14719 - The detailed properties of star-forming regions at high redshift: a matched-resolution HST-Halpha-ALMA study

Cycle: 24, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) SHIZELS-7	WFC3/UVIS	1	20-Jun-2017 21:01:47.0	yes
02	(1) SHIZELS-7	WFC3/IR	1	20-Jun-2017 21:01:48.0	yes
03	(2) SHIZELS-8	WFC3/UVIS	1	20-Jun-2017 21:01:49.0	yes
04	(2) SHIZELS-8	WFC3/IR	1	20-Jun-2017 21:01:50.0	yes
05	(3) SHIZELS-9	WFC3/UVIS	1	20-Jun-2017 21:01:50.0	yes
06	(3) SHIZELS-9	WFC3/IR	1	20-Jun-2017 21:01:51.0	yes
07	(4) SHIZELS-10	WFC3/UVIS	1	20-Jun-2017 21:01:51.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
08	(4) SHIZELS-10	WFC3/IR	1	20-Jun-2017 21:01:52.0	yes
09	(5) SHIZELS-11	WFC3/UVIS	1	20-Jun-2017 21:01:53.0	yes
10	(5) SHIZELS-11	WFC3/IR	1	20-Jun-2017 21:01:53.0	yes
11	(6) NIFS-HIZELS-1	WFC3/UVIS	1	20-Jun-2017 21:01:54.0	yes
12	(6) NIFS-HIZELS-1	WFC3/IR	1	20-Jun-2017 21:01:54.0	yes
13	(7) NIFS-HIZELS-2	WFC3/UVIS	1	20-Jun-2017 21:01:55.0	yes
14	(7) NIFS-HIZELS-2	WFC3/IR	1	20-Jun-2017 21:01:56.0	yes
15	(8) NIFS-HIZELS-3	WFC3/UVIS	1	20-Jun-2017 21:01:56.0	yes
16	(8) NIFS-HIZELS-3	WFC3/IR	1	20-Jun-2017 21:01:57.0	yes
17	(9) SHIZELS-14	WFC3/UVIS	1	20-Jun-2017 21:01:57.0	yes
18	(9) SHIZELS-14	WFC3/IR	1	20-Jun-2017 21:01:58.0	yes
52	(1) SHIZELS-7	WFC3/IR	1	20-Jun-2017 21:01:58.0	yes

19 Total Orbits Used

ABSTRACT

Star-formation in high redshift galaxies takes place in very different conditions to those locally: high-redshift star-forming galaxies are dominated by gas-rich (f_gas ~ 20-80%) turbulent disks, have a highly pressured interstellar medium, and contain star-forming complexes orders of magnitude larger than those nearby. To understand quantitative the physical conditions and processes in these galaxies requires spatially-resolved studies of their properties and dynamics. We have been addressing this using adaptive-optics-assisted integral field spectroscopy of the H-alpha line emission of 'typical' galaxies at z=1.47 and 2.23, coupled with ALMA imaging of the thermal dust emission at matched 0.1-arcsec resolution. Here we propose to obtain two-filter HST images of 9 of these galaxies to delineate the old and young stellar populations on the same kpc-scales. Using these data we will: (i) measure spatially-resolved dust attenuation by accurately mapping the H-alpha to ultraviolet star-formation rate ratio across the galaxies; (ii) derive corrected star-formation rates, quantify the properties of the star-forming clumps, and investigate their scaling relations; (iii) critically test numerical simulations of the properties and lifetimes of these clumps; (iv) determine the morphological properties of the galaxies: evidence for mergers, disk scale-lengths, Sersic indices; (v) provide the first spatially-resolved comparison of the three classic star-formation tracers (UV, H-alpha, far-IR) at high redshift. This matched-resolution HST-Halpha-ALMA dataset will be a uniquely powerful resource for understanding the physical conditions within high-redshift star-forming galaxies.

OBSERVING DESCRIPTION

We will observe the 9 targets from our HiZELS-SINFONI/NIFS-ALMA sample at z=1.47 and z=2.23, using the WFC3/UVIS F606W filter and the WFC3/IR F140W filter.

HiZELS is a wide-field near-infrared narrow-band survey which has selected H-alpha emitting galaxies in four narrow redshift slices, over large sky areas. The large HiZELS samples have allowed the selection of galaxies close enough to bright stars to enable adaptive-optics-assisted integral field spectroscopy of the H-alpha emission with VLT-SINFONI and Gemini-NIFS at ~0.1 arcsec resolution. For the 9 targets in this proposal we also have ALMA time to study their dust continuum emission, also at 0.1 arcsec resolution. These HST observations will obtain matched resolution observations of the rest-frame near-UV emission (~2400 Ang and ~1900 Ang using the F606W filter at z=1.47 and z=2.23 respectively) and optical (~5500 Ang and 4350 Ang using the F140W filter), spanning the 4000 Ang break, and so tracing the young and old stellar populations. Importantly, at both redshifts these filters cover line-free regions of the spectrum.

The targets all have AB magnitudes in the range 23.0 < F606W < 24.0 and 20.5 < F140W < 22.0. The angular sizes of the galaxies are typically 1-1.5 arcsec. We require accurate morphological information, and therefore target an integrated signal-to-noise ratio of at least ~50, and ideally >100, within a 1.5 arcsec diameter aperture. This is achievable with one orbit integrations through each filter.

We will split each orbit into a 3-point dither pattern in the UVIS channel, as this offers the best compromise between maximising sensitivity and sub-sampling the PSF. In the IR channel, angular resolution is of higher priority than sensitivity, and so a 4-point dither pattern will be adopted to fully recover the PSF.

Visit

Proposal 14719, SHiZELS7-UV (01), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

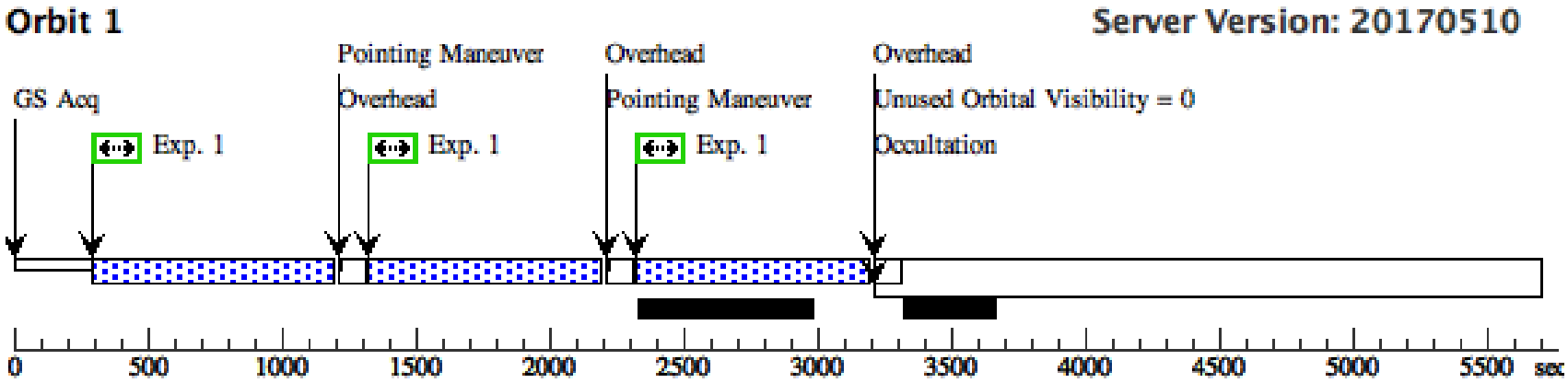
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SHIZELS-7 Alt Name1: HIZELS-UDS-NB921-DTC-S12-192874 Alt Name2: HIZELS-UDS-NBH-DTC-S12-5776	RA: 02 17 0.4000 (34.2516667d) Dec: -05 01 50.80 (-5.03078d) Equinox: J2000	Redshift: 1.47	V=23.3+/-0.1 H=21.7	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS7-UV	(1) SHIZELS-7	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in SHiZELS7-UV (01) (1)	850 Secs (2616 Secs) *[==>872.0 Secs (Pattern 1)]* *[==>872.0 Secs (Pattern 2)]* *[==>872.0 Secs (Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS7-IR (02), scheduled Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

