



13490 - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshrouded Objects at $z \sim 2-3$?

Cycle: 21, 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) SWIREJ021728.3-044437	WFC3/IR	1	20-Jun-2013 21:24:46.0	yes
02	(2) SWIREJ032951.3-271121	WFC3/IR	1	20-Jun-2013 21:24:55.0	yes
03	(3) SWIREJ103734.0+583857	WFC3/IR	1	20-Jun-2013 21:25:05.0	yes
04	(4) SWIREJ103857.1+592820	WFC3/IR	1	20-Jun-2013 21:25:13.0	yes
05	(5) SWIREJ103916.7+585658	WFC3/IR	1	20-Jun-2013 21:25:21.0	yes
06	(6) SWIREJ104224.0+570928	WFC3/IR	1	20-Jun-2013 21:25:29.0	yes
07	(7) SWIREJ104704.5+57308	WFC3/IR	1	20-Jun-2013 21:25:37.0	yes
08	(8) SWIREJ105000.3+582221	WFC3/IR	1	20-Jun-2013 21:25:48.0	yes
09	(9) SWIREJ105119.9+564242	WFC3/IR	1	20-Jun-2013 21:25:56.0	yes
10	(10) SWIREJ160031.8+543405	WFC3/IR	1	20-Jun-2013 21:26:04.0	yes
11	(11) SWIREJ160300.3+542632	WFC3/IR	1	20-Jun-2013 21:26:13.0	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>
12	(12) SWIREJ161610.4+533745	WFC3/IR	1	20-Jun-2013 21:26:21.0	yes
13	(13) SWIREJ161721.4+560630	WFC3/IR	1	20-Jun-2013 21:26:29.0	yes
14	(14) SWIREJ163558.4+413455	WFC3/IR	1	20-Jun-2013 21:26:36.0	yes

14 Total Orbits Used

ABSTRACT

We request 14 orbits with WFC3/IR to spatially resolve a sample of extraordinary objects that are ultraluminous in the mid-infrared (24 microns), but were undetected at all other Spitzer, optical, or near-infrared survey wavelengths. Found in the widest of the extragalactic areal surveys (SWIRE; 50 square degrees) these are the only such objects found by Spitzer. Followup infrared spectroscopy centered on the 24-micron band of three objects indicates that they lie between redshifts of 2-3. Additional ultradeep imaging of the entire sample with Spitzer and Keck has added photometric datapoints at 2.2 and 3.6 microns. Combined with the photometric upper limits, the resulting spectral energy distributions (SEDs) are not compatible with that of any known class of objects, although several lines of evidence point towards unusual, highly-obscured AGN, possibly undergoing fueling before the host galaxy has been fully established. The deep Keck imaging cannot achieve sufficient S/N to resolve the objects, but at least demonstrates that they can be observed with HST.

Due to their unusual SEDs, in most cases the sum total of our knowledge about these objects amounts to three photometric datapoints and some upper limits. The WFC3 imaging will add our only information about their structure, size, and shape. This in turn will allow us to differentiate between several proposed models shaping the SED.

OBSERVING DESCRIPTION

Deep imaging (1 orbit/target) at H-band (F160W) of ultra-red compact objects. A 6-point parallelogram dither pattern is used, sampling the integer, 1/2 integer, and 1/3 integer pixel phases. In most visits a seventh short exposure is added at the center of the parallelogram in order to fill in unused visibility. In several instances roll constraints have been added in order to keep bright (10th mag) stars off the detector.

REAL TIME JUSTIFICATION

No realtime.

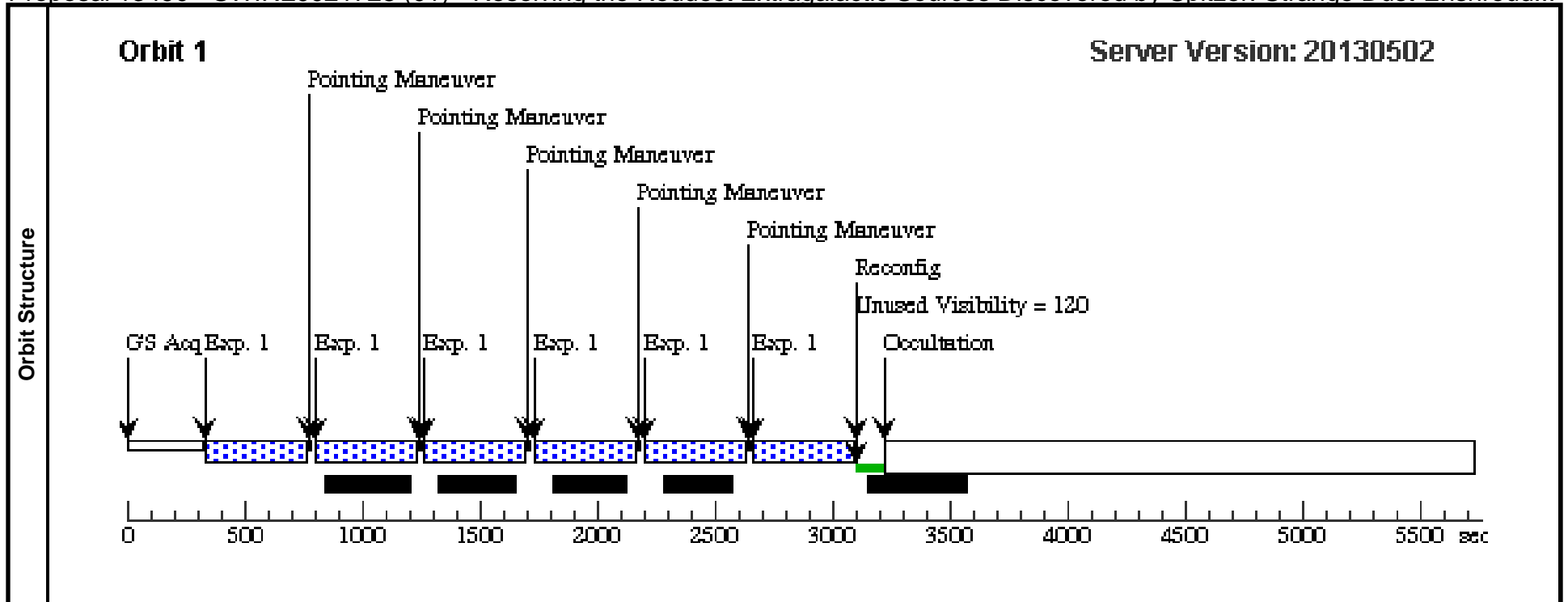
CALIBRATION JUSTIFICATION

No calibration observation.

Proposal 13490 - SWIREJ021728 (01) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:44 GMT 2013

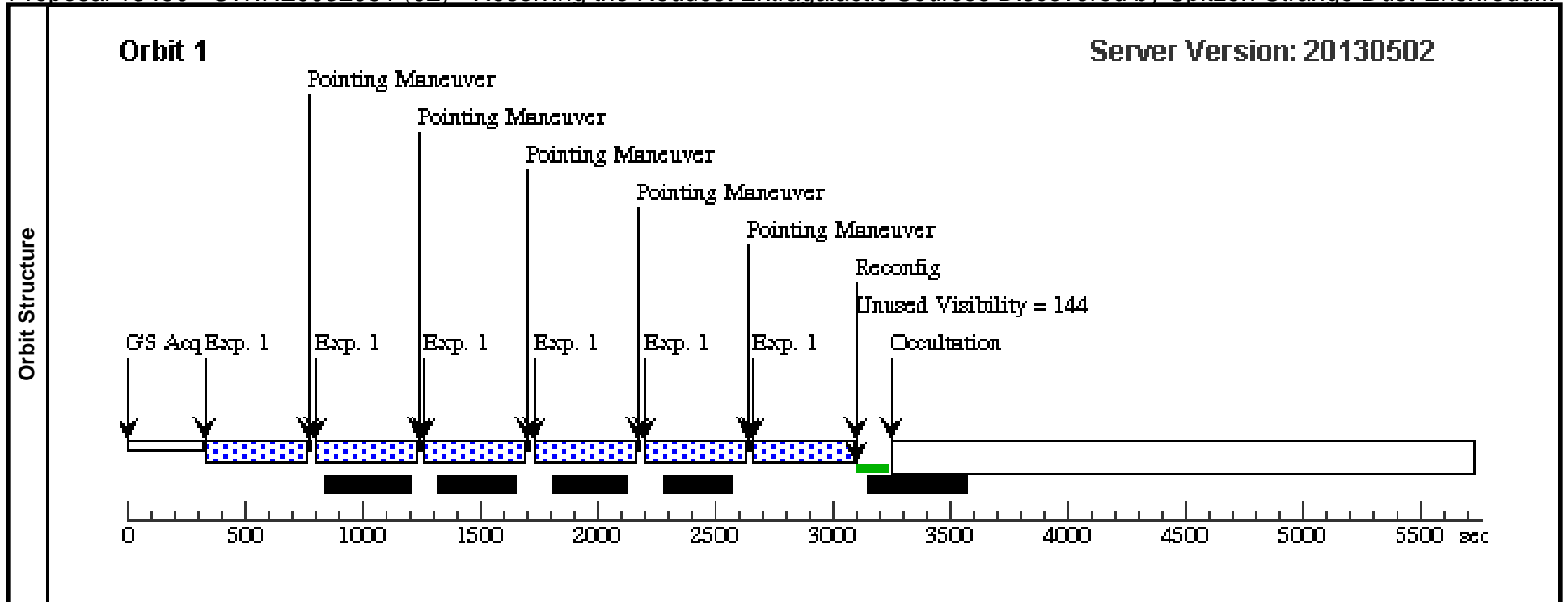
Visit	Proposal 13490, SWIREJ021728 (01) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 351D TO 31 D; ORIENT 87D TO 107 D									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	SWIREJ021728.3-044437	RA: 02 17 28.3680 (34.3682000d) Dec: -04 44 37.32 (-4.74370d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) SWIREJ021728.3-044437	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ021728 (01) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]



Proposal 13490 - SWIREJ032951 (02) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:46 GMT 2013

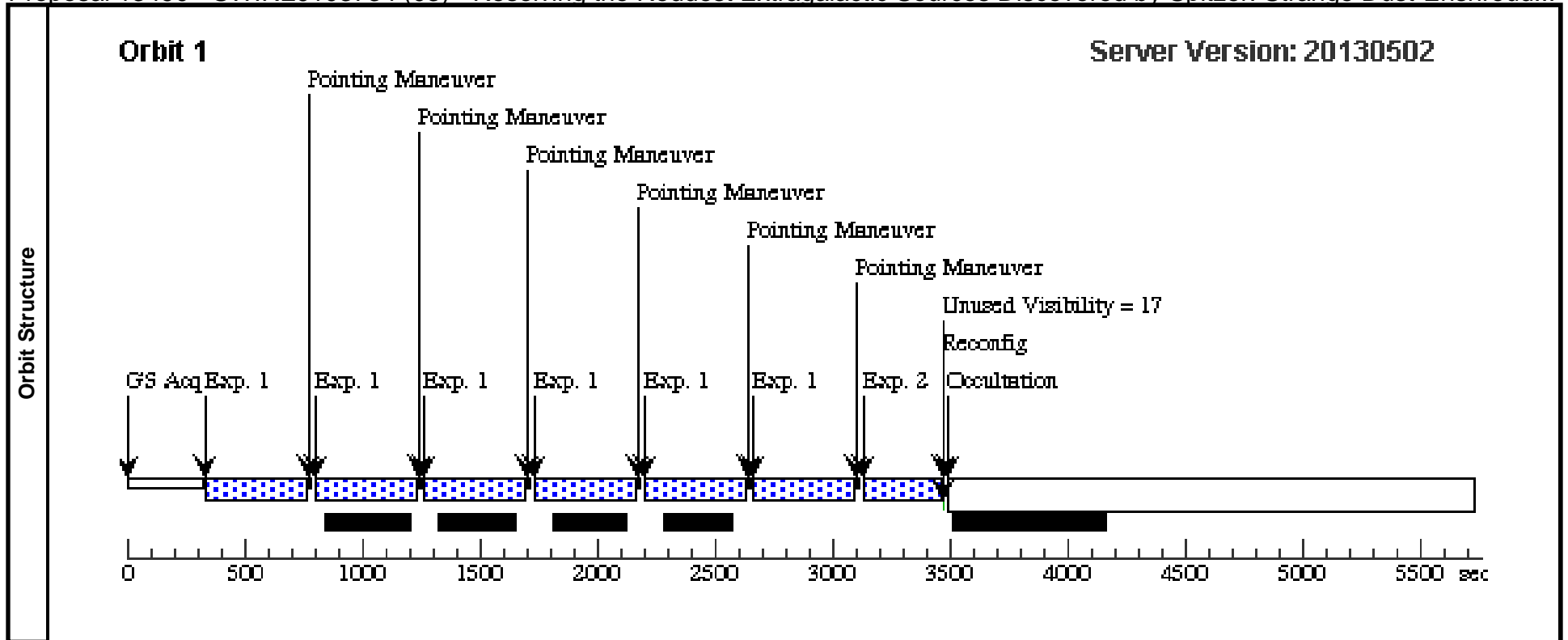
Visit	Proposal 13490, SWIREJ032951 (02) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(2)	SWIREJ032951.3-271121	RA: 03 29 51.2640 (52.4636000d) Dec: -27 11 21.12 (-27.18920d) Equinox: J2000			V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(2) SWIREJ032951.3-271121	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ032951 (02) (1)	399.233383 Secs (2395.4 Secs) [=>(Pattern 1,1)] [=>(Pattern 1,2)] [=>(Pattern 2,1)] [=>(Pattern 2,2)] [=>(Pattern 3,1)] [=>(Pattern 3,2)]	[1]



