13636 - Third COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {LENA3}

Cycle: 21, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
01	(1) AZV18 (11) AZV18-OFFSET-NE-1.4AS	COS/FUV COS/NUV	1	10-Sep-2014 21:01:41.0	yes
02	(1) AZV18 (21) AZV18-OFFSET-AD-0.3 (22) AZV18-OFFSET-AD+0.5 DARK	COS/FUV COS/NUV S/C	2	10-Sep-2014 21:01:48.0	yes
03	(1) AZV18 (3) AZV18-OFFSET-XD+0.5 (4) AZV18-OFFSET-XD+1.0 (5) AZV18-OFFSET-XD+1.5	COS/FUV COS/NUV	2	10-Sep-2014 21:01:56.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
04	(1) AZV18 (3) AZV18-OFFSET-XD+0.5 (4) AZV18-OFFSET-XD+1.0 (5) AZV18-OFFSET-XD+1.5	COS/FUV COS/NUV	2	10-Sep-2014 21:02:02.0	yes
05	(1) AZV18 (3) AZV18-OFFSET-XD+0.5 (4) AZV18-OFFSET-XD+1.0 (5) AZV18-OFFSET-XD+1.5	COS/FUV COS/NUV	2	10-Sep-2014 21:02:08.0	yes
06	(6) WD1657+343 (61) WD1657+343-OFFSET-SE-1.4AS (62) WD1657+343-OFFSET-XD-1.0	COS/FUV COS/NUV	2	10-Sep-2014 21:02:16.0	yes

11 Total Orbits Used

ABSTRACT

Verify the ability of the Cycle 22 COS FSW to place an isolated point source at the center of the PSA, using FUV dispersed light target acquisition (TA) from the object and all three FUV gratings at the Third Lifetime Position (LP3). This program is modeled from the activity summary of LENA3.

This program should be executed after the LP3 HV, XD spectral positions, aperture mechanism position, and focus are determined and updated. In addition, initial estimates of the LIFETIME=ALTERNATE TA FSW parameters and subarrays should be updated prior to execution of this program. After Visit 01, the subarrays will be updated. After Visit 2, the FUV WCA-to-PSA offsets will be updated. Prior to Visit 6, LV56 will be installed will include new values for the LP3 FUV plate scales. VISIT 6 exposures use the default lifetime position (LP3).

NUV imaging TAs have previously been used to determine the correct locations for FUV spectra. We follow the same procedure here.

Note that the ETC runs here were made using ETC22.2 and are therefore valid for Mach 2014. Some TDS drop will likely have occured before these visits execute, but we have plenty of count to do what we need to do in this program.

OBSERVING DESCRIPTION

Successful FUV dispersed light centering (target acquisition, TA) of a point source within the PSA at the third lifetime position (LP3) is verified. This activity defines the FUV TA parameters in the Cycle 22 flight software (FSW) (LV56) and verifies that the FUV centering error is within the required thresholds. viz. 0.1 arcsec.

Visits 1-5 will be run at LIFETIME=ALTERNATE. Prior to execution, all the appropriate HV, SIAF, APERTURE, FOCUS, SUBARRAYS, and TA parameter updates must be available. The Subarrays, HV and SIAF are all part of the ground system, while the FOCUS values, APERTURE positions and the TA parameters are patchable constants in the FSW. Once we are ready to move to LP3 we will need to swap BEST (Currently LP2) and ALTERNATE (Currently LP3) such that BEST=LP3 and ALTERNATE=LP2, both in the FSW and in the SIAF file. Visit 6 wll execute at BEST after LV56 has been installed.

Visit 1 tests ACQ/SEARCH and also verifies that the updated FUV TA sub-arrays are correct for the LP3. After an NUV imaging TA and the standard NUV to FUV offset to the LP3, a 3x3x1.0" ACQ/SEARCH pattern is simulated by moving the target relative to the aperture via POSTARGS. At each position, a quick spectrum is taken at each location (with TAGFLASH). 1" was selected instead of the default 1.767" so that we ensure that no target light is missing the TA sub-arrays at locations relative to the PSA where target light still enters the PSA. An actual 3x3x1.0" ACQ/SEARCH is performed on the same centered target. Finally, a 3x3x1.767" ACQ/SEARCH is performed on a target offset by 1.414" in the aperture. Using the Roll angle on the data of the expected observation, the target will be offset by 1" in AD (Along Dispersion) and 1" in XD (cross-dispersion).

Visit 2 tests ACQ/PEAKD. From a centered position, simulate a wide ACQ/PEAKD pattern (i.e., 9 x 0.4"). Take spectra at all positions (via POS-TARGs) using G130M/1309. Track Ly-alpha to make sure the Geocoronal light remains outside the TA extraction boxes (subarrays) at all offsets. Repeat an actual 9x0.4" ACQ/PEAKD for a centered target, then center on off-centered target in both directions. [9x0.3" (offset +0.3" Y) and 7x0.55" (offset -0.8" Y)]. Before moving the target away from the centered position, take G140L, G130M, and G160M spectra at centered and extreme CENWAVE positions. Use moderate FLASH exposures to track the slope of the WCA light on the detector to determine if CENWAVE specific WCA-to-PSA offsets are required.

Visits 1 and 2 use the same roll angle of 345 degrees +/- 1 degree.

3

Visits 3-5 test ACQ/PEAKXD and define the plate scales for each grating (Visit 3= G130M, Visit 4= G160M, Visit 5 = G140L). Take spectra as the target is stepped (via POS-TARGs) in the XD direction to determine the plate scales. WCA lamp will also be flashed to verify the plate scale at the WCA position and the PSA locations. Spectra will be taken at 9 XD locations +/- (0, 0.3, 0.6, 1.1, 1.6)".   This will need to be done for each grating. We will need to test these plate scales (and possibly updated WCA to PSA offsets) in a followup visit. Also, test ACQ/PEAKXD at current and offset positions using the initial offsets and plate scales previously determined. The test sequence is centered, +/- 1.0, +/- 0.5, and +/-1.5 to determine the effects of gain sag on the centering accuracy (3 visits x 2 orbits each.) Also, take a centered G140L BOA spectrum in Visit 5. At the end of Visit 5, we test out the new PEAKXD with NUM_POS > 1 TA for each FUV grating.

Visits 3-5 all use a roll angle of 30 degrees +/- 1 degree.

Visit 6 is the confirmation visit. Will test ACQ/SEARCH+PEAKXD+PEAKD on a target offset -1" in AD, and +1" off in XD. G160M will use a 3x3x1.767" ACQ/SEARCH + PEAKXD+ 7x0.45" PEAKD. G130M will use a PEAKXD+5x0.8" PEAKD. Also, test each grating for +/- 1.0" ACQ/PEAKXDs to verify plate scales and WCA-to-PSA offsets. We would like to run this Visit on as close to Cycle 22 conditions as possible. (LIFETIME=ALTERNATE, using FSW HV and focus values). There are also two PEAKXDs with NUM_POS > 1 in this visit.

Visit 6 will use a roll angle of 298 +/- 1 degree. Visit 6 will be executed with the default lifetime position (which will be LP3 when it is executed.)

The HVs to be used during these visits are :

CENWAVE	Lifetime Position	HVA,HVB
G130M (not 1222)	Alternate (LP3)	167,163
G160M	Alternate (LP3)	167,163
G130M/1222	Alternate (LP3)	171,167
G140L	Alternate (LP3)	167,163

The Aperture Mech table should look like :

pcmech_ApMXDispPosition=

Proposal 13636 (STScI Edit Number: 4, Created: Wednesday, September 10, 2014 8:02:19 PM EST) - Overview

```
{
 /*  FUV   NUV  */
 /*  ---   ---  */
   {  53,  126 }, /* PSA_B, best PSA position */
   {-226, -153 }, /* BOA_B, best BOA position */
   {-226, -153 }, /* FCA_B, best FCA position */
   {  53,  126 }, /* WCA_B, best WCA position */
   { 181,  126 }, /* PSA_A, alternate PSA position */
   {-98, -153 }, /* BOA_A, alternate BOA position */
   {-98, -153 }, /* FCA_A, alternate FCA position */
   { 181,  126 }, /* WCA_A, alternate WCA position */
   { 126,  126 }, /* PSA_O, original PSA position */
   {-153, -153 }, /* BOA_O, original BOA position */
   {-153, -153 }, /* FCA_O, original FCA position */
   { 126,  126 }  /* WCA_O, original WCA position */
};
```

The ALTERNATE SIAF entries should look like :

LFBOAA   2014.188:00:00:00 230.9384 -239.2996 0.022600 0.094300 135.0 45.0
LFPSAA   2014.188:00:00:00 230.9384 -239.2996 0.022600 0.094300 135.0 45.0
LAPTFBOAFA 2014.188:00:00:00 221.5642 -248.6738 0.022600 0.094300 135.0 45.0
LAPTFPSAFA 2014.188:00:00:00 240.3126 -229.9254 0.022600 0.094300 135.0 45.0

--------- Additional Comments ----------

As of 7/3/2014, the planned schedule for 13636 is :

Proposal 13636 (STScI Edit Number: 4, Created: Wednesday, September 10, 2014 8:02:19 PM EST) - Overview

SMS of Sept 8   visit 1 of 13636   1 orbit (external)

SMS of Sept 29 visit 2 of 13636   2 orbits (external)

SMS of Oct 27 visits 3-5 of 13636   6 orbits (external)

SMS of Feb 9 visit 6 of 13636   2 orbits (external)

From APT (V22.2), the roll angles availble during these dates for the Visit 1-5 target, AzV18, are:

01 Sep 2014 302.06 - 350.46

02 Sep 2014 303.08 - 351.48

03 Sep 2014 304.10 - 352.50

04 Sep 2014 305.22 - 353.42

05 Sep 2014 306.23 - 354.43

06 Sep 2014 307.24 - 355.44

07 Sep 2014 308.25 - 356.45

08 Sep 2014 309.45 - 357.25 <- Visit 1, ROLL Angle set to 345d

09 Sep 2014 310.45 - 358.25

10 Sep 2014 311.45 - 359.25

11 Sep 2014 312.45 - 000.25

12 Sep 2014 313.54 - 001.14

13 Sep 2014 314.53 - 002.13

14 Sep 2014 315.51 - 003.11

15 Sep 2014 316.70 - 003.90

16 Sep 2014 317.68 - 004.88

17 Sep 2014 318.66 - 005.86

18 Sep 2014 319.63 - 006.83

19 Sep 2014 320.70 - 007.70

20 Sep 2014 321.67 - 008.67

21 Sep 2014 322.64 - 009.64

22 Sep 2014 323.70 - 010.50

23 Sep 2014 324.66 - 011.46

24 Sep 2014 325.62 - 012.42

25 Sep 2014 326.67 - 013.27

26 Sep 2014 327.63 - 014.23

27 Sep 2014 328.58 - 015.18

28 Sep 2014 329.72 - 015.92

29 Sep 2014 330.67 - 016.87 <- Visit 2, ROLL Angle also set to 345d

30 Sep 2014 331.71 - 017.71

01 Oct 2014 332.65 - 018.65

02 Oct 2014 333.59 - 019.59

03 Oct 2014 334.52 - 020.52

04 Oct 2014 335.45 - 021.45

05 Oct 2014 336.38 - 022.38

06 Oct 2014 337.41 - 023.21

07 Oct 2014 338.34 - 024.14

08 Oct 2014 339.36 - 024.96

09 Oct 2014 340.29 - 025.89

10 Oct 2014 341.21 - 026.81

11 Oct 2014 342.23 - 027.63

12 Oct 2014 343.14 - 028.54

13 Oct 2014 344.07 - 029.45

14 Oct 2014 344.98 - 030.36

15 Oct 2014 345.90 - 031.28

16 Oct 2014 346.90 - 032.10

17 Oct 2014 347.81 - 033.01

18 Oct 2014 348.72 - 033.92

19 Oct 2014 349.62 - 034.82

20 Oct 2014 350.53 - 035.73

21 Oct 2014 351.54 - 036.54

22 Oct 2014 352.44 - 037.44

23 Oct 2014 353.35 - 038.35

24 Oct 2014 354.25 - 039.25

25 Oct 2014 355.15 - 040.15

26 Oct 2014 356.06 - 041.06

27 Oct 2014 356.96 - 041.96 <- Visits 3,4 & 5, ROLL Angle set to 30d

28 Oct 2014 357.86 - 042.86

29 Oct 2014 358.76 - 043.76

30 Oct 2014 359.67 - 044.67

31 Oct 2014 000.57 - 045.57

01 Nov 2014 001.57 - 046.37

02 Nov 2014 002.47 - 047.27

03 Nov 2014 003.38 - 048.18

04 Nov 2014 021.68 - 031.68

05 Nov 2014 022.58 - 032.58

06 Nov 2014 023.49 - 033.49

07 Nov 2014 024.39 - 034.39

08 Nov 2014 025.30 - 035.30

09 Nov 2014 026.21 - 036.21

10 Nov 2014 027.12 - 037.12

11 Nov 2014 028.02 - 038.02

12 Nov 2014 028.93 - 038.93

13 Nov 2014 029.85 - 039.85

14 Nov 2014 030.76 - 040.76

From APT (V22.2), the roll angles availble for the Visit 6 target, WD1657, are:

