



15064 - The environments of $6 < z < 7$ quasars: rich with starbursts?

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
Prof. Caitlin M. Casey (PI) (Contact)	University of Texas at Austin	cmcasey@utexas.edu
Ms. Jackie Champagne (CoI)	University of Texas at Austin	jackie.bradli@astro.as.utexas.edu
Dr. Yi-Kuan Chiang (CoI)	The Johns Hopkins University	ykchiang@astro.as.utexas.edu
Dr. Chao-Ling Hung (CoI)	University of Texas at Austin	clhung@astro.as.utexas.edu
Prof. Steven L. Finkelstein (CoI)	University of Texas at Austin	stevenf@astro.as.utexas.edu
Dr. Justin Scott Spilker (CoI)	University of Texas at Austin	spilkerj@gmail.com
Dr. Jorge Zavala (CoI)	University of Texas at Austin	jzavala@utexas.edu
Mr. Patrick Drew (CoI)	University of Texas at Austin	pdrew@utexas.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) J0305-3150 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:42.0	yes
02	(1) J0305-3150 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:43.0	yes
03	(1) J0305-3150 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:44.0	yes
06	(2) J2348-3054 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:45.0	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>
07	(2) J2348-3054 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:46.0	yes
08	(2) J2348-3054 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:47.0	yes
09	(2) J2348-3054 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:49.0	yes
10	(2) J2348-3054 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:50.0	yes
11	(3) J2054-0005 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:51.0	yes
12	(3) J2054-0005 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:52.0	yes
13	(3) J2054-0005 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:53.0	yes
04	(1) J0305-3150 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:54.0	yes
05	(1) J0305-3150 ANY	ACS/WFC WFC3/IR	1	05-Mar-2019 11:01:55.0	yes

13 Total Orbits Used

ABSTRACT

We propose 13 orbits of ACS and WFC3 imaging to characterize the environments of $6 < z < 7$ quasars. These quasars are suggested to live in particularly overdense environments, given an observed excess of serendipitous millimeter continuum detections in their vicinities from ALMA. At $z > 6$, 1.1mm probes the peak of dust emission and is a good proxy for total obscured SFR; the serendipitous ALMA detections we find are consistent with SFRs 30-150 M_{\odot} /yr, and they are likely to sit at the same redshift of the quasar because they greatly exceed the expected number of detections for blank-field millimeter work. We will use HST imaging to investigate whether or not these are genuine overdense environments by identifying candidate star-forming galaxies via their Ly-alpha break and rest-frame UV continuum. The ALMA data enables us to place unique constraints on the assembly history of early Universe protoclusters, given the short duty-cycle of dusty galaxies detected directly in the millimeter. This will allow

Proposal 15064 (STScI Edit Number: 11, Created: Tuesday, March 5, 2019 at 11:01:56 AM Eastern Standard Time) - Overview
us to directly characterize the luminosity functions in overdense environments at $z > 6$, characterizing the ubiquity of starbursts around quasars, and test the predictions of theory, which assert that half of all cosmic star-formation at $z > 6$ takes place in overdense environments that will eventually collapse into $> 10^{14} M_{\text{sun}}$ galaxy clusters at $z = 0$.

OBSERVING DESCRIPTION

We request multi-band ACS/WFC3 imaging for three quasars at $6.0 < z < 6.9$. At these redshifts, the Ly-alpha break falls between 8500AA and 9500AA and so imaging in five filters can easily bracket the break and make clear identifications of high- z candidate dropout sources.

For quasars J2348-3054 and J0305-3150 we will observe with the following instruments/filters for:

WFC3/F160W (1 orbit per quasar)

WFC3/F125W (1 orbit per quasar)

WFC3/F105W (1 orbit per quasar)

ACS/F814W (1 orbit per quasar)

ACS/F606W (1 orbit per quasar)

The parallels for these targets will be taken in ACS/F606W, ACS/F814W, ACS/F850LP, WFC3/F110W and WFC3/F140W.

For quasar J2054-0005, which has been observed in Cycle 20 with F125W and F160W with WFC3, we will observe:

WFC3/F105W (1 orbit)

ACS/F814W (1 orbit)

ACS/F606W (1 orbit).

The parallels for this target will be ACS/F814W, WFC3/F110W and WFC3/F140W.

Our parallel observations are need to identify possible additional dropout galaxies a few arcminutes away from the quasar; this tests the physical scale of protoclusters at this epoch. To maximize the value of our coordinated parallels, we propose to fix the orientation of ACS and WFC3 so that the parallel fields are all aligned. We cannot complete the parallel observations with the exact same filter set, given the fact that two primary observations are ACS and three are WFC3, so our parallels must consist of three ACS filters and two WFC3. For this redshift range, this is why our selected parallel filter set is F606W, F814W, F850LP, F110W, and F140W.

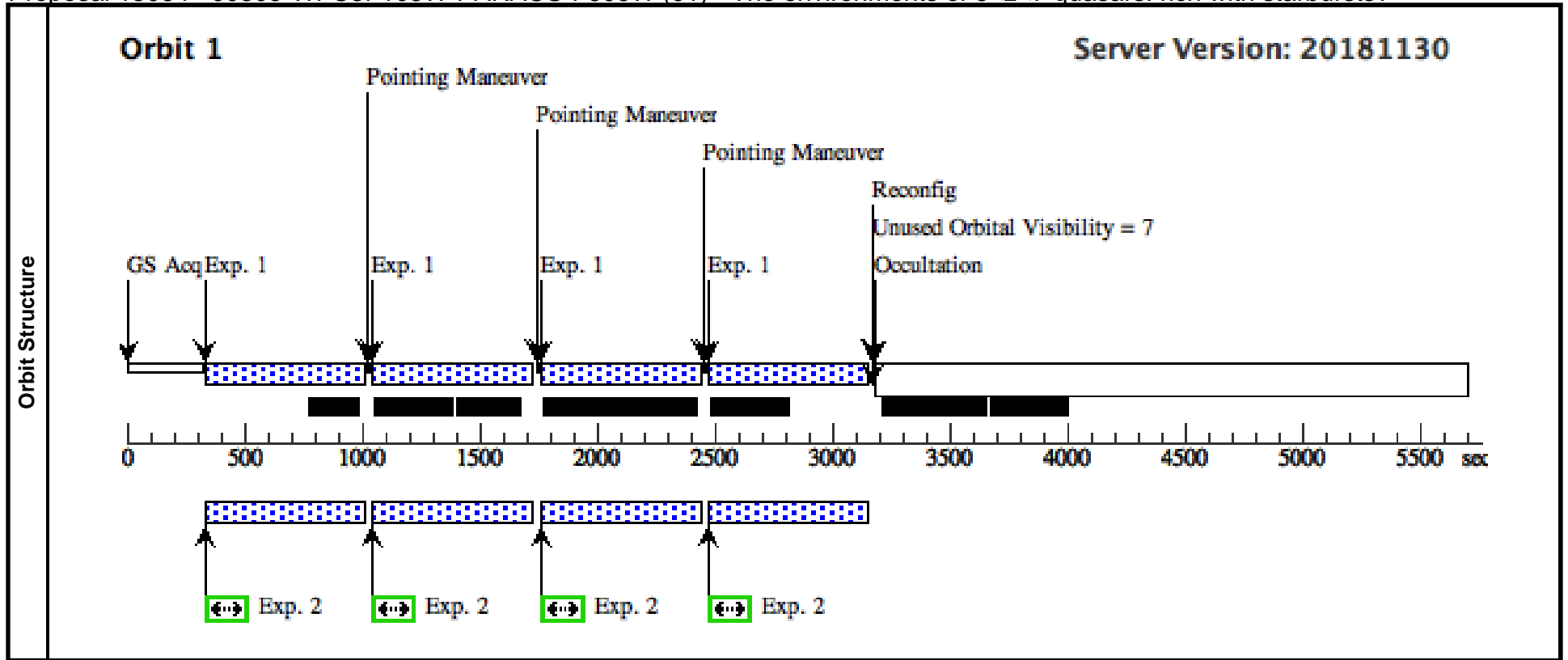
Proposal 15064 (STScI Edit Number: 11, Created: Tuesday, March 5, 2019 at 11:01:56 AM Eastern Standard Time) - Overview

