15177 - Testing CDM with the WFC3 Grism

Cycle: 25, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Anna Nierenberg (PI) (Contact)	**Jet Propulsion Laboratory**	**anna.m.nierenberg@jpl.nasa.gov**
Prof. Tommaso L. Treu (CoI)	University of California - Los Angeles	tt@astro.ucla.edu
Dr. Gabriel Brammer (CoI) (ESA Member)	University of Copenhagen, Niels Bohr Institute	gabriel.brammer@nbi.ku.dk
Dr. Chris S. Kochanek (CoI)	The Ohio State University	ckochanek@astronomy.ohio-state.edu
Prof. Annika Peter (CoI)	The Ohio State University	peter.33@osu.edu
Dr. Simon Birrer (CoI)	Stanford University	sibirrer@stanford.edu
Dr. Matthew Auger (CoI) (ESA Member)	University of Cambridge	mauger@ast.cam.ac.uk
Prof. Christopher Fassnacht (CoI)	University of California - Davis	cdfassnacht@ucdavis.edu
Timo Anguita (CoI)	Universidad Andres Bello	tanguita@gmail.com
Dr. Fernanda Ostrovski (CoI)	Universidade Federal do Rio Grande do Sul	fe.ostrovski@gmail.com
Dr. Dominique Sluse (CoI) (ESA Member)	Universite de Liege	dsluse@ulg.ac.be
Dr. Richard G. McMahon (CoI) (ESA Member)	University of Cambridge	rgm@ast.cam.ac.uk
Prof. Veronica Motta (CoI)	Universidad de Valparaiso	vmotta@uv.cl
Dr. Elizabeth Buckley-Geer (CoI)	Fermi National Accelerator Laboratory (FNAL)	buckley@fnal.gov
Dr. Huan Lin (CoI)	Fermi National Accelerator Laboratory (FNAL)	hlin@fnal.gov

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(2) DESJ0405-3308	WFC3/IR	1	25-Sep-2019 10:00:21.0	yes
02	(9) PSJ1606-2333	WFC3/IR	1	25-Sep-2019 10:00:23.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
03	(6) DESJ2038-4008	WFC3/IR	1	25-Sep-2019 10:00:24.0	yes
04	(1) SDSSJ0248+1913	WFC3/IR	2	25-Sep-2019 10:00:25.0	yes
05	(3) DESJ0420-4037	WFC3/IR	2	25-Sep-2019 10:00:27.0	yes
06	(4) SDSSJ1251+2935	WFC3/IR	2	25-Sep-2019 10:00:28.0	yes
09	(7) ATLASJ2344-3056	WFC3/IR	3	25-Sep-2019 10:00:29.0	yes
11	(5) SDSSJ1433+6007	WFC3/IR	3	25-Sep-2019 10:00:31.0	yes
12	(8) PSJ0630-1201	WFC3/IR	3	25-Sep-2019 10:00:33.0	yes

18 Total Orbits Used

ABSTRACT

The abundance of dark matter subhalos is a fundamental prediction of LCDM. Testing this prediction is difficult as low mass subhalos contain few or no stars, and these stars trace only the innermost portion of the halo potential. Gravitational lensing of background quasars is a powerful tool which enables the detection and mass measurement of low mass dark matter subhalos via perturbations to lensed image magnifications. While this method was demonstrated in 2002 on a sample of 7 systems, the field has been limited by the lack of additional lens discoveries. We propose to apply our proven method of using the HST grism to measure microlensing-free narrow-line flux ratios in a set of 9 recently discovered quasar lenses. When combined with the systems from our previous sample, (GO-13732), and ground based study, this unprecedented sample of 18 lenses will enable a robust detection of tens of low mass M(r<600) ~10^7 Msun subhalos, which exist well within the regime in which the majority of halos are expected to be dark. After accounting for uncertainties related to baryonic physics, if CDM is correct, we will detect twice as many dark matter subhalos per lens as gravitational imaging studies which are sensitive to subhalos M(r<600) >10^8 Msun. In the case of 3 keV WDM, we expect the same detection rate as gravitational imaging studies given that the majority of subhalos below their sensitivity range will be destroyed. Our measurement will provide a powerful new window into the low mass Universe.

OBSERVING DESCRIPTION

We have 9 targets which we will be observing with the WFC3 grisms and IR filters.

For each target, we will observe with the following sequence:

1) Short direct exposure with F140W (or F105W)

2) Long grism exposure at same position with G141 (or G102 if F105W was used for the direct exposure)

3) Dither to new position and repeat steps 1 and 2

The direct exposure at each observing position will enable us to obtain accurate wavelength calibrations for the grism data.

The orientation of the FOV is crucial to ensure that the spectra of the quasar images do not overlap with each other.

Visit

Proposal 15177, DESJ0405 (01), completed Wed Sep 25 14:00:34 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 350D TO 358 D

Diagnostics

(DESJ0405 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(DESJ0405 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ0405 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ0405 (01)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

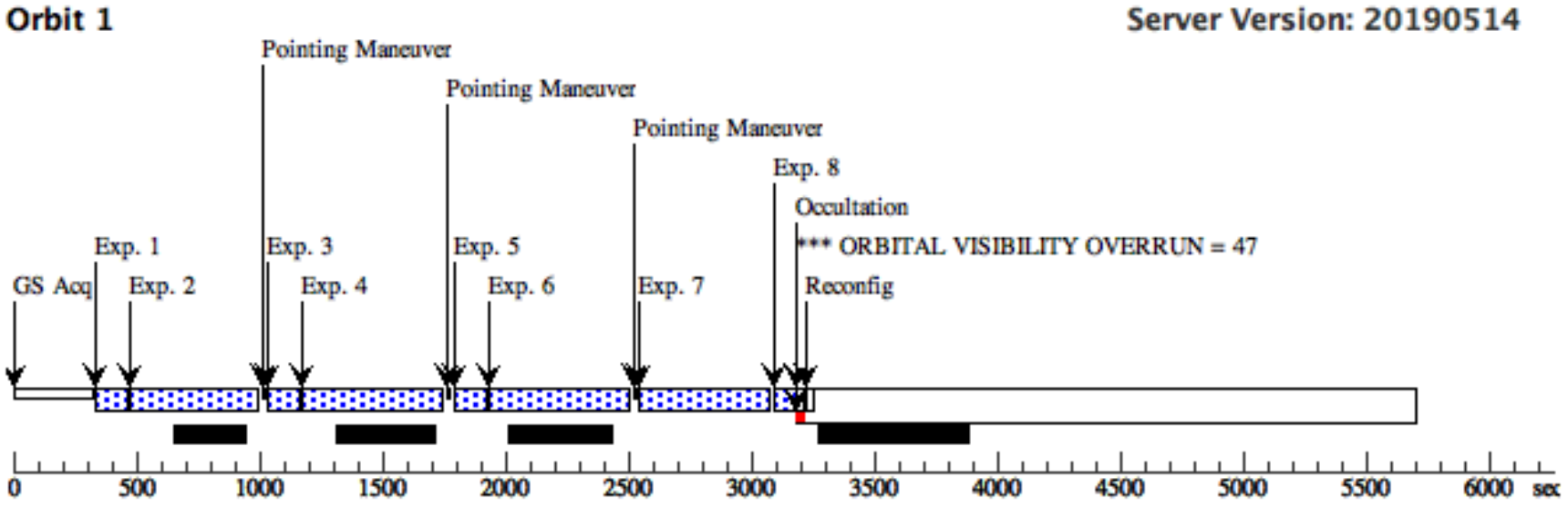
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	DESJ0405-3308	RA: 04 05 59.7000 (61.4987500d) Dec: -33 08 51.00 (-33.14750d) Equinox: J2000		V=21+/-0.5	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25		Sequence 1-2 Non-Int in DESJ0405 (01)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*
2	G141	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50		Sequence 1-2 Non-Int in DESJ0405 (01)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
3	F140W Dither 1	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	POS TARG 1.355,4.0535	Sequence 3-4 Non-Int in DESJ0405 (01)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*
4	G141 Dither 1	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS50	SAME POS AS 3	Sequence 3-4 Non-Int in DESJ0405 (01)	552.937252 Secs (552.937 Secs) *[==>]*	*[1]*
5	F140W Dither 2	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	POS TARG 0.881,-3.63	Sequence 5-6 Non-Int in DESJ0405 (01)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*
6	G141 Dither 2	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=12; SAMP-SEQ=SPARS50	SAME POS AS 5	Sequence 5-6 Non-Int in DESJ0405 (01)	552.937252 Secs (552.937 Secs) *[==>]*	*[1]*
7	G141	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50	POS TARG -0.474,-6.4735	Sequence 7-8 Non-Int in DESJ0405 (01)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
8	F140W Dither 3	(2) DESJ0405-3308	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 7-8 Non-Int in DESJ0405 (01)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15177, PSJ1606 (02), completed Wed Sep 25 14:00:34 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 98D TO 102 D; ORIENT 278D TO 282 D

Diagnostics

(PSJ1606 (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(PSJ1606 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(PSJ1606 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(PSJ1606 (02)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

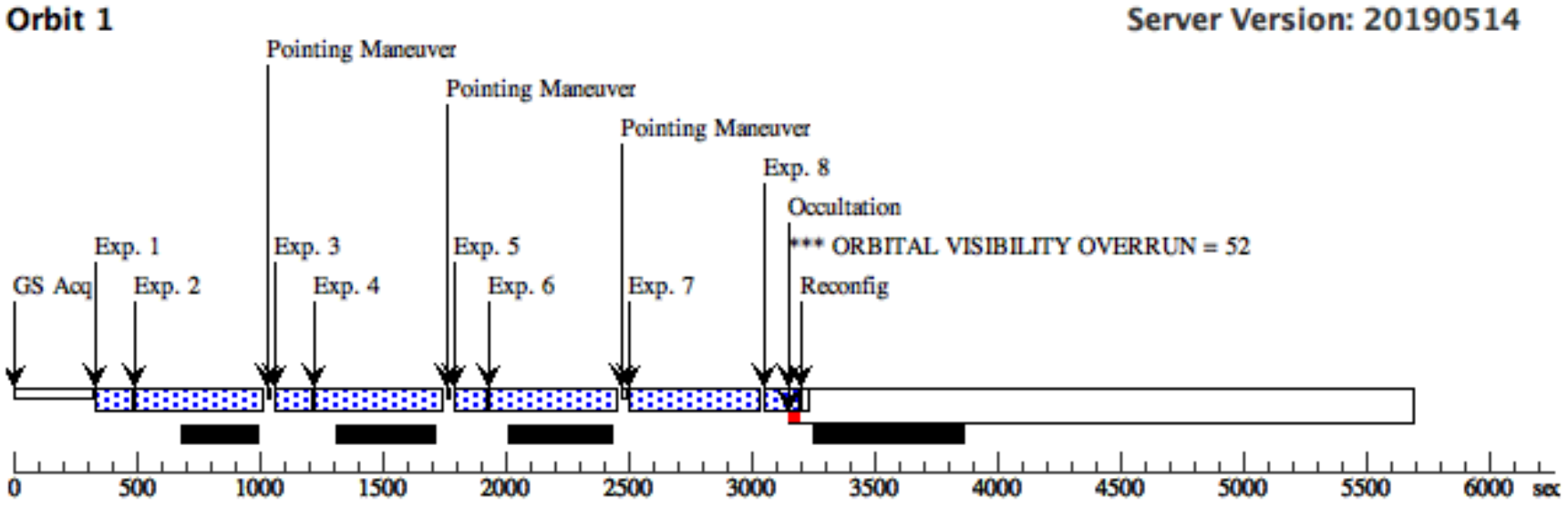
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	PSJ1606-2333	RA: 16 06 0.1800 (241.5007500d) Dec: -23 33 22.04 (-23.55612d) Equinox: J2000		V=18.1+/-0.1	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25		Sequence 1-2 Non-Int in PSJ1606 (02)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
2	G141	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50		Sequence 1-2 Non-Int in PSJ1606 (02)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
3	F140W Dither 1	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG 1.355,4.0535	Sequence 3-4 Non-Int in PSJ1606 (02)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
4	G141 Dither 1	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50	SAME POS AS 3	Sequence 3-4 Non-Int in PSJ1606 (02)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
5	F140W Dither 2	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	POS TARG 0.881,-3.63	Sequence 5-6 Non-Int in PSJ1606 (02)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*
6	G141 Dither 2	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50	SAME POS AS 5	Sequence 5-6 Non-Int in PSJ1606 (02)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
7	G141	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=11; SAMP-SEQ=SPARS50	POS TARG -0.474,6.4735	Sequence 7-8 Non-Int in PSJ1606 (02)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
8	F140W Dither 3	(9) PSJ1606-2333	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 7-8 Non-Int in PSJ1606 (02)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15177, DESJ2038 (03), completed Wed Sep 25 14:00:34 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 53D TO 57 D

Diagnostics

(DESJ2038 (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(DESJ2038 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ2038 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ2038 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ2038 (03)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

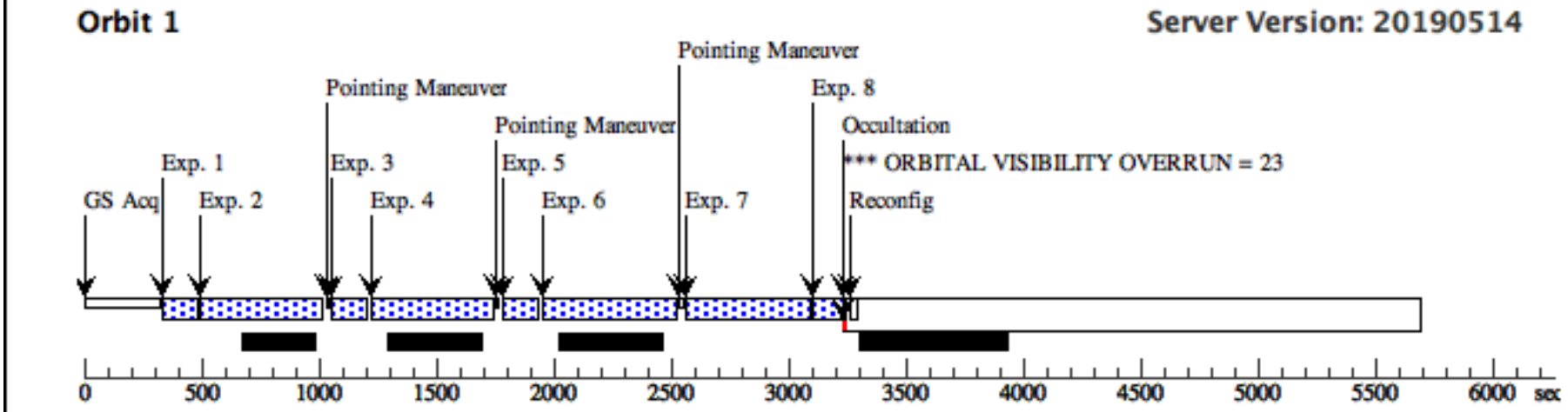
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	DESJ2038-4008	RA: 20 38 2.6000 (309.5108333d) Dec: -40 08 13.20 (-40.13700d) Equinox: J2000		V=21+/-0.5	Reference Frame: ICRS

Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F105W	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG null,15	Sequence 1-2 Non-Int in DESJ2038 (03)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
2	G102	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS50	SAME POS AS 1	Sequence 1-2 Non-Int in DESJ2038 (03)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
3	F105W Dither 1	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG 1.355,19.0535	Sequence 3-4 Non-Int in DESJ2038 (03)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
4	G102 Dither 1	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS50	SAME POS AS 3	Sequence 3-4 Non-Int in DESJ2038 (03)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
5	F105W Dither 2	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG 0.881,11.37	Sequence 5-6 Non-Int in DESJ2038 (03)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
6	G102 Dither 2	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=12; SAMP-SEQ=SPARS50	SAME POS AS 5	Sequence 5-6 Non-Int in DESJ2038 (03)	552.937252 Secs (552.937 Secs) *[==>]*	*[1]*
7	G102	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=11; SAMP-SEQ=SPARS50	POS TARG -0.474,21.4735	Sequence 7-8 Non-Int in DESJ2038 (03)	502.936801 Secs (502.937 Secs) *[==>]*	*[1]*
8	F105W Dither 3	(6) DESJ2038-4008	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 7-8 Non-Int in DESJ2038 (03)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*

Orbit Structure



Visit

Proposal 15177, SDSSJ0248 (04), completed Wed Sep 25 14:00:34 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 258D TO 262 D

Diagnostics

(SDSSJ0248 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ0248 (04)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

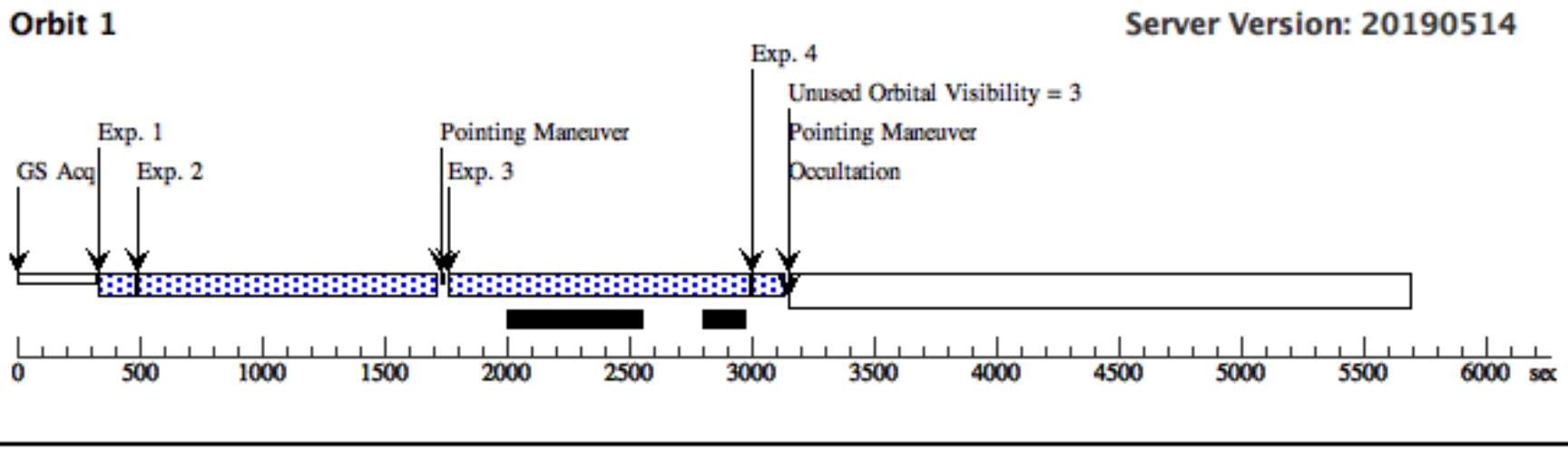
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSSJ0248+1913	RA: 02 48 48.7000 (42.2029167d) Dec: +19 13 31.00 (19.22528d) Equinox: J2000		V=21+/-0.5	Reference Frame: ICRS

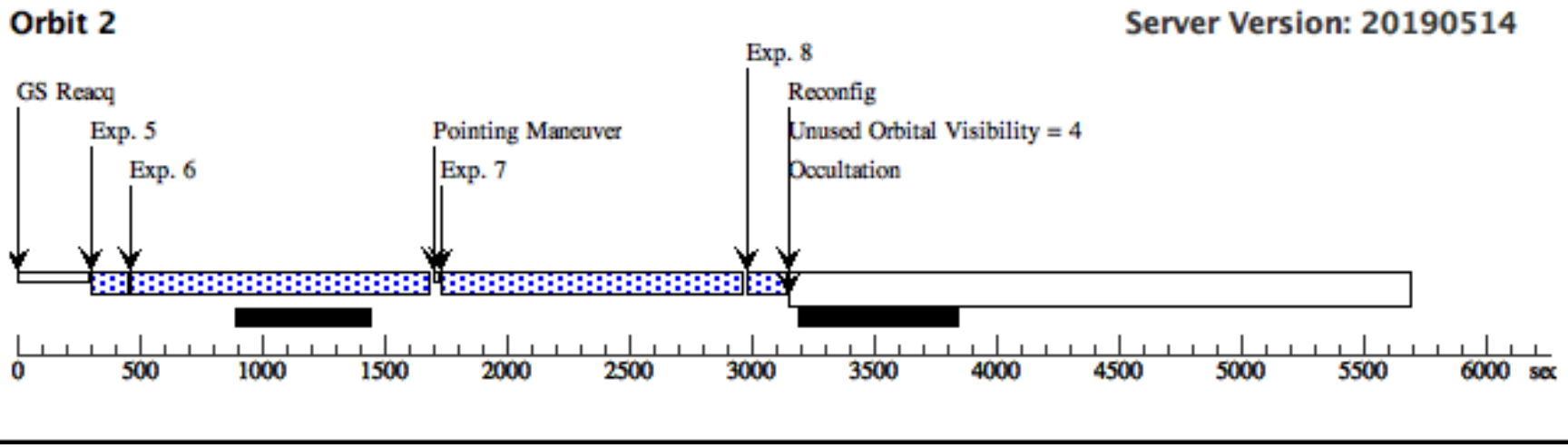
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -30,null	Sequence 1-4 Non-Int in SDSSJ0248 (04)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
2	G141	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in SDSSJ0248 (04)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
3	G141	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -28.645, 4.0535	Sequence 1-4 Non-Int in SDSSJ0248 (04)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4	F140W	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in SDSSJ0248 (04)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
5	F140W	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -29.119, -3.63	Sequence 5-8 Non-Int in SDSSJ0248 (04)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*
6	G141	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in SDSSJ0248 (04)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7	G141	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -30.474, 6.4735	Sequence 5-8 Non-Int in SDSSJ0248 (04)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8	F140W	(1) SDSSJ0248+1913	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=10; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in SDSSJ0248 (04)	149.232286 Secs (149.232 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 15177, DESJ0420 (05), completed Wed Sep 25 14:00:34 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 338D TO 342 D

Diagnostics

(DESJ0420 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(DESJ0420 (05)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

(DESJ0420 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ0420 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ0420 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(DESJ0420 (05)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

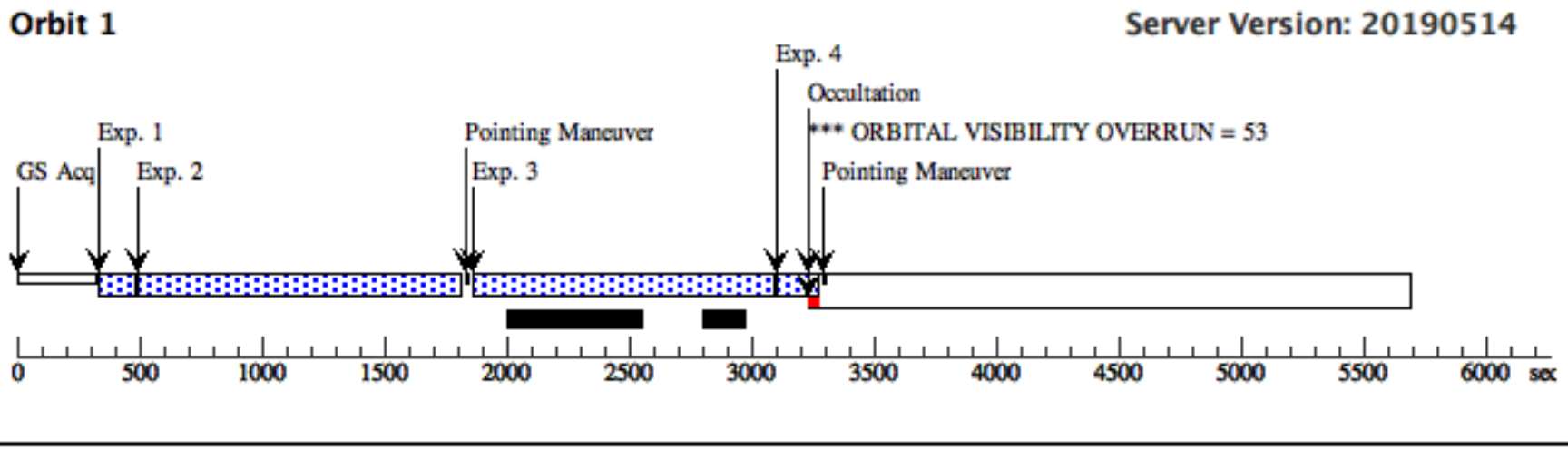
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	DESJ0420-4037	RA: 04 20 46.7000 (65.1945833d) Dec: -40 37 27.00 (-40.62417d) Equinox: J2000		V=21.0+/-0.5	Reference Frame: ICRS

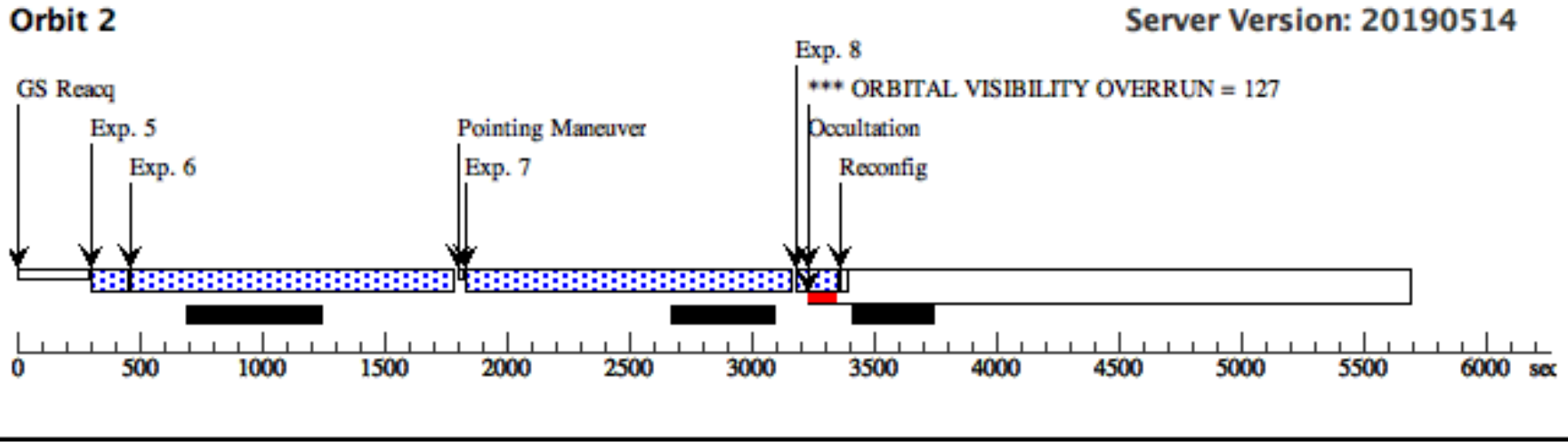
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -35,null	Sequence 1-4 Non-Int in DESJ0420 (05)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
2	G141	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in DESJ0420 (05)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[1]*
3	G141	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -33.645, 4.0535	Sequence 1-4 Non-Int in DESJ0420 (05)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4	F140W	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in DESJ0420 (05)	149.232286 Secs (149.232 Secs) *[==>]*	*[1]*
5	F140W	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -34.119, -3.63	Sequence 5-8 Non-Int in DESJ0420 (05)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*
6	G141	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in DESJ0420 (05)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[2]*
7	G141	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG -35.474, 6.4735	Sequence 5-8 Non-Int in DESJ0420 (05)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[2]*
8	F140W	(3) DESJ0420-4037	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in DESJ0420 (05)	149.232286 Secs (149.232 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 15177, SDSSJ1251 (06), completed Wed Sep 25 14:00:35 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 118D TO 122 D; ORIENT 298D TO 302 D

Diagnostics

(SDSSJ1251 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1251 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1251 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1251 (06)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

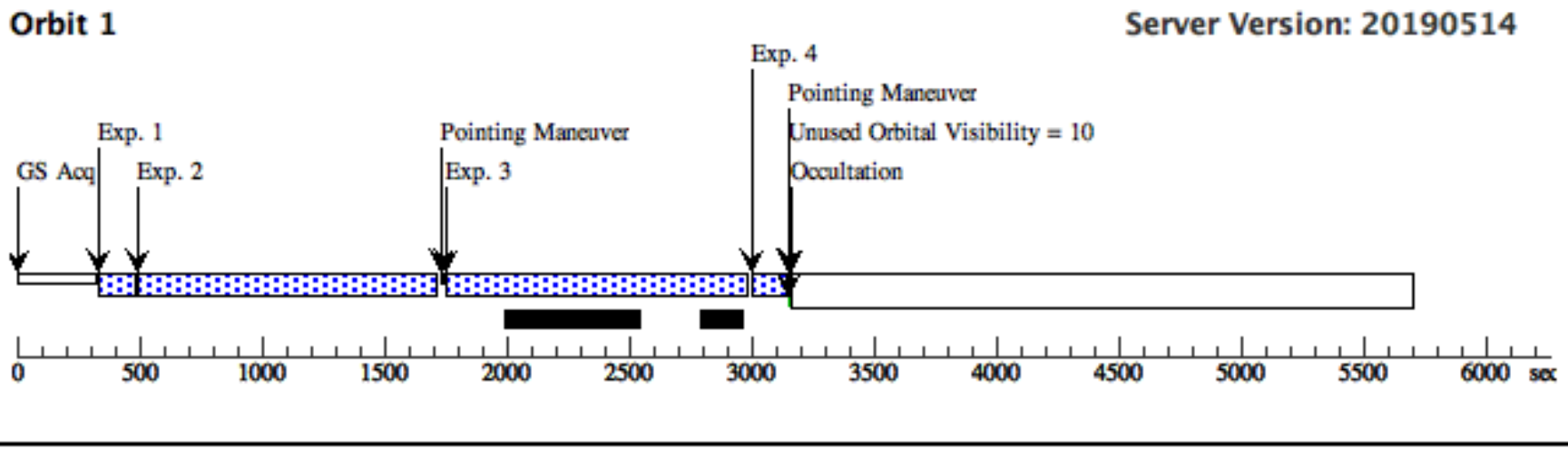
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SDSSJ1251+2935	RA: 12 51 7.5700 (192.7815417d) Dec: +29 35 40.50 (29.59458d) Equinox: J2000		V=21.0+/-0.5	Reference Frame: ICRS

