



12578 - Constraints on the Mass Assembly and Early Evolution of $z \sim 2$ Galaxies: Witnessing the Growth of Bulges and Disks

Cycle: 19, Proposal Category: GO

(Availability Mode: SUPPORTED)

INVESTIGATORS

| <i>Name</i> | <i>Institution</i> | <i>E-Mail</i> |
|--|--|--------------------------------|
| Dr. N. M. Forster Schreiber (PI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | forster@mpe.mpg.de |
| Prof. C. Marcella Carollo (CoI) (ESA Member) | Eidgenossische Technische Hochschule (ETH) | marcella@phys.ethz.ch |
| Dr. Giovanni Cresci (CoI) (ESA Member) | Osservatorio Astrofisico di Arcetri | gcresci@arcetri.astro.it |
| Dr. Richard I. Davies (CoI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | davies@mpe.mpg.de |
| Mr. Andreas Faisst (CoI) (ESA Member) | Eidgenossische Technische Hochschule (ETH) | afaisst@student.ethz.ch |
| Prof. Reinhard Genzel (CoI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | genzel@mpe.mpg.de |
| Dr. Jaron Kurk (CoI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | kurk@mpe.mpg.de |
| Prof. Simon J. Lilly (CoI) (ESA Member) | Eidgenossische Technische Hochschule (ETH) | simon.lilly@phys.ethz.ch |
| Dr. Chiara Mancini (CoI) (ESA Member) | Osservatorio Astronomico di Padova | chiara.mancini@oapd.inaf.it |
| Mr. Yingjie Peng (CoI) (ESA Member) | Eidgenossische Technische Hochschule (ETH) | peng@phys.ethz.ch |
| Dr. Lucia Pozzetti (CoI) (ESA Member) | INAF, Osservatorio Astronomico di Bologna | lucia.pozzetti@oabo.inaf.it |
| Prof. Alvio Renzini (CoI) (ESA Member) | Osservatorio Astronomico di Padova | alvio.renzini@oapd.inaf.it |
| Prof. Alice E. Shapley (CoI) (AdminUSPI) | University of California - Los Angeles | aes@astro.ucla.edu |
| Dr. Linda Tacconi (CoI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | linda@mpe.mpg.de |
| Dr. Daniela Vergani (CoI) (ESA Member) | INAF, Osservatorio Astronomico di Bologna | daniela.vergani@oabo.inaf.it |
| Dr. Stijn Wuyts (CoI) (ESA Member) | Max-Planck-Institut fur extraterrestrische Physik | swuyts@mpe.mpg.de |
| Prof. Gianni Zamorani (CoI) (ESA Member) | INAF, Osservatorio Astronomico di Bologna | giovanni.zamorani@oabo.inaf.it |

VISITS

Proposal 12578 (STScI Edit Number: 1, Created: Saturday, July 9, 2011 1:00:42 AM EST) - Overview

| <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) ZC400528 | WFC3/IR | 3 | 09-Jul-2011 01:57:53.0 | yes |
| 02 | (2) ZC400569 | WFC3/IR | 3 | 09-Jul-2011 01:58:05.0 | yes |
| 03 | (3) ZC401925 | WFC3/IR | 3 | 09-Jul-2011 01:58:15.0 | yes |
| 04 | (4) ZC404221 | WFC3/IR | 3 | 09-Jul-2011 01:58:26.0 | yes |
| 05 | (5) ZC405226 | WFC3/IR | 3 | 09-Jul-2011 01:58:34.0 | yes |
| 06 | (6) ZC405501 | WFC3/IR | 3 | 09-Jul-2011 01:58:43.0 | yes |
| 07 | (7) ZC406690 | WFC3/IR | 3 | 09-Jul-2011 01:58:54.0 | yes |
| 08 | (8) ZC407302 | WFC3/IR | 3 | 09-Jul-2011 01:59:02.0 | yes |
| 09 | (9) ZC407376 | WFC3/IR | 3 | 09-Jul-2011 01:59:11.0 | yes |
| 10 | (10) ZC409985 | WFC3/IR | 3 | 09-Jul-2011 01:59:21.0 | yes |
| 11 | (11) ZC410123 | WFC3/IR | 3 | 09-Jul-2011 01:59:29.0 | yes |
| 12 | (12) ZC412369 | WFC3/IR | 3 | 09-Jul-2011 01:59:37.0 | yes |
| 13 | (13) ZC413597 | WFC3/IR | 3 | 09-Jul-2011 01:59:46.0 | yes |
| 14 | (14) ZC415876 | WFC3/IR | 3 | 09-Jul-2011 01:59:54.0 | yes |
| 15 | (15) D3A6004 | WFC3/IR | 3 | 09-Jul-2011 02:00:03.0 | yes |
| 16 | (16) D3A15504 | WFC3/IR | 3 | 09-Jul-2011 02:00:16.0 | yes |
| 17 | (17) Q1623-BX502 | WFC3/IR | 1 | 09-Jul-2011 02:00:20.0 | yes |
| 18 | (18) Q1623-BX599 | WFC3/IR | 3 | 09-Jul-2011 02:00:28.0 | yes |
| 19 | (19) Q2343-BX389 | WFC3/IR | 1 | 09-Jul-2011 02:00:32.0 | yes |
| 20 | (20) Q2343-BX610 | WFC3/IR | 1 | 09-Jul-2011 02:00:35.0 | yes |
| 21 | (21) Q2346-BX482 | WFC3/IR | 1 | 09-Jul-2011 02:00:37.0 | yes |

55 Total Orbits Used

ABSTRACT

Motivated by both observational and theoretical developments, a new picture is emerging in which rapid but fairly smooth mass accretion and efficient secular processes play a major, if not dominant, role in the early evolution of massive galaxies. The proposed program will test this scenario

Proposal 12578 (STScI Edit Number: 1, Created: Saturday, July 9, 2011 1:00:42 AM EST) - Overview

through sensitive high-resolution WFC3/IR F160W and F110W imaging of 21 massive star-forming galaxies at $z \sim 2$ with adaptive optics (AO) assisted VLT/SINFONI near-IR integral field spectroscopy. This is a truly unique sample, with detailed H α maps and kinematics resolved on ~ 1 -2 kpc scales. WFC3/IR F160W+F110W imaging at similar resolution will provide the missing but crucial information on the bulk of stellar populations, from rest-frame optical continuum morphologies and colors optimized for measuring the age-sensitive Balmer/4000Å break. This is essential to determine the detailed structure of galaxies, and the distribution of stellar mass, M/L ratio, and relative ages within them. The proposed data will directly tackle some of the most fundamental open issues concerning the formation of massive spheroids and disks, including the role of disk instabilities and minor/major merger events in the formation of bulges. The powerful combination of WFC3/IR imaging for the stellar component and SINFONI/AO data for the dynamics and on-going star formation will provide an unprecedented view of the stellar and dynamical evolution of galaxies at $z \sim 2$, the epoch of major buildup of the most massive ellipticals, bulges, and thick disks.

OBSERVING DESCRIPTION

PROGRAM GOALS:

Our WFC3/IR program will map at high resolution the rest-frame optical emission of galaxies at redshift $z \sim 2$, which have H α emission line kinematics and morphologies at similar resolution from our AO-assisted VLT/SINFONI near-IR integral field spectroscopy. The data will allow us to characterize the distribution of the stellar mass, M/L ratio, and stellar age within the galaxies on scales of ~ 1 kpc ($\sim 0.1''$), matching well the spatial resolution of the SINFONI+AO data. Our science goals require:

- (1) sensitivity and optimal PSF sampling to characterize the properties of the more diffuse emission component of the galaxies and of superposed substructure, as well as to resolve possible nearby companions, on ~ 1 -kpc scales ($\sim 0.1''$), and
- (2) a filter combination that maximizes flux sensitivity for our faint targets and optimizes the measure of the age-sensitive Balmer/4000Å spectral continuum break.

STRATEGY:

We have chosen the WFC3/IR F160W and F110W filters. For our galaxies at redshift $2 < z < 2.5$, F160W best probes the emission redwards of the spectral break and the bulk of stellar mass, and F110W probes bluewards of the break. In addition to optimally bracketing the break, the F110W-F160W color minimizes dust extinction effects and the wide filter bandpasses maximize flux sensitivity.

Given the importance of high resolution to our program, we intend to maximize the effective angular resolution by obtaining exposures in a dithered

sequence with sub-integer pixel offsets, which may be drizzled together to both improve the effective resolution and help to eliminate cosmic rays and other artifacts from the data.

Our program will image 21 targets. Given their brightnesses, our S/N requirements will be reached in ~ 5000 s in F160W and ~ 2500 s in F110W. The visibilities of the targets is 54min/orbit; accounting for overheads this means 2 orbits in F160W and 1 orbit in F110W. Four of the targets have sufficiently deep and high resolution F160W imaging from previous HST programs (with WFC3/IR and NICMOS/NIC2) but none of them has F110W imaging. This implies single-orbit observations through the F110W filter for all 21 targets, and two-orbit observations through the F160W filter for 17 targets. Because of the distribution of the targets over the sky, separate non-overlapping pointings are needed for each of them, leading to a total of 55 orbits. Each visit is planned so as to obtain all F110W, and F160W when required, observations of a given target.

DITHERING, EXPOSURES, AND POINTINGS:

We plan a minimum of 4 independent positions per object and filter to reduce the impact of instrumental artefacts and of cosmic rays. We use a customized WFC3-IR-DITHER-BOX-MIN dither pattern, preserving the sub-integer offsets for optimum PSF sampling but with modifications to the overall dither box size so as to dither over the targets (typical extent up to ~ 2 -3" or ~ 15 -25 pix), "blobs", and other bad pixels/regions. The sub-integer pixel offsets for the single-orbit F110W, and the first orbit F160W observations, ensure sampling by 1/2 pixel in each of the x and y directions. The dither pattern for the second orbit in F160W is similar but overall offset from the pattern of the first orbit by 1/4 pixel in both x and y. The parameters for WFC3-IR-DITHER-BOX-MIN are adjusted depending on the science target size and the presence of nearby bright objects. In total, four patterns are used.

We choose the pointings so as to place each target close to the center of the WFC3 field of view, to reduce the impact of distortion and allow maximum flexibility in terms of orientation. We make use of the POS TARG parameters in the Target Position Requirements (at the Exposure-level Special Requirements) in order to offset slightly the dither pattern of each orbit away from the fiducial point (the array center for our adopted IR-FIX aperture). The pointings for the two F160W orbits place the target in diametrically opposite quadrants, and the pointing for F110W places it in a third quadrant. To calculate the corresponding POS TARG offsets in arcsec, we use the updated Apertures File from 01 July 2011.

We use the MULTIACCUM readout mode with SPARS50 and NSAMP = 14. This choice maximizes the use of the visibility period during each orbit, allows parallel buffer dumps, and provides a sufficient number of non-destructive reads to further mitigate the impact of cosmic rays.

We do not require special orientation constraints.

REAL TIME JUSTIFICATION

N/A

CALIBRATION JUSTIFICATION

N/A

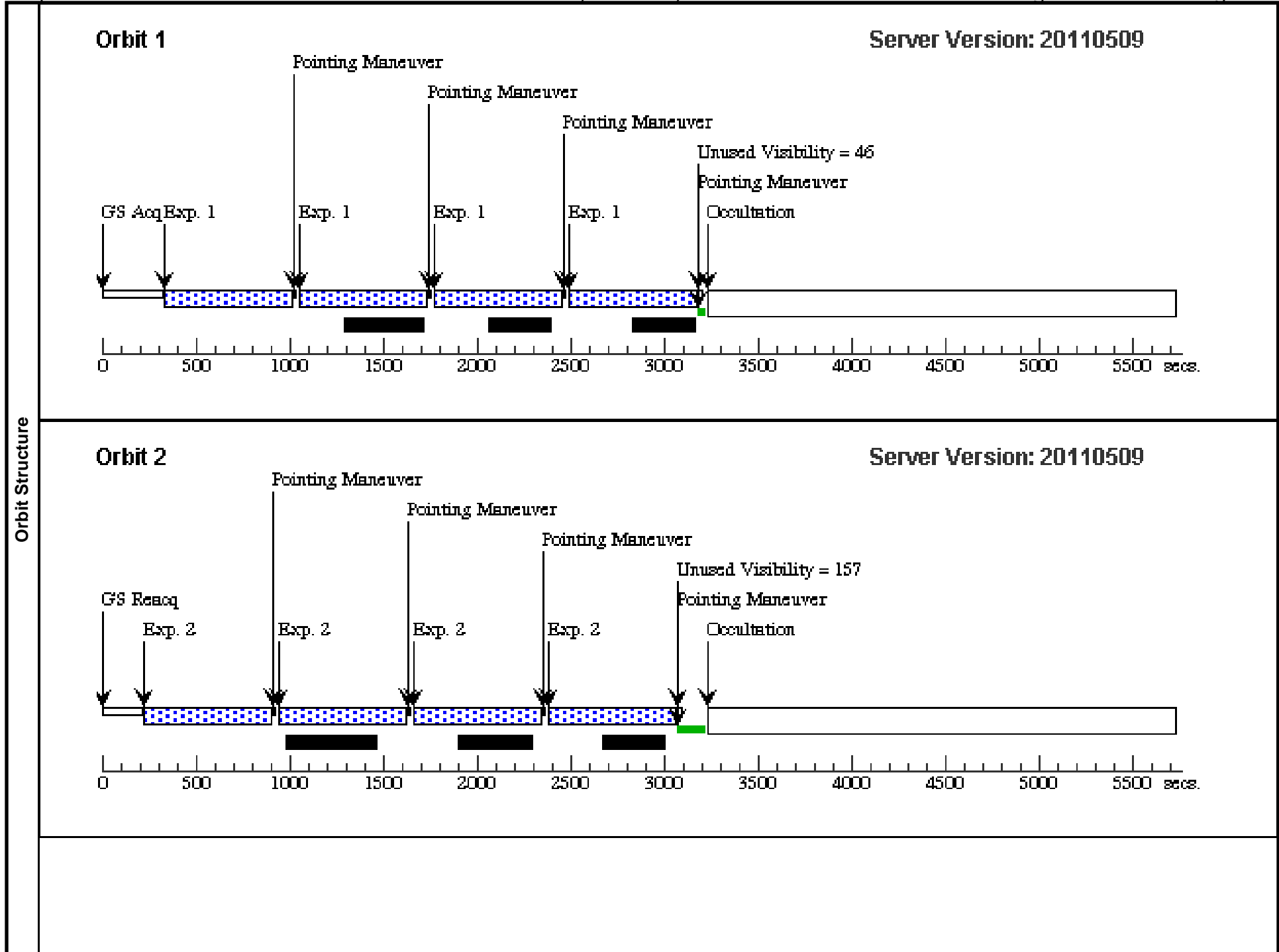
ADDITIONAL COMMENTS

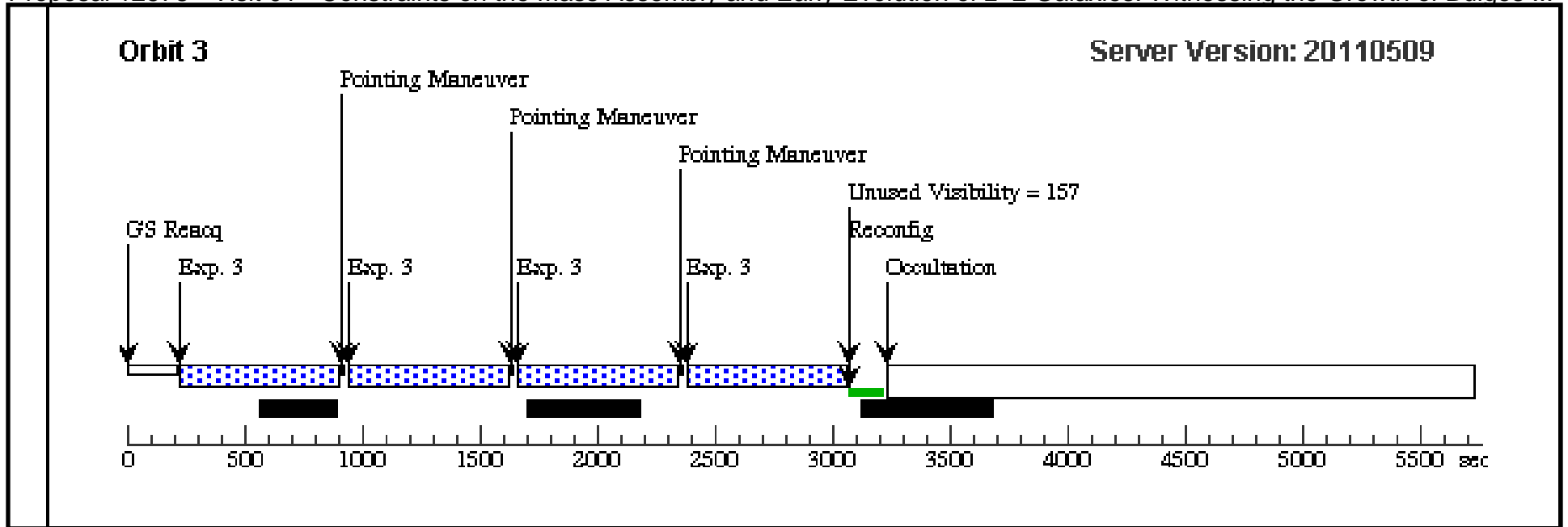
Since our WFC3/IR exposures are long exposures of faint galaxy targets, please avoid if possible scheduling right after passage through SAA.

Proposal 12578 - Visit 01 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:42 GMT 2011

| Visit | Proposal 12578, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|--------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (3) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=3.83109 Line Spacing=3.83911 | Coordinate Frame=POS-TARG Pattern Orientation=8.16712 Angle Between Sides=91.0745 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (1) | ZC400528 | RA: 09 59 47.5900 (149.9482917d) Dec: +01 44 19.06 (1.73863d) Equinox: J2000 | | V=23.3 K(AB) = 21.1 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (1) ZC400528 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,+ 4.50 | Pattern 3, Exps 1-1 i n Visit 01 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (1) ZC400528 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.7603 3,-8.89455 | Pattern 3, Exps 2-2 i n Visit 01 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (1) ZC400528 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,- 9.00 | Pattern 3, Exps 3-3 i n Visit 01 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

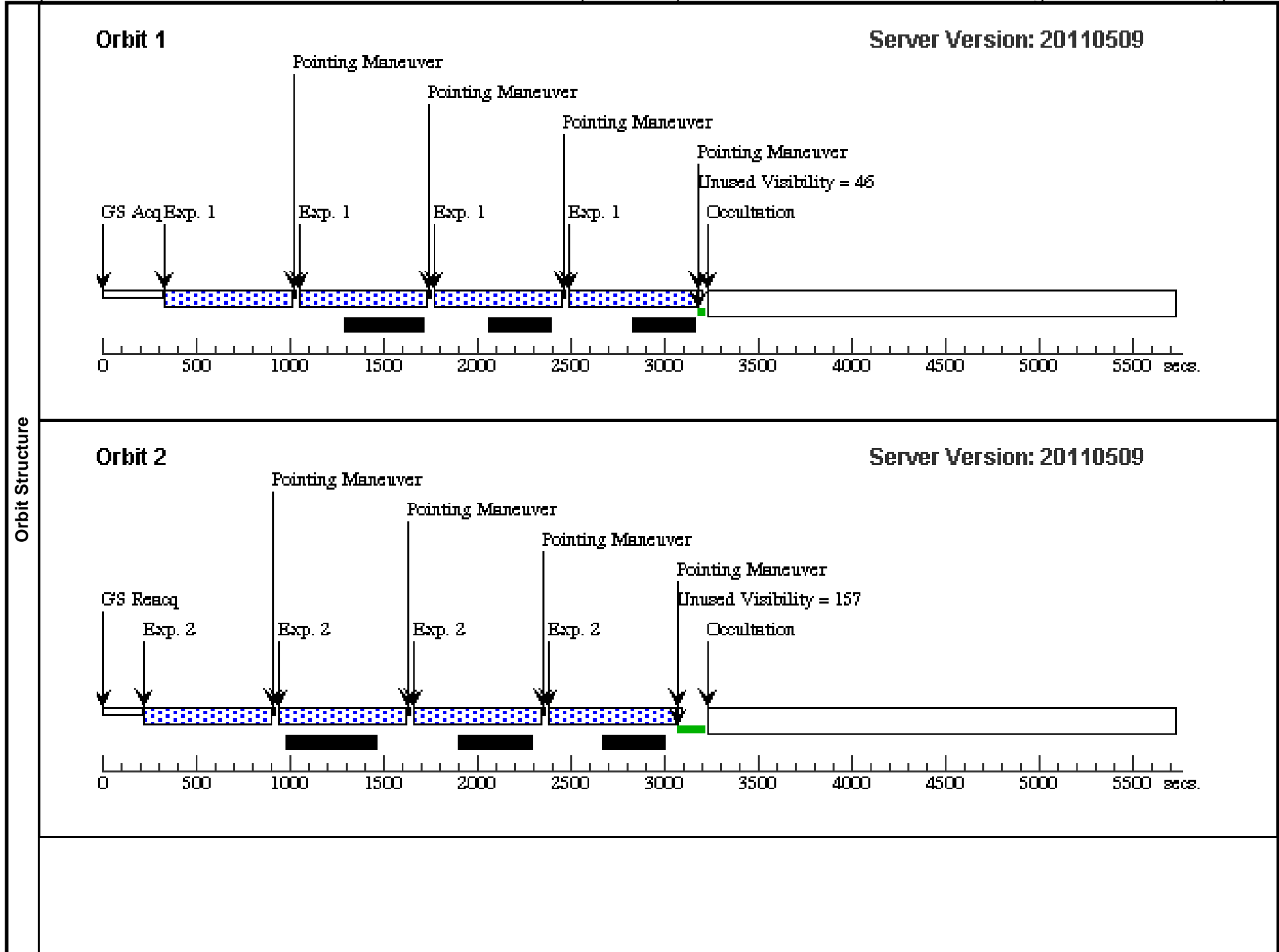


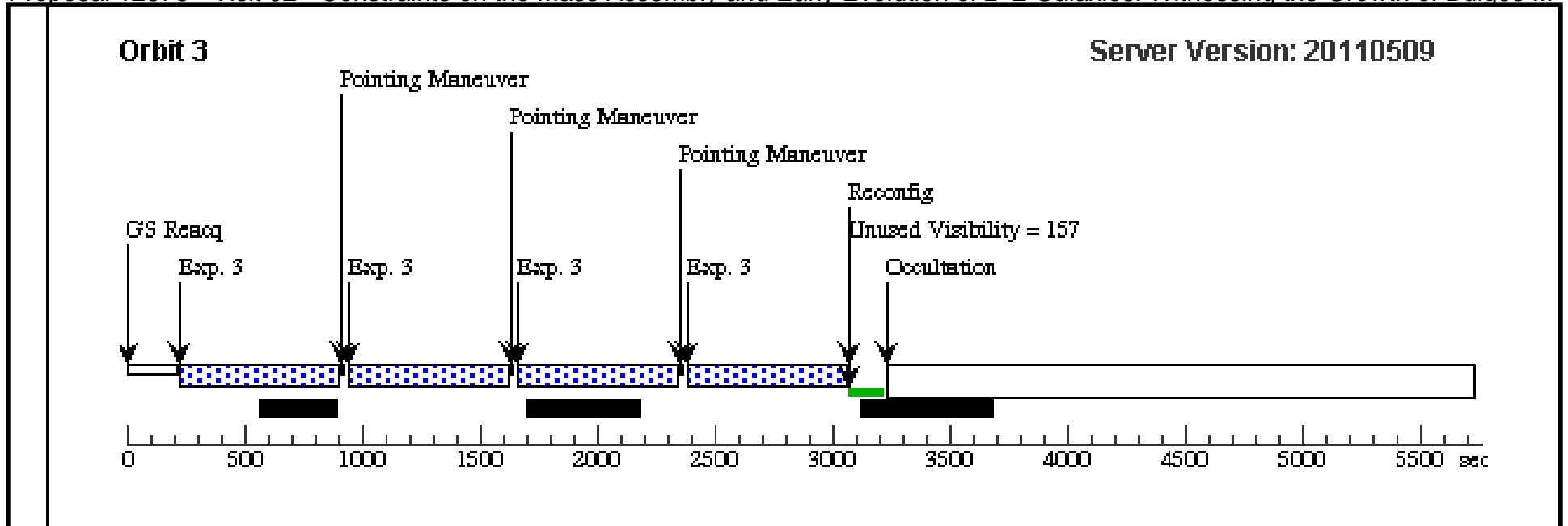


Proposal 12578 - Visit 02 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:44 GMT 2011

| Visit | Proposal 12578, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|--------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (3) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=3.83109 Line Spacing=3.83911 | Coordinate Frame=POS-TARG Pattern Orientation=8.16712 Angle Between Sides=91.0745 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (2) | ZC400569 | RA: 10 01 8.6900 (150.2862083d) Dec: +01 44 28.23 (1.74118d) Equinox: J2000 | | V=23.8 K(AB) = 20.7 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (2) ZC400569 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,+ 4.50 | Pattern 3, Exps 1-1 i n Visit 02 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (2) ZC400569 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.7603 3,-8.89455 | Pattern 3, Exps 2-2 i n Visit 02 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (2) ZC400569 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,- 9.00 | Pattern 3, Exps 3-3 i n Visit 02 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

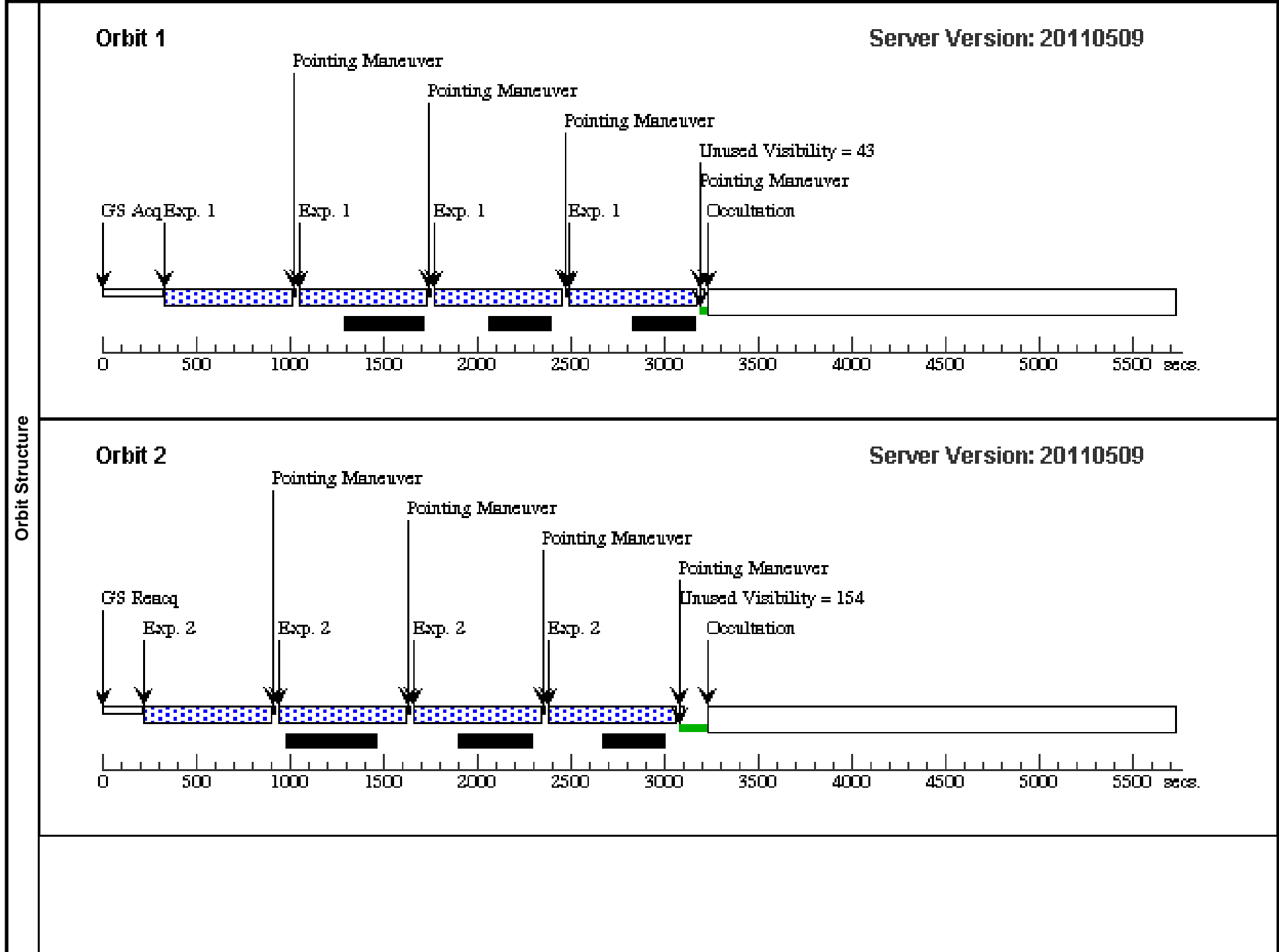


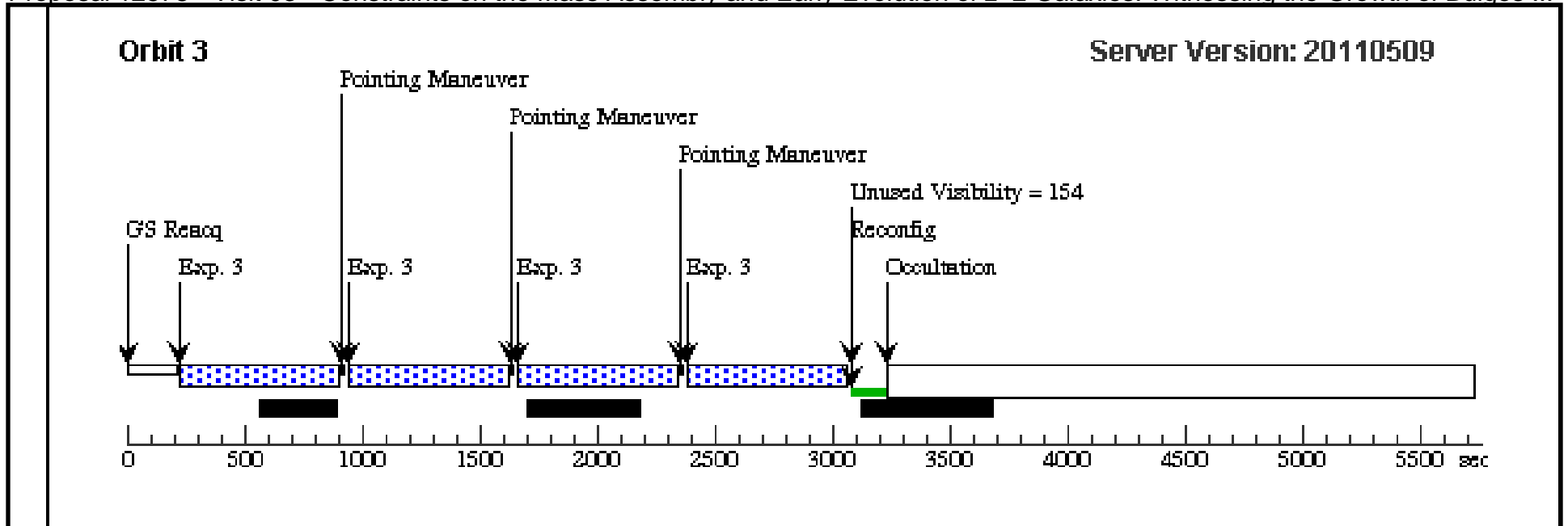


Proposal 12578 - Visit 03 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:44 GMT 2011

| Visit | Proposal 12578, Visit 03, implementation 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=4.92090 Line Spacing=4.69606 | Coordinate Frame=POS-TARG Pattern Orientation=7.76885 Angle Between Sides=90.3118 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (3) | ZC401925 | RA: 10 01 1.6800 (150.2570000d) Dec: +01 48 38.21 (1.81061d) Equinox: J2000 | | V=23.7 K(AB) = 22.7 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (3) ZC401925 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,+ 4.50 | Pattern 2, Exps 1-1 i n Visit 03 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (3) ZC401925 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.8438 2,-9.86210 | Pattern 2, Exps 2-2 i n Visit 03 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (3) ZC401925 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,- 10.00 | Pattern 2, Exps 3-3 i n Visit 03 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

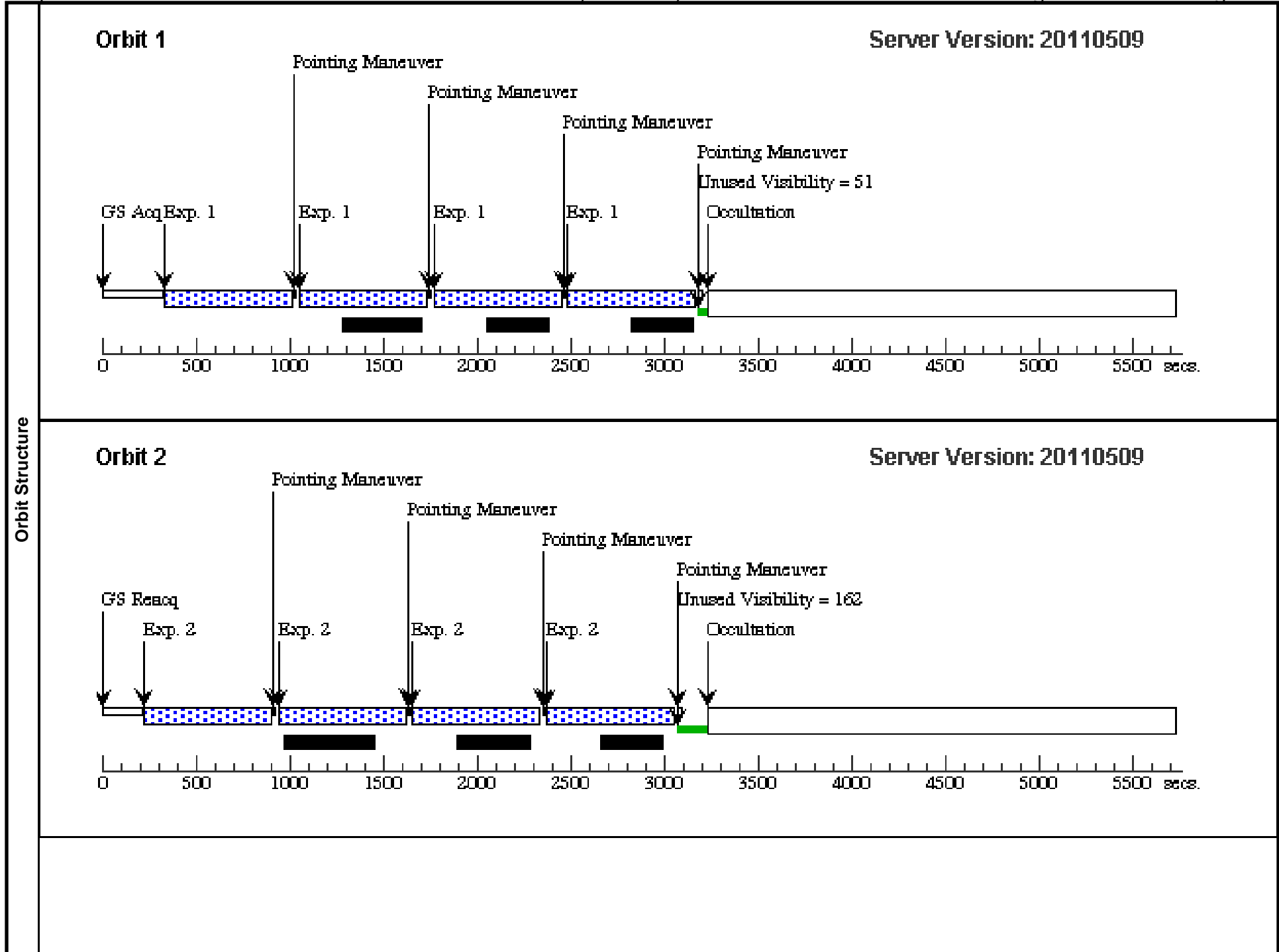


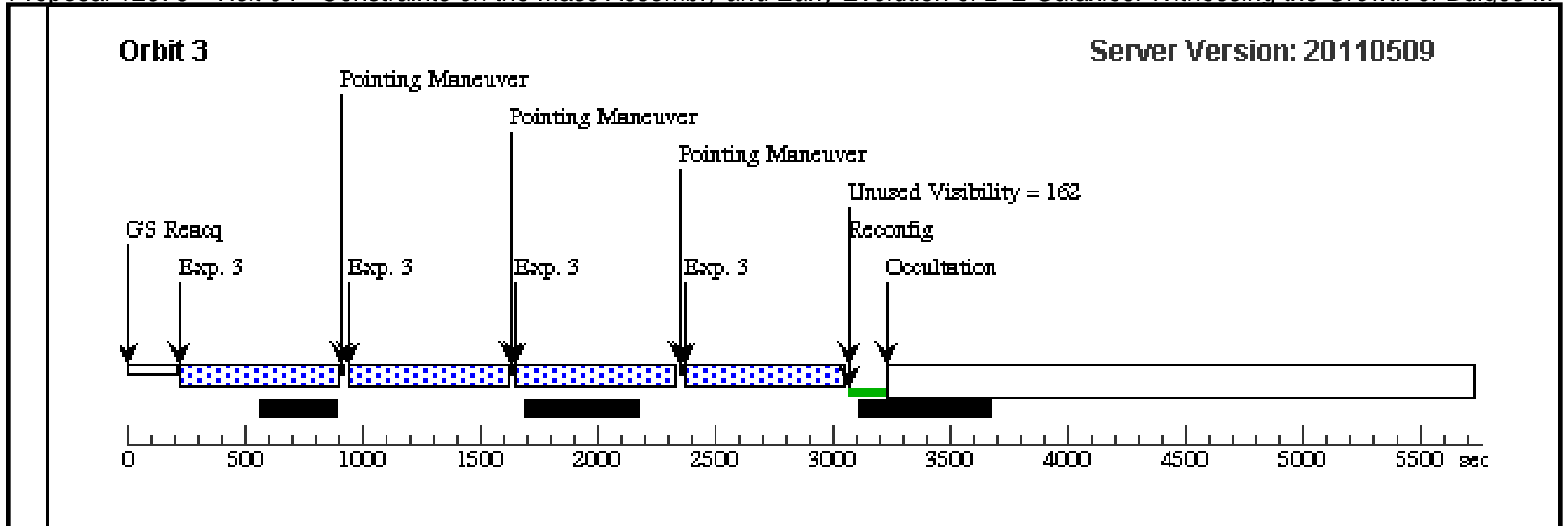


Proposal 12578 - Visit 04 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:45 GMT 2011

| Visit | Proposal 12578, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|--------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (4) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=2.74162 Line Spacing=2.98241 | Coordinate Frame=POS-TARG Pattern Orientation=8.88197 Angle Between Sides=92.3631 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (4) | ZC404221 | RA: 10 01 41.3100 (150.4221250d) Dec: +01 56 42.77 (1.94521d) Equinox: J2000 | | V=23.5 K(AB) = 22.4 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (4) ZC404221 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,+5 .00 | Pattern 4, Exps 1-1 i n Visit 04 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (4) ZC404221 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.6768 3,-8.51549 | Pattern 4, Exps 2-2 i n Visit 04 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (4) ZC404221 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,-9. 00 | Pattern 4, Exps 3-3 i n Visit 04 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

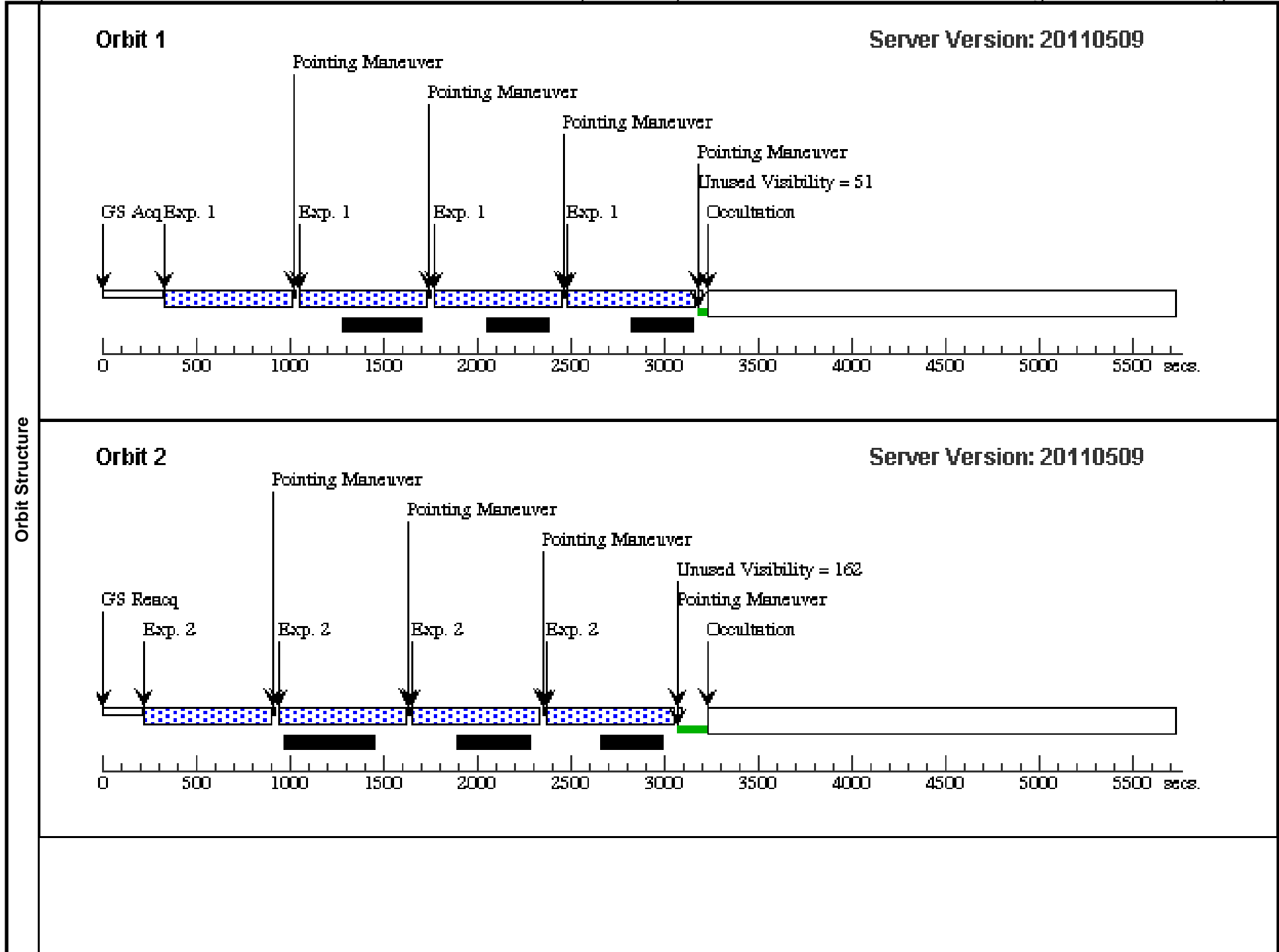


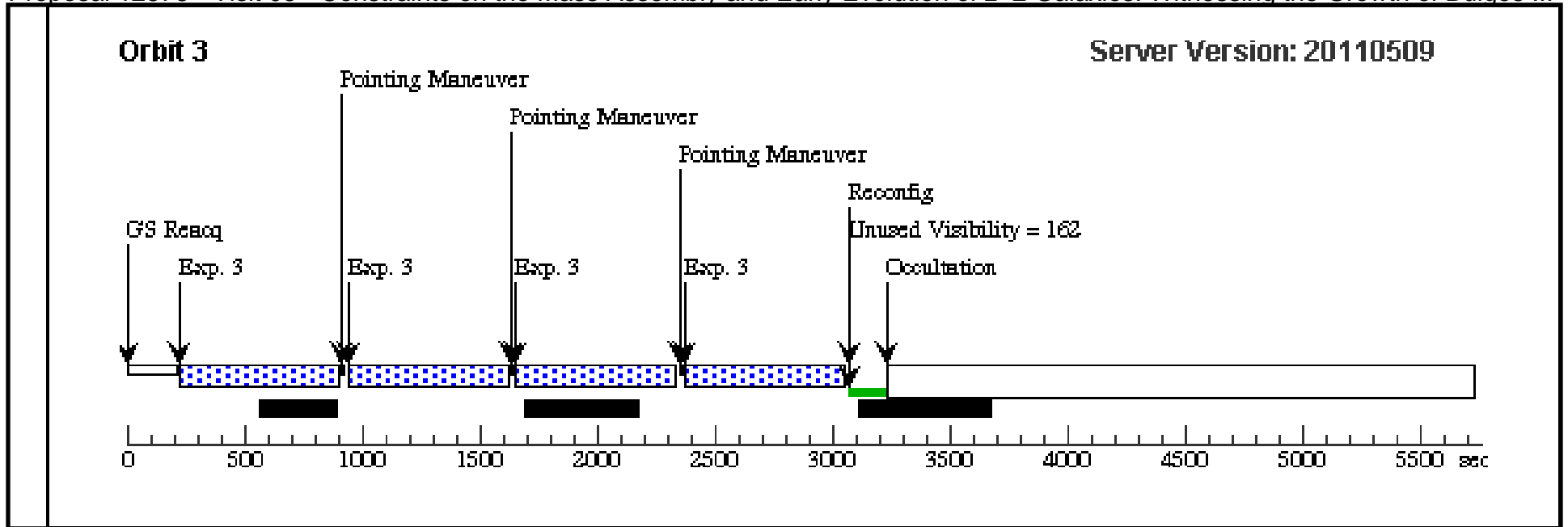


Proposal 12578 - Visit 05 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:45 GMT 2011

| Visit | Proposal 12578, Visit 05, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|--------------|--|---|-----------------------------------|-----------------------------------|--|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (4) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=2.74162 Line Spacing=2.98241 | Coordinate Frame=POS-TARG Pattern Orientation=8.88197 Angle Between Sides=92.3631 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (5) | ZC405226 | RA: 10 02 19.5200 (150.5813333d) Dec: +02 00 18.10 (2.00503d) Equinox: J2000 | | V=23.6 K(AB) = 22.3 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (5) ZC405226 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,+5 .00; GS ACQ SCENARI O BASE1B3 | Pattern 4, Exps 1-1 i n Visit 05 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (5) ZC405226 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.6768 3,-8.51549 | Pattern 4, Exps 2-2 i n Visit 05 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (5) ZC405226 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,-9. 00 | Pattern 4, Exps 3-3 i n Visit 05 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

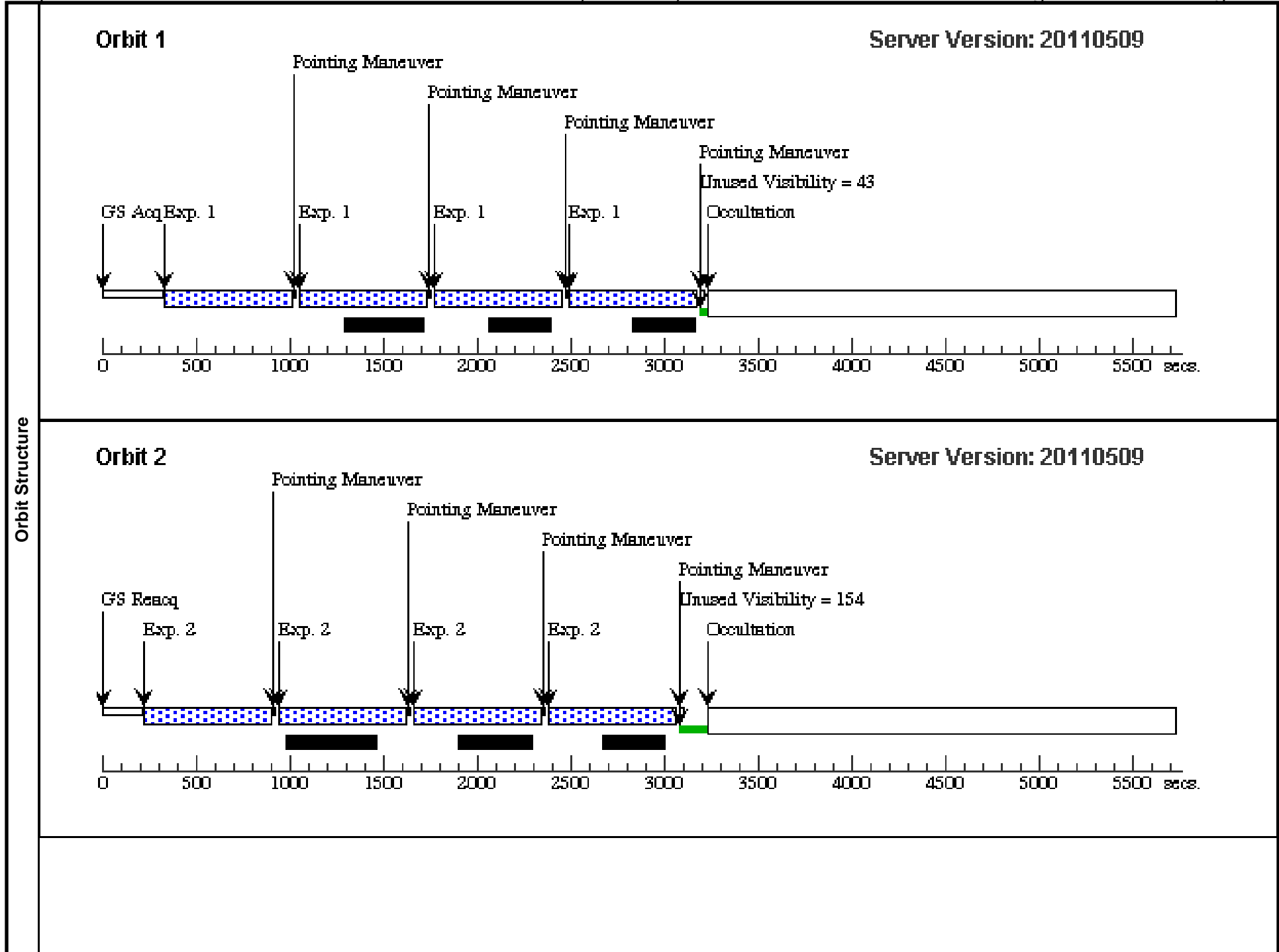


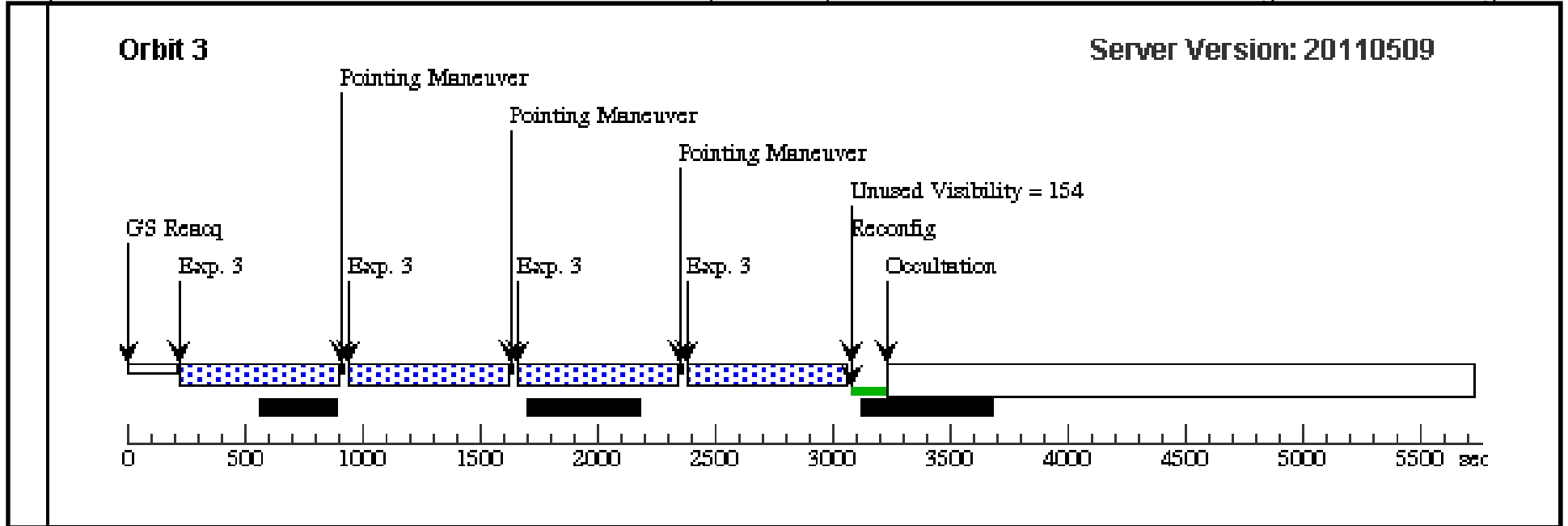


Proposal 12578 - Visit 06 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:46 GMT 2011

| Visit | Proposal 12578, Visit 06, implementation 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=4.92090 Line Spacing=4.69606 | Coordinate Frame=POS-TARG Pattern Orientation=7.76885 Angle Between Sides=90.3118 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (6) | ZC405501 | RA: 09 59 53.7400 (149.9739167d) Dec: +02 01 8.89 (2.01914d) Equinox: J2000 | | V=23.6 K(AB) = 22.3 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (6) ZC405501 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,+ 4.50 | Pattern 2, Exps 1-1 i n Visit 06 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (6) ZC405501 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.8438 2,-9.86210 | Pattern 2, Exps 2-2 i n Visit 06 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (6) ZC405501 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,- 10.00 | Pattern 2, Exps 3-3 i n Visit 06 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

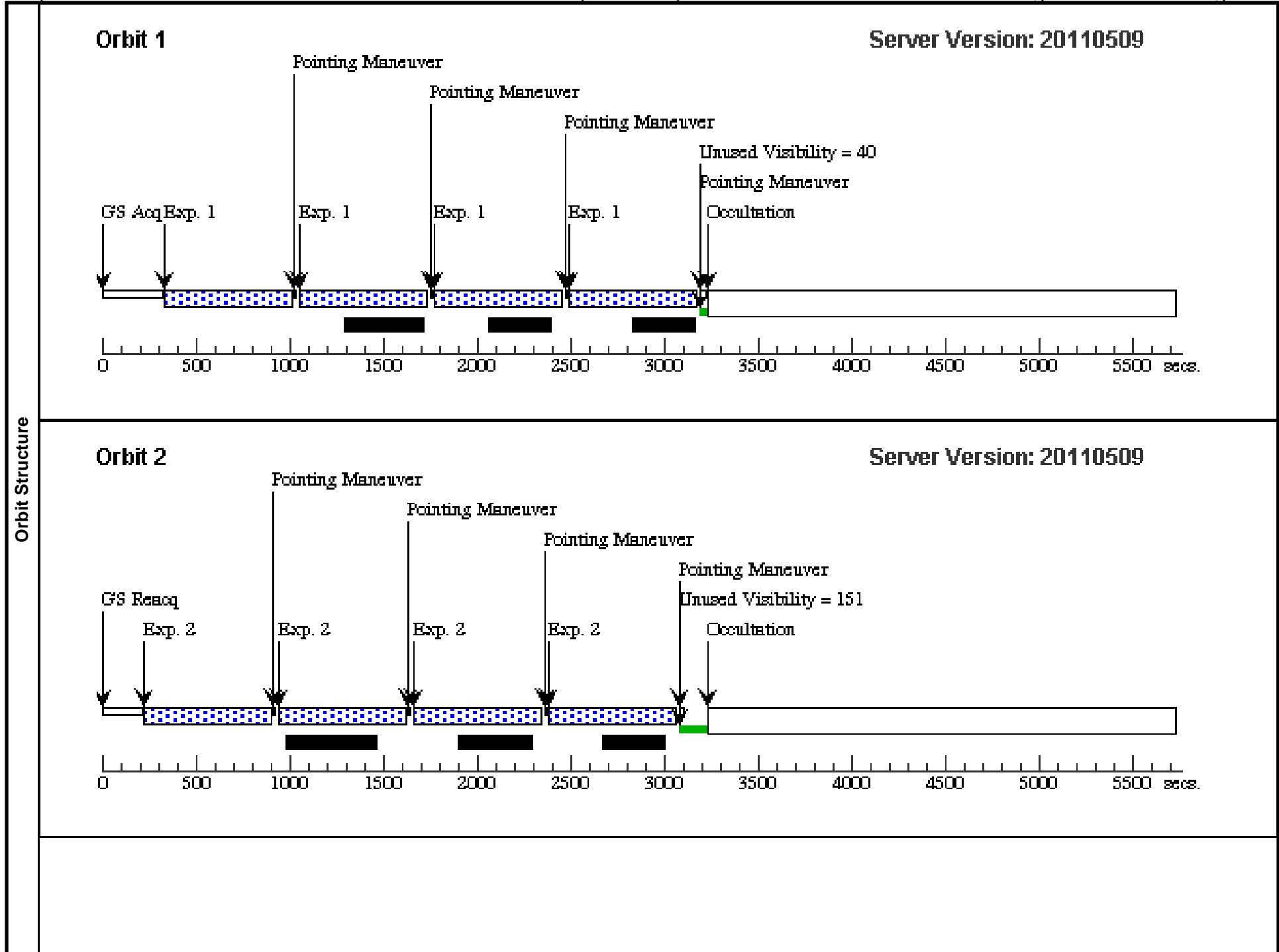


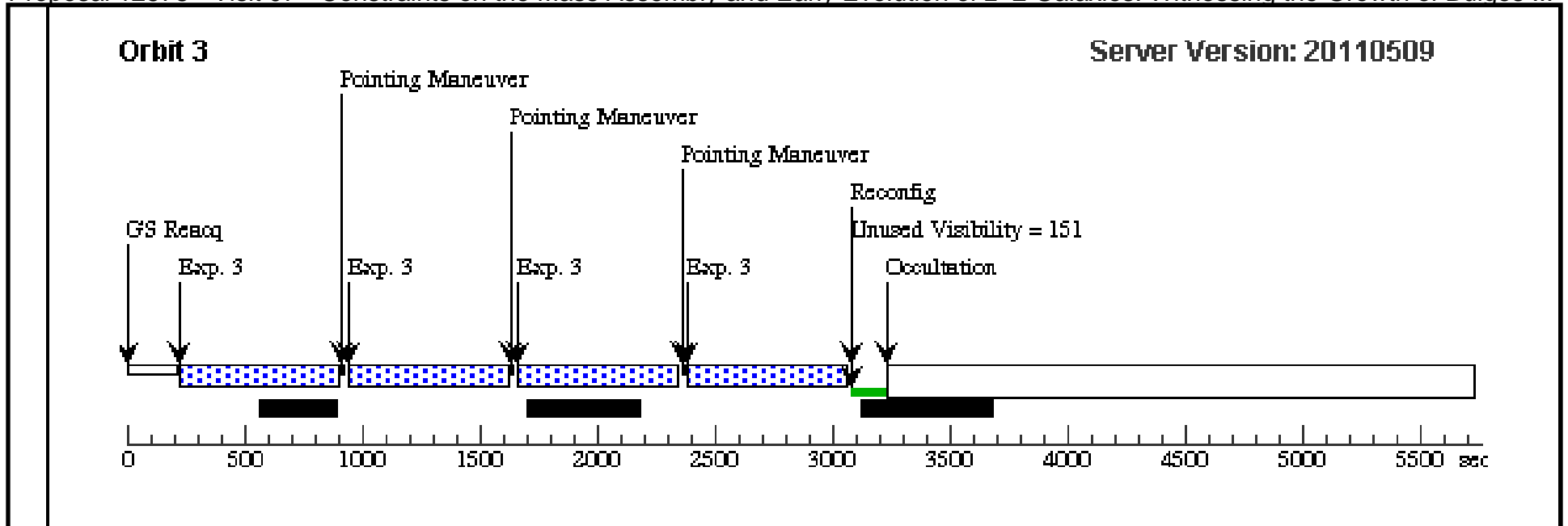


Proposal 12578 - Visit 07 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:46 GMT 2011

| Visit | Proposal 12578, Visit 07, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (7) | ZC406690 | RA: 09 58 59.1300 (149.7463750d) Dec: +02 05 4.25 (2.08451d) Equinox: J2000 | | V=22.2 K(AB) = 20.8 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (7) ZC406690 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,+ 5.00 | Pattern 1, Exps 1-1 i n Visit 07 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (7) ZC406690 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.9273 2,-11.41815 | Pattern 1, Exps 2-2 i n Visit 07 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (7) ZC406690 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,- 12.00 | Pattern 1, Exps 3-3 i n Visit 07 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

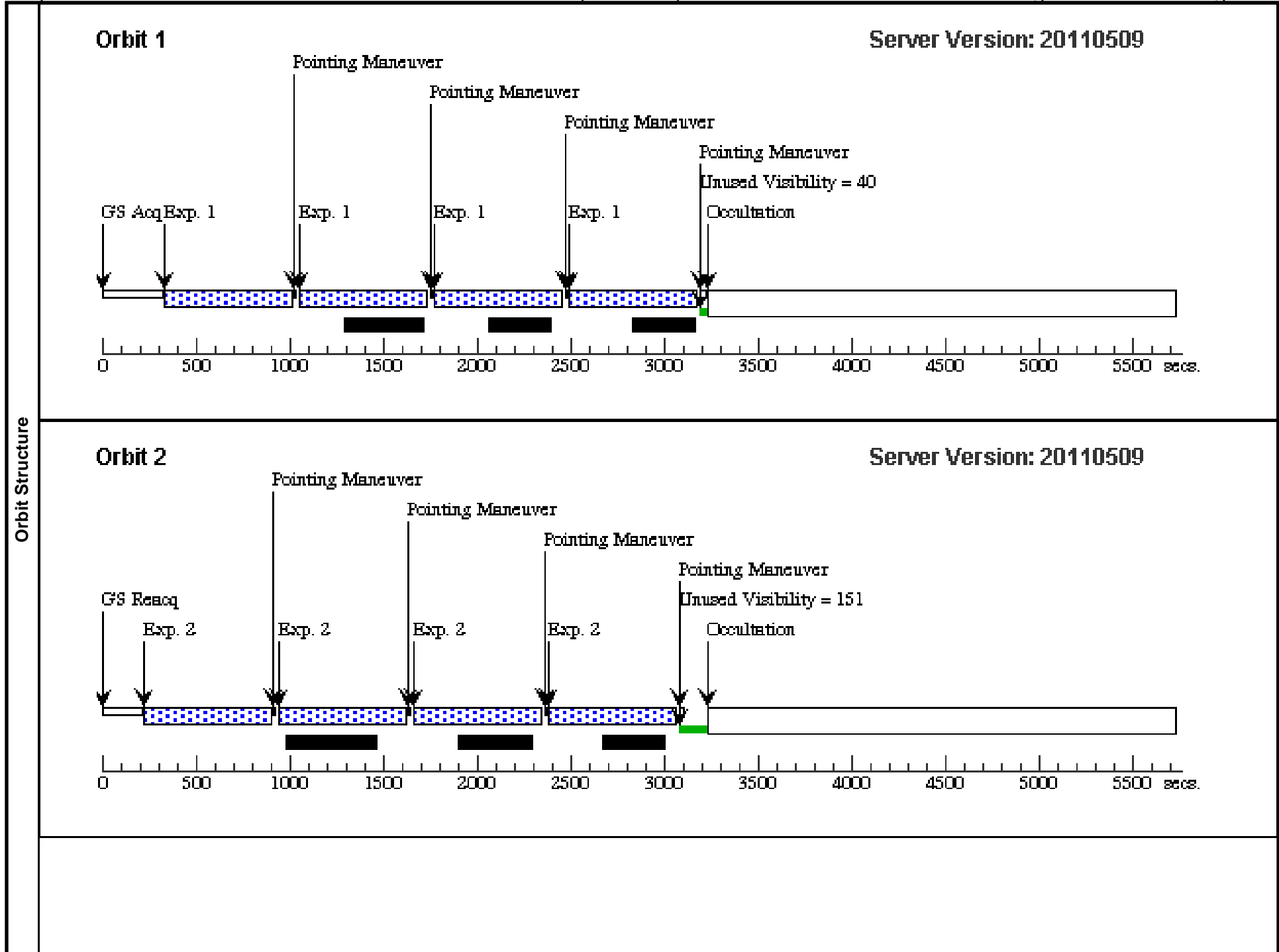


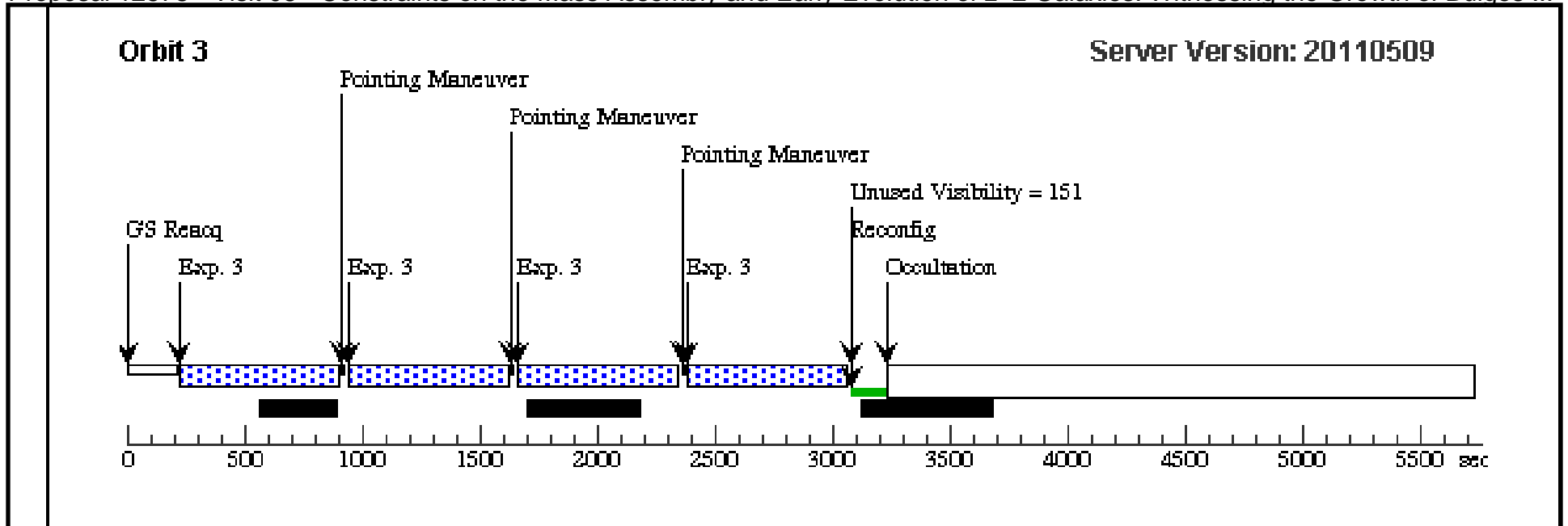


Proposal 12578 - Visit 08 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:47 GMT 2011

| Visit | Proposal 12578, Visit 08, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (8) | ZC407302 | RA: 09 59 55.9400 (149.9830833d) Dec: +02 06 51.30 (2.11425d) Equinox: J2000 | | V=23.1 K(AB) = 21.5 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (8) ZC407302 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,+ 5.00 | Pattern 1, Exps 1-1 i n Visit 08 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (8) ZC407302 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.9273 2,-11.41815 | Pattern 1, Exps 2-2 i n Visit 08 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (8) ZC407302 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,- 12.00 | Pattern 1, Exps 3-3 i n Visit 08 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

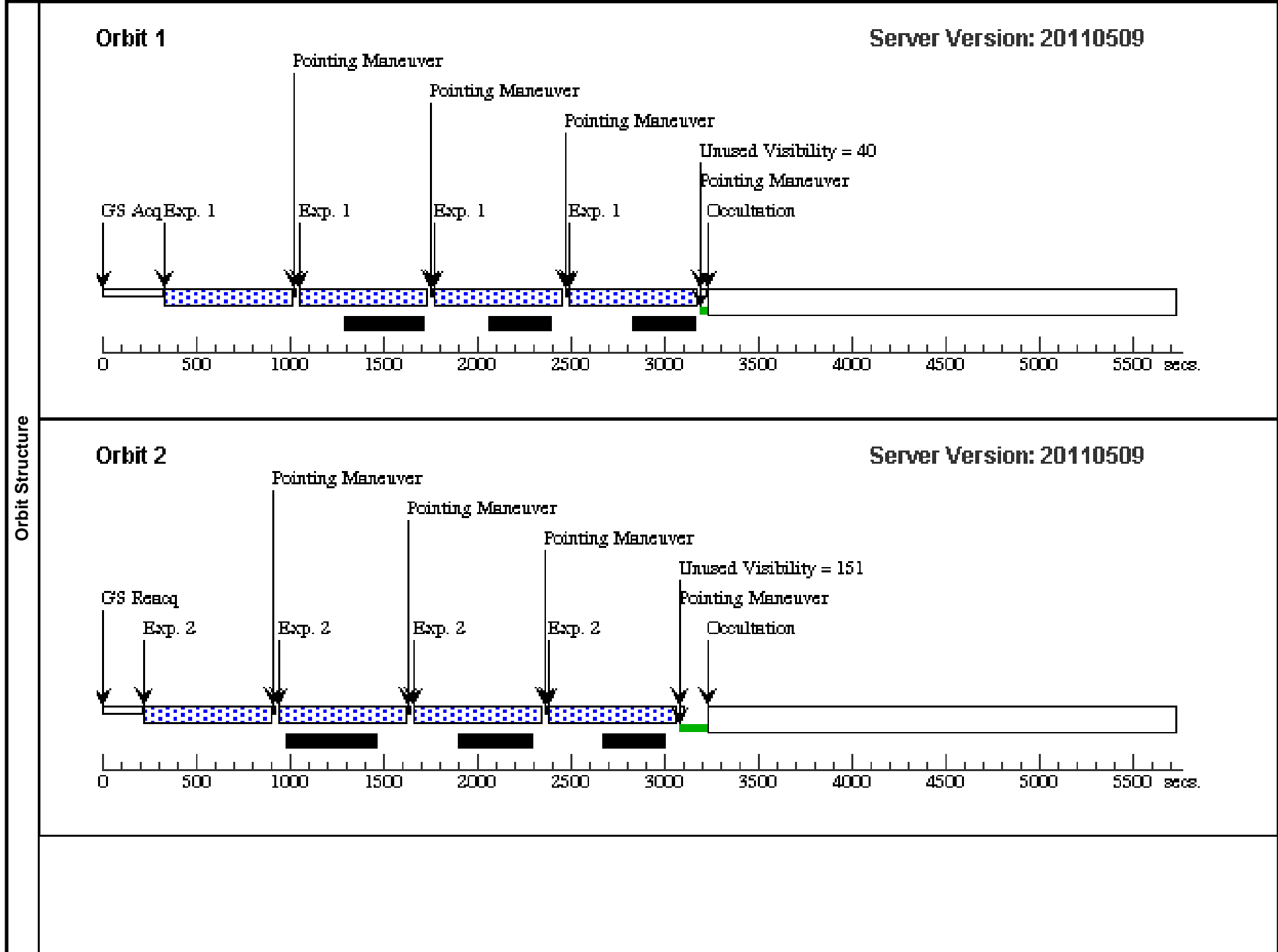


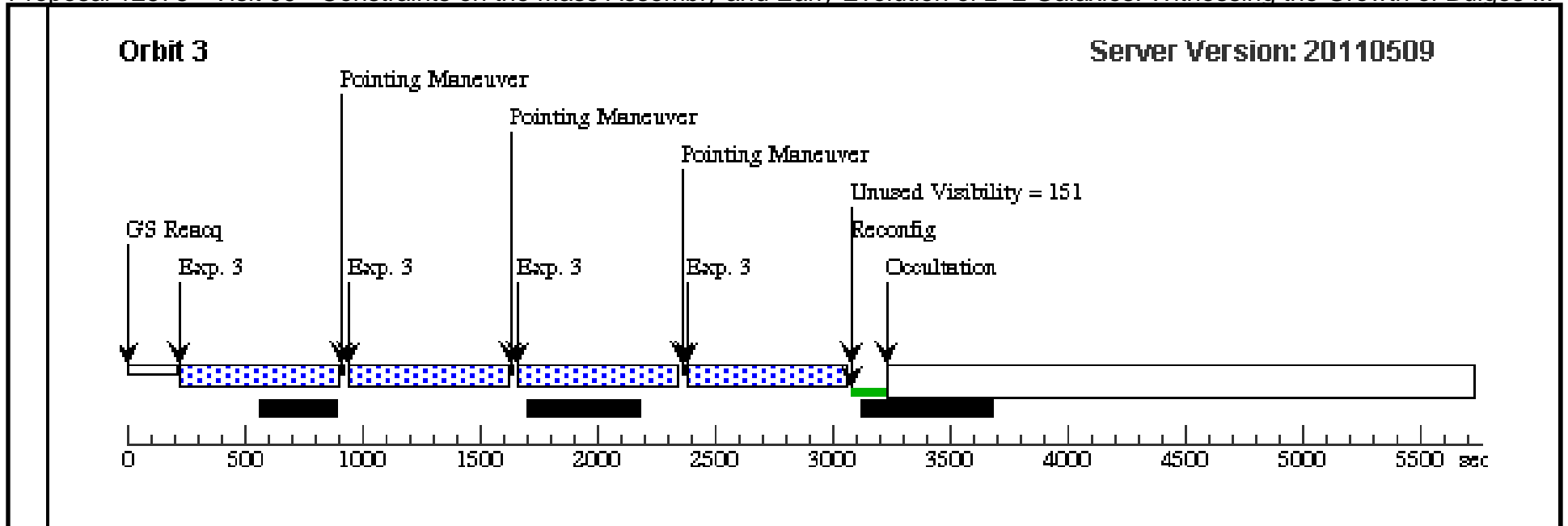


Proposal 12578 - Visit 09 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:48 GMT 2011

| Visit | Proposal 12578, Visit 09, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (9) | ZC407376 | RA: 10 00 45.1300 (150.1880417d) Dec: +02 07 5.00 (2.11806d) Equinox: J2000 | | V=24.1 K(AB) = 21.8 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (9) ZC407376 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,+ 5.00 | Pattern 1, Exps 1-1 i n Visit 09 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (9) ZC407376 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.9273 2,-11.41815 | Pattern 1, Exps 2-2 i n Visit 09 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (9) ZC407376 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,- 12.00 | Pattern 1, Exps 3-3 i n Visit 09 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

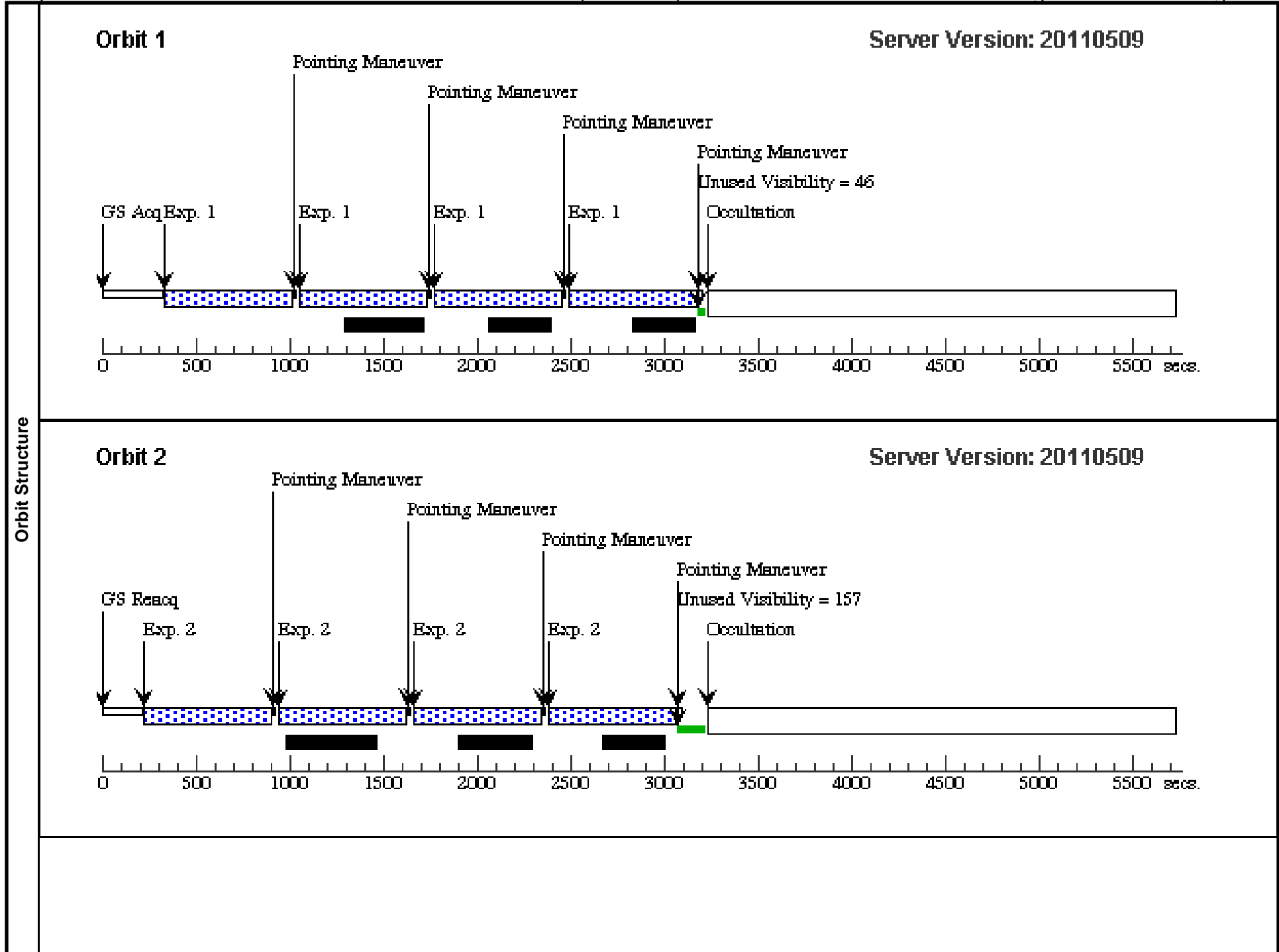


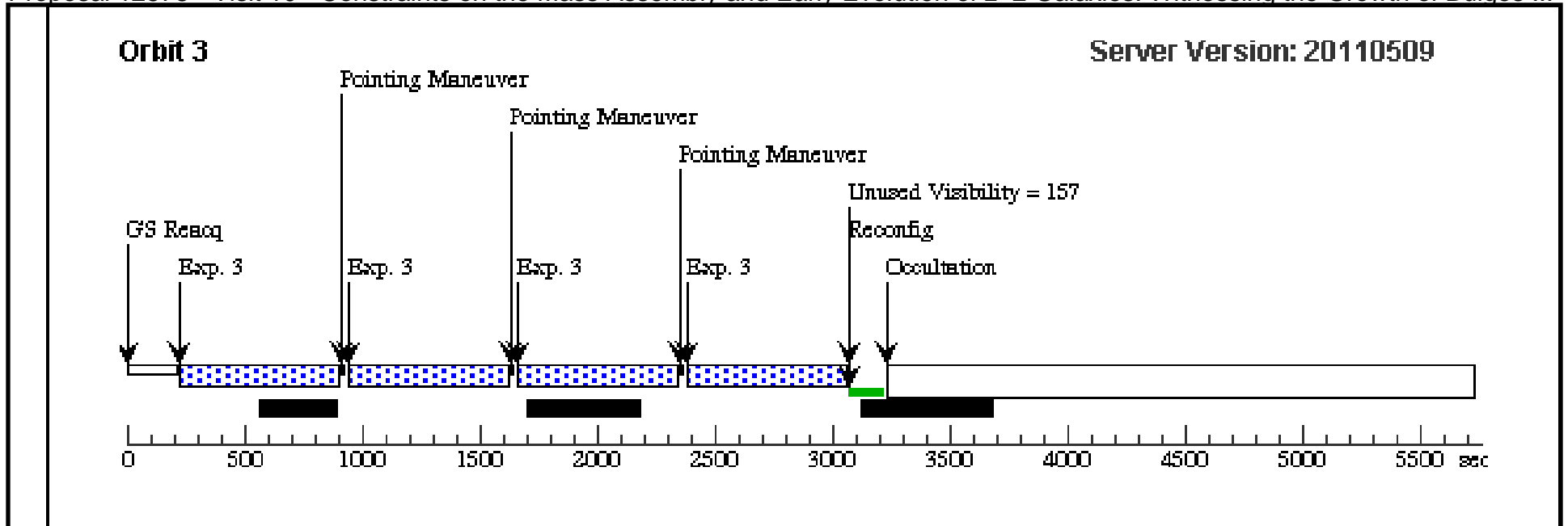


Proposal 12578 - Visit 10 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:48 GMT 2011

| Visit | Proposal 12578, Visit 10, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|---------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (3) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=3.83109 Line Spacing=3.83911 | Coordinate Frame=POS-TARG Pattern Orientation=8.16712 Angle Between Sides=91.0745 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (10) | ZC409985 | RA: 09 59 14.1800 (149.8090833d) Dec: +02 15 47.00 (2.26306d) Equinox: J2000 | | V=23.7 K(AB) = 22.3 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (10) ZC409985 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,+ 4.50 | Pattern 3, Exps 1-1 i n Visit 10 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (10) ZC409985 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.7603 3,-8.89455 | Pattern 3, Exps 2-2 i n Visit 10 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (10) ZC409985 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,- 9.00 | Pattern 3, Exps 3-3 i n Visit 10 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

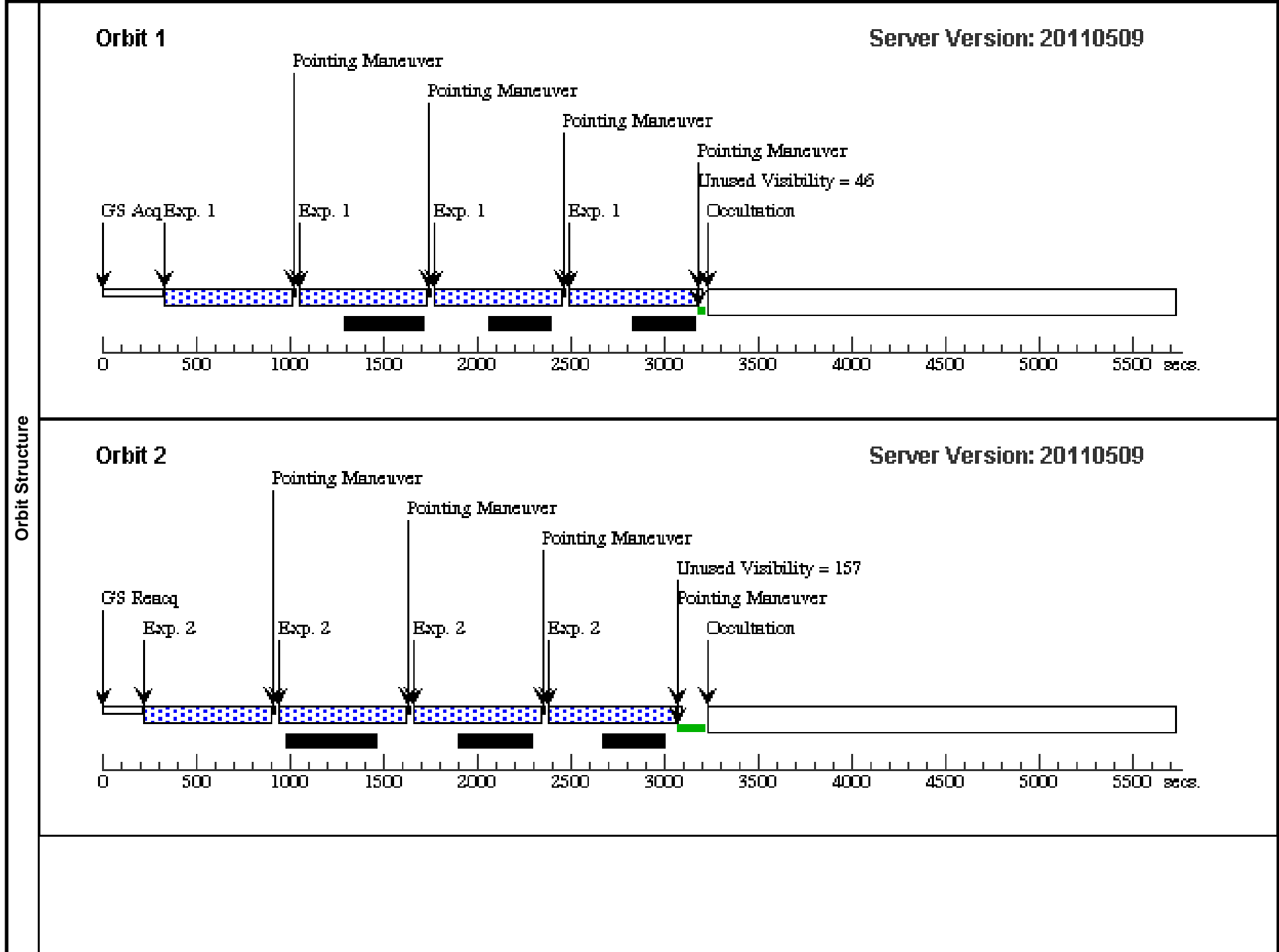


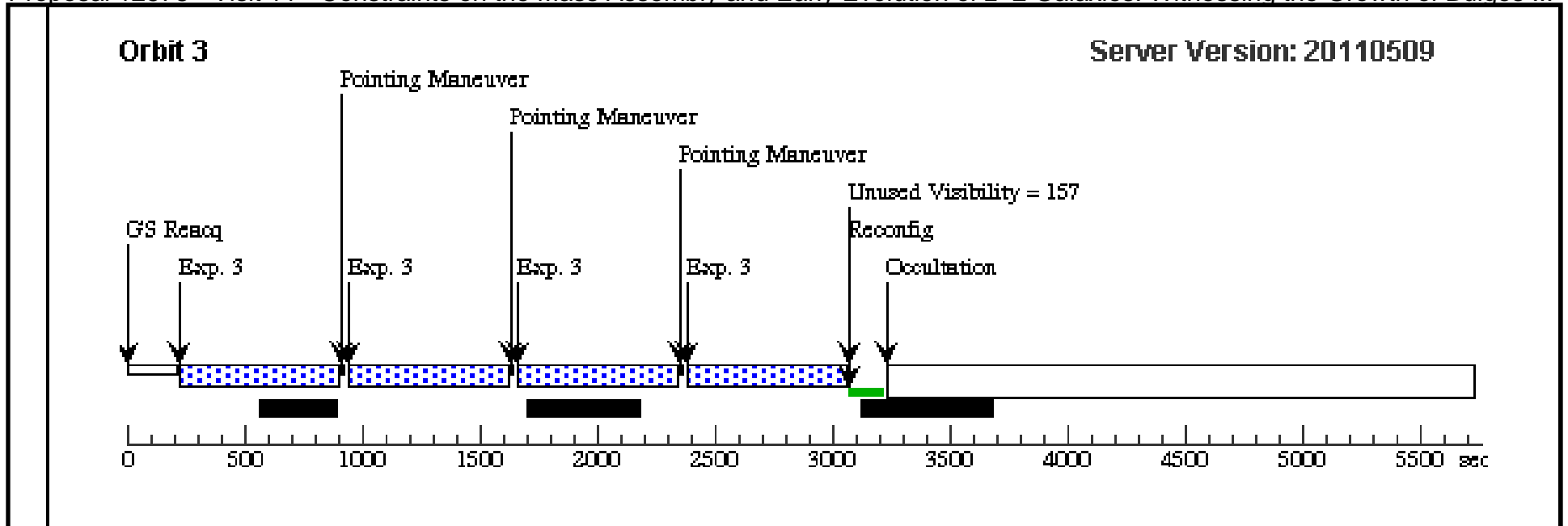


Proposal 12578 - Visit 11 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:49 GMT 2011

| Visit | Proposal 12578, Visit 11, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|---------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (3) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=3.83109 Line Spacing=3.83911 | Coordinate Frame=POS-TARG Pattern Orientation=8.16712 Angle Between Sides=91.0745 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (11) | ZC410123 | RA: 10 02 6.5200 (150.5271667d) Dec: +02 16 15.50 (2.27097d) Equinox: J2000 | | V=23.8 K(AB) = 22.8 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (11) ZC410123 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,+ 4.50 | Pattern 3, Exps 1-1 i n Visit 11 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (11) ZC410123 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.7603 3,-8.89455 | Pattern 3, Exps 2-2 i n Visit 11 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (11) ZC410123 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,- 9.00 | Pattern 3, Exps 3-3 i n Visit 11 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

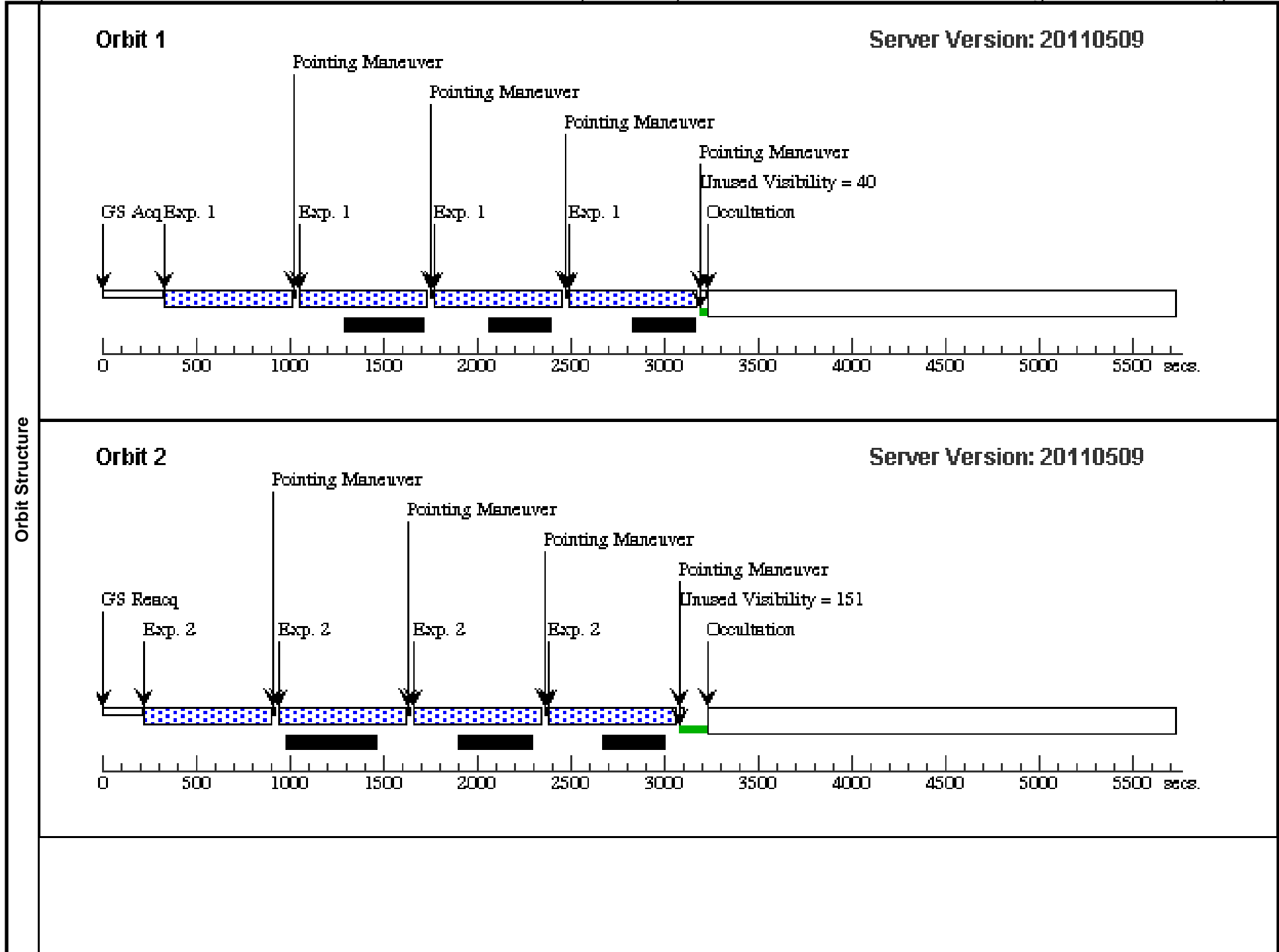


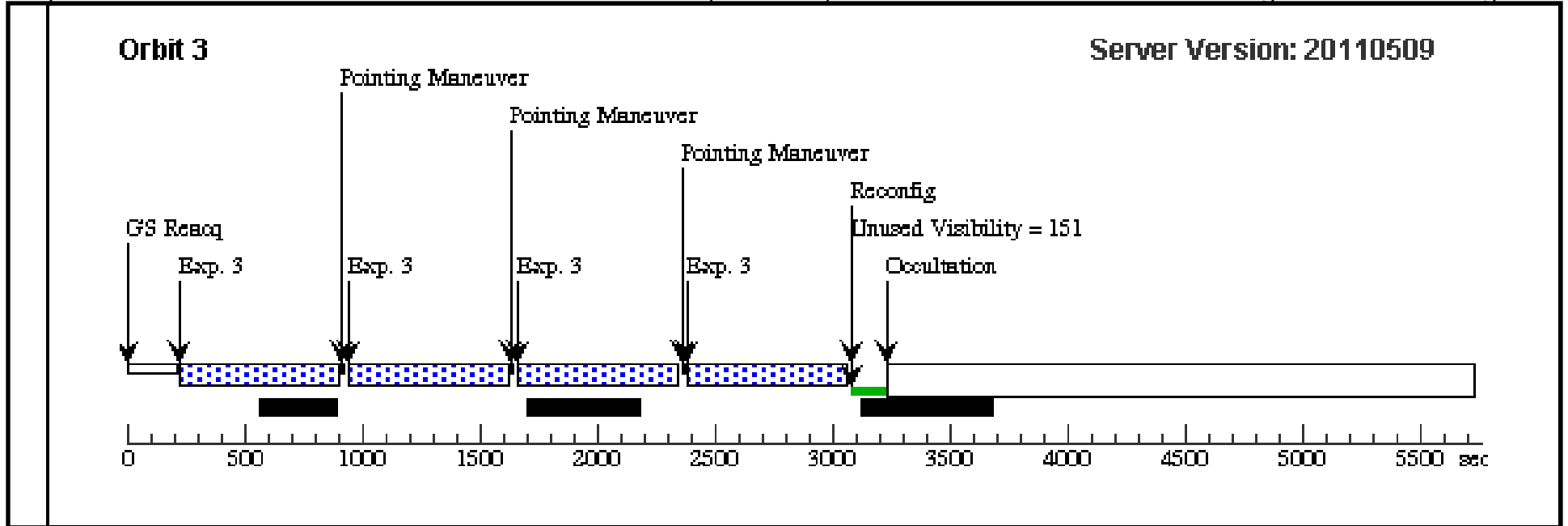


Proposal 12578 - Visit 12 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:50 GMT 2011

| Visit | Proposal 12578, Visit 12, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (12) | ZC412369 | RA: 10 01 46.9500 (150.4456250d) Dec: +02 23 24.62 (2.39017d) Equinox: J2000 | | V=23.4 K(AB) = 21.4 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (12) ZC412369 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,+ 5.00 | Pattern 1, Exps 1-1 i n Visit 12 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (12) ZC412369 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.9273 2,-11.41815 | Pattern 1, Exps 2-2 i n Visit 12 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (12) ZC412369 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,- 12.00 | Pattern 1, Exps 3-3 i n Visit 12 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

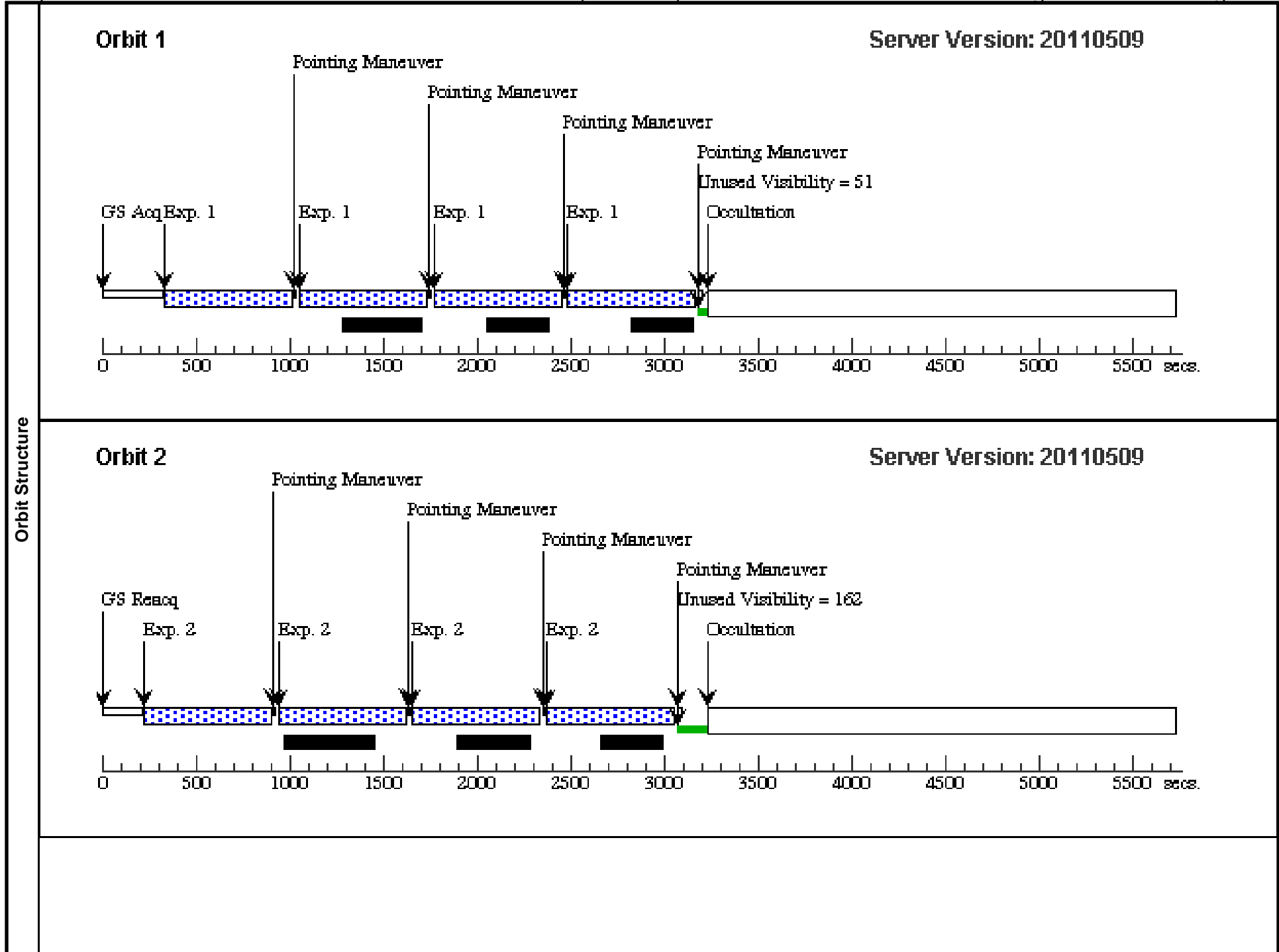


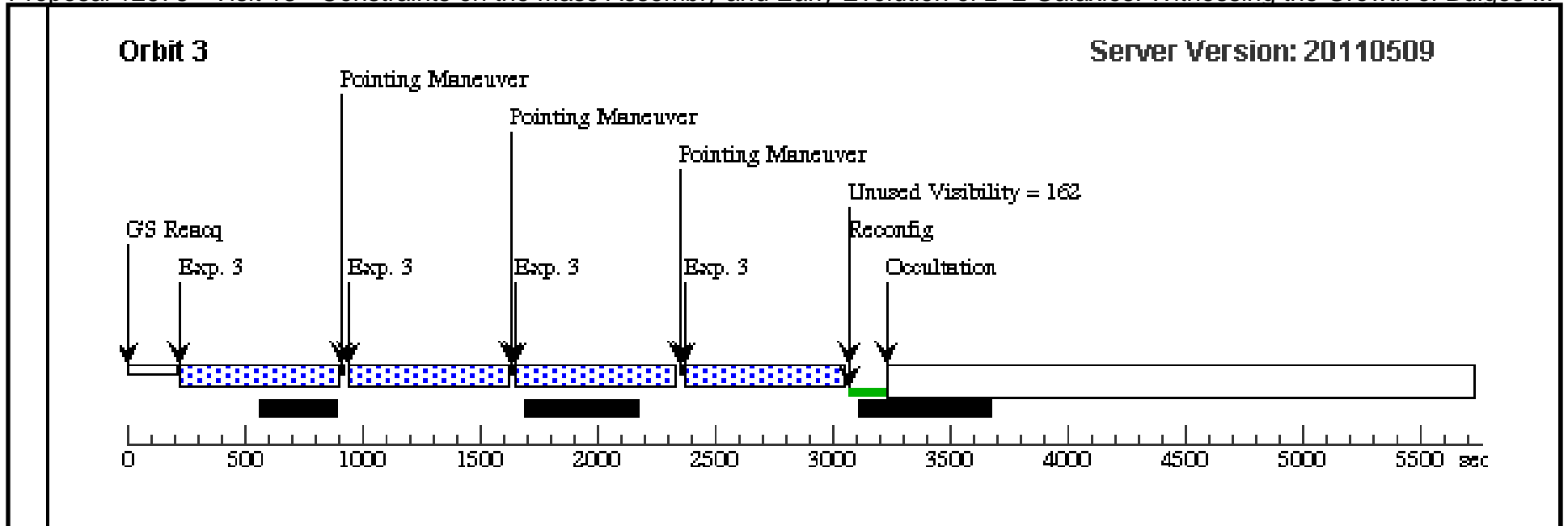


Proposal 12578 - Visit 13 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:50 GMT 2011

| Visit | Proposal 12578, Visit 13, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|---------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (4) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=2.74162 Line Spacing=2.98241 | Coordinate Frame=POS-TARG Pattern Orientation=8.88197 Angle Between Sides=92.3631 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (13) | ZC413597 | RA: 09 59 36.4100 (149.9017083d) Dec: +02 27 59.09 (2.46641d) Equinox: J2000 | | V=24.2 K(AB) = 22.6 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (13) ZC413597 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,+5 .00 | Pattern 4, Exps 1-1 i n Visit 13 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (13) ZC413597 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.6768 3,-8.51549 | Pattern 4, Exps 2-2 i n Visit 13 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (13) ZC413597 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,-9 00 | Pattern 4, Exps 3-3 i n Visit 13 (4) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

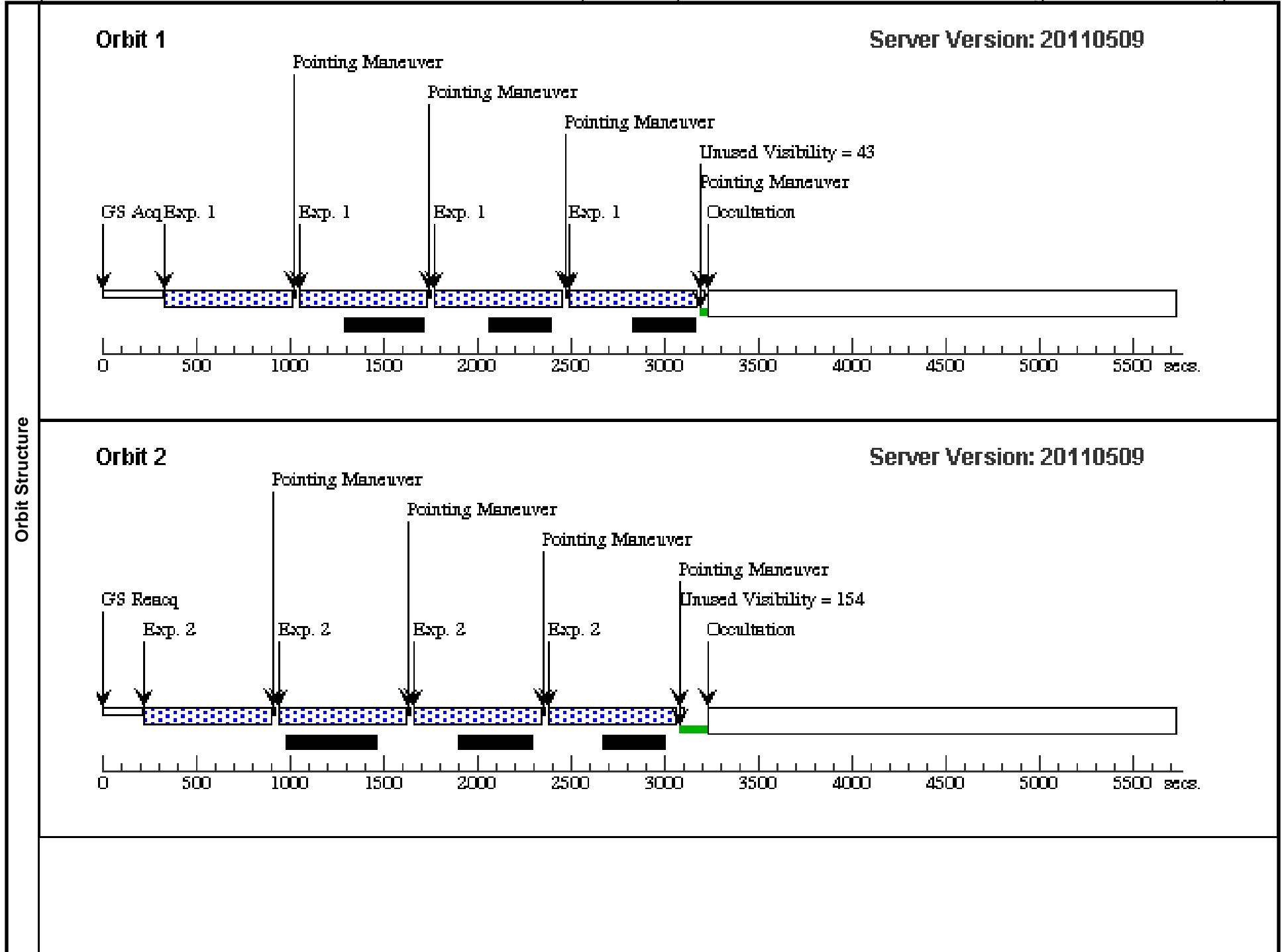


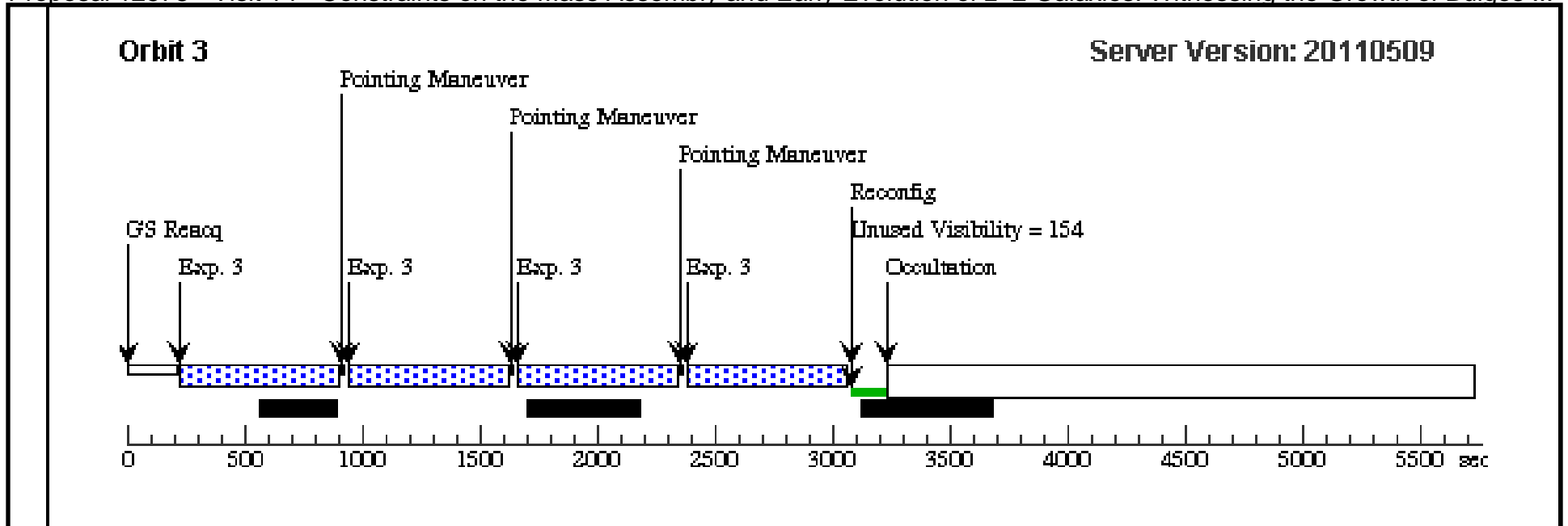


Proposal 12578 - Visit 14 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:51 GMT 2011

| Visit | Proposal 12578, Visit 14, implementation 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=4.92090 Line Spacing=4.69606 | Coordinate Frame=POS-TARG Pattern Orientation=7.76885 Angle Between Sides=90.3118 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (14) | ZC415876 | RA: 10 00 9.4100 (150.0392083d) Dec: +02 36 58.37 (2.61621d) Equinox: J2000 | | V=24.0 K(AB) = 22.4 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (14) ZC415876 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,+ 4.50 | Pattern 2, Exps 1-1 i n Visit 14 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (14) ZC415876 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.8438 2,-9.86210 | Pattern 2, Exps 2-2 i n Visit 14 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (14) ZC415876 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,- 10.00 | Pattern 2, Exps 3-3 i n Visit 14 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

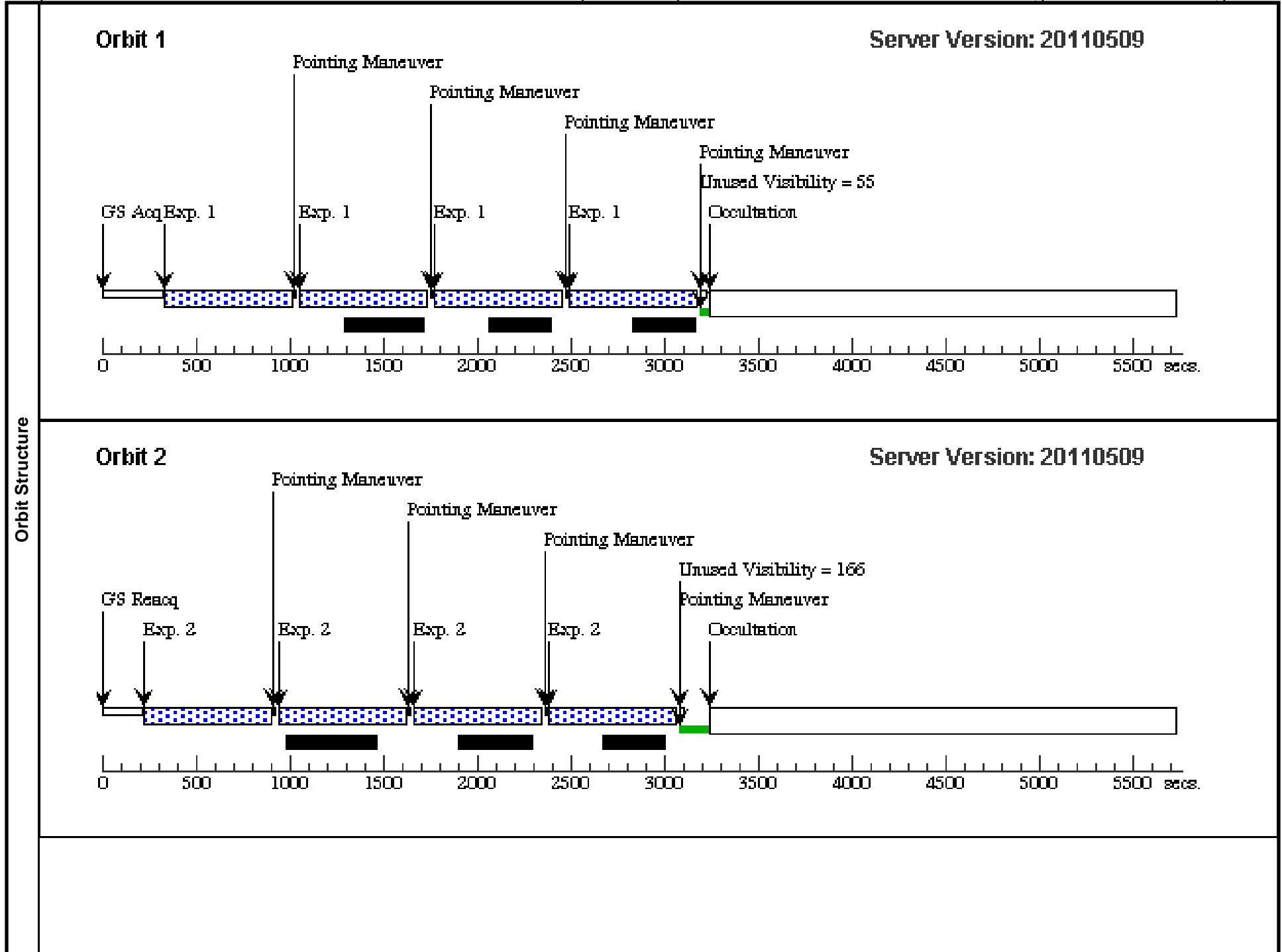


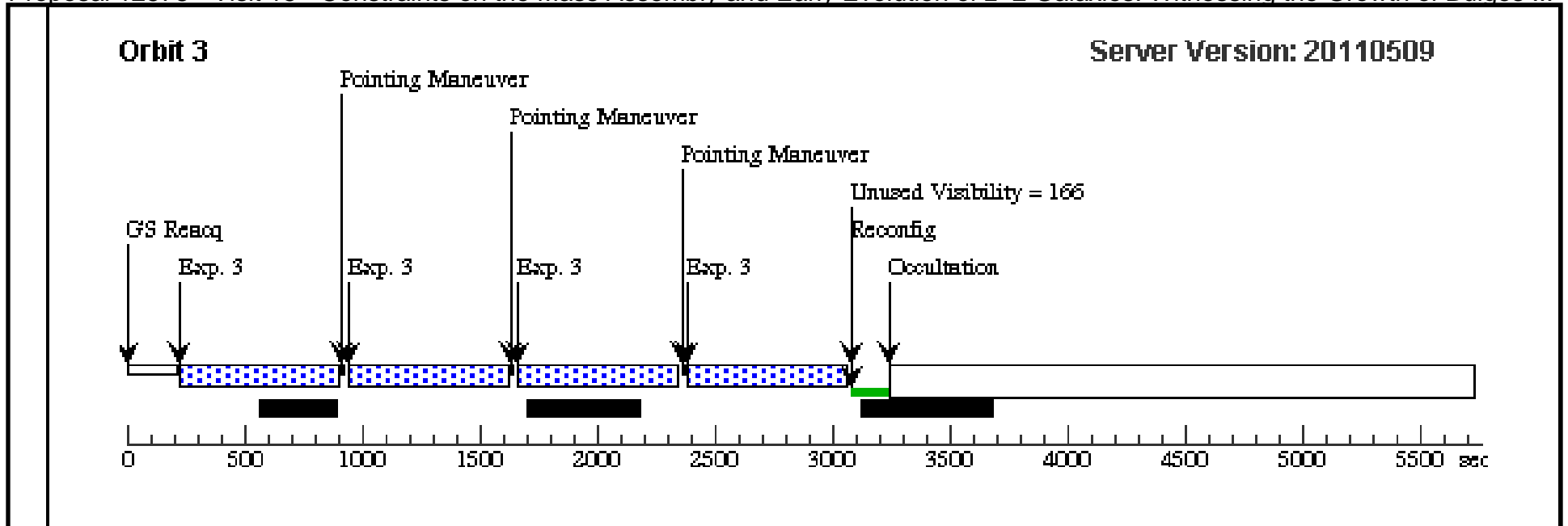


Proposal 12578 - Visit 15 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:51 GMT 2011

| Visit | Proposal 12578, Visit 15, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (15) | D3A6004 | RA: 11 25 3.7700 (171.2657083d) Dec: -21 45 32.76 (-21.75910d) Equinox: J2000 | | V=24.8 K(AB) = 20.8 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (15) D3A6004 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,+ 5.00 | Pattern 1, Exps 1-1 i n Visit 15 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (15) D3A6004 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.9273 2,-11.41815 | Pattern 1, Exps 2-2 i n Visit 15 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (15) D3A6004 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,- 12.00 | Pattern 1, Exps 3-3 i n Visit 15 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |

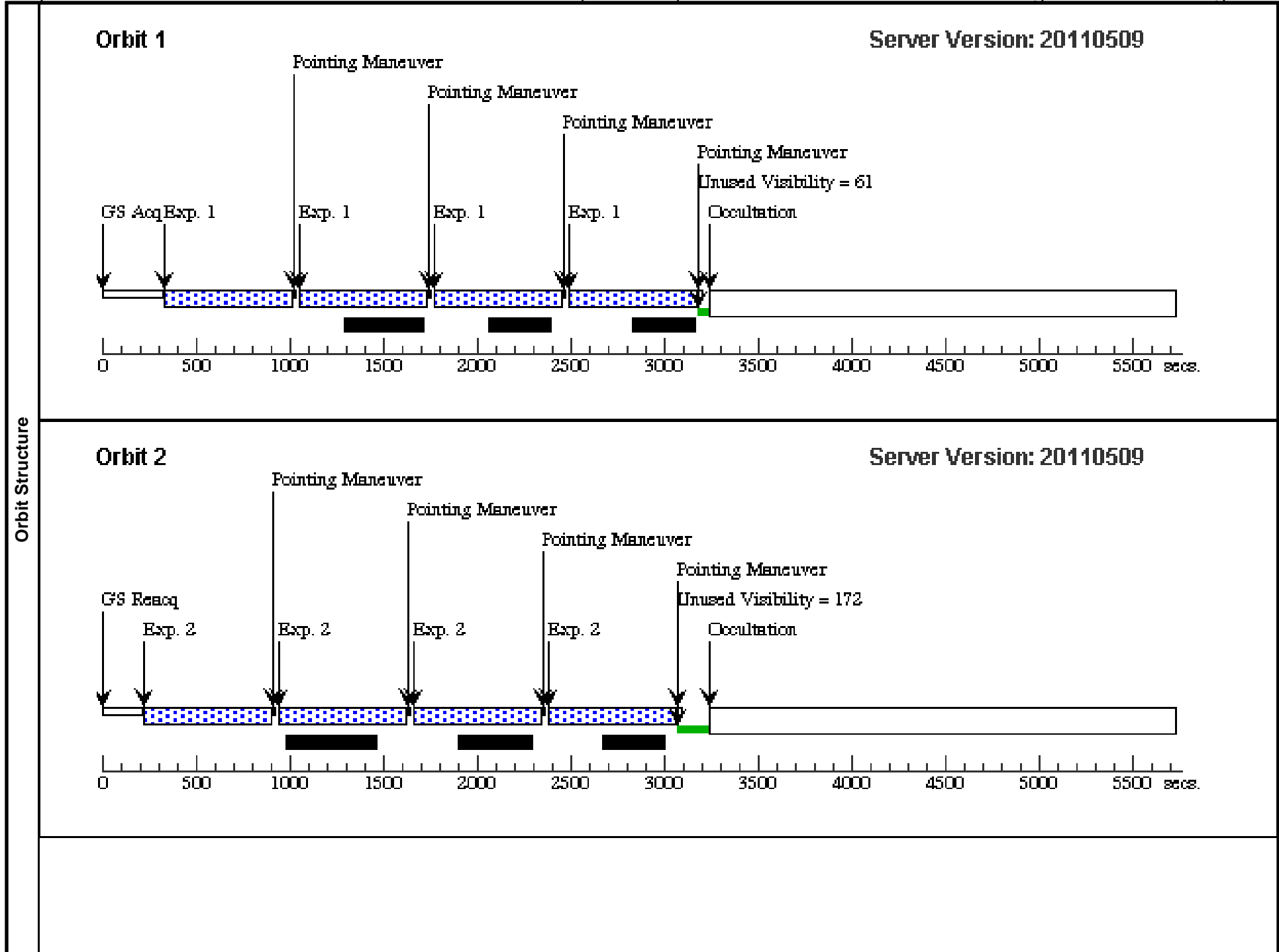


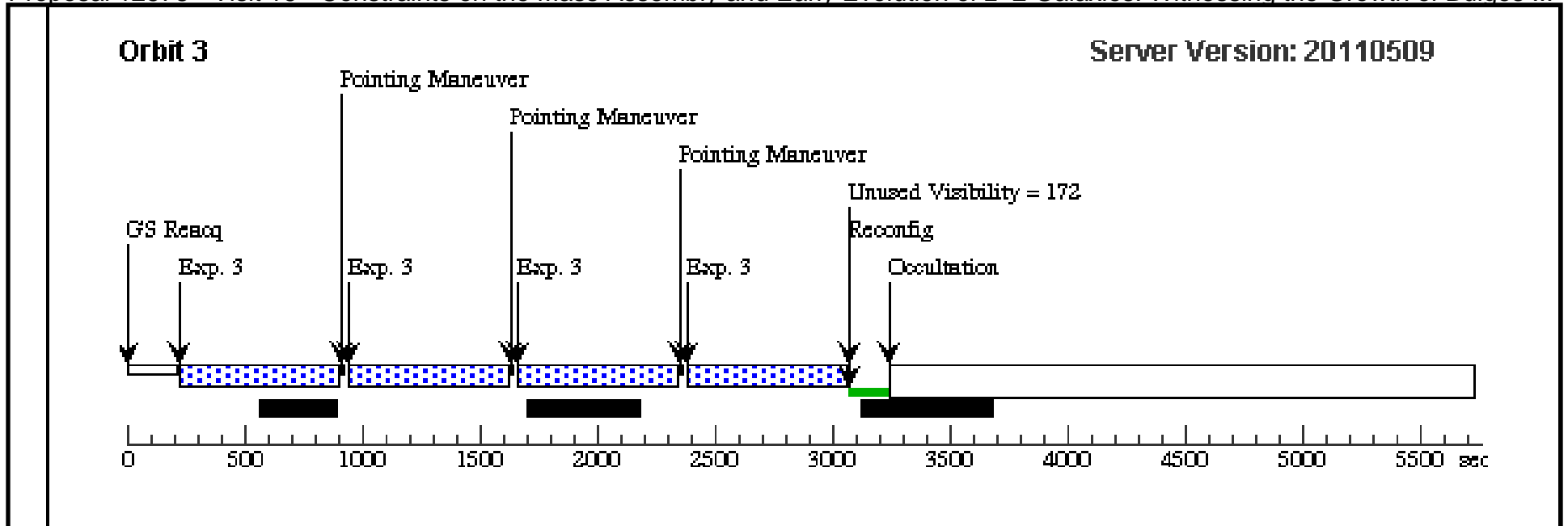


Proposal 12578 - Visit 16 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:52 GMT 2011

| Visit | Proposal 12578, Visit 16, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none) | | | | | | | | | | |
|---------------|--|---------------|--|---|-----------------------------------|-----------------------------------|---|--|--|-------|--|
| | Patterns | # | Primary Pattern | Secondary Pattern | Exposures | | | | | | |
| | | (3) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=3.83109 Line Spacing=3.83911 | Coordinate Frame=POS-TARG Pattern Orientation=8.16712 Angle Between Sides=91.0745 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (16) | D3A15504 | RA: 11 24 15.6500 (171.0652083d) Dec: -21 39 31.18 (-21.65866d) Equinox: J2000 | | V=23.1 K(AB) = 21.0 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (16) D3A15504 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,+ 4.50 | Pattern 3, Exps 1-1 i n Visit 16 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (16) D3A15504 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.7603 3,-8.89455 | Pattern 3, Exps 2-2 i n Visit 16 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (16) D3A15504 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -10.00,- 9.00 | Pattern 3, Exps 3-3 i n Visit 16 (3) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |





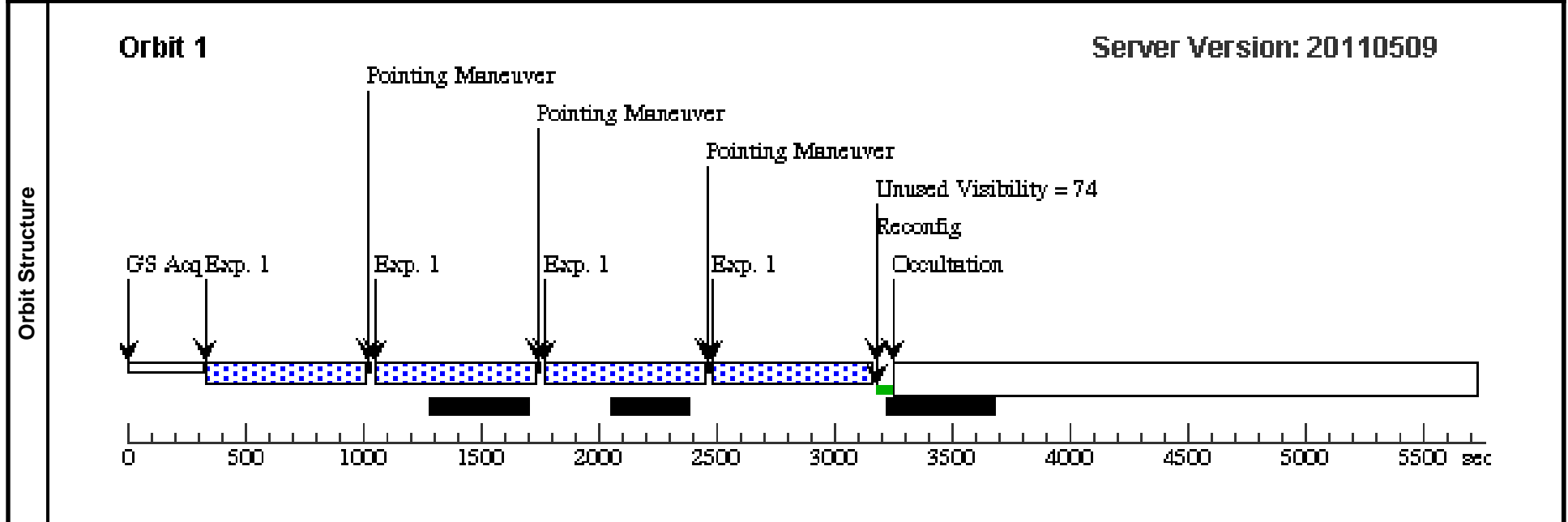
| | | | |
|--------------|---|--|--|
| Visit | Proposal 12578, Visit 17, implementation | | |
| | Diagnostic Status: No Diagnostics | | |
| | Scientific Instruments: WFC3/IR | | |
| | Special Requirements: (none) | | |

| Patterns | # | Primary Pattern | Secondary Pattern | Exposures |
|-----------------|-----|--|---|-----------|
| | (4) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=2.74162 Line Spacing=2.98241 | Coordinate Frame=POS-TARG Pattern Orientation=8.88197 Angle Between Sides=92.3631 Center Pattern=false | |

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|----------------------|------|-------------|--|--------------------------|-------------------------------------|-----------------------|
| | (17) | Q1623-BX502 | RA: 16 25 54.3800 (246.4765833d) Dec: +26 44 9.25 (26.73590d) Equinox: J2000 | | V=(?) G(AB) = 24.5; K(AB) = 23.9 | Reference Frame: ICRS |

| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|------------------|-----------------------------|---------------|-----------------------------------|----------------------|-------------------------------------|-------------------------|--|
| | 1 | | (17) Q1623-BX502 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -9.00,-9.00 | Pattern 4, Exps 1-1 in Visit 17 (4) | | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] |

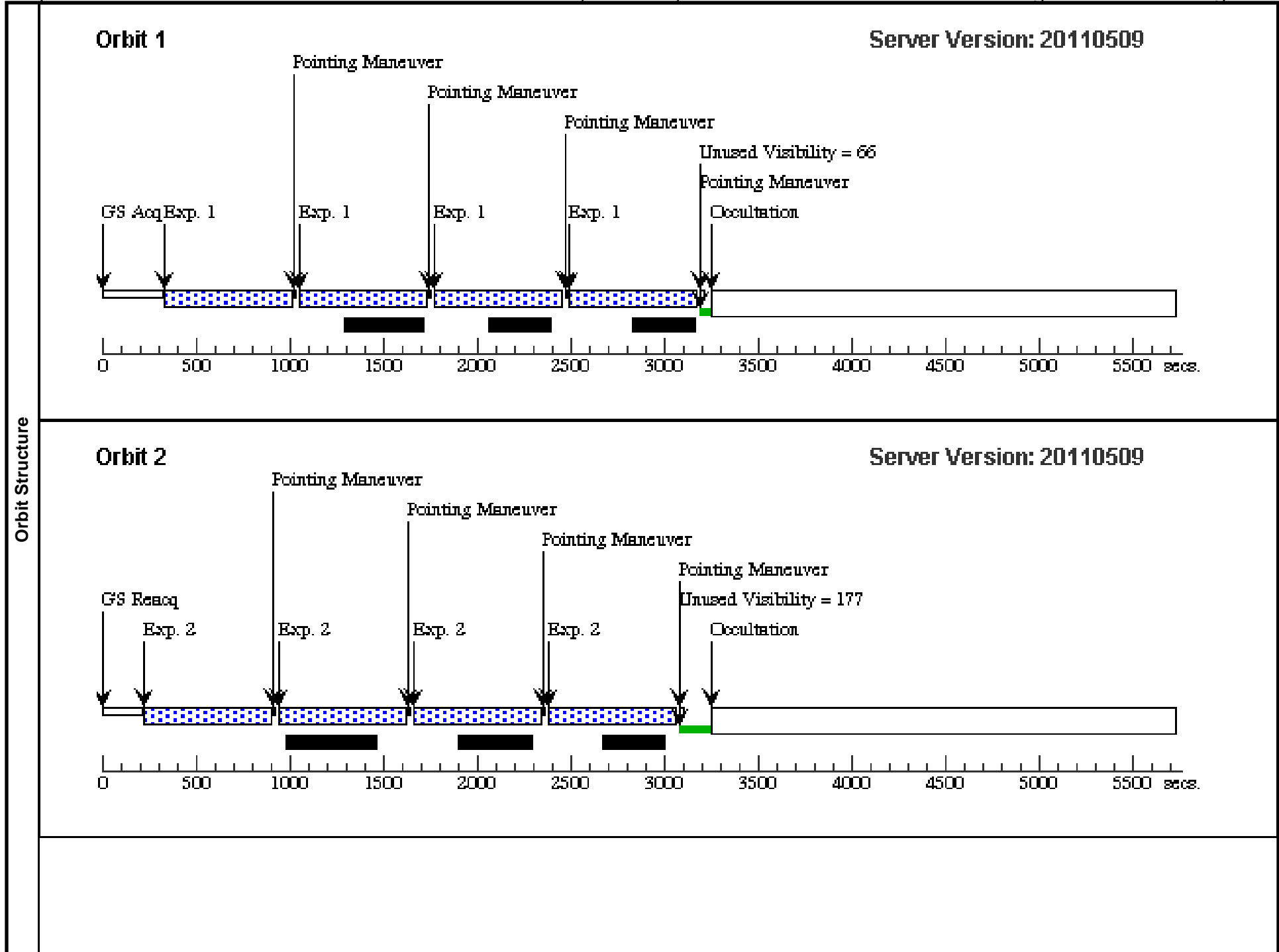
Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.

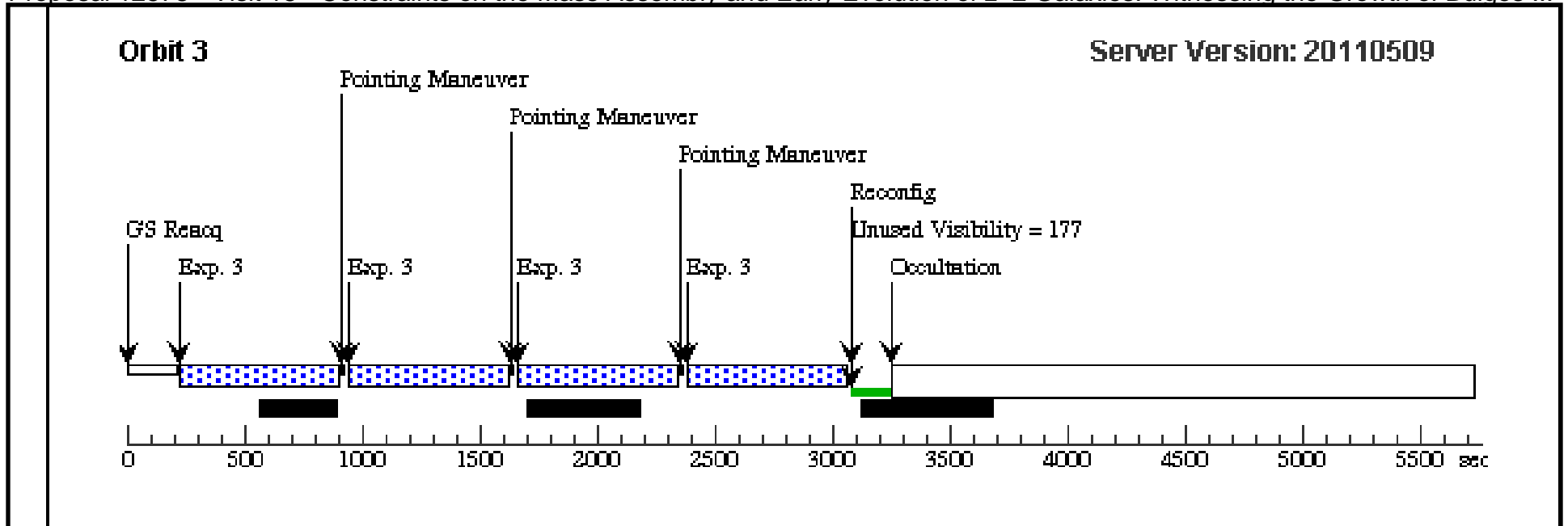


Proposal 12578 - Visit 18 - Constraints on the Mass Assembly and Early Evolution of z~2 Galaxies: Witnessing the Growth of Bulges ...

Sat Jul 09 06:00:53 GMT 2011

| Visit | Proposal 12578, Visit 18, implementation 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=4.92090 Line Spacing=4.69606 | Coordinate Frame=POS-TARG Pattern Orientation=7.76885 Angle Between Sides=90.3118 Center Pattern=false | | (1), (2), (3) | | | | | |
| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous | | | | | |
| | (18) | Q1623-BX599 | RA: 16 26 2.5500 (246.5106250d) Dec: +26 45 31.90 (26.75886d) Equinox: J2000 | | V=(?) G(AB) = 23.5; K(AB) = 21.8 | Reference Frame: ICRS | | | | | |
| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit | |
| | 1 | | (18) Q1623-BX599 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,+ 4.50 | Pattern 2, Exps 1-1 i n Visit 18 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] | |
| | <i>Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.</i> | | | | | | | | | | |
| | 2 | | (18) Q1623-BX599 | WFC3/IR, MULTIACCUM, IR-FIX | F160W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG +6.8438 2,-9.86210 | Pattern 2, Exps 2-2 i n Visit 18 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [2] | |
| 3 | | (18) Q1623-BX599 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,- 10.00 | Pattern 2, Exps 3-3 i n Visit 18 (2) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [3] | | |





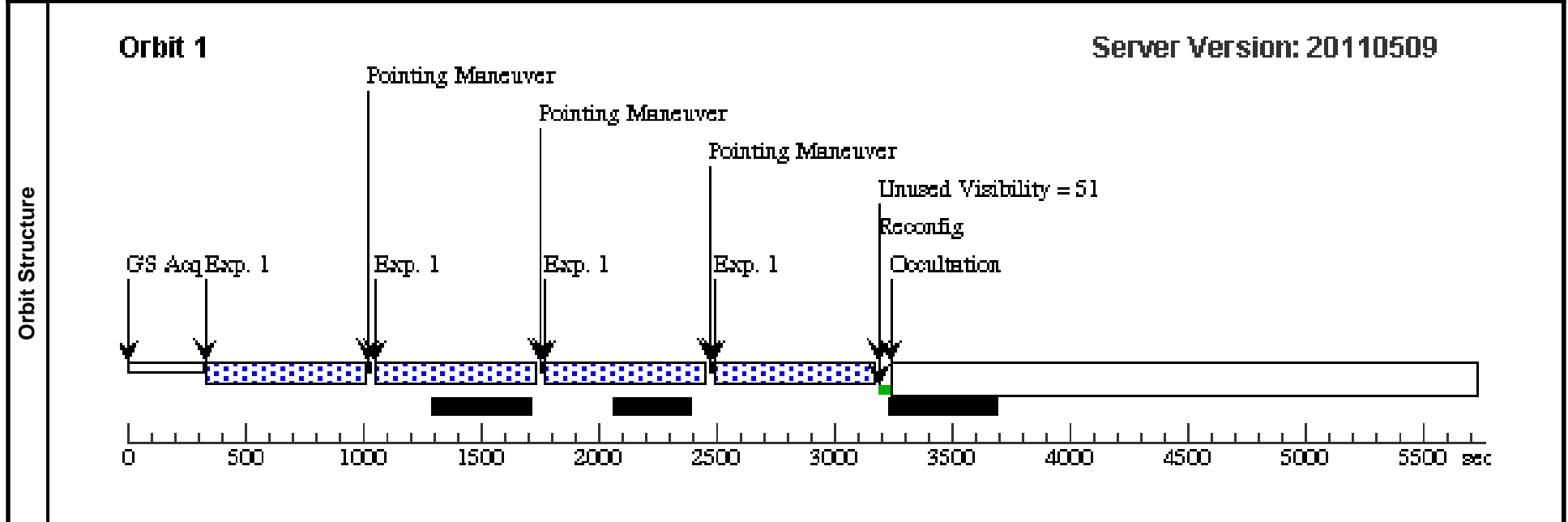
| | | | |
|--------------|---|--|--|
| Visit | Proposal 12578, Visit 19, implementation | | |
| | Diagnostic Status: No Diagnostics | | |
| | Scientific Instruments: WFC3/IR | | |
| | Special Requirements: (none) | | |

| Patterns | # | Primary Pattern | Secondary Pattern | Exposures |
|-----------------|-----|--|---|-----------|
| | (1) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | (1) |

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|----------------------|------|-------------|---|--------------------------|-------------------------------------|-----------------------|
| | (19) | Q2343-BX389 | RA: 23 46 28.9000 (356.6204167d) Dec: +12 47 33.55 (12.79265d) Equinox: J2000 | | V=(?) G(AB) = 25.0; K(AB) = 22.0 | Reference Frame: ICRS |

| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|------------------|-----------------------------|---------------|-----------------------------------|------------------------|-------------------------------------|--|-------|
| | 1 | | (19) Q2343-BX389 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,-12.00 | Pattern 1, Exps 1-1 in Visit 19 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |

Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.



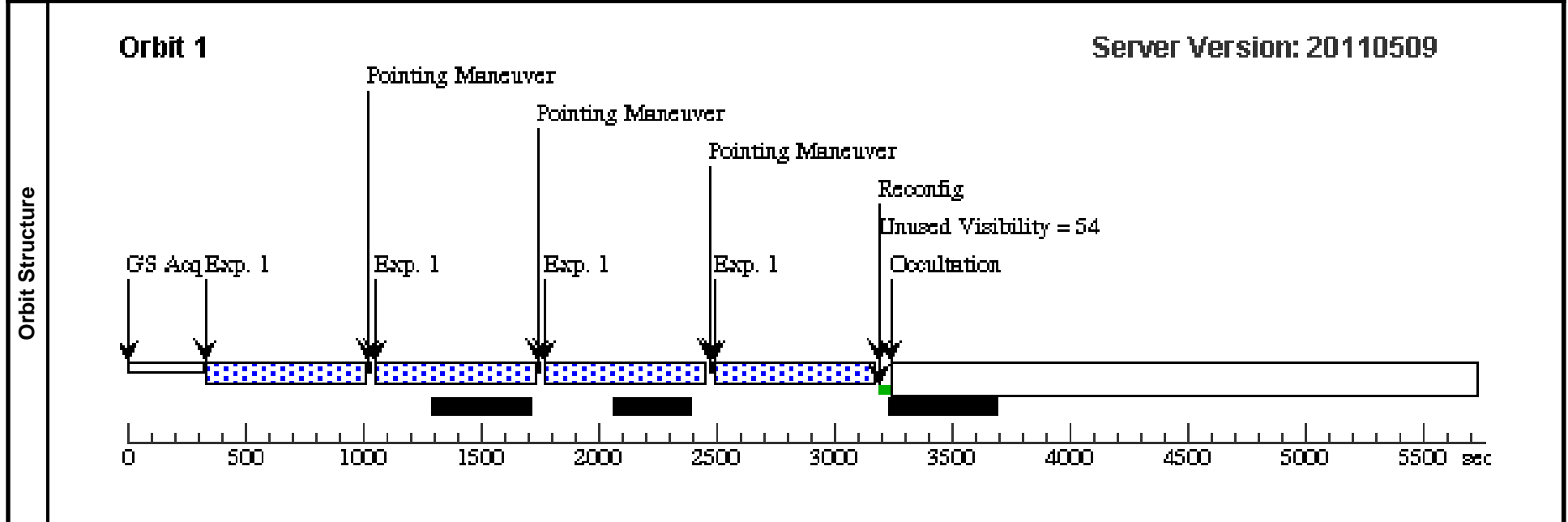
| | | | |
|--------------|---|--|--|
| Visit | Proposal 12578, Visit 20, implementation | | |
| | Diagnostic Status: No Diagnostics | | |
| | Scientific Instruments: WFC3/IR | | |
| | Special Requirements: (none) | | |

| Patterns | # | Primary Pattern | Secondary Pattern | Exposures |
|-----------------|-----|--|---|-----------|
| | (2) | Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=4.92090 Line Spacing=4.69606 | Coordinate Frame=POS-TARG Pattern Orientation=7.76885 Angle Between Sides=90.3118 Center Pattern=false | |

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|----------------------|------|-------------|--|--------------------------|-------------------------------------|-----------------------|
| | (20) | Q2343-BX610 | RA: 23 46 9.4300 (356.5392917d) Dec: +12 49 19.21 (12.82200d) Equinox: J2000 | | V=(?) G(AB) = 23.8; K(AB) = 21.1 | Reference Frame: ICRS |

| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|------------------|-----------------------------|---------------|-----------------------------------|----------------------------|---|--|-------|
| | 1 | | (20) Q2343-BX610 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -11.00,- 10.00 | Pattern 2, Exps 1-1 i n Visit 20 (2) | [=>(Pattern 1)] [=>(Pattern 2)] [=>(Pattern 3)] [=>(Pattern 4)] | [1] |

Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.



| | | | |
|--------------|---|--|--|
| Visit | Proposal 12578, Visit 21, implementation | | |
| | Diagnostic Status: No Diagnostics | | |
| | Scientific Instruments: WFC3/IR | | |
| | 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=6.01086 Line Spacing=5.55314 | Coordinate Frame=POS-TARG Pattern Orientation=7.51501 Angle Between Sides=89.8061 Center Pattern=false | (1) |

| Fixed Targets | # | Name | Target Coordinates | Targ. Coord. Corrections | Fluxes | Miscellaneous |
|----------------------|------|-------------|---|--------------------------|-------------------------------------|-----------------------|
| | (21) | Q2346-BX482 | RA: 23 48 12.9700 (357.0540417d) Dec: +00 25 46.34 (.42954d) Equinox: J2000 | | V=(?) G(AB) = 23.4; H(AB) = 22.3 | Reference Frame: ICRS |

| Exposures | # | Label | Target | Config,Mode,Aperture | Spectral Els. | Opt. Params. | Special Reqs. | Groups | Exp. Time/[Actual Dur.] | Orbit |
|------------------|---|-------|------------------|-----------------------------|---------------|-----------------------------------|------------------------|-------------------------------------|--|-------|
| | 1 | | (21) Q2346-BX482 | WFC3/IR, MULTIACCUM, IR-FIX | F110W | NSAMP=14; SAMP-SEQ=SPAR S50 | POS TARG -12.00,-12.00 | Pattern 1, Exps 1-1 in Visit 21 (1) | [==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)] | [1] |

Comments: Since primary WFC3/IR exposures are long exposures of faint galaxy targets, please avoid scheduling right after passage through SAA.

