



# 12972 - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown Dwarfs

Cycle: 20, Proposal Category: GO  
(Availability Mode: SUPPORTED)

## INVESTIGATORS

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## VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) W0015-4615	WFC3/IR	1	05-Oct-2012 21:04:24.0	yes
02	(2) W0038+2758	WFC3/IR	1	05-Oct-2012 21:04:35.0	yes
03	(3) W0413-4750	WFC3/IR	1	05-Oct-2012 21:04:44.0	yes
04	(4) W0744+5628	WFC3/IR	1	05-Oct-2012 21:04:53.0	yes
05	(5) W0812+4021	WFC3/IR	1	05-Oct-2012 21:05:01.0	yes

<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>
06	(6) W0857+5604	WFC3/IR	1	05-Oct-2012 21:05:09.0	yes
07	(7) W1042-3842	WFC3/IR	1	05-Oct-2012 21:05:17.0	yes
08	(8) W1051-2138	WFC3/IR	1	05-Oct-2012 21:05:27.0	yes
09	(9) W1150+6302	WFC3/IR	1	05-Oct-2012 21:05:35.0	yes
10	(10) W1405+5534	WFC3/IR	1	05-Oct-2012 21:05:43.0	yes
11	(11) W1457+5815	WFC3/IR	1	05-Oct-2012 21:05:51.0	yes
12	(12) W2255-3118	WFC3/IR	1	05-Oct-2012 21:05:59.0	yes
13	(13) W2325-4105	WFC3/IR	1	05-Oct-2012 21:06:06.0	yes

13 Total Orbits Used

## **ABSTRACT**

The multiplicity properties of brown dwarfs are critical empirical constraints for stellar formation theories, while multiples themselves provide unique opportunities to test evolutionary and atmospheric models as well as examine empirical trends. Brown dwarfs with estimated effective temperatures below 500 K are just now starting to be discovered, filling in the gap between brown dwarfs and Jupiter-like planets ( $T_{\text{eff}}=128\text{K}$ ). The Wide-field Infrared Survey Explorer mission (WISE) is uncovering the closest, brightest examples of these objects, making them the best targets for further study. We propose to obtain high resolution images of 13 WISE brown dwarfs with spectral types T8 and later ( $T_{\text{eff}} < 700\text{K}$ ) using WFC3 in order to search for companions down to effective temperatures of 300K. This proposal compliments our existing NASA Keck LGS-AO program by observing objects for which high resolution imaging is not possible from any ground-based LGS system. The binaries discovered by this program will provide critical information for characterizing the properties of objects at the very bottom of the Main Sequence thus helping to bridge the modeling efforts between brown dwarfs and extrasolar planets.

## **OBSERVING DESCRIPTION**

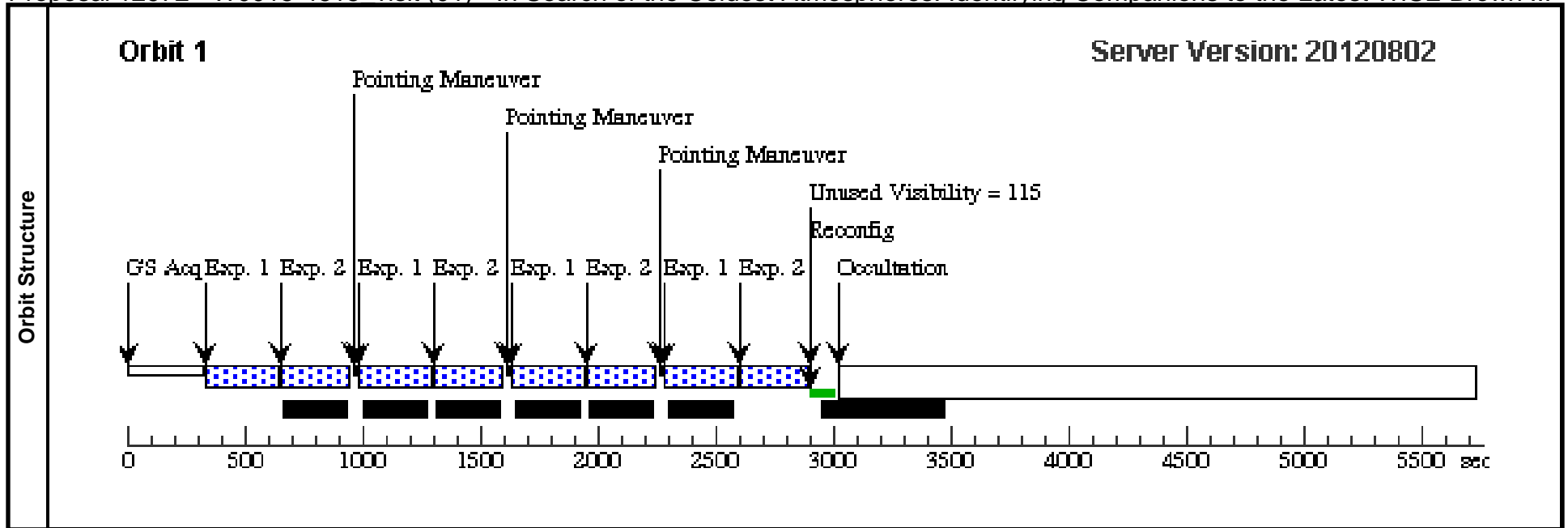
All of our targets are relatively nearby (estimated distances 5–20 pc); however, the overwhelming majority of low-mass binaries (>90%) are tighter than 10–20 AU in physical separation (Allen et al. 2007) implying that the companions for most of our targets would have angular separations  $< 1''$ . High resolution imaging is critical for resolving these systems.

Obviously, it is desirable to probe as deeply as possible to discover the coldest brown dwarfs. To do so, however, would be very time consuming and problematic for combining the HST and Keck results for computing the global binary fraction statistics. Thus, we plan our observations such that they are comparable, though deeper, than Keck. Our Keck program has a limiting magnitude of  $H < 23$  (30 minute integration), which corresponds to a 310K, 1Gyr object with mass=5MJup located at 10 pc. This same object can be observed to SNR=10 in 7.3 minutes in the F160W filter, easily fitting within a single HST orbit for all of our targets (see Table 1). Since we do not know a priori which targets will have companions, we request observations in more than one filter in order to characterize potential companions. The F110W filter covers both the Y and J bands and offers better SNR than the F125W filter for the cold brown dwarfs that are the focus of this proposal. A 10-sigma observation in this filter requires an additional 3.6 minutes. Both observations can still fit easily within a single orbit (including overheads). When including overheads, and assuming a 50 minute visibility, we find that we will have at least 15 minutes per filter per target. For F110W, this increases the SNR=10 depth by 0.9 mag (this is equivalent to our 310K model at a distance of 15 pc). The gains at F160W are more modest—0.4 mag deeper or a 310K object distance of 12 pc. Figures 2 and 3 show the absolute F160W and F110W magnitudes for the models of Burrows et al. (2003) along with the 10-sigma detection limit for a 900sec integration, 23.7 and 24.8 for F160W and F110W, respectively. In both filters we will probe to effective temperatures colder than WISE 1828+2650, the coldest confirmed brown dwarf.

Proposal 12972 - W0015-4615 visit (01) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:14 GMT 2012

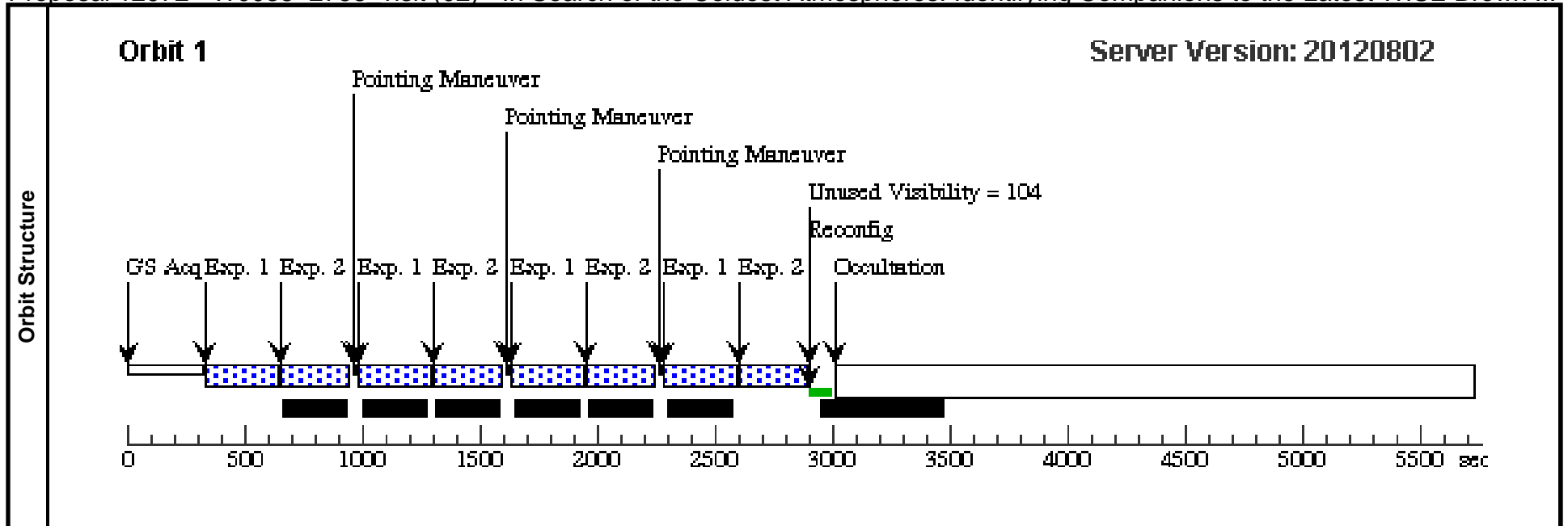
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	W0015-4615	RA: 00 15 5.8500 (3.7743750d) Dec: -46 15 18.00 (-46.25500d) Equinox: J2000		V=(?) J=17.64	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0015-4615_F110W	(1) W0015-4615	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0015-4615_visit (01) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W0015-4615_F160W	(1) W0015-4615	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0015-4615_visit (01) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W0038+2758\_visit (02) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:16 GMT 2012

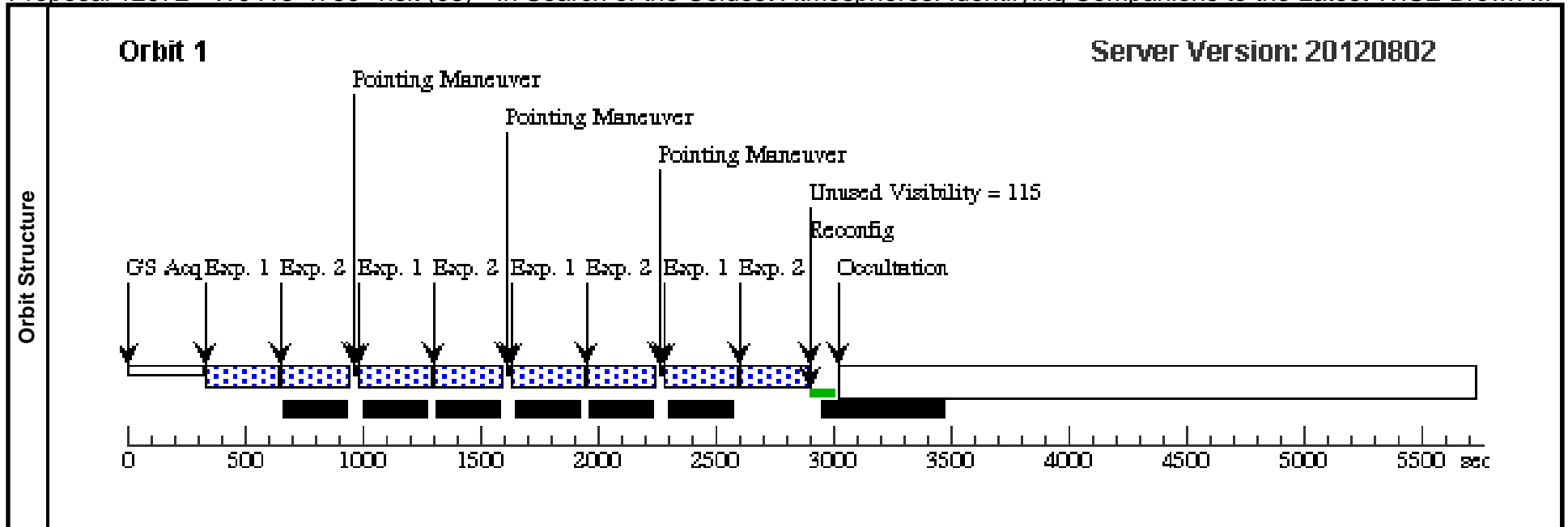
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	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2)	W0038+2758	RA: 00 38 29.0500 (9.6210417d) Dec: +27 58 52.10 (27.98114d) Equinox: J2000		V=(?) J=18.61	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0038+2758_F110W	(2) W0038+2758	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0038+2758_visit (02) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W0038+2758_F160W	(2) W0038+2758	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0038+2758_visit (02) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W0413-4750 visit (03) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:17 GMT 2012

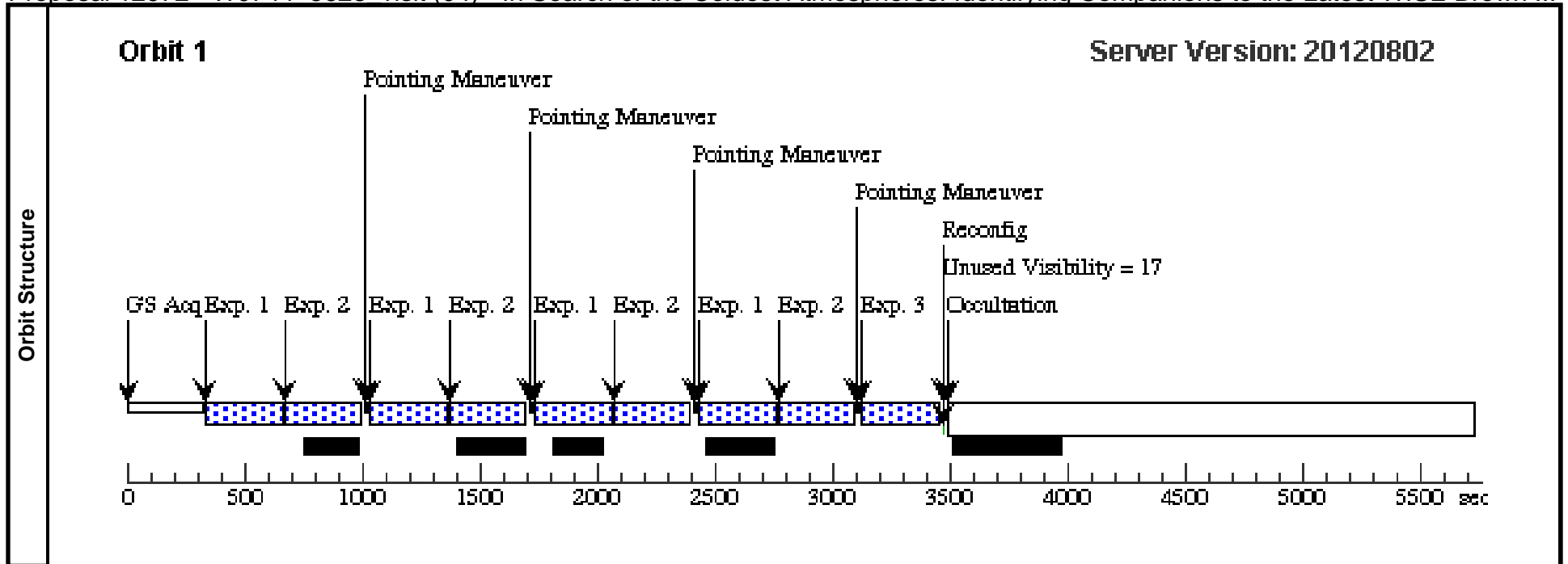
Visit	Proposal 12972, W0413-4750_visit (03), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(3)	W0413-4750	RA: 04 13 58.1400 (63.4922500d) Dec: -47 50 39.30 (-47.84425d) Equinox: J2000		V=(?) J=20.33	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0413-4750_F110W	(3) W0413-4750	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0413-4750_visit (03) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W0413-4750_F160W	(3) W0413-4750	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W0413-4750_visit (03) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W0744+5628 visit (04) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

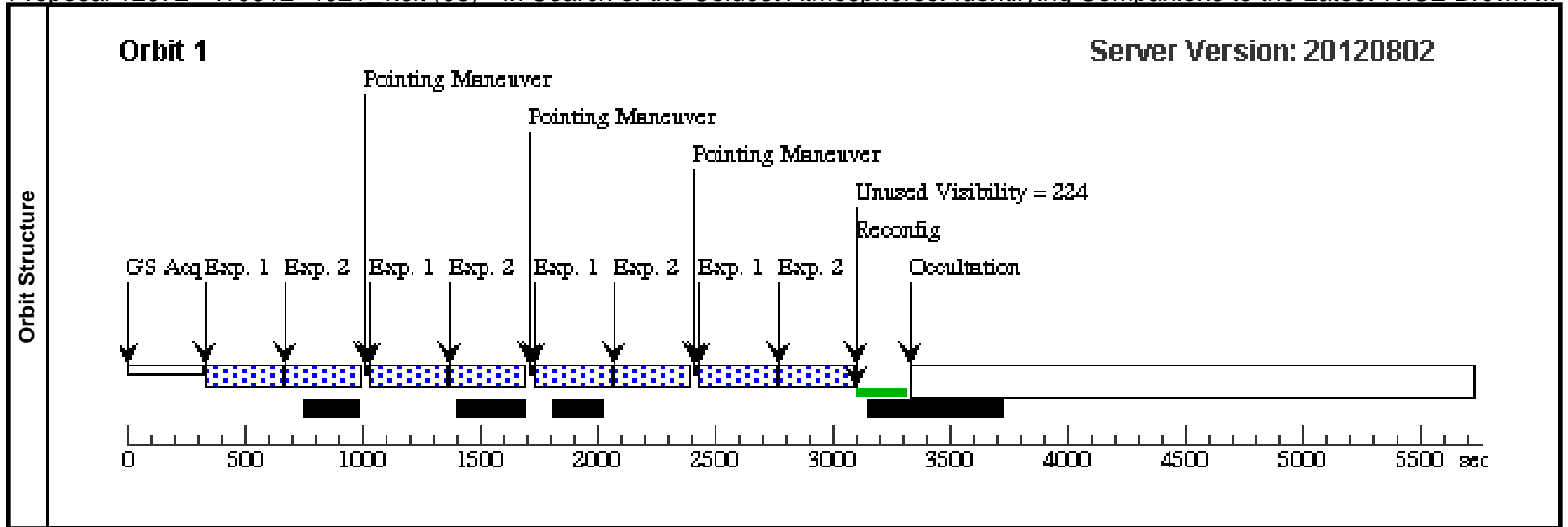
Sat Oct 06 01:06:18 GMT 2012

Visit	Proposal 12972, W0744+5628_visit (04), scheduling 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=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	W0744+5628	RA: 07 44 57.1500 (116.2381250d) Dec: +56 28 21.90 (56.47275d) Equinox: J2000		V=(?) J=17.68	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0744+5628_F110W	(4) W0744+5628	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W0744+5628_visit (04) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	W0744+5628_F160W	(4) W0744+5628	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W0744+5628_visit (04) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3		(4) W0744+5628	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=7; SAMP-SEQ=SPARS 50			[==>]	[1]



Proposal 12972 - W0812+4021 visit (05) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

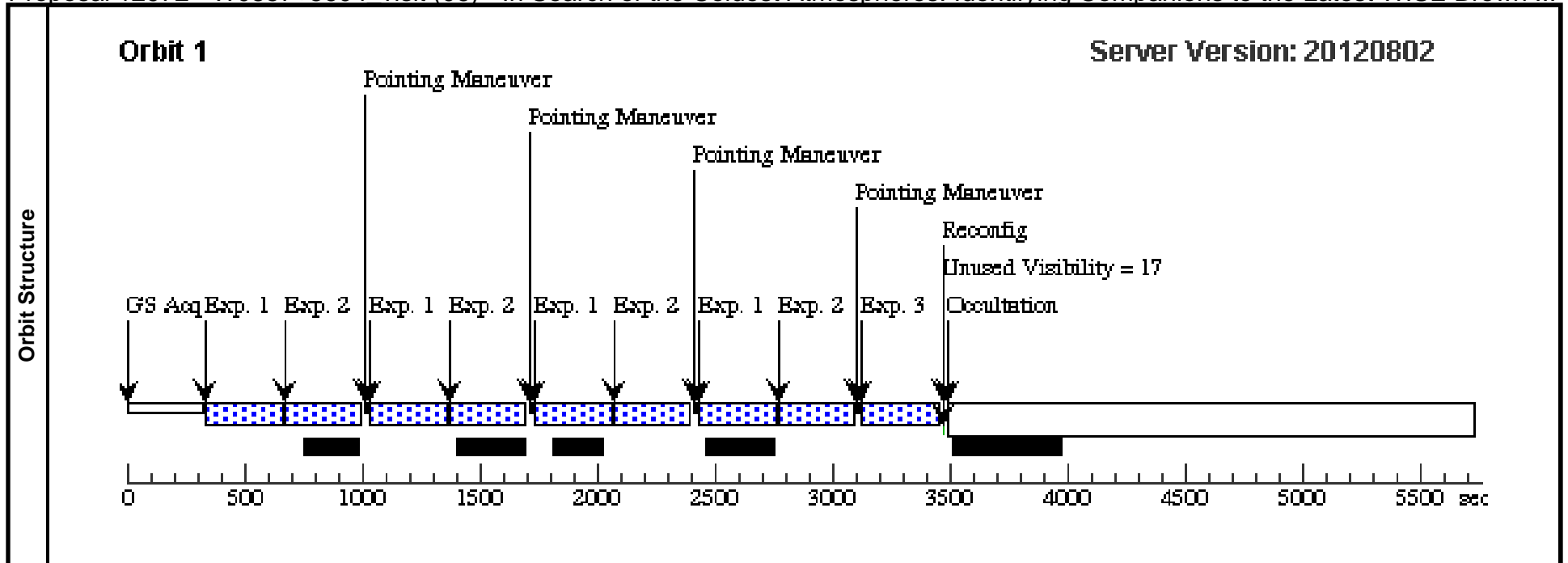
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	W0812+4021	RA: 08 12 20.0700 (123.0836250d) Dec: +40 21 6.20 (40.35172d) Equinox: J2000		V=(?) J=18.39	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0812+4021_F110W	(5) W0812+4021	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W0812+4021_visit (05) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W0812+4021_F160W	(5) W0812+4021	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W0812+4021_visit (05) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W0857+5604 visit (06) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:20 GMT 2012

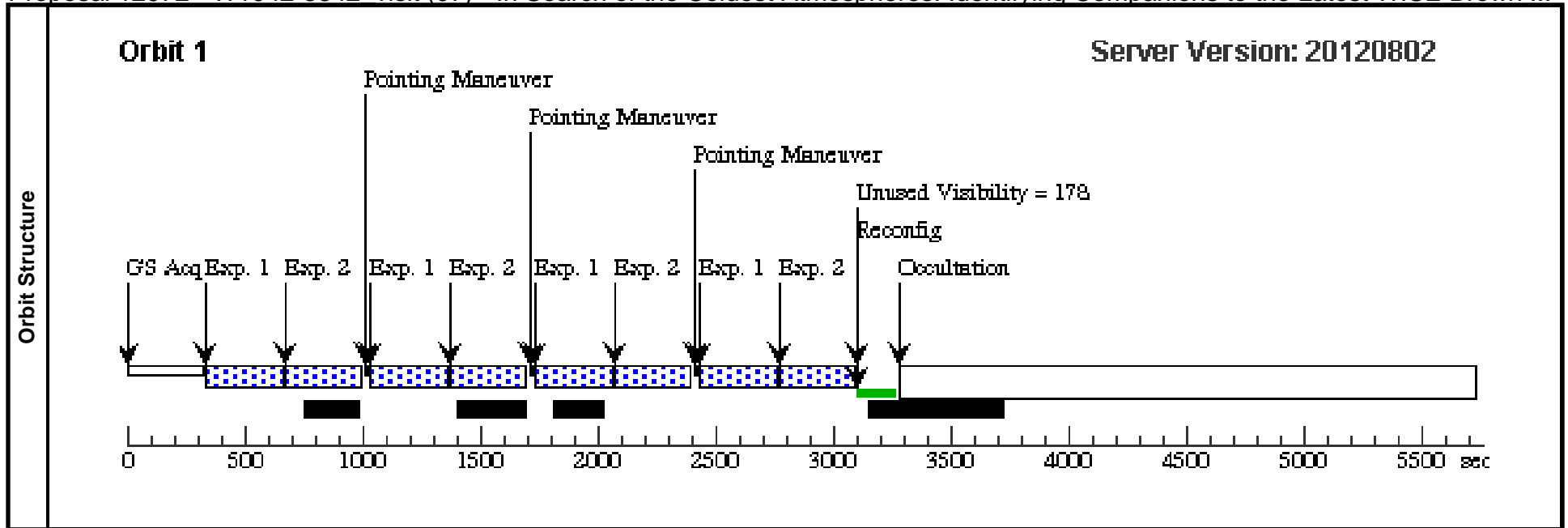
Visit	Proposal 12972, W0857+5604_visit (06), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(6)	W0857+5604	RA: 08 57 16.2400 (134.3176667d) Dec: +56 04 7.60 (56.06878d) Equinox: J2000		V=(?) J=17.49	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W0857+5604_F110W	(6) W0857+5604	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W0857+5604_visit (06) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	W0857+5604_F160W	(6) W0857+5604	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W0857+5604_visit (06) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3		(6) W0857+5604	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			[==>]	[1]



Proposal 12972 - W1042-3842 visit (07) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:22 GMT 2012