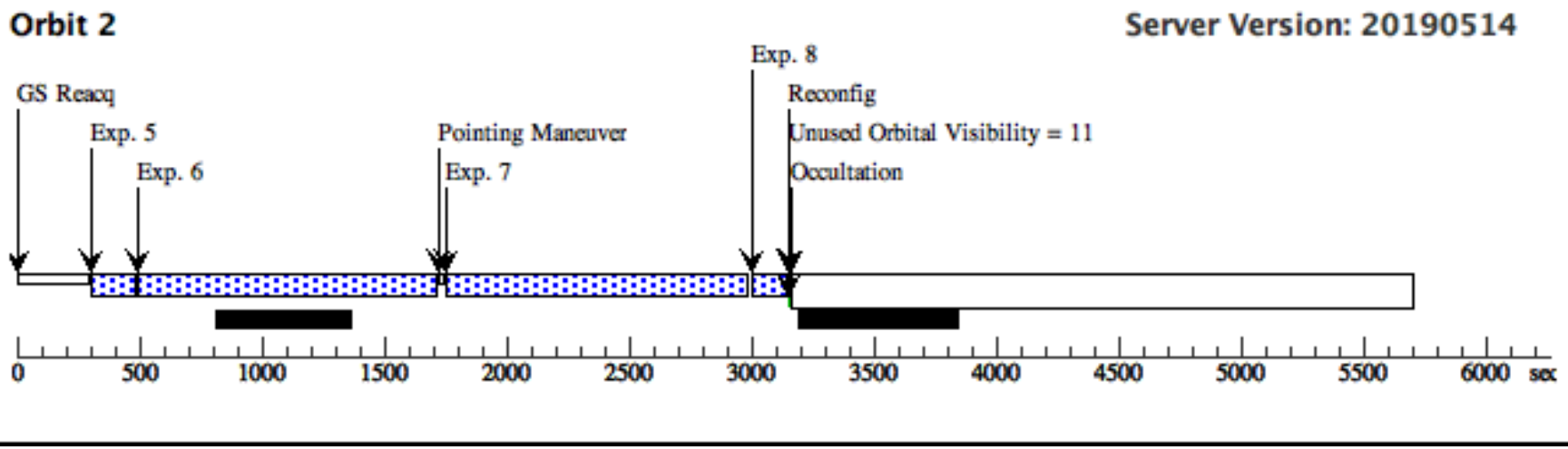
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F105W	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25		Sequence 1-4 Non-Int in SDSSJ1251 (06)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
2	G102	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in SDSSJ1251 (06)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
3	G102	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG 1.355,4.0535	Sequence 1-4 Non-Int in SDSSJ1251 (06)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4	F105W	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in SDSSJ1251 (06)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
5	F105W	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=10; SAMP-SEQ=STEP25	POS TARG 0.881,-3.63	Sequence 5-8 Non-Int in SDSSJ1251 (06)	149.232286 Secs (149.232 Secs) *[==>]*	*[2]*
6	G102	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in SDSSJ1251 (06)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7	G102	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -0.474,6.4735	Sequence 5-8 Non-Int in SDSSJ1251 (06)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8	F105W	(4) SDSSJ1251+2935	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in SDSSJ1251 (06)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*

Orbit Structure





Visit

Proposal 15177, ATLASJ2344 (09), completed Wed Sep 25 14:00:35 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(ATLASJ2344 (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(ATLASJ2344 (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(ATLASJ2344 (09)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(ATLASJ2344 (09)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

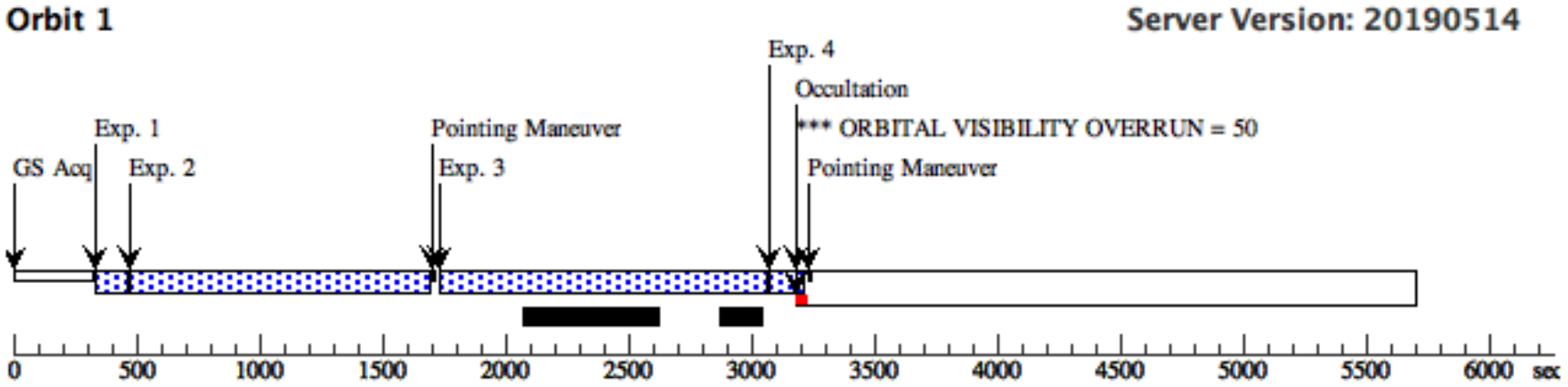
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	ATLASJ2344-3056	RA: 23 44 17.0000 (356.0708333d) Dec: -30 56 26.20 (-30.94061d) Equinox: J2000		V=21.0+/-0.5	Reference Frame: ICRS

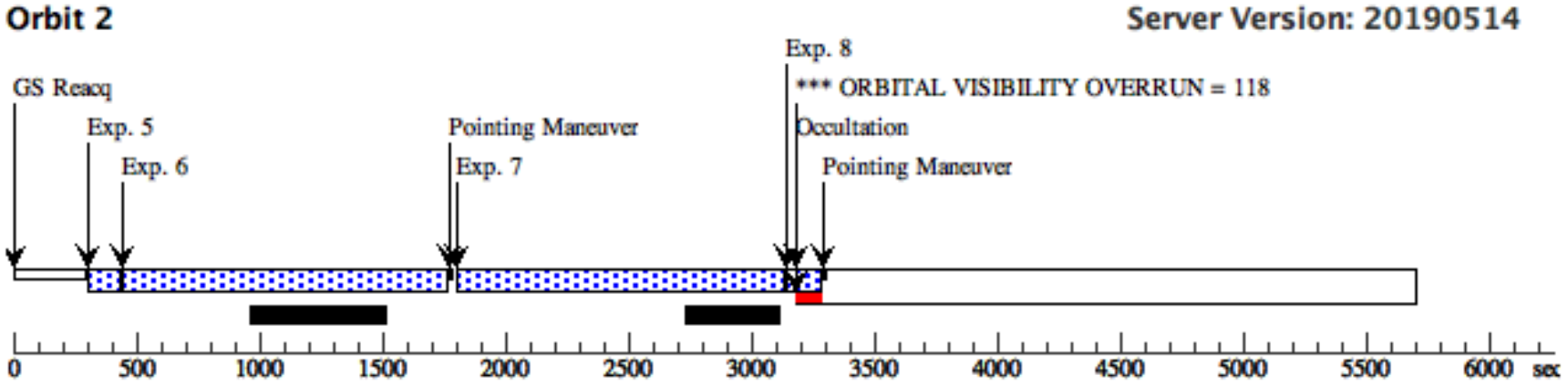
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

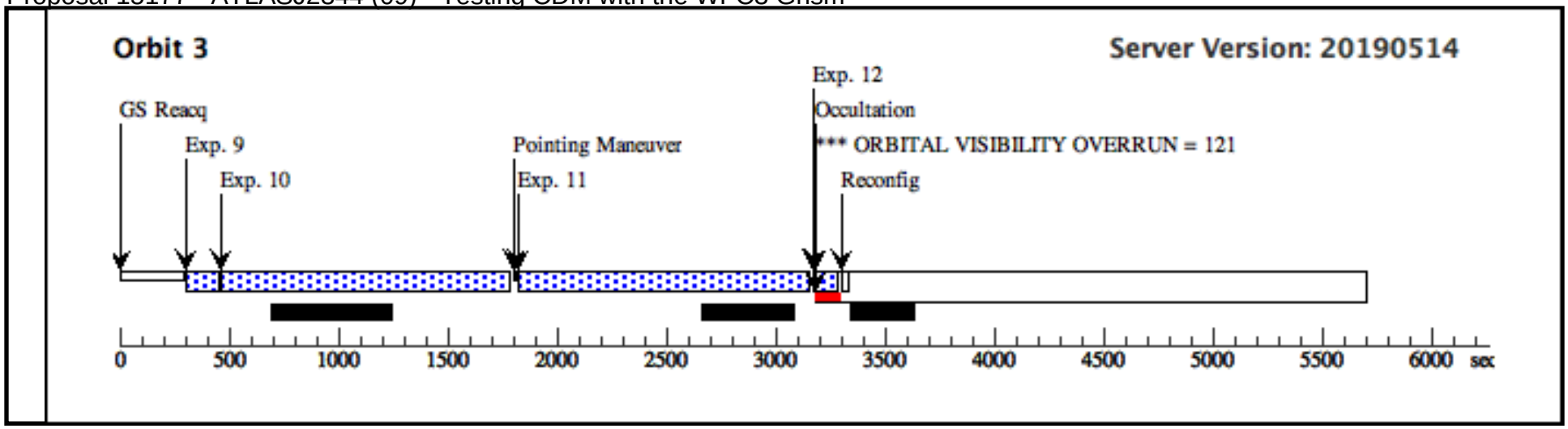
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=8; SAMP-SEQ=STEP25		Sequence 1-4 Non-Int in ATLASJ2344 (09)	99.231256 Secs (99.231 Secs) *[==>]*	***[1]***
2	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in ATLASJ2344 (09)	1202.936167 Secs (1202.936 Secs) *[==>]*	***[1]***
3	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG 1.355,4.0535	Sequence 1-4 Non-Int in ATLASJ2344 (09)	1302.93649 Secs (1302.936 Secs) *[==>]*	***[1]***
4	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in ATLASJ2344 (09)	124.231771 Secs (124.232 Secs) *[==>]*	***[1]***
5	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=8; SAMP-SEQ=STEP25	POS TARG 0.881,-3.64	Sequence 5-8 Non-Int in ATLASJ2344 (09)	99.231256 Secs (99.231 Secs) *[==>]*	***[2]***
6	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in ATLASJ2344 (09)	1302.93649 Secs (1302.936 Secs) *[==>]*	***[2]***
7	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in ATLASJ2344 (09)	1302.93649 Secs (1302.936 Secs) *[==>]*	***[2]***
8	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in ATLASJ2344 (09)	124.231771 Secs (124.232 Secs) *[==>]*	***[2]***
9	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -0.474,6.4735	Sequence 9-12 Non-Int in ATLASJ2344 (09)	124.231771 Secs (124.232 Secs) *[==>]*	***[3]***
10	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 9	Sequence 9-12 Non-Int in ATLASJ2344 (09)	1302.93649 Secs (1302.936 Secs) *[==>]*	***[3]***
11	G102	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	G102	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303	Sequence 9-12 Non-Int in ATLASJ2344 (09)	1302.93649 Secs (1302.936 Secs) *[==>]*	***[3]***
12	F105W	(7) ATLASJ2344-3056	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=8; SAMP-SEQ=STEP25	SAME POS AS 11	Sequence 9-12 Non-Int in ATLASJ2344 (09)	99.231256 Secs (99.231 Secs) *[==>]*	***[3]***

Orbit Structure






Orbit 3
Server Version: 20190514
GS Reacq
Exp. 9
Exp. 10
Pointing Maneuver
Exp. 11
Exp. 12
Occultation
*** ORBITAL VISIBILITY OVERRUN = 121
Reconfig
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Proposal 15177 - SDSSJ1433 (11) - Testing CDM with the WFC3 Grism

Visit

Proposal 15177, SDSSJ1433 (11), completed Wed Sep 25 14:00:35 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 238D TO 242 D; ORIENT 58D TO 62 D

Diagnostics

(SDSSJ1433 (11)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1433 (11)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1433 (11)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1433 (11)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

(SDSSJ1433 (11)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

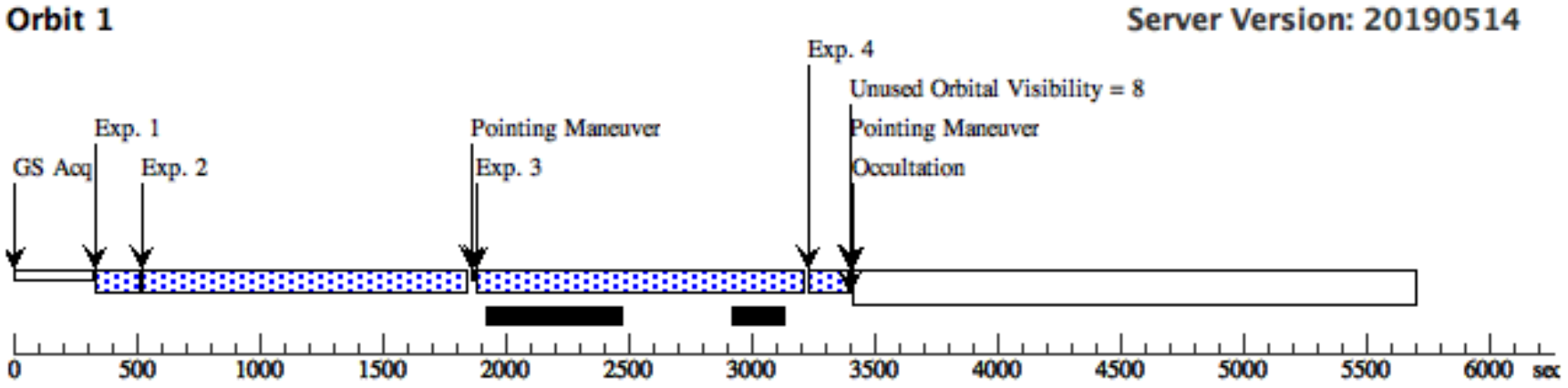
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SDSSJ1433+6007	RA: 14 33 22.8000 (218.3450000d) Dec: +60 07 13.40 (60.12039d) Equinox: J2000		V=21.0+/-0.5	Reference Frame: ICRS

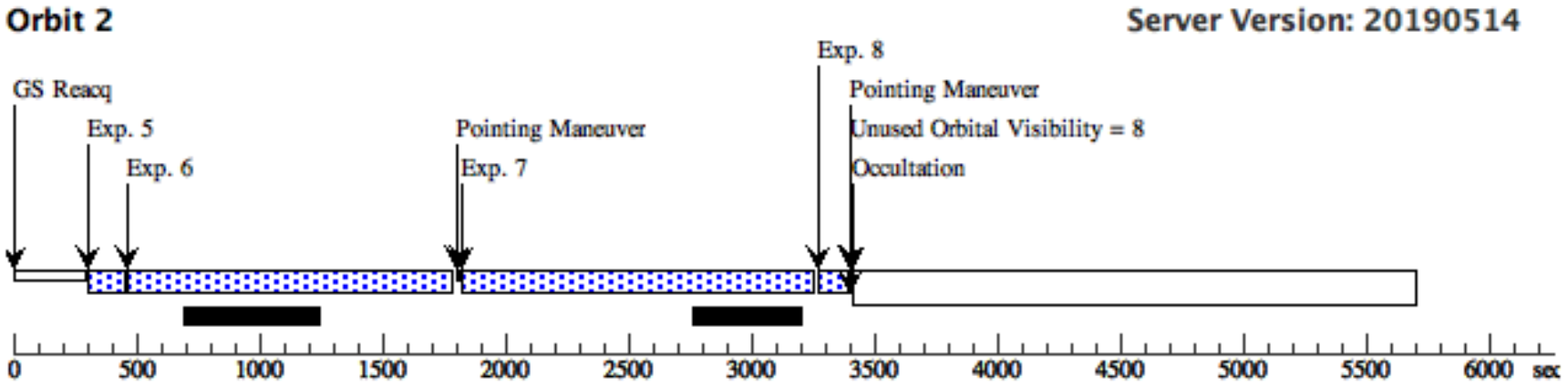
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

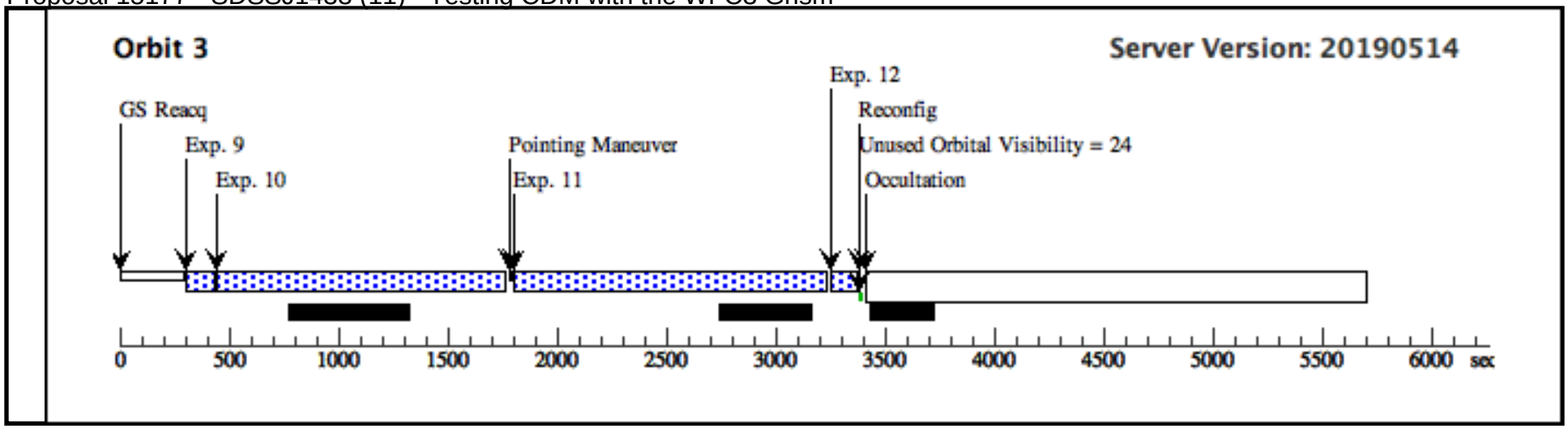
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=STEP25		Sequence 1-4 Non-Int in SDSSJ1433 (11)	149.232286 Secs (149.232 Secs) *[==>]*	*[1]*
2	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in SDSSJ1433 (11)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[1]*
3	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	POS TARG 1.355,4.0535	Sequence 1-4 Non-Int in SDSSJ1433 (11)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[1]*
4	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=10; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in SDSSJ1433 (11)	149.232286 Secs (149.232 Secs) *[==>]*	*[1]*
5	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	F105W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG 0.881,-3.63	Sequence 5-8 Non-Int in SDSSJ1433 (11)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*
6	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in SDSSJ1433 (11)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[2]*
7	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPARS100	POS TARG 0.339,0.485	Sequence 5-8 Non-Int in SDSSJ1433 (11)	1402.936813 Secs (1402.937 Secs) *[==>]*	*[2]*
8	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in SDSSJ1433 (11)	99.231256 Secs (99.231 Secs) *[==>]*	*[2]*
9	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	POS TARG -0.474,6.4735	Sequence 9-12 Non-Int in SDSSJ1433 (11)	99.231256 Secs (99.231 Secs) *[==>]*	*[3]*
10	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPARS100	SAME POS AS 9	Sequence 9-12 Non-Int in SDSSJ1433 (11)	1302.93649 Secs (1302.936 Secs) *[==>]*	*[3]*
11	G141	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=15; SAMP-SEQ=SPARS100	POS TARG -0.203,0.303	Sequence 9-12 Non-Int in SDSSJ1433 (11)	1402.936813 Secs (1402.937 Secs) *[==>]*	*[3]*
12	F140W	(5) SDSSJ1433+6007	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25	SAME POS AS 11	Sequence 9-12 Non-Int in SDSSJ1433 (11)	99.231256 Secs (99.231 Secs) *[==>]*	*[3]*

Orbit Structure






Orbit 3
Server Version: 20190514
GS Reacq
Exp. 9
Exp. 10
Pointing Maneuver
Exp. 11
Exp. 12
Reconfig
Unused Orbital Visibility = 24
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec

Visit

Proposal 15177, PSJ0630 (12), implementation Wed Sep 25 14:00:35 GMT 2019

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: ORIENT 280D TO 285 D

Diagnostics

(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE
(PSJ0630 (12)) Warning (Orbit Planner): SAME POS MAY NOT BE APPROPRIATE

Fixed Targets

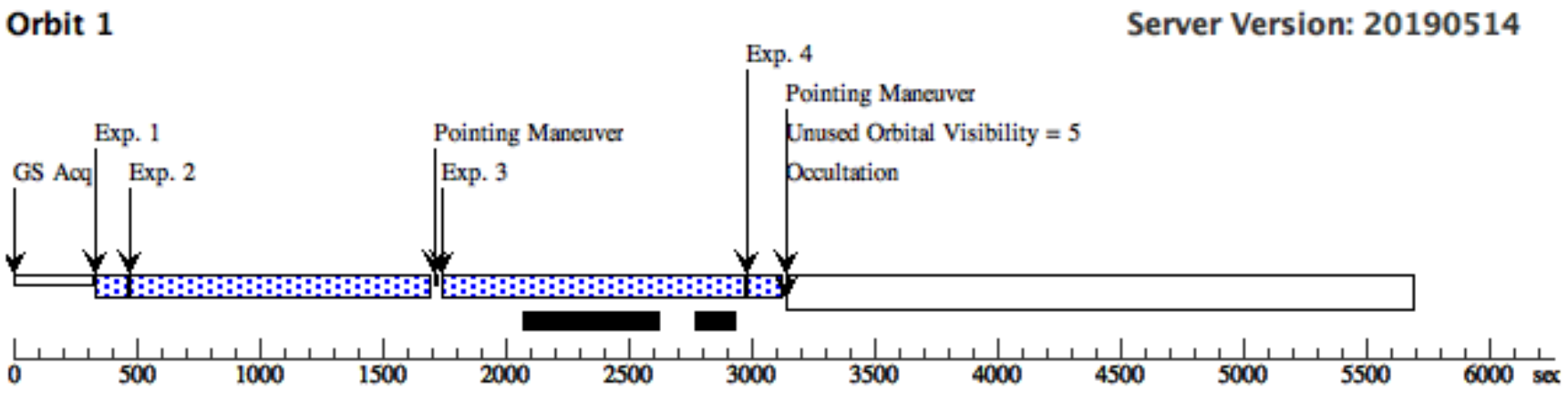
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	PSJ0630-1201	RA: 06 30 9.1100 (97.5379583d) Dec: -12 01 20.03 (-12.02223d) Equinox: J2000		V=18.1+/-0.1	Reference Frame: ICRS

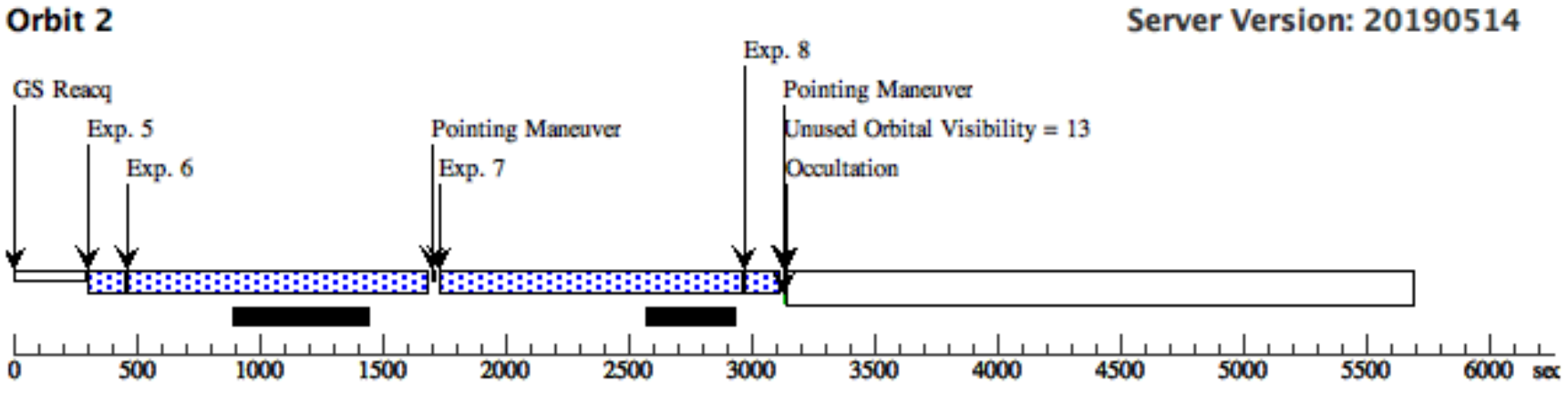
Comments:
Category=GALAXY
Description=[GRAVITATIONAL LENS, QUASAR]

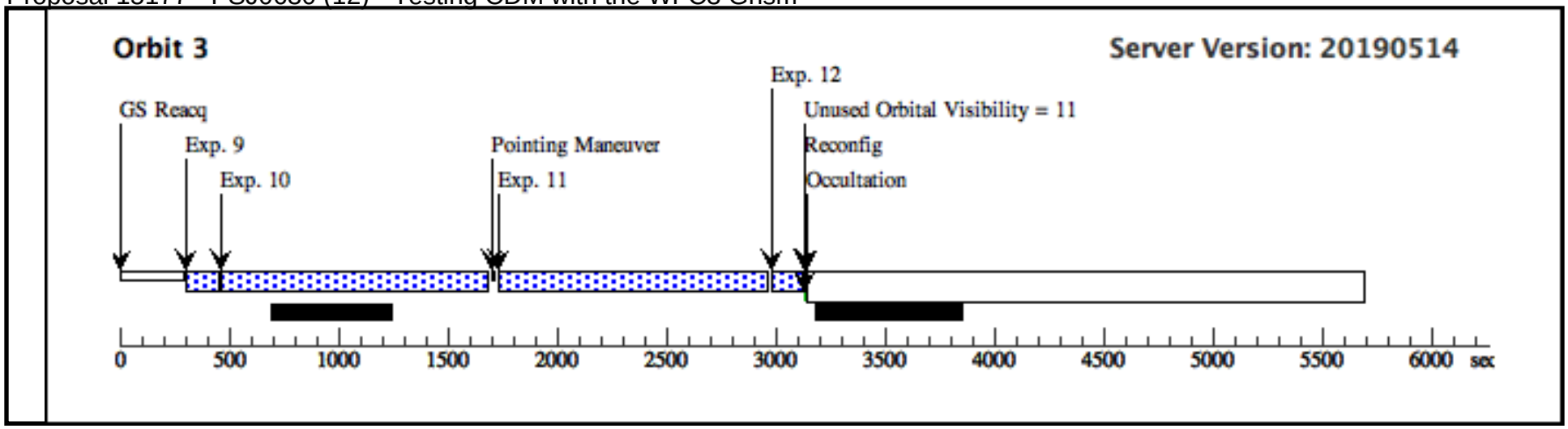
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=8; SAMP-SEQ=STEP25		Sequence 1-4 Non-Int in PSJ0630 (12)	99.231256 Secs (99.231 Secs) *[==>]*	*[1]*
2	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 1	Sequence 1-4 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
3	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -6.369,4.0535	Sequence 1-4 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[1]*
4	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 3	Sequence 1-4 Non-Int in PSJ0630 (12)	124.231771 Secs (124.232 Secs) *[==>]*	*[1]*
5	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -10.84,3.63	Sequence 5-8 Non-Int in PSJ0630 (12)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*
6	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 5	Sequence 5-8 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
7	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -15.3115,0.485	Sequence 5-8 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[2]*
8	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 7	Sequence 5-8 Non-Int in PSJ0630 (12)	124.231771 Secs (124.232 Secs) *[==>]*	*[2]*
9	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	POS TARG -20.4605,6.474	Sequence 9-12 Non-Int in PSJ0630 (12)	124.231771 Secs (124.232 Secs) *[==>]*	*[3]*
10	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	SAME POS AS 9	Sequence 9-12 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[3]*
11	G141	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=13; SAMP-SEQ=SPARS100	POS TARG -25.203,0.303	Sequence 9-12 Non-Int in PSJ0630 (12)	1202.936167 Secs (1202.936 Secs) *[==>]*	*[3]*
12	F140W	(8) PSJ0630-1201	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=9; SAMP-SEQ=STEP25	SAME POS AS 11	Sequence 9-12 Non-Int in PSJ0630 (12)	124.231771 Secs (124.232 Secs) *[==>]*	*[3]*

Orbit Structure






Orbit 3
Server Version: 20190514
GS Reacq
Exp. 9
Exp. 10
Pointing Maneuver
Exp. 11
Exp. 12
Unused Orbital Visibility = 11
Reconfig
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
6000
sec