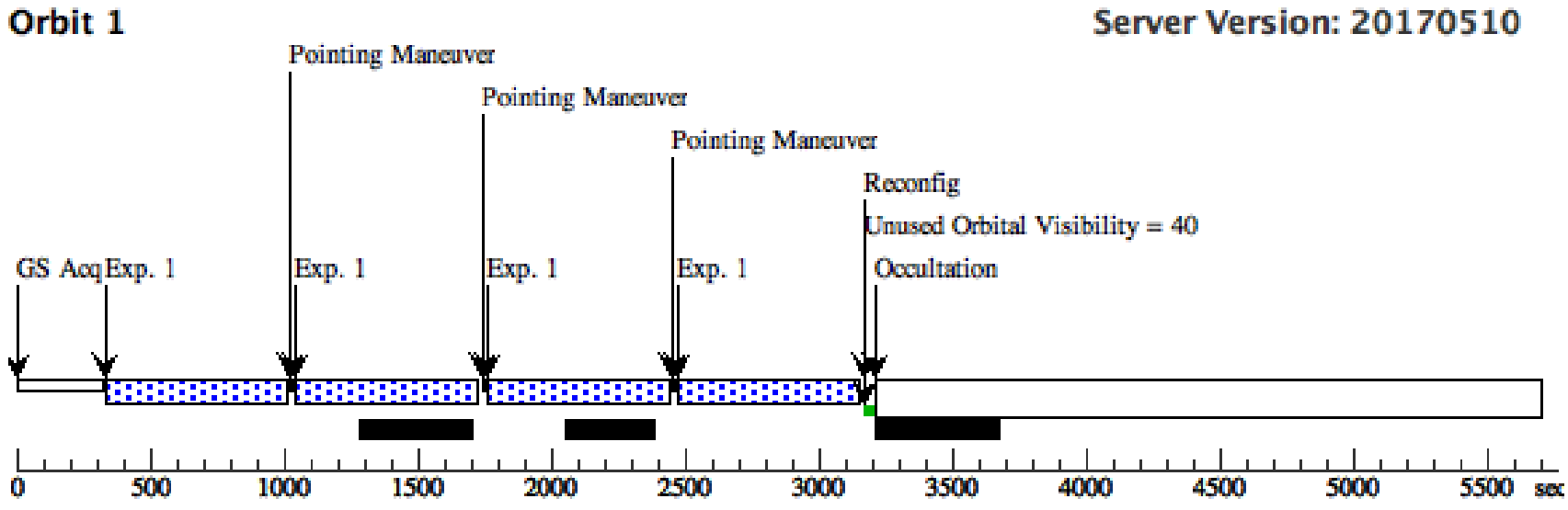
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SHIZELS-7 Alt Name1: HIZELS-UDS-NB921-DTC-S12-192874 Alt Name2: HIZELS-UDS-NBH-DTC-S12-5776	RA: 02 17 0.4000 (34.2516667d) Dec: -05 01 50.80 (-5.03078d) Equinox: J2000	Redshift: 1.47	V=23.3+/-0.1 H=21.7	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS7-IR	(1) SHIZELS-7	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in SHiZELS7-IR (02) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS8-UV (03), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

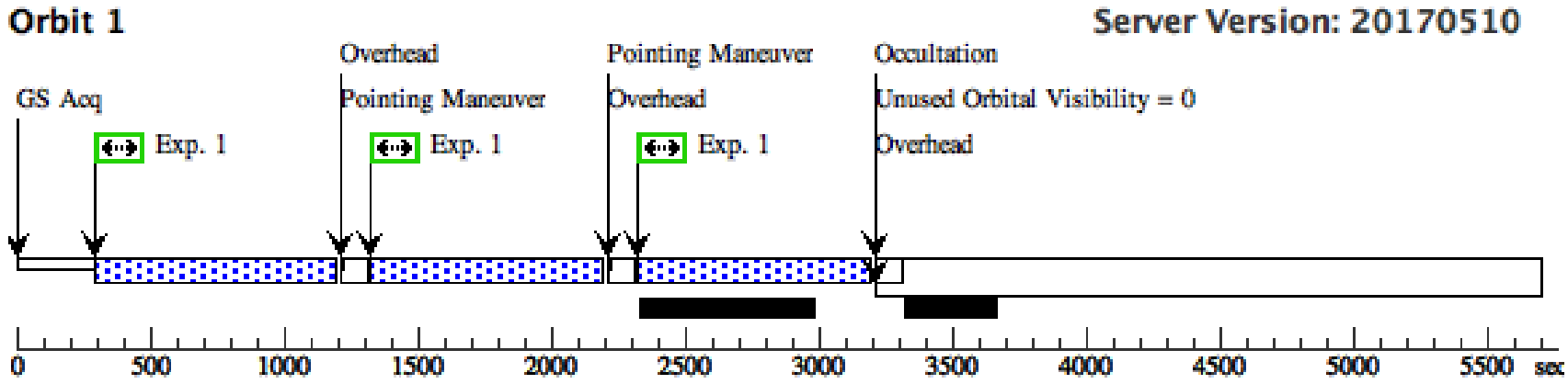
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SHIZELS-8 Alt Name1: HIZELS-UDS-NB921-DTC-S12-134582 Alt Name2: HIZELS-UDS-NBH-DTC-S12-16305	RA: 02 18 21.0000 (34.5875000d) Dec: -05 19 7.80 (-5.31883d) Equinox: J2000	Redshift: 1.46	V=23.3+/-0.1 H=21.4	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS8-UV	(2) SHIZELS-8	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in SHiZELS8-UV (03) (1)	850 Secs (2616 Secs) *[==>872.0 Secs (Pattern 1)]* *[==>872.0 Secs (Pattern 2)]* *[==>872.0 Secs (Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS8-IR (04), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

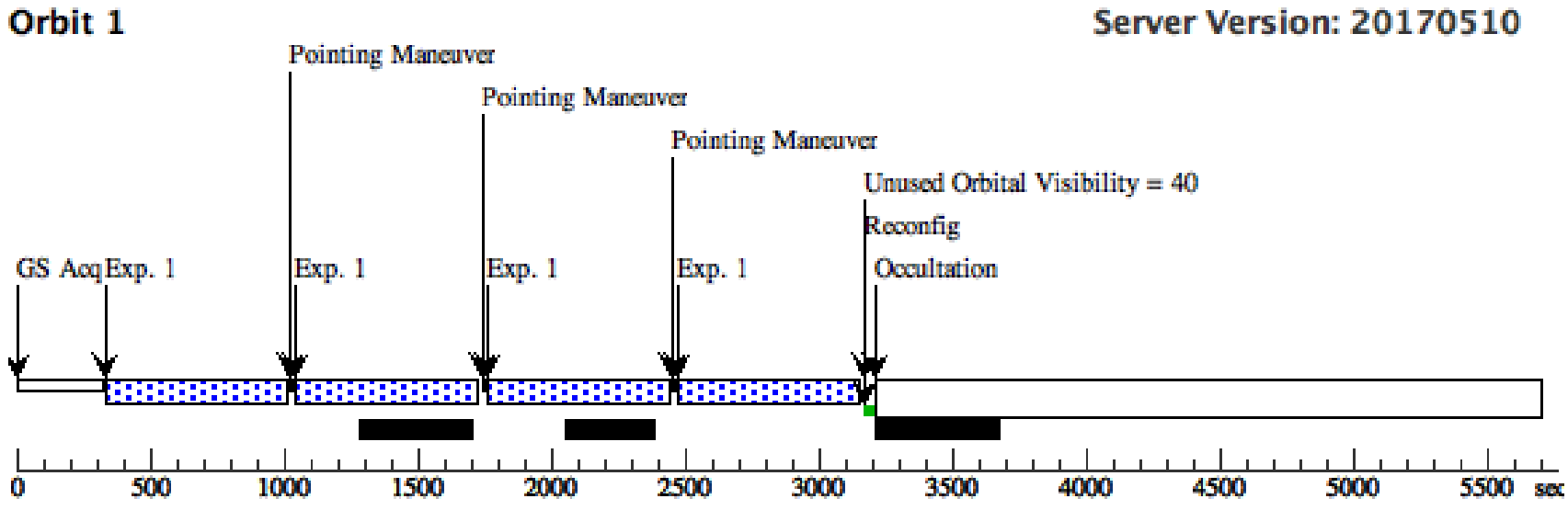
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	SHIZELS-8 Alt Name1: HIZELS-UDS-NB921-DTC-S12-134582 Alt Name2: HIZELS-UDS-NBH-DTC-S12-16305	RA: 02 18 21.0000 (34.5875000d) Dec: -05 19 7.80 (-5.31883d) Equinox: J2000	Redshift: 1.46	V=23.3+/-0.1 H=21.4	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS8-IR	(2) SHIZELS-8	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in SHiZELS8-IR (04) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS9-UV (05), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

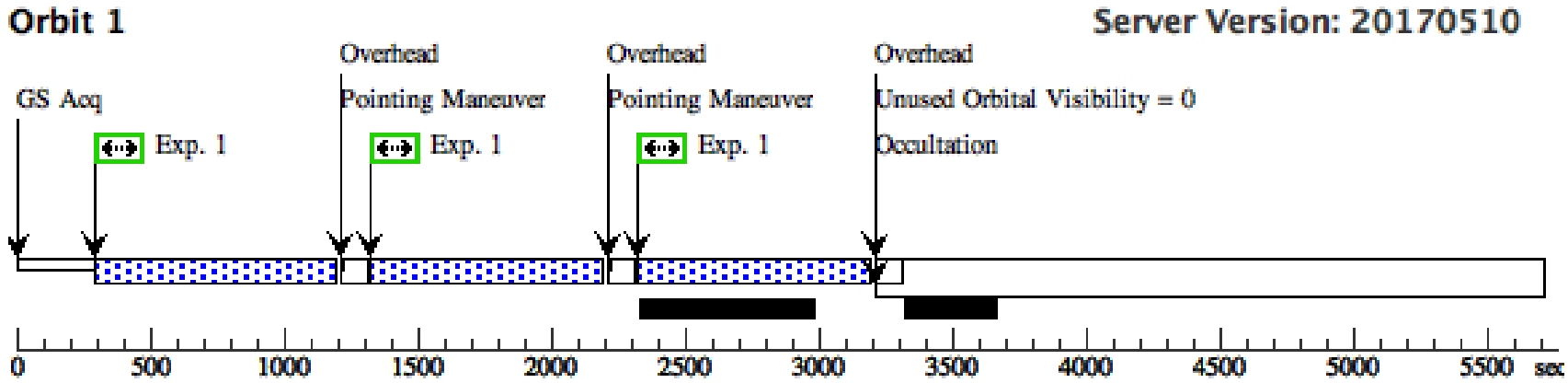
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SHIZELS-9 Alt Name1: HIZELS-UDS-NB921-DTC-S12-38554 Alt Name2: HIZELS-UDS-NBH-DTC-S12-7501	RA: 02 17 13.0000 (34.3041667d) Dec: -04 54 40.70 (-4.91131d) Equinox: J2000	Redshift: 1.47	V=23.0+/-0.1 H=20.9	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS9-UV	(3) SHIZELS-9	WFC3/UVIS, ACCUM, UVIS	F606W		GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-1 in SHiZELS9-UV (05) (1)	850 Secs (2613 Secs) *[==>871.0 Secs (Pattern 1)]* *[==>871.0 Secs (Pattern 2)]* *[==>871.0 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 14719, SHiZELS9-IR (06), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

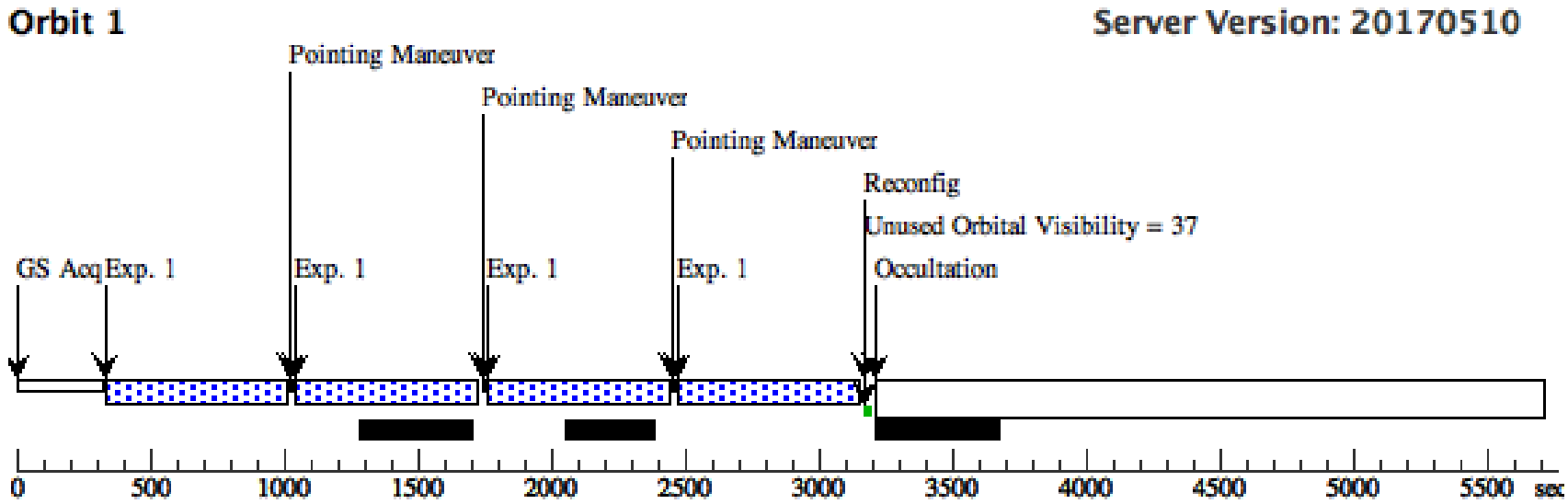
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	SHIZELS-9 Alt Name1: HIZELS-UDS-NB921-DTC-S12-38554 Alt Name2: HIZELS-UDS-NBH-DTC-S12-7501	RA: 02 17 13.0000 (34.3041667d) Dec: -04 54 40.70 (-4.91131d) Equinox: J2000	Redshift: 1.47	V=23.0+/-0.1 H=20.9	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS9-IR	(3) SHIZELS-9	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50	GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-1 in SHiZELS9-IR (06) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS10-UV (07), scheduled Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

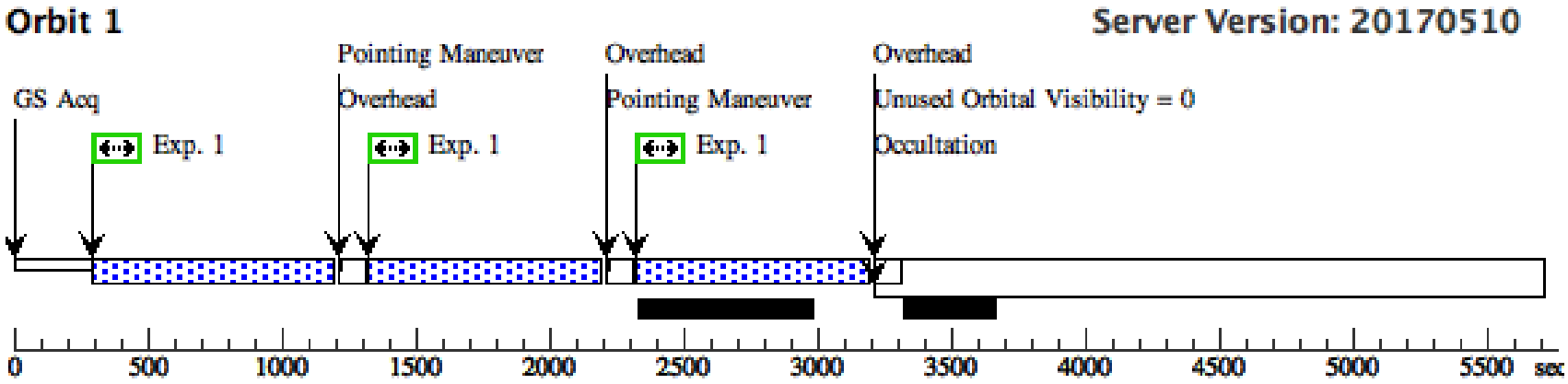
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SHIZELS-10 Alt Name1: HIZELS-UDS-NBH-DTC-S12-11067	RA: 02 17 39.0000 (34.4125000d) Dec: -04 44 43.10 (-4.74531d) Equinox: J2000	Redshift: 1.47	V=23.1+/-0.1 H=21.7	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS10-UV	(4) SHIZELS-10	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in SHiZELS10-UV (07) (1)	850 Secs (2613 Secs) *[==>871.0 Secs (Pattern 1)]* *[==>871.0 Secs (Pattern 2)]* *[==>871.0 Secs (Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS10-IR (08), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

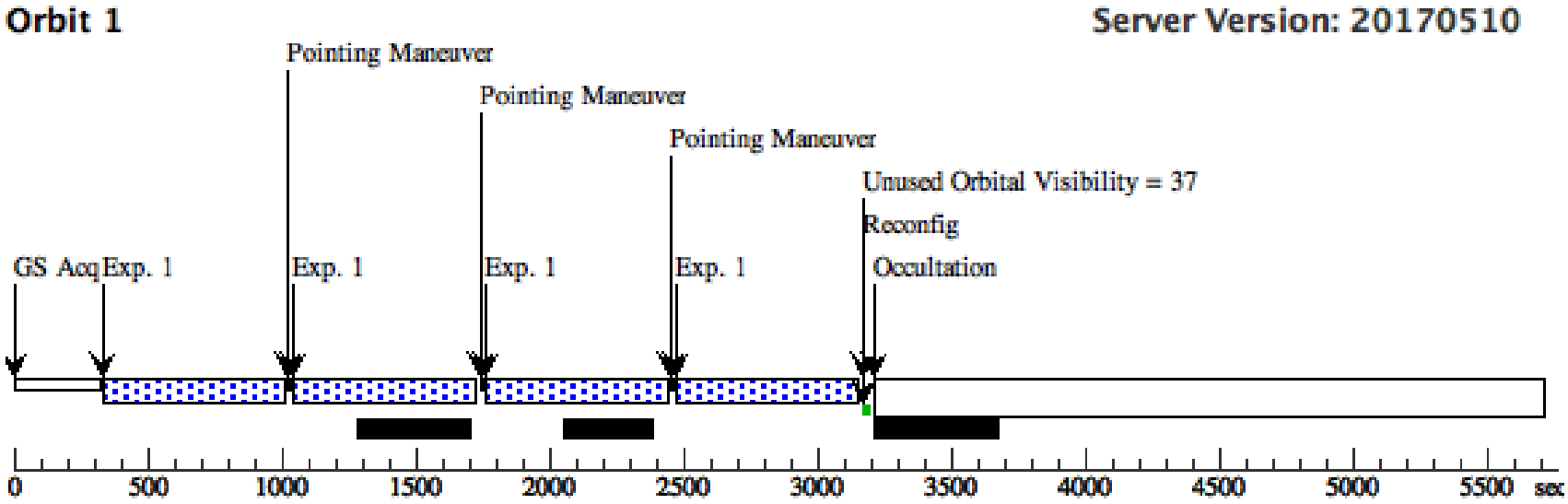
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	SHIZELS-10 Alt Name1: HIZELS-UDS-NBH-DTC-S12-11067	RA: 02 17 39.0000 (34.4125000d) Dec: -04 44 43.10 (-4.74531d) Equinox: J2000	Redshift: 1.47	V=23.1+/-0.1 H=21.7	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS10-IR	(4) SHIZELS-10	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in SHiZELS10-IR (08) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS11-UV (09), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

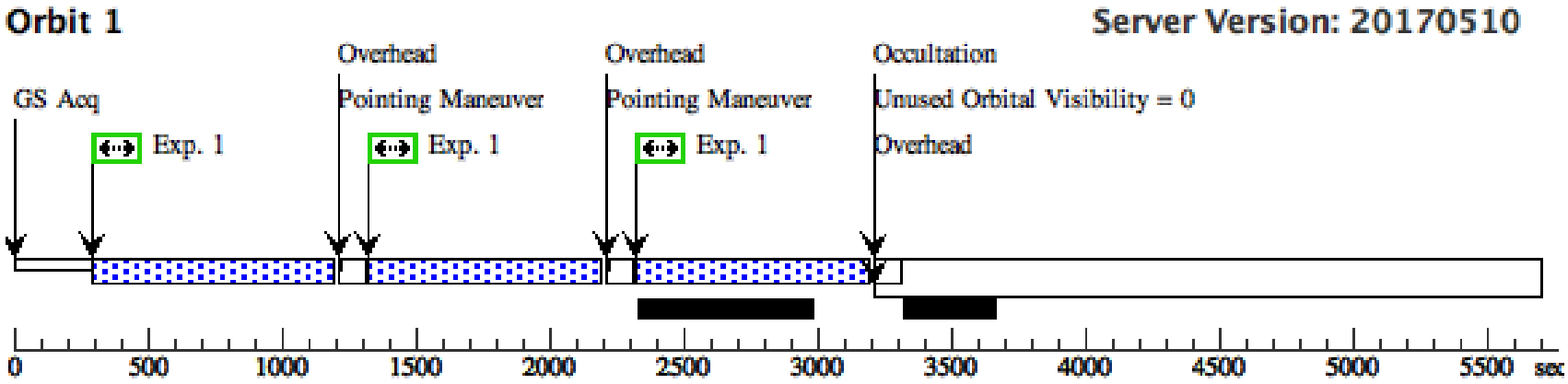
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SHIZELS-11 Alt Name1: HIZELS-UDS-NBH-DTC-S12-16339	RA: 02 18 21.2000 (34.5883333d) Dec: -05 02 48.90 (-5.04692d) Equinox: J2000	Redshift: 1.47	V=23.4+/-0.1 H=20.2	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS11-UV	(5) SHIZELS-11	WFC3/UVIS, ACCUM, UVIS	F606W		GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-1 in SHiZELS11-UV (09) (1)	850 Secs (2616 Secs) *[==>872.0 Secs (Pattern 1)]* *[==>872.0 Secs (Pattern 2)]* *[==>872.0 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 14719, SHiZELS11-IR (10), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

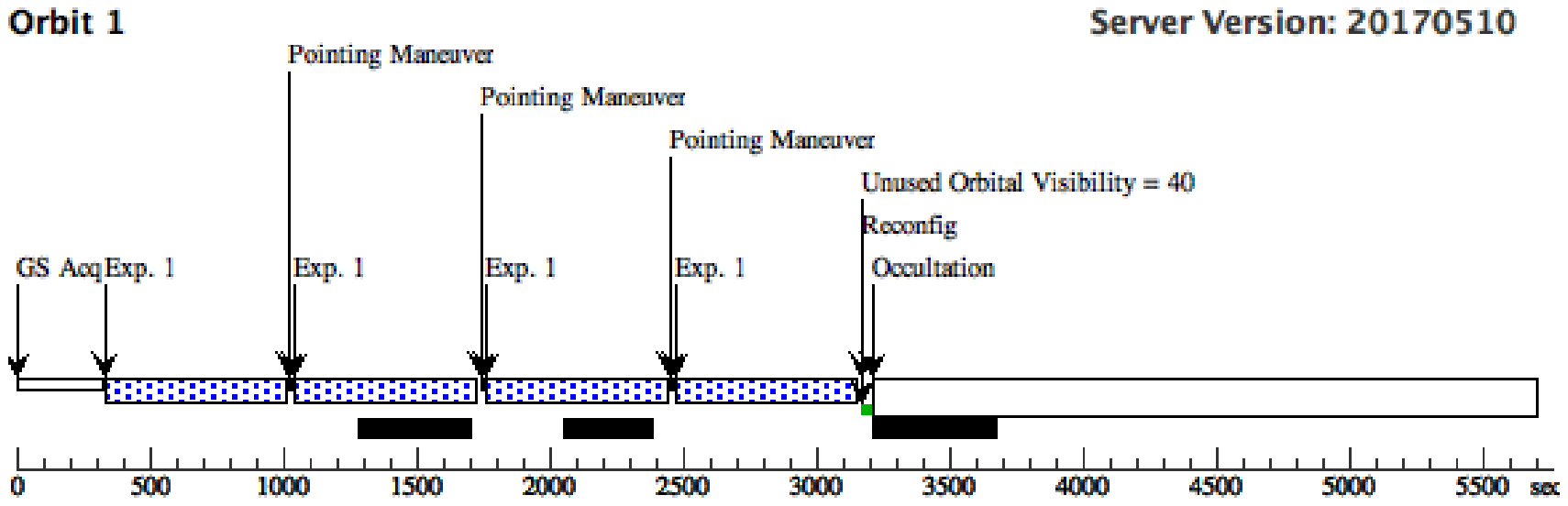
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	SHIZELS-11 Alt Name1: HIZELS-UDS-NBH-DTC-S12-16339	RA: 02 18 21.2000 (34.5883333d) Dec: -05 02 48.90 (-5.04692d) Equinox: J2000	Redshift: 1.47	V=23.4+/-0.1 H=20.2	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS11-IR	(5) SHIZELS-11	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50	GS ACQ SCENARIO BASE1B3	Pattern 2, Exps 1-1 in SHiZELS11-IR (10) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS1-UV (11), scheduling Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

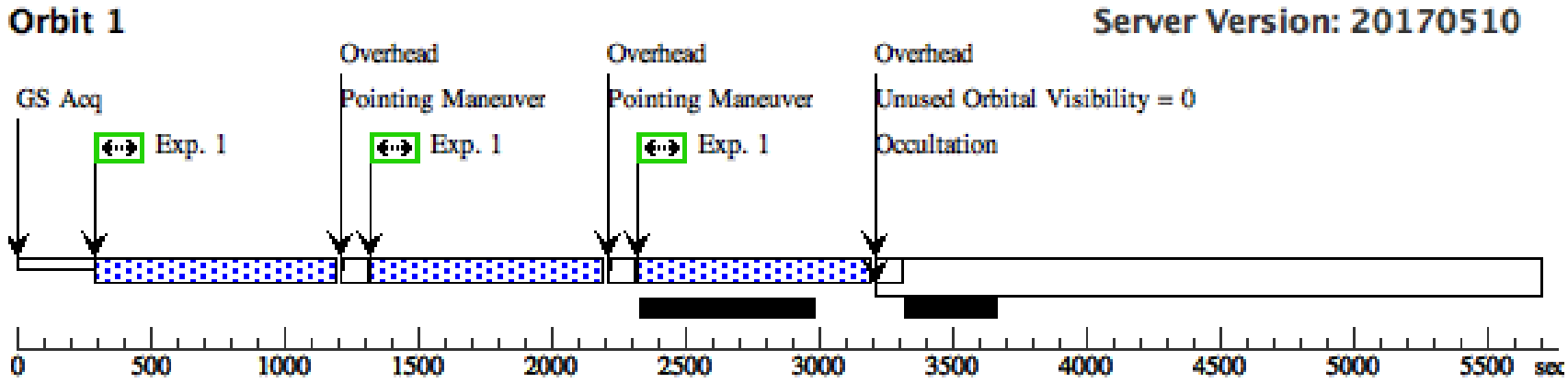
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	NIFS-HIZELS-1 Alt Name1: HIZELS-UDS-NBK-DTC-S12-4080	RA: 02 16 45.8900 (34.1912083d) Dec: -05 02 44.70 (-5.04575d) Equinox: J2000	Redshift: 2.23	V=23.6+/-0.1 H=21.5	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS1-UV	(6) NIFS-HIZELS-1	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in NIFS-HIZELS1-UV (11) (1)	850 Secs (2616 Secs) *[==>872.0 Secs (Pattern 1)]* *[==>872.0 Secs (Pattern 2)]* *[==>872.0 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS1-IR (12), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

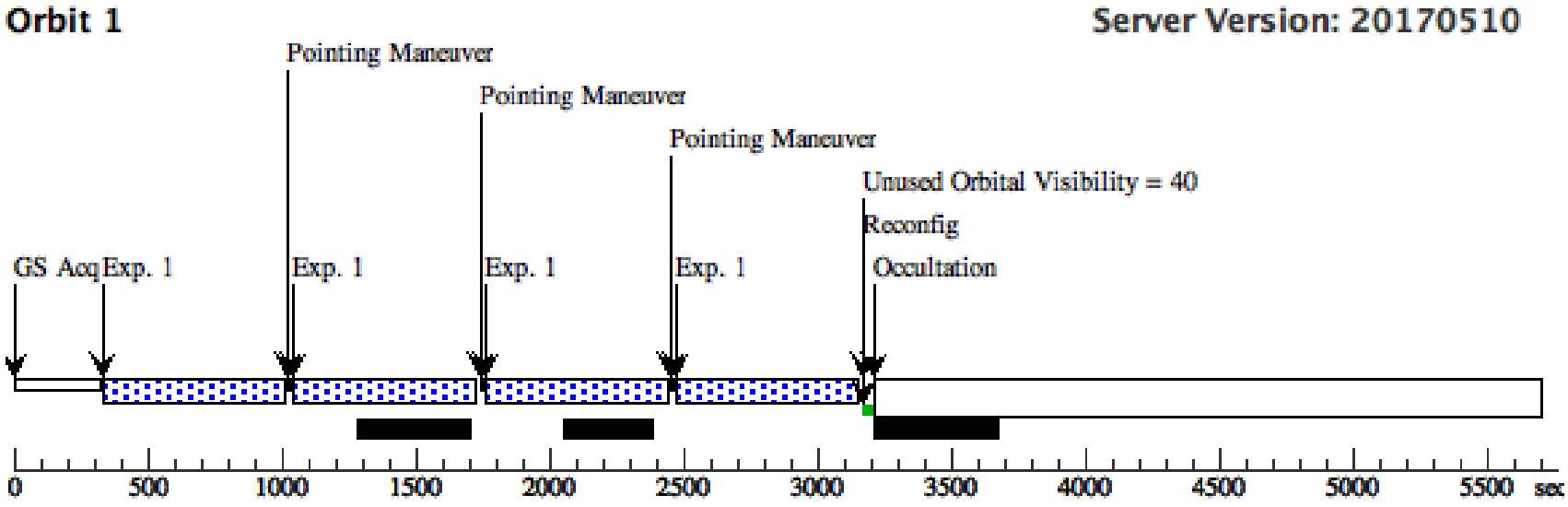
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	NIFS-HIZELS-1 Alt Name1: HIZELS-UDS-NBK-DTC-S12-4080	RA: 02 16 45.8900 (34.1912083d) Dec: -05 02 44.70 (-5.04575d) Equinox: J2000	Redshift: 2.23	V=23.6+/-0.1 H=21.5	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS1-IR	(6) NIFS-HIZELS-1	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in NIFS-HIZELS1-IR (12) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS2-UV (13), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

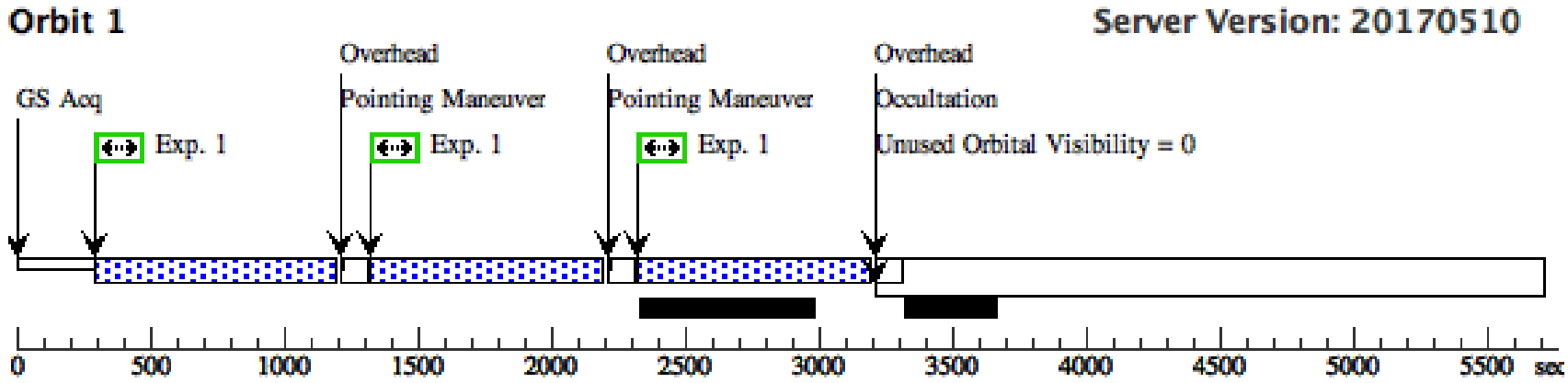
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	NIFS-HIZELS-2 Alt Name1: HIZELS-UDS-NBK-DTC-S12-27321	RA: 02 19 25.4500 (34.8560417d) Dec: -04 54 38.30 (-4.91064d) Equinox: J2000	Redshift: 2.23	V=23.4+/-0.1 H=21.1	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS2-UV	(7) NIFS-HIZELS-2	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in NIFS-HIZELS2-UV (13) (1)	850 Secs (2613 Secs) *[==>871.0 Secs (Pattern 1)]* *[==>871.0 Secs (Pattern 2)]* *[==>871.0 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS2-IR (14), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

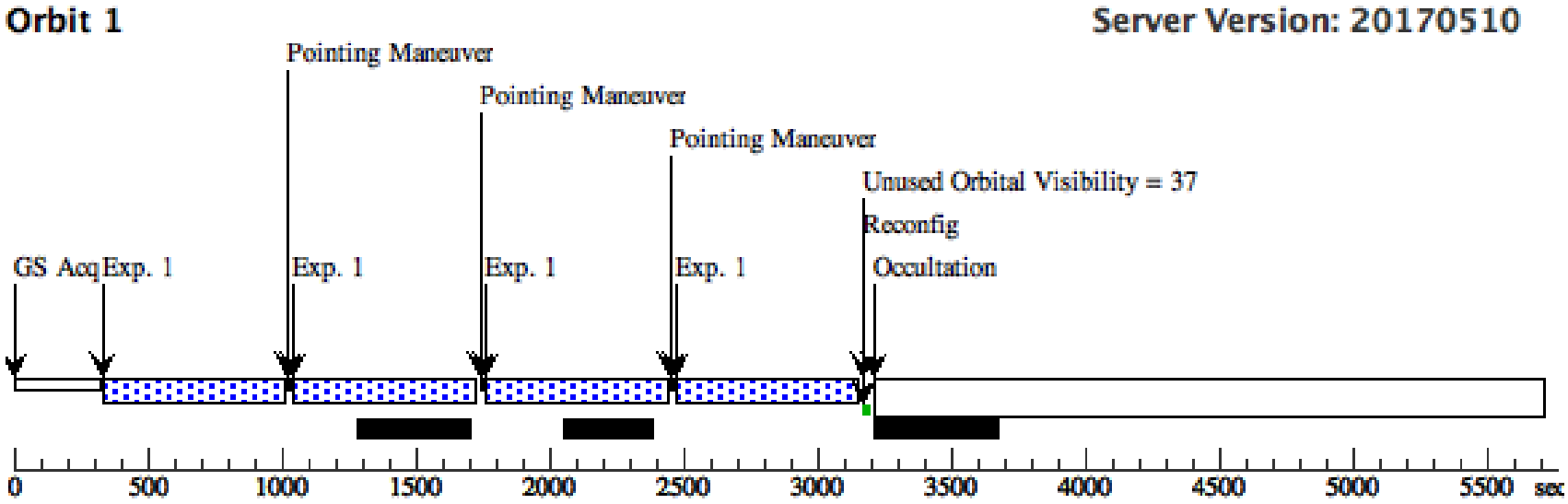
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(7)	NIFS-HIZELS-2 Alt Name1: HIZELS-UDS-NBK-DTC-S12-27321	RA: 02 19 25.4500 (34.8560417d) Dec: -04 54 38.30 (-4.91064d) Equinox: J2000	Redshift: 2.23	V=23.4+/-0.1 H=21.1	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS2-IR	(7) NIFS-HIZELS-2	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in NIFS-HIZELS2-IR (14) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS3-UV (15), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

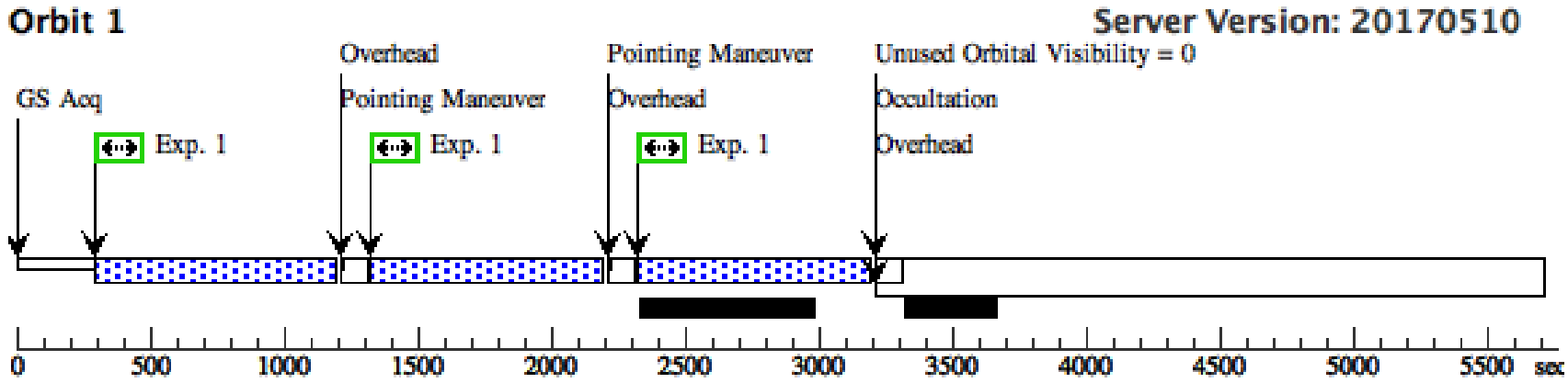
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	NIFS-HIZELS-3 Alt Name1: HIZELS-COSMOS-NBK-DTC-S12B-3336	RA: 10 00 27.6700 (150.1152917d) Dec: +02 14 30.60 (2.24183d) Equinox: J2000	Redshift: 2.23	V=23.5+/-0.1 H=21.4	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS3-UV	(8) NIFS-HIZELS-3	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in NIFS-HIZELS3-UV (15) (1)	850 Secs (2613 Secs) *[==>871.0 Secs (Pattern 1)]* *[==>871.0 Secs (Pattern 2)]* *[==>871.0 Secs (Pattern 3)]*	***[1]***

Orbit Structure



Visit

Proposal 14719, NIFS-HIZELS3-IR (16), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

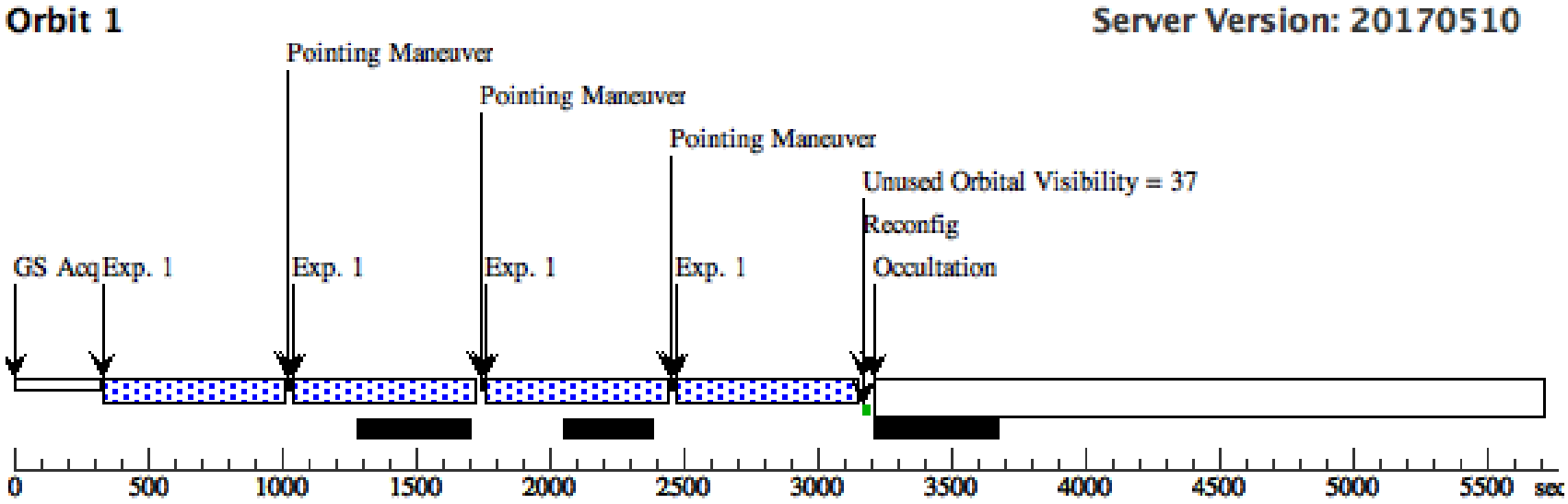
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(8)	NIFS-HIZELS-3 Alt Name1: HIZELS-COSMOS-NBK-DTC-S12B-3336	RA: 10 00 27.6700 (150.1152917d) Dec: +02 14 30.60 (2.24183d) Equinox: J2000	Redshift: 2.23	V=23.5+/-0.1 H=21.4	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	NIFS-HiZELS3-IR	(8) NIFS-HIZELS-3	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in NIFS-HIZELS3-IR (16) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS14-UV (17), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-LINE-3PT Purpose=DITHER Number Of Points=3 Point Spacing=0.135 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(1)

