



14869 - COS/FUV Wavecorr at LP4

Cycle: 24, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

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>
A1	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:08.0	yes
A2	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:12.0	yes
A3	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:16.0	yes
A4	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:21.0	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>
B1	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:25.0	yes
B2	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:29.0	yes
B3	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:33.0	yes
B4	DARK NONE WAVE	COS COS/FUV S/C	1	09-Nov-2016 12:36:36.0	yes

8 Total Orbits Used

ABSTRACT

This program collects wavecal spectra at the LP4 location at a range of dispersion offsets in order to determine how well the CalCOS wavecorr module can measure the wavelength offset of the spectra in the presence of gain sag regions. These observations will be used to determine if changes to CalCOS are needed before the move to LP4.

OBSERVING DESCRIPTION

This program contains eight visits, each with the same layout. The only difference between them is the cenwave (half use G160M/1611 and half use G160M/1623) and FP-POS (each cenwave includes one visit for each FP-POS value).

Each visit is laid out as follows:

- * Wavecal exposure at the nominal LP3 (XAPER = 0, YAPER = 0) location on the detector
- * Aperture move to LP4 (XAPER = +53)
- * HV adjustment to HVA/HVB = 162/162
- * Wavecal exposure at the nominal dispersion location (YAPER = 0)

Proposal 14869 (STScI Edit Number: 1, Created: Wednesday, November 9, 2016 12:36:38 PM EST) - Overview

- * A series of wavecal exposures obtained at a range of dispersion offsets (YAPER = -54, -90, -72, +36, -36, -18, +18, 0).
- * HV Adjustment to 165/165
- * Wavecal exposure
- * HV Adjustment to 167/167
- * Wavecal exposure
- * Aperture move back to LP3 (XAPER = 0)
- * HV adjustment back to nominal (167/175)
- * Wavecal exposure

All wavecal exposures are 48 seconds long, or four times the standard tagflash length exposure. The entire visit is part of a Non-Interruptable Sequence so that there is no chance that the OSM will be moved between exposures. Each of the (aperture move + wavecal exposure + buffer dump) steps in the above procedure takes 196 seconds. The full sequence takes about 2800 seconds, including the final buffer dump.

The separation between exposures is 18 aperture steps (YAPER), or approximately 30 pixels on the detector (based on the nominal 21 steps/arcsec and the 0.0285 arcsec/pixel scale in Table 1.1. of the Instrument Handbook). Thus the full range is ~210 pixels, or nearly the ~250 pixel separation between adjacent FP-POSSs. YAPER = 0 corresponds to an absolute aperture position (LAPDSTP) of 22.1. Thus, the YAPER range of -90 to +36 steps corresponds to an absolute position of -68 to +58, which is within the soft stops at +/-78. This aperture range corresponds to shifts of -4.3 to +1.7 arcseconds.

We have chosen to scramble the order of the aperture offsets in order to randomize any aperture move errors. The moves are made in both the preferred and non-preferred direction, and they are of varying size. By commanding the aperture back to (0,0) before the last exposure, we hope to improve the odds that the aperture will return exactly to its nominal position; however, we will verify this after execution.

The high voltage values chosen for most of the exposures (162/162) is one step lower than the planned LP4 values of 163/163. This is to provide a worst-case dataset, since the modal gain can vary slightly at constant high voltage. The other values (165/165 and 167/167) are used to do a limited test of the sensitivity of the CALCOS algorithm to the modal gain.

Additional Notes:

Proposal 14869 (STScI Edit Number: 1, Created: Wednesday, November 9, 2016 12:36:38 PM EST) - Overview

* These visits can go in any order, and the spacing between them is not critical. However, in order to ensure that we have time to modify CalCOS, if necessary, before the LP4 move, we request that they all execute by November 30, 2016, if possible.

* The visit level special requirement PARALLEL has been added to each visit.

* The Special Requirement NEW ALIGNMENT has been added to exposures 3 and 26 in each visit so that those exposures do not get merged with the previous ALIGN/APERs.

Proposal 14869 - G160M/1611 FP-POS=1 (A1) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1611 FP-POS=1 (A1), implementation Diagnostic Status: Warning Scientific Instruments: COS, S/C, COS/FUV Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:38 GMT 2016
Diagnostics	(G160M/1611 FP-POS=1 (A1)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

Proposal 14869 - G160M/1611 FP-POS=1 (A1) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