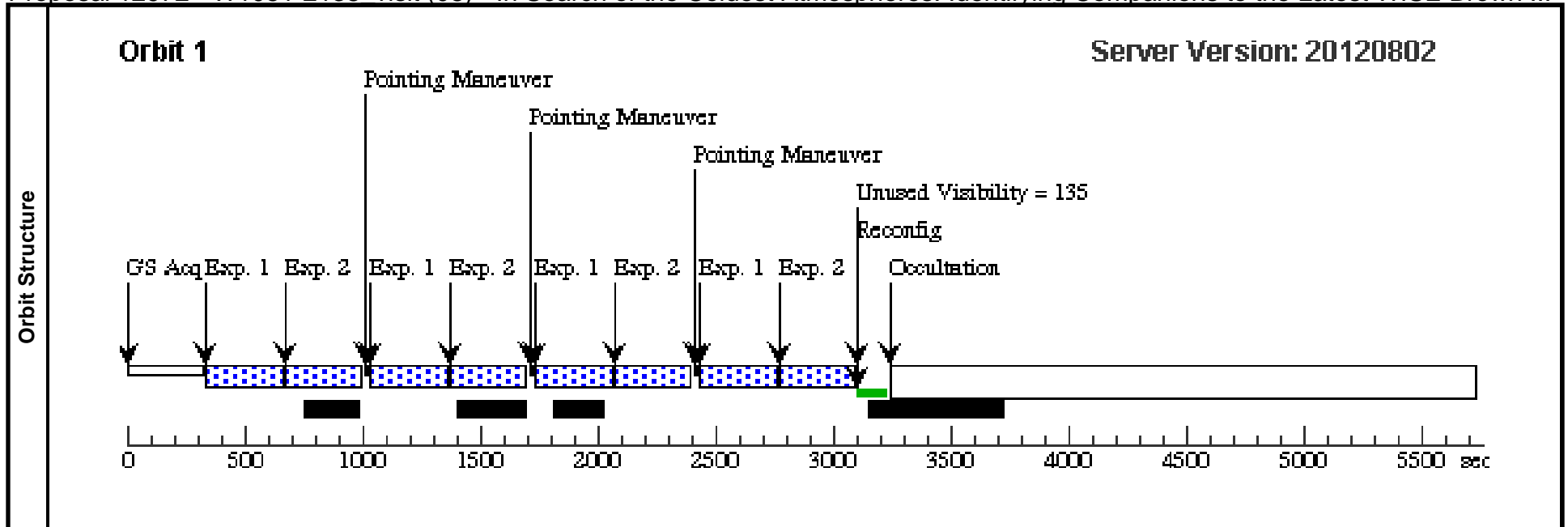
Visit	Proposal 12972, W1042-3842_visit (07), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(7)	W1042-3842	RA: 10 42 45.2300 (160.6884583d) Dec: -38 42 38.30 (-38.71064d) Equinox: J2000		V=(?) J=18.98	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W1042-3842_F110W	(7) W1042-3842	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W1042-3842_visit (07) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W1042-3842_F160W	(7) W1042-3842	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W1042-3842_visit (07) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W1051-2138 visit (08) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

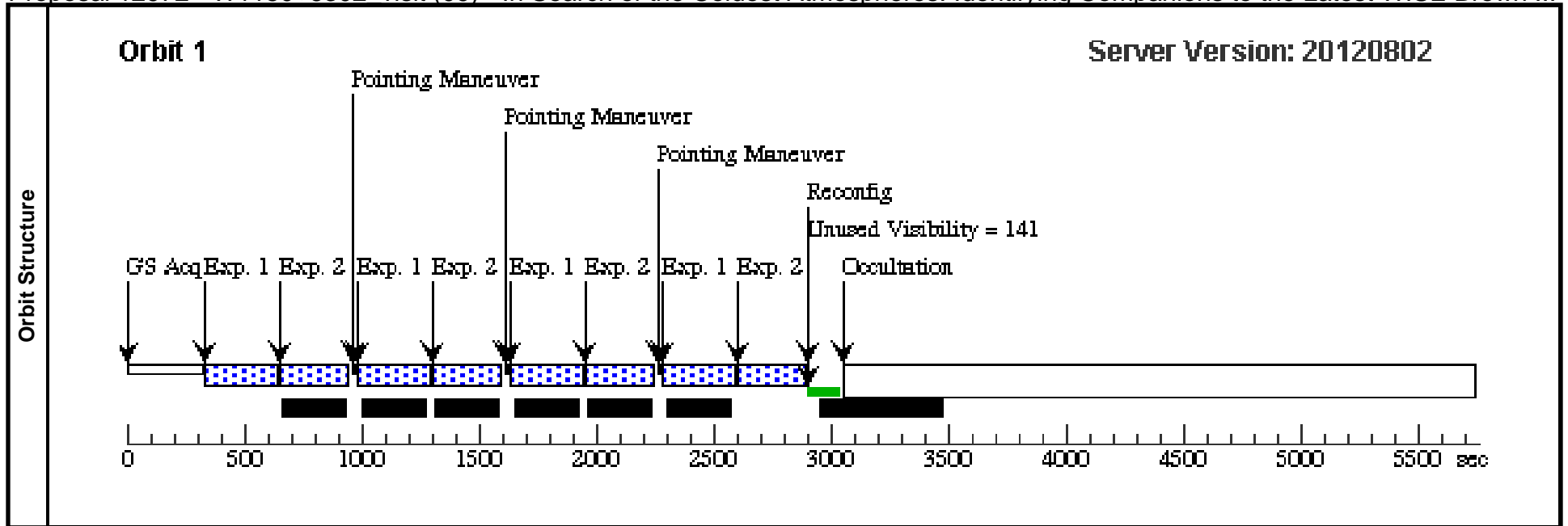
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Visit	Proposal 12972, W1051-2138_visit (08), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
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		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN 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		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	W1051-2138	RA: 10 51 30.0100 (162.8750417d) Dec: -21 38 59.30 (-21.64981d) Equinox: J2000		V=(?) J<18.5	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W1051-2138_F110W	(8) W1051-2138	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W1051-2138_visit (08) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W1051-2138_F160W	(8) W1051-2138	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			Pattern 1, Exps 1-2 in W1051-2138_visit (08) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W1150+6302\_visit (09) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

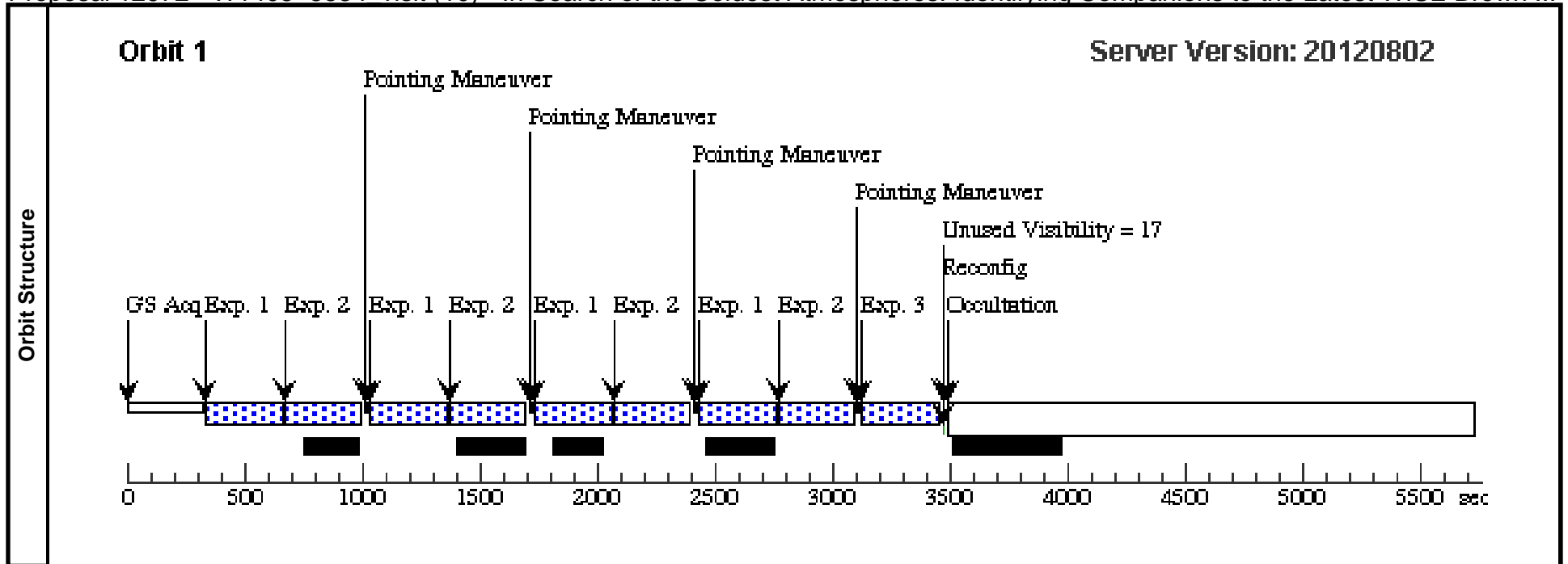
Visit		Proposal 12972, W1150+6302_visit (09), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%					Sat Oct 06 01:06:23 GMT 2012				
Patterns		#	Primary Pattern	Secondary Pattern	Exposures						
Fixed Targets		#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
Exposures		#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		(1)	W1150+6302	RA: 11 50 13.8800 (177.5578333d) Dec: +63 02 40.70 (63.04464d) Equinox: J2000			V=(?) J=17.72	Reference Frame: ICRS			
		1	W1150+6302_F110W	(9) W1150+6302	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=12		Pattern 1, Exps 1-2 in W1150+6302_visit (09) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
		2	W1150+6302_F160W	(9) W1150+6302	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=12		Pattern 1, Exps 1-2 in W1150+6302_visit (09) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W1405+5534 visit (10) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:24 GMT 2012

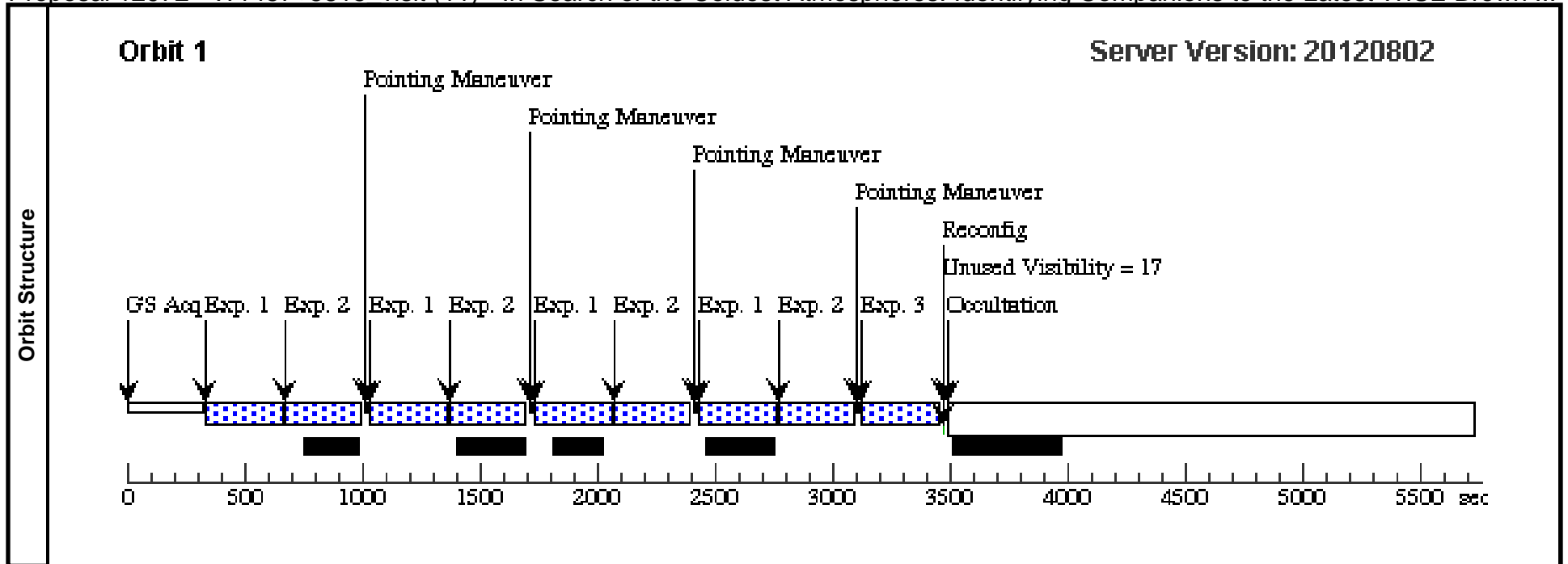
Visit	Proposal 12972, W1405+5534_visit (10), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
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Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(10)	W1405+5534	RA: 14 05 18.4000 (211.3266667d) Dec: +55 34 21.50 (55.57264d) Equinox: J2000		V=(?) J=20.09	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W1405+5534_F110W	(10) W1405+5534	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W1405+5534_visit (10) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	W1405+5534_F160W	(10) W1405+5534	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W1405+5534_visit (10) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3		(10) W1405+5534	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			[==>]	[1]



Proposal 12972 - W1457+5815 visit (11) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

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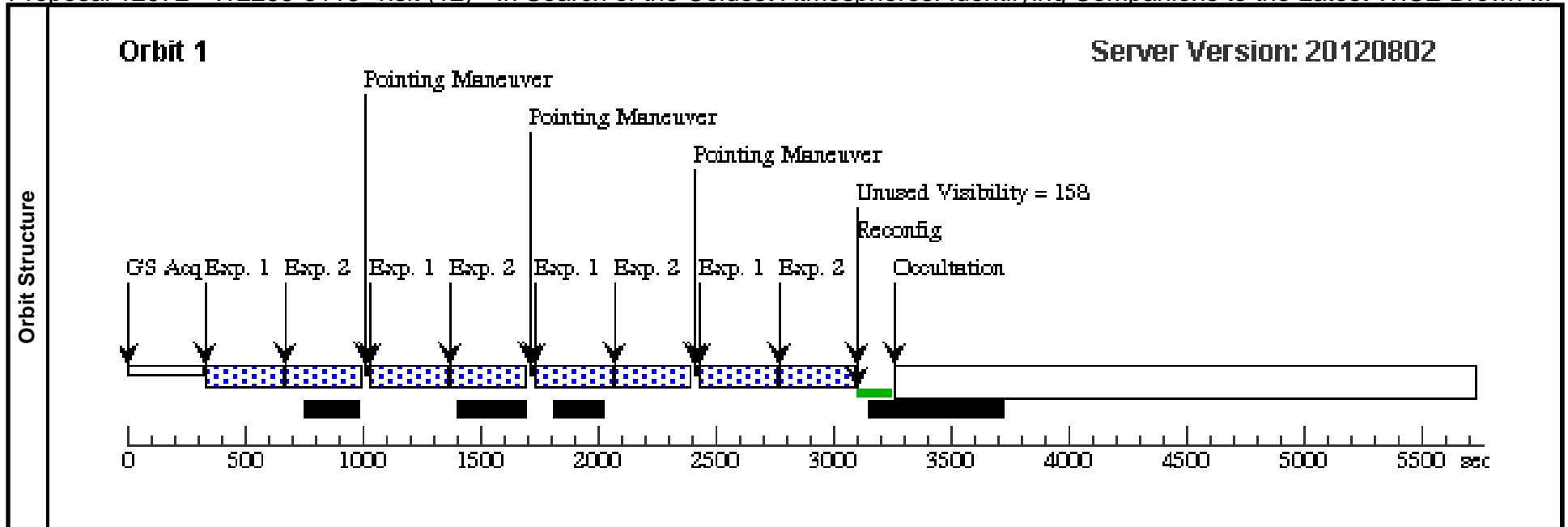
Visit	Proposal 12972, W1457+5815_visit (11), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(11)	W1457+5815	RA: 14 57 15.0300 (224.3126250d) Dec: +58 15 10.30 (58.25286d) Equinox: J2000		V=(?) J=17.48	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W1457+5815_F110W	(11) W1457+5815	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W1457+5815_visit (11) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	W1457+5815_F160W	(11) W1457+5815	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W1457+5815_visit (11) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	3		(11) W1457+5815	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7			[==>]	[1]



Proposal 12972 - W2255-3118 visit (12) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:26 GMT 2012

Visit	Proposal 12972, W2255-3118_visit (12), scheduling 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=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(1-2)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(12)	W2255-3118	RA: 22 55 40.7400 (343.9197500d) Dec: -31 18 41.80 (-31.31161d) Equinox: J2000		V=(?) J=17.34	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W2255-3118_F110W	(12) W2255-3118	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 50; NSAMP=7	GS ACQ SCENARIO BASE1B3	Pattern 1, Exps 1-2 in W2255-3118_visit (12) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]
	2	W2255-3118_F160W	(12) W2255-3118	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 50; NSAMP=7		Pattern 1, Exps 1-2 in W2255-3118_visit (12) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]



Proposal 12972 - W2325-4105 visit (13) - In Search of the Coldest Atmospheres: Identifying Companions to the Latest WISE Brown ...

Sat Oct 06 01:06:27 GMT 2012

Visit	Proposal 12972, W2325-4105_visit (13), scheduling Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: SCHED 100%									
	Patterns	#	Primary Pattern	Secondary Pattern	Exposures					
		(1)	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		(1-2)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(13)	W2325-4105	RA: 23 25 19.5400 (351.3314167d) Dec: -41 05 34.90 (-41.09303d) Equinox: J2000		V=(?) J=19.42	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	W2325-4105_F110W	(13) W2325-4105	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W2325-4105_visit (13) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]
2	W2325-4105_F160W	(13) W2325-4105	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=SPARS 25; NSAMP=12			Pattern 1, Exps 1-2 in W2325-4105_visit (13) (1)	[==>(Pattern 1)] [==>(Pattern 2)] [==>(Pattern 3)] [==>(Pattern 4)]	[1]