Proposal 13490 - SWIREJ103734 (03) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:47 GMT 2013

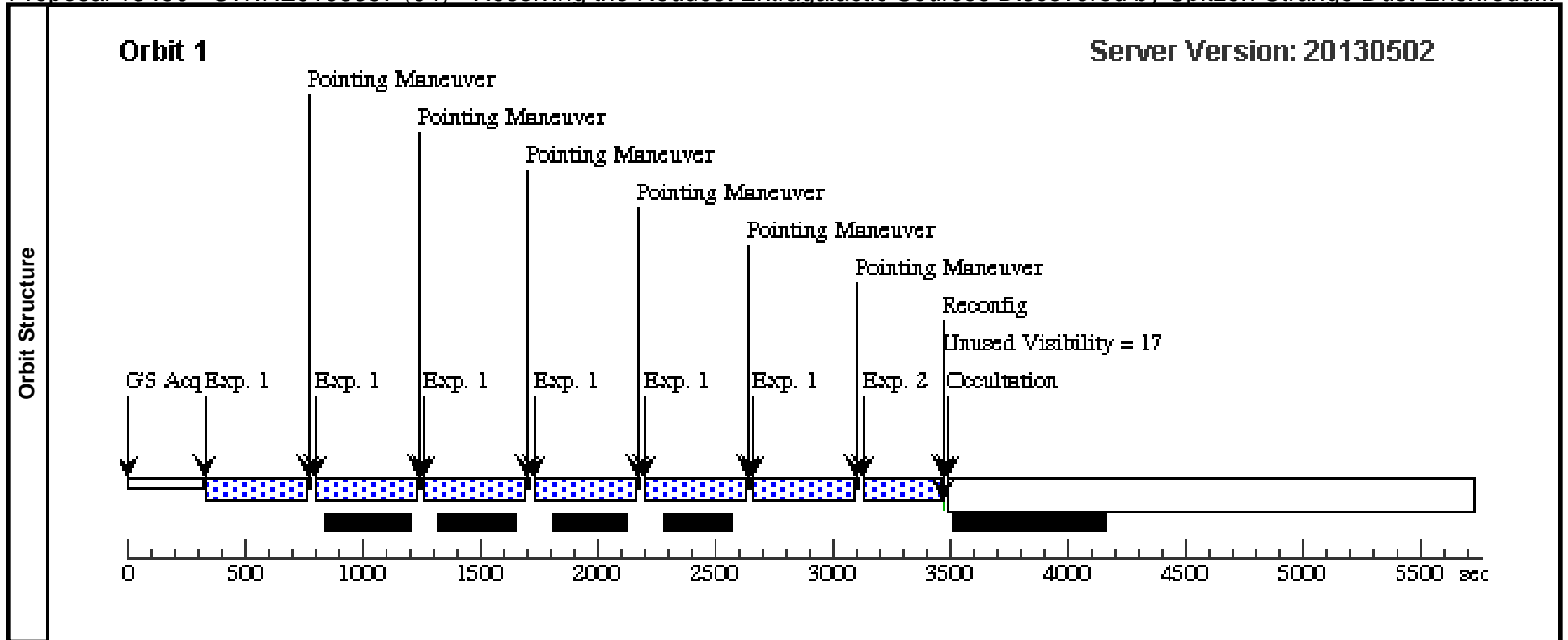
Visit	Proposal 13490, SWIREJ103734 (03) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	#	Primary Pattern			Secondary Pattern			Exposures		
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(3)	SWIREJ103734.0+583857	RA: 10 37 34.1040 (159.3921000d) Dec: +58 38 58.24 (58.64951d) Equinox: J2000			V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(3) SWIREJ103734.0+583857	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ103734 (03) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
2		(3) SWIREJ103734.0+583857	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 ⁷⁷			299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ103857 (04) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:49 GMT 2013

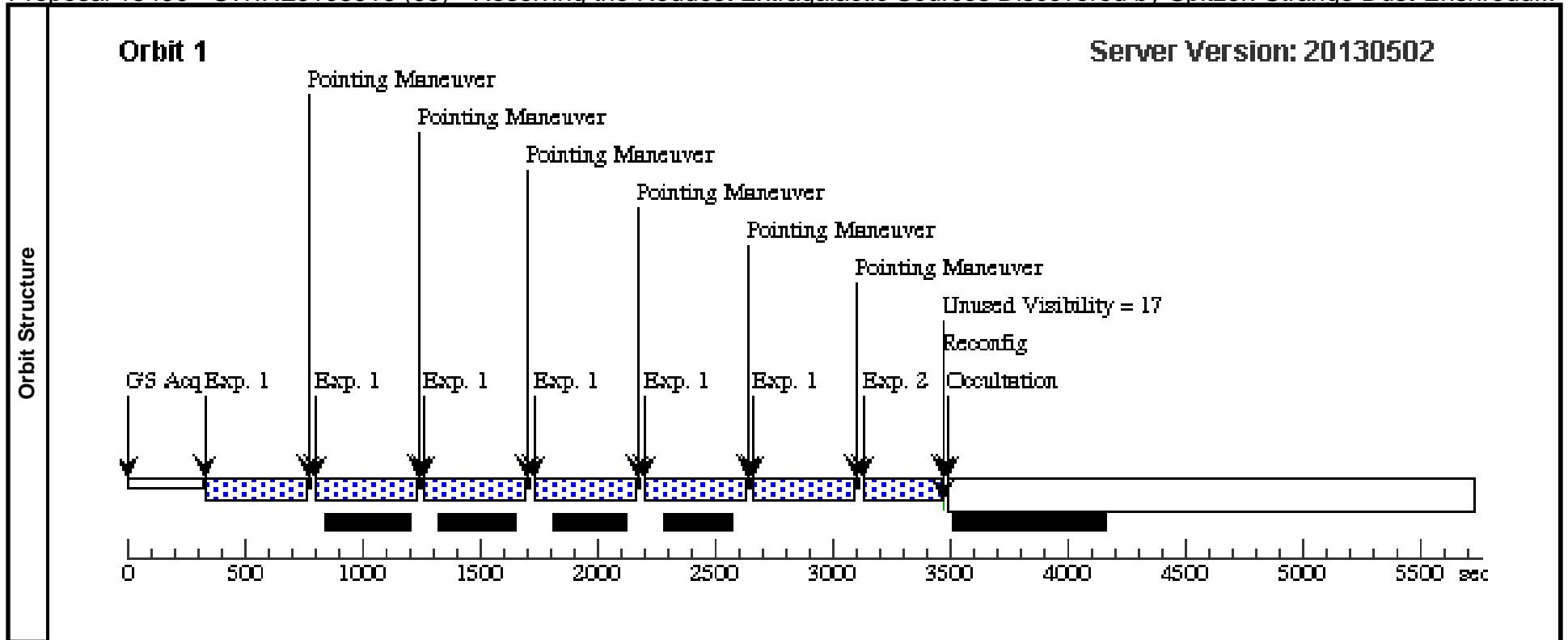
Visit	Proposal 13490, SWIREJ103857 (04) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	SWIREJ103857.1+59282 0	RA: 10 38 57.1200 (159.7380000d) Dec: +59 28 20.28 (59.47230d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(4) SWIREJ103857.1+592820	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ103857 (04) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(4) SWIREJ103857.1+592820	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ103916 (05) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:50 GMT 2013

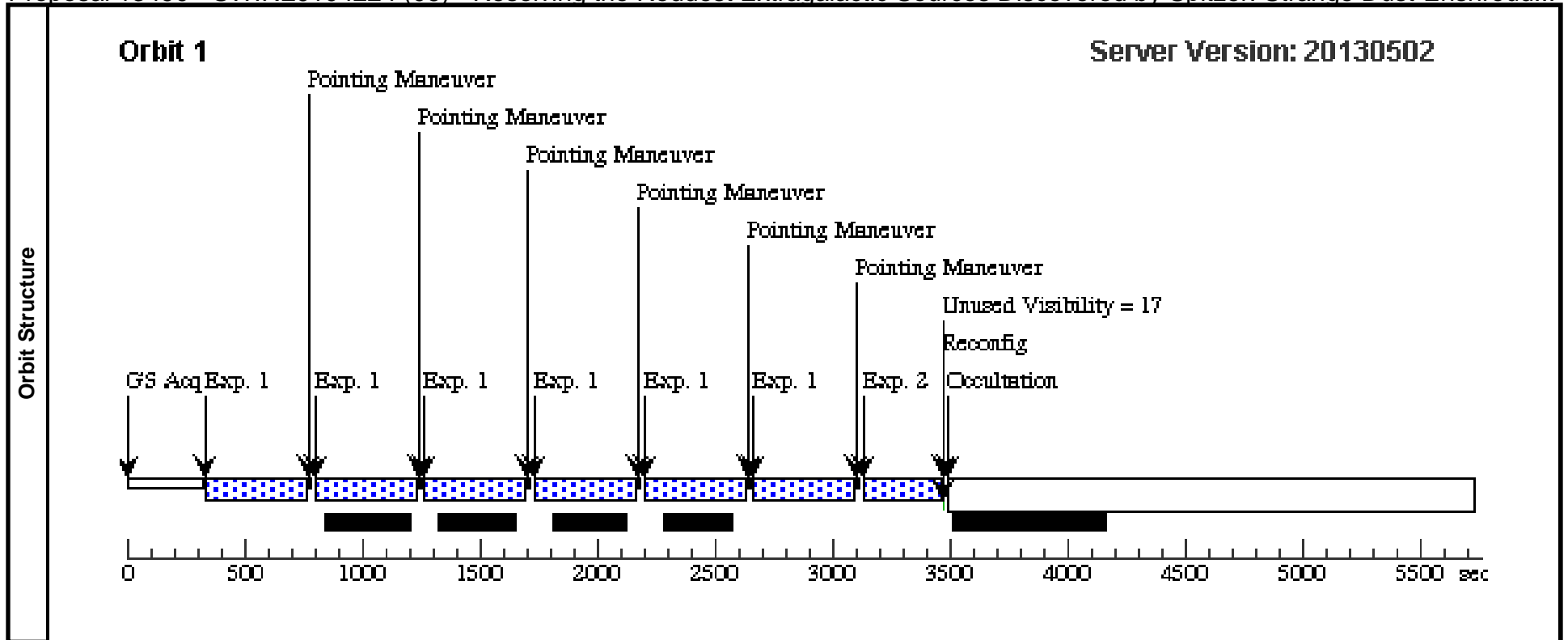
Visit	Proposal 13490, SWIREJ103916 (05) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(5)	SWIREJ103916.7+585658	RA: 10 39 16.8000 (159.8200000d) Dec: +58 56 58.20 (58.94950d) Equinox: J2000			V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(5) SWIREJ103916.7+585658	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ103916 (05) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(5) SWIREJ103916.7+585658	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ104224 (06) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:51 GMT 2013

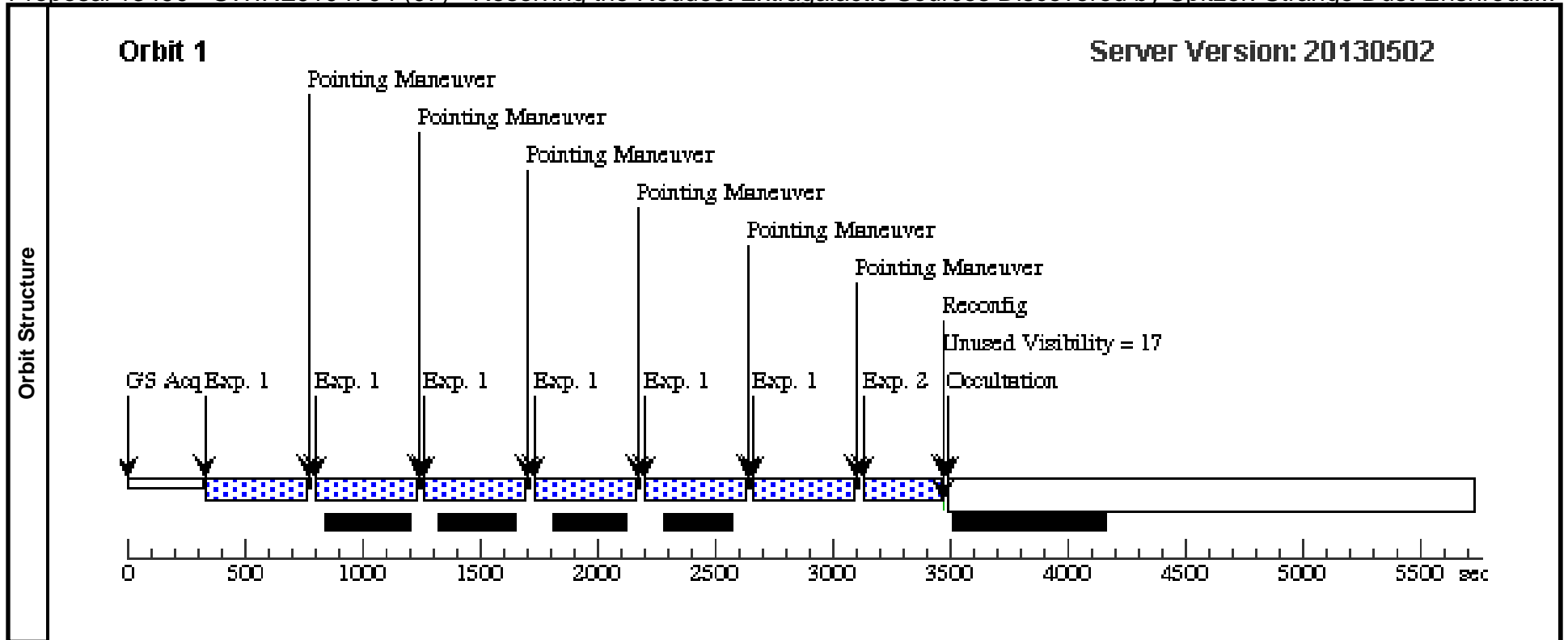
Visit	Proposal 13490, SWIREJ104224 (06) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	#	Primary Pattern			Secondary Pattern			Exposures		
	(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)				
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(6)	SWIREJ104224.0+570928	RA: 10 42 24.0480 (160.6002000d) Dec: +57 09 28.80 (57.15800d) Equinox: J2000			V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(6) SWIREJ104224.0+570928	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ104224 (06) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
2		(6) SWIREJ104224.0+570928	WFC3/IR, MULTIACCUM, IR	F160W		NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ104704 (07) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:52 GMT 2013

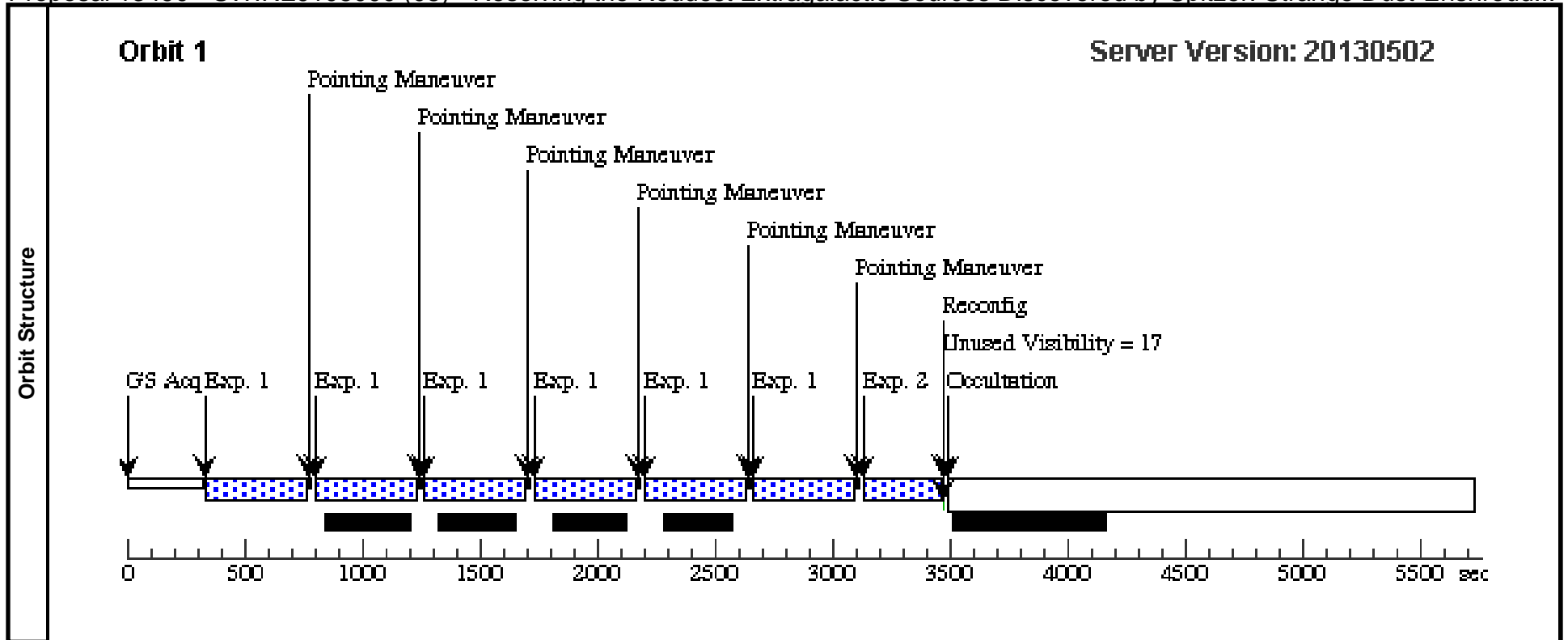
Visit	Proposal 13490, SWIREJ104704 (07) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections		Fluxes	Miscellaneous			
	(7)	SWIREJ104704.5+57308	RA: 10 47 4.5120 (161.7688000d) Dec: +57 32 8.16 (57.53560d) Equinox: J2000			V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS			
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(7) SWIREJ104704.5+57308	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ104704 (07) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(7) SWIREJ104704.5+57308	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ105000 (08) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:53 GMT 2013

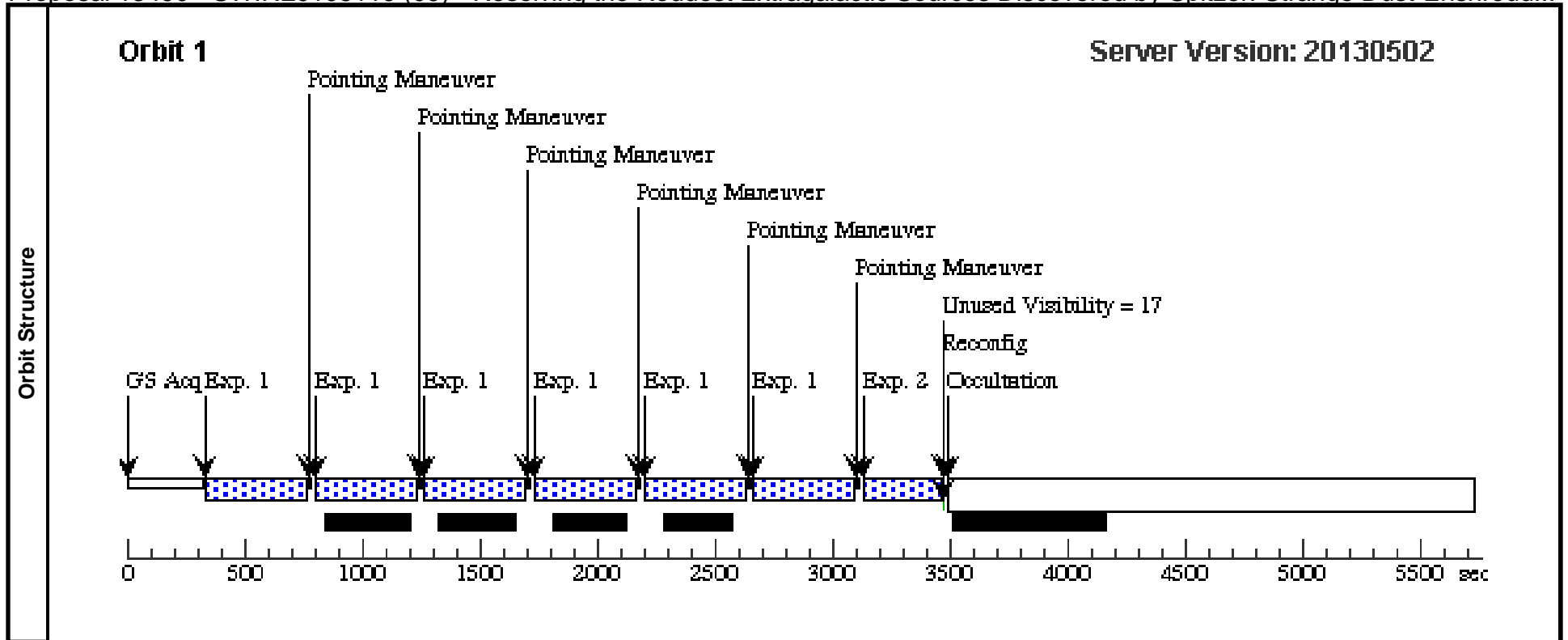
Visit	Proposal 13490, SWIREJ105000 (08) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(8)	SWIREJ105000.3+58222 1	RA: 10 50 0.3360 (162.5014000d) Dec: +58 22 21.36 (58.37260d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(8) SWIREJ105000.3+582221	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ105000 (08) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
2		(8) SWIREJ105000.3+582221	WFC3/IR, MULTIACCUM, IR	F160W		NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ105119 (09) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:54 GMT 2013

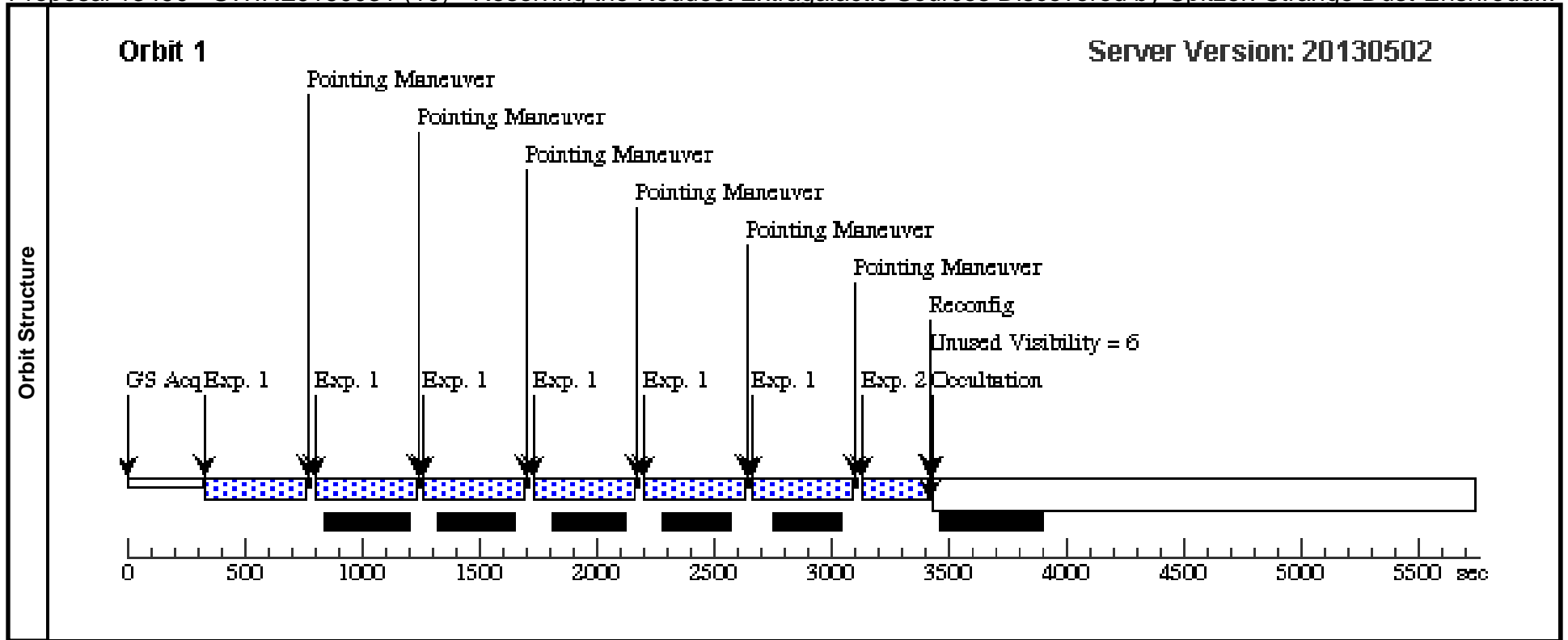
Visit	Proposal 13490, SWIREJ105119 (09) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 253D TO 150 D; ORIENT 180D TO 220 D									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(9)	SWIREJ105119.9+56424 2	RA: 10 51 19.9200 (162.8330000d) Dec: +56 42 42.48 (56.71180d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(9) SWIREJ105119.9+564242	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ105119 (09) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(9) SWIREJ105119.9+564242	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP5 0	POS TARG 2.09,1.8 77		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ160031 (10) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:55 GMT 2013

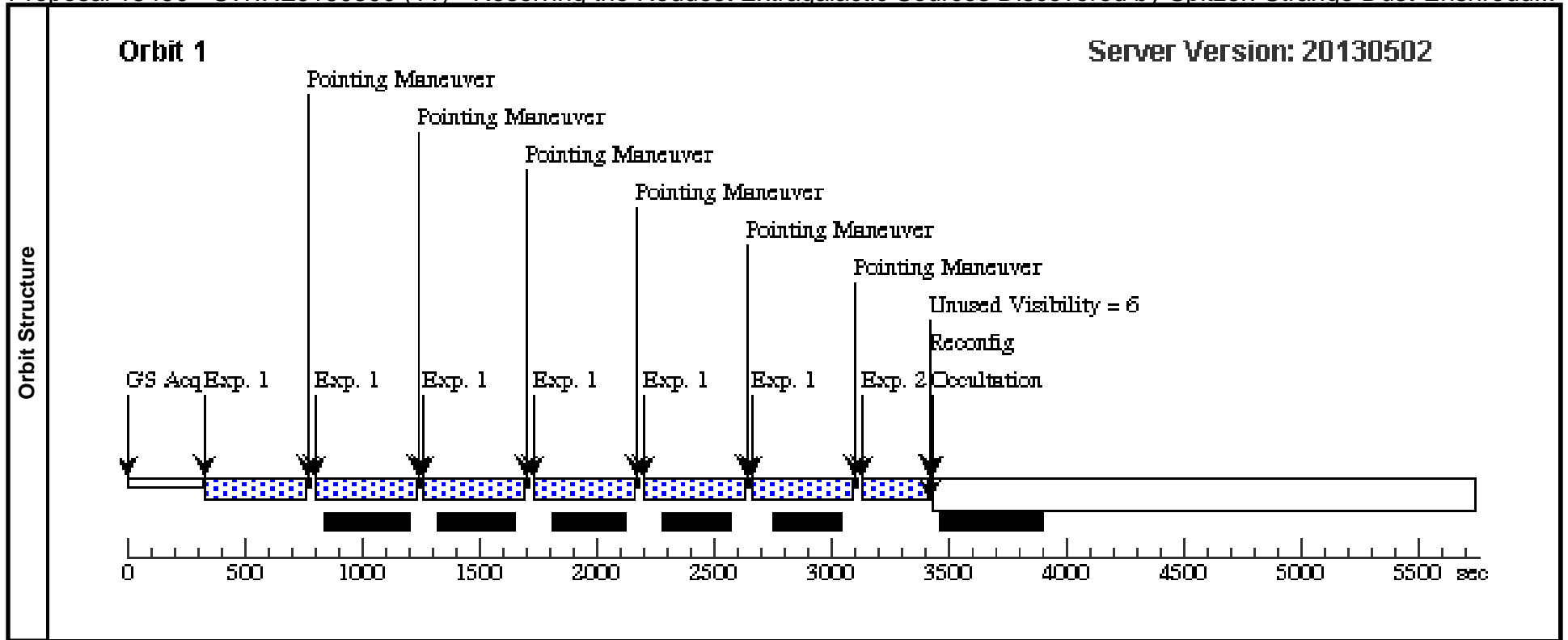
Visit	Proposal 13490, SWIREJ160031 (10) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 140D TO 170 D; ORIENT 207D TO 279 D; ORIENT 320D TO 14 D; ORIENT 46D TO 96 D									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(10)	SWIREJ160031.8+543405	RA: 16 00 31.8240 (240.1326000d) Dec: +54 34 6.49 (54.56847d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(10) SWIREJ160031.8+543405	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ160031 (10) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(10) SWIREJ160031.8+543405	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=STEP2 5	POS TARG 2.09,1.8 77		249.234346 Secs (249.234 Secs) [==>]	[1]



Proposal 13490 - SWIREJ160300 (11) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:56 GMT 2013

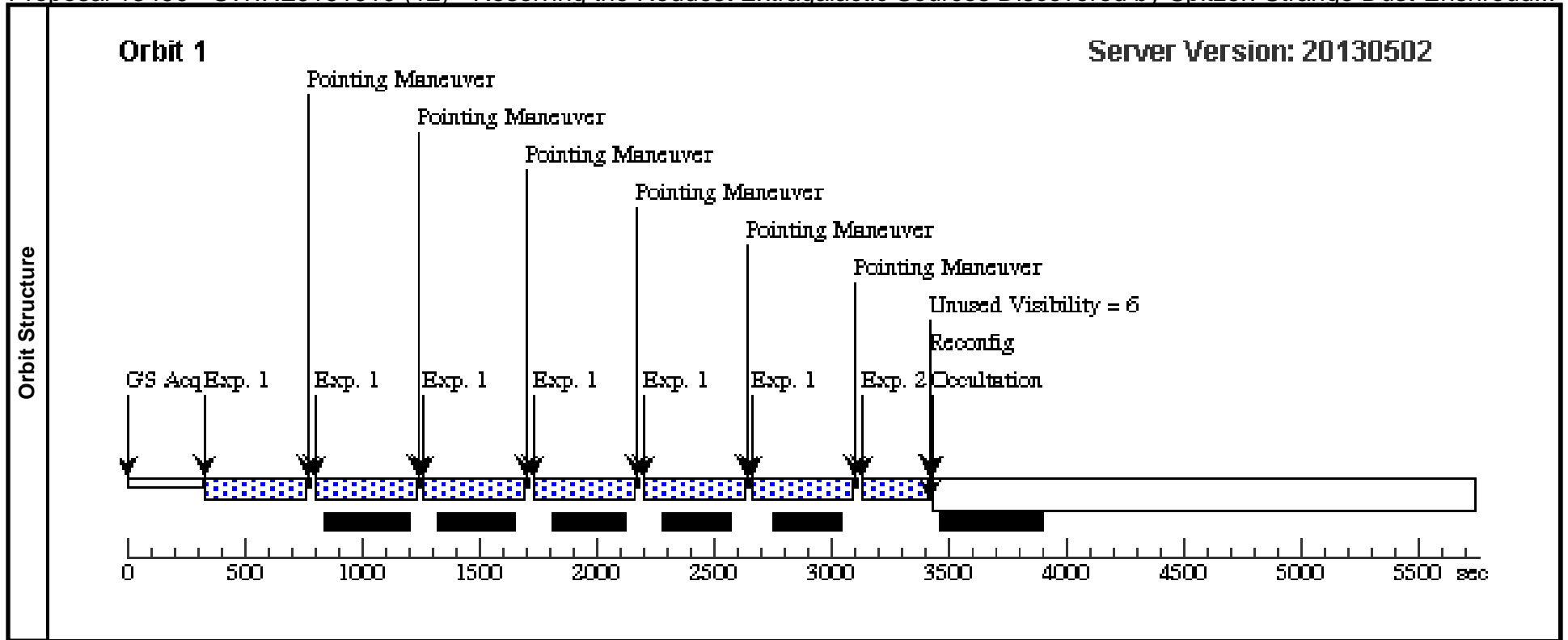
Visit	Proposal 13490, SWIREJ160300 (11) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 140D TO 110 D									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(11)	SWIREJ160300.3+54263 2	RA: 16 03 0.3600 (240.7515000d) Dec: +54 26 32.64 (54.44240d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(11) SWIREJ160300.3+542632	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ160300 (1) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(11) SWIREJ160300.3+542632	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=STEP2 5	POS TARG 2.09,1.8 77		249.234346 Secs (249.234 Secs) [==>]	[1]



