12504 - Bridging the Brown Dwarf/Jupiter Temperature Gap with a Very Cold Brown Dwarf

Cycle: 19, 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) CFBDSIR1458+1013AB	WFC3/IR WFC3/UVIS	4	30-Aug-2011 21:01:17.0	yes
02	(1) CFBDSIR1458+1013AB	ACS/WFC	1	30-Aug-2011 21:01:28.0	yes
03	(1) CFBDSIR1458+1013AB	ACS/WFC	1	30-Aug-2011 21:01:31.0	yes
04	(1) CFBDSIR1458+1013AB	ACS/WFC	4	30-Aug-2011 21:01:36.0	yes
05	(1) CFBDSIR1458+1013AB	ACS/WFC	4	30-Aug-2011 21:01:43.0	yes
06	(3) WISE0458+64	ACS/WFC WFC3/IR WFC3/UVIS	2	30-Aug-2011 21:01:59.0	yes

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
07	(4) UGPS0722-05	ACS/WFC WFC3/IR WFC3/UVIS	2	30-Aug-2011 21:02:15.0	yes

18 Total Orbits Used

ABSTRACT

Residing at the extremes of low mass, luminosity and temperature, brown dwarfs serve as laboratories for understanding gas-giant extrasolar planets. Still, until a few months ago, the coolest brown dwarf known was ~4 times warmer than Jupiter. We have now identified the nearby T9.5 dwarf CFBDSIR J1458+10 as a 0.11" physical binary. As established by our near-IR parallax to the system, the very blue secondary component is the coldest and least luminous object outside the solar system directly imaged. With an estimated temperature of ~350-400 K, it is the coolest known brown dwarf by ~150 K and the least luminous by a factor of 4-5. As such, CFBDSIR J1458+10B provides a gateway for measuring the properties of substellar objects at previously unexplored extremes.

We propose to use HST to obtain far-red and near-IR medium-band photometry of CFBDSIR J1458+10B and to measure its 0.8-1.6 micron spectral energy distribution. Theoretical models predict this wavelength range to be highly sensitive to completely new physical processes not yet seen in brown dwarfs, including the formation of photospheric water clouds and the disappearance of the very broad potassium line that dominates the far-red spectra of T dwarfs. The impact of these changes on the emergent spectrum, however, depends on very uncertain input physics. Our observations will sensitively probe these processes, with the A and B components providing a pure temperature probe at constant metallicity and age.

OBSERVING DESCRIPTION

This program will obtain photometry in 12 narrow to wide bandpasses spanning the optical to NIR for the ~400 K object CFBDS 1458+10B using ACS/WFC and WFC3/UVIS+IR (14 orbits). Observations of 2 other ultracold T dwarfs in the same bandpasses will prove the PSF reference (2 orbits each). Observations are grouped into visits in a logical fashion (i.e., by target and instrument), though some blocks of orbits had to be broken up into multiple visits in order to avoid exceeding the 5-contiguous-orbit limit. We intentionally split the ACS F814W and F850LP orbits into 2 separate visits to occur at the beginning and end of Cycle 19 in order to measure the absolute orbital motion of the binary, and therby its mass ratio.

Visit

Proposal 12504, Visit 01, implementation Wed Aug 31 01:02:24 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/IR, WFC3/UVIS

Special Requirements: PCS MODE FINE

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		(1-3), (4-5), (6)
(3)	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		(7)

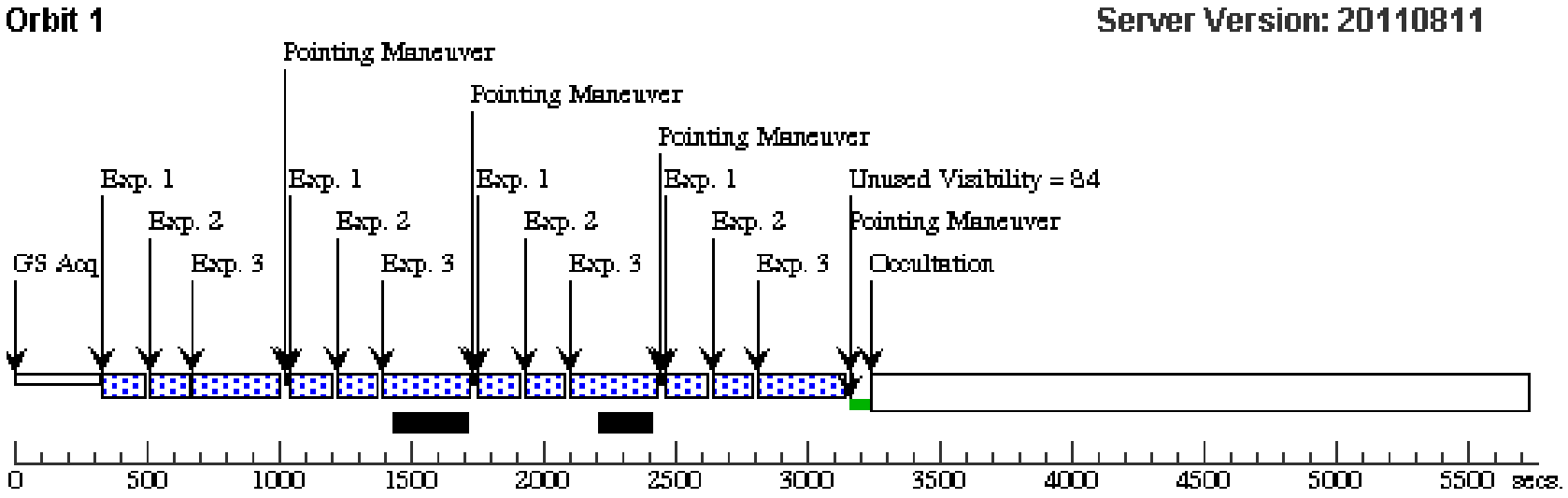
Fixed Targets

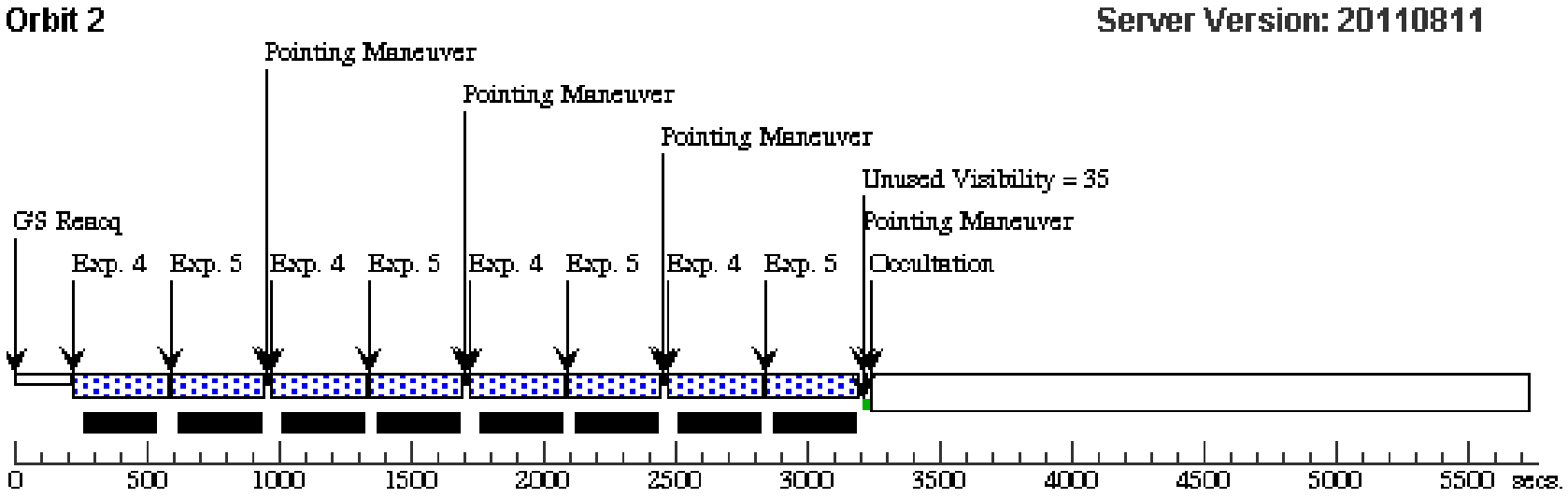
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	CFBDSIR1458+1013AB	RA: 14 58 29.3890 (224.6224542d) Dec: +10 13 42.48 (10.22847d) Equinox: J2000		V=(?) J(Vega) = 19.6(A+B), z'(AB) = 23.6	Reference Frame: ICRS