Fixed Targets

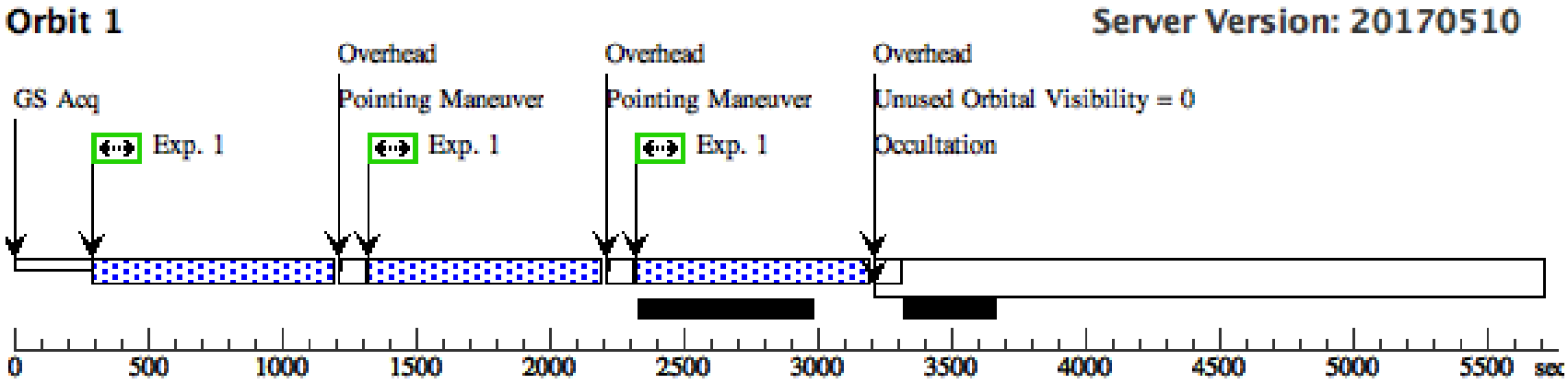
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SHIZELS-14 Alt Name1: HIZELS-COSMOS-NBK-DTC-S12B-3832	RA: 10 00 51.5200 (150.2146667d) Dec: +02 33 33.20 (2.55922d) Equinox: J2000	Redshift: 2.23	V=23.4+/-0.1 H=21.8	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS14-UV	(9) SHIZELS-14	WFC3/UVIS, ACCUM, UVIS	F606W			Pattern 1, Exps 1-1 in SHiZELS14-UV (17) (1)	850 Secs (2613 Secs) *[==>871.0 Secs (Pattern 1)]* *[==>871.0 Secs (Pattern 2)]* *[==>871.0 Secs (Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS14-IR (18), completed Wed Jun 21 01:02:00 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

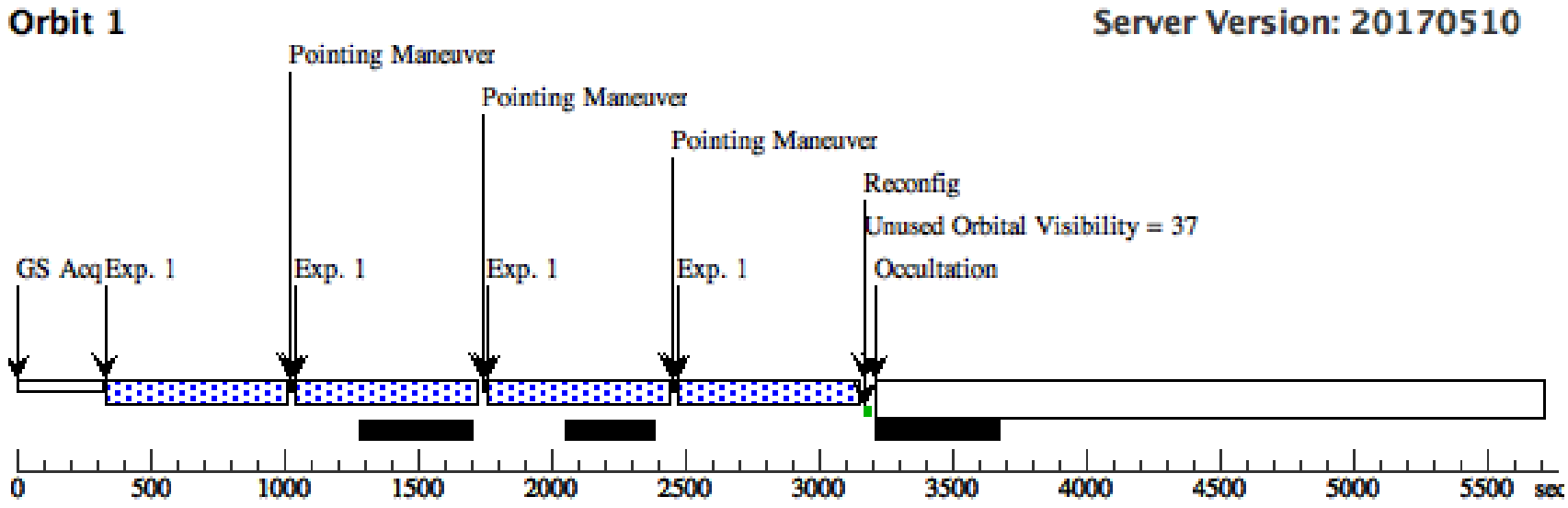
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(9)	SHIZELS-14 Alt Name1: HIZELS-COSMOS-NBK-DTC-S12B-3832	RA: 10 00 51.5200 (150.2146667d) Dec: +02 33 33.20 (2.55922d) Equinox: J2000	Redshift: 2.23	V=23.4+/-0.1 H=21.8	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS14-IR	(9) SHIZELS-14	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in SHiZELS14-IR (18) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure



Visit

Proposal 14719, SHiZELS7-IR (52) Wed Jun 21 01:02:01 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(2)	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)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SHIZELS-7 Alt Name1: HIZELS-UDS-NB921-DTC-S12-192874 Alt Name2: HIZELS-UDS-NBH-DTC-S12-5776	RA: 02 17 0.4000 (34.2516667d) Dec: -05 01 50.80 (-5.03078d) Equinox: J2000	Redshift: 1.47	V=23.3+/-0.1 H=21.7	Reference Frame: ICRS

Comments: Extended=YES

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	SHiZELS7-IR	(1) SHIZELS-7	WFC3/IR, MULTIACCUM, IR	F140W	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 1-1 in SHiZELS7-IR (52) (2)	652.938154 Secs (2611.753 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure