



# 14910 - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Field Calibration

Cycle: 24, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

## INVESTIGATORS

<i>Name</i>	<i>Institution</i>	<i>E-Mail</i>
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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) WD0308-565	COS/FUV COS/NUV	3	01-Mar-2017 21:03:45.0	yes
02	(1) WD0308-565	COS/FUV COS/NUV	3	01-Mar-2017 21:03:49.0	yes
03	(1) WD0308-565	COS/FUV COS/NUV	5	01-Mar-2017 21:03:53.0	yes
04	(1) WD0308-565	COS/FUV COS/NUV	4	01-Mar-2017 21:03:57.0	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>
05	(2) GD71	COS/FUV COS/NUV	4	01-Mar-2017 21:04:01.0	yes

19 Total Orbits Used

### **ABSTRACT**

Obtain observations of spectrophotometric white dwarf standard stars at all cenwaves (excepting G130M/1055 and G130M/1096) and FP-POS to determine flux calibrations to  $S/N > 30$  and concurrently, the 1-D L- and P-flat templates, and 2-D cross-dispersion profiles required for improved extraction, at LP4. This program ties the spectroscopic sensitivity monitoring at LP4 with that at LP3, in case rapid evolution of gain at LP4 is discovered in coordination with program 14854.

The main requirements for this program are  $S/N \sim 50/\text{resel}$ , which is driven by two requirements: (1) for high  $S/N$  2-D spectral profiles which are calculated by scaling Program 12806 profiles and requiring that profile contours can be located such that flux errors are less than 1-2%, and (2) for the flat fielding of pixel-to-pixel variations (p-flats). WD 0308-565 is the primary target for this program due to its status as a flux standard and TDS target. GD 71 is used to more efficiently calibrate Segment A in the G160M modes.

### **OBSERVING DESCRIPTION**

This program is a near copy of programs 12806 and 13932 for the second and third lifetime position respectively. Unlike program 12806, there is no TDS transfer observations due to the fact that the current TDS targets are retained (program 14854). Similar to program 13932, we use longer exposure times for G130M/1222, G140L/1280,1105, and G160M/1577,1589,1600,1611,1623. These longer exposure times are primarily driven by the requirements for high quality 2-D profiles for 2 zone extraction, as well as a slightly fainter G160M target compared to program 12806, WD 0308-565. Since the flux of the WD is well known, we select approximately 85% factor for the buffer time. This worked well in programs 13932 and 13618.

In addition, the following changes are made compared to the previous two programs:

- (1) All visits go to LP4 via the selection of the Lifetime Position=LP4 optional parameter. No special commanding (including HV, focus, and aperture)
- (2) Removed the PEAKD check, as the PEAKD has not been checked at LP4 and thus the NUV imaging ACQ is better.
- (3) NUV imaging ACQ for GD71 even though it takes a while since PEAKXD and PEAKD are not verified at LP4, and may be less reliable.

Proposal 14910 (STScI Edit Number: 2, Created: Wednesday, March 1, 2017 9:04:03 PM EST) - Overview

(4) Increased exposure times based on TDS monitoring

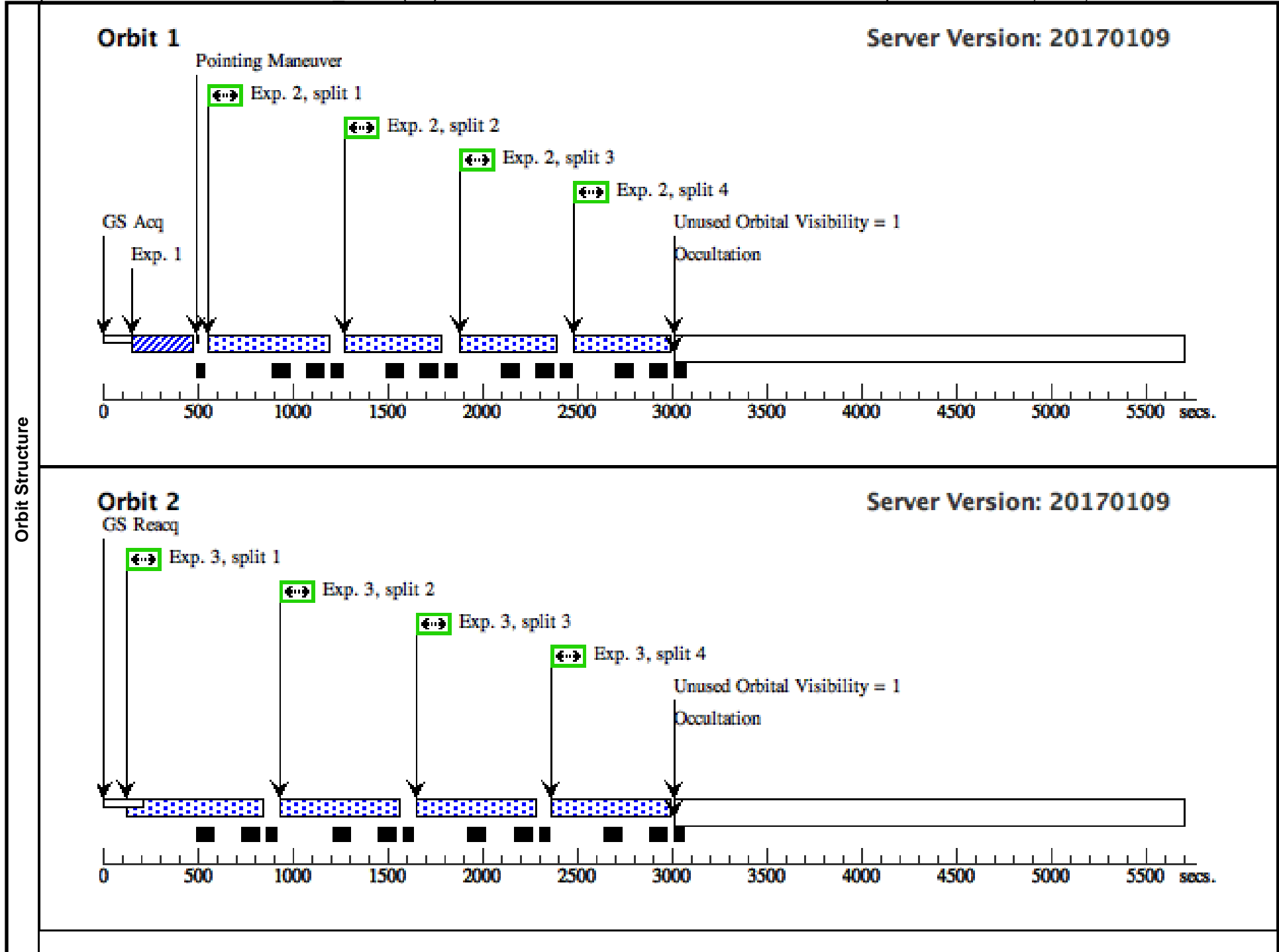
(5) Modified buffer times to minimize buffer readout time between exposures in order to fit longer integration.

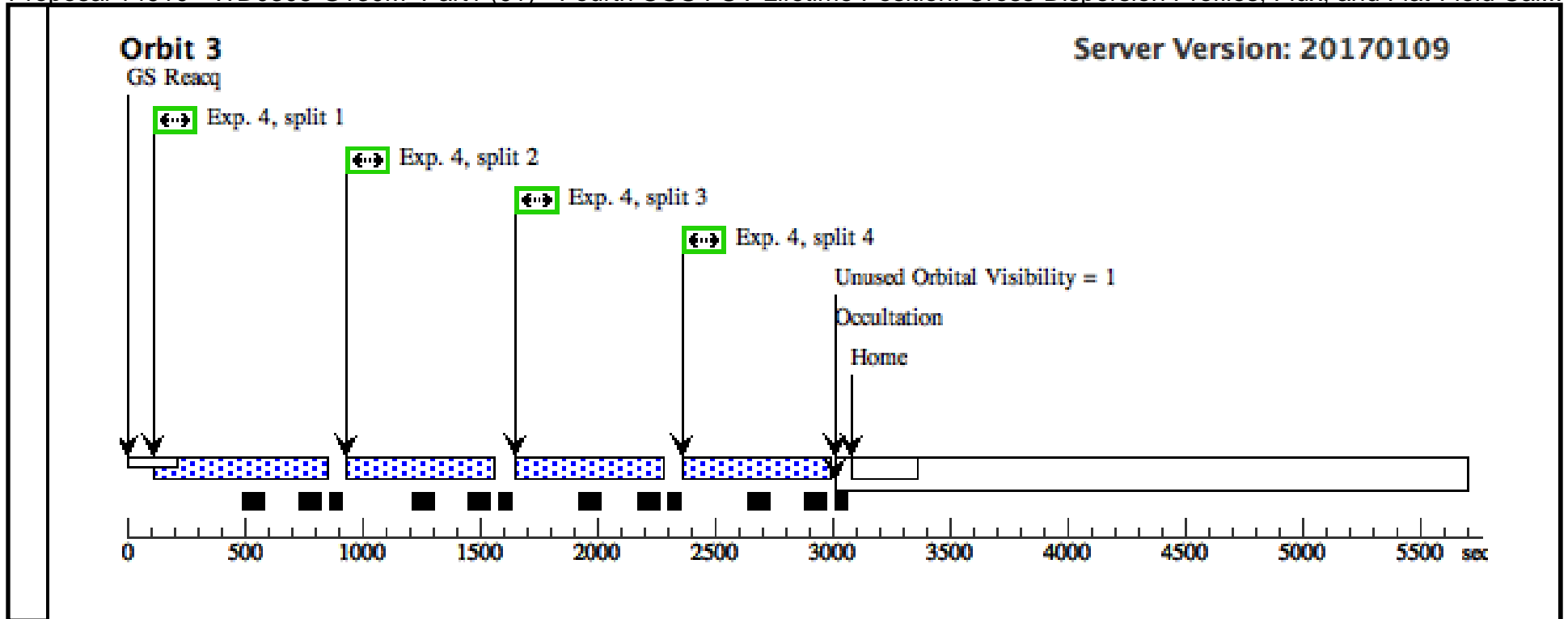
Program 14854 visits 8 and 9 will be tied to this program. Specifically, we need these visits in program 14854 to be tied to within one week of visit 5 of this program.

Proposal 14910 - WD0308-G130M Part1 (01) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Field Cal...

Thu Mar 02 02:04:03 GMT 2017

Visit	<b>Proposal 14910, WD0308-G130M_Part1 (01), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 100%; BETWEEN 10-APR-2017:00:00:00 AND 08-MAY-2017:00:00:00 Comments: p-flats/profiles for G130M/ 1222, 1291, 1327 Target WD 0308-565  Goal is S/N~50/resel over majority of bandpass  Should execute within 1 week of visit 8 of 14854												
	Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>WD0308-565</td> <td>RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000</td> <td>Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000</td> <td>V=14.07+/-0.02</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> Comments: Coordinates from Charle's proposal Extended=NO	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000	Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000	V=14.07+/-0.02
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous								
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000	Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000	V=14.07+/-0.02	Reference Frame: ICRS								
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit			
	1	ACQ/IM (COS.ta.904 484)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1B3		45 Secs (45 Secs) [==>]	[1]			
	2	G130M/129 1 (COS.sp.905 896)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=ALL; LIFETIME-POS=L P4; BUFFER-TIME=18 2			462 Secs (1848 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]			
	Comments: Ideal exposure time: 466s/exposure (1864s). However, reducing to fit in orbit: 462s/exp (1848) ETC Buffer: 329. 85% of buffer=279. However, n-100/m -> 183s buffer (3 reads, to minimize buffer between exposures) So trimmed 16s off of ideal exposure time.												
	3	G130M/122 2 (COS.sp.905 894)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1222 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]			
Comments: Ideal exposure time: 515/exposure (2060s). However, leftover time so increasing: 582/exp (2328s) ETC Buffer: 390. 85% of buffer=331. However, n-100/m -> 241s buffer (3 reads, to minimize buffer between exposures)													
4	G130M/132 7 (COS.sp.905 905)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1327 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[3]				
Comments: Ideal exposure time: 521/exposure (2084). However, leftover time so increasing: 582/exp (2328s) ETC Buffer: 332. 85% of buffer=282. However, n-100/m -> 241s buffer (3 reads, to minimize buffer between exposures)													

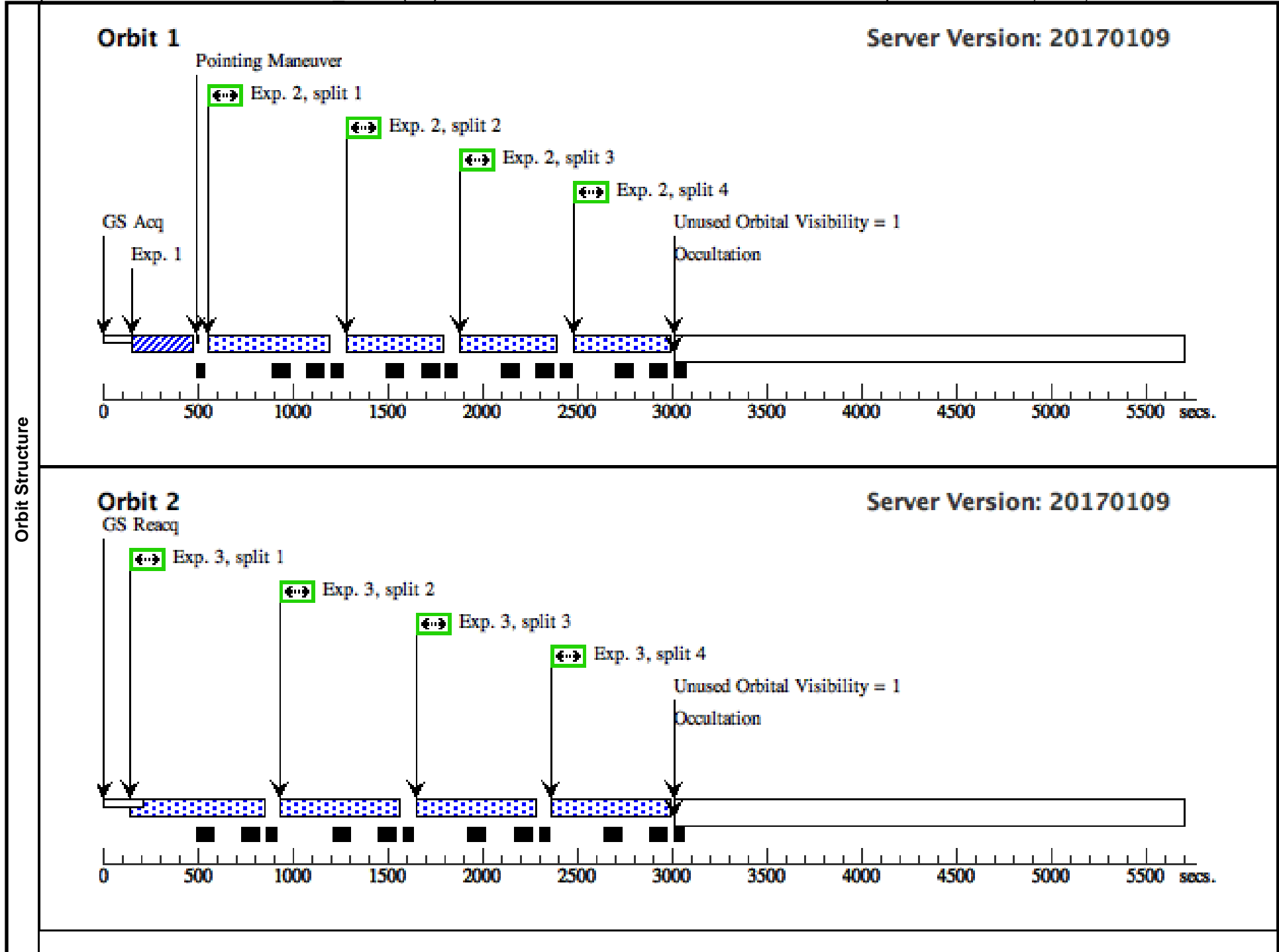




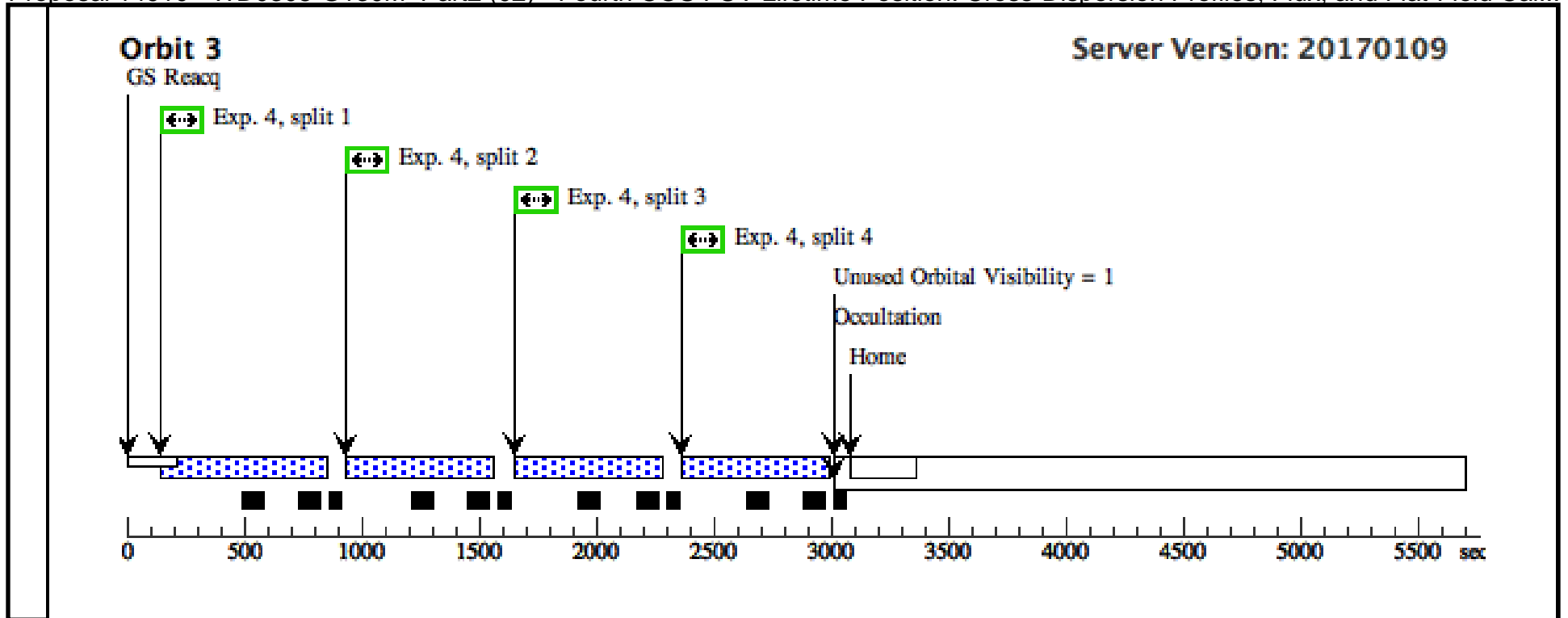
Proposal 14910 - WD0308-G130M Part2 (02) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Field Cal...

Thu Mar 02 02:04:03 GMT 2017

Visit	<b>Proposal 14910, WD0308-G130M_Part2 (02), implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 100%; AFTER 10-APR-2017:00:00:00; GROUP 02,01 WITHIN 7D Comments: Continuation of Visit 1 p-flats/profiles for G130M/ 1300, 1309, 1318 Target WD 0308-565 Goal is S/N~50/resel over majority of bandpass																																																		
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Exposures	<table border="1"> <thead> <tr> <th>#</th> <th>Label (ETC Run)</th> <th>Target</th> <th>Config,Mode,Aperture</th> <th>Spectral Els.</th> <th>Opt. Params.</th> <th>Special Reqs.</th> <th>Groups</th> <th>Exp. Time (Total)/[Actual Dur.]</th> <th>Orbit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>ACQ/IM (COS.ta.904 484)</td> <td>(1) WD0308-565</td> <td>COS/NUV, ACQ/IMAGE, BOA</td> <td>MIRRORA</td> <td></td> <td>GS ACQ SCENARI O BASE1B3</td> <td></td> <td>45 Secs (45 Secs) [==&gt;]</td> <td>[1]</td> </tr> <tr> <td>2</td> <td>G130M/1300 (COS.sp.905 898)</td> <td>(1) WD0308-565</td> <td>COS/FUV, TIME-TAG, PSA</td> <td>G130M 1300 A</td> <td>FP-POS=ALL; BUFFER-TIME=18 1; LIFETIME-POS=L P4</td> <td></td> <td></td> <td>461 Secs (1844 Secs) [==&gt;(Split 1)] [==&gt;(Split 2)] [==&gt;(Split 3)] [==&gt;(Split 4)]</td> <td>[1]</td> </tr> <tr> <td>3</td> <td>G130M/1309 (COS.sp.905 900)</td> <td>(1) WD0308-565</td> <td>COS/FUV, TIME-TAG, PSA</td> <td>G130M 1309 A</td> <td>FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4</td> <td></td> <td></td> <td>582 Secs (2328 Secs) [==&gt;(Split 1)] [==&gt;(Split 2)] [==&gt;(Split 3)] [==&gt;(Split 4)]</td> <td>[2]</td> </tr> <tr> <td>4</td> <td>G130M/1318 (COS.sp.905 903)</td> <td>(1) WD0308-565</td> <td>COS/FUV, TIME-TAG, PSA</td> <td>G130M 1318 A</td> <td>FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4</td> <td></td> <td></td> <td>582 Secs (2328 Secs) [==&gt;(Split 1)] [==&gt;(Split 2)] [==&gt;(Split 3)] [==&gt;(Split 4)]</td> <td>[3]</td> </tr> </tbody> </table> Comments: Ideal exposure time: 467/exposure (1868s). However, reducing to fit in orbit: 461/exp (1844s) ETC Buffer: 328. 85% of buffer=279. However, n-100/m -> 181s buffer (3 reads, to minimize buffer between exposures) So trimmed 24s off of ideal exposure time.	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	1	ACQ/IM (COS.ta.904 484)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1B3		45 Secs (45 Secs) [==>]	[1]	2	G130M/1300 (COS.sp.905 898)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1300 A	FP-POS=ALL; BUFFER-TIME=18 1; LIFETIME-POS=L P4			461 Secs (1844 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]	3	G130M/1309 (COS.sp.905 900)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]	4	G130M/1318 (COS.sp.905 903)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1318 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[3]
	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit																																									
	1	ACQ/IM (COS.ta.904 484)	(1) WD0308-565	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1B3		45 Secs (45 Secs) [==>]	[1]																																									
	2	G130M/1300 (COS.sp.905 898)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1300 A	FP-POS=ALL; BUFFER-TIME=18 1; LIFETIME-POS=L P4			461 Secs (1844 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]																																									
	3	G130M/1309 (COS.sp.905 900)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1309 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]																																									
4	G130M/1318 (COS.sp.905 903)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G130M 1318 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4			582 Secs (2328 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[3]																																										
Comments: Ideal exposure time: 469/exposure (1876). However, leftover time so increasing: 582/exp (2328s) ETC Buffer: 290. 85% of buffer=246. However, n-100/m -> 241s buffer (3 reads, to minimize buffer between exposures).																																																			
Comments: Ideal exposure time: 467/exposure (1868). However, leftover time so increasing: 582/exp (2328s) ETC Buffer: 329. 85% of buffer=279. However, n-100/m -> 241s buffer (3 reads, to minimize buffer between exposures).																																																			







Proposal 14910 - WD0308-G160M/G140L Part1 (03) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

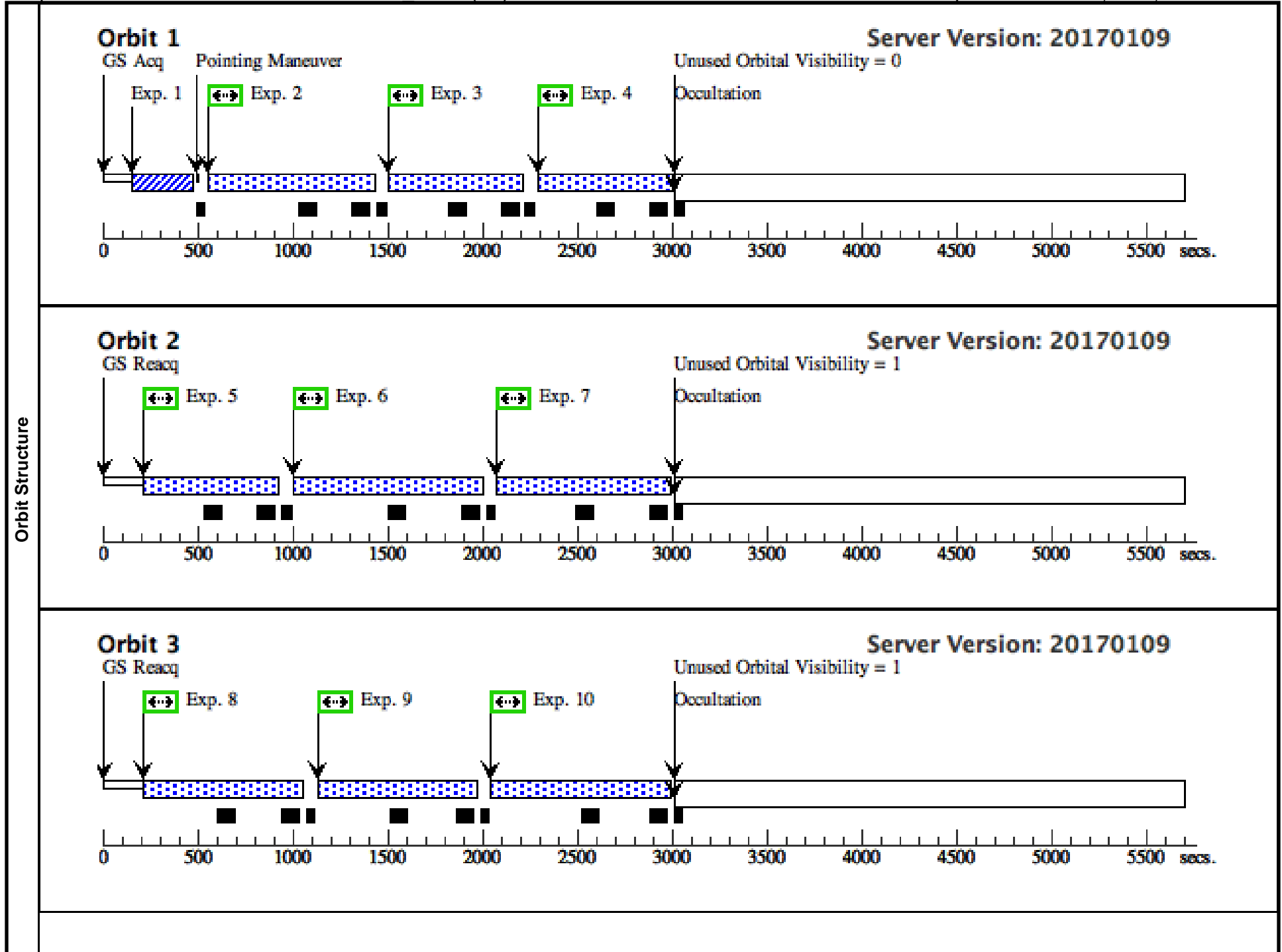
<b>Visit</b>	<p><b>Proposal 14910, WD0308-G160M/G140L_Part1 (03), implementation</b> <span style="float: right;">Thu Mar 02 02:04:03 GMT 2017</span></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV, COS/NUV</p> <p>Special Requirements: SCHED 100%; AFTER 10-APR-2017:00:00:00; GROUP 03,01 WITHIN 7D</p> <p><i>Comments: p-flats/profiles for G160M/1577,1589,1600; G140L/1105 Target WD 0308-565</i></p> <p><i>Goal is S/N~50/resel over majority of bandpass.</i></p>					
	<b>Fixed Targets</b>	<b>#</b>	<b>Name</b>	<b>Target Coordinates</b>	<b>Targ. Coord. Corrections</b>	<b>Fluxes</b>
(1)		WD0308-565	RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000	Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000	V=14.07+/-0.02	Reference Frame: ICRS
<p><i>Comments: Coordinates from Charle's proposal</i></p> <p><i>Extended=NO</i></p>						

Proposal 14910 - WD0308-G160M/G140L Part1 (03) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ/IM (1) WD0308-565 (COS.ta.904 484)	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1B3		45 Secs (45 Secs) [==>]	[1]
	2	G160M/157 (1) WD0308-565 7 (COS.sp.905 908)	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=1; BUFFER-TIME=27 7; LIFETIME-POS=L P4			654 Secs (654 Secs) [==>]	[1]
	<i>Comments: Ideal exposure time: 621/exposure (2484s). However, leftover time so increasing: 654/exp (2616s)</i>								
	<i>ETC Buffer: 634. 85% of buffer=539. However, n-100/m -&gt; 277s buffer (3 reads, to minimize buffer between exposures)</i>								
	3	G160M/157 (1) WD0308-565 7 (COS.sp.905 908)	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=2; BUFFER-TIME=27 7; LIFETIME-POS=L P4			654 Secs (654 Secs) [==>]	[1]
	<i>Comments: Ideal exposure time: 621/exposure (2484s). However, leftover time so increasing: 654/exp (2616s)</i>								
	<i>ETC Buffer: 634. 85% of buffer=539. However, n-100/m -&gt; 277s buffer (3 reads, to minimize buffer between exposures)</i>								
4	G160M/157 (1) WD0308-565 7 (COS.sp.905 908)	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=3; BUFFER-TIME=27 7; LIFETIME-POS=L P4			654 Secs (654 Secs) [==>]	[1]	
<i>Comments: Ideal exposure time: 621/exposure (2484s). However, leftover time so increasing: 654/exp (2616s)</i>									
<i>ETC Buffer: 634. 85% of buffer=539. However, n-100/m -&gt; 277s buffer (3 reads, to minimize buffer between exposures)</i>									
5	G160M/157 (1) WD0308-565 7 (COS.sp.905 908)	COS/FUV, TIME-TAG, PSA	G160M 1577 A	FP-POS=4; BUFFER-TIME=27 7; LIFETIME-POS=L P4			654 Secs (654 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 621/exposure (2484s). However, leftover time so increasing: 654/exp (2616s)</i>									
<i>ETC Buffer: 634. 85% of buffer=539. However, n-100/m -&gt; 277s buffer (3 reads, to minimize buffer between exposures)</i>									
6	G160M/160 (1) WD0308-565 0 (COS.sp.905 912)	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=1; BUFFER-TIME=38 5; LIFETIME-POS=L P4			871 Secs (871 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 772/exposure (3090s). However, leftover time so increasing: 2x871 and 2x791/exp (3324s)</i>									
<i>ETC Buffer: 711. 85% of buffer=604. However, n-100/m -&gt; 385s buffer (3 reads, to minimize buffer between exposures)</i>									
<i>For other T_exp, n-100/m -&gt; 346s</i>									
7	G160M/160 (1) WD0308-565 0 (COS.sp.905 912)	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=2; BUFFER-TIME=38 5; LIFETIME-POS=L P4			871 Secs (871 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 772/exposure (3090s). However, leftover time so increasing: 2x871 and 2x791/exp (3324s)</i>									
<i>ETC Buffer: 711. 85% of buffer=604. However, n-100/m -&gt; 385s buffer (3 reads, to minimize buffer between exposures)</i>									
<i>For other T_exp, n-100/m -&gt; 346s</i>									

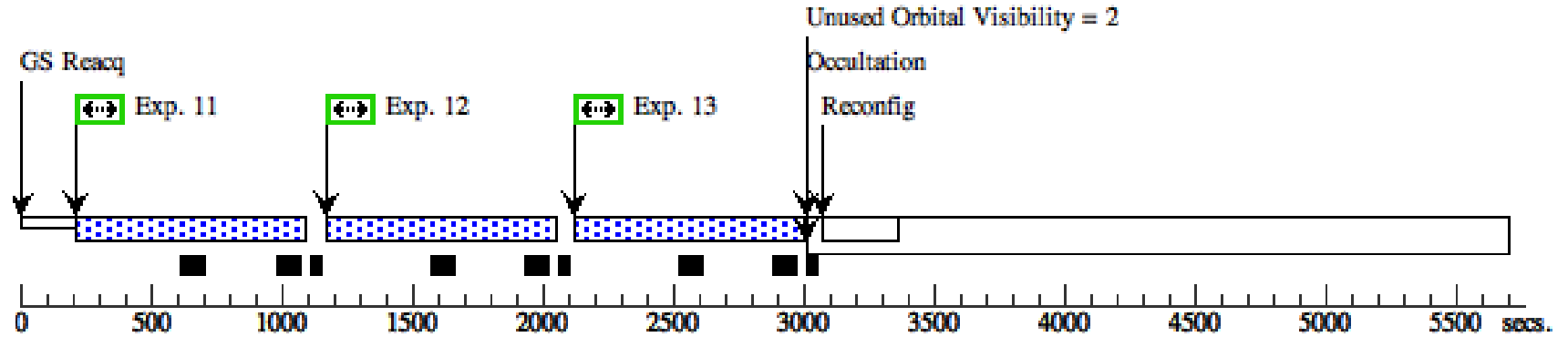
Proposal 14910 - WD0308-G160M/G140L Part1 (03) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

8	G160M/160 0 (COS.sp.905 912)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=3; BUFFER-TIME=34 6; LIFETIME-POS=L P4	791 Secs (791 Secs) [==>]	[3]
<p><i>Comments: Ideal exposure time: 772/exposure (3090s). However, leftover time so increasing: 2x871 and 2x791/exp (3324s) ETC Buffer: 711. 85% of buffer=604. However, n-100/m -&gt; 385s buffer (3 reads, to minimize buffer between exposures) For other T_exp, n-100/m -&gt; 346s</i></p>							
9	G160M/160 0 (COS.sp.905 912)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1600 A	FP-POS=4; BUFFER-TIME=34 6; LIFETIME-POS=L P4	791 Secs (791 Secs) [==>]	[3]
<p><i>Comments: Ideal exposure time: 772/exposure (3090s). However, leftover time so increasing: 2x871 and 2x791/exp (3324s) ETC Buffer: 711. 85% of buffer=604. However, n-100/m -&gt; 385s buffer (3 reads, to minimize buffer between exposures) For other T_exp, n-100/m -&gt; 346s</i></p>							
10	G160M/158 9 (COS.sp.905 910)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=1; BUFFER-TIME=36 4; LIFETIME-POS=L P4	827 Secs (827 Secs) [==>]	[3]
<p><i>Comments: Ideal exposure time: 695/exposure (2781). However, leftover time so increasing: 827/exp (3308) ETC Buffer: 658. 85% of buffer=559. However, n-100/m -&gt; 364s buffer (3 reads, to minimize buffer between exposures)</i></p>							
11	G160M/158 9 (COS.sp.905 910)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=2; BUFFER-TIME=36 4; LIFETIME-POS=L P4	827 Secs (827 Secs) [==>]	[4]
<p><i>Comments: Ideal exposure time: 695/exposure (2781). However, leftover time so increasing: 827/exp (3308) ETC Buffer: 658. 85% of buffer=559. However, n-100/m -&gt; 364s buffer (3 reads, to minimize buffer between exposures)</i></p>							
12	G160M/158 9 (COS.sp.905 910)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=3; BUFFER-TIME=36 4; LIFETIME-POS=L P4	827 Secs (827 Secs) [==>]	[4]
<p><i>Comments: Ideal exposure time: 695/exposure (2781). However, leftover time so increasing: 827/exp (3308) ETC Buffer: 658. 85% of buffer=559. However, n-100/m -&gt; 364s buffer (3 reads, to minimize buffer between exposures)</i></p>							
13	G160M/158 9 (COS.sp.905 910)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1589 A	FP-POS=4; BUFFER-TIME=36 4; LIFETIME-POS=L P4	827 Secs (827 Secs) [==>]	[4]
<p><i>Comments: Ideal exposure time: 695/exposure (2781). However, leftover time so increasing: 827/exp (3308) ETC Buffer: 658. 85% of buffer=559. However, n-100/m -&gt; 364s buffer (3 reads, to minimize buffer between exposures)</i></p>							
14	G140L/1105 (COS.sp.905 919)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G140L 1105 A	FP-POS=ALL; BUFFER-TIME=24 1; LIFETIME-POS=L P4	581 Secs (2324 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[5]
<p><i>Comments: Ideal exposure time: 565/exposure (2262). However, leftover time so increasing: 581/exp (2324) ETC Buffer: 350. 85% of buffer=298. However, n-100/m -&gt; 241s buffer (3 reads, to minimize buffer between exposures).</i></p>							



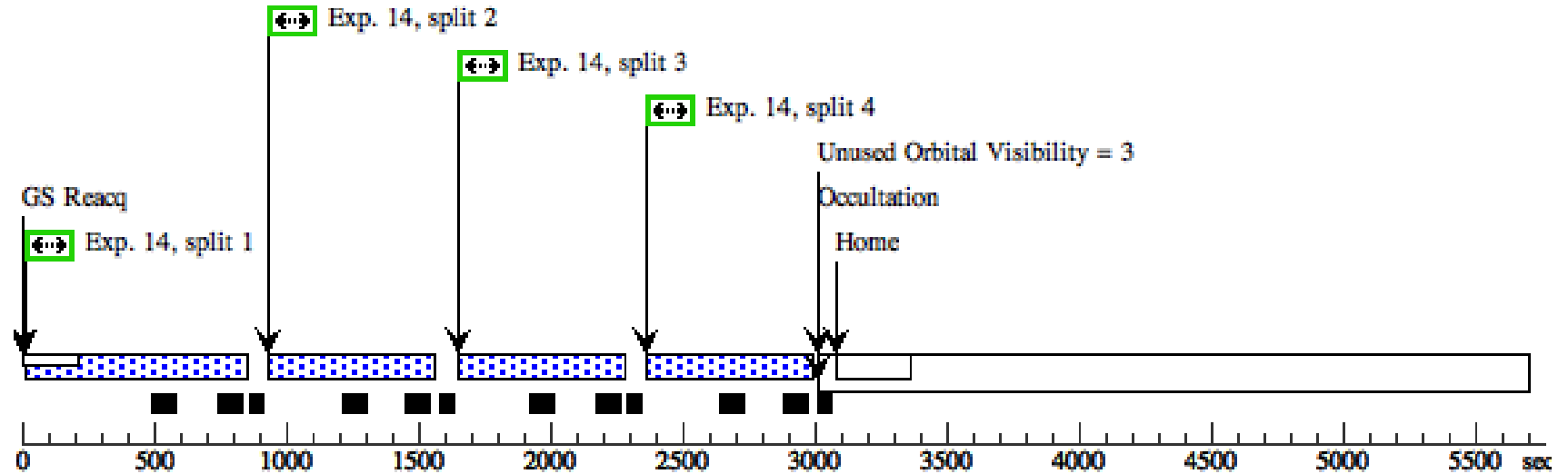
### Orbit 4

Server Version: 20170109



### Orbit 5

Server Version: 20170109



Proposal 14910 - WD0308-G160M/G140L Part2 (04) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

<b>Visit</b>	<p><b>Proposal 14910, WD0308-G160M/G140L_Part2 (04), implementation</b> <span style="float: right;">Thu Mar 02 02:04:04 GMT 2017</span></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV, COS/NUV</p> <p>Special Requirements: SCHED 100%; AFTER 10-APR-2017:00:00:00; GROUP 04,01 WITHIN 7D</p> <p><i>Comments: Continuation of Visit 4</i></p> <p><i>p-flats/profiles for G140L/1280; G160M/1611,1623 Target WD 0308-565</i></p> <p><i>Goal is S/N~50/resel over majority of bandpass.</i></p>																	
	<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>WD0308-565</td> <td>RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000</td> <td>Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000</td> <td>V=14.07+/-0.02</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: Coordinates from Charle's proposal</i> <i>Extended=NO</i></p>						#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000	Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000	V=14.07+/-0.02
#		Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous												
(1)	WD0308-565	RA: 03 09 47.9200 (47.4496667d) Dec: -56 23 49.41 (-56.39706d) Equinox: J2000	Proper Motion RA: 0.018141 sec of time/yr Proper Motion Dec: 0.0643 arcsec/yr Epoch of Position: 2000	V=14.07+/-0.02	Reference Frame: ICRS													

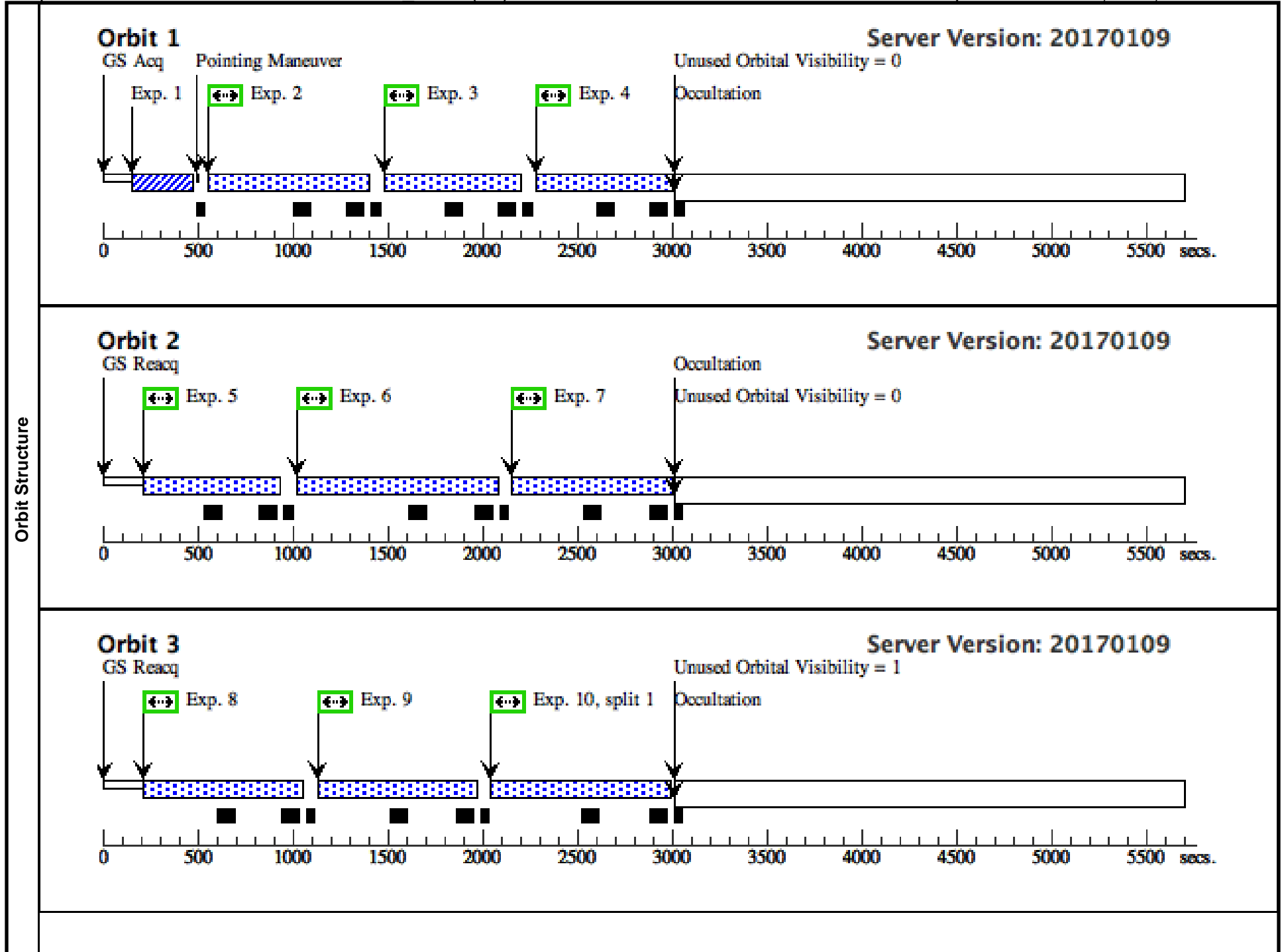
Proposal 14910 - WD0308-G160M/G140L Part2 (04) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

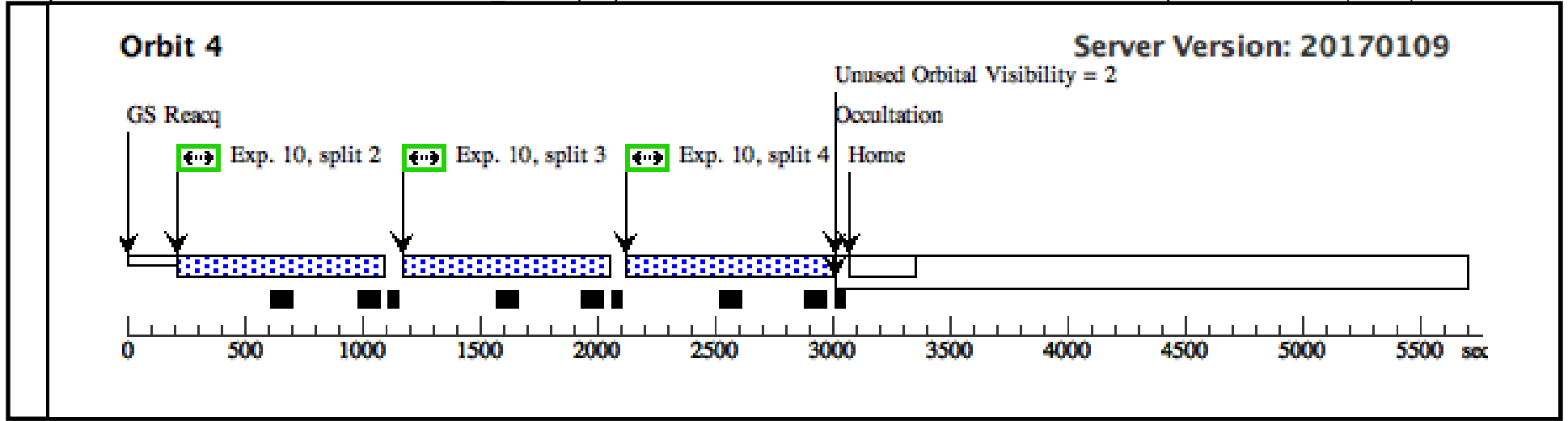
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ/IM (1) WD0308-565 (COS.ta.904 484)	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1B3		45 Secs (45 Secs) [==>]	[1]
	2	G140L/1280 (1) WD0308-565 (COS.sp.905 921)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=1; BUFFER-TIME=28 3; LIFETIME-POS=L P4			667 Secs (667 Secs) [==>]	[1]
	<i>Comments: Ideal exposure time: 630/exposure (2520). However, leftover time so increasing: 667/exp (2668)</i>								
	<i>ETC Buffer: 458. 85% of buffer=389. However, n-100/m -&gt; 283s buffer (3 reads, to minimize buffer between exposures).</i>								
	3	G140L/1280 (1) WD0308-565 (COS.sp.905 921)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=2; BUFFER-TIME=28 3; LIFETIME-POS=L P4			667 Secs (667 Secs) [==>]	[1]
	<i>Comments: Ideal exposure time: 630/exposure (2520). However, leftover time so increasing: 667/exp (2668)</i>								
	<i>ETC Buffer: 458. 85% of buffer=389. However, n-100/m -&gt; 283s buffer (3 reads, to minimize buffer between exposures).</i>								
4	G140L/1280 (1) WD0308-565 (COS.sp.905 921)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=3; BUFFER-TIME=28 3; LIFETIME-POS=L P4			667 Secs (667 Secs) [==>]	[1]	
<i>Comments: Ideal exposure time: 630/exposure (2520). However, leftover time so increasing: 667/exp (2668)</i>									
<i>ETC Buffer: 458. 85% of buffer=389. However, n-100/m -&gt; 283s buffer (3 reads, to minimize buffer between exposures).</i>									
5	G140L/1280 (1) WD0308-565 (COS.sp.905 921)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=4; BUFFER-TIME=28 3; LIFETIME-POS=L P4			667 Secs (667 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 630/exposure (2520). However, leftover time so increasing: 667/exp (2668)</i>									
<i>ETC Buffer: 458. 85% of buffer=389. However, n-100/m -&gt; 283s buffer (3 reads, to minimize buffer between exposures).</i>									
6	G160M/162 (1) WD0308-565 3 (COS.sp.905 917)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=1; BUFFER-TIME=35 0; LIFETIME-POS=L P4			800 Secs (800 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 762/exposure (3045). However, leftover time so increasing: 2x800 + 2x791/exp (3182)</i>									
<i>ETC Buffer: 787. 85% of buffer=669. However, n-100/m -&gt; 350s buffer (3 reads, to minimize buffer between exposures)</i>									
<i>For other T_exp, n-100/m -&gt;346</i>									
7	G160M/162 (1) WD0308-565 3 (COS.sp.905 917)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=2; BUFFER-TIME=35 0; LIFETIME-POS=L P4			800 Secs (800 Secs) [==>]	[2]	
<i>Comments: Ideal exposure time: 762/exposure (3045). However, leftover time so increasing: 2x800 + 2x791/exp (3182)</i>									
<i>ETC Buffer: 787. 85% of buffer=669. However, n-100/m -&gt; 350s buffer (3 reads, to minimize buffer between exposures)</i>									
<i>For other T_exp, n-100/m -&gt;346</i>									



Proposal 14910 - WD0308-G160M/G140L Part2 (04) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Fi...

8	G160M/162 3 (COS.sp.905 917)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=3; BUFFER-TIME=34 6; LIFETIME-POS=L P4	791 Secs (791 Secs)	
						[==>]	[3]
<p><i>Comments: Ideal exposure time: 762/exposure (3045). However, leftover time so increasing: 2x800 + 2x791/exp (3182)</i>  <i>ETC Buffer: 787. 85% of buffer=669. However, n-100/m -&gt; 350s buffer (3 reads, to minimize buffer between exposures)</i>  <i>For other T_exp, n-100/m -&gt;346</i></p>							
9	G160M/162 3 (COS.sp.905 917)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1623 A	FP-POS=4; BUFFER-TIME=34 6; LIFETIME-POS=L P4	791 Secs (791 Secs)	
						[==>]	[3]
<p><i>Comments: Ideal exposure time: 762/exposure (3045). However, leftover time so increasing: 2x800 + 2x791/exp (3182)</i>  <i>ETC Buffer: 787. 85% of buffer=669. However, n-100/m -&gt; 350s buffer (3 reads, to minimize buffer between exposures)</i>  <i>For other T_exp, n-100/m -&gt;346</i></p>							
10	G160M/161 1 (COS.sp.905 914)	(1) WD0308-565	COS/FUV, TIME-TAG, PSA	G160M 1611 A	FP-POS=ALL; BUFFER-TIME=36 4; LIFETIME-POS=L P4	827 Secs (3308 Secs)	
						[==>(Split 1)]	[3]
						[==>(Split 2)]	
						[==>(Split 3)]	[4]
<p><i>Comments: Ideal exposure time: 772/exposure (3090). However, leftover time so increasing: 827/exp (3308)</i>  <i>ETC Buffer: 738. 85% of buffer=627. However, n-100/m -&gt; 364s buffer (3 reads, to minimize buffer between exposures)</i></p>							



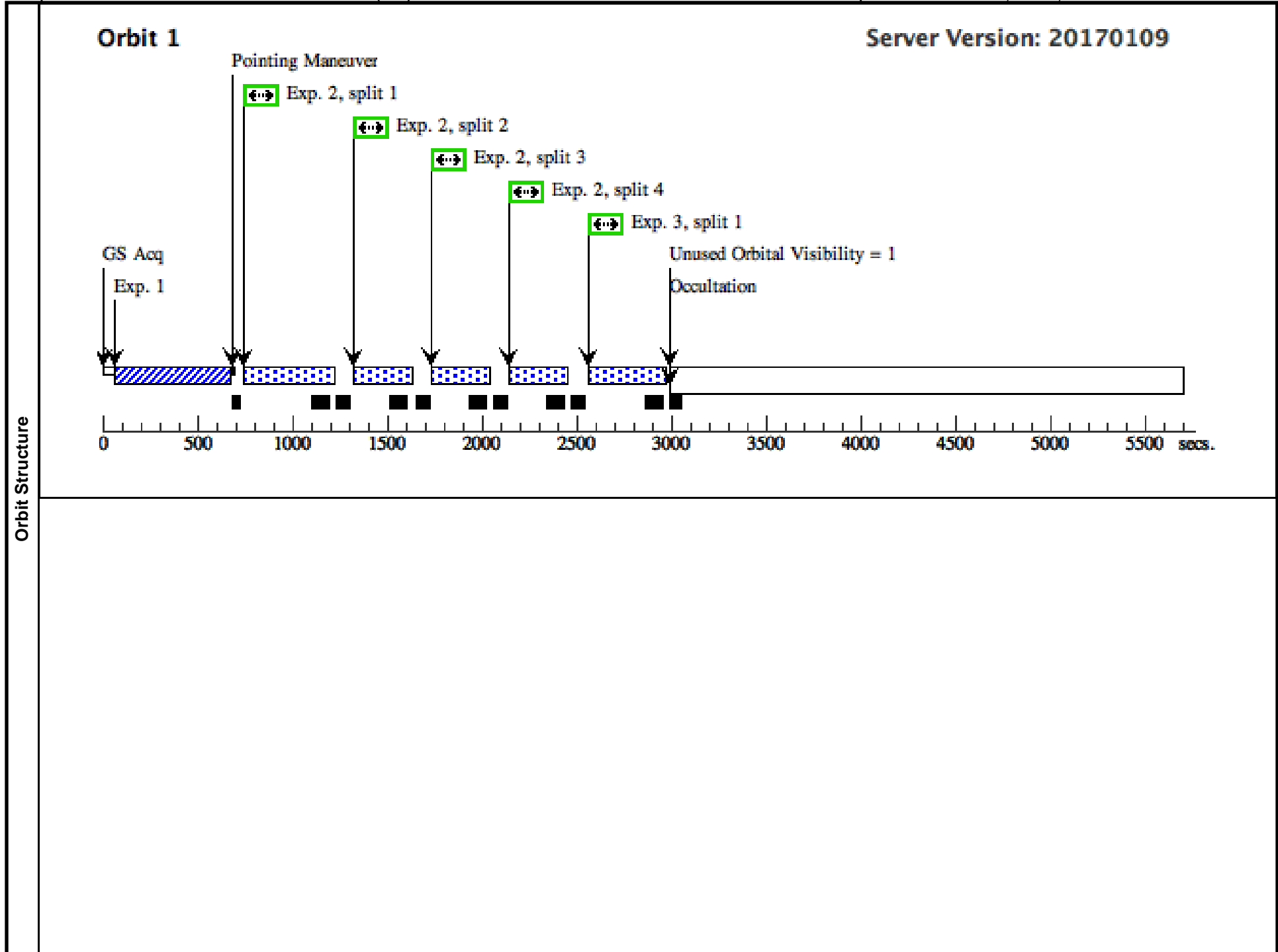


Proposal 14910 - GD71-G160M-FUVA (05) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Field Calibr...

<b>Visit</b>	<p><b>Proposal 14910, GD71-G160M-FUVA (05), implementation</b> <span style="float: right;">Thu Mar 02 02:04:04 GMT 2017</span></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV, COS/NUV</p> <p>Special Requirements: SCHED 100%; BETWEEN 03-APR-2017:00:00:00 AND 08-APR-2017:00:00:00</p> <p><i>Comments: P-flat/profile observations for G160M FUVA, in G160M/1577,1589,1600,1611,1623 with Segment B off. Target GD 71</i></p> <p><i>Should execute within 1 week of visit 9 of 14854</i></p>																
	<b>Fixed Targets</b>	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(2)</td> <td>GD71</td> <td>RA: 05 52 27.6100 (88.1150417d) Dec: +15 53 13.80 (15.88717d) Equinox: J2000</td> <td>Proper Motion RA: 85 mas/yr Proper Motion Dec: -174 mas/yr Epoch of Position: 2000</td> <td>V=13.06+/-0.01</td> <td>Reference Frame: ICRS</td> </tr> </tbody> </table> <p><i>Comments: Use sma RA, DEC and PM as in proposal 12392 by Bohlin et al.</i></p> <p><i>Extended=NO</i></p>					#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(2)	GD71	RA: 05 52 27.6100 (88.1150417d) Dec: +15 53 13.80 (15.88717d) Equinox: J2000	Proper Motion RA: 85 mas/yr Proper Motion Dec: -174 mas/yr Epoch of Position: 2000	V=13.06+/-0.01
#		Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous											
(2)	GD71	RA: 05 52 27.6100 (88.1150417d) Dec: +15 53 13.80 (15.88717d) Equinox: J2000	Proper Motion RA: 85 mas/yr Proper Motion Dec: -174 mas/yr Epoch of Position: 2000	V=13.06+/-0.01	Reference Frame: ICRS												

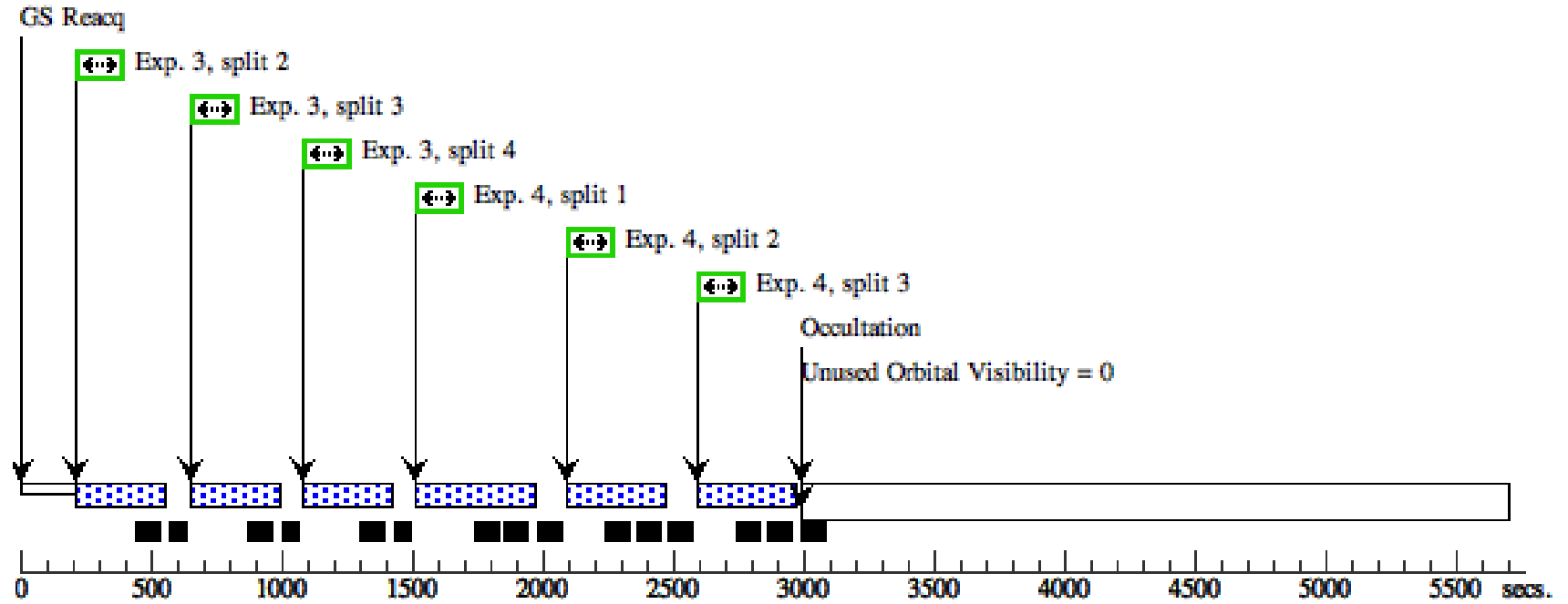
Proposal 14910 - GD71-G160M-FUVA (05) - Fourth COS FUV Lifetime Position: Cross-Dispersion Profiles, Flux, and Flat-Field Calibr...

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	ACQ/IM (2) GD71 (COS.ta.905 983)	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				140 Secs (140 Secs) [==>]	[1]
	<i>Comments: Since Mirror B has two images and images are 2:1 in brightness, multiplying ETC exposure time by 4/3 to ensure sufficient SNR for acquisition. 105*4/3 = 140</i>								
	2	G160M/157 (2) GD71 7 (COS.sp.905 973)	COS/FUV, TIME-TAG, PSA	G160M 1577 A	SEGMENT=A; FP-POS=ALL; BUFFER-TIME=16 0; LIFETIME-POS=L P4			260 Secs (1040 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]
	<i>Comments: Ideal exposure time: 260/exposure (1040). Left at this exposure to make it fit. Buffer time = 2.35e6/6504 = 361.</i>								
	3	G160M/158 (2) GD71 9 (COS.sp.905 970)	COS/FUV, TIME-TAG, PSA	G160M 1589 A	SEGMENT=A; FP-POS=ALL; BUFFER-TIME=18 9; LIFETIME-POS=L P4			289 Secs (1156 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[1]  [2]
	<i>Comments: Ideal exposure time: 239/exposure (954). Investigation showed that the red edge is just under SNR of 40, so increased exposure time to 289s/exposure, or 1156s total. Buffer time = 2.35e6/5986 = 392</i>								
4	G160M/160 (2) GD71 0 (COS.sp.905 975)	COS/FUV, TIME-TAG, PSA	G160M 1600 A	SEGMENT=A; FP-POS=ALL; BUFFER-TIME=11 6; LIFETIME-POS=L P4			331 Secs (1324 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[2]  [3]	
<i>Comments: Ideal exposure time: 265/exposure (1060). Investigation showed that the red edge is just under SNR of 40, so increased exposure time to 331s/exposure, or 1324s Buffer time = 2.35e6/5445 = 361.</i>									
5	G160M/162 (2) GD71 3 (COS.sp.905 982)	COS/FUV, TIME-TAG, PSA	G160M 1623 A	SEGMENT=A; FP-POS=ALL; BUFFER-TIME=33 8; LIFETIME-POS=L P4			438 Secs (1752 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[3]	
<i>Comments: Ideal exposure time: 373/exposure (1493). However, leftover time so increasing: 417/exp (1668s) Buffer time = 2.35e6/4813 = 488</i>									
6	G160M/161 (2) GD71 1 (COS.sp.905 977)	COS/FUV, TIME-TAG, PSA	G160M 1611 A	SEGMENT=A; FP-POS=ALL; BUFFER-TIME=49 0; LIFETIME-POS=L P4			590 Secs (2360 Secs) [==>(Split 1)] [==>(Split 2)] [==>(Split 3)] [==>(Split 4)]	[4]	
<i>Comments: Ideal exposure time: 318/exposure (1272). However, leftover time so increasing: 576/exp (2304s) Buffer time = 2.35e6/5157 = 456 Note: Could reduce exposure time if it helps with scheduling, or could take another exposure of something else if we needed to.</i>									



**Orbit 2**

Server Version: 20170109



### Orbit 3

Server Version: 20170109

