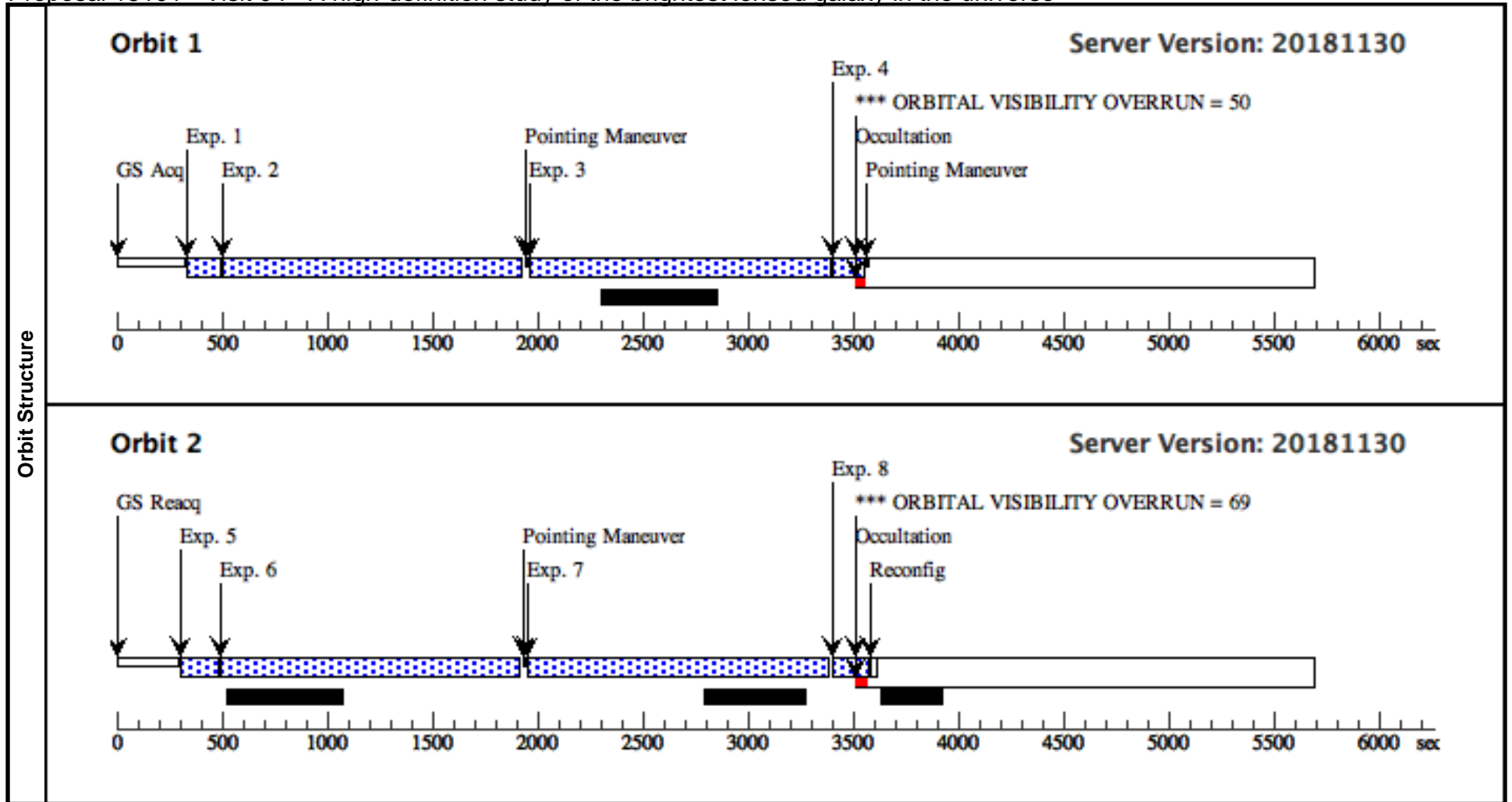




Proposal 15101 - Visit 04 - A high-definition study of the brightest lensed galaxy in the universe

Wed Mar 27 18:00:49 GMT 2019

<b>Visit</b>	<b>Proposal 15101, Visit 04, scheduling</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT 27.37D TO 27.37 D									
	(Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 04) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
<b>Fixed Targets</b>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	PSZ1G311.65-18.48-ARC	RA: 15 50 3.0000 (237.5125000d) Dec: -78 11 2.00 (-78.18389d) Equinox: J2000		V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]										
<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=6; SAMP-SEQ=SPAR S25	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in Visit 04	127.934866 Secs (127.935 Secs) [==>]	[1]
	2	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in Visit 04	1402.936813 Secs (1402.937 Secs) [==>]	[1]
	3	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in Visit 04	1402.936813 Secs (1402.937 Secs) [==>]	[1]
	4	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=6; SAMP-SEQ=SPAR S25	POS TARG 1.355,0.424	Sequence 1-4 Non-Int in Visit 04	127.934866 Secs (127.935 Secs) [==>]	[1]
	5	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in Visit 04	152.935381 Secs (152.935 Secs) [==>]	[2]
	6	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 0.881,1.212	Sequence 5-8 Non-Int in Visit 04	1402.936813 Secs (1402.937 Secs) [==>]	[2]
	7	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG -0.474,0.788	Sequence 5-8 Non-Int in Visit 04	1402.936813 Secs (1402.937 Secs) [==>]	[2]
	8	(2) PSZ1G311.65-18.48-ARC	(2) PSZ1G311.65-18.48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG -0.474,0.788	Sequence 5-8 Non-Int in Visit 04	152.935381 Secs (152.935 Secs) [==>]	[2]



Proposal 15101 - Visit 05 - A high-definition study of the brightest lensed galaxy in the universe

Wed Mar 27 18:00:49 GMT 2019

<b>Visit</b>	<b>Proposal 15101, Visit 05, scheduling</b> <b>Diagnostic Status: Warning</b> Scientific Instruments: WFC3/IR Special Requirements: ORIENT 355.37D TO 355.37 D					
<b>Diagnostics</b>	(Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (Visit 05) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN					
<b>Fixed Targets</b>	# (2)	Name PSZ1G311.65-18.48- ARC	Target Coordinates RA: 15 50 3.0000 (237.5125000d) Dec: -78 11 2.00 (-78.18389d) Equinox: J2000	Targ. Coord. Corrections	Fluxes V=17.8+/-0.1 R=17.82, z=17.38, J=16.75, Ks=15.43 (Vega)	Miscellaneous Reference Frame: ICRS
	Comments: Category=GALAXY Description=[EMISSION LINE NEBULA, GRAVITATIONAL LENS, HIGH REDSHIFT GALAXY, STAR FORMING REGION, STARBURST]					

Proposal 15101 - Visit 05 - A high-definition study of the brightest lensed galaxy in the universe

Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=6; SAMP-SEQ=SPAR S25	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in Visit 05	127.934866 Secs (127.935 Secs) [==>]	[1]
	2		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 0.0,0.0	Sequence 1-4 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[1]
	3		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 1.355,0. 424	Sequence 1-4 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[1]
	4		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=6; SAMP-SEQ=SPAR S25	POS TARG 1.355,0. 424	Sequence 1-4 Non-Int in Visit 05	127.934866 Secs (127.935 Secs) [==>]	[1]
	5		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG 0.881,1. 212	Sequence 5-8 Non-Int in Visit 05	152.935381 Secs (152.935 Secs) [==>]	[2]
	6		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 0.881,1. 212	Sequence 5-8 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[2]
	7		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG -0.474,0 .788	Sequence 5-8 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[2]
	8		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG -0.474,0 .788	Sequence 5-8 Non-Int in Visit 05	152.935381 Secs (152.935 Secs) [==>]	[2]
	9		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG 0.136,0. 1214	Sequence 9-12 Non-Int in Visit 05	152.935381 Secs (152.935 Secs) [==>]	[3]
	10		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 0.136,0. 1214	Sequence 9-12 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[3]
	11		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S100	POS TARG 1.2195,0 .3035	Sequence 9-12 Non-Int in Visit 05	1402.936813 Secs (1402.937 Secs) [==>]	[3]
12		(2) PSZ1G311.65-18 .48-ARC	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=7; SAMP-SEQ=SPAR S25	POS TARG 1.2195,0 .3035	Sequence 9-12 Non-Int in Visit 05	152.935381 Secs (152.935 Secs) [==>]	[3]	