Proposal 13490 - SWIREJ161610 (12) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:57 GMT 2013

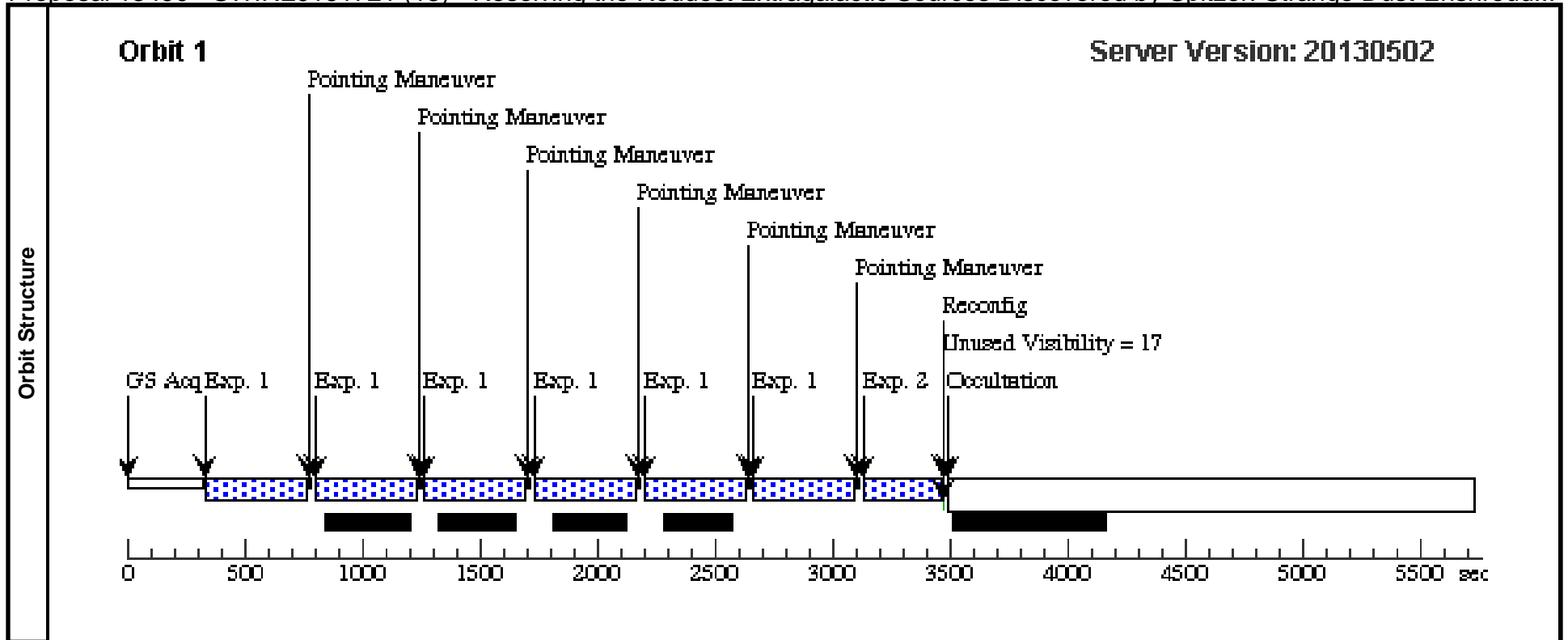
Visit	Proposal 13490, SWIREJ161610 (12) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(12)	SWIREJ161610.4+533745	RA: 16 16 10.3920 (244.0433000d) Dec: +53 37 45.48 (53.62930d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(12) SWIREJ161610.4+533745	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ161610 (12) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(12) SWIREJ161610.4+533745	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=14; SAMP-SEQ=STEP2 5	POS TARG 2.09,1.8 77		249.234346 Secs (249.234 Secs) [==>]	[1]



Proposal 13490 - SWIREJ161721 (13) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:58 GMT 2013

Visit	Proposal 13490, SWIREJ161721 (13) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(13)	SWIREJ161721.4+560630	RA: 16 17 21.4560 (244.3394000d) Dec: +56 06 30.24 (56.10840d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(13) SWIREJ161721.4+560630	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP50		Pattern 1, Exps 1-1 in SWIREJ161721 (13) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(13) SWIREJ161721.4+560630	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=11; SAMP-SEQ=STEP50	POS TARG 2.09,1.8 ⁷⁷		299.232481 Secs (299.232 Secs) [==>]	[1]



Proposal 13490 - SWIREJ163558 (14) - Resolving the Reddest Extragalactic Sources Discovered by Spitzer: Strange Dust-Enshroud...

Fri Jun 21 01:26:59 GMT 2013

Visit	Proposal 13490, SWIREJ163558 (14) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: (none)									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=3 Point Spacing=.605 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=5 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=41.788 Angle Between Sides= Center Pattern=false	(1)			
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(14)	SWIREJ163558.4+413455	RA: 16 35 58.4640 (248.9936000d) Dec: +41 34 55.20 (41.58200d) Equinox: J2000		V=26+/-0.1 H=23, V is upperlimit	Reference Frame: ICRS				
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(14) SWIREJ163558.4+413455	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=13; SAMP-SEQ=STEP5 0		Pattern 1, Exps 1-1 in SWIREJ163558 (14) (1)	399.233383 Secs (2395.4 Secs) [==>(Pattern 1,1)] [==>(Pattern 1,2)] [==>(Pattern 2,1)] [==>(Pattern 2,2)] [==>(Pattern 3,1)] [==>(Pattern 3,2)]	[1]
	2		(14) SWIREJ163558.4+413455	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=10; SAMP-SEQ=STEP2 5			149.232286 Secs (149.232 Secs) [==>]	[1]

