



12533 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Cycle: 19, 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) IRAS00262+4251	COS/FUV	1	14-Mar-2013 01:01:30.0	yes
02	(2) IRAS01003-2238	COS/FUV	1	14-Mar-2013 01:01:43.0	yes
04	(4) IRAS08030+5243	COS/FUV	1	14-Mar-2013 01:01:52.0	yes
06	(6) IRAS10378+1109	COS/FUV	1	14-Mar-2013 01:02:03.0	yes
08	(8) IRAS11598-0112	COS/FUV	1	14-Mar-2013 01:02:16.0	yes
09	(9) IRAS12071-0444	ACS/SBC WFC3/UVIS	1	14-Mar-2013 01:02:27.0	yes
13	(13) IRAS16487+5447	COS/FUV	1	14-Mar-2013 01:02:35.0	yes
14	(14) IRAS17028+5817	COS/FUV	1	14-Mar-2013 01:02:47.0	yes
16	(16) IRAS23365+3604	COS/FUV	1	14-Mar-2013 01:02:55.0	yes
17	(17) IRAS12071-0444-OFFSET (19) IRAS12071-0444-TWEAK	COS/FUV COS/NUV	1	14-Mar-2013 01:03:06.0	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>
24	(22) IRAS16474+3430-OFFSET (23) IRAS16474+3430-TWEAK	COS/FUV COS/NUV	1	14-Mar-2013 01:03:14.0	yes
18	(18) IRAS09583+4714-POSB	COS/FUV	1	14-Mar-2013 01:03:22.0	yes
20	(20) IRAS23365+3604-OFFSET (21) IRAS23365+3604-TWEAK	COS/FUV COS/NUV	1	14-Mar-2013 01:03:29.0	yes
21	(5) IRAS09583+4714	ACS/SBC WFC3/UVIS	1	14-Mar-2013 01:03:37.0	yes
22	(12) IRAS16474+3430	ACS/SBC WFC3/UVIS	1	14-Mar-2013 01:03:45.0	yes
23	(16) IRAS23365+3604	ACS/SBC WFC3/UVIS	1	14-Mar-2013 01:03:53.0	yes

16 Total Orbits Used

ABSTRACT

We request COS spectroscopy of sixteen, well-studied Ultraluminous Infrared Galaxies (ULIRGs). Dusty starbursts similar to these galaxies made a very significant contribution to the global star formation rate in the past. Since dust destroys hydrogen Lyman-alpha photons, it came as a great surprise when optical spectroscopy of dusty, high-redshift galaxies revealed hydrogen Lyman-alpha (LyA) emission. Ironically, less is directly known about the LyA emission properties of dusty galaxies nearby; but only in nearby galaxies like ULIRGs can the physical properties -- gas kinematics and dust content -- that determine the LyA escape fraction be examined in detail. Studying LyA radiative transfer in the local laboratories afforded by nearby ULIRGs is therefore critical to improving our understanding of LyA radiative transfer in dusty galaxies. This local calibration is critical because the LyA emission properties of galaxies provide much of our information about galaxy evolution at the highest redshifts.

OBSERVING DESCRIPTION

We will obtain far-UV spectroscopy of 16 galaxies at redshifts $z \sim 0.1$. Our primary science goal is measuring the Lyman-alpha emission from these galaxies, so the line SNR determines the required exposure time. In addition, in the brightest objects, we hope to obtain sufficient SNR in the continuum of measure absorption-line features.

Proposal 12533 (STScI Edit Number: 6, Created: Wednesday, March 13, 2013 8:04:01 PM EST) - Overview

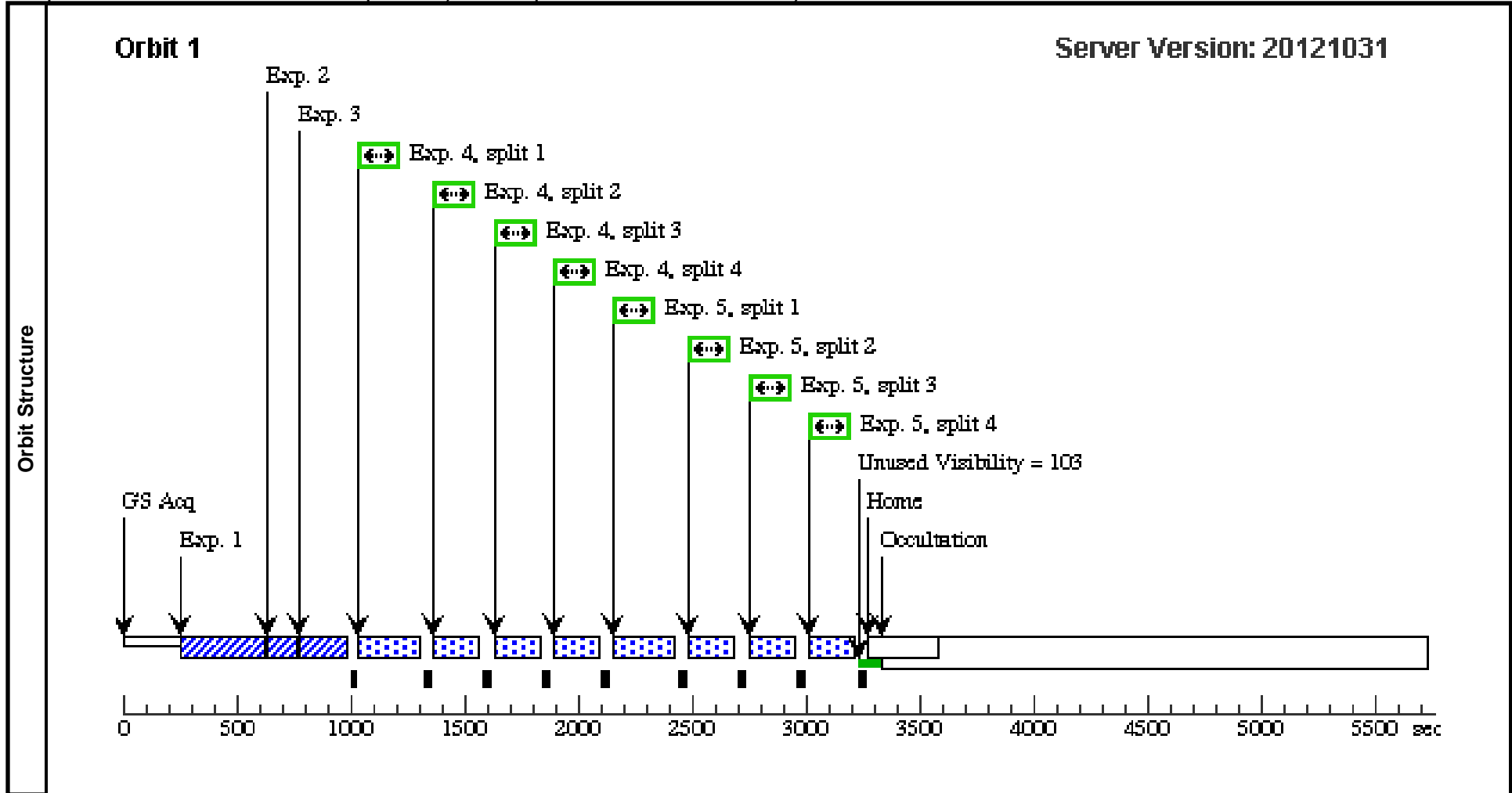
We want to center the COS PSA on the brightest FUV knot/feature within $\sim 0.5''$ of the 'nucleus.' We provide coordinates of this nucleus as defined by red images. From this position, the ACQ/SEARCH procedure will take 4 spectra offset 1 arcsecond from the pointing origin and find the flux-weighted center. This position is fine-tuned by executing the normal spectroscopic PEAKXD and PEAKD procedures. For six objects, we will skip the ACQ/SEARCH step.

We use two settings of CENWAV to provide continuous spectral coverage whenever both settings include coverage of critical spectral lines. For 9 of 16 targets, however, we elect to have a gap in the coverage rather than sacrifice exposure time on a key features. At each CENWAV setting, we obtain sub-exposures at multiple FP-POS positions.

Proposal 12533 - Visit 01 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:01 GMT 2013

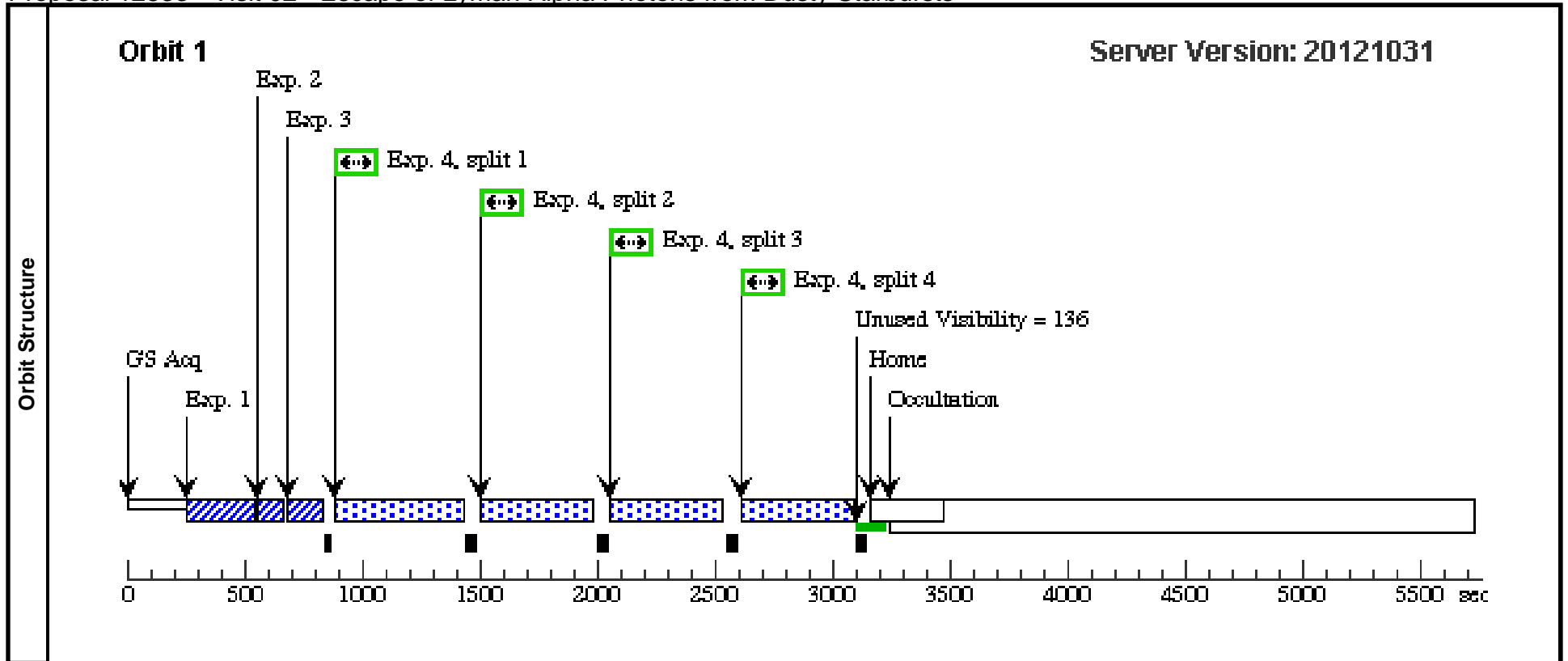
Visit	Proposal 12533, Visit 01, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	IRAS00262+4251	RA: 00 28 54.1526 (7.2256358d) Dec: +43 08 15.82 (43.13773d) Equinox: J2000	Redshift: 0.09724	V=14.2+/-0.4 R=16.0 mNUV=18.729 mFUV=19.216	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#1 ACQ/SE ARCH (COS.sa.186 284)	(1) IRAS00262+4251	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.0		Sequence 1-5 Non-Int in Visit 01	38 Secs [==>]	[1]
	2	#1 ACQ/PE AKXD (COS.sa.186 284)	(1) IRAS00262+4251	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 01	38 Secs [==>]	[1]
	3	#1 PEAKD (COS.sa.186 284)	(1) IRAS00262+4251	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-5 Non-Int in Visit 01	38 Secs [==>]	[1]
	4	#1 science C EN1291 (COS.sp.198 362)	(1) IRAS00262+4251	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1184; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 01	100 Secs [==>148.0 Secs (Split 1)] [==>148.0 Secs (Split 2)] [==>148.0 Secs (Split 3)] [==>148.0 Secs (Split 4)]	[1]
	5	#1 science C EN1309 (COS.sp.198 365)	(1) IRAS00262+4251	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=1184; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 01	100 Secs [==>148.0 Secs (Split 1)] [==>148.0 Secs (Split 2)] [==>148.0 Secs (Split 3)] [==>148.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 02 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:03 GMT 2013

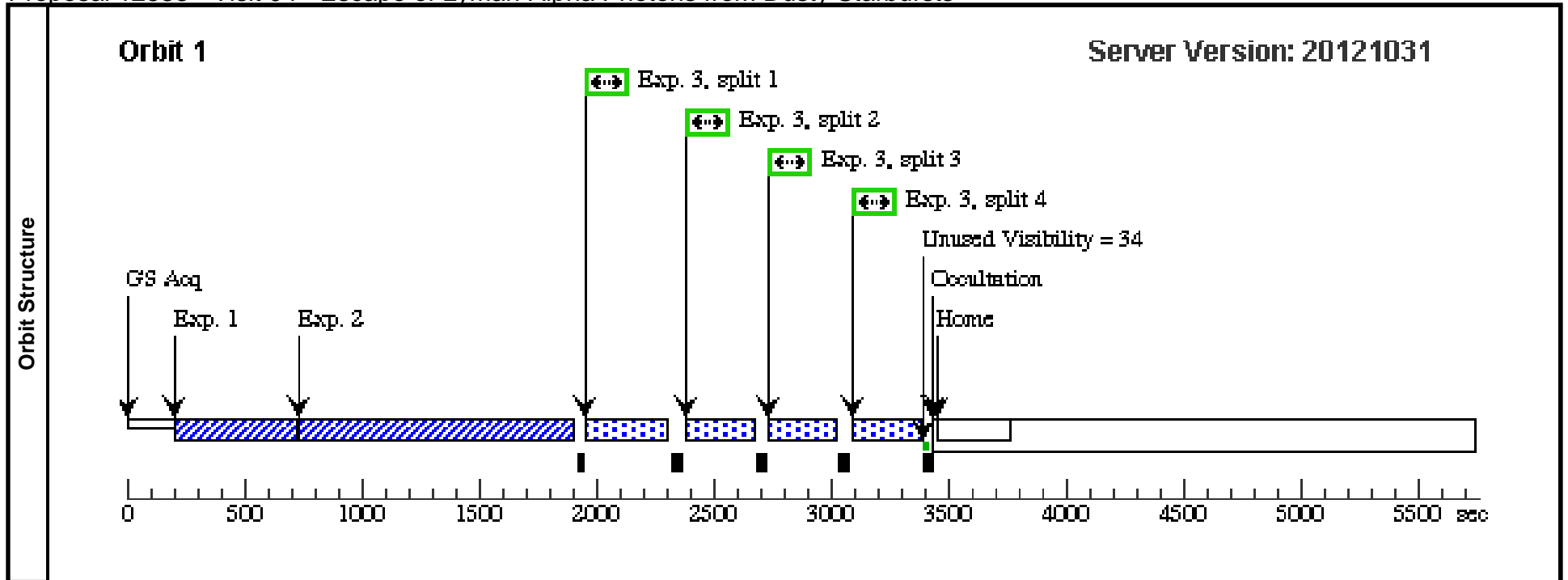
Visit	Proposal 12533, Visit 02, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(2)	IRAS01003-2238	RA: 01 02 49.9631 (15.7081796d) Dec: -22 21 57.02 (-22.36584d) Equinox: J2000	Redshift: 0.117701	V=17.7+/-0.2 R=17.9 mNUV=18.490 mFUV=18.505	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#2 ACQ/SE ARCH (COS.sa.186 285)	(2) IRAS01003-2238	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.0		Sequence 1-4 Non-Int in Visit 02	19 Secs [==>]	[1]
	2	#2 ACQ/PE AKXD (COS.sa.186 285)	(2) IRAS01003-2238	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 02	19 Secs [==>]	[1]
	3	#2 PEAKD (COS.sa.186 285)	(2) IRAS01003-2238	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-4 Non-Int in Visit 02	19 Secs [==>]	[1]
	4	#2 science (COS.sp.198 369)	(2) IRAS01003-2238	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1716; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 02	600 Secs [==>429.0 Secs (Split 1)] [==>429.0 Secs (Split 2)] [==>429.0 Secs (Split 3)] [==>429.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 04 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:04 GMT 2013

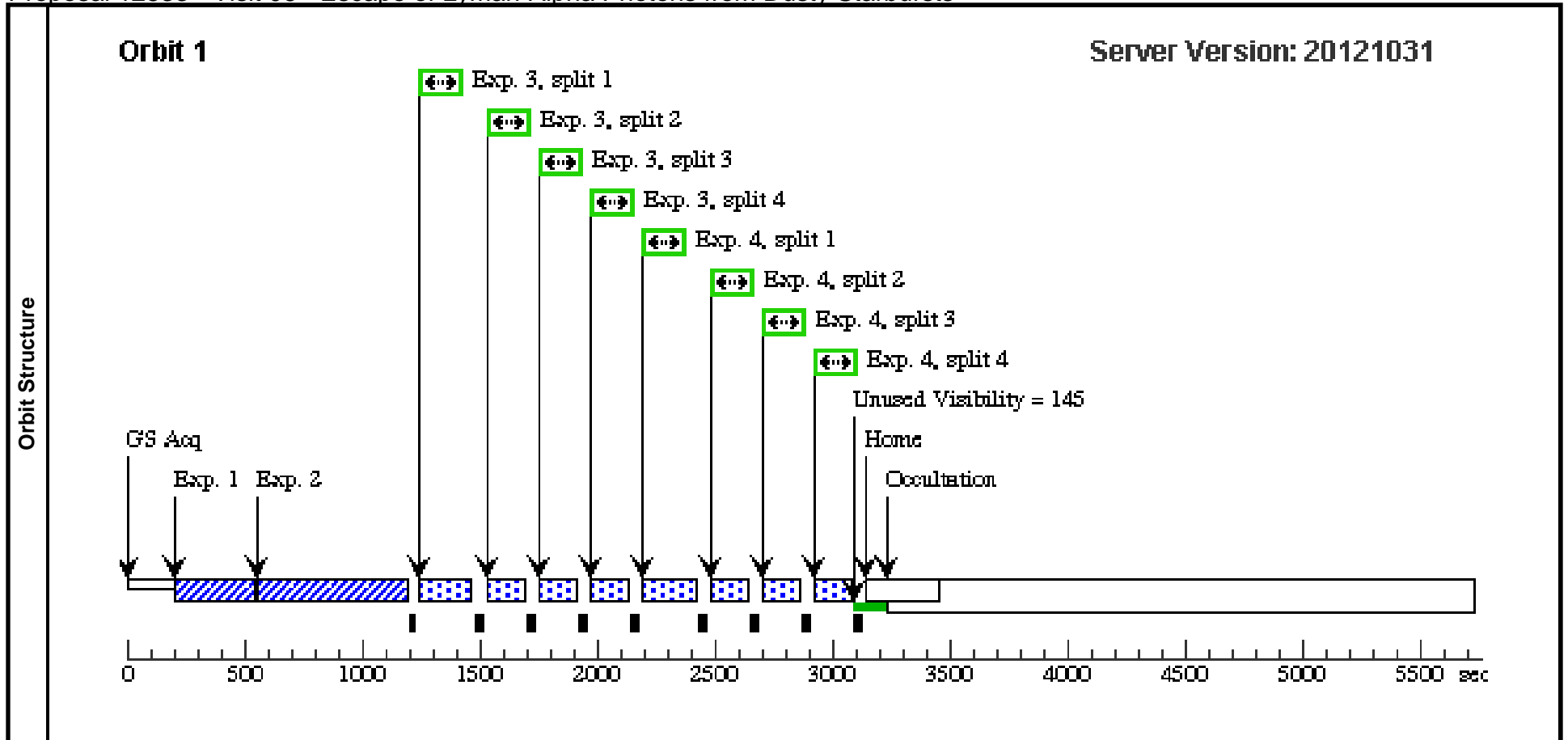
Visit	Proposal 12533, Visit 04, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(4)	IRAS08030+5243	RA: 08 06 50.8856 (121.7120233d) Dec: +52 35 7.70 (52.58547d) Equinox: J2000	Redshift: 0.08350	V=16.4+/-0.4 R=17.0 mNUV=21.783 mFUV=21.168	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#4 ACQ/PEAKXD (COS.sa.186292)	(4) IRAS08030+5243	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 04	358 Secs [==>]	[1]
	2	#4 PEAKD (COS.sa.186292)	(4) IRAS08030+5243	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-WT		Sequence 1-3 Non-Int in Visit 04	358 Secs [==>]	[1]
	3	#4 science (COS.sp.198375)	(4) IRAS08030+5243	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=932; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 04	100 Secs [==>233.0 Secs (Split 1)] [==>233.0 Secs (Split 2)] [==>233.0 Secs (Split 3)] [==>233.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 06 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:05 GMT 2013

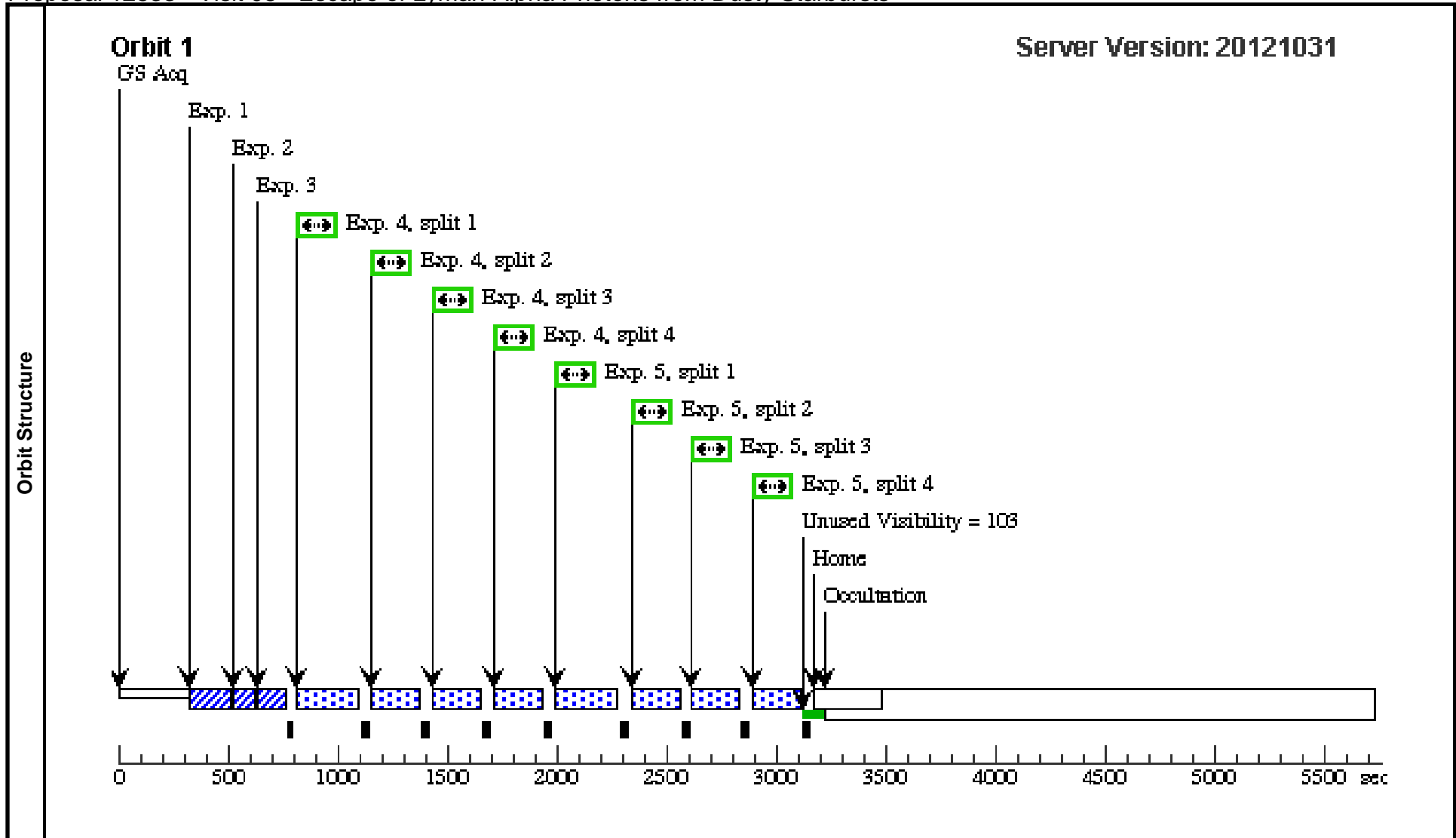
Visit	Proposal 12533, Visit 06, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(6)	IRAS10378+1109	RA: 10 40 29.1743 (160.1215596d) Dec: +10 53 18.17 (10.88838d) Equinox: J2000	Redshift: 0.136238	V=16.6+/-0.3 R=17.0 mNUV=21.042 mFUV=21.221	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#6 ACQ/PEAKXD (COS.sa.186296)	(6) IRAS10378+1109	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 06	180 Secs [==>]	[1]
	2	#6 ACQ/PEAKD (COS.sa.186296)	(6) IRAS10378+1109	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-WT		Sequence 1-4 Non-Int in Visit 06	180 Secs [==>]	[1]
	3	#6 science C EN1291 (COS.sp.198384)	(6) IRAS10378+1109	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=840; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 06	30 Secs [==>105.0 Secs (Split 1)] [==>105.0 Secs (Split 2)] [==>105.0 Secs (Split 3)] [==>105.0 Secs (Split 4)]	[1]
	4	#6 science C EN 1309 (COS.sp.198384)	(6) IRAS10378+1109	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=840; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 06	30 Secs [==>105.0 Secs (Split 1)] [==>105.0 Secs (Split 2)] [==>105.0 Secs (Split 3)] [==>105.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 08 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:07 GMT 2013

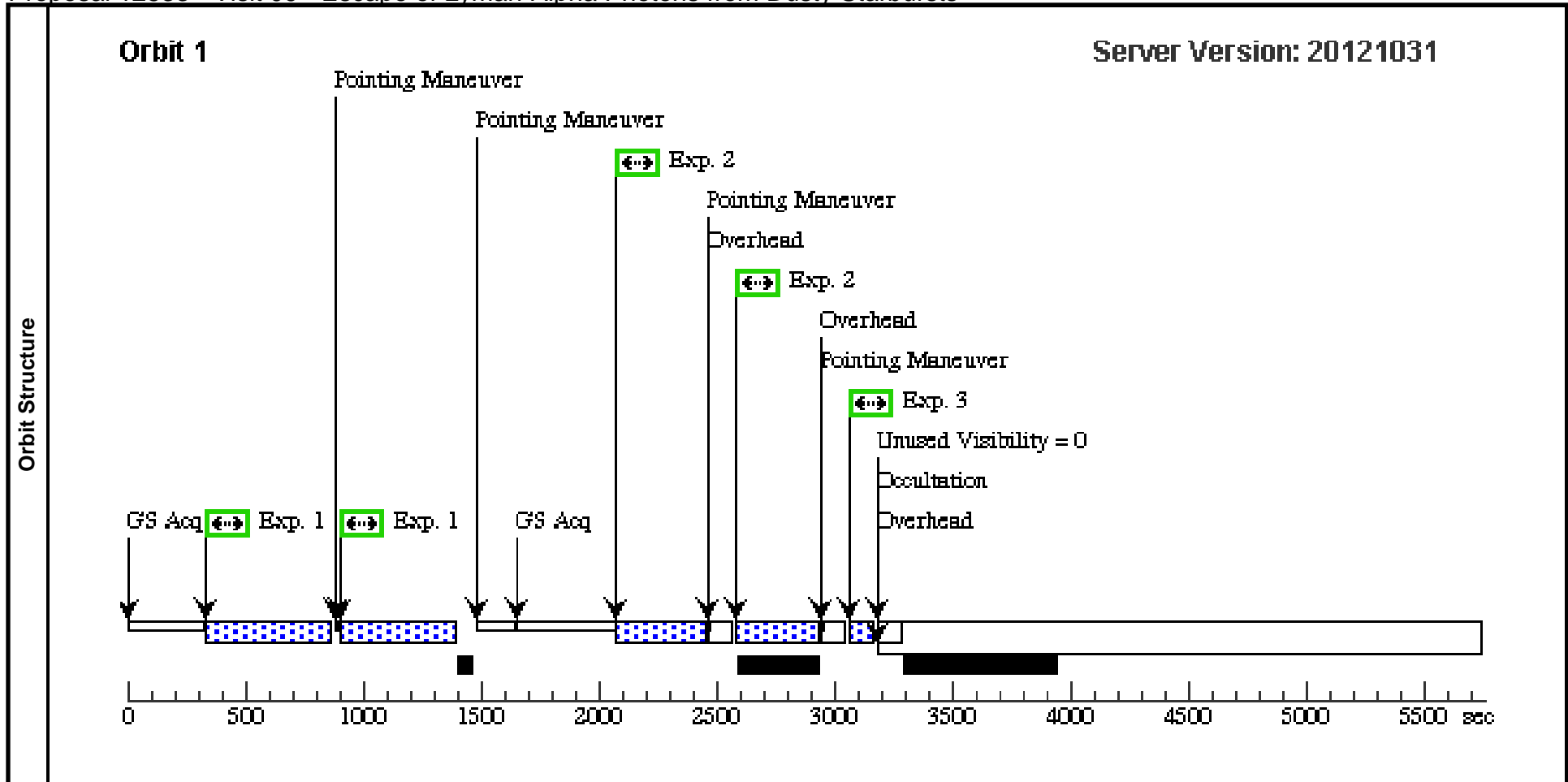
Visit	Proposal 12533, Visit 08, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(8)	IRAS11598-0112	RA: 12 02 26.7505 (180.6114604d) Dec: -01 29 15.49 (-1.48764d) Equinox: J2000	Redshift: 0.150694	V=15.4+/-0.3 R=16.6 mNUV=17.543 mFUV =17.873	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#8 ACQ/SE ARCH (COS.sa.186 302)	(8) IRAS11598-0112	COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.0		Sequence 1-5 Non-Int in Visit 08	10 Secs [==>]	[1]
	2	#8 ACQ/PE AKXD (COS.sa.186 302)	(8) IRAS11598-0112	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 08	10 Secs [==>]	[1]
	3	#8 ACQ/PE AKD (COS.sa.186 302)	(8) IRAS11598-0112	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-5 Non-Int in Visit 08	10 Secs [==>]	[1]
	4	#8 science C EN1309 (COS.sp.198 387)	(8) IRAS11598-0112	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=13 04; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 08	10 Secs [==>163.0 Secs (Split 1)] [==>163.0 Secs (Split 2)] [==>163.0 Secs (Split 3)] [==>163.0 Secs (Split 4)]	[1]
	5	#8 science C EN1327 (COS.sp.198 387)	(8) IRAS11598-0112	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=13 04; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-5 Non-Int in Visit 08	10 Secs [==>163.0 Secs (Split 1)] [==>163.0 Secs (Split 2)] [==>163.0 Secs (Split 3)] [==>163.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 09 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:08 GMT 2013

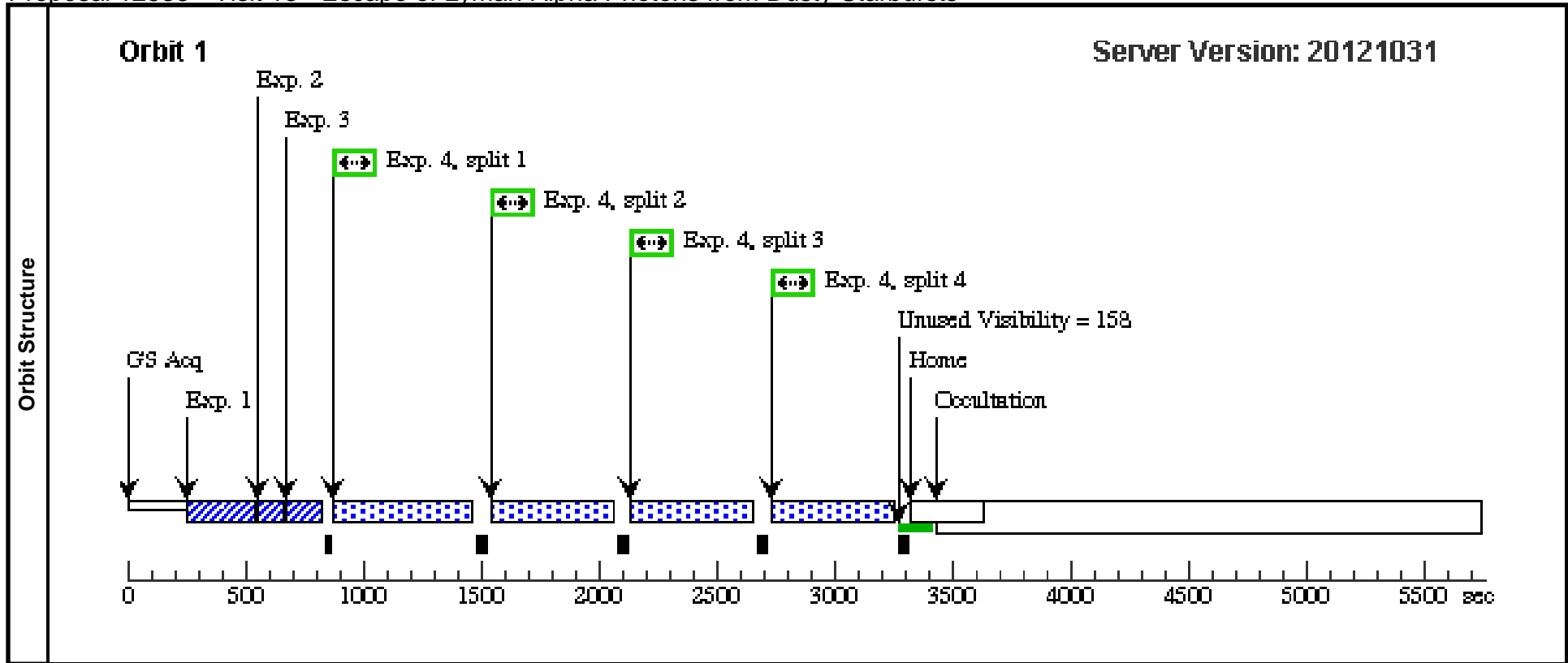
Visit	Proposal 12533, Visit 09, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/SBC Special Requirements: VISIBILITY INTERVAL 53 M									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.472 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)						
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(9)	IRAS12071-0444	RA: 12 09 45.1273 (182.4380304d) Dec: -05 01 13.57 (-5.02044d) Equinox: J2000	Redshift: 0.128355	V=15.6+/-0.3 R=16.6 mNUV=19.459 mFUV=20.82	Reference Frame: ICRS				
<i>Comments: We will obtain a single spectrum for this target. There are two nuclei separated by 0.9"</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(ACS.im.35 2965)	(9) IRAS12071-0444	ACS/SBC, ACCUM, SBC	F125LP			Sequence 1-3 Non-Int in Visit 09	450 Secs	
								Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Visit 09 (1)	[==>467.0 Secs (Pattern 1)] [==>467.0 Secs (Pattern 2)]	[1]
	2	(WFC3UVIS.im.352983)	(9) IRAS12071-0444	WFC3/UVIS, ACCUM, UVIS	F225W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 09	450 Secs	
							Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Visit 09 (2)	[==>352.0 Secs (Pattern 1)] [==>352.0 Secs (Pattern 2)]	[1]	
3		(9) IRAS12071-0444	WFC3/UVIS, ACCUM, UVIS	F625W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 09	75 Secs		
								[==>]	[1]	



Proposal 12533 - Visit 13 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:09 GMT 2013

Visit	Proposal 12533, Visit 13, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(13)	IRAS16487+5447	RA: 16 49 47.0306 (252.4459608d) Dec: +54 42 35.41 (54.70984d) Equinox: J2000	Redshift: 0.1036	V=15.1+/-0.1 R=16.5 mNUV=18.158 mFUV=18.465	Reference Frame: ICRS				
	<i>Comments: We will obtain spectra of two nuclei separated by 3.6".</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#13 ACQ/S EARCH (COS.sa.186 313)	(13) IRAS16487+54 47	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.0		Sequence 1-4 Non-Int in Visit 13	18 Secs [==>]	[1]
	2	#13 ACQ/P EAKXD (COS.sa.186 313)	(13) IRAS16487+54 47	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 13	18 Secs [==>]	[1]
	3	#13 ACQ/P EAKD (COS.sa.186 313)	(13) IRAS16487+54 47	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-4 Non-Int in Visit 13	18 Secs [==>]	[1]
	4	#13 science (COS.sp.198 400)	(13) IRAS16487+54 47	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=18 88; EXTENDED=YES; SEGMENT=BOTH; FP-POS=ALL		Sequence 1-4 Non-Int in Visit 13	10 Secs [==>472.0 Secs (Split 1)] [==>472.0 Secs (Split 2)] [==>472.0 Secs (Split 3)] [==>472.0 Secs (Split 4)]	[1]

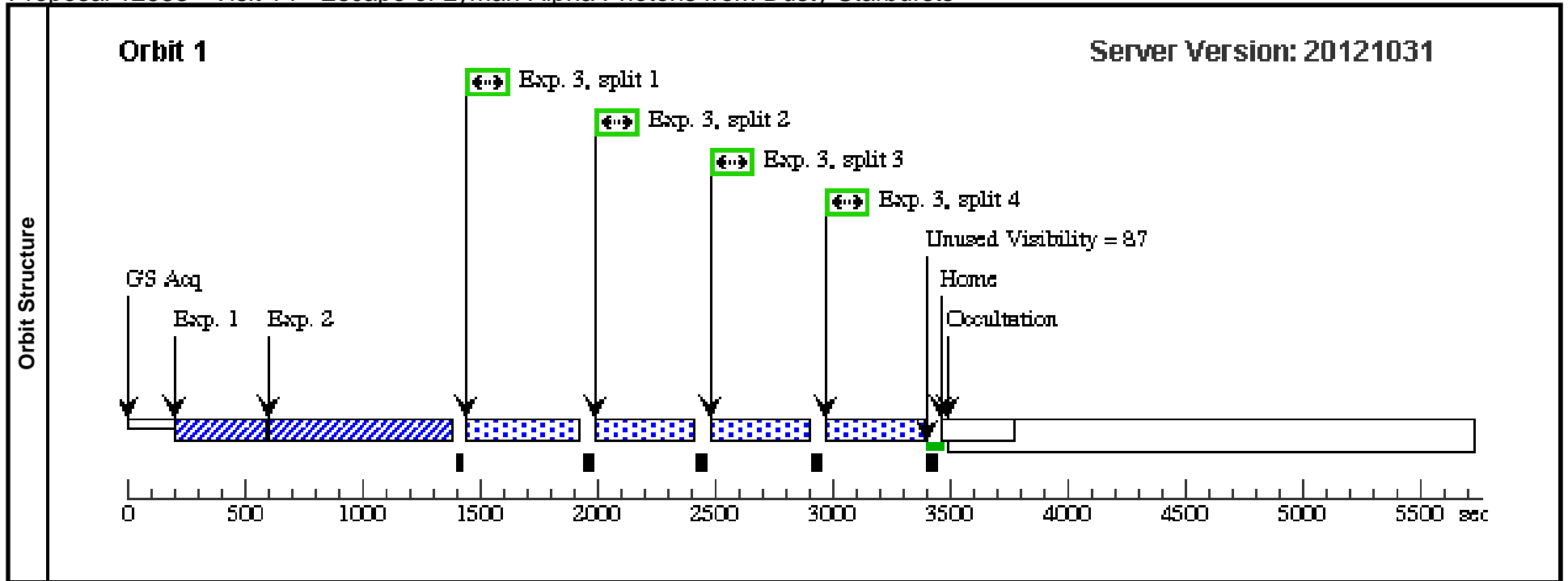


Proposal 12533 - Visit 14 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:10 GMT 2013

Fixed Targets	#		Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(14)	IRAS17028+5817	RA: 17 03 42.0084 (255.9250350d) Dec: +58 13 44.39 (58.22900d) Equinox: J2000	Redshift: 0.10609	V=16.8+/-0.1 R=17.7 mNUV=20.260 mFUV=20.818	Reference Frame: ICRS	<i>Comments: We will obtain spectra of two nuclei separated by 13".</i>

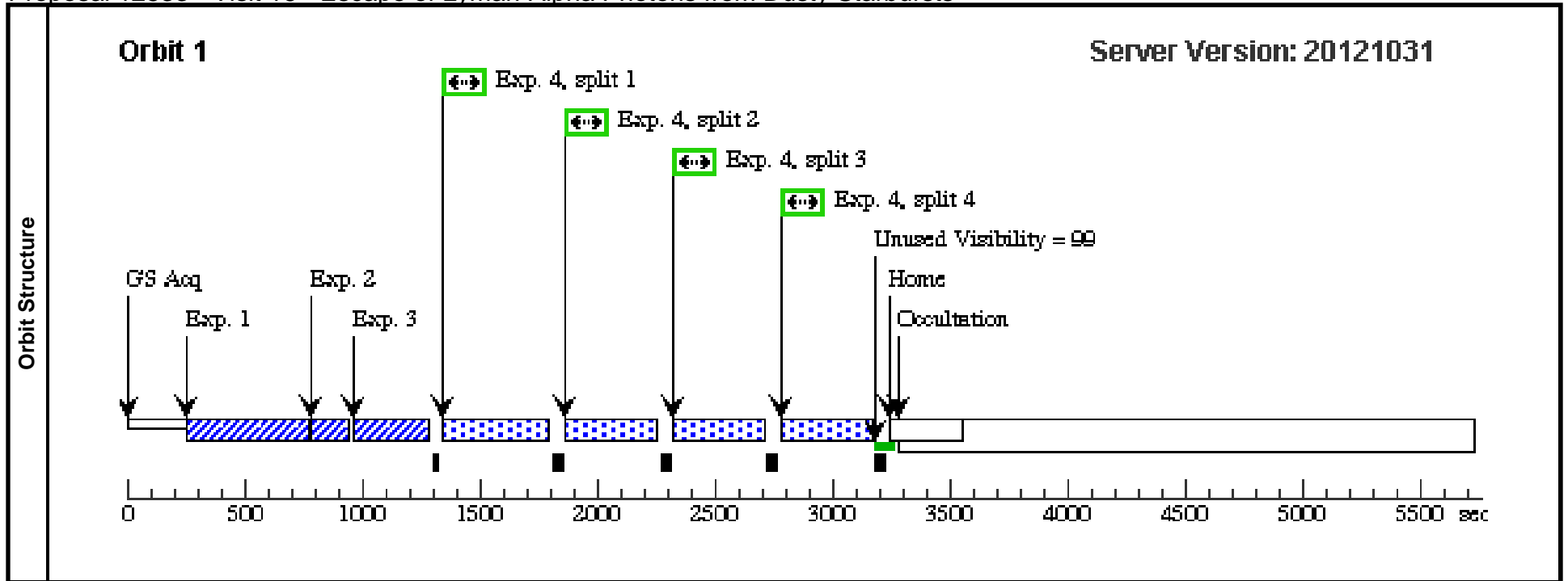
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#14 ACQ/P EAKXD (COS.sa.186 314)	(14) IRAS17028+5817	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 14	229 Secs [==>]	[1]
	2	#14 ACQ/P EAKD (COS.sa.186 314)	(14) IRAS17028+5817	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-3 Non-Int in Visit 14	229 Secs [==>]	[1]
	3	#14 science (COS.sp.198 401)	(14) IRAS17028+5817	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=1456; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 14	10 Secs [==>364.0 Secs (Split 1)] [==>364.0 Secs (Split 2)] [==>364.0 Secs (Split 3)] [==>364.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 16 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:11 GMT 2013

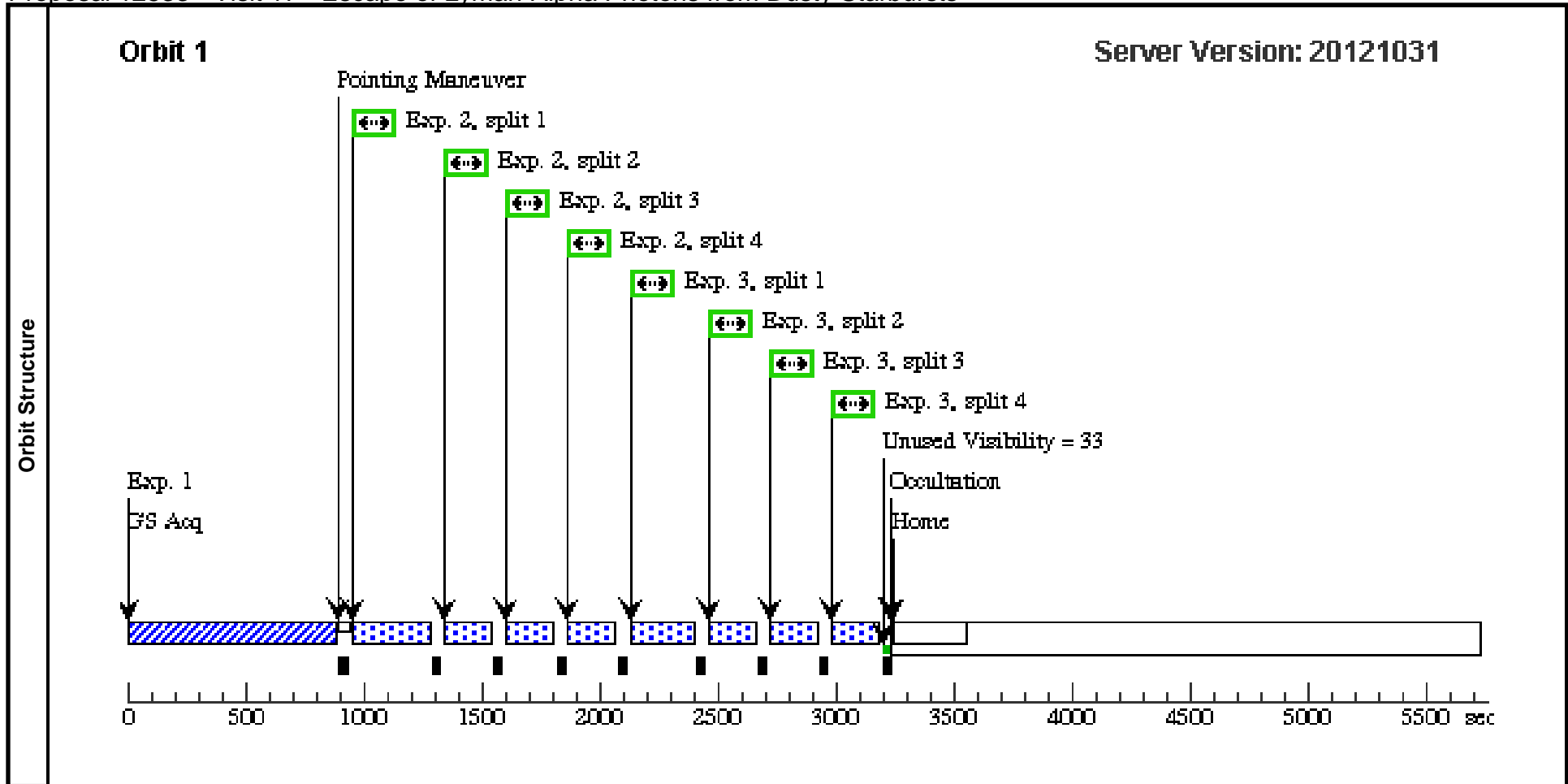
Visit	Proposal 12533, Visit 16, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(16)	IRAS23365+3604	RA: 23 39 1.2726 (354.7553025d) Dec: +36 21 8.45 (36.35235d) Equinox: J2000	Redshift: 0.06448	V=12.4+/-0.4 R=15.0 mNUV=18.907 mFUV=19.878	Reference Frame: ICRS				
	<i>Comments: We will obtain a single spectrum for this target.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#16 ACQ/S EARCH (COS.sa.186 316)	(16) IRAS23365+36 04	COS/FUV, ACQ/SEARCH, PSA	G130M 1327 A	CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH; STEP-SIZE=1.0		Sequence 1-4 Non-Int in Visit 16	76 Secs [==>]	[1]
	2	#16 ACQ/P EAKXD (COS.sa.186 316)	(16) IRAS23365+36 04	COS/FUV, ACQ/PEAKXD, PSA	G130M 1327 A	SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 16	76 Secs [==>]	[1]
	3	#16 ACQ/P EAKD (COS.sa.186 316)	(16) IRAS23365+36 04	COS/FUV, ACQ/PEAKD, PSA	G130M 1327 A	SEGMENT=BOTH; NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T		Sequence 1-4 Non-Int in Visit 16	76 Secs [==>]	[1]
	4	#16 science (COS.sp.198 403)	(16) IRAS23365+36 04	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=14 30; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 16	10 Secs [==>335.0 Secs (Split 1)] [==>335.0 Secs (Split 2)] [==>335.0 Secs (Split 3)] [==>335.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 17 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:12 GMT 2013

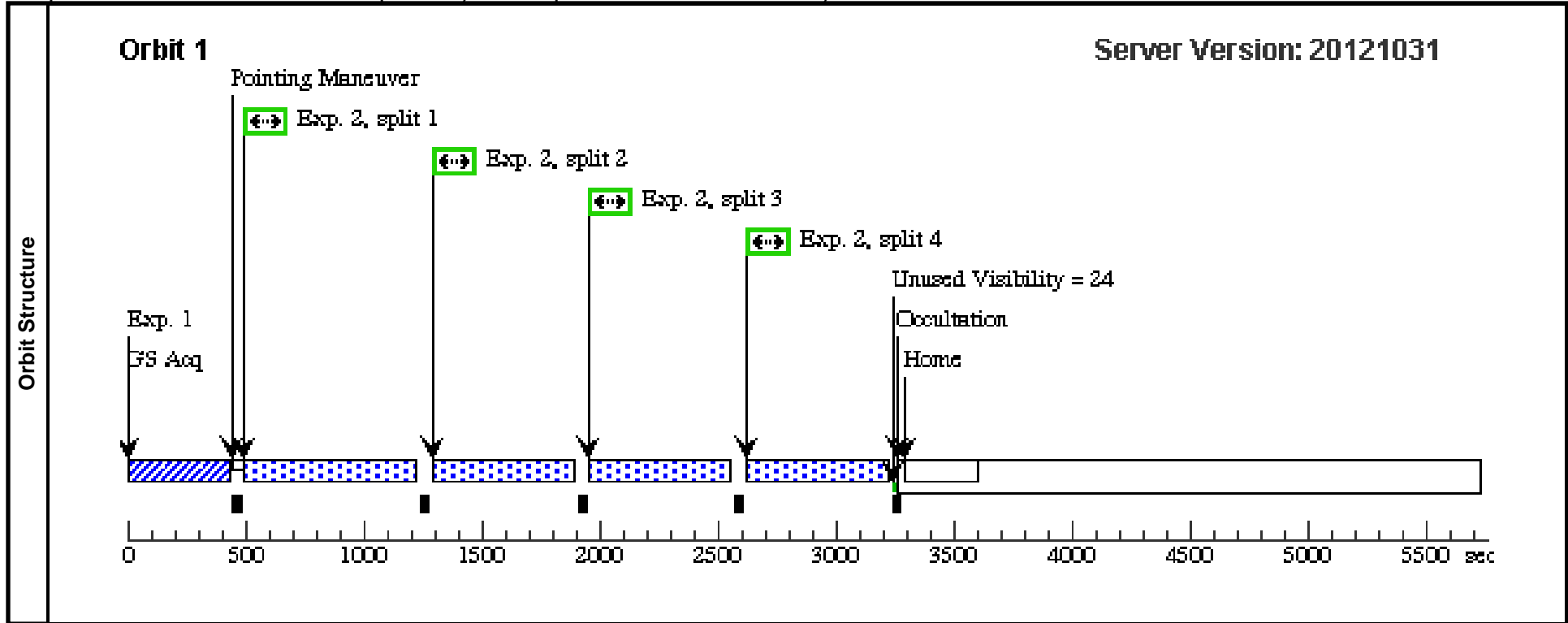
Visit	Proposal 12533, Visit 17, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ON HOLD FOR 09 <i>On Hold Comments: Need to calculate blind offset.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
(17)		IRAS12071-0444-OFFSET Alt Name1: STAR	RA: 12 09 39.6900 (182.4153750d) Dec: -05 00 5.70 (-5.00158d) Equinox: J2000		V=14	Reference Frame: ICRS				
(19)		IRAS12071-0444-TWEAK	RA: 12 09 45.1000 (182.4379167d) Dec: -05 01 13.20 (-5.02033d) Equinox: J2000	Redshift: 0.128355	V=15.6+/-0.3 R=16.6 mNUV=19.459 mFUV=20.82	Reference Frame: ICRS				
<i>Comments: We will obtain a single spectrum for this target. There are two nuclei separated by 0.9"</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ/NUV STAR (COS.ta.417 983)	(17) IRAS12071-044 4-OFFSET	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-3 Non-Int in Visit 17	240 Secs [==>]	[1]
	2	science CEN 1291 IRAS1 207-04 (COS.sp.198 362)	(19) IRAS12071-044 4-TWEAK	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=87 2; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 17	100 Secs [==>147.0 Secs (Split 1)] [==>147.0 Secs (Split 2)] [==>147.0 Secs (Split 3)] [==>147.0 Secs (Split 4)]	[1]
	3	science CEN 1309 IRAS1 207-04 (COS.sp.198 365)	(19) IRAS12071-044 4-TWEAK	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=87 2; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-3 Non-Int in Visit 17	100 Secs [==>147.0 Secs (Split 1)] [==>147.0 Secs (Split 2)] [==>147.0 Secs (Split 3)] [==>147.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 24 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:13 GMT 2013

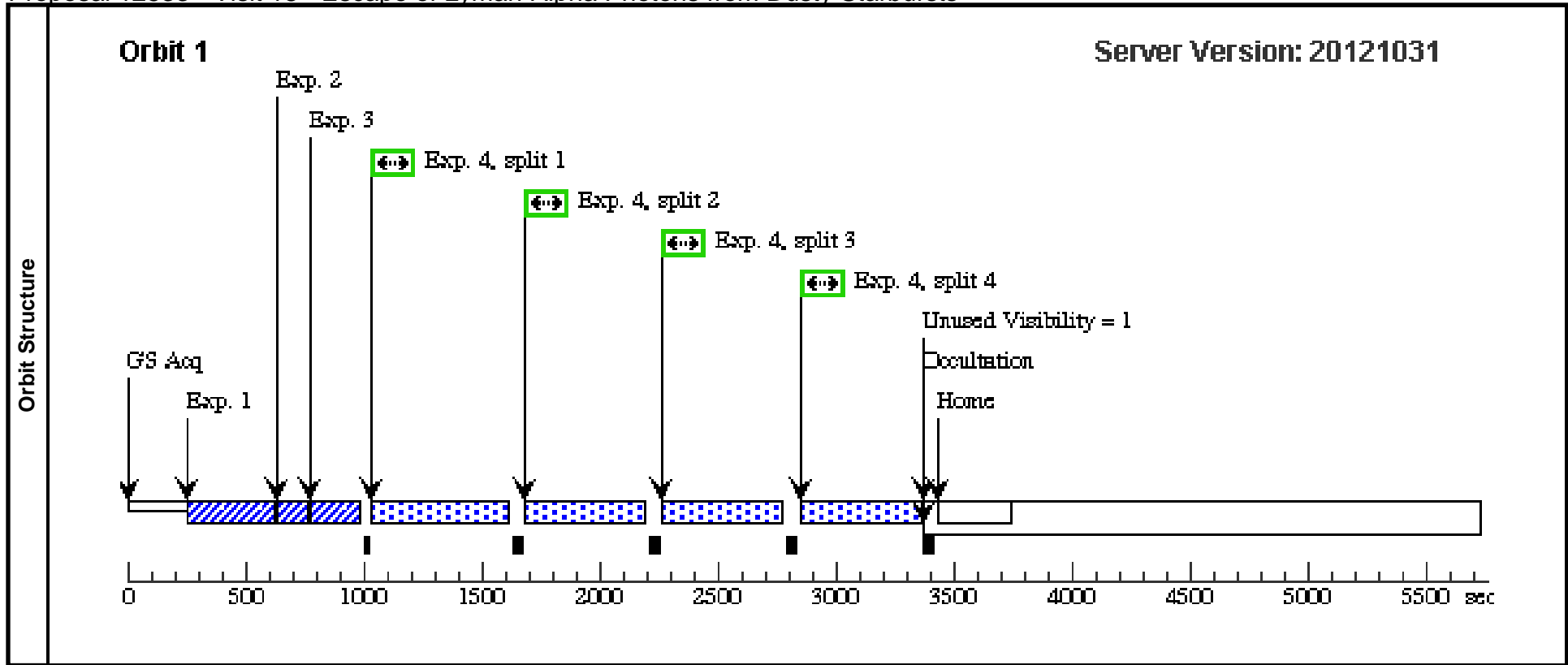
Visit	Proposal 12533, Visit 24, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ON HOLD FOR 22 <i>On Hold Comments: Need to calculate blind offset.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(22)	IRAS16474+3430-OFFSET	RA: 16 49 14.2060 (252.3091917d) Dec: +34 23 27.77 (34.39105d) Equinox: J2000		V=14 m_nuv=18.56	Reference Frame: ICRS				
	(23)	IRAS16474+3430-TWEAK	RA: 16 49 14.2380 (252.3093250d) Dec: +34 25 8.68 (34.41908d) Equinox: J2000		V=18	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ/NUV STAR (COS.ta.448 880)	(22) IRAS16474+34 30-OFFSET	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-2 Non-Int in Visit 24	12 Secs [==>]	[1]
	2	science CEN 1291 IRAS1 6474+3430 (COS.sp.198 399)	(23) IRAS16474+34 30-TWEAK	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=40 00; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-2 Non-Int in Visit 24	551 Secs [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]



Proposal 12533 - Visit 18 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:14 GMT 2013

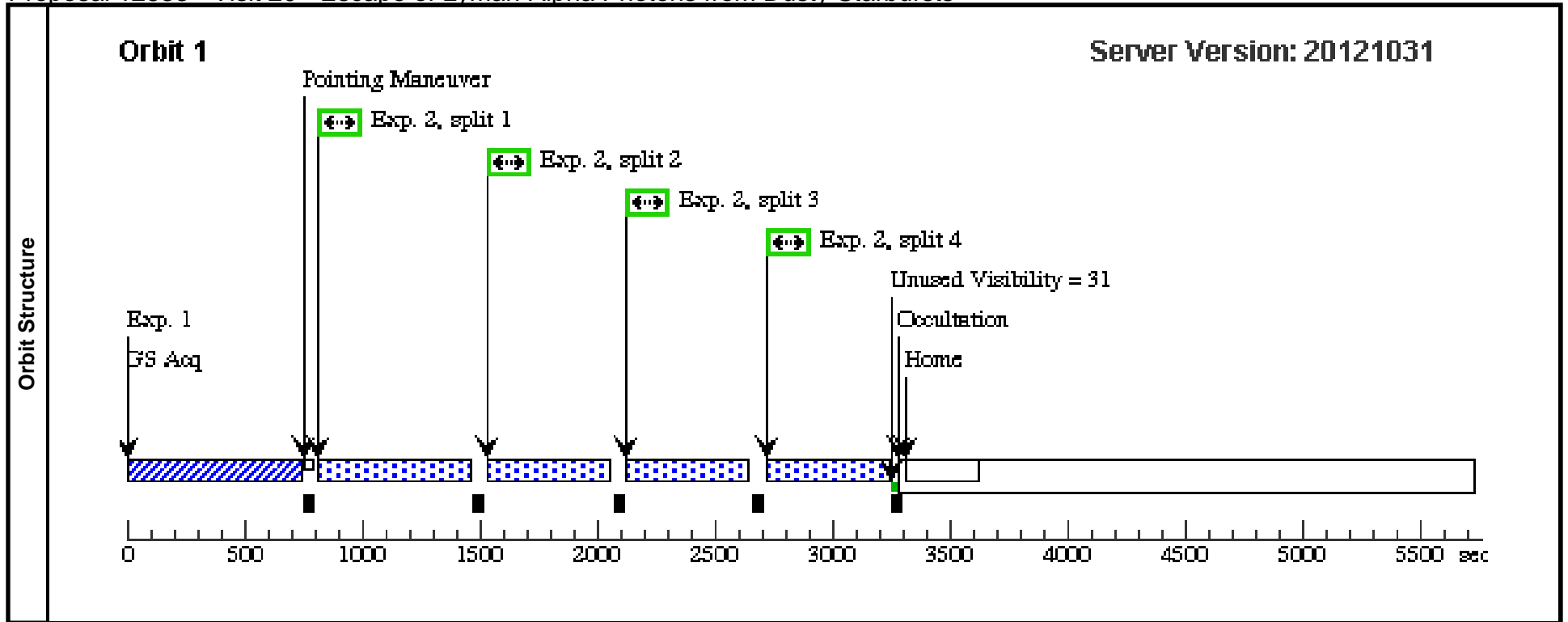
Visit	Proposal 12533, Visit 18, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV Special Requirements: ON HOLD FOR 21 <i>On Hold Comments: Need to calculate blind offset from images.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(18)	IRAS09583+4714-POSB	RA: 10 01 30.4490 (150.3768708d) Dec: +46 59 51.74 (46.99771d) Equinox: J2000		V=14	Reference Frame: ICRS				
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	#18 IRAS09583+4714-P OSB ACQ/S EARCH (COS.sa.186 284)	(18) IRAS09583+4714-POSB	COS/FUV, ACQ/SEARCH, PSA	G130M 1291 A	STEP-SIZE=1.0; CENTER=FLUX-W T; SCAN-SIZE=2; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 18	38 Secs [==>]	[1]
	2	#18 IRAS09583+4714-P OSB ACQ/P EAKXD (COS.sa.186 284)	(18) IRAS09583+4714-POSB	COS/FUV, ACQ/PEAKXD, PSA	G130M 1291 A	SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 18	38 Secs [==>]	[1]
	3	#18 IRAS09583+4714-P OSB ACQ/P EAKD (COS.sa.186 284)	(18) IRAS09583+4714-POSB	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=3; STEP-SIZE=1.118; CENTER=FLUX-W T; SEGMENT=BOTH		Sequence 1-4 Non-Int in Visit 18	38 Secs [==>]	[1]
	4	#18 science IRAS0958+47POSB (COS.sp.198 376)	(18) IRAS09583+4714-POSB	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=17 36; EXTENDED=YES; SEGMENT=BOTH; FP-POS=ALL		Sequence 1-4 Non-Int in Visit 18	100 Secs [==>458.0 Secs (Split 1)] [==>458.0 Secs (Split 2)] [==>458.0 Secs (Split 3)] [==>458.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 20 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:14 GMT 2013

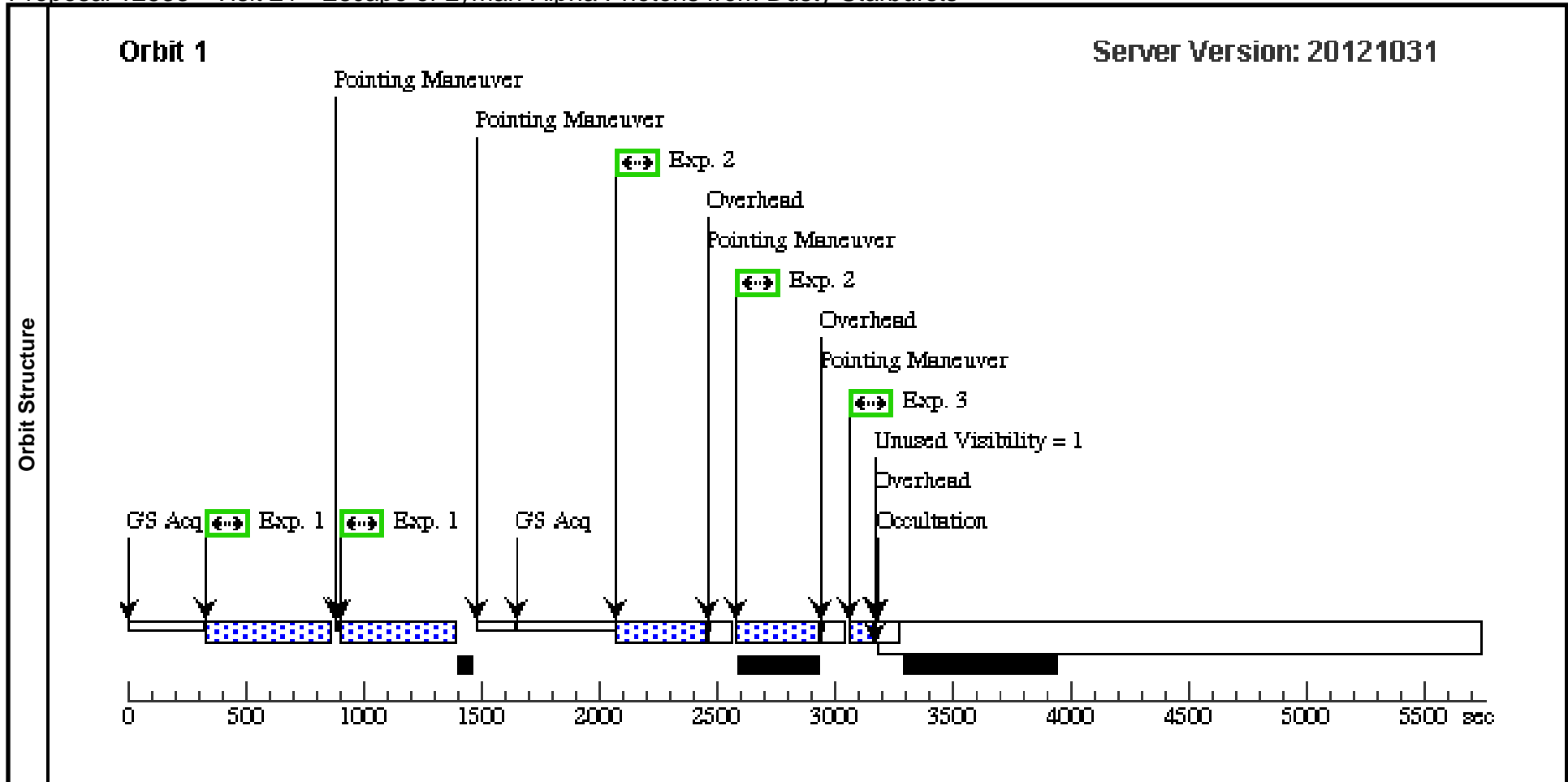
Visit	Proposal 12533, Visit 20, completed Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV, COS/FUV Special Requirements: ON HOLD FOR 23 <i>On Hold Comments: Need to calculate blind offset.</i>									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
(20)		IRAS23365+3604-OFFSET	RA: 23 39 2.7210 (354.7613375d) Dec: +36 22 23.47 (36.37319d) Equinox: J2000	Redshift: 0.06448	V=12+/-4 mNUV=21.6	Reference Frame: ICRS				
<i>Comments: We will offset from the alignment star to a UV bright knot SW of the IRAS23365+3604.</i>										
(21)	IRAS23365+3604-TWEAK	RA: 23 39 1.2290 (354.7551208d) Dec: +36 21 8.03 (36.35223d) Equinox: J2000	Redshift: 0.06448	V=12.4+/-0.4 R=15.0 mNUV=18.907 mFUV=19.878	Reference Frame: ICRS					
<i>Comments: We will obtain a single spectrum for this UV bright knot.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	ACQ/NUV STAR (cos.ta.436382)	(20) IRAS23365+3604-OFFSET	COS/NUV, ACQ/IMAGE, PSA	MIRRORA			Sequence 1-2 Non-Int in Visit 20	169 Secs [==>]	[1]
	2	#16 science 2336+36 (COS.sp.198403)	(21) IRAS23365+3604-TWEAK	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=1430; EXTENDED=YES; FP-POS=ALL; SEGMENT=BOTH		Sequence 1-2 Non-Int in Visit 20	10 Secs [==>469.0 Secs (Split 1)] [==>469.0 Secs (Split 2)] [==>469.0 Secs (Split 3)] [==>469.0 Secs (Split 4)]	[1]



Proposal 12533 - Visit 21 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:15 GMT 2013

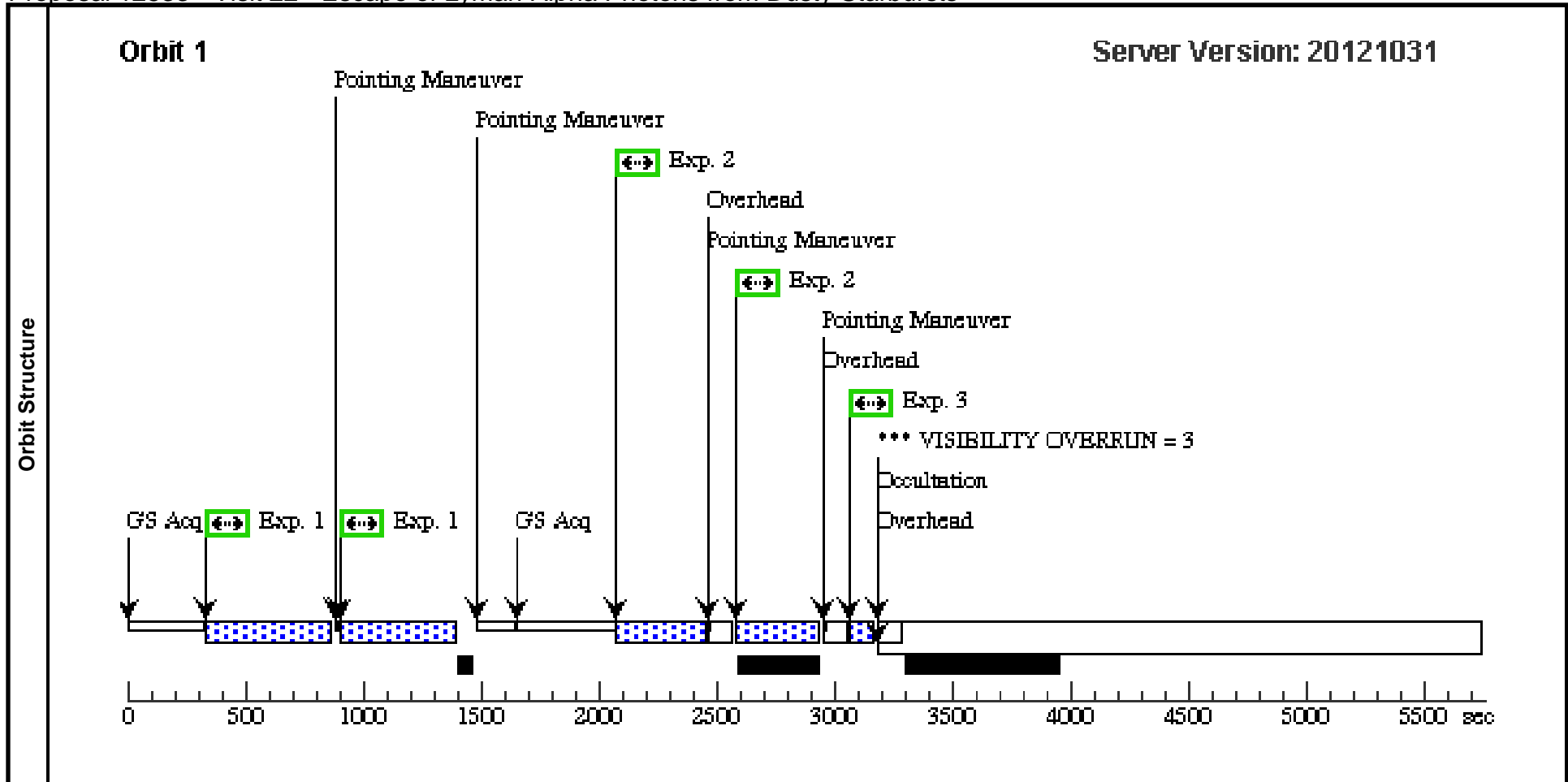
Visit	Proposal 12533, Visit 21, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/SBC Special Requirements: VISIBILITY INTERVAL 53 M									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.472 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)						
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(5)	IRAS09583+4714	RA: 10 01 31.1960 (150.3799833d) Dec: +46 59 46.68 (46.99630d) Equinox: J2000	Redshift: 0.0858861	V=15.9+/-0.4 R=16.3 mNUV=18.463 mFUV=19.091	Reference Frame: ICRS				
<i>Comments: We will obtain spectra of two nuclei separated by ~9".</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(ACS.im.35 2965)	(5) IRAS09583+4714 4	ACS/SBC, ACCUM, SBC	F125LP			Sequence 1-3 Non-Int in Visit 21	450 Secs	
								Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Visit 21 (1)	[==>467.0 Secs (Pattern 1)] [==>467.0 Secs (Pattern 2)]	[1]
	2	(WFC3UVIS.im.352983 4)	(5) IRAS09583+4714 4	WFC3/UVIS, ACCUM, UVIS	F225W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 21	450 Secs	
							Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Visit 21 (2)	[==>352.0 Secs (Pattern 1)] [==>352.0 Secs (Pattern 2)]	[1]	
3		(5) IRAS09583+4714 4	WFC3/UVIS, ACCUM, UVIS	F625W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 21	75 Secs		
								[==>]	[1]	



Proposal 12533 - Visit 22 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:16 GMT 2013

Visit	Proposal 12533, Visit 22, completed Diagnostic Status: Warning Scientific Instruments: WFC3/UVIS, ACS/SBC Special Requirements: VISIBILITY INTERVAL 53 M										
	(Visit 22) Warning (Orbit Planner): VISIBILITY OVERRUN										
Diagnosics											
Patterns	#	Primary Pattern				Secondary Pattern				Exposures	
	(1)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.472 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false				(1)	
Patterns	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing=				Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false				(2)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous					
	(12)	IRAS16474+3430	RA: 16 49 14.2217 (252.3092571d) Dec: +34 25 9.56 (34.41932d) Equinox: J2000	Redshift: 0.11147	V=14.0+/-0.3 R=16.5 mNUV=18.391 mFUV=18.929	Reference Frame: ICRS					
Comments: We will obtain spectra of two nuclei separated by 3.6".											
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	(ACS.im.35 2965)	(12) IRAS16474+34 30	ACS/SBC, ACCUM, SBC	F125LP			Sequence 1-3 Non-Int in Visit 22	450 Secs		
								Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Visit 22 (1)	[==>467.0 Secs (Pattern 1)] [==>467.0 Secs (Pattern 2)]	[1]	
	2	(WFC3UVIS.im.352983)	(12) IRAS16474+34 30	WFC3/UVIS, ACCUM, UVIS	F225W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 22	450 Secs		
							Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Visit 22 (2)	[==>355.0 Secs (Pattern 1)] [==>355.0 Secs (Pattern 2)]	[1]		
3		(12) IRAS16474+34 30	WFC3/UVIS, ACCUM, UVIS	F625W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 22	75 Secs			
							[==>]		[1]		



Proposal 12533 - Visit 23 - Escape of Lyman-Alpha Photons from Dusty Starbursts

Thu Mar 14 01:04:17 GMT 2013

Visit	Proposal 12533, Visit 23, completed Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/UVIS, ACS/SBC Special Requirements: VISIBILITY INTERVAL 53 M									
	#	Primary Pattern	Secondary Pattern	Exposures						
Patterns	(1)	Pattern Type=ACS-SBC-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.472 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=44.4 Angle Between Sides= Center Pattern=false		(1)						
	(2)	Pattern Type=WFC3-UVIS-DITHER-LINE Purpose=DITHER Number Of Points=2 Point Spacing=0.145 Line Spacing= Coordinate Frame=POS-TARG Pattern Orientation=46.84 Angle Between Sides= Center Pattern=false		(2)						
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(16)	IRAS23365+3604	RA: 23 39 1.2726 (354.7553025d) Dec: +36 21 8.45 (36.35235d) Equinox: J2000	Redshift: 0.06448	V=12.4+/-0.4 R=15.0 mNUV=18.907 mFUV=19.878	Reference Frame: ICRS				
<i>Comments: We will obtain a single spectrum for this target.</i>										
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	(ACS.im.352965)	(16) IRAS23365+3604	ACS/SBC, ACCUM, SBC	F125LP			Sequence 1-3 Non-Int in Visit 23	450 Secs	
								Pattern 1, Exps 1-1 in Sequence 1-3 Non-Int in Visit 23 (1)	[==>467.0 Secs (Pattern 1)] [==>467.0 Secs (Pattern 2)]	[1]
	2	(WFC3UVIS.im.352983)	(16) IRAS23365+3604	WFC3/UVIS, ACCUM, UVIS	F225W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 23	450 Secs	
							Pattern 2, Exps 2-2 in Sequence 1-3 Non-Int in Visit 23 (2)	[==>352.0 Secs (Pattern 1)] [==>352.0 Secs (Pattern 2)]	[1]	
3		(16) IRAS23365+3604	WFC3/UVIS, ACCUM, UVIS	F625W		POS TARG 0,-50	Sequence 1-3 Non-Int in Visit 23	76 Secs		
								[==>]	[1]	