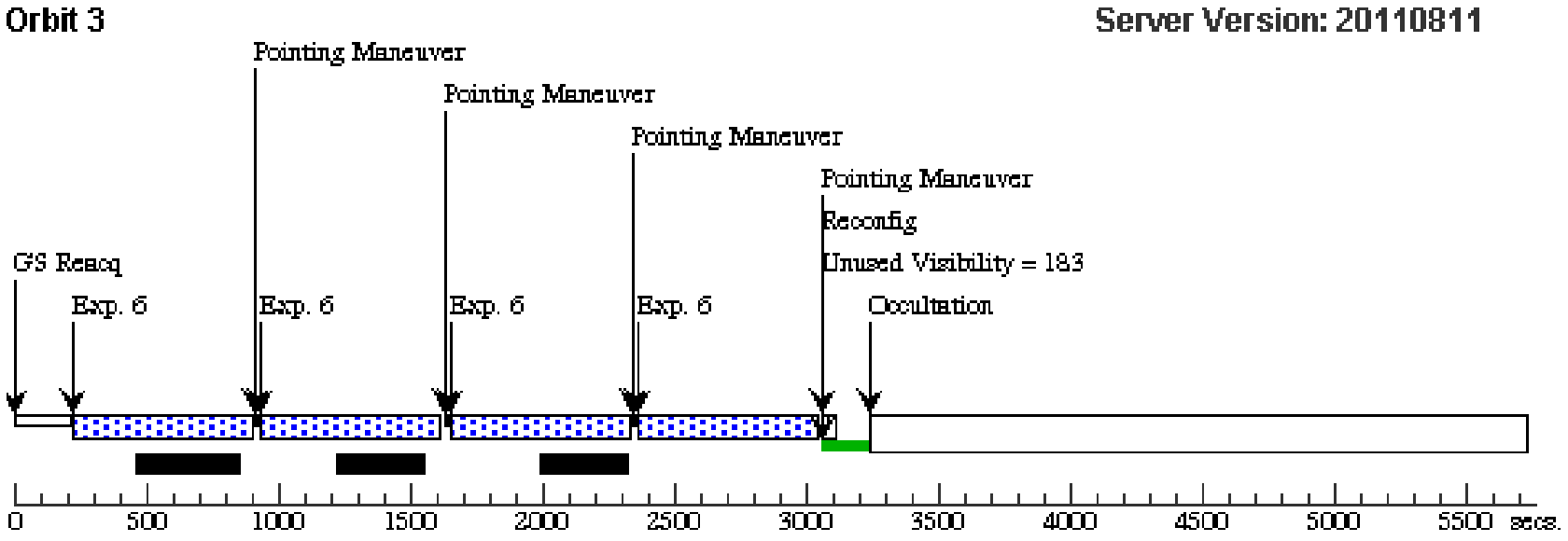
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F105W	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IRSUB512	F105W	NSAMP=7; SAMP-SEQ=SPARS25		Pattern 2, Exps 1-3 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IRSUB512	F125W	NSAMP=7; SAMP-SEQ=SPARS25		Pattern 2, Exps 1-3 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F160W	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IRSUB512	F160W	SAMP-SEQ=SPARS25; NSAMP=15		Pattern 2, Exps 1-3 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F098M	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IR	F098M	NSAMP=14; SAMP-SEQ=SPARS25		Pattern 2, Exps 4-5 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
5	F127M	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IR	F127M	NSAMP=14; SAMP-SEQ=SPARS25		Pattern 2, Exps 4-5 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
6	F153M	(1) CFBDSIR1458+1013AB	WFC3/IR, MULTIACCUM, IR	F153M	NSAMP=14; SAMP-SEQ=SPARS50		Pattern 2, Exps 6-6 in Visit 01 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[3]***
7	F845M	(1) CFBDSIR1458+1013AB	WFC3/UVIS, ACCUM, UVIS	F845M			Pattern 3, Exps 7-7 in Visit 01 (3)	919 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[4]***

Orbit Structure






Orbit 3
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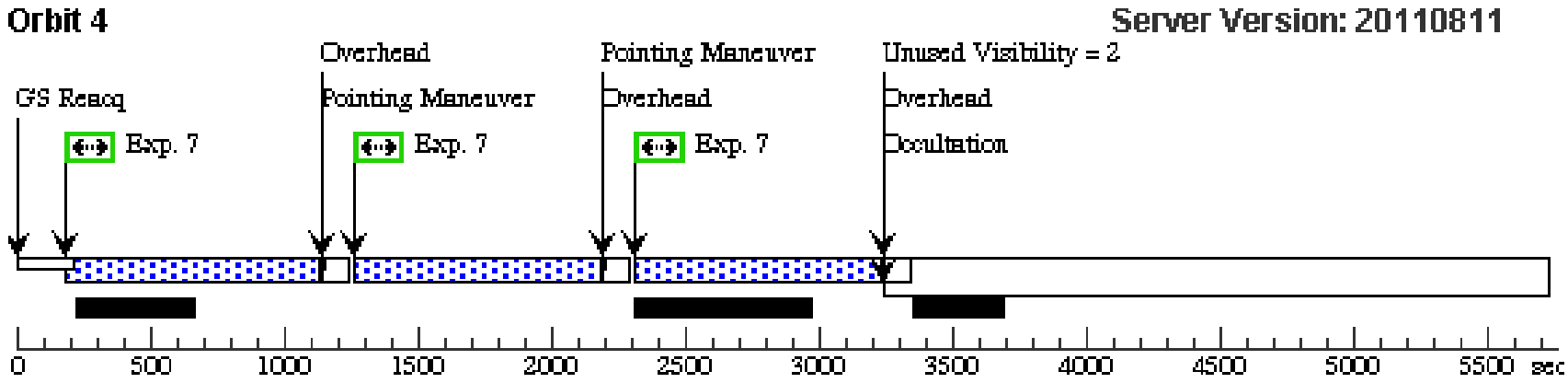
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Reconfig
Unused Visibility = 183
GS Reacq
Exp. 6
Exp. 6
Exp. 6
Exp. 6
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.


Orbit 4
Server Version: 20110811
Overhead
Pointing Maneuver
Pointing Maneuver
Overhead
Unused Visibility = 2
Overhead
GS Reacq
Exp. 7
Exp. 7
Exp. 7
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12504, Visit 02, implementation Wed Aug 31 01:02:26 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: BETWEEN 01-AUG-2011 AND 03-APR-2012

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

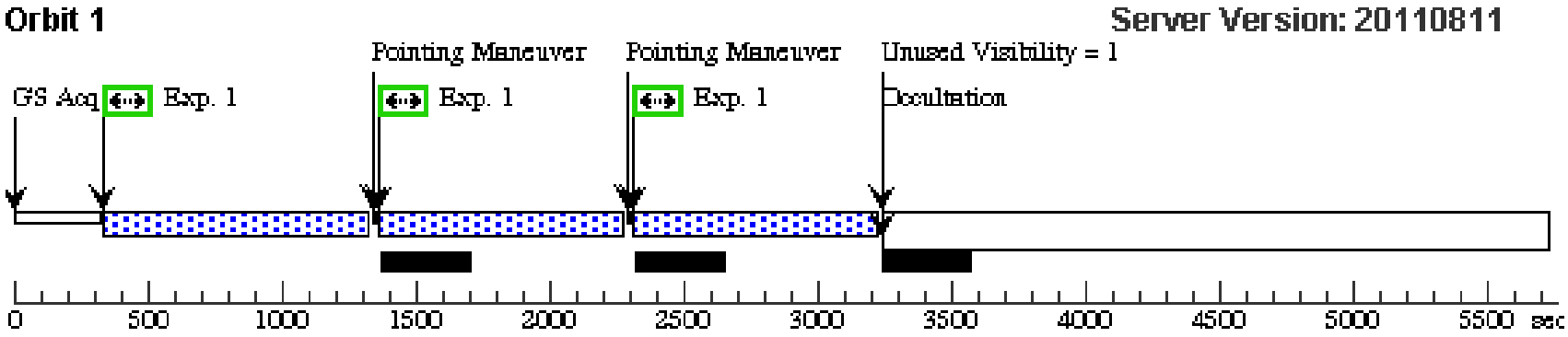
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	CFBDSIR1458+1013AB	RA: 14 58 29.3890 (224.6224542d) Dec: +10 13 42.48 (10.22847d) Equinox: J2000		V=(?) J(Vega) = 19.6(A+B), z'(AB) = 23.6	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F814W	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-CTE	F814W		GS ACQ SCENARIO BASE1B3	Pattern 4, Exps 1-1 in Visit 02 (4)	789 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 12504, Visit 03, implementation Wed Aug 31 01:02:26 GMT 2011

Diagnostic Status: No Diagnostics

Scientific Instruments: ACS/WFC

Special Requirements: BETWEEN 16-AUG-2012 AND 30-OCT-2012

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1)

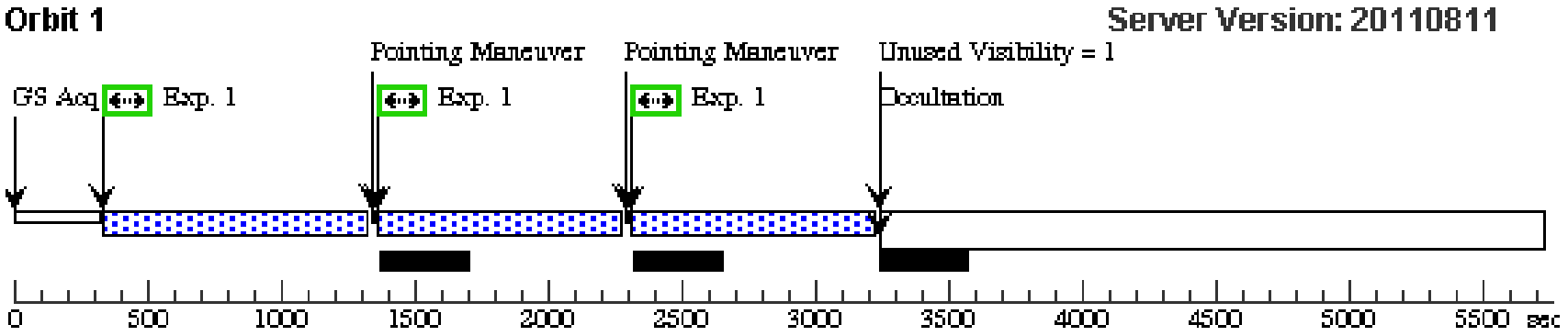
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	CFBDSIR1458+1013AB	RA: 14 58 29.3890 (224.6224542d) Dec: +10 13 42.48 (10.22847d) Equinox: J2000		V=(?) J(Vega) = 19.6(A+B), z'(AB) = 23.6	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F850LP	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-CTE	F850LP			Pattern 4, Exps 1-1 in Visit 03 (4)	789 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	*[1]*

Orbit Structure



Visit

Proposal 12504, Visit 04, implementation Wed Aug 31 01:02:27 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(FR914M-8200A (04.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8200A (04.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8200A (04.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8200A (04.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.511 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)

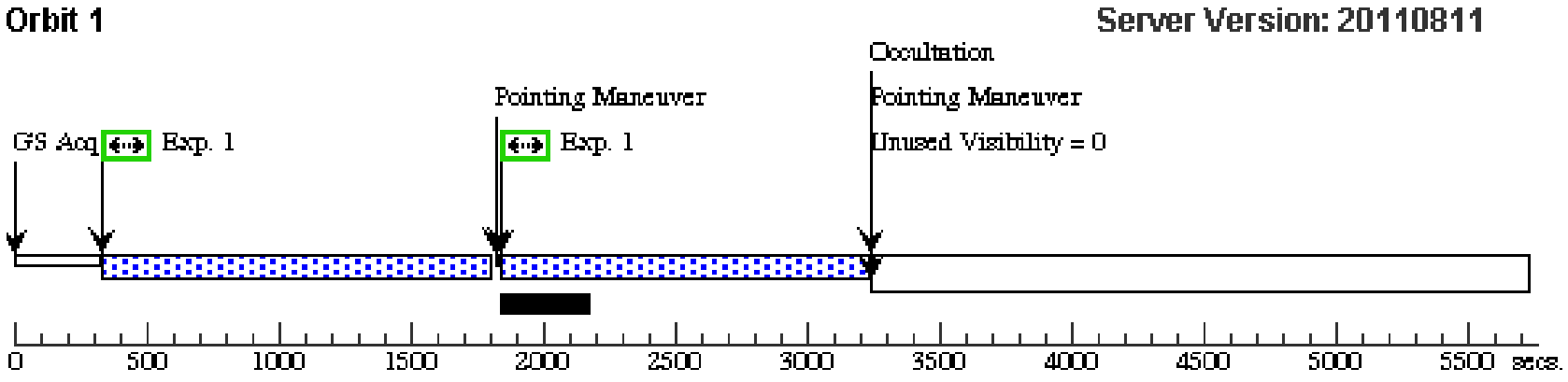
Fixed Targets

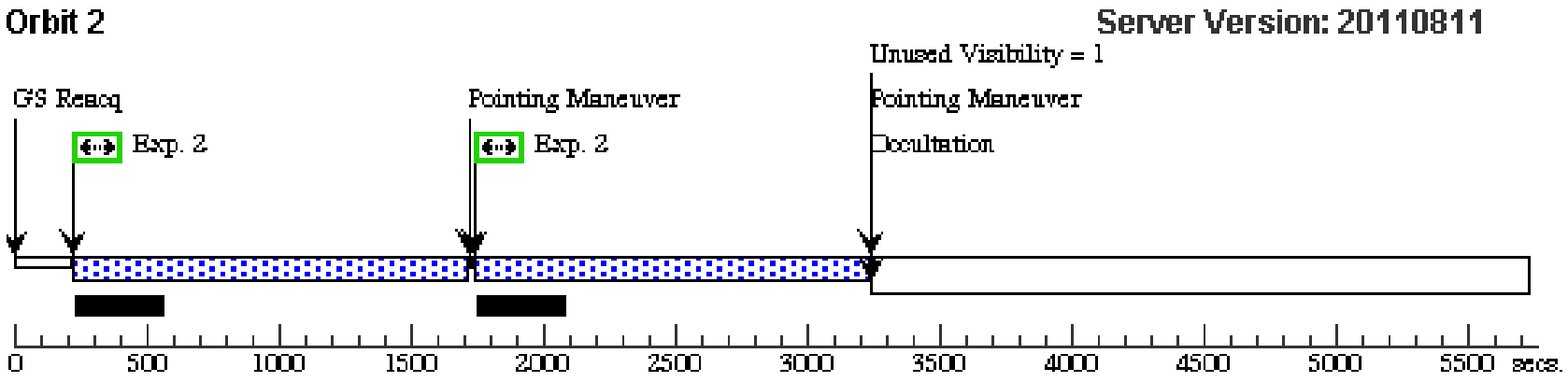
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	CFBDSIR1458+1013AB	RA: 14 58 29.3890 (224.6224542d) Dec: +10 13 42.48 (10.22847d) Equinox: J2000		V=(?) J(Vega) = 19.6(A+B), z'(AB) = 23.6	Reference Frame: ICRS

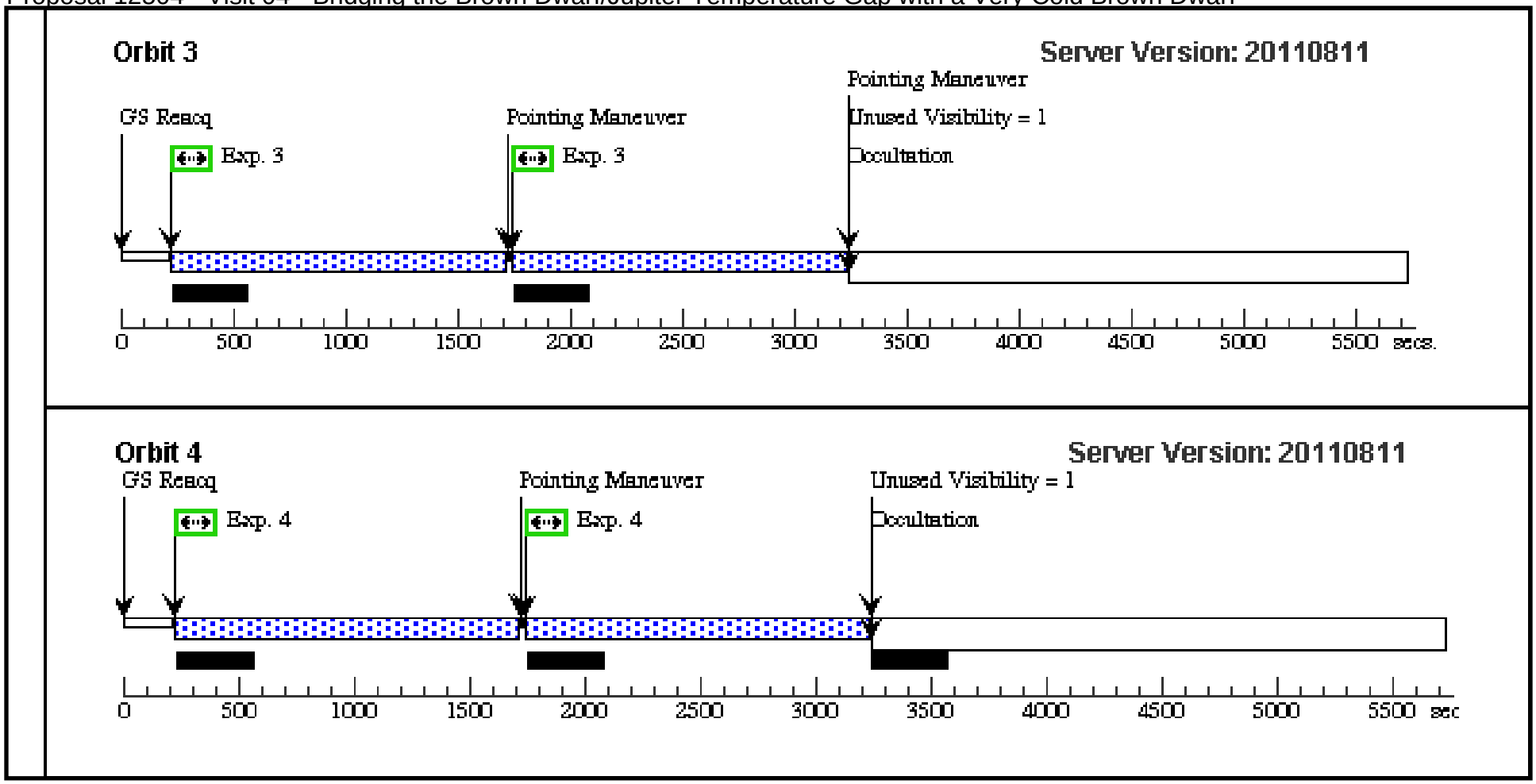
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	FR914M-8200A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8200 A			Pattern 5, Exps 1-1 in Visit 04 (5)	1215 Secs *[==>1267.0 Secs (Pattern 1)]* *[==>1267.0 Secs (Pattern 2)]*	***[1]***
2	FR914M-8200A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8200 A			Pattern 5, Exps 2-2 in Visit 04 (5)	1311 Secs *[==>1363.0 Secs (Pattern 1)]* *[==>1363.0 Secs (Pattern 2)]*	***[2]***
3	FR914M-8200A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8200 A			Pattern 5, Exps 3-3 in Visit 04 (5)	1311 Secs *[==>1363.0 Secs (Pattern 1)]* *[==>1363.0 Secs (Pattern 2)]*	***[3]***
4	FR914M-8200A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8200 A			Pattern 5, Exps 4-4 in Visit 04 (5)	1311 Secs *[==>1363.0 Secs (Pattern 1)]* *[==>1363.0 Secs (Pattern 2)]*	***[4]***

Orbit Structure






Orbit 3
Server Version: 20110811
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Unused Visibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 4
Server Version: 20110811
GS Reacq
Exp. 4
Pointing Maneuver
Exp. 4
Unused Visibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12504, Visit 05, implementation Wed Aug 31 01:02:28 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: ACS/WFC

Special Requirements: (none)

Diagnostics

(FR914M-8830A (05.001)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8830A (05.002)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-9460A (05.003)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-9460A (05.004)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.511 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)

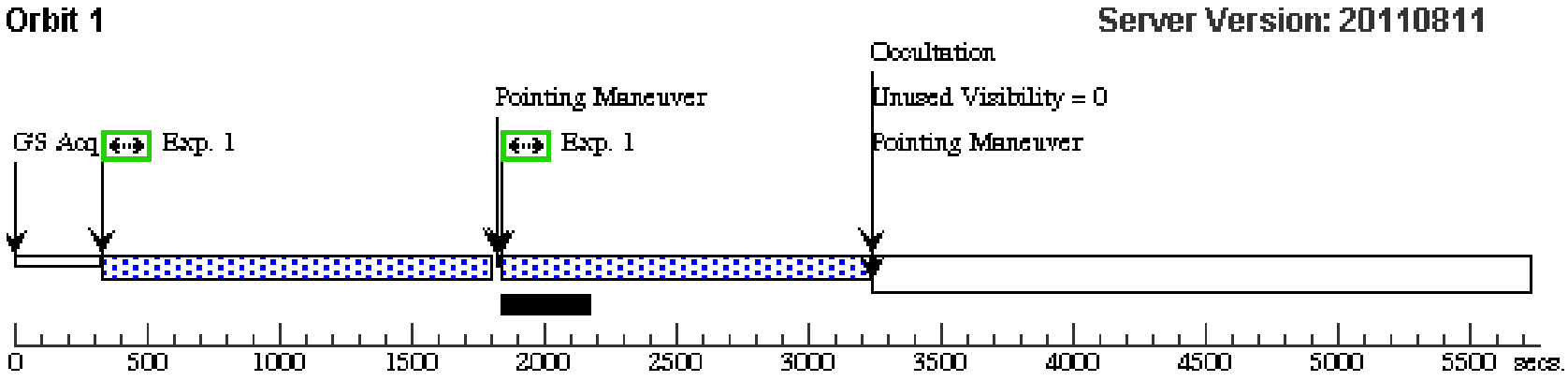
Fixed Targets

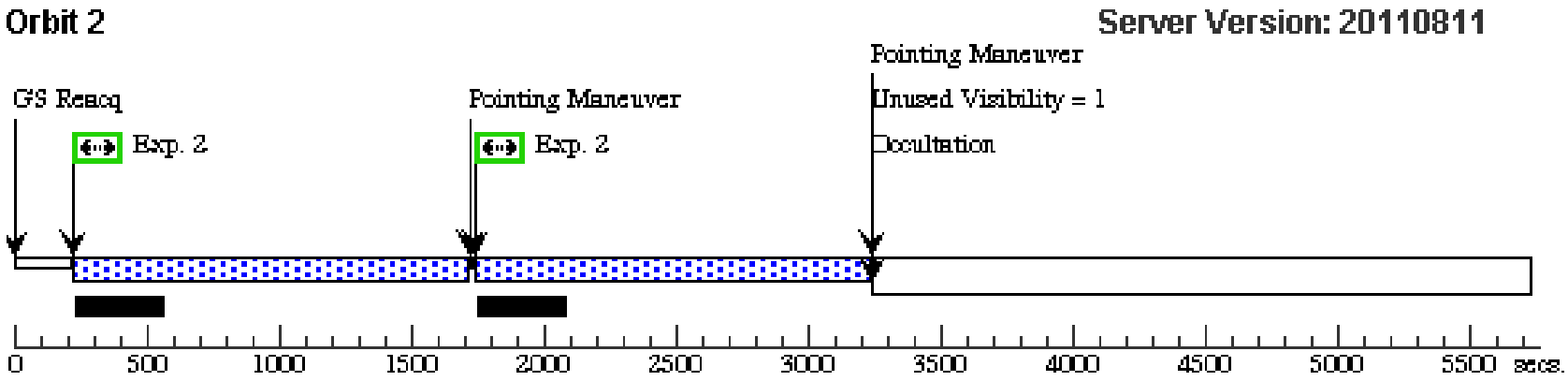
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	CFBDSIR1458+1013AB	RA: 14 58 29.3890 (224.6224542d) Dec: +10 13 42.48 (10.22847d) Equinox: J2000		V=(?) J(Vega) = 19.6(A+B), z'(AB) = 23.6	Reference Frame: ICRS

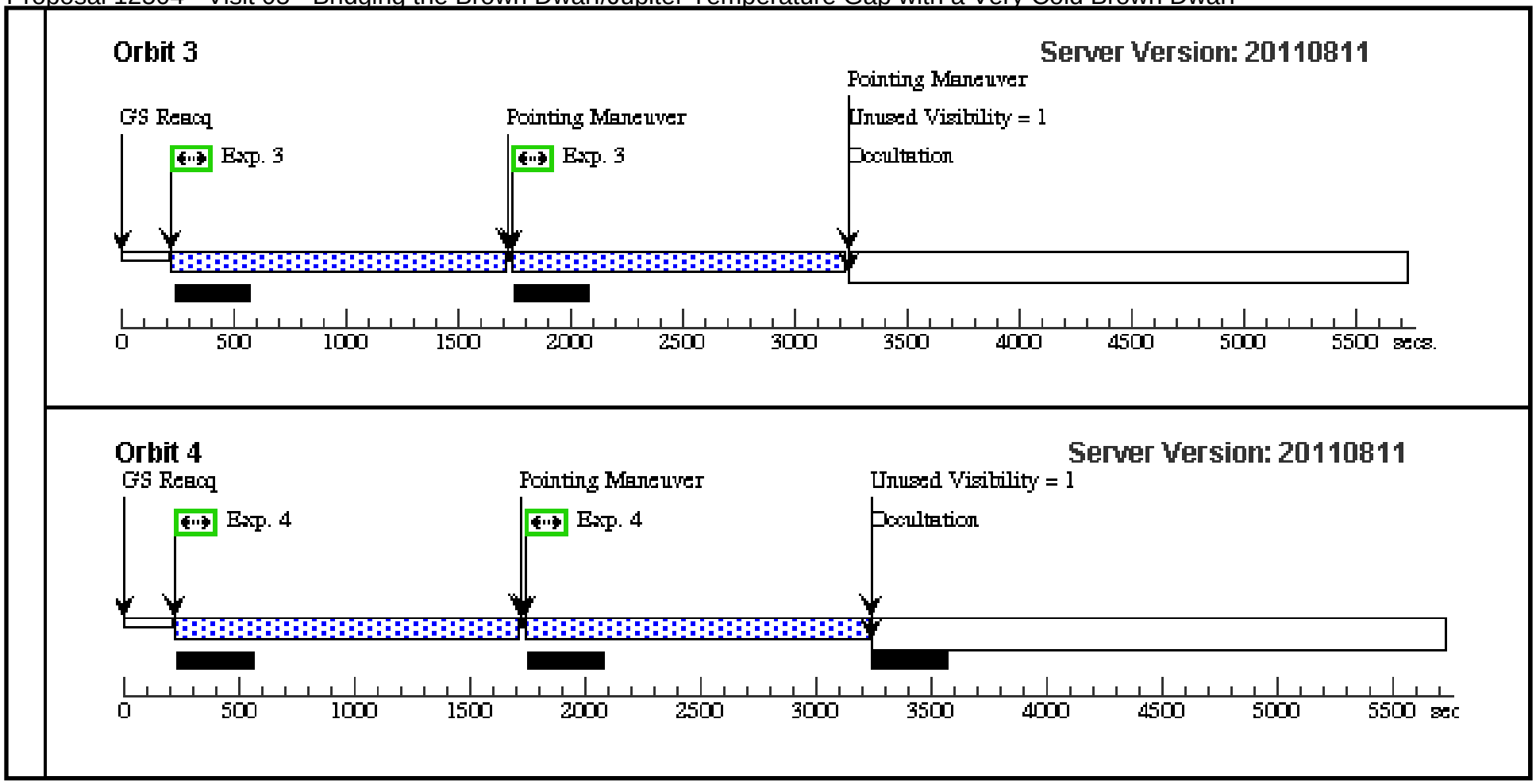
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	FR914M-8830A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8830 A			Pattern 5, Exps 1-1 in Visit 05 (5)	1215 Secs *[==>1267.0 Secs (Pattern 1)]* *[==>1267.0 Secs (Pattern 2)]*	***[1]***
2	FR914M-8830A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 8830 A			Pattern 5, Exps 2-2 in Visit 05 (5)	1311 Secs *[==>1363.0 Secs (Pattern 1)]* *[==>1363.0 Secs (Pattern 2)]*	***[2]***
3	FR914M-9460A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 9460 A			Pattern 5, Exps 3-3 in Visit 05 (5)	1305 Secs *[==>1357.0 Secs (Pattern 1)]* *[==>1357.0 Secs (Pattern 2)]*	***[3]***
4	FR914M-9460A	(1) CFBDSIR1458+1013AB	ACS/WFC, ACCUM, WFC1-MRAMP	FR914M 9460 A			Pattern 5, Exps 4-4 in Visit 05 (5)	1311 Secs *[==>1363.0 Secs (Pattern 1)]* *[==>1363.0 Secs (Pattern 2)]*	***[4]***

Orbit Structure






Orbit 3
Server Version: 20110811
GS Reacq
Exp. 3
Pointing Maneuver
Exp. 3
Pointing Maneuver
Unused Visibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
secs.
Orbit 4
Server Version: 20110811
GS Reacq
Exp. 4
Pointing Maneuver
Exp. 4
Unused Visibility = 1
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12504, Visit 06, implementation Wed Aug 31 01:02:28 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC

Special Requirements: (none)

Diagnostics

(FR914M-8200 (06.010)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8830 (06.011)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-9460 (06.012)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

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		(1-6)
(4)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=3 Point Spacing=3.011 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(8), (9)
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.511 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(10-12)
(7)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7)

Fixed Targets

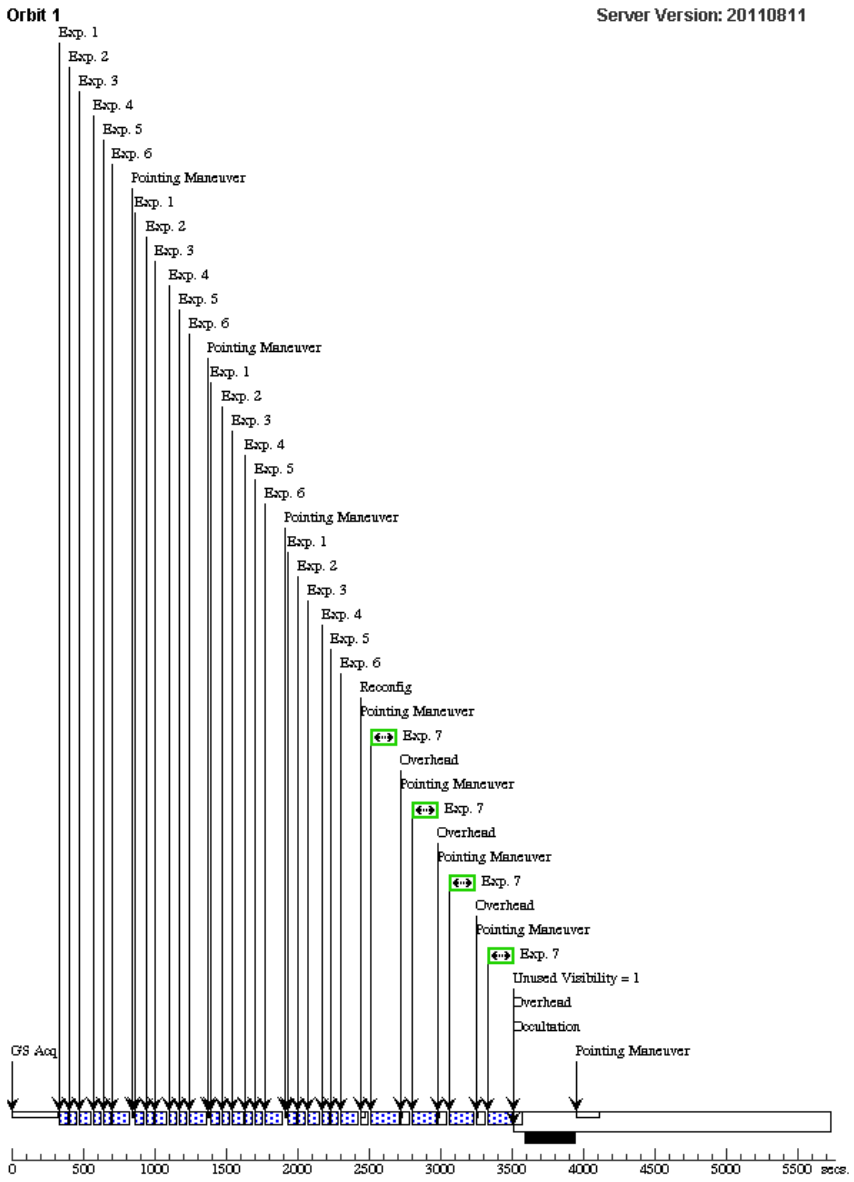
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	WISE0458+64	RA: 04 58 53.9000 (74.7245833d) Dec: +64 34 51.90 (64.58108d) Equinox: J2000		V=(?) J(vega)=16.8	Reference Frame: ICRS

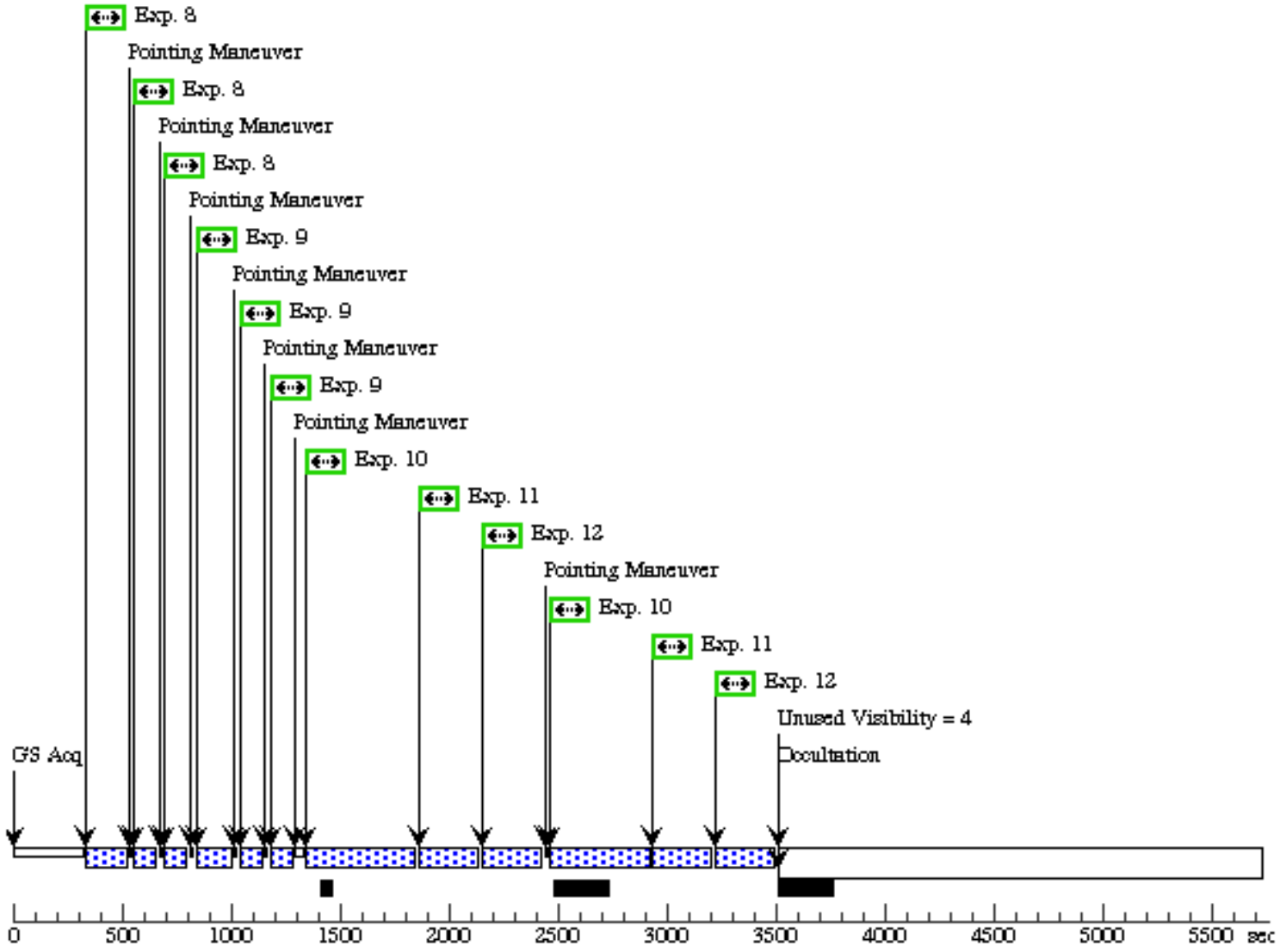
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F105W	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F105W	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F125W	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F160W	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F160W	SAMP-SEQ=SPARS 10; NSAMP=11		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F098M	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F098M	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F127M	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F127M	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F153M	(3) WISE0458+64	WFC3/IR, MULTIACCUM, IRSUB256	F153M	SAMP-SEQ=SPARS 25; NSAMP=6		Pattern 2, Exps 1-6 in Visit 06 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F845M	(3) WISE0458+64	WFC3/UVIS, ACCUM, UVIS2-M1K1C-SUB	F845M			Pattern 7, Exps 7-7 in Visit 06 (7)	170 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F814W	(3) WISE0458+64	ACS/WFC, ACCUM, WFC1-512	F814W			Pattern 4, Exps 8-8 in Visit 06 (4)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
9	F850LP	(3) WISE0458+64	ACS/WFC, ACCUM, WFC1-512	F850LP			Pattern 4, Exps 9-9 in Visit 06 (4)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]*	***[2]***
10	FR914M-8200	(3) WISE0458+64	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 8200 A			Pattern 5, Exps 10-12 in Visit 06 (5)	270 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

	11	FR914M-8830	(3) WISE0458+64	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 8830 A	Pattern 5, Exps 10-12 in Visit 06 (5)	85 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
	12	FR914M-9460	(3) WISE0458+64	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 9460 A	Pattern 5, Exps 10-12 in Visit 06 (5)	85 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20110811
Exp. 8
Pointing Maneuver
Exp. 8
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Pointing Maneuver
Exp. 9
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Exp. 9
Pointing Maneuver
Exp. 10
Exp. 11
Exp. 12
Pointing Maneuver
Exp. 10
Exp. 11
Exp. 12
Unused Visibility = 4
GS Acq
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12504, Visit 07, implementation Wed Aug 31 01:02:30 GMT 2011

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR, WFC3/UVIS, ACS/WFC

Special Requirements: (none)

Diagnostics

(FR914M-8200 (07.010)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-8830 (07.011)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

(FR914M-9460 (07.012)) Warning (Form): POS TARG & PATTERN should be used carefully with ACS ramp or WFC3 quad filters as central wavelengths & transmission efficiencies vary within the apertures.

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		(1-6)
(5)	Pattern Type=ACS-WFC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.511 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=85.28 Angle Between Sides= Center Pattern=false		(8), (9), (10-12)
(7)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(7)

Fixed Targets

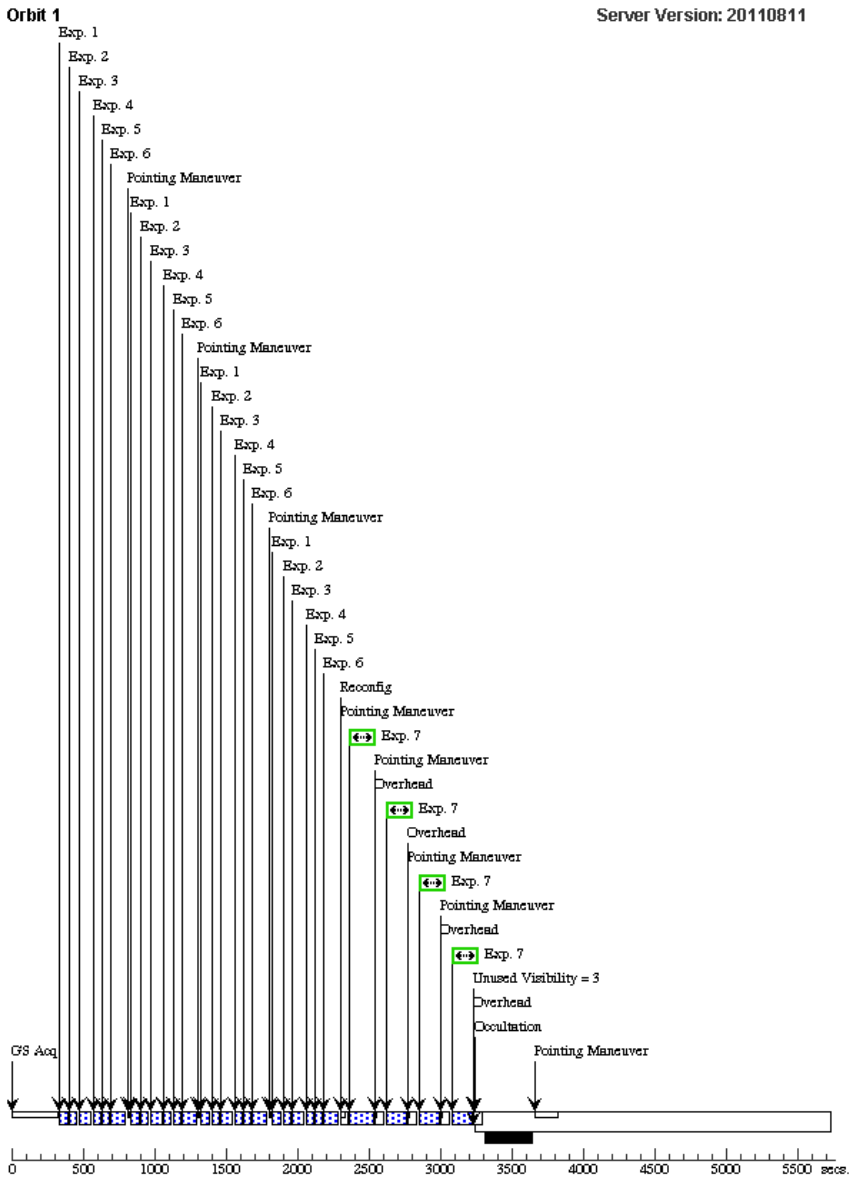
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	UGPS0722-05	RA: 07 22 27.5000 (110.6145833d) Dec: -05 40 31.00 (-5.67528d) Equinox: J2000		V=(?) J=16.5(vega)	Reference Frame: ICRS

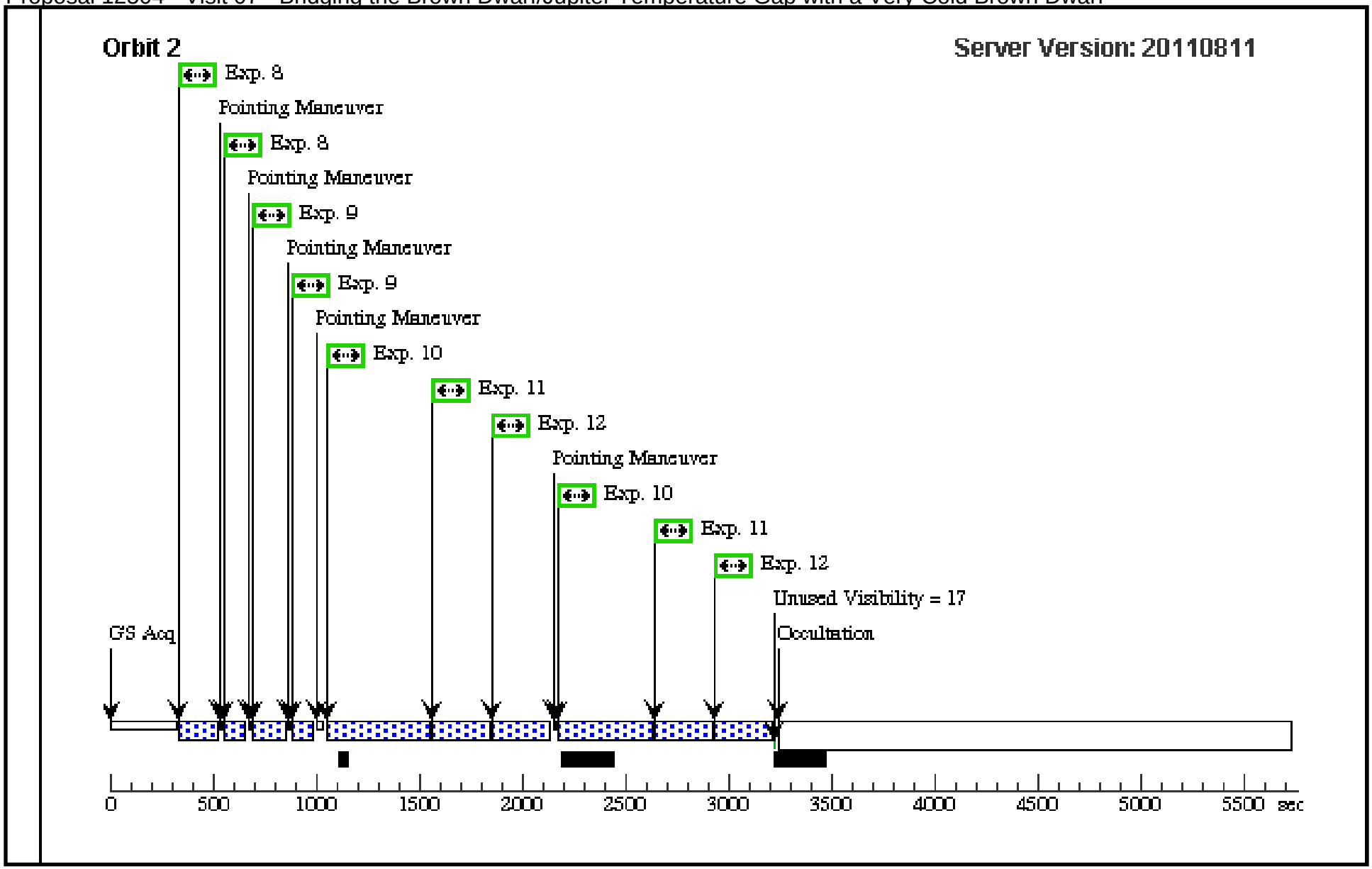
Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	F105W	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F105W	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
2	F125W	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F125W	SAMP-SEQ=SPARS 10; NSAMP=6		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	F160W	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F160W	SAMP-SEQ=SPARS 10; NSAMP=11		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	F098M	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F098M	SAMP-SEQ=SPARS 10; NSAMP=5		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
5	F127M	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F127M	SAMP-SEQ=SPARS 10; NSAMP=5		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
6	F153M	(4) UGPS0722-05	WFC3/IR, MULTIACCUM, IRSUB256	F153M	SAMP-SEQ=SPARS 25; NSAMP=5		Pattern 2, Exps 1-6 in Visit 07 (2)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
7	F845M	(4) UGPS0722-05	WFC3/UVIS, ACCUM, UVIS2-M1K1C-SUB	F845M			Pattern 7, Exps 7-7 in Visit 07 (7)	137 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
8	F814W	(4) UGPS0722-05	ACS/WFC, ACCUM, WFC1-512	F814W			Pattern 5, Exps 8-8 in Visit 07 (5)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
9	F850LP	(4) UGPS0722-05	ACS/WFC, ACCUM, WFC1-512	F850LP			Pattern 5, Exps 9-9 in Visit 07 (5)	40 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
10	FR914M-8200	(4) UGPS0722-05	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 8200 A			Pattern 5, Exps 10-12 in Visit 07 (5)	270 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***
11	FR914M-8830	(4) UGPS0722-05	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 8830 A			Pattern 5, Exps 10-12 in Visit 07 (5)	88 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	***[2]***

	12	FR914M-94 60	(4) UGPS0722-05	ACS/WFC, ACCUM, WFC1-MRAMPQ	FR914M 9460 A	Pattern 5, Exps 10-12 in Visit 07 (5)	88 Secs *[==>(Pattern 1)]* *[==>(Pattern 2)]*	 ***[2]***

Orbit Structure




Orbit 2
Server Version: 20110811
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Pointing Maneuver
Exp. 8
Pointing Maneuver
Exp. 9
Pointing Maneuver
Exp. 9
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Exp. 10
Exp. 11
Exp. 12
Pointing Maneuver
Exp. 10
Exp. 11
Exp. 12
Unused Visibility = 17
Occultation
GS Acq
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec