



15187 - Confirmation of the Most Distant Quasar

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) GN1-G141 ANY	ACS/WFC WFC3/IR	2	27-Dec-2017 12:00:44.0	yes
02	(1) GN1-G141 ANY	ACS/WFC WFC3/IR	2	27-Dec-2017 12:00:47.0	yes
03	(1) GN1-G141 ANY	ACS/WFC WFC3/IR	2	27-Dec-2017 12:00:49.0	yes
04	(1) GN1-G141 ANY	ACS/WFC WFC3/IR	2	27-Dec-2017 12:00:51.0	yes

8 Total Orbits Used

ABSTRACT

We propose for 8-orbit G141 grism observations to confirm the AGN nature of a $z=7.51$ galaxy, currently the most distant quasar candidate identified via NV line detection using deep G102 grism observations. The AGN evidence is further supported by a weak line detection in the ground-based MOSFIRE spectrum. Here we request grism observations to better understand the physical processes occurring in this unique galaxy, and confirm its AGN nature via additional lines: CIV, HeII and CIII. Detection of CIV alone will unambiguously confirm its AGN nature. Currently, WFC3 grism is the most efficient instrument for observing these lines as our recent work shows that the flux loss from ground-based slit-spectrographs is significant ($>4x$) compared with the grism measurements. Furthermore, the CIII line falls on to a bright atmospheric line making it nearly impossible to observe from the ground. Confirmation of the AGN nature of our target will be a tremendous achievement because this discovery implies that the black hole accretion was already in place within the first few million years after the big bang. This also means that at least some fraction of Lyman-break selected galaxies host AGNs, which can enhance the escape of ionizing radiation and thus contribute to the reionization of the intergalactic medium (IGM). Currently there are no observations of faint quasars, $M(UV) > -23.2$ mag, at $z > 7$. Our proposed observations will push the discoveries to fainter limits, which consequently will start building an excellent base-sample for James Webb Space Telescope for studying the physical nature of sources responsible for reionizing the universe.

OBSERVING DESCRIPTION

Proposal 15187 (STScI Edit Number: 1, Created: Wednesday, December 27, 2017 12:00:53 PM EST) - Overview

This program is an 8-orbit G141 observing program to target a $z=7.51$ galaxy (AGN) in the GOODS-N field (GN1) of the FIGS survey (PID:13779).

Observing strategy:

We are splitting 8-orbits in to 4x2 orients with first 2 visits (visit 01 and visit 02) in Orient(U3)=78.5 and remaining 2 visits (visit 03 and visit 04) at Orient (U3)=9.5.

The first orient is same as in FIGS, and the second orient is close to one of the other orients in FIGS. These orients were chosen because Ly α line was detected in these orients in the FIGS G102 observations.

Exposures:

In a given orbit, we are taking one F140W image followed by four G141 dispersed images.

POS TARG:

We apply some offset, using which we also provide small dithers, same as applied in the FIGS program.

Coordinated parallel:

Wherever possible, we have added coordinated parallels (ACS imaging). Our main science program does not depend on the coordinated parallels.

Proposal 15187 - Visit 01 - Confirmation of the Most Distant Quasar

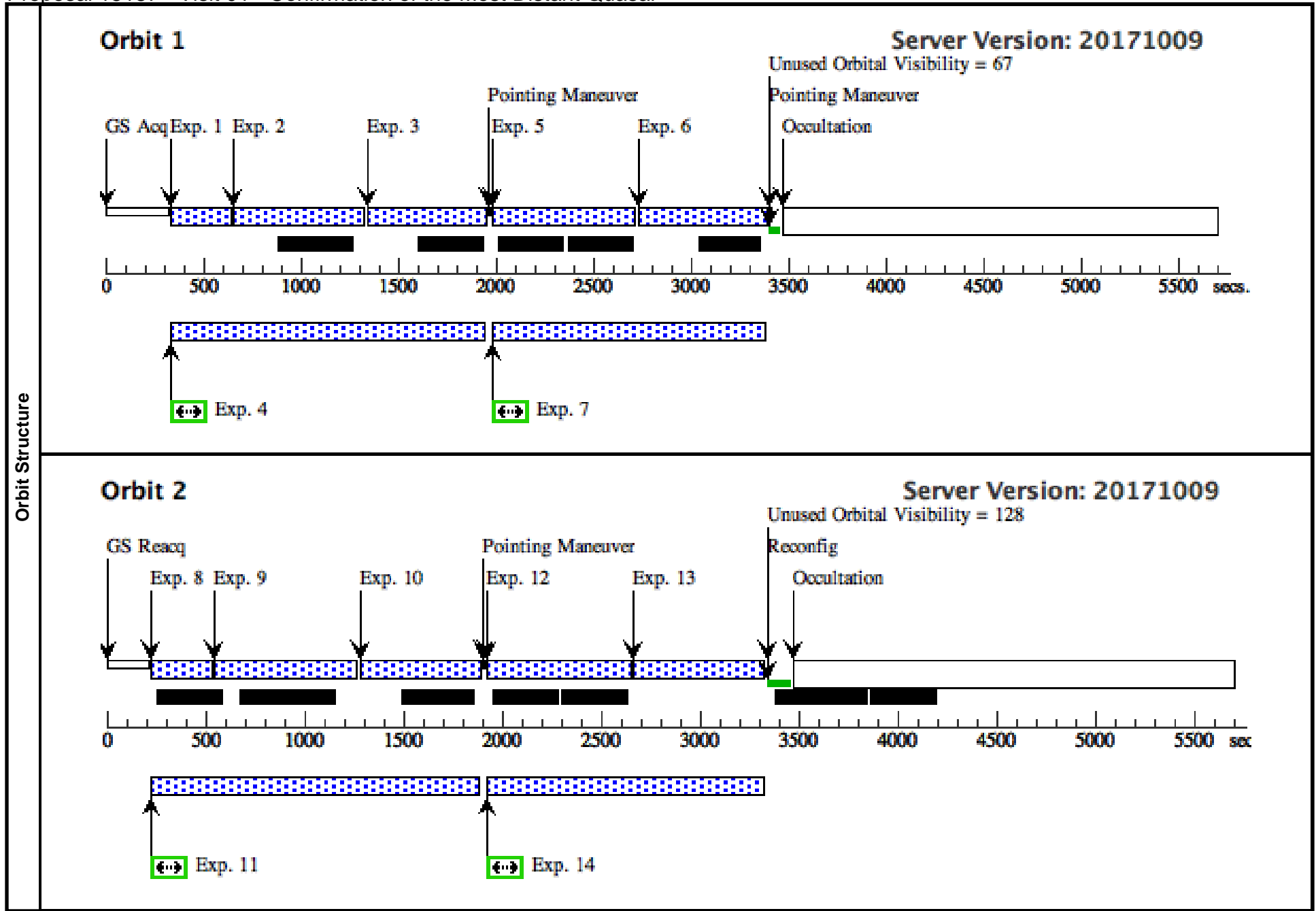
Visit	Proposal 15187, Visit 01, implementation Wed Dec 27 17:00:53 GMT 2017 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 78.5D TO 78.5 D					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(1)		GN1-G141	RA: 12 36 37.9150 (189.1579792d) Dec: +62 17 25.60 (62.29044d) Equinox: J2000		V=(?) H=25.6	Reference Frame: ICRS
<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QUASAR]						

Proposal 15187 - Visit 01 - Confirmation of the Most Distant Quasar

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -14.601, -5.077; GS ACQ SCENARI O BASE1B3	Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 01	277.937956 Secs (277.938 Secs) [==>]	[1]
	2	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.601, -5.077	Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 01	652.938154 Secs (652.938 Secs) [==>]	[1]
	3	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -14.601, -5.077	Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 01	602.937703 Secs (602.938 Secs) [==>]	[1]
	4	(1) GN1-G141	ACS/WFC, ACCUM, WFC	F606W			Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 01	100.0 Secs (1408 Secs) [==>1408.0 Secs]	[1]
	5	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -14.805, -4.774	Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 01	702.938605 Secs (702.939 Secs) [==>]	[1]
	6	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.805, -4.774	Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 01	652.938154 Secs (652.938 Secs) [==>]	[1]
	7	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 1-7 Non-Int in Visit 01 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 01	100.0 Secs (1259 Secs) [==>1259.0 Secs]	[1]
	8	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -17.921, -8.346	Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 01	277.937956 Secs (277.938 Secs) [==>]	[2]
	9	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -17.921, -8.346	Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 01	702.938605 Secs (702.939 Secs) [==>]	[2]

Proposal 15187 - Visit 01 - Confirmation of the Most Distant Quasar

10	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -17.921, -8.346	Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 01	602.937703 Secs (602.938 Secs) [==>]	[2]
11	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 01	100.0 Secs (1519 Secs) [==>1519.0 Secs]	[2]
12	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.125, -8.043	Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 01	702.938605 Secs (702.939 Secs) [==>]	[2]
13	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -18.125, -8.043	Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 01	652.938154 Secs (652.938 Secs) [==>]	[2]
14	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 8-14 Non-Int in Visit 01 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 01	100.0 Secs (1259 Secs) [==>1259.0 Secs]	[2]



Proposal 15187 - Visit 02 - Confirmation of the Most Distant Quasar

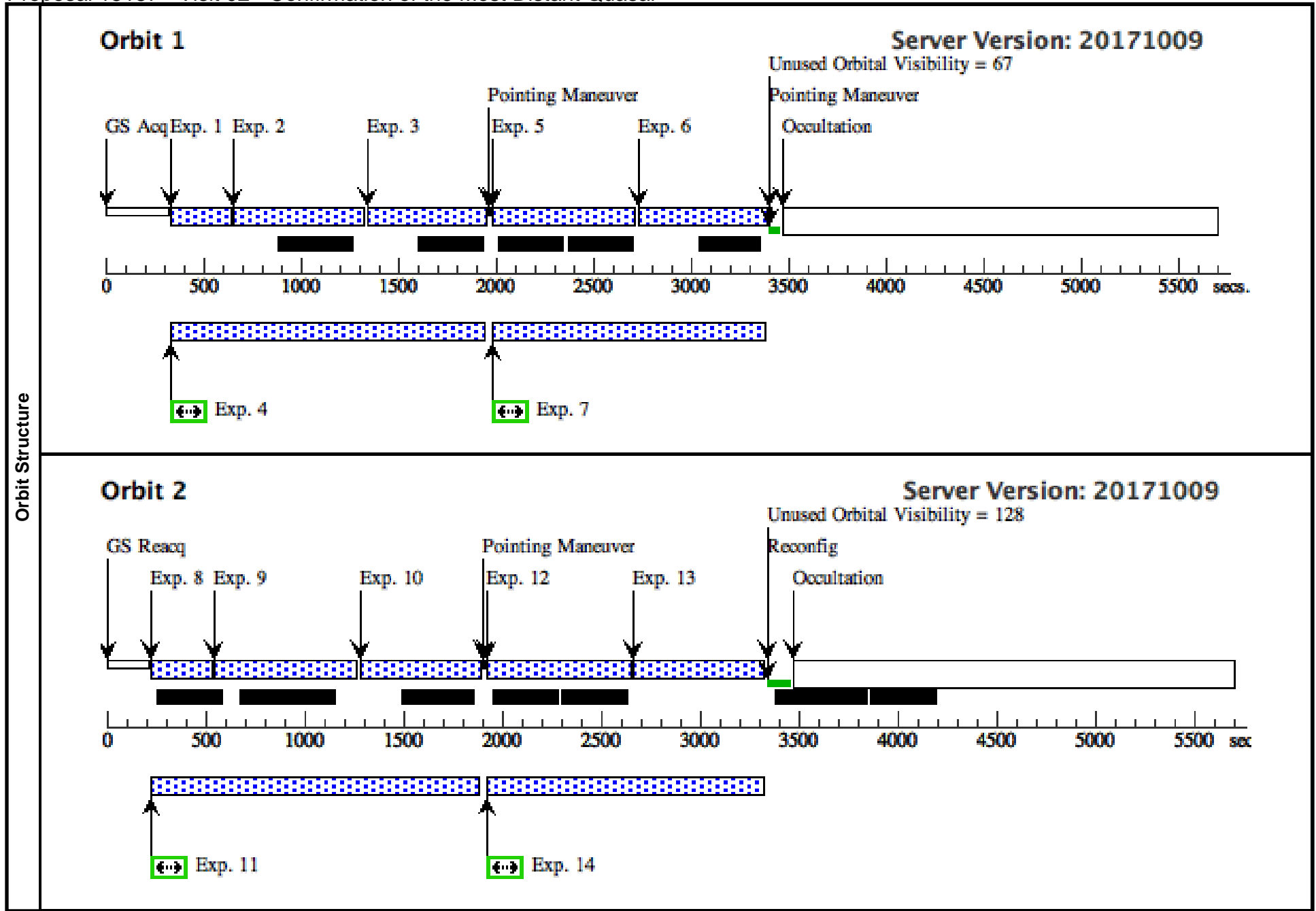
Visit	Proposal 15187, Visit 02, implementation Wed Dec 27 17:00:53 GMT 2017 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 78.5D TO 78.5 D					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(1)		GN1-G141	RA: 12 36 37.9150 (189.1579792d) Dec: +62 17 25.60 (62.29044d) Equinox: J2000		V=(?) H=25.6	Reference Frame: ICRS
<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QUASAR]						

Proposal 15187 - Visit 02 - Confirmation of the Most Distant Quasar

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -14.601, -5.277; GS ACQ SCENARI O BASE1B3	Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 02	277.937956 Secs (277.938 Secs) [==>]	[1]
	2	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.601, -5.277	Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 02	652.938154 Secs (652.938 Secs) [==>]	[1]
	3	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -14.601, -5.277	Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 02	602.937703 Secs (602.938 Secs) [==>]	[1]
	4	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 02	100.0 Secs (1408 Secs) [==>1408.0 Secs]	[1]
	5	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -14.805, -4.974	Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 02	702.938605 Secs (702.939 Secs) [==>]	[1]
	6	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.805, -4.974	Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 02	652.938154 Secs (652.938 Secs) [==>]	[1]
	7	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 1-7 Non-Int in Visit 02 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 02	100.0 Secs (1259 Secs) [==>1259.0 Secs]	[1]
	8	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -17.921, -8.546	Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 02	277.937956 Secs (277.938 Secs) [==>]	[2]
	9	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -17.921, -8.546	Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 02	702.938605 Secs (702.939 Secs) [==>]	[2]

Proposal 15187 - Visit 02 - Confirmation of the Most Distant Quasar

10	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -17.921, -8.546	Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 02	602.937703 Secs (602.938 Secs) [==>]	[2]
11	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 02	100.0 Secs (1519 Secs) [==>1519.0 Secs]	[2]
12	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.125, -8.243	Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 02	702.938605 Secs (702.939 Secs) [==>]	[2]
13	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -18.125, -8.243	Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 02	652.938154 Secs (652.938 Secs) [==>]	[2]
14	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 8-14 Non-Int in Visit 02 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 02	100.0 Secs (1259 Secs) [==>1259.0 Secs]	[2]



Proposal 15187 - Visit 03 - Confirmation of the Most Distant Quasar

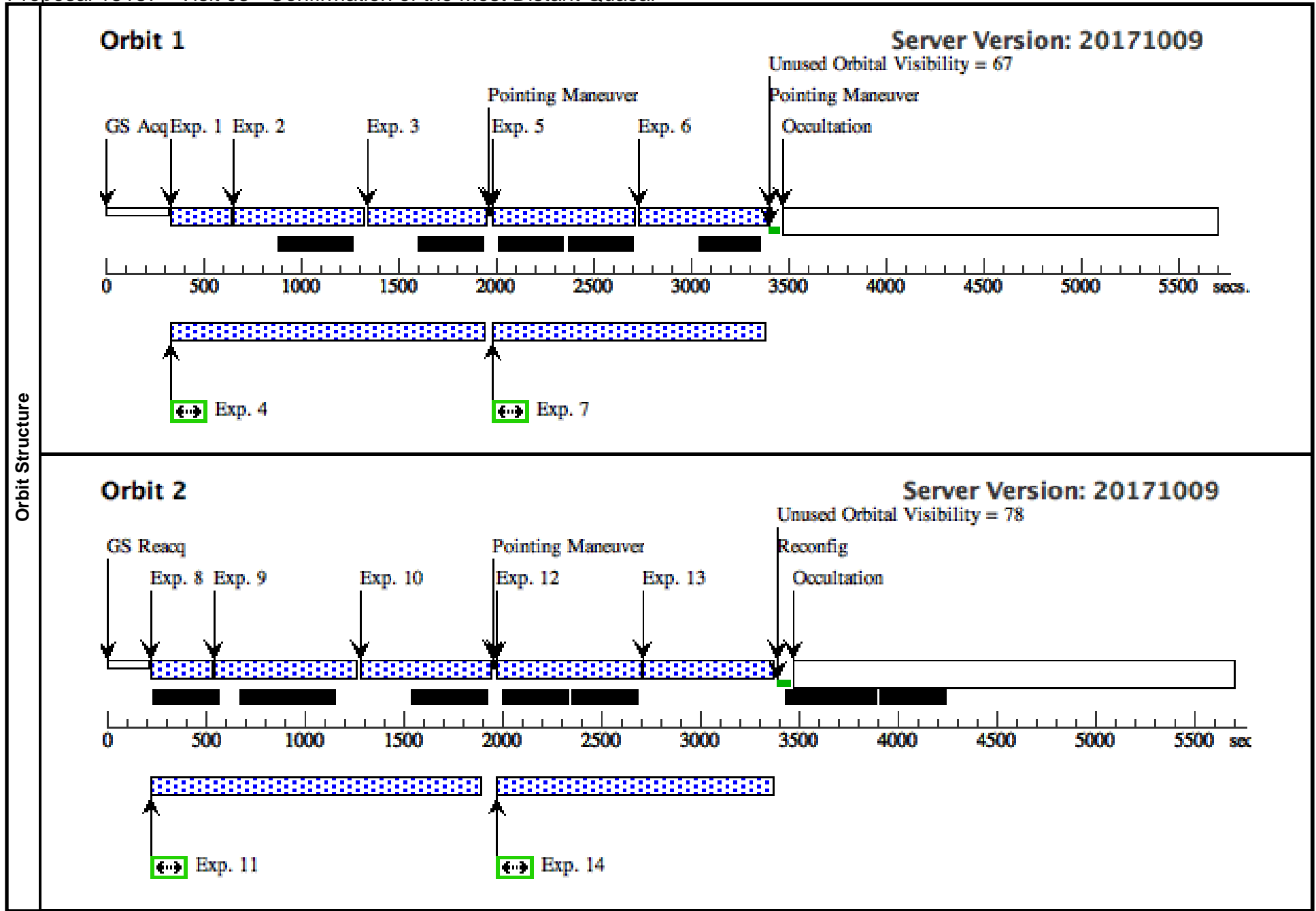
Visit	Proposal 15187, Visit 03, implementation Wed Dec 27 17:00:53 GMT 2017 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 9.5D TO 9.5 D					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(1)		GN1-G141	RA: 12 36 37.9150 (189.1579792d) Dec: +62 17 25.60 (62.29044d) Equinox: J2000		V=(?) H=25.6	Reference Frame: ICRS
<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QUASAR]						

Proposal 15187 - Visit 03 - Confirmation of the Most Distant Quasar

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -14.801, -5.277	Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 03	277.937956 Secs (277.938 Secs) [==>]	[1]
	2	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.801, -5.277	Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 03	652.938154 Secs (652.938 Secs) [==>]	[1]
	3	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -14.801, -5.277	Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 03	602.937703 Secs (602.938 Secs) [==>]	[1]
	4	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 03	1408.0 Secs (1408 Secs) [==>]	[1]
	5	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -15.005, -4.974	Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 03	702.938605 Secs (702.939 Secs) [==>]	[1]
	6	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -15.005, -4.974	Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 03	652.938154 Secs (652.938 Secs) [==>]	[1]
	7	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 1-7 Non-Int in Visit 03 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 03	910.0 Secs (1259 Secs) [==>1259.0 Secs]	[1]
	8	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -18.121, -8.546	Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 03	277.937956 Secs (277.938 Secs) [==>]	[2]
	9	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.121, -8.546	Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 03	702.938605 Secs (702.939 Secs) [==>]	[2]

Proposal 15187 - Visit 03 - Confirmation of the Most Distant Quasar

10	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -18.121, -8.546	Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 03	652.938154 Secs (652.938 Secs) [==>]	[2]
11	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 03	1518.0 Secs (1544 Secs) [==>1544.0 Secs]	[2]
12	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.325, -8.243	Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 03	702.938605 Secs (702.939 Secs) [==>]	[2]
13	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -18.325, -8.243	Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 03	652.938154 Secs (652.938 Secs) [==>]	[2]
14	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 8-14 Non-Int in Visit 03 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 03	1924.0 Secs (1260 Secs) [==>1260.0 Secs]	[2]



Proposal 15187 - Visit 04 - Confirmation of the Most Distant Quasar

Visit	Proposal 15187, Visit 04, implementation Wed Dec 27 17:00:53 GMT 2017 Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR, ACS/WFC Special Requirements: ORIENT 9.5D TO 9.5 D					
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes
(1)		GN1-G141	RA: 12 36 37.9150 (189.1579792d) Dec: +62 17 25.60 (62.29044d) Equinox: J2000		V=(?) H=25.6	Reference Frame: ICRS
<i>Comments:</i> Category=GALAXY Description=[HIGH REDSHIFT GALAXY, QUASAR]						

Proposal 15187 - Visit 04 - Confirmation of the Most Distant Quasar

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -14.801, -5.077	Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 04	277.937956 Secs (277.938 Secs) [==>]	[1]
	2	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -14.801, -5.077	Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 04	652.938154 Secs (652.938 Secs) [==>]	[1]
	3	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPAR S50	POS TARG -14.801, -5.077	Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 04	602.937703 Secs (602.938 Secs) [==>]	[1]
	4	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 1-4 in Sequence 1-7 Non-Int in Visit 04	1408.0 Secs (1408 Secs) [==>]	[1]
	5	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -15.005, -4.774	Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 04	702.938605 Secs (702.939 Secs) [==>]	[1]
	6	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -15.005, -4.774	Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 04	652.938154 Secs (652.938 Secs) [==>]	[1]
	7	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 1-7 Non-Int in Visit 04 Prime + Parallel Group 5-7 in Sequence 1-7 Non-Int in Visit 04	910.0 Secs (1259 Secs) [==>1259.0 Secs]	[1]
	8	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=12; SAMP-SEQ=SPAR S25	POS TARG -18.121, -8.346	Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 04	277.937956 Secs (277.938 Secs) [==>]	[2]
	9	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.121, -8.346	Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 04	702.938605 Secs (702.939 Secs) [==>]	[2]

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10	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.121, -8.346	Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 04	702.938605 Secs (702.939 Secs) [==>]	[2]
11	ANY	ACS/WFC, ACCUM, WFC	G800L	AUTOIMAGE=NO		Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 8-11 in Sequence 8-14 Non-Int in Visit 04	1518.0 Secs (1544 Secs) [==>1544.0 Secs]	[2]
12	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPAR S50	POS TARG -18.325, -8.043	Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 04	702.938605 Secs (702.939 Secs) [==>]	[2]
13	(1) GN1-G141	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S50	POS TARG -18.325, -8.043	Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 04	652.938154 Secs (652.938 Secs) [==>]	[2]
14	ANY	ACS/WFC, ACCUM, WFC	F606W			Sequence 8-14 Non-Int in Visit 04 Prime + Parallel Group 12-14 in Sequence 8-14 Non-Int in Visit 04	1924.0 Secs (1260 Secs) [==>1260.0 Secs]	[2]