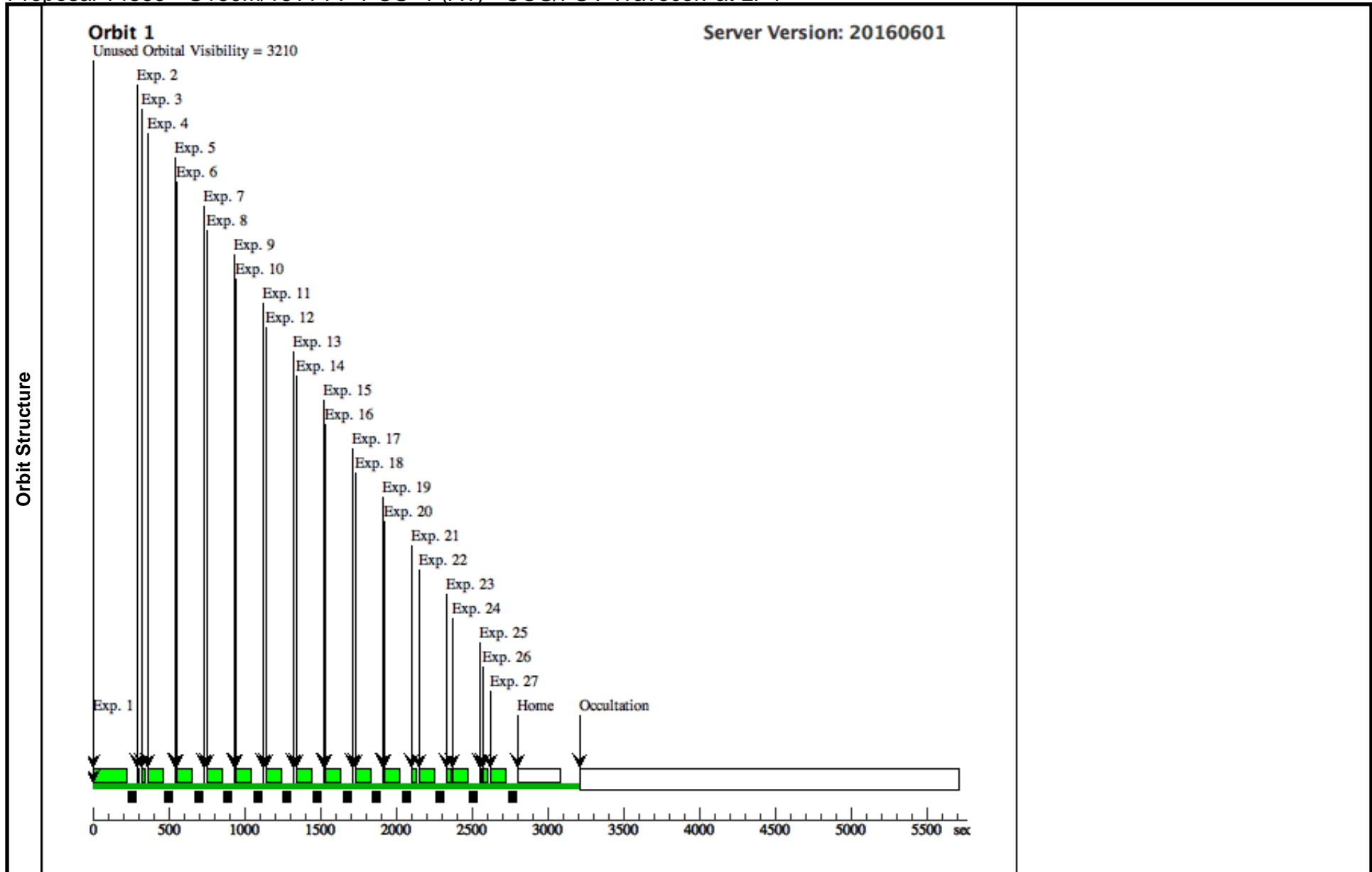
Exposures

Proposal 14869 - G160M/1611 FP-POS=1 (A1) - COS/FUV Wavecorr at LP4

12	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = +	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV to 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1611 F P-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1611 FP-POS=1 (A1) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1611 FP-POS=1 (A1)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 FP-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER		XAPER=0; YAPER=0		Sequence 1-27 Non-Int in G160M/1611 FP-POS=1 (A1)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1611 FP-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1611 FP-POS=1 (A1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									



Proposal 14869 - G160M/1611 FP-POS=2 (A2) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1611 FP-POS=2 (A2), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS, S/C, COS/FUV</p> <p>Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	<p>(G160M/1611 FP-POS=2 (A2)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>	

Proposal 14869 - G160M/1611 FP-POS=2 (A2) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -5	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -9	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -7	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

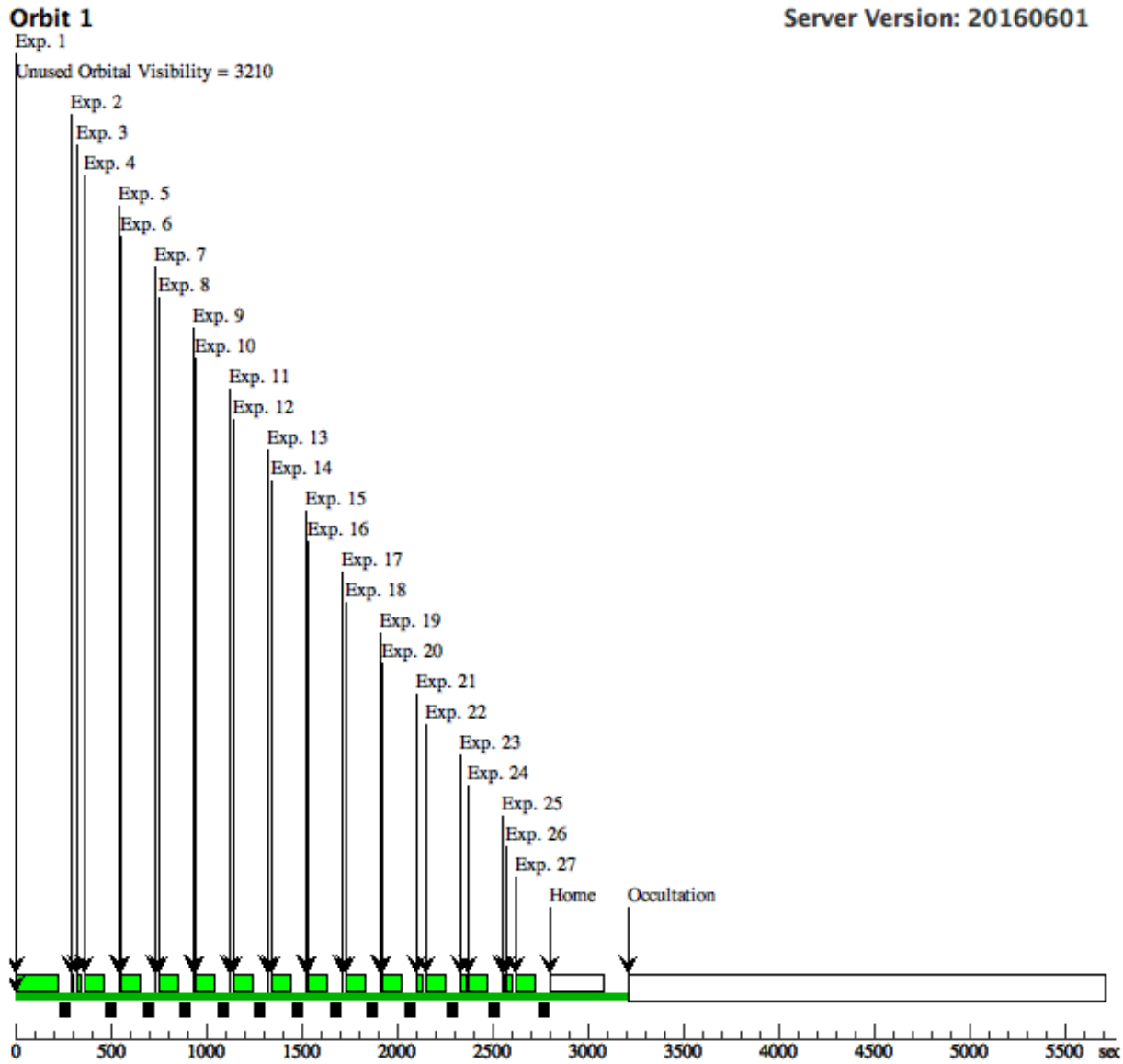
Proposal 14869 - G160M/1611 FP-POS=2 (A2) - COS/FUV Wavecorr at LP4

12	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = +	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV to 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2	Sequence 1-27 Non-Int in G160M/1611 F P-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1611 FP-POS=2 (A2) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1611 FP-POS=2 (A2)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 FP-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 FP-POS=2 (A2)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1611 FP-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1611 FP-POS=2 (A2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									

Orbit Structure



Proposal 14869 - G160M/1611 FP-POS=3 (A3) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1611 FP-POS=3 (A3), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS, S/C, COS/FUV</p> <p>Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	<p>(G160M/1611 FP-POS=3 (A3)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>	

Proposal 14869 - G160M/1611 FP-POS=3 (A3) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

Exposures

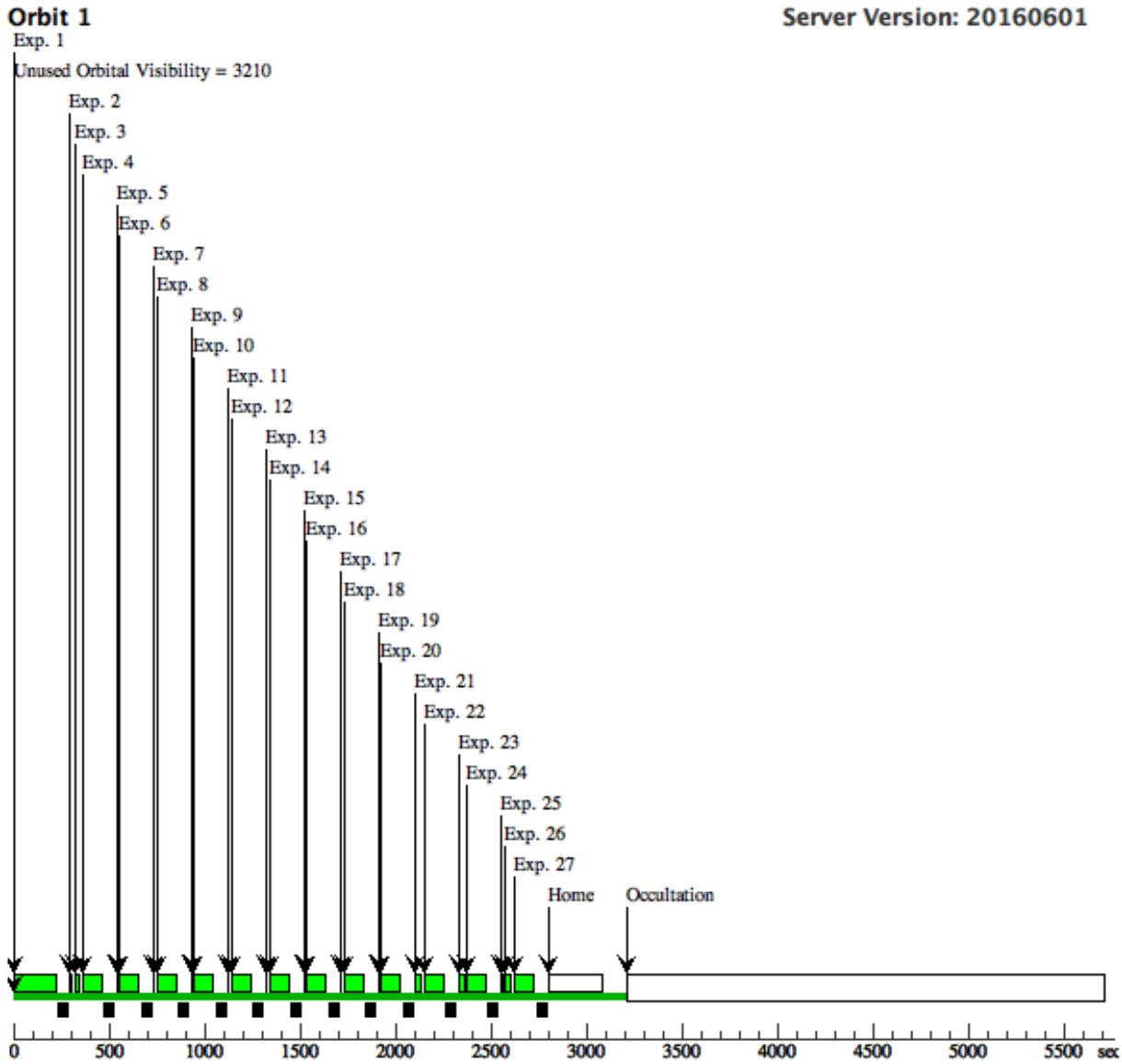
Proposal 14869 - G160M/1611 FP-POS=3 (A3) - COS/FUV Wavecorr at LP4

12	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3 6	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1 8	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = + 18	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV t o 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3	Sequence 1-27 Non-I nt in G160M/1611 F P-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1611 FP-POS=3 (A3) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1611 FP-POS=3 (A3)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 FP-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 FP-POS=3 (A3)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1611 FP-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1611 FP-POS=3 (A3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									

Orbit Structure



Proposal 14869 - G160M/1611 FP-POS=4 (A4) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1611 FP-POS=4 (A4), implementation Diagnostic Status: Warning Scientific Instruments: COS, S/C, COS/FUV Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	(G160M/1611 FP-POS=4 (A4)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

Proposal 14869 - G160M/1611 FP-POS=4 (A4) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -5	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -9	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -7	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1611 F P-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

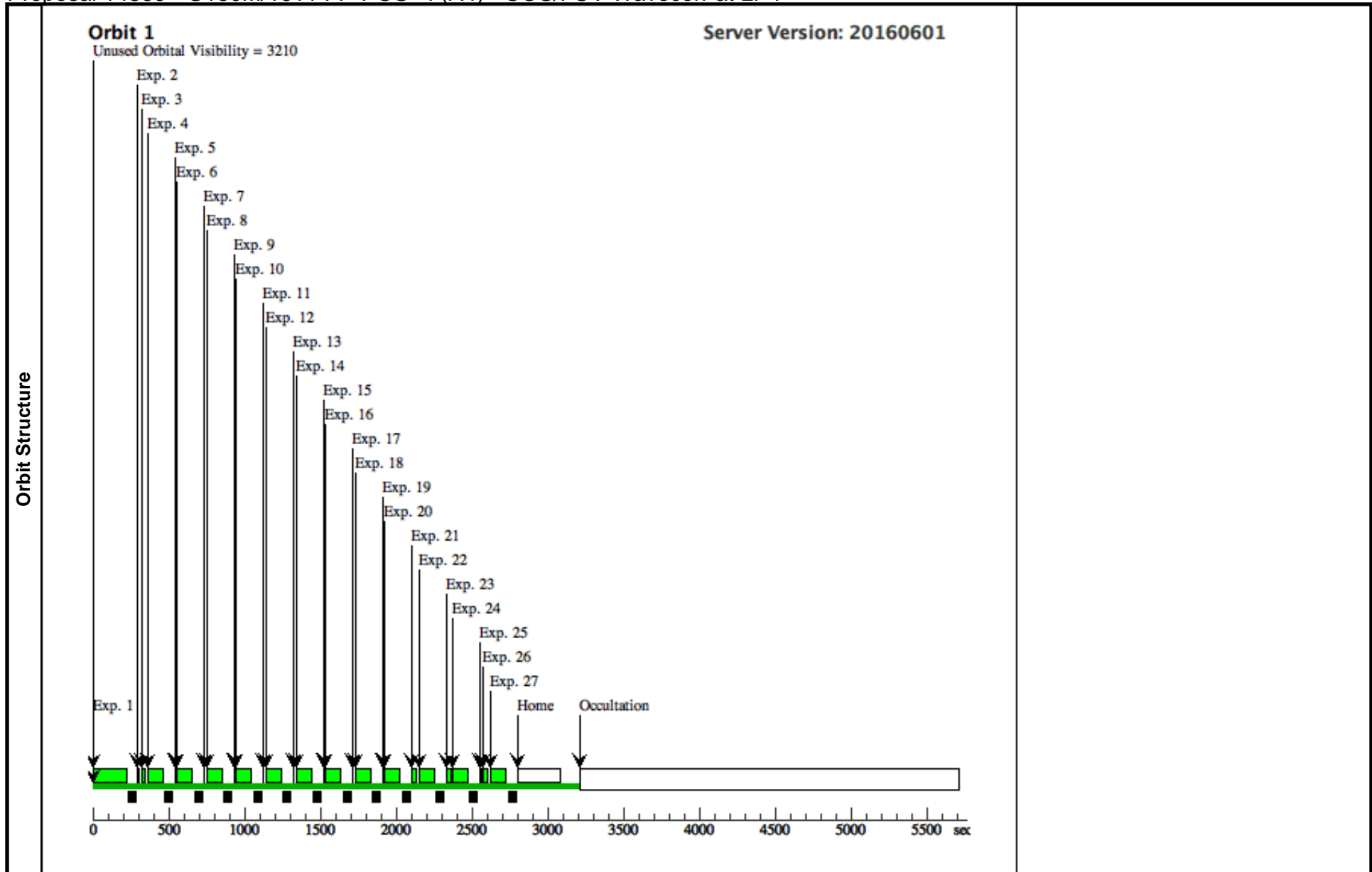
Exposures

Proposal 14869 - G160M/1611 FP-POS=4 (A4) - COS/FUV Wavecorr at LP4

12	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = +	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV to 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1611 FP-POS=4 (A4) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1611 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1611 FP-POS=4 (A4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									



Proposal 14869 - G160M/1623 FP-POS=1 (B1) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1623 FP-POS=1 (B1), implementation Diagnostic Status: Warning Scientific Instruments: COS, S/C, COS/FUV Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	(G160M/1623 FP-POS=1 (B1)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

Proposal 14869 - G160M/1623 FP-POS=1 (B1) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

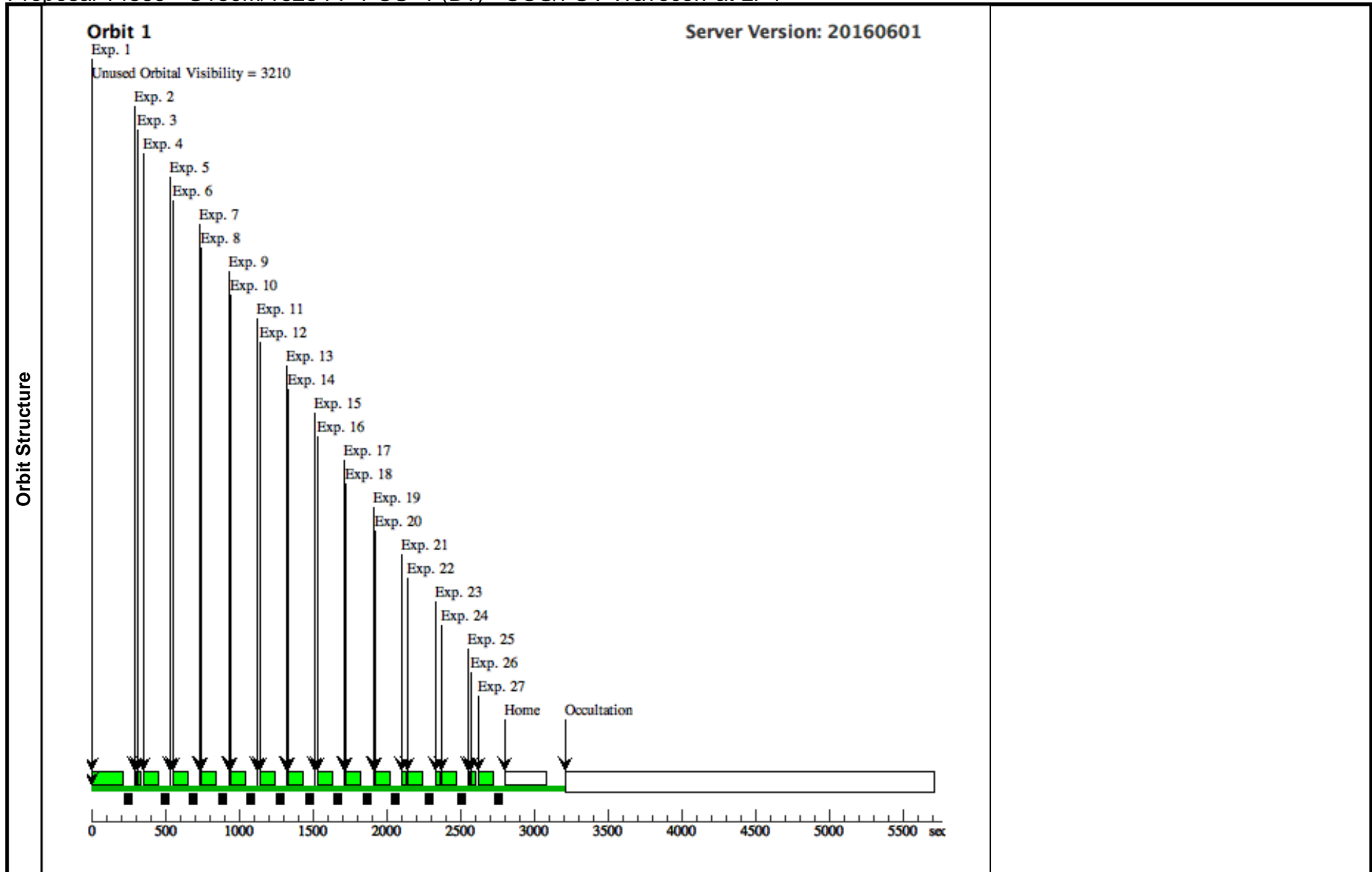
Exposures

Proposal 14869 - G160M/1623 FP-POS=1 (B1) - COS/FUV Wavecorr at LP4

12	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = +	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV to 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1623 FP-POS=1 (B1) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER		XAPER=0; YAPER=0		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=1		Sequence 1-27 Non-Int in G160M/1623 FP-POS=1 (B1)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									



Proposal 14869 - G160M/1623 FP-POS=2 (B2) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1623 FP-POS=2 (B2), implementation Diagnostic Status: Warning Scientific Instruments: COS, S/C, COS/FUV Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	(G160M/1623 FP-POS=2 (B2)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

Proposal 14869 - G160M/1623 FP-POS=2 (B2) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

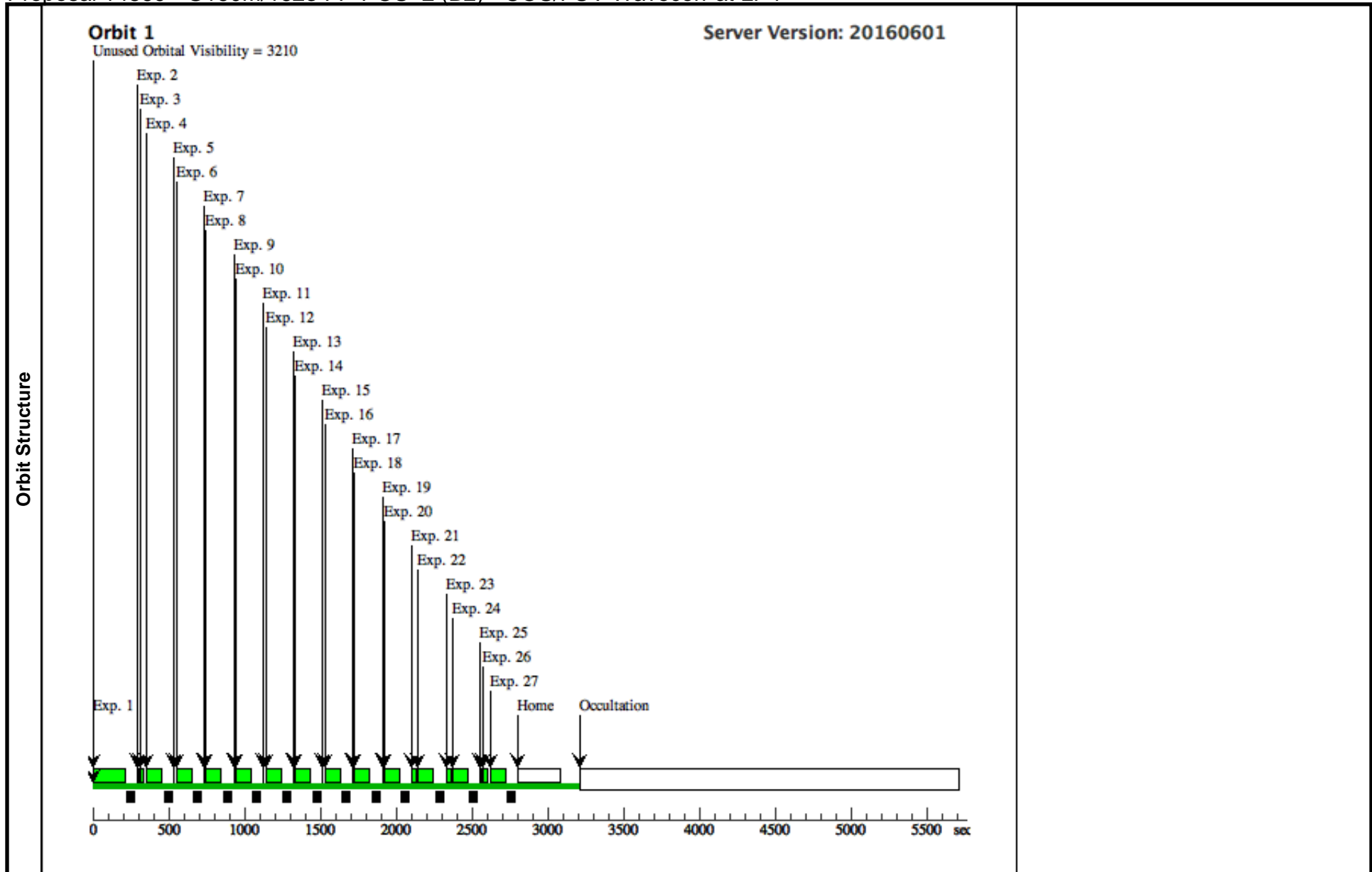
Exposures

Proposal 14869 - G160M/1623 FP-POS=2 (B2) - COS/FUV Wavecorr at LP4

12	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3 6	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1 8	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = + 18	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV t o 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1623 FP-POS=2 (B2) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=2		Sequence 1-27 Non-Int in G160M/1623 FP-POS=2 (B2)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									



Proposal 14869 - G160M/1623 FP-POS=3 (B3) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1623 FP-POS=3 (B3), implementation Diagnostic Status: Warning Scientific Instruments: COS, S/C, COS/FUV Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	(G160M/1623 FP-POS=3 (B3)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU	

Proposal 14869 - G160M/1623 FP-POS=3 (B3) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

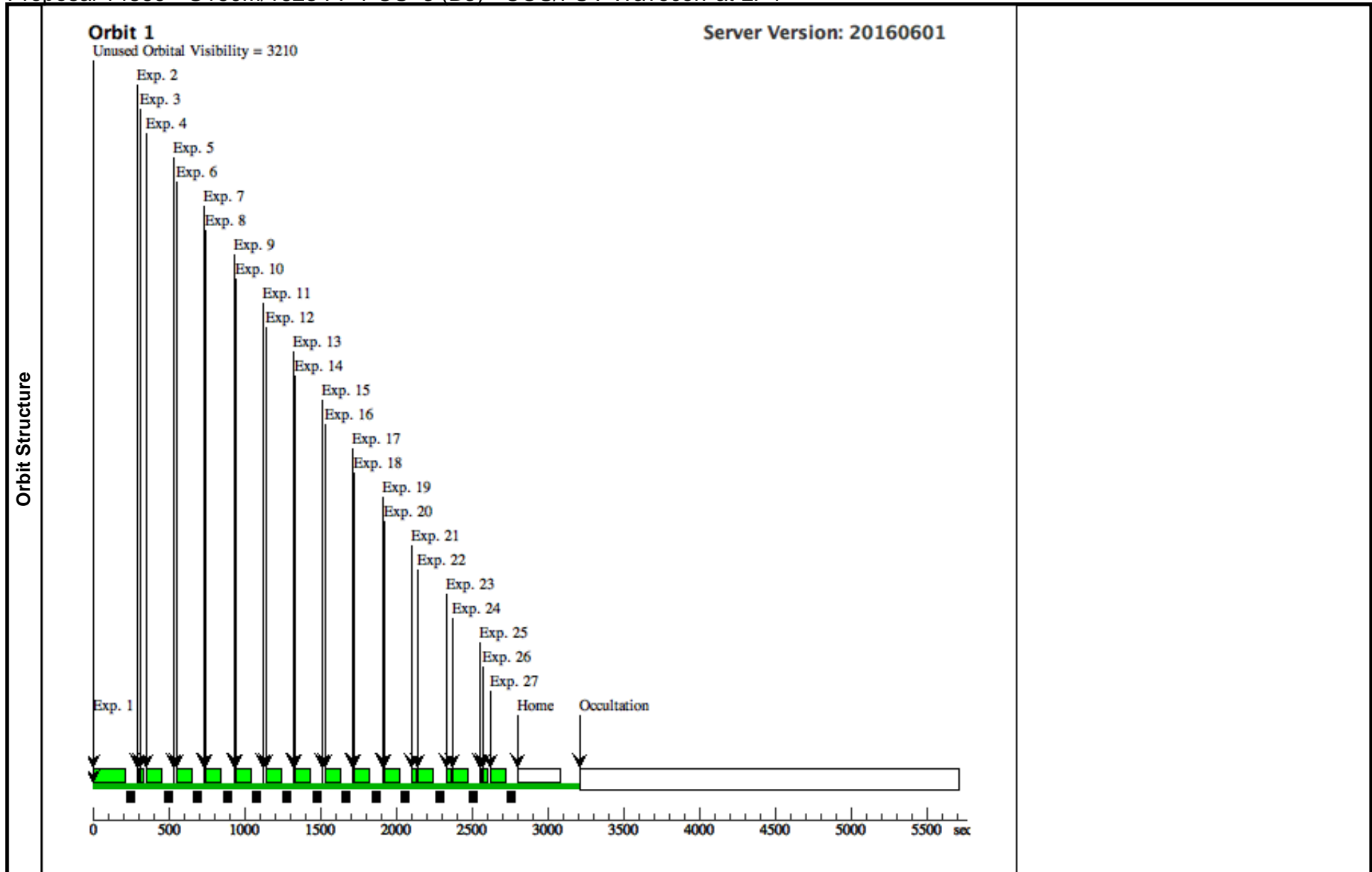
Exposures

Proposal 14869 - G160M/1623 FP-POS=3 (B3) - COS/FUV Wavecorr at LP4

12	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = +	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV to 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1623 FP-POS=3 (B3) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=3		Sequence 1-27 Non-Int in G160M/1623 FP-POS=3 (B3)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									



Proposal 14869 - G160M/1623 FP-POS=4 (B4) - COS/FUV Wavecorr at LP4

Visit	<p>Proposal 14869, G160M/1623 FP-POS=4 (B4), implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS, S/C, COS/FUV</p> <p>Special Requirements: PARALLEL</p>	Wed Nov 09 17:36:39 GMT 2016
Diagnostics	<p>(G160M/1623 FP-POS=4 (B4)) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>	

Proposal 14869 - G160M/1623 FP-POS=4 (B4) - COS/FUV Wavecorr at LP4

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP3</i>									
2	Move aperture to LP4 position	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move aperture -2.5" in cross-dispersion. At -21 motor steps per arcsecond, this is 53 motor steps.</i>									
3	Adjust HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 162; QESIPARM ENDC TSB 162	Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	39 Secs (39 Secs) [==>]	[1]
<i>Comments: Adjust HV to a value appropriate for the beginning of LP4. CURRENTLY set to 162/162 HV is decreasing on both segments, so exposure time is 39 seconds.</i>									
4	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
5	YAPER = -54	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-54		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
6	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
7	YAPER = -90	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-90		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
8	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
9	YAPER = -72	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-72		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									
10	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>									
11	YAPER = +36	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+36		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>									

Exposures

Proposal 14869 - G160M/1623 FP-POS=4 (B4) - COS/FUV Wavecorr at LP4

12	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
13	YAPER = -3 6	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-36	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
14	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
15	YAPER = -1 8	NONE	COS, ALIGN/APER		XAPER=53; YAPER=-18	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
16	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
17	YAPER = + 18	NONE	COS, ALIGN/APER		XAPER=53; YAPER=+18	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture in the dispersion direction.</i>								
18	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
19	YAPER = 0	NONE	COS, ALIGN/APER		XAPER=53; YAPER=0	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<i>Comments: Move the aperture to the nominal position in the dispersion direction.</i>								
20	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								
21	Adjust HV t o 165/165	DARK	S/C, DATA, NONE		SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 165; QESIPARM ENDC TSB 165	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	43 Secs (43 Secs) [==>]	[1]
<i>Comments: Adjust HV to a slightly higher value</i>								
<i>HV on both segments is increasing by 165 - 162 = 3, so exposure time is 39 * ceiling(1.1*3) = 43 seconds.</i>								
22	LP4 spectru m	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4	Sequence 1-27 Non-I nt in G160M/1623 F P-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<i>Comments: Spectrum at LP4</i>								

Proposal 14869 - G160M/1623 FP-POS=4 (B4) - COS/FUV Wavecorr at LP4

23	Adjust HV to 167/167	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 167	Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	42 Secs (42 Secs) [==>]	[1]
<p><i>Comments: Adjust HV to a slightly higher value</i></p> <p><i>HV on both segments is increasing by 167 - 165 = 2, so exposure time is 39 * ceiling(1.1*2) = 42 seconds.</i></p>									
24	LP4 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP4</i></p>									
25	Move aperture to LP3 position	NONE	COS, ALIGN/APER			XAPER=0; YAPER=0	Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	0 Secs (0 Secs) [==>]	[1]
<p><i>Comments: Move aperture back to the nominal (LP3) position.</i></p>									
26	Return to nominal HV	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELHVADJPROP; NEW ALIGNMENT ; QESIPARM ENDC TSA 167; QESIPARM ENDC TSB 175	Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Nominal HV is 167/175.</i></p> <p><i>Max HV change is 175 - 167 = 8</i></p> <p><i>Exposure time = 39 + ceiling(1.1*8) = 48 seconds</i></p>									
27	LP3 spectrum	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1623 A	FP-POS=4		Sequence 1-27 Non-Int in G160M/1623 FP-POS=4 (B4)	48 Secs (48 Secs) [==>]	[1]
<p><i>Comments: Spectrum at LP3</i></p>									