We adopt a strategy of 13 different visits of one orbit each. We have special requirements that all of the WFC3 imaging for a given quasar are taken together (same orientation as the first visit), and we have placed the visits for ACS as primary on-hold, requiring that they have the *opposite* orientation to the WFC3 imaging (i.e. taken 6 months later). In the case of J2054-0005, we have two ACS orbits and one WFC3 orbit, so we have requested ACS go first and we have placed the WFC3 orbit on hold. Obviously the order of which orbits are on-hold and which are executed first can be reversed if for any reason that is better for the observatory scheduling.

Proposal 15064 - J0305-WFC3F105W-PARACS-F606W (01) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

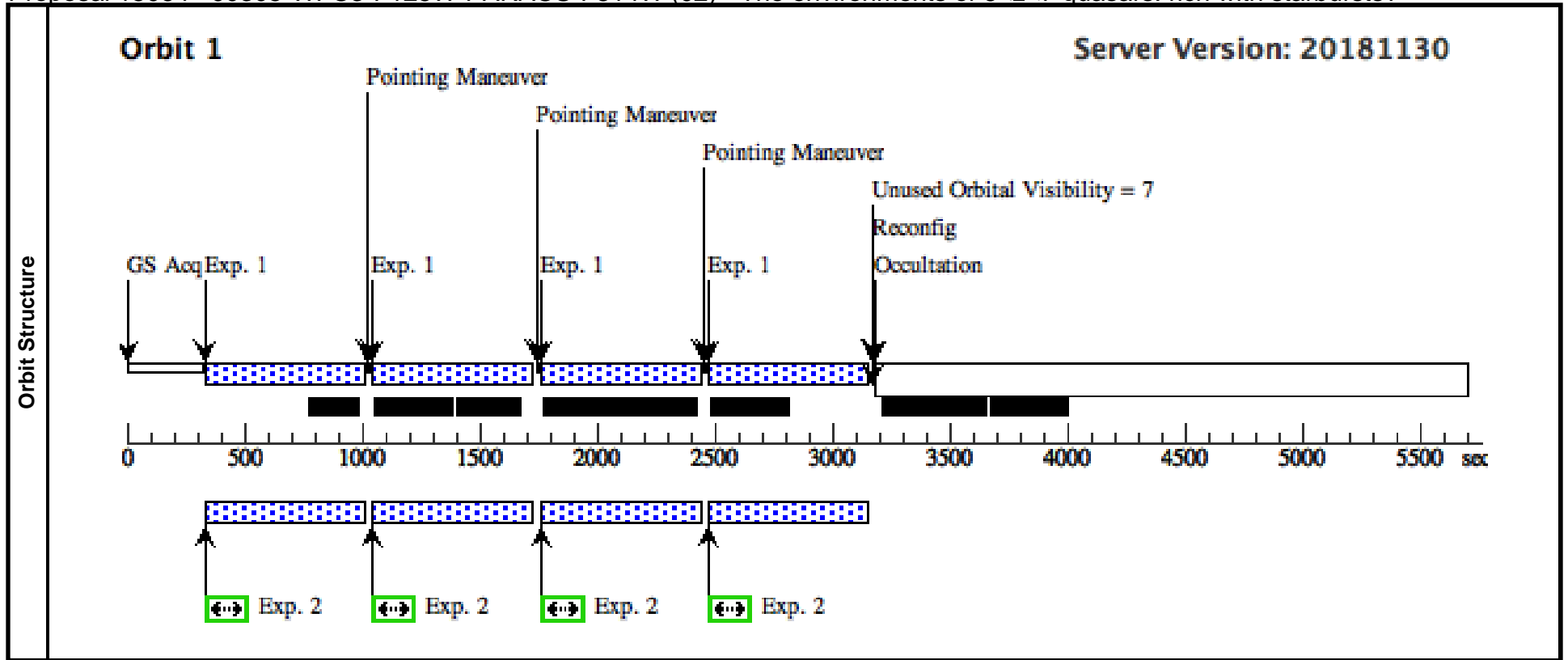
Visit	Proposal 15064, J0305-WFC3F105W-PARACS-F606W (01), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number 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		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	J0305-3150 Alt Name1: J0305	RA: 03 05 16.9100 (46.3204583d) Dec: -31 50 55.94 (-31.84887d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.604	V=22.12+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QSO, QUASAR, ULTRALUMINOUS IR GAL] Extended=NO									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0305-F105W	(1) J0305-3150	WFC3/IR, MULTIACCUM, IR	F105W	NSAMP=14; SAMP-SEQ=SPARS50	GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-2 in J0305-WFC3F105W-PARACS-F606W (01) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3F105W-PARACS-F606W (01)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J0305Offset-F606W	ANY	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-2 in J0305-WFC3F105W-PARACS-F606W (01) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3F105W-PARACS-F606W (01)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]	



Proposal 15064 - J0305-WFC3-F125W-PARACS-F814W (02) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

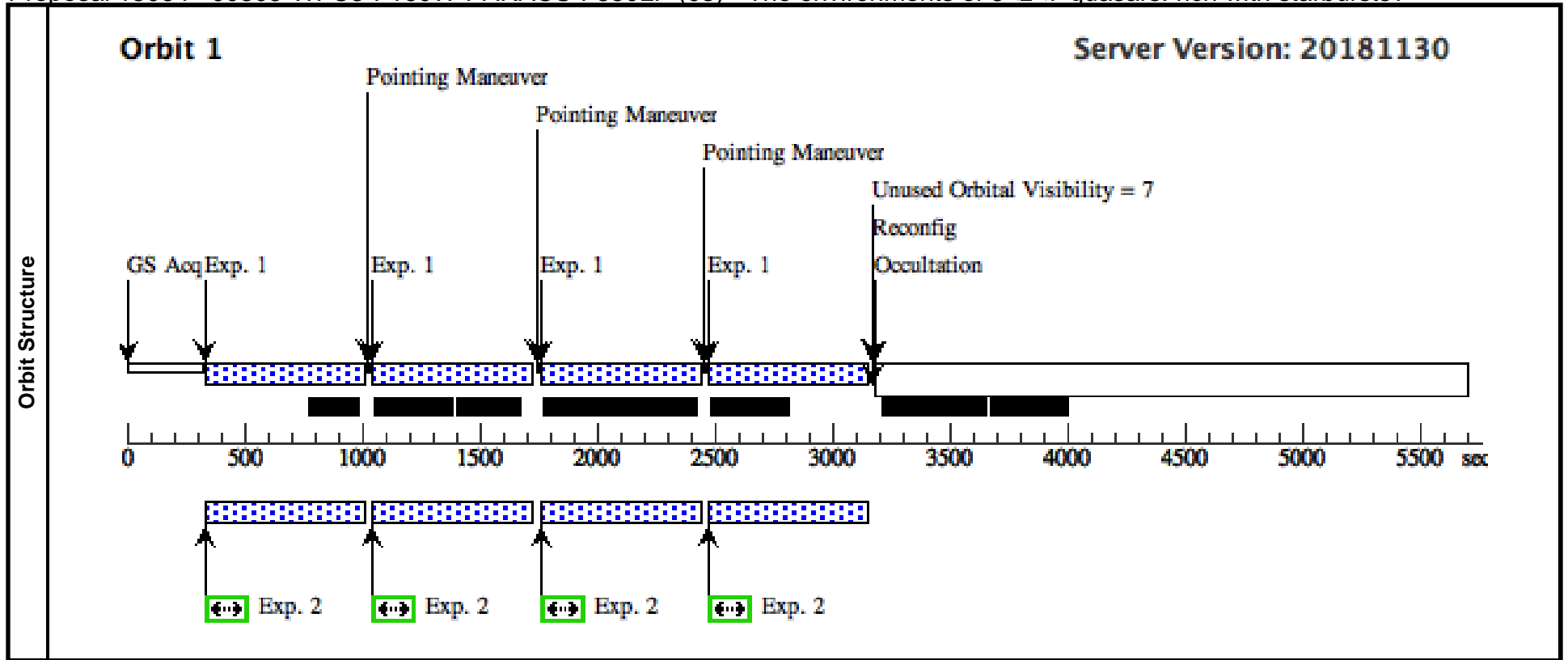
Visit	Proposal 15064, J0305-WFC3-F125W-PARACS-F814W (02), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 01									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER 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					(1-2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	J0305-3150 Alt Name1: J0305	RA: 03 05 16.9100 (46.3204583d) Dec: -31 50 55.94 (-31.84887d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.604	V=22.12+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QSO, QUASAR, ULTRALUMINOUS IR GAL] Extended=NO									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0305-F125W	(1) J0305-3150	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPARS50	GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-2 in J0305-WFC3-F125W-PARACS-F814W (02) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3-F125W-PARACS-F814W (02)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J0305Offset-F814W	ANY	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-2 in J0305-WFC3-F125W-PARACS-F814W (02) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3-F125W-PARACS-F814W (02)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]	



Proposal 15064 - J0305-WFC3-F160W-PARACS-F850LP (03) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

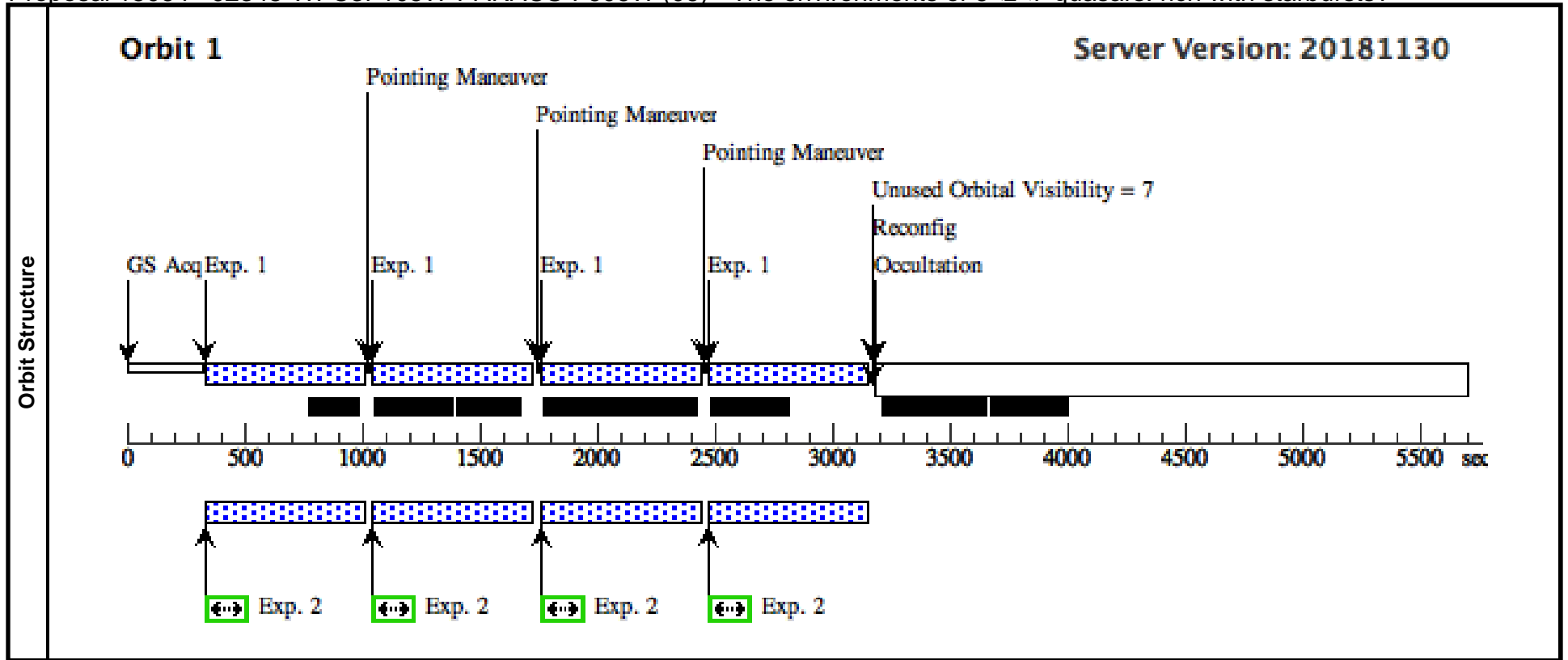
Visit	Proposal 15064, J0305-WFC3-F160W-PARACS-F850LP (03), completed									
	Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 01									
Patterns	#	Primary Pattern				Secondary Pattern				Exposures
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN 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						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(1)	J0305-3150 Alt Name1: J0305	RA: 03 05 16.9100 (46.3204583d) Dec: -31 50 55.94 (-31.84887d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.604	V=22.12+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QSO, QUASAR, ULTRALUMINOUS IR GAL] Extended=NO									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0305-F160W	(1) J0305-3150	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPARS50	GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-2 in J0305-WFC3-F160W-PARACS-F850LP (03) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3-F160W-PARACS-F850LP (03)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J0305Offset-F850LP	ANY	ACS/WFC, ACCUM, WFC	F850LP			Pattern 1, Exps 1-2 in J0305-WFC3-F160W-PARACS-F850LP (03) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J0305-WFC3-F160W-PARACS-F850LP (03)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]	



Proposal 15064 - J2348-WFC3F105W-PARACS-F606W (06) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

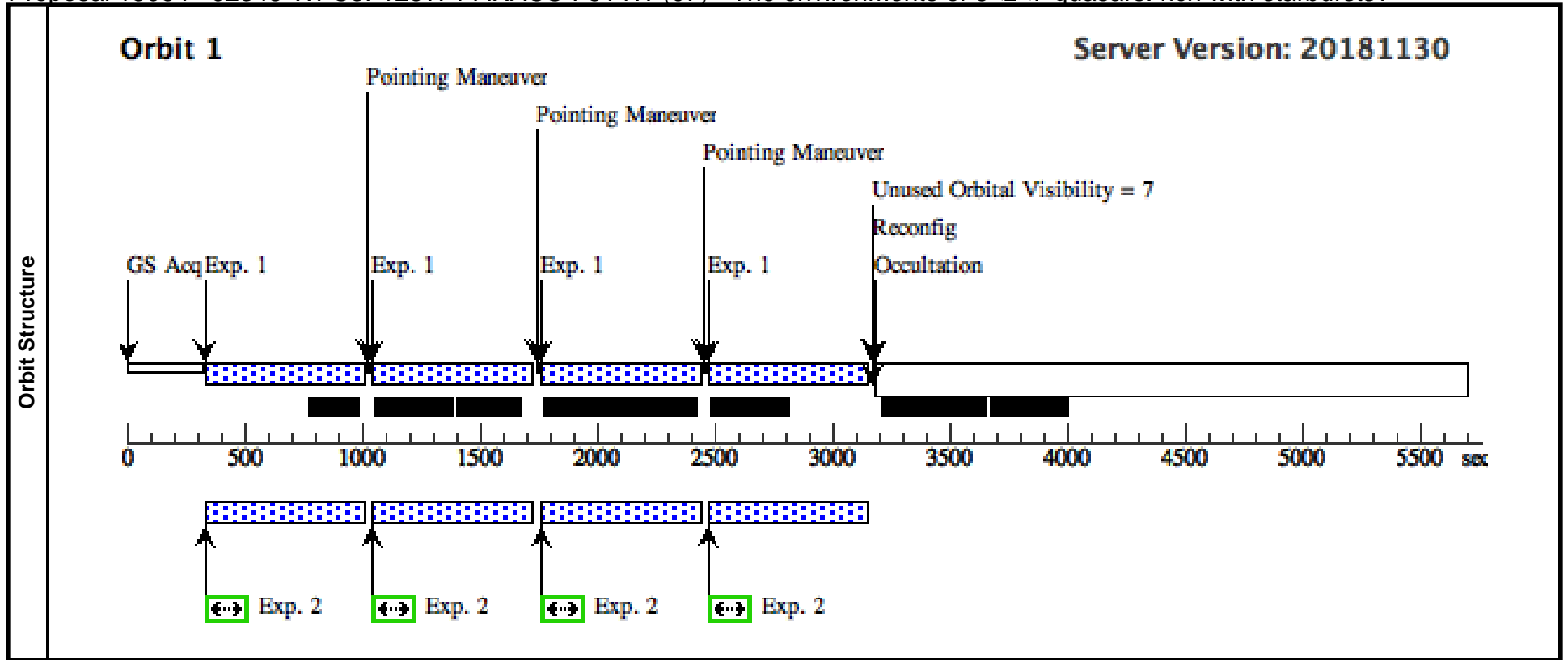
Visit	Proposal 15064, J2348-WFC3F105W-PARACS-F606W (06), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number 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		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	J2348-3054 Alt Name1: J2348	RA: 23 48 33.3500 (357.1389583d) Dec: -30 54 10.28 (-30.90286d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.886	V=22.97+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2348-F105W	(2) J2348-3054	WFC3/IR, MULTIACCUM, IR	F105W	NSAMP=14; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-2 in J2348-WFC3F105W-PARACS-F606W (06) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F105W-PARACS-F606W (06)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
	2	J2348Offset-F606W	ANY	ACS/WFC, ACCUM, WFC	F606W			Pattern 1, Exps 1-2 in J2348-WFC3F105W-PARACS-F606W (06) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F105W-PARACS-F606W (06)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]



Proposal 15064 - J2348-WFC3F125W-PARACS-F814W (07) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

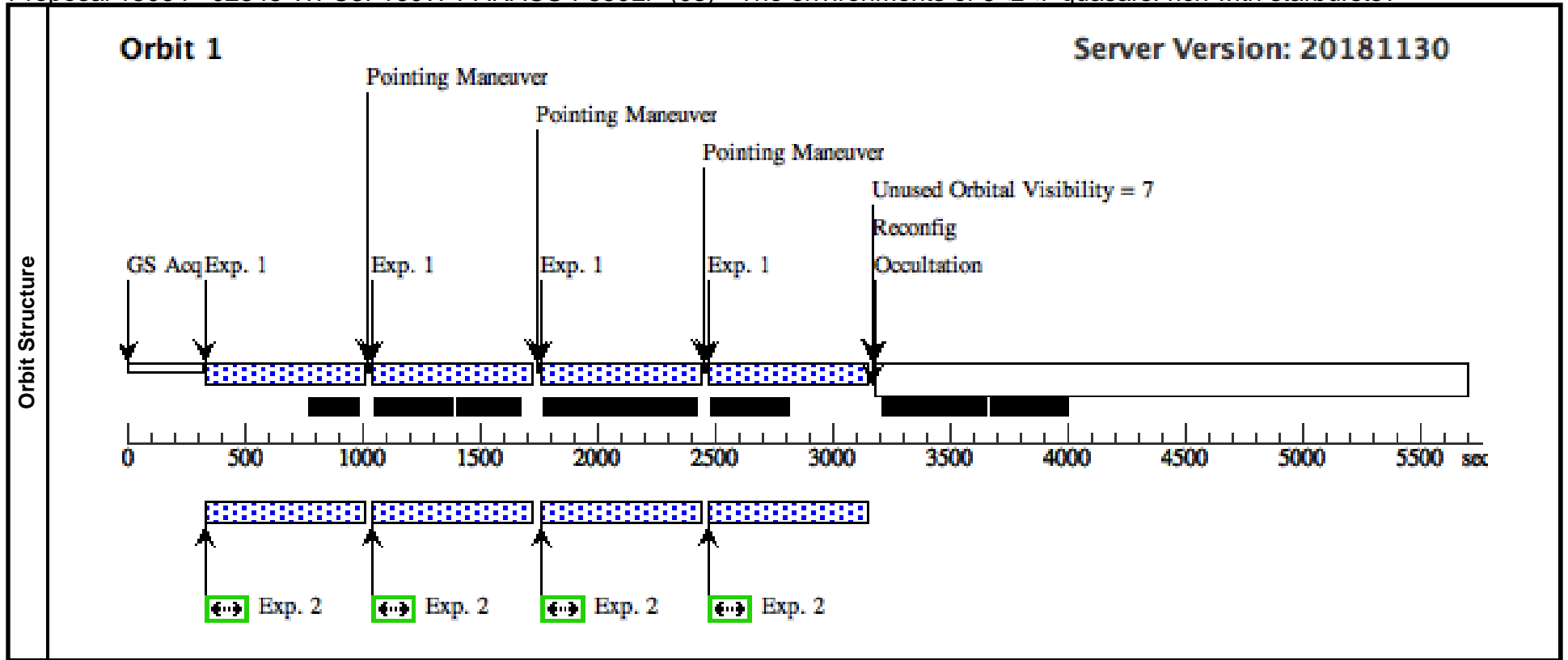
Visit	Proposal 15064, J2348-WFC3F125W-PARACS-F814W (07), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 06									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER 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						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(2)	J2348-3054 Alt Name1: J2348	RA: 23 48 33.3500 (357.1389583d) Dec: -30 54 10.28 (-30.90286d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.886		V=22.97+/-0.3	Reference Frame: ICRS			
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2348-F125W	(2) J2348-3054	WFC3/IR, MULTIACCUM, IR	F125W	NSAMP=14; SAMP-SEQ=SPAR S50		Pattern 1, Exps 1-2 in J2348-WFC3F125W-PARACS-F814W (07) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F125W-PARACS-F814W (07)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	J2348Offset-F814W	ANY	ACS/WFC, ACCUM, WFC	F814W			Pattern 1, Exps 1-2 in J2348-WFC3F125W-PARACS-F814W (07) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F125W-PARACS-F814W (07)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]



Proposal 15064 - J2348-WFC3F160W-PARACS-F850LP (08) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

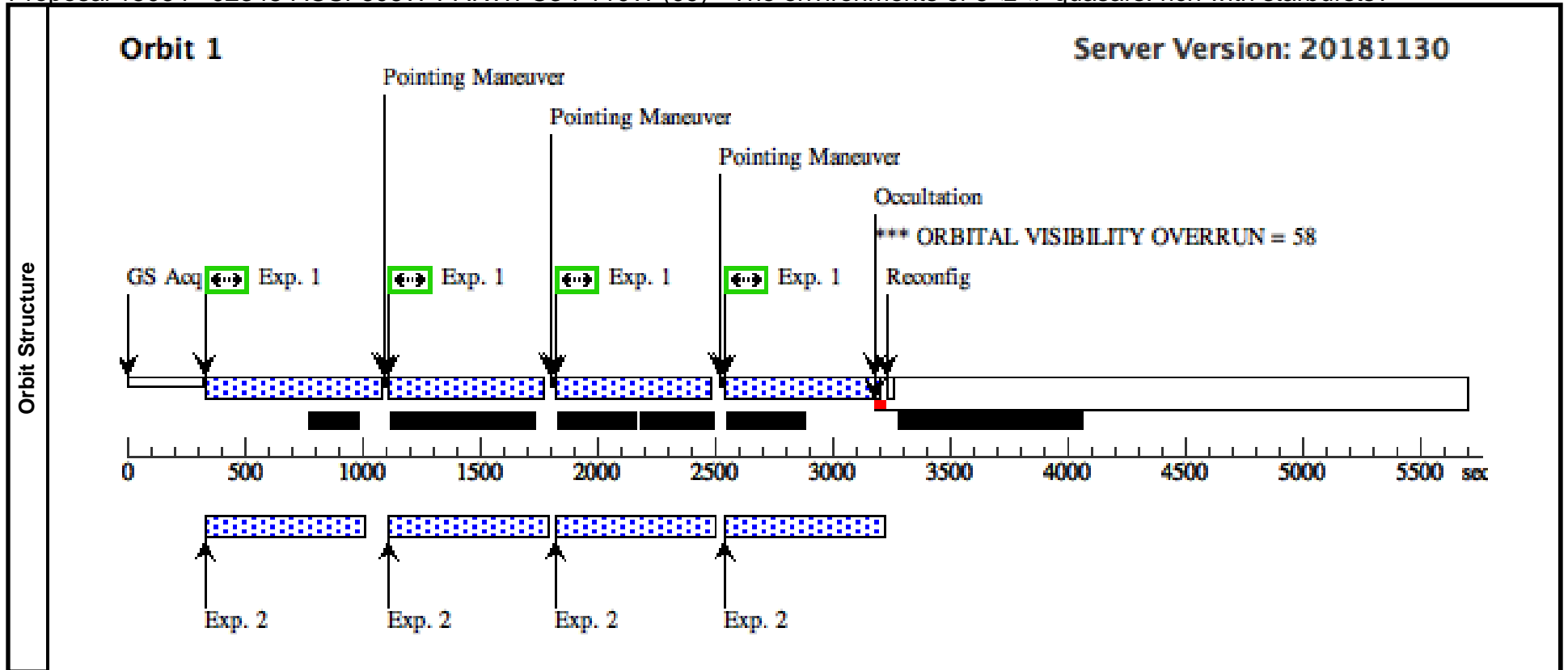
Visit	Proposal 15064, J2348-WFC3F160W-PARACS-F850LP (08), completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 06									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER 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		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	J2348-3054 Alt Name1: J2348	RA: 23 48 33.3500 (357.1389583d) Dec: -30 54 10.28 (-30.90286d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.886	V=22.97+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2348-F160W	(2) J2348-3054	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=SPAR S50			Pattern 1, Exps 1-2 in J2348-WFC3F160W-PARACS-F850LP (08) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F160W-PARACS-F850LP (08)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	J2348Offset-F850LP	ANY	ACS/WFC, ACCUM, WFC	F850LP				Pattern 1, Exps 1-2 in J2348-WFC3F160W-PARACS-F850LP (08) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2348-WFC3F160W-PARACS-F850LP (08)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]



Proposal 15064 - J2348-ACSF606W-PARWFC3-F110W (09) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:56 GMT 2019

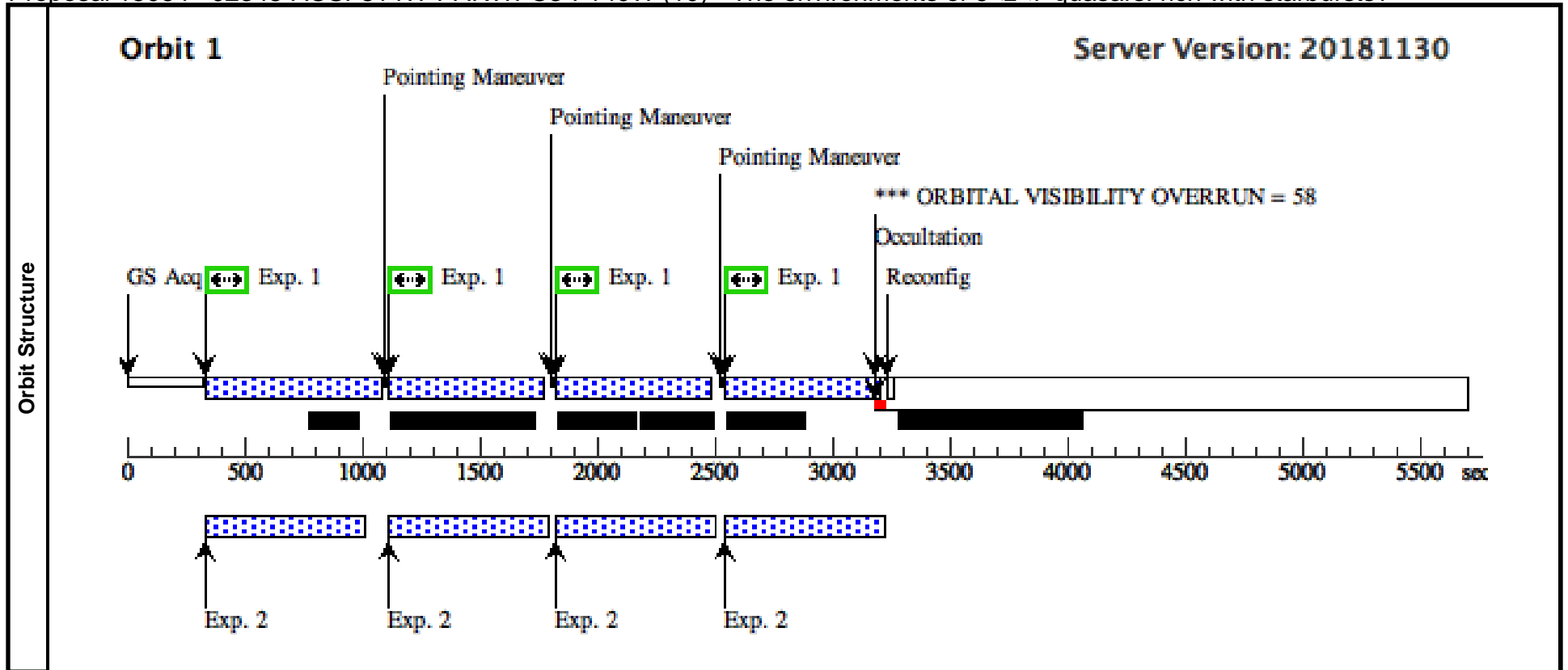
Visit	Proposal 15064, J2348-ACSF606W-PARWFC3-F110W (09), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 180D TO 180D FROM 06									
	Diagnosics (J2348-ACSF606W-PARWFC3-F110W (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Patterns	#	Primary Pattern		Secondary Pattern	Exposures					
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	J2348-3054 Alt Name1: J2348	RA: 23 48 33.3500 (357.1389583d) Dec: -30 54 10.28 (-30.90286d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.886	V=22.97+/-0.3	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2348-F606W	(2) J2348-3054	ACS/WFC, ACCUM, WFC	F606W				Pattern 2, Exps 1-2 in J2348-ACSF606W-PARWFC3-F110W (09) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2348-ACSF606W-PARWFC3-F110W (09)	540 Secs (2160 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	J2348Offset-F110W	ANY	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=14; SAMP-SEQ=SPAR S50			Pattern 2, Exps 1-2 in J2348-ACSF606W-PARWFC3-F110W (09) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2348-ACSF606W-PARWFC3-F110W (09)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15064 - J2348-ACSF814W-PARWFC3-F140W (10) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

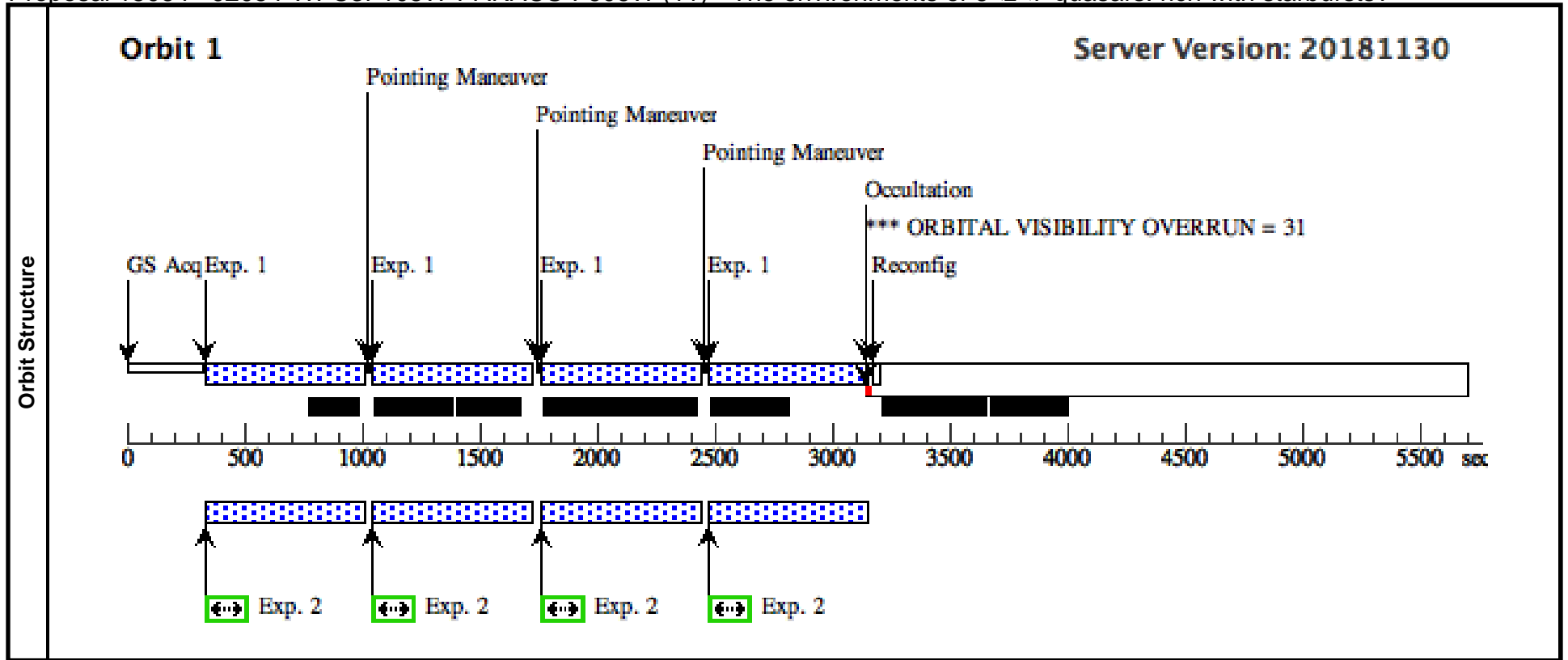
Visit	Proposal 15064, J2348-ACSF814W-PARWFC3-F140W (10), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 180D TO 180D FROM 06									
	Diagnosics (J2348-ACSF814W-PARWFC3-F140W (10)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Patterns	#	Primary Pattern		Secondary Pattern	Exposures					
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	J2348-3054 Alt Name1: J2348	RA: 23 48 33.3500 (357.1389583d) Dec: -30 54 10.28 (-30.90286d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.886	V=22.97+/-0.3	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2348-F814W	(2) J2348-3054	ACS/WFC, ACCUM, WFC	F814W			Pattern 2, Exps 1-2 in J2348-ACSF814W-PARWFC3-F140W (10) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2348-ACSF814W-PARWFC3-F140W (10)	540 Secs (2160 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J2348Offset-F140W	ANY	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPAR S50		Pattern 2, Exps 1-2 in J2348-ACSF814W-PARWFC3-F140W (10) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2348-ACSF814W-PARWFC3-F140W (10)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



Proposal 15064 - J2054-WFC3F105W-PARACS-F606W (11) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

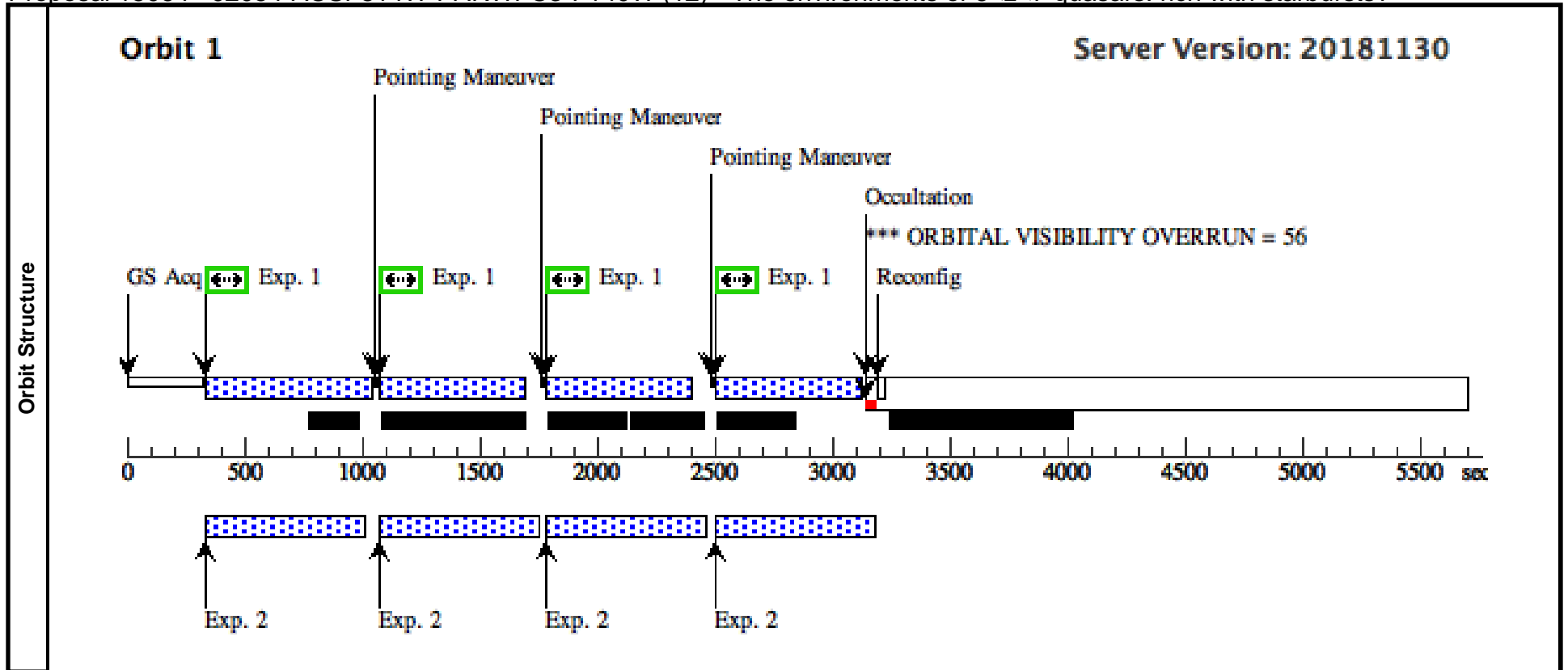
Visit	Proposal 15064, J2054-WFC3F105W-PARACS-F606W (11), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 180D TO 180D FROM 12									
	Diagnosics (J2054-WFC3F105W-PARACS-F606W (11)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(1)	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		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	J2054-0005 Alt Name1: J2054	RA: 20 54 6.4900 (313.5270417d) Dec: -00 05 14.80 (-.08744d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.038	V=20.60+/-0.3	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2054-F105 W	(3) J2054-0005	WFC3/IR, MULTIACCUM, IR	F105W	NSAMP=14; SAMP-SEQ=SPAR S50		Pattern 1, Exps 1-2 in J2054-WFC3F105W-PARACS-F606W (11) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2054-WFC3F105W-PARACS-F606W (11)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J2054Offset -F814W	ANY	ACS/WFC, ACCUM, WFC	F814W				Pattern 1, Exps 1-2 in J2054-WFC3F105W-PARACS-F606W (11) (1) Prime + Parallel Group 1-2 in Pattern 1, Exps 1-2 in J2054-WFC3F105W-PARACS-F606W (11)	540 Secs (2146 Secs) [==>475.0 Secs (Pattern 1)] [==>557.0 Secs (Pattern 2)] [==>557.0 Secs (Pattern 3)] [==>557.0 Secs (Pattern 4)]	[1]



Proposal 15064 - J2054-ACSF814W-PARWFC3-F140W (12) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

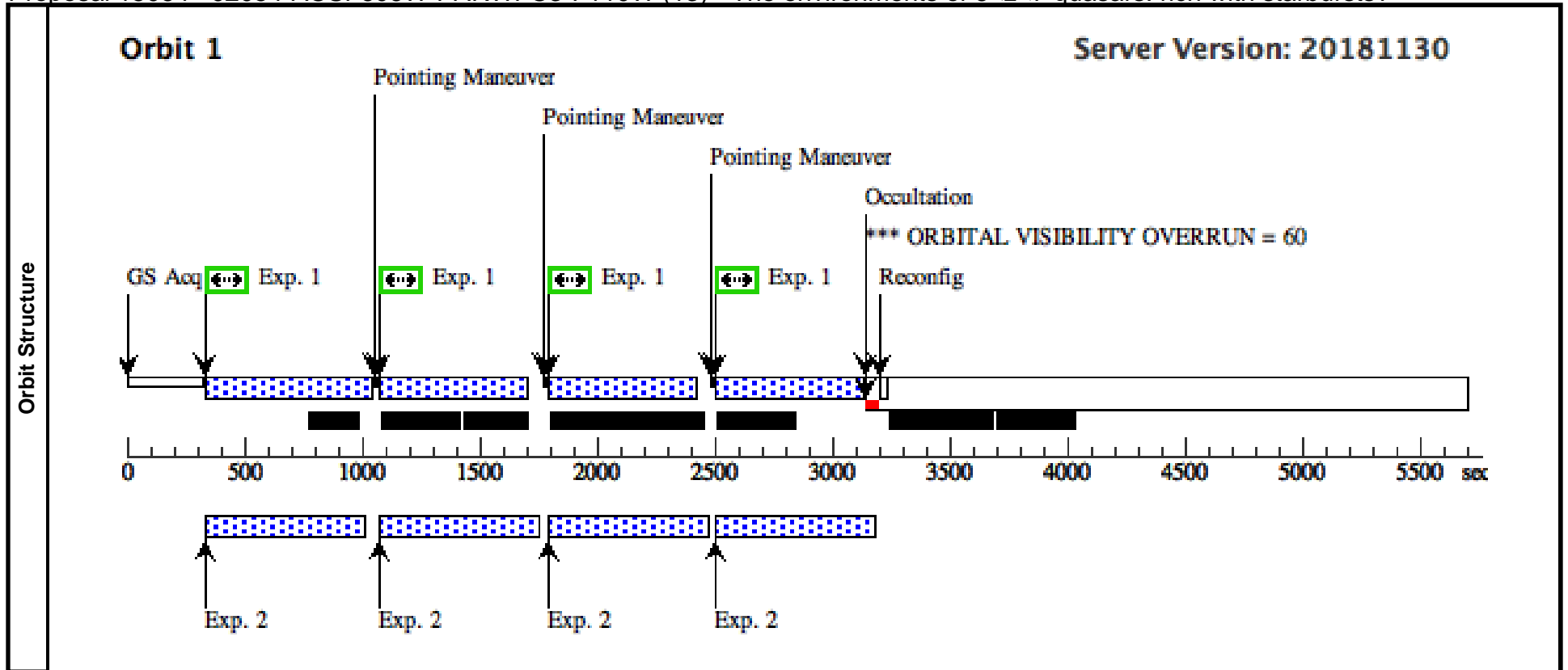
Visit	Proposal 15064, J2054-ACSF814W-PARWFC3-F140W (12), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: (none)									
	Diagnosics (J2054-ACSF814W-PARWFC3-F140W (12)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Patterns	#	Primary Pattern		Secondary Pattern	Exposures					
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	J2054-0005 Alt Name1: J2054	RA: 20 54 6.4900 (313.5270417d) Dec: -00 05 14.80 (-.08744d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.038	V=20.60+/-0.3	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2054-F814W	(3) J2054-0005	ACS/WFC, ACCUM, WFC	F814W			Pattern 2, Exps 1-2 in J2054-ACSF814W-PARWFC3-F140W (12) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2054-ACSF814W-PARWFC3-F140W (12)	500 Secs (2000 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
2	J2054Offset-F140W	ANY	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPAR S50		Pattern 2, Exps 1-2 in J2054-ACSF814W-PARWFC3-F140W (12) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2054-ACSF814W-PARWFC3-F140W (12)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



Proposal 15064 - J2054-ACSF606W-PARWFC3-F110W (13) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

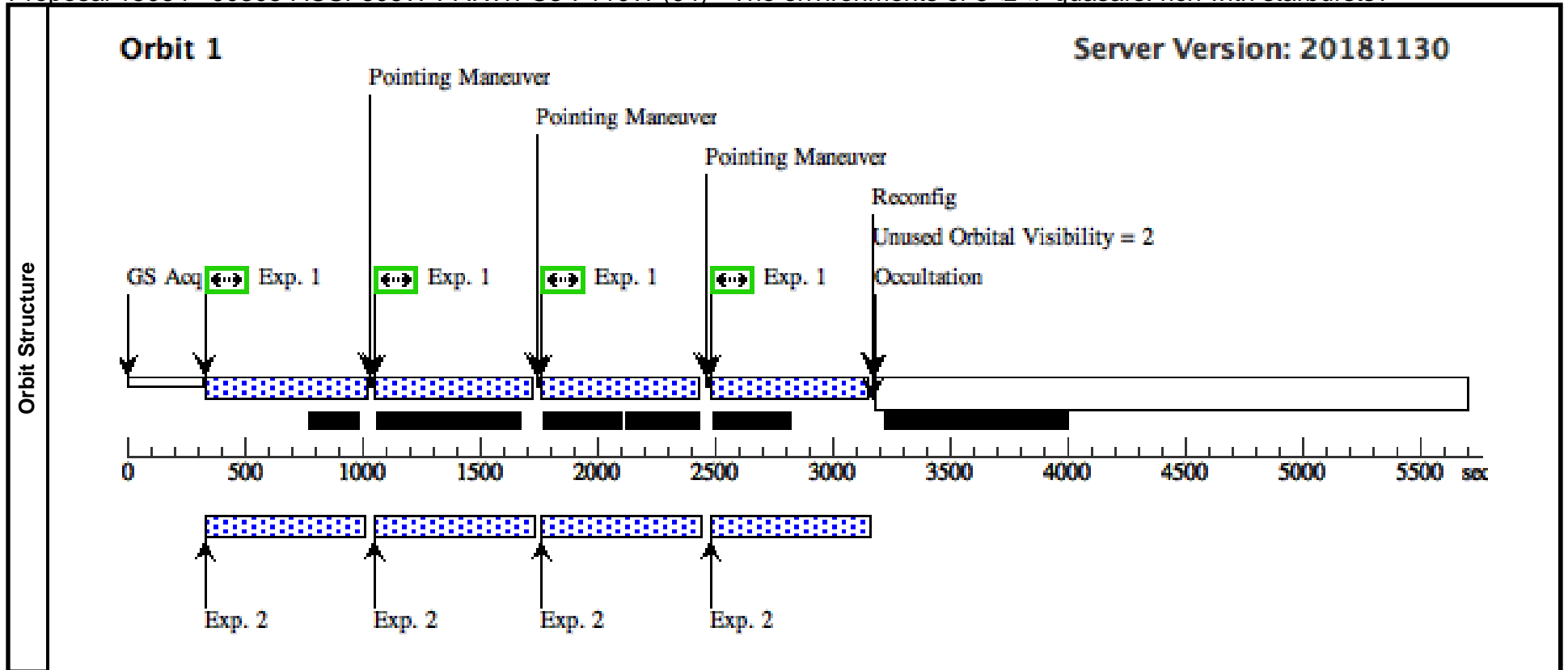
Visit	Proposal 15064, J2054-ACSF606W-PARWFC3-F110W (13), completed Diagnostic Status: Warning Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: SAME ORIENT AS 12									
	Diagnosics (J2054-ACSF606W-PARWFC3-F110W (13)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN									
Patterns	#	Primary Pattern		Secondary Pattern		Exposures				
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192		Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	J2054-0005 Alt Name1: J2054	RA: 20 54 6.4900 (313.5270417d) Dec: -00 05 14.80 (-.08744d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.038	V=20.60+/-0.3	Reference Frame: ICRS				
Comments: Category=GALAXY Description=[HIGH REDSHIFT GALAXY, OSO, QUASAR, ULTRALUMINOUS IR GAL]										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J2054-F814 W	(3) J2054-0005	ACS/WFC, ACCUM, WFC	F606W				Pattern 2, Exps 1-2 in J2054-ACSF606W-PARWFC3-F110W (13) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2054-ACSF606W-PARWFC3-F110W (13)	500 Secs (2016 Secs) [==>504.0 Secs (Pattern 1)] [==>504.0 Secs (Pattern 2)] [==>504.0 Secs (Pattern 3)] [==>504.0 Secs (Pattern 4)]
2	J2054Offset -F110W	ANY	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=14; SAMP-SEQ=SPAR S50			Pattern 2, Exps 1-2 in J2054-ACSF606W-PARWFC3-F110W (13) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J2054-ACSF606W-PARWFC3-F110W (13)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 15064 - J0305-ACSF606W-PARWFC3-F110W (04) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

Visit	Proposal 15064, J0305-ACSF606W-PARWFC3-F110W (04), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 50D TO 65 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	J0305-3150 Alt Name1: J0305	RA: 03 05 16.9100 (46.3204583d) Dec: -31 50 55.94 (-31.84887d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.604	V=22.12+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QSO, QUASAR, ULTRALUMINOUS IR GAL] Extended=NO									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0305-F606W	(1) J0305-3150	ACS/WFC, ACCUM, WFC	F606W		GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-2 in J0305-ACSF606W-PARWFC3-F110W (04) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J0305-ACSF606W-PARWFC3-F110W (04)	540 Secs (2115 Secs) [==>480 Secs (Pattern 1)] [==>545 Secs (Pattern 2)] [==>545 Secs (Pattern 3)] [==>545 Secs (Pattern 4)]	[1]
2	J0305Offset-F110W	ANY	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=14; SAMP-SEQ=SPAR S50		Pattern 2, Exps 1-2 in J0305-ACSF606W-PARWFC3-F110W (04) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J0305-ACSF606W-PARWFC3-F110W (04)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	



Proposal 15064 - J0305-ACSF814W-PARWFC3-F140W (05) - The environments of 6<z<7 quasars: rich with starbursts?

Tue Mar 05 16:01:57 GMT 2019

Visit	Proposal 15064, J0305-ACSF814W-PARWFC3-F140W (05), implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 50D TO 65 D									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
	(2)	Pattern Type=ACS-WFC-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.262 Line Spacing=0.192	Coordinate Frame=POS-TARG Pattern Orientation=18.39 Angle Between Sides=68.14 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	J0305-3150 Alt Name1: J0305	RA: 03 05 16.9100 (46.3204583d) Dec: -31 50 55.94 (-31.84887d) Equinox: J2000	Proper Motion RA: 0 Proper Motion Dec: 0 Parallax: 0" Epoch of Position: 2000 Redshift: 6.604	V=22.12+/-0.3	Reference Frame: ICRS				
	<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QSO, QUASAR, ULTRALUMINOUS IR GAL] Extended=NO									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	J0305-F814W	(1) J0305-3150	ACS/WFC, ACCUM, WFC	F814W		GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-2 in J0305-ACSF814W-PARWFC3-F140W (05) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J0305-ACSF814W-PARWFC3-F140W (05)	540 Secs (2115 Secs) [==>480.0 Secs (Pattern 1)] [==>545.0 Secs (Pattern 2)] [==>545.0 Secs (Pattern 3)] [==>545.0 Secs (Pattern 4)]	[1]
2	J0305Offset-F140W	ANY	WFC3/IR, MULTIACCUM, IR	F140W		NSAMP=14; SAMP-SEQ=SPAR S50	Pattern 2, Exps 1-2 in J0305-ACSF814W-PARWFC3-F140W (05) (2) Prime + Parallel Group 1-2 in Pattern 2, Exps 1-2 in J0305-ACSF814W-PARWFC3-F140W (05)	652.938154 Secs (2611.753 Secs) [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]	