31 Jan 2015 297.60 - 307.60

01 Feb 2015 296.71 - 306.71

02 Feb 2015 295.82 - 305.82 <-Visit 6 target date. Roll angle set to 298, so that it will still work unti 2/10/15

03 Feb 2015 294.93 - 304.93

04 Feb 2015 294.05 - 304.05

05 Feb 2015 293.17 - 303.17

06 Feb 2015 292.29 - 302.29

07 Feb 2015 291.42 - 301.42

08 Feb 2015 290.55 - 300.55

09 Feb 2015 289.68 - 299.68

10 Feb 2015 288.82 - 298.82 <- Visit 6 target date. Roll angle set to 298, so that it will still work unti 2/10/15

11 Feb 2015 287.96 - 297.96

12 Feb 2015 287.10 - 297.10

13 Feb 2015 286.24 - 296.24

14 Feb 2015 285.39 - 295.39

15 Feb 2015 284.54 - 294.54

16 Feb 2015 283.69 - 293.69

17 Feb 2015 282.84 - 292.84

18 Feb 2015 281.99 - 291.99

19 Feb 2015 281.15 - 291.15

20 Feb 2015 280.30 - 290.30

21 Feb 2015 279.46 - 289.46

22 Feb 2015 278.62 - 288.62

23 Feb 2015 277.78 - 287.78

24 Feb 2015 276.94 - 286.94

25 Feb 2015 276.10 - 286.10

26 Feb 2015 257.86 - 302.66

27 Feb 2015 256.92 - 301.92

28 Feb 2015 256.09 - 301.09

Visit 6 is sometime in Feb 2015 (TBD), we will adjust the ROLL angle when we know the exact date of execution. Visit 6 will be the first COS visit

at LP3

<table>
<tr><td rowspan="2">Visit</td><td colspan="2">Proposal 13636, ACQ/SEARCH TEST (01), completed</td><td>Thu Sep 11 01:02:19 GMT 2014</td></tr>
<tr><td colspan="3">

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: SCHED 100%; ORIENT 344D TO 346 D; BETWEEN 08-SEP-2014:00:00:00 AND 11-SEP-2014:00:00:00

Comments: ACQ/SEARCH Test. The target is AVZ18 (the SMOV TA target).

For a 3x3x1" spiral pattern, the telescope slew is [AD,XD]
```
   0.00    0.00
   1.00    0.00
   1.00    1.00
   0.00    1.00
  -1.00    1.00
  -1.00    0.00
  -1.00   -1.00
   0.00   -1.00
   1.00   -1.00
```

The roll angle is constrained to 345 degrees +/- 1 degree, schedulability = 100%.
First we use pos-targs to simulate the 3x3x1.0" pattern, taking TAGFLASHed spectra at each location. We then perform a 3x3x1.0" ACQ/SEARCH on the centered target. We then offset the target 1" in XD and 1" in AD and perform a 3x3x1.767" ACQ/SEARCH on the target.

</td></tr>
</table>

<table>
<tr><td rowspan="5">Diagnostics</td><td>(ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</td></tr>
<tr><td>(ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</td></tr>
<tr><td>(ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</td></tr>
<tr><td>(ACQ/SEARCH TEST (01)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.</td></tr>
<tr><td>(ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE</td></tr>
</table>

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
Fixed Targets	(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
			Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
			Equinox: J2000	Epoch of Position: 2000		

Comments: B2Ia, Magellanic Clouds. Nominal ETC exposure times from spectrum supplied by D. Lennon:

NUV, MIRRORA, BOA: 27s (COS.ta.360711)
FUV, G130M, 1309, PSA: 2s (COS.sa.360701) & 182s S/N=10 spectroscopy (COS.sp.360698)
FUV, G140L, 1105: 038s S/N=10 spectroscopy (COS.sp.389720)
FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715)

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(11)	AZV18-OFFSET-NE-1.4AS	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-NE-1.4AS)
			RA Offset: -3.79451E-4 Degrees		(B-V)=+0.04	
			Dec Offset: -0.366025 Arcsec			

Comments: This target is offset by 1" in both AD (X) and XD (Y), so sqrt(2)=1.414" total offset.

The U3 roll angle has been constrained to 345 +/- 1 degree

AZV18 offset for ACQ/SEARCH (AD,XD)=(-1",-1")=-sqrt(2")@10d North of East
*dRA=+sqrt(2)"*cos(15)=+1.366025" =+0.000379451d*
*dDEC=+sqrt(2)"*sin(15)=+0.366025"*

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.617 093)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				31 Secs (31 Secs)	
								[==>]	[1]
	Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.617093 , gives S/N=60.000 in 27.48 seconds, we go for 31s.									
2	G130M - B ASELINE S PECTRUM (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=S0090D03 6; LIFETIME-POS=A LTERNATE			180 Secs (180 Secs) [==>]	[1]
	Comments: Spectrum of source to define correct location of star when it is centered in NUV. (COS.sp.617094, simulates S/N=10 per RE in 125s) BT=666*(2/3) = 444. This spectrum will be used to define the WCA-to-PSA offset for the G130M. Tagflash sequence is 36s on - 54 off - 36s on - 54 off (72s lamp time). **NOTE THIS ETC RUN WAS MADE WITH ETC 22.2** The TDS for these exposures is set for 03-31-2014. Therefore our target will appear slightly fainter than the ETC predictions, but we pack the orbits the best we can, and the counts should be sufficient for our purposes .									
3	G130M - P OSTARG + SPECTRU M1 (1,0) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG 1.0,null		20 Secs (20 Secs) [==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds. (~16000 total counts(A+B)). at 1.0 off, the throughput will be 67%, so we leave the BT at 600s									
4	G130M - P OSTARG + SPECTRU M2 (1,1)(Co rner) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG 1.0,1.0		22 Secs (22 Secs) [==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH									
5	G130M - P OSTARG + SPECTRU M3 (0,1) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG 0,1.0		22 Secs (22 Secs) [==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH									
6	G130M - P OSTARG + SPECTRU M4 (-1,1) (C orner) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG -1,1		22 Secs (22 Secs) [==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH									

Exposures (side label)

#	Target		Config	Spec/Wave	Parameters		Time		Flag
7	G130M - POSTARG + SPECTRUM5 (-1,0) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG -1,null 0;	20 Secs (20 Secs)	[==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH								
8	G130M - POSTARG + SPECTRUM6 (-1,-1) (Corner) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG -1,-1 0;	22 Secs (22 Secs)	[==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH								
9	G130M - POSTARG + SPECTRUM7 (0,-1) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG 0,-1 0;	22 Secs (22 Secs)	[==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH								
10	G130M - POSTARG + SPECTRUM8 (1,-1) (Corner) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG 1,-1 0;	22 Secs (22 Secs)	[==>]	[1]
	Comments: POSTARG TO SIMULATE ACQ/SEARCH								
11	G130M - ACQ/SEARCH (COS.sa.617097)	(1) AZV18	COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	SCAN-SIZE=3; STEP-SIZE=1.0; LIFETIME-POS=ALTERNATE		2 Secs (2 Secs)	[==>]	[1]
	Comments: 3x3x1.0" ACQ/SEARCH on the centered target. COS.sa.617097. S/N = 60 is reached in 1.4 (A+B) seconds. This is performed on the actual target.								
12	G130M - BASELINE SPECTRUM (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		110 Secs (110 Secs)	[==>]	[1]
	Comments: Spectrum of source to confirm the FUV ACQ/SEARCH centing. (COS.sp.617094, simulates S/N=10 per RE in 125s) BT=666*(2/3) = 444. We use ~110 seconds to get ~S/N/RE=8.								
13	G130M - ACQ/SEARCH (COS.sa.617098)	(11) AZV18-OFFSET-NE-1.4AS	COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	SCAN-SIZE=3; STEP-SIZE=1.767; LIFETIME-POS=ALTERNATE		2 Secs (2 Secs)	[==>]	[1]
	Comments: 3x3x1.767" ACQ/SEARCH. COS.sa.617097. S/N = 60 is reached in 1.4 (A+B) seconds. This is performed on the fictious target 1" to the NE, so the actual target is 1" to the SW. The target will be 1/3 vignetted, in the center search position, but that's ok, that's what we want.								

| 14 | G130M - B ASELINE S PECTRUM (COS.sp.617 094) | (11) AZV18-OFFSE T-NE-1.4AS | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | 110 Secs (110 Secs) *[==>]* | *[1]* |

Comments: Spectrum of source to verify accurate centering (COS.sp.360698). BT=986*(2/3) = ~630. 182s gives S/N/RE=10. We use ~110seconds to get ~S/N/RE=8.
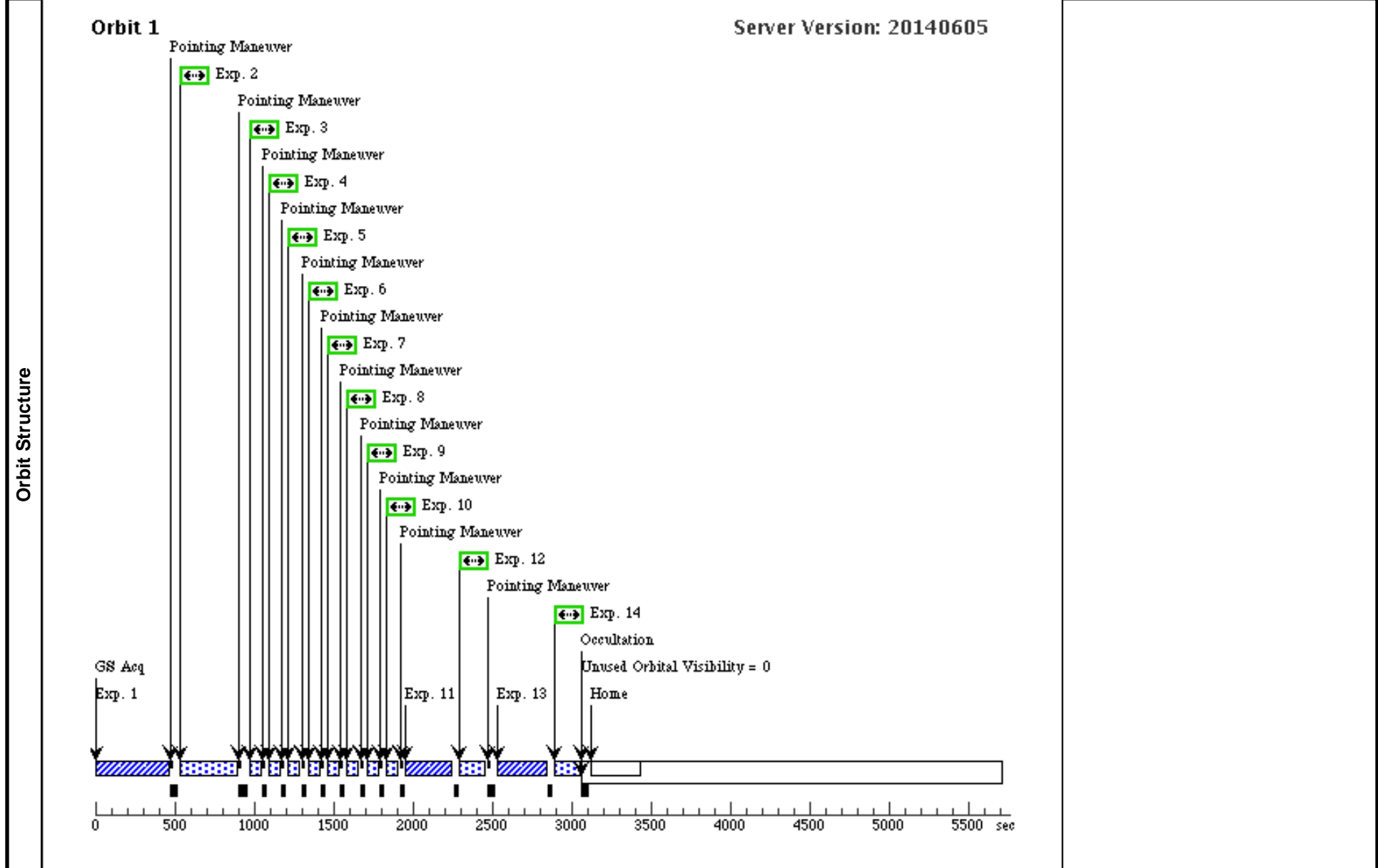
Visit

Proposal 13636, ACQ/PEAKD TEST (02), implementation   Thu Sep 11 01:02:21 GMT 2014

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, S/C, COS/FUV

Special Requirements: SCHED 100%; ORIENT 344D TO 346 D; AFTER 01 BY 13 D TO 28 D

Comments: ACQ/PEAKD test on AVZ18. After NUV ACQ/IMAGE centering, we first take G130M, G160M, and G140L exposures at centered and extreme CENWAVES to define the WCA-to-PSA offsets, AND map the sloping WCA spectrum to see if CENWAVE dependent offsets are required. Then then we simulate a 9x0.4" ACQ/PEAKD taking short spectra. We start with the centered (0) position then go to -1.6" in X and proceed to +1.6" X. We flash the lamp at all positions.

We then perform an actual 9x0.4" ACQ/PEAKD on the centered target, then attempt a 9x0.3" ACQ/PEAKD on a target offset by +0.3", then a 7x0.5" offset by -0.8".

The roll angle is constrained to 345 degrees, schedulability = 100%.

We balance the POSTARG'd spectra by the expected throughput (which is a function of radius)

OFFSET   %LOSS   ET equivalent/second ET
0.00   0.00   1.00 20s
0.40   0.00   1.00 20s
0.80   20.00   1.25 25s
1.20   46.67   2.1   37.5
1.60   73.33   3.75 75.0s

Diagnostics

(ACQ/PEAKD TEST (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKD TEST (02)) Warning (Form): COS ACQ/PEAKD exposure should be preceded by an ACQ/PEAKXD exposure in the Visit.

(ACQ/PEAKD TEST (02)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

(ACQ/PEAKD TEST (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
		Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
		Equinox: J2000	Epoch of Position: 2000		

Comments: B2Ia, Magellanic Clouds. Nominal ETC exposure times from spectrum supplied by D. Lennon:

NUV, MIRRORA, BOA: 27s (COS.ta.360711)
FUV, G130M, 1309, PSA: 2s (COS.sa.360701) & 182S S/N=10 spectroscopy (COS.sp.360698)
FUV, G140L, 1105: 038s S/N=10 spectroscopy (COS.sp.389720)
FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715)

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(21)	AZV18-OFFSET-AD-0.3	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-AD-0.3)
		RA Offset: -7.217E-5 Degrees		(B-V)=+0.04	
		Dec Offset: 0.15 Arcsec			

Comments: This target is offset -0.3" in +AD direction.

The U3 roll angle has been constrained to be 345 +/- 1 degree

This target can be used from Aug 27 to Oct 14, 2014.

AZV18 offset#1 for ACQ/PEAKD (-0.3",0)=-0.3"@30d N of W
*dRA=+0.3"*cos(30d)=+0.25980762" =+0.00007217d*
*dDEC=-0.3"*sin(30d)=-0.1500"*

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(22)	AZV18-OFFSET-AD+0.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-AD+0.5)
		RA Offset: 1.2028E-4 Degrees		(B-V)=+0.04	
		Dec Offset: -0.25 Arcsec			

Comments: This target is offset +0.5" in the -AD direction.

The U3 roll angle has been constrained to be 345 +/- 1 degree

This target can be used from Aug 27 to Oct 14, 2014.

AZV18 offset#2 for ACQ/PEAKD (+0.5",0)=0.5"@30d N of West
*dRA=-0.5"*cos(30d)=-0.43301269" =-0.00012028d*
*dDEC=+0.5"*sin(30d)=+0.25000"*

To move the target to this location, the offset should have the opposite sign in the offsets above.

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.617093)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				30 Secs (30 Secs) [==>]	[1]
	Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.617093 , gives S/N=60.000 in 27.48 seconds, we go for 30s.								
2	G140L/1105 - BASELINE SPECTRUM (COS.sp.617110)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=400; FP-POS=3; FLASH=S0200D030; WAVECAL=YES; LIFETIME-POS=ALTERNATE			30 Secs (30 Secs) [==>]	[1]
	Comments: Spectrum of source to define the G140L/1105 XD location of target when it is centered w/ NUV ACQ/IMAGE. COS.sp.617110 gives S/N/RE = 10 at1400.00A in 29.5 seconds. BT=2/3 (600) = 400.								
3		DARK	S/C, DATA, NONE			QASISTATES COS FUV HVLOW HVLOW		1 Secs (1 Secs) [==>]	[1]
	Comments: Efficiently schedule recons from SEGA to HVNOM. Exposure added by G. Chapman.								
4	G140L/1280 - BASELINE SPECTRUM (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=400; FP-POS=3; FLASH=S0200D036; WAVECAL=YES; LIFETIME-POS=ALTERNATE			36 Secs (36 Secs) [==>]	[1]
	Comments: Spectrum of source to define the G140L/1280 XD location of target when it is centered w/ NUV ACQ/IMAGE. COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								
5	G160M/1577 - BASELINE SPECTRUM (COS.sp.617117)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=483; FP-POS=3; FLASH=S0200D036; WAVECAL=YES; LIFETIME-POS=ALTERNATE			36 Secs (36 Secs) [==>]	[1]
	Comments: Spectrum of source to define WCA location for G160M/1577, ET = LAMP TIME = 36s. COS.sp.617117 gives S/N/RE=10 @ 1610A in 275s. (BT=2/3*725=483).								
6	G160M/1600 - BASELINE SPECTRUM (COS.sp.617118)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=S0200D036; WAVECAL=YES; LIFETIME-POS=ALTERNATE			190 Secs (190 Secs) [==>]	[1]
	Comments: Spectrum of source to define WCA location for G160M/1600, ET = LAMP TIME = 36s. COS.sp.617117 gives S/N/RE=10 @ 1610A in 275s. (BT=2/3*769=513).								

7	G160M/162 3 - BASELI NE SPECT RUM (COS.sp.617 119)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=54 5; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE		36 Secs (36 Secs) [==>]
							[1]
Comments: Spectrum of source to define WCA location for G160M/1623, ET = LAMP TIME = 36s. COS.sp.617119 gives S/N/RE=10 @ 1640A in 222s. (BT=2/3*818=545).							
8	G130M/132 7 - BASELI NE SPECT RUM (COS.sp.617 121)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=43 0; FP-POS=3; FLASH=S0060D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE		36 Secs (36 Secs) [==>]
							[1]
Comments: Spectrum of source to define correct location of star when it is centered in NUV (COS.sp.617121). BT=645*(2/3) = ~430. This will get us S/N~10 per RE in 122s. 36s lamp flash.							
9	G130M/129 1 - BASELI NE SPECT RUM (COS.sp.617 124)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=47 4; FP-POS=3; FLASH=S0060D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE		36 Secs (36 Secs) [==>]
							[1]
Comments: Spectrum of source to define correct location of star when it is centered in NUV (COS.sp.617124). BT=711*(2/3) = ~474. This will get us S/N~10 per RE in 122s. 36s lamp flash							
10	G130M/122 2 - BASELI NE SPECT RUM (COS.sp.617 126)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=75 4; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE		146 Secs (146 Secs) [==>]
							[1]
Comments: Spectrum of source to define correct location of star when it is centered in NUV (COS.sp.617126). BT=1132*(2/3) = ~754. This will get us S/N~10 per RE in 119s. 36s lamp flash							
11	G130M/130 9 - BASELI NE SPECT RUM (COS.sp.617 129)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE	Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02)	170 Secs (170 Secs) [==>]
							[2]
Comments: Spectrum of source to define correct location of star when it is centered in NUV (COS.sp.617129). BT=666*(2/3) = ~444. This will get us S/N~10 per RE in 122. 36s lamp flash							

| 12 | G130M - P OSTARG + SPECTRU M1 (-1.6) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG -1.6,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 75 Secs (75 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE 9x0.4" ACQ/PEAKD. This is the x= -1.6 " position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 13 | G130M - P OSTARG + SPECTRU M2 (-1.2) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG -1.2,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 37.5 Secs (37.5 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. his is the x= -1.2 " position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 14 | G130M - P OSTARG + SPECTRU M3 (-0.8) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG -0.8,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 25 Secs (25 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. his is the x= -0.8 " position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 15 | G130M - P OSTARG + SPECTRU M4 (-0.4) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG -0.4,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 20 Secs (20 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. his is the x=-0.4" position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 16 | G130M - P OSTARG + SPECTRU M5 (0.4) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG 0.4,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 20 Secs (20 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. This is the x= +0.4" position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 17 | G130M - P OSTARG + SPECTRU M6 (0.8) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG 0.8,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 25 Secs (25 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. This is the x= +0.8" position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

| 18 | G130M - P OSTARG + SPECTRU M7 (1.2) (COS.sp.617 129) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG 1.2,null | Sequence 11-19 Non -Int in ACQ/PEAKD TEST (02) | 37.5 Secs (37.5 Secs) [==>] | [2] |

Comments: *POSTARG TO SIMULATE ACQ/PEAKD. This is the x= +1.2" position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds.*

19	G130M - POSTARG + SPECTRUM8 (1.6) (COS.sp.617129)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=600; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG 1.6,null	Sequence 11-19 Non-Int in ACQ/PEAKD TEST (02)	75 Secs (75 Secs) [==>]	[2]

Comments: POSTARG TO SIMULATE ACQ/PEAKD. This is the x= +1.6" position. S/N = 60 is reached in 2 seconds. We want to get a decent look at the spectrum, so we'll observe for 20 seconds (~16000 total counts (A+B))

20	G130M - ACQ/PEAKD (COS.sa.617132)	(1) AZV18	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=9; STEP-SIZE=0.4; LIFETIME-POS=ALTERNATE		Sequence 20-21 Non-Int in ACQ/PEAKD TEST (02)	2 Secs (2 Secs) [==>]	[2]

Comments: ACQ/PEAKD of a centered target on the same 9x0.4" pattern. . S/N = 60 is reached in 1.4 seconds.

21	G130M - BASELINE SPECTRUM (COS.sp.617129)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		Sequence 20-21 Non-Int in ACQ/PEAKD TEST (02)	62 Secs (62 Secs) [==>]	[2]

Comments: Confirmation Spectrum after the PEAKD (COS.sp.617129). BT=666*(2/3) = ~444. This will get us S/N~10 per RE in 122s, we are forced to use less due to time constraints.

22	G130M - ACQ/PEAKD (COS.sa.617132)	(21) AZV18-OFFSET-AD-0.3	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=9; STEP-SIZE=0.3; LIFETIME-POS=ALTERNATE		Sequence 22-23 Non-Int in ACQ/PEAKD TEST (02)	2 Secs (2 Secs) [==>]	[2]

Comments: 9x0.3" ACQ/PEAKD on an off centered target. The target is defined 0.3" in the +AD direction from the actual target, so the target will actually now be 0.3" off in the -AD direction.

23	G130M - BASELINE SPECTRUM (COS.sp.617129)	(21) AZV18-OFFSET-AD-0.3	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		Sequence 22-23 Non-Int in ACQ/PEAKD TEST (02)	62 Secs (62 Secs) [==>]	[2]

Comments: Confirmation spectrum after the 9x0.3" ACQ/PEAKD. Our coordinate system is now off by -0.3". Our next target is defined to be -0.5" from the original location, which is now -0.8" from the original target , so the target is actually at +0.8" when we start the ACQ/PEAKD pattern. (COS.sp.617129). BT=666*(2/3) = ~444. This will get us S/N~10 per RE in 122s, we are forced to use less due to time constraints.

24	G130M - ACQ/PEAKD (COS.sa.617132)	(22) AZV18-OFFSET-AD+0.5	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=7; STEP-SIZE=0.55; LIFETIME-POS=ALTERNATE		Sequence 24-25 Non-Int in ACQ/PEAKD TEST (02)	2 Secs (2 Secs) [==>]	[2]

Comments: 9x0.55 ACQ/PEAKD on an off centered target, this time the target is 0.8" off to the +AD.

25	G130M - BASELINE SPECTRUM (COS.sp.617129)	(22) AZV18-OFFSET-AD+0.5	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		Sequence 24-25 Non-Int in ACQ/PEAKD TEST (02)	63 Secs (63 Secs) [==>]	[2]

Comments: Spectrum of source to determine if correctly centered after the 9x0.5" pattern on the target offset by +0.8". (COS.sp.617129). BT=666*(2/3) = ~444. This will get us S/N~10 per RE in 122s, we are forced to use less due to time constraints.

Orbit Structure

Orbit 1

Server Version: 20140605

Pointing Maneuver

Exp. 2

Exp. 3

Reconfig

Exp. 4

Exp. 5

Exp. 6

Exp. 7

Exp. 8

Exp. 9

Exp. 10

Unused Orbital Visibility = 0

Occultation

GS Acq

Exp. 1

0   500   1000   1500   2000   2500   3000   3500   4000   4500   5000   5500 secs.

Orbit 2
GS Reacq
Exp. 11
Pointing Maneuver
Exp. 12
Pointing Maneuver
Exp. 13
Pointing Maneuver
Exp. 14
Pointing Maneuver
Exp. 15
Pointing Maneuver
Exp. 16
Pointing Maneuver
Exp. 17
Pointing Maneuver
Exp. 18
Pointing Maneuver
Exp. 19
Pointing Maneuver
Exp. 20
Exp. 21
Pointing Maneuver
Exp. 22
Exp. 23
Pointing Maneuver
Exp. 24
Exp. 25
Unused Orbital Visibility = 0
Occultation
Home

Server Version: 20140605

Visit	**Proposal 13636, ACQ/PEAKXD TEST G130M (03), implementation** Thu Sep 11 01:02:21 GMT 2014 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV, COS/FUV Special Requirements: SCHED 100%; ORIENT 29D TO 31 D; BETWEEN 27-OCT-2014:00:00:00 AND 09-NOV-2014:00:00:00 *Comments: ACQ/PEAKXD Test for G130M. The target is AVZ18. After obtaining a good spectrum of the centered target, take spectra at the following positions (-1.6,-1.1,-0.6,-0.3,0.3,0.6,1.1,1.6) " in the XD direction. This will allow us to measure the plate scale. The > +/- 0.5" offsets have expanded exposure times to compensate for vignetting. To maintain S/N, the scale factor for the exposure times should be :* *OFFSET %LOSS ET equivalent/second"* *0.00 0.00 1.00* *0.30 0.00 1.00* *0.60 6.67 1.07* *1.10 40.00 1.67* *1.60 73.33 3.75* *We expect 1100 FUVA counts/sec over the ~2300 RE, the target spectrum is ~flat, so we get 1 count/RE in 2s. To get 50 counts/RE, we need 100s exposures at abs(XD) < 0.5, 107s at +/- 0.6", 167s at +/-1.1, we only have time for 225s at +/- 1.6"* *After obtaining the plate scales, we test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5", using the final WCA-to-PSA offsets, and the initial plate scales estimates.* *The roll angle for 27-OCT-2014 till 9-Nov-2014 is 30 degrees (+/- 1 degree, visits 3-5)*
Diagnostics	(ACQ/PEAKXD TEST G130M (03)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit. (ACQ/PEAKXD TEST G130M (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACQ/PEAKXD TEST G130M (03)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting. (ACQ/PEAKXD TEST G130M (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

23

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
		Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
		Equinox: J2000	Epoch of Position: 2000		

Comments: B2Ia, Magellanic Clouds. Nominal ETC exposure times from spectrum supplied by D. Lennon:

NUV, MIRRORA, BOA: 27s (COS.ta.360711)
FUV, G130M, 1309, PSA: 2s (COS.sa.360701) & 182S S/N=10 spectroscopy (COS.sp.360698)
FUV, G140L, 1105: 038s S/N=10 spectroscopy (COS.sp.389720)
FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715)

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AZV18-OFFSET-XD+0.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
		RA Offset: 1.34156E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.12941 Arcsec			

Comments: This target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 0.5" offset for ACQ/PEAKXD (dAD,dXD)=(0,-0.5")=0.5"@15d West of South
dRA=-0.5"*cos(15d)=-0.482963"=-0.000134156d
dDEC=-0.5"*sin(15d)=-0.129410"

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AZV18-OFFSET-XD+1.0	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
		RA Offset: 2.68313E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.258819 Arcsec			

Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 1.0" offset for ACQ/PEAKXD (0,-1.0")=1"@15d W of S
dRA=-1.0"*cos(15d)=-0.965926"=-0.000268313d
dDEC=-1.0"*sin(15d)=-0.258819"

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	AZV18-OFFSET-XD+1.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
		RA Offset: 4.02469E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.388229 Arcsec			

Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 1.5" offset for ACQ/PEAKXD (0,-1.5")=1.5"@15d W of S
dRA=-1.5"*cos(15d)=-1.44889" =-0.000402469d
dDEC=-1.5"*sin(15d)=-0.388229"

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.617093)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				30 Secs (30 Secs)	
								[==>]	[1]
	Comments: *NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.617093 , gives S/N=60.000 in 27.48 seconds, we go for 30s.*								
2	G130M - BASELINE SPECTRUM (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=S0200D036; LIFETIME-POS=ALTERNATE		Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G130M (03)	176 Secs (176 Secs)	
								[==>]	[1]
	Comments: *Spectrum of source to define correct location of star when it is centered using NUV ACQ/IMAGE. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.*								
3	G130M - POSTARG + SPECTRUM1 (-1.6) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=600; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G130M (03)	225 Secs (225 Secs)	
								[==>]	[1]
	Comments: *POSTARG TO Move to Y=-1.6. S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 200 seconds, since it is heavily vignetted. We FLASH just to make sure the target is not drifting in raw coordinates due to thermal variations.*								
4	G130M - POSTARG + SPECTRUM2 (-1.1) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=600; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.1	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G130M (03)	167 Secs (167 Secs)	
								[==>]	[1]
	Comments: *POSTARG TO Move to Y=-1.1". S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 150 seconds, since are >40% vignetted.*								
5	G130M - POSTARG + SPECTRUM3 (-0.6) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=500; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G130M (03)	107 Secs (107 Secs)	
								[==>]	[1]
	Comments: *POSTARG TO Move to Y=-0.6". S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 100 seconds.*								
6	G130M - POSTARG + SPECTRUM4 (-0.3) (COS.sp.617094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=444; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.3	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G130M (03)	100 Secs (100 Secs)	
								[==>]	[1]
	Comments: *POSTARG TO Move to Y=-0.3. S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 100 seconds.*								

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7	G130M - P OSTARG + SPECTRU M5 (+0.3) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.3	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G130M (03)	100 Secs (100 Secs) *[==>]* *[1]*

Comments: POSTARG TO Move to Y=0.3. S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 100 seconds.

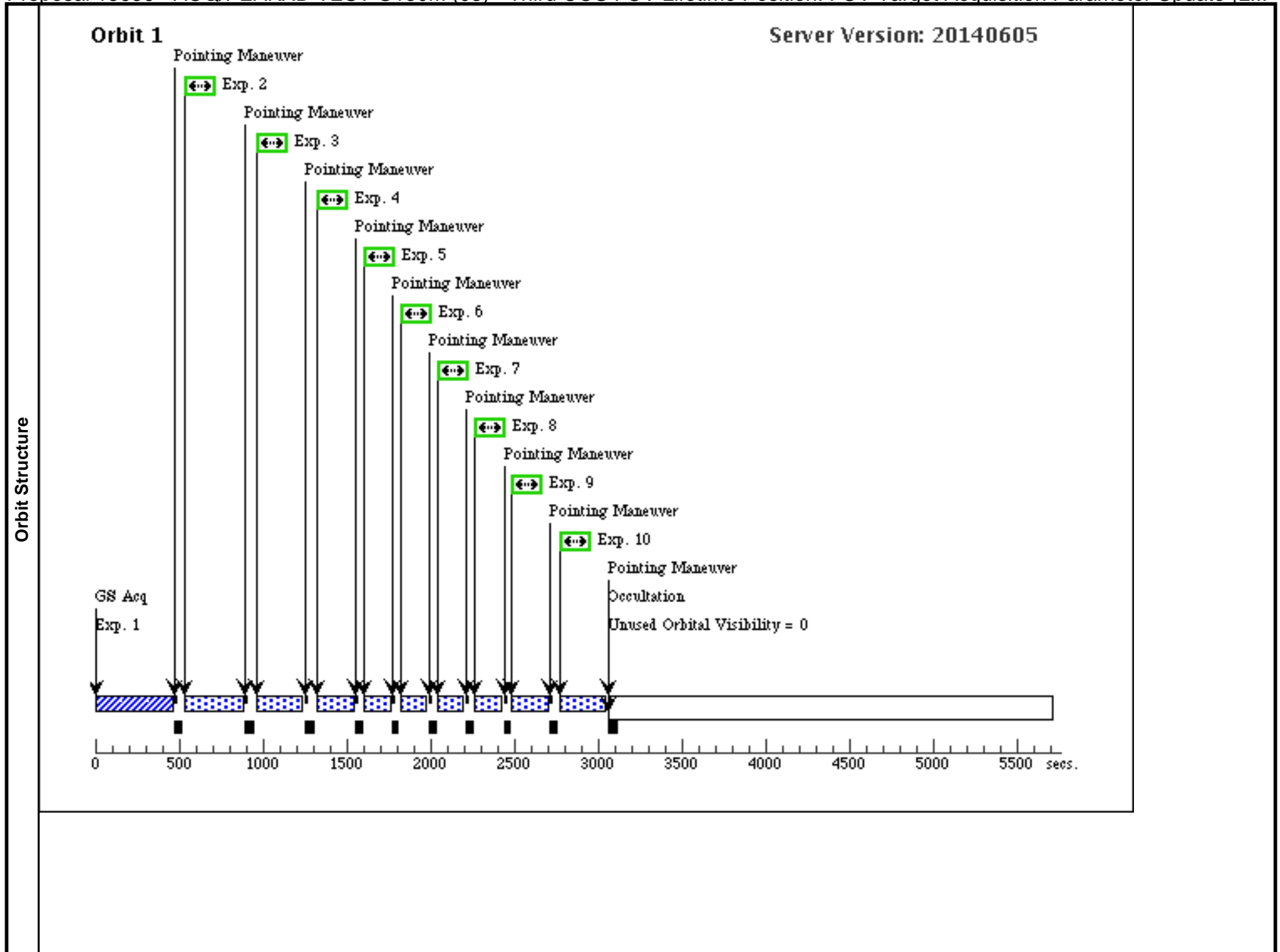|								
8	G130M - P OSTARG + SPECTRU M6 (+0.6) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=50 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.6	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G130M (03)	107 Secs (107 Secs) *[==>]* *[1]*

Comments: POSTARG TO Move to Y=0.6. S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 100 seconds.

9	G130M - P OSTARG + SPECTRU M7 (-1.1) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.1	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G130M (03)	167 Secs (167 Secs) *[==>]* *[1]*

Comments: POSTARG TO Move to Y=1.1. S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 150 seconds, since are >40% vignetted.

10	G130M - P OSTARG + SPECTRU M8 (-1.6) (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.6	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G130M (03)	225 Secs (225 Secs) *[==>]* *[1]*

Comments: POSTARG TO Move to Y=1.6". S/N = 60 is reached in 2 seconds. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 200 seconds, since it is heavily vignetted.

11	G130M - PE AKXD- Cen tered (COS.sa.617 140)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	LIFETIME-POS=A LTERNATE		Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G130M (03)	10 Secs (10 Secs) *[==>]* *[2]*

Comments: ETC Request ID: COS.sa.617140 Requested Signal/Noise Ratio = 60.000 gives: Time = 1.3755 seconds. Time Required for Requested SNR in Segment A only: 2.3416

If we have the offsets right, the target should not move.

12	G130M - B ASELINE S PECTRUM (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE		Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G130M (03)	169 Secs (169 Secs) *[==>]* *[2]*

*Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.*

13	G130M - PE AKXD-XD +0.5 (COS.sa.617 140)	(3) AZV18-OFFSET -XD+0.5	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	LIFETIME-POS=A LTERNATE		Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G130M (03)	10 Secs (10 Secs) *[==>]* *[2]*

Comments: ACQ/PEAKXD on the target offset by +0.5". Requested Signal/Noise Ratio = 60.000 gives: Time = 1.3755 seconds. Time Required for Requested SNR in Segment A only: 2.3416
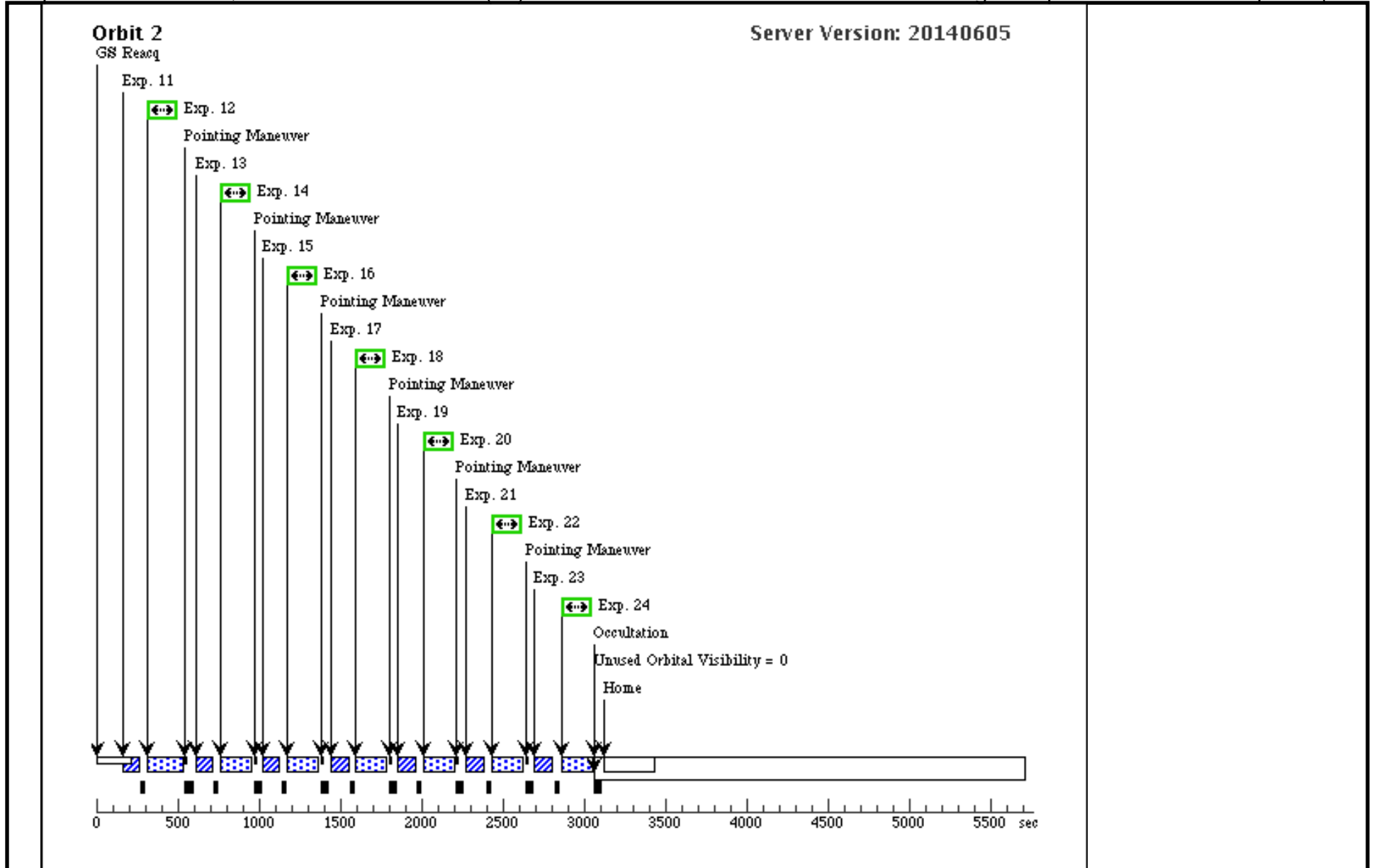
| 14 | G130M - B ASELINE S PECTRUM (COS.sp.617 094) | (3) AZV18-OFFSET -XD+0.5 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G130M (03) | 140 Secs (140 Secs) [==>] | | [2] |

Comments: *Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.*

| 15 | G130M - PE AKXD-XD- 0.5 (COS.sa.617 140) | (1) AZV18 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1309 A | LIFETIME-POS=A LTERNATE | Sequence 15-16 Non -Int in ACQ/PEAKX D TEST G130M (03) | 10 Secs (10 Secs) [==>] | | [2] |

Comments: *Back on original target, -0.5". ,Requested Signal/Noise Ratio = 60.000 gives: Time = 1.3755 seconds. Time Required for Requested SNR in Segment A only: 2.3416*

| 16 | G130M - B ASELINE S PECTRUM (COS.sp.617 094) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | Sequence 15-16 Non -Int in ACQ/PEAKX D TEST G130M (03) | 140 Secs (140 Secs) [==>] | | [2] |

Comments: *Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.*

| 17 | G130M -PE AKXD- XD +1.0 (COS.sa.617 140) | (4) AZV18-OFFSET -XD+1.0 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1309 A | LIFETIME-POS=A LTERNATE | Sequence 17-18 Non -Int in ACQ/PEAKX D TEST G130M (03) | 15 Secs (15 Secs) [==>] | | [2] |

Comments: *ACQ/PEAKXD on the target offset by +1.0". COS.sa.617140 gives S/N=60 in 1.5. At, XD = 1", the target will be vignetted by 1/3. 10s should still be plenty.*

| 18 | G130M - B ASELINE S PECTRUM (COS.sp.617 094) | (4) AZV18-OFFSET -XD+1.0 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | Sequence 17-18 Non -Int in ACQ/PEAKX D TEST G130M (03) | 140 Secs (140 Secs) [==>] | | [2] |

Comments: *Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.. At, XD = 1", the target will be vignetted by 1/3.*

| 19 | G130M - PE AKXD-XD- 1.0 (COS.sa.617 140) | (1) AZV18 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1309 A | LIFETIME-POS=A LTERNATE | Sequence 19-20 Non -Int in ACQ/PEAKX D TEST G130M (03) | 15 Secs (15 Secs) [==>] | | [2] |

Comments: *ACQ/PEAKXD on the target offset by +1.0". COS.sa.617140 gives S/N=60 in 1.5. At, XD = 1", the target will be vignetted by 1/3. 10s should still be plenty.*

| 20 | G130M - B ASELINE S PECTRUM (COS.sp.617 094) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G130M 1309 A | BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | Sequence 19-20 Non -Int in ACQ/PEAKX D TEST G130M (03) | 140 Secs (140 Secs) [==>] | | [2] |

Comments: *ACQ/PEAKD confirmation spectrum, the target should be centered. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.*

| 21 | G130M - PE AKXD-XD +1.5 (COS.sa.617 140) | (5) AZV18-OFFSET -XD+1.5 | COS/FUV, ACQ/PEAKXD, PSA | G130M 1309 A | LIFETIME-POS=A LTERNATE | Sequence 21-22 Non -Int in ACQ/PEAKX D TEST G130M (03) | 20 Secs (20 Secs) [==>] | | [2] |

Comments: *ACQ/PEAKXD on the target offset by +1.5". COS.sa.617140, S/N = 60 is reached in 1.5 seconds (FUVA). At 1.5", the target wil be vignetted by 2/3, so we should still get S/N =60 in 10s, but we go to 15 be cause we have time.*

22	G130M - B ASELINE S PECTRUM (COS.sp.617 094)	(5) AZV18-OFFSET -XD+1.5	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 21-22 Non -Int in ACQ/PEAKX D TEST G130M (03)	140 Secs (140 Secs) *[==>]*	
								[2]
Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.								
23	G130M - PE AKXD-XD- 1.5 (COS.sa.617 140)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G130M (03)	20 Secs (20 Secs) *[==>]*	
								[2]
Comments: ACQ/PEAKXD on the target offset by -1.5". COS.sa.617140, S/N = 60 is reached in 1.5 seconds (FUVA). At 1.5", the target wil be vignetted by 2/3, so we should still get S/N =60 in 10s, but we go to 15 be cause we have time.								
24	G130M - B ASELINE S PECTRUM (COS.sp.617 094)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=44 4; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G130M (03)	140 Secs (140 Secs) *[==>]*	
								[2]
Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.617094 gives S/N/RE = 10 in 125 seconds, BT=2/3*666 or 444.								

Visit	**Proposal 13636, ACQ/PEAKXD TEST G160M (04), implementation**	Thu Sep 11 01:02:21 GMT 2014
	Diagnostic Status: Warning	
	Scientific Instruments: COS/NUV, COS/FUV	
	Special Requirements: SCHED 100%; ORIENT 29D TO 31 D; BETWEEN 27-OCT-2014:00:00:00 AND 09-NOV-2014:00:00:00	
	Comments: ACQ/PEAKXD Test for G160M. The target is AVZ18 (the SMOV TA target). After obtaining a good spectrum of the centered target, take spectra at the following positions (-1.6,-1.1,-0.6,-0.3,0.3,0.6,1.1,1.6) " in the XD direction. This will allow us to measure the plate scale. The > +/- 0.5" offsets have expanded exposure times to compensate for vignetting. To maintain S/N, the scale factor for the exposure times should be :	
	OFFSET %LOSS ET equivalent/second" *0.00 0.00 1.00* *0.30 0.00 1.00* *0.60 6.67 1.07* *1.10 40.00 1.67* *1.60 73.33 3.75*	
	We expect 800 FUVA counts/sec over the ~2300 RE, the target spectrum is ~flat, so we get 1 count/RE in 4s. To get 25 counts/RE, we need 95s exposures at abs(XD) < 0.5, 107s at +/- 0.6", 167s at +/-1.1, we only have time for 225s at +/- 1.6"	
	We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".	
	The roll angle for 27-OCT-2014 till 9-Nov-2014 is 30 degrees (+/- 1 degree , visits 3-5)	
Diagnostics	(ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE	
	(ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE	
	(ACQ/PEAKXD TEST G160M (04)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.	
	(ACQ/PEAKXD TEST G160M (04)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.	

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
		Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
		Equinox: J2000	Epoch of Position: 2000		

Comments: B2Ia, Magellanic Clouds. Nominal ETC exposure times from spectrum supplied by D. Lennon:

NUV, MIRRORA, BOA: 27s (COS.ta.360711)
FUV, G130M, 1309, PSA: 2s (COS.sa.360701) & 182S S/N=10 spectroscopy (COS.sp.360698)
FUV, G140L, 1105: 038s S/N=10 spectroscopy (COS.sp.389720)
FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715)

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(3)	AZV18-OFFSET-XD+0.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
		RA Offset: 1.34156E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.12941 Arcsec			

Comments: This target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 0.5" offset for ACQ/PEAKXD (dAD,dXD)=(0,-0.5")=0.5"@15d West of South
dRA=-0.5"*cos(15d)=-0.482963"=-0.000134156d
dDEC=-0.5"*sin(15d)=-0.129410"

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(4)	AZV18-OFFSET-XD+1.0	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
		RA Offset: 2.68313E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.258819 Arcsec			

Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 1.0" offset for ACQ/PEAKXD (0,-1.0")=1"@15d W of S
dRA=-1.0"*cos(15d)=-0.965926"=-0.000268313d
dDEC=-1.0"*sin(15d)=-0.258819"

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(5)	AZV18-OFFSET-XD+1.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
		RA Offset: 4.02469E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.388229 Arcsec			

Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only.

The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.

AZV18 1.5" offset for ACQ/PEAKXD (0,-1.5")=1.5"@15d W of S
dRA=-1.5"*cos(15d)=-1.44889" =-0.000402469d
dDEC=-1.5"*sin(15d)=-0.388229"

To move the target to this location, the offset should have the opposite sign in the offsets above.

Fixed Targets

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.617 093)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				30 Secs (30 Secs) [==>]	[1]
	Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.617093 , gives S/N=60.000 in 27.48 seconds, we go for 32s.								
2	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G160M (04)	205 Secs (205 Secs) [==>]	[1]
	Comments: Spectrum of source to define G160M/1600 location of a target when it is centered w/ NUV ACQ/IMAGE. *COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513*								
3	G160M - P OSTARG + SPECTRUM1 (-1.6) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=800; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G160M (04)	205 Secs (205 Secs) [==>]	[1]
	Comments: POSTARG TO Move to Y=-1.6. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 205 seconds, since it is heavily vignetted (67%).								
4	G160M - P OSTARG + SPECTRUM2 (-1.1) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=700; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.1	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G160M (04)	167 Secs (167 Secs) [==>]	[1]
	Comments: POSTARG TO Move to Y=-1.1. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 167 seconds, since it is 33% vignetted.								
5	G160M - P OSTARG + SPECTRUM3 (-0.6) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=600; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G160M (04)	107 Secs (107 Secs) [==>]	[1]
	Comments: POSTARG TO Move to Y=-0.6. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 107 seconds.								
6	G160M - P OSTARG + SPECTRUM4 (-0.3) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.3	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G160M (04)	100 Secs (100 Secs) [==>]	[1]
	*Comments: POSTARG TO Move to Y=-0.3. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 107 seconds. COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513*								

Exposures

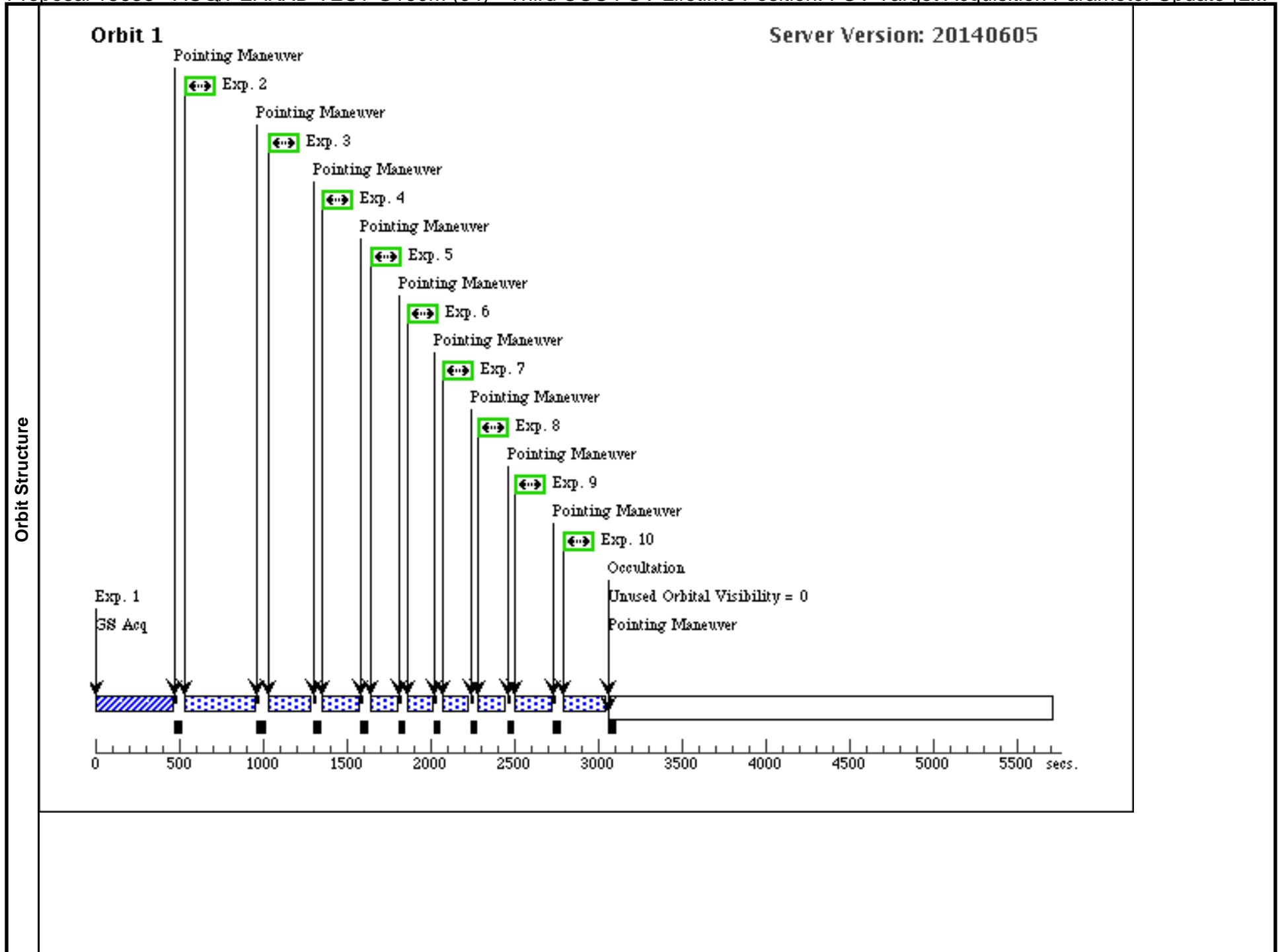| #										
7	G160M - P OSTARG + SPECTRU M5 (0.3) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.3	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G160M (04)	100 Secs (100 Secs) [==>]		[1]
Comments: POSTARG TO Move to Y=0.3. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 100 seconds. COS.sp.6 17142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513.										
8	G160M - P OSTARG + SPECTRU M6 (0.6) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.6	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G160M (04)	107 Secs (107 Secs) [==>]		[1]
Comments: POSTARG TO Move to Y=0.6. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for ~107 seconds.										
9	G160M - P OSTARG + SPECTRU M7 (1.1) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=70 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.1	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G160M (04)	167 Secs (167 Secs) [==>]		[1]
Comments: POSTARG TO Move to Y=1.1. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 167 seconds, since it is 33% vignetted.										
10	G160M - P OSTARG + SPECTRU M8 (1.6) (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=80 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.6	Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G160M (04)	205 Secs (205 Secs) [==>]		[1]
Comments: POSTARG TO Move to Y=1.6. S/N = 60 in 4-6s. But, we are trying to determine the local plate scale of the detector, so want to get a decent look at the spectrum, so we'll observe for 205 seconds, since it is heavily vignetted (67%).										
11	G160M - PE AKXD - Ce ntered (COS.sa.617 141)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE		Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G160M (04)	10 Secs (10 Secs) [==>]		[2]
Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2322										
12	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE		Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) [==>]		[2]
Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. We attempt to scale this to April 2012 by multiplying by 0.75 => ET= 215s, BT =(2/3*956*0.75) = 480s (we use 420 to be safe), due to tim e constraints, the exposure time has been dropped to 140s.										
13	G160M - PE AKXD (+0. 5) (COS.sa.617 141)	(3) AZV18-OFFSET -XD+0.5	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE		Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G160M (04)	10 Secs (10 Secs) [==>]		[2]
Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2s										

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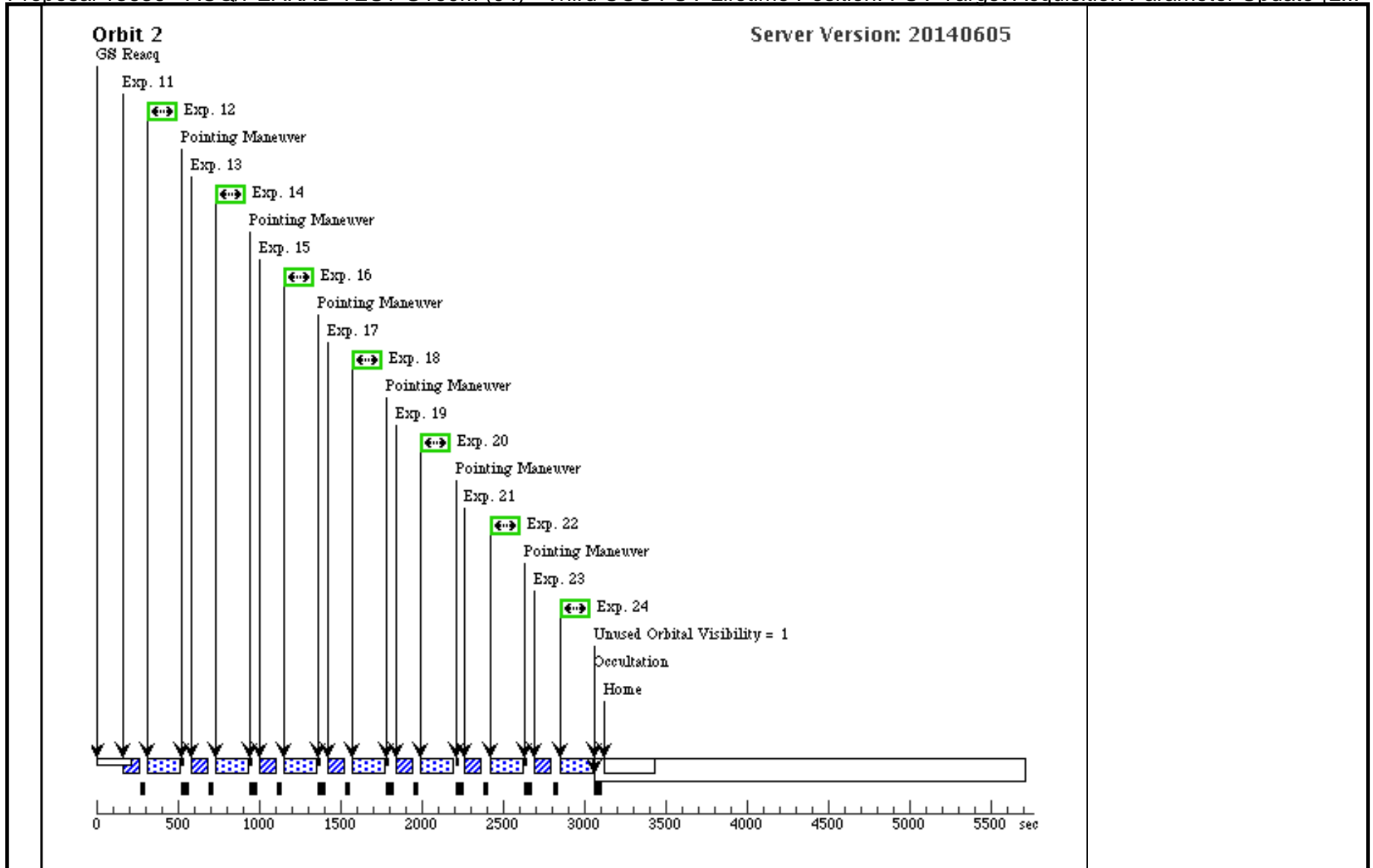| 14	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(3) AZV18-OFFSET -XD+0.5	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) [==>]	[2]
*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. We attempt to scale this to April 2012 by multiplying by 0.75 => ET= 215s, BT =(2/3*956) = 600s, due to time constraints, the exposure time has been dropped to 140s.*								
15	G160M - PE AKXD (-0.5) (COS.sa.617 141)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE	Sequence 15-16 Non -Int in ACQ/PEAKX D TEST G160M (04)	10 Secs (10 Secs) [==>]	[2]
Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2s								
16	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 15-16 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) [==>]	[2]
*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. Due to time constraints, the exposure time has been dropped to 150s.*								
17	G160M - PE AKXD-XD (+1.0) (COS.sa.617 141)	(4) AZV18-OFFSET -XD+1.0	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE	Sequence 17-18 Non -Int in ACQ/PEAKX D TEST G160M (04)	13 Secs (13 Secs) [==>]	[2]
*Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2s, vignetted by 1/3, up exposure time to 1.5 * 8 =~13s*								
18	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(4) AZV18-OFFSET -XD+1.0	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 17-18 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) [==>]	[2]
*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. Due to time constraints, the exposure time has been dropped to 150s.*								
19	G160M - PE AKXD TES T-XD (-1.0) (COS.sa.617 141)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE	Sequence 19-20 Non -Int in ACQ/PEAKX D TEST G160M (04)	13 Secs (13 Secs) [==>]	[2]
Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2s, vignetted by 1/3, up exposure time to 13s								
20	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 19-20 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) [==>]	[2]
*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. Due to time constraints, the exposure time has been dropped to 150s.*								
21	G160M - PE AKXD (+1. 5) (COS.sa.617 141)	(5) AZV18-OFFSET -XD+1.5	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE	Sequence 21-22 Non -Int in ACQ/PEAKX D TEST G160M (04)	18 Secs (18 Secs) [==>]	[2]
Comments: COS.sa.617141. S/N = 60.00: Time Required for Requested SNR in Segment A only: 4.2s. Ok, one last time from 1.5" away, so increase the exposure time due to the vignetting.								

22	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(5) AZV18-OFFSET -XD+1.5	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 21-22 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) *[==>]*	
								[2]

*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. Due to time constraints, the exposure time has been dropped to 1540s.*

23	G160M - PE AKXD (-1.5) (COS.sa.617 141)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G160M (04)	18 Secs (18 Secs) *[==>]*	
								[2]

Comments: COS.sa.617141. S/N = 60.00:   Time Required for Requested SNR in Segment A only: 4.2s Ok, one last time from 1.5" away, so increase the exposure time due to the vignetting (vignetted by 2/3, so 3x the exposure)

24	G160M - B ASELINE S PECTRUM (COS.sp.617 142)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G160M (04)	150 Secs (150 Secs) *[==>]*	
								[2]

*Comments: COS.sp.617142, S/N/RE=10 (1620A) = 220. BT=2/3*769 = 513. Due to time constraints, the exposure time has been dropped to 150s.*

Visit	**Proposal 13636, ACQ/PEAKXD TEST G140L (05), implementation** Thu Sep 11 01:02:22 GMT 2014 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV, COS/FUV Special Requirements: SCHED 100% ; ORIENT 29D TO 31 D; BETWEEN 27-OCT-2014:00:00:00 AND 09-NOV-2014:00:00:00 *Comments: ACQ/PEAKXD Test for G140L The target is AVZ18 (the SMOV TA target). After obtaining a good spectrum of the centered target, We then proceed to take spectra at the following positions (-1.6,-1.1,-0.6,-0.3,0.3,0.6,1.1,1.6) " in the XD direction. This will allow us to measure the plate scale. This will allow us to measure the plate scale. The > +/- 0.5" offsets have expanded exposure times to compensate for vignetting. To maintain S/N, the scale factor for the exposure times should be :* *OFFSET %LOSS ET equivalent/second ET* * 0.00 0.00 1.00 28s* * 0.30 0.00 1.00 28s* * 0.60 6.67 1.07 30s* * 1.10 40.00 1.67 47s* * 1.60 73.33 3.75 105s* *We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".* *The roll angle for 27-OCT-2014 till 9-Nov-2014 is 30 degrees (+/- 1 degree, visits 3-5)*
Diagnostics	(ACQ/PEAKXD TEST G140L (05)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting. (ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACQ/PEAKXD TEST G140L (05)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit. (ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
Fixed Targets	(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
			Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
			Equinox: J2000	Epoch of Position: 2000		
	Comments: B2Ia, Magellanic Clouds. Nominal ETC exposure times from spectrum supplied by D. Lennon: *NUV, MIRRORA, BOA: 27s (COS.ta.360711)* *FUV, G130M, 1309, PSA: 2s (COS.sa.360701) & 182s S/N=10 spectroscopy (COS.sp.360698)* *FUV, G140L, 1105: 038s S/N=10 spectroscopy (COS.sp.389720)* *FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715)*					
	(3)	AZV18-OFFSET-XD+0.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
			RA Offset: 1.34156E-4 Degrees		(B-V)=+0.04	
			Dec Offset: 0.12941 Arcsec			
	Comments: This target is offset 1.0" in the XD direction, and is valid for visits 3-5 only. *The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.* *AZV18 0.5" offset for ACQ/PEAKXD (dAD,dXD)=(0,-0.5")=0.5"@15d West of South* *dRA=-0.5"*cos(15d)=-0.482963"=-0.000134156d* *dDEC=-0.5"*sin(15d)=-0.129410"* *To move the target to this location, the offset should have the opposite sign in the offsets above.*					
	(4)	AZV18-OFFSET-XD+1.0	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
			RA Offset: 2.68313E-4 Degrees		(B-V)=+0.04	
			Dec Offset: 0.258819 Arcsec			
	Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only. *The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.* *AZV18 1.0" offset for ACQ/PEAKXD (0,-1.0")=1"@15d W of S* *dRA=-1.0"*cos(15d)=-0.965926"=-0.000268313d* *dDEC=-1.0"*sin(15d)=-0.258819"* *To move the target to this location, the offset should have the opposite sign in the offsets above.*					
	(5)	AZV18-OFFSET-XD+1.5	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
			RA Offset: 4.02469E-4 Degrees		(B-V)=+0.04	
			Dec Offset: 0.388229 Arcsec			
	Comments: his target is offset 1.0" in the XD direction, and is valid for visits 3-5 only. *The roll angle is 30 +/- 1 degree and is valid for 14-OCT-2014 till 14-Nov-2014.* *AZV18 1.5" offset for ACQ/PEAKXD (0,-1.5")=1.5"@15d W of S* *dRA=-1.5"*cos(15d)=-1.44889" =-0.000402469d* *dDEC=-1.5"*sin(15d)=-0.388229"* *To move the target to this location, the offset should have the opposite sign in the offsets above.*					

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.617093)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				28 Secs (28 Secs)	
								[==>]	[1]

Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.617093 , gives S/N=60.000 in 27.48 seconds.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
2	G140L - BASELINE SPECTRUM (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=400; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE		Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	28 Secs (28 Secs) [==>]	[1]

Comments: Spectrum of source to define the G140L/1280 XD location of target when it is centered w/ NUV ACQ/IMAGE. COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
3	G140L- POSTARG + SPECTRUM 1 (-1.6) (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=800; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	100 Secs (100 Secs) [==>]	[1]

Comments: POSTARG TO Move to Y=-1.6. COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400. We want 113s, but only have time for 100s

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
4	G140L - POSTARG + SPECTRUM 2 (-1.1) (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=600; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-1.1	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	45 Secs (45 Secs) [==>]	[1]

Comments: POSTARG TO Move to Y=-1.1". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400s. 50s to account for vignetting.

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
5	G140L - POSTARG + SPECTRUM 3 (-0.6) (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=440; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.6	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	29 Secs (29 Secs) [==>]	[1]

Comments: POSTARG TO Move to Y=-0.6". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
6	G140L- POSTARG + SPECTRUM 4 (-0.3) (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=400; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,-0.3	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	27 Secs (27 Secs) [==>]	[1]

Comments: POSTARG TO Move to Y=-0.3". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
7	G140L - POSTARG + SPECTRUM 5 (0.3) (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=400; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	POS TARG null,0.3	Sequence 2-10 Non-Int in ACQ/PEAKXD TEST G140L (05)	27 Secs (27 Secs) [==>]	[1]

Comments: POSTARG TO Move to Y=0.3". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds

| 8 | G140L - PO STARG + S PECTRUM 6 (0.6) (COS.sp.617 114) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=44 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG null,0.6 | Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G140L (05) | 29 Secs (29 Secs) [==>] | | [1] |

Comments: POSTARG TO Move to Y=0.6". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds

| 9 | G140L - PO STARG + S PECTRUM 7 (1.1) (COS.sp.617 114) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG null,1.1 | Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G140L (05) | 45 Secs (45 Secs) [==>] | | [1] |

Comments: POSTARG TO Move to Y=+1.1". COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400s. 50s to account for vignetting.
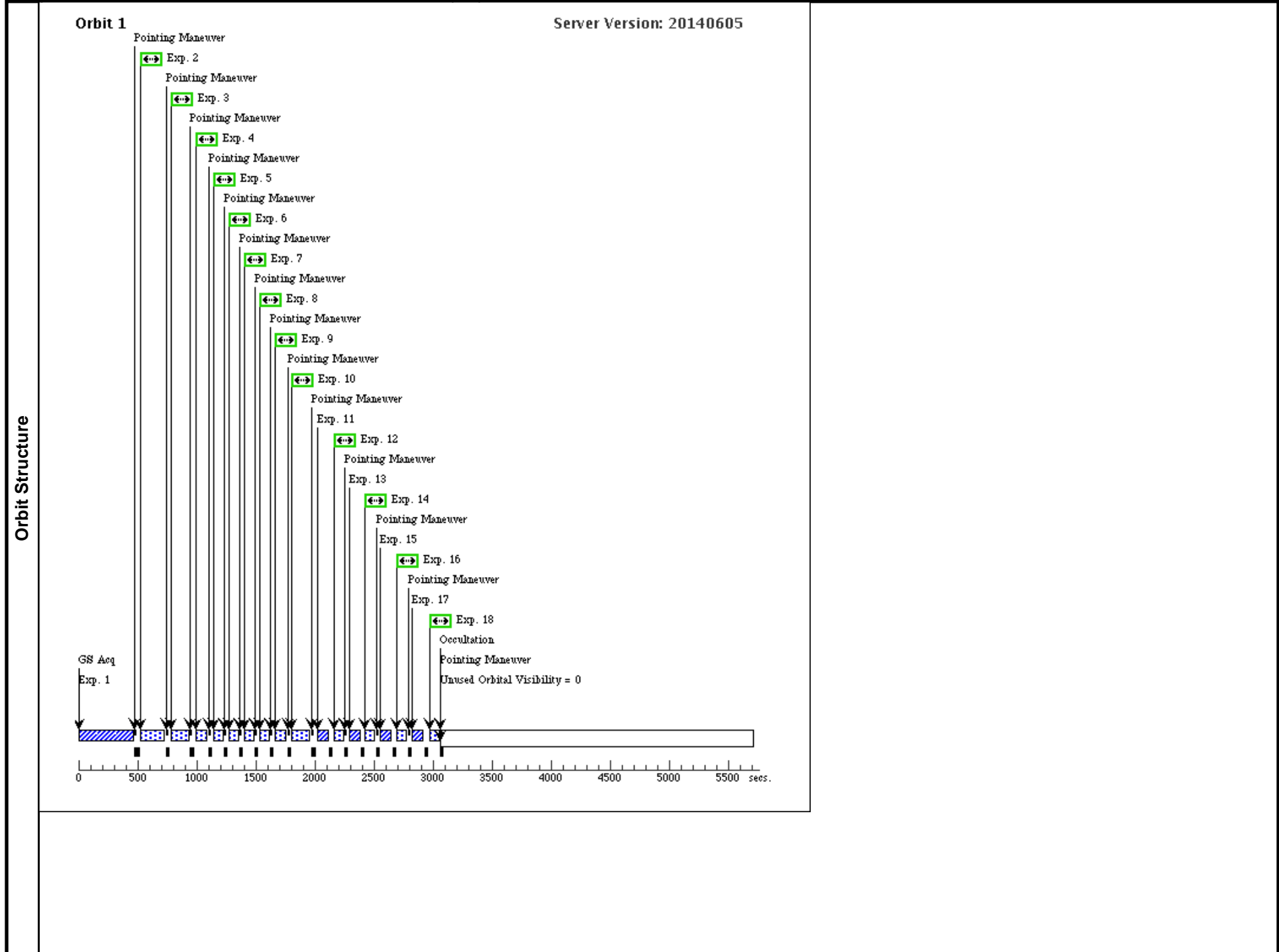
| 10 | G140L - PO STARG + S PECTRUM 8 (1.6) (COS.sp.617 114) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=80 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | POS TARG null,1.6 | Sequence 2-10 Non-I nt in ACQ/PEAKXD TEST G140L (05) | 100 Secs (100 Secs) [==>] | | [1] |

Comments: POSTARG TO Move to Y=1.6". OS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds, we account for vignetting by observing for 100s

| 11 | G140L - PE AKXD-Cent ered (COS.sa.617 154) | (1) AZV18 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | LIFETIME-POS=A LTERNATE | | Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G140L (05) | 3 Secs (3 Secs) [==>] | | [1] |

Comments: ACQ/PEAKXD test on a centered target. ETC Request ID: COS.sa.617154: SNR = 60 : Time Required for Requested SNR in Segment A only: 1.7966

| 12 | G140L - BA SELINE SP ECTRUM (COS.sp.617 114) | (1) AZV18 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | | Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G140L (05) | 28 Secs (28 Secs) [==>] | | [1] |

Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400

| 13 | G140L - PE AKXD-XD +0.5 (COS.sa.617 154) | (3) AZV18-OFFSET -XD+0.5 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | LIFETIME-POS=A LTERNATE | | Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G140L (05) | 3 Secs (3 Secs) [==>] | | [1] |

Comments: ACQ/PEAKXD on the target offset by +0.5".

| 14 | G140L- BA SELINE SP ECTRUM (COS.sp.617 114) | (3) AZV18-OFFSET -XD+0.5 | COS/FUV, TIME-TAG, PSA | G140L 1280 A | BUFFER-TIME=56 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE | | Sequence 13-14 Non -Int in ACQ/PEAKX D TEST G140L (05) | 28 Secs (28 Secs) [==>] | | [1] |

Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400

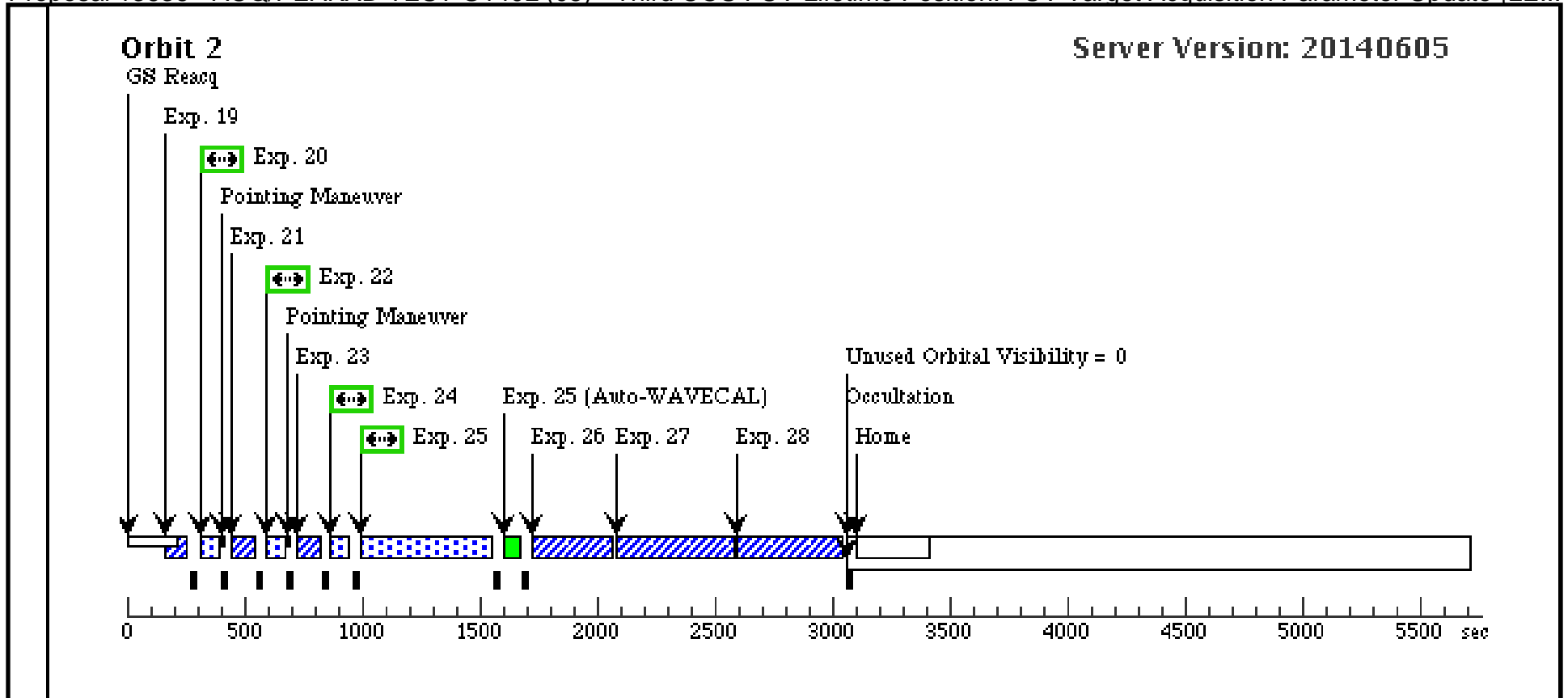| 15 | G140L - PEAKXD-XD-0.5 (COS.sa.617154) | (1) AZV18 | COS/FUV, ACQ/PEAKXD, PSA | G140L 1280 A | LIFETIME-POS=ALTERNATE | Sequence 15-16 Non-Int in ACQ/PEAKXD TEST G140L (05) | 4 Secs (4 Secs) [==>] | [1] |
Comments: ACQ/PEAKXD on the target offset by -0.5".								
16	G140L- BASELINE SPECTRUM (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=560; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	Sequence 15-16 Non-Int in ACQ/PEAKXD TEST G140L (05)	28 Secs (28 Secs) [==>]	[1]
Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								
17	G140L - PEAKXD-XD+1.0 (COS.sa.617154)	(4) AZV18-OFFSET-XD+1.0	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=ALTERNATE	Sequence 17-18 Non-Int in ACQ/PEAKXD TEST G140L (05)	8 Secs (8 Secs) [==>]	[1]
Comments: ACQ/PEAKXD on the target offset by +1.0".								
18	G140L - BASELINE SPECTRUM (COS.sp.617114)	(4) AZV18-OFFSET-XD+1.0	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=560; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	Sequence 17-18 Non-Int in ACQ/PEAKXD TEST G140L (05)	28 Secs (28 Secs) [==>]	[1]
Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								
19	G140L - PEAKXD-XD-1.0 (COS.sa.617154)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=ALTERNATE	Sequence 19-20 Non-Int in ACQ/PEAKXD TEST G140L (05)	8 Secs (8 Secs) [==>]	[2]
Comments: ACQ/PEAKXD on the target offset by -1.0".								
20	G140L - BASELINE SPECTRUM (COS.sp.617114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=560; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	Sequence 19-20 Non-Int in ACQ/PEAKXD TEST G140L (05)	28 Secs (28 Secs) [==>]	[2]
Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								
21	G140L - PEAKXD-XD+1.5 (COS.sa.617154)	(5) AZV18-OFFSET-XD+1.5	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=ALTERNATE	Sequence 21-22 Non-Int in ACQ/PEAKXD TEST G140L (05)	12 Secs (12 Secs) [==>]	[2]
Comments: ACQ/PEAKXD on the target offset by -1.5".								
22	G140L - BASELINE SPECTRUM (COS.sp.617114)	(5) AZV18-OFFSET-XD+1.5	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=560; FP-POS=3; FLASH=YES; LIFETIME-POS=ALTERNATE	Sequence 21-22 Non-Int in ACQ/PEAKXD TEST G140L (05)	28 Secs (28 Secs) [==>]	[2]
Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								

23	G140L - PE AKXD-XD-1.5 (COS.sa.617 154)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G140L (05)	12 Secs (12 Secs) [==>]	
								[2]
Comments: ACQ/PEAKXD on the target offset by -1.5".								
24	G140L - BA SELINE SP ECTRUM (COS.sp.617 114)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 23-24 Non -Int in ACQ/PEAKX D TEST G140L (05)	28 Secs (28 Secs) [==>]	
								[2]
Comments: COS.sp.617114 gives S/N/RE = 10 at 1400A in 29.5 seconds. BT=2/3 (600) = 400								
25	BOA-G140 L (COS.sp.617 153)	(1) AZV18	COS/FUV, TIME-TAG, BOA	G140L 1280 A	LIFETIME-POS=A LTERNATE; BUFFER-TIME=80 00; FP-POS=3		500 Secs (500 Secs) [==>]	
								[2]
Comments: SNR = 10.000 at wavelength 1310.00A Time = 3,173. seconds. We'll just observe for as long as we can.								
26	G140L - AC Q/PEAKXD - NUM_PO S=9 (COS.sa.617 159)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=A LTERNATE; NUM-POS=9; STEP-SIZE=0.3		10 Secs (10 Secs) [==>]	
								[2]
Comments: G140L: 9x0.3 ACQ/PEAKXD using NUM_POS > 3 (9). We have spectra at +/-1.6", +/-1.1", +/-0.6, +/-0.3, and 0.0 , so the 0.3" pattern at least matches the center 5 spectra at offsets of 0, +/-0.3", +/-0.6" , +/-0.9", +/-1.2" ETC Request ID: COS.sa.617159, SN=60, ET=2 (FUVA only)								
27	G130M - A CQ/PEAKX D -NUM_P OS = 9 (COS.sa.617 160)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	LIFETIME-POS=A LTERNATE; NUM-POS=9; STEP-SIZE=0.3		10 Secs (10 Secs) [==>]	
								[2]
Comments: G130M: 9x0.3 ACQ/PEAKXD using NUM_POS > 3 (9). We have spectra at +/-1.6", +/-1.1", +/-0.6, +/-0.3, and 0.0 , so the 0.3" pattern at least matches the center 5 spectra at offsets of 0, +/-0.3", +/-0.6 ", +/-0.9", +/-1.2" ETC Request ID: COS.sa.617160, SN= 60 gives: Time = 1.3755 seconds Time Required for Requested SNR in Segment A only: 2.3416 Time Required for Requested SNR in Segment B only: 3.3342								
28	G160M - A CQ/PEAKX D - NUM_P OS = 9 (COS.sa.617 161)	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE; NUM-POS=9; STEP-SIZE=0.3		10 Secs (10 Secs) [==>]	
								[2]
Comments: G160M: 9x0.3 ACQ/PEAKXD using NUM_POS > 3 (9). We have spectra at +/-1.6", +/-1.1", +/-0.6, +/-0.3, and 0.0 , so the 0.3" pattern at least matches the center 5 spectra at offsets of 0, +/-0.3", +/-0.6 ", +/-0.9", +/-1.2" ETC Request ID: COS.sa.617161, S/N = 60, ,Time = 1.2549 seconds Time Required for Requested SNR in Segment A only: 4.2322 Time Required for Requested SNR in Segment B only: 1.7838								

Proposal 13636, LP3 Verification Visit (06), implementation	Thu Sep 11 01:02:22 GMT 2014

Visit

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: ORIENT 297D TO 299 D; BETWEEN 01-FEB-2015:00:00:00 AND 28-FEB-2015:00:00:00

Comments: Test ACQ/PEAKXD for each grating, then perform two full TA sequences, one with G160M, one with G130M. Orientation for Visit 6 is currently set to 298deg, which is good from Jan 31th to Feb 10th, 2015. After that, we will need to change the roll angle and redefine the targets. We start with a G130M PEAKXD to see if the SIAF file is off in the XD, and to make sure the plate scales are correct. There are no focus or HV adjustments in this visit.

Diagnostics

(LP3 Verification Visit (06)) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(6)	WD1657+343	RA: 16 58 51.1200 (254.7130000d)	Proper Motion RA: 12 mas/yr	V=16.4+/-0.1	Reference Frame: ICRS
		Dec: +34 18 53.30 (34.31481d)	Proper Motion Dec: -32 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
			Radial Velocity: 78 km/sec		

Comments: This object is visible all year. The roll angle for the offsets is set to 30 (29-Jan-2015 to 08-Feb-2015)

Proper Motions from 2008ApJS..175..297A and are [12,-32] mas/yr.
The original proposal used [0.0014 sec of time/yr, -0.0342 "/yr].
ICRS coord. (ep=J2000) : 16 58 51.12 +34 18 53.3

The target used is WD1657+343 and the exposure times are based on a spectrum provided by A. Aloisi (extrapolated in wavelength).

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(61)	WD1657+343-OFFSET-SE-1.4AS	Offset from WD1657+343	Radial Velocity: 78 km/sec	V=16.4+/-0.1	Offset Position (WD1657+343-OFFSET-SE-1.4AS)
		RA Offset: -3.46855E-4 Degrees			
		Dec Offset: 0.663933 Arcsec			

Comments: The new roll angle is set to 298. This target is offset 1" in delta[AD,XD]=(-1,1)"

WD1657+343 offset for ACQ Sequence for a roll angle of 298: (Feb 2-10, 2015)

$(dAD,dXD)=(-1",+1")=-sqrt(2") \sim SE$
$dRA=+sqrt(2)*cos(45-17)=-1.24868" = +0.000346855deg$
$dDEC=-sqrt(2)" *sin(28)=-0.663933"$

To move the target to this location, the offset should have the opposite sign in the offsets above.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(62)	WD1657+343-OFFSET-XD-1.0	Offset from WD1657+343	Radial Velocity: 78 km/sec	V=16.4+/-0.1	Offset Position (WD1657+343-OFFSET-XD-1.0)
		RA Offset: 8.12144E-5 Degrees			
		Dec Offset: -0.956305 Arcsec			

Comments: The new roll angle is set to 298. This offset is 1" in -XD:

WD1657+343 offset for ACQ Sequence for a roll angle of 298: (Feb 2-10, 2015)

$(dAD,dXD)=(0,1.0")=1" \sim NNW$
$dRA=-1"*sin(17)= -0.292372" = -8.12144e-05d$
$dDEC=1"*cos(17)= +0.956305"$

To move the target to this location, the offset should have the opposite sign in the offsets above.

	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
Exposures	1	2 nuv a/im (COS.ta.616 985)	(6) WD1657+343	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				149 Secs (149 Secs) [==>]	[1]
		Comments: NUV ACQ/IMAGE with BOA+MIRRORA to define centering. COS.ta.616985 *Requested Signal/Noise Ratio = 60.000 gives: Time = 150 seconds* *Counts (box of 9 x 9 pixels)* *Source 23.922 3,609.76 60.08* *Background 0.065 9.79 3.13* *Sky 8.133e-05 0.01 0.11* *Dark Current 0.065 9.78 3.13* *Total in selected region 23.987 3,619.55 60.16* *Brightest Pixel (single exposure) 3.321 501.16* *Count rate entire detector 862.791*								
	2	G130M - PE AKXD - No minal (COS.sa.617 163)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A				3 Secs (3 Secs) [==>]	[1]
		Comments: ACQ/PEAKXD at the nominal position to test any SIAF file issue in the XD. *ETC Request ID: COS.sa.617163, SN = 40.000, gives: Time = 0.3526 seconds* *Time Required for Requested SNR in Segment A only: 0.9820*								
	3	G130M - O FFSET SPE CTRUM (COS.sp.617 166)	(62) WD1657+343- OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES		Sequence 3-5 Non-In t in LP3 Verification Visit (06)	17 Secs (17 Secs) [==>]	[1]
		Comments: ETC Request ID: COS.sp.617166, SNR/RE = 3.000 at wavelength 1310.00A gives: Time = 8.6358 seconds. BT=2/3(441)=295*								
	4	G130M - PE AKXD-XD- 1.0 (COS.sa.617 163)	(62) WD1657+343- OFFSET-XD-1.0	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A			Sequence 3-5 Non-In t in LP3 Verification Visit (06)	4 Secs (4 Secs) [==>]	[1]
		Comments: ACQ/PEAKKD, see previous comment								
	5	G130M - C ONFIRMA TION SPEC TRUM (COS.sp.617 166)	(62) WD1657+343- OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES		Sequence 3-5 Non-In t in LP3 Verification Visit (06)	17 Secs (17 Secs) [==>]	[1]
		Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds								
	6	G130M - O FFSET SPE CTRUM (COS.sp.617 166)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES		Sequence 6-8 Non-In t in LP3 Verification Visit (06)	17 Secs (17 Secs) [==>]	[1]
		Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds								
	7	G130M - PE AKXD-XD +1.0 (COS.sa.617 163)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A			Sequence 6-8 Non-In t in LP3 Verification Visit (06)	3 Secs (3 Secs) [==>]	[1]
		Comments: ACQ/PEAKKD								

8	G130M - CONFIRMATION SPECTRUM (COS.sp.617166)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=295; FP-POS=3; FLASH=YES	Sequence 6-8 Non-Int in LP3 Verification Visit (06)	17 Secs (17 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds							
9	G140L - BASELINE SPECTRUM (COS.sp.617167)	(62) WD1657+343-OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=427; FP-POS=3; FLASH=YES	Sequence 9-11 Non-Int in LP3 Verification Visit (06)	9 Secs (9 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617167, SNR = 3.000 at wavelength 1310A (per resolution element) gives: Time = 1.5274 seconds, BT = 2/3*(641)=427							
10	G140L - PEAKXD-XD-1.0 (COS.sp.617168)	(62) WD1657+343-OFFSET-XD-1.0	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A		Sequence 9-11 Non-Int in LP3 Verification Visit (06)	3 Secs (3 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sa.617168, SN = 60.000 gives: Time = 1.7966 seconds							
11	G140L - CONFIRMATION SPECTRUM (COS.sa.389908)	(62) WD1657+343-OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=427; FP-POS=3; FLASH=YES	Sequence 9-11 Non-Int in LP3 Verification Visit (06)	9 Secs (9 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds							
12	G140L - BASELINE SPECTRUM (COS.sp.617167)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=427; FP-POS=3; FLASH=YES	Sequence 12-14 Non-Int in LP3 Verification Visit (06)	9 Secs (9 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617167, SNR = 3.000 at wavelength 1310A (per resolution element) gives: Time = 1.5274 seconds, BT = 2/3*(641)=427							
13	G140L - PEAKXD-XD+1.0 (COS.sp.617168)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A		Sequence 12-14 Non-Int in LP3 Verification Visit (06)	3 Secs (3 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sa.617168, SN = 60.000 gives: Time = 1.7966 seconds							
14	G140L - CONFIRMATION SPECTRUM (COS.sp.617167)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=427; FP-POS=3; FLASH=YES	Sequence 12-14 Non-Int in LP3 Verification Visit (06)	9 Secs (9 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617167, SNR = 3.000 at wavelength 1310A (per resolution element) gives: Time = 1.5274 seconds, BT = 2/3*(641)=427							
15	G160M - BASELINE SPECTRUM (COS.sp.617173)	(62) WD1657+343-OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=YES	Sequence 15-17 Non-Int in LP3 Verification Visit (06)	23 Secs (23 Secs) [==>]	[1]
	Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds, BT=2/3 *769 = 513							

16	G160M - PE AKXD-XD-1.0 (COS.sa.617 171)	(62) WD1657+343- OFFSET-XD-1.0	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A		Sequence 15-17 Non -Int in LP3 Verificati on Visit (06)	10 Secs (10 Secs) [==>] *[1]*

Comments: ETC Request ID: COS.sa.617171, SNR = 60, Time = 2.0012 seconds
    Time Required for Requested SNR in Segment A only: 9.9563
    Time Required for Requested SNR in Segment B only: 2.5045

17	G160M - C ONFIRMA TION SPEC TRUM (COS.sp.617 173)	(62) WD1657+343- OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES	Sequence 15-17 Non -Int in LP3 Verificati on Visit (06)	23 Secs (23 Secs) [==>] *[1]*

Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds

18	G160M - O FFSET SPE CTRUM (COS.sp.617 173)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES	Sequence 18-20 Non -Int in LP3 Verificati on Visit (06)	23 Secs (23 Secs) [==>] *[2]*

Comments: Check spectrum location.

19	G160M - PE AKXD-XD +1.0 (COS.sa.617 171)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A		Sequence 18-20 Non -Int in LP3 Verificati on Visit (06)	10 Secs (10 Secs) [==>] *[2]*

Comments: ETC Request ID: COS.sa.617171, SNR = 60, Time = 2.0012 seconds
    Time Required for Requested SNR in Segment A only: 9.9563
    Time Required for Requested SNR in Segment B only: 2.5045

20	G160M - C ONFIRMA TION SPEC TRUM (COS.sp.617 173)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES	Sequence 18-20 Non -Int in LP3 Verificati on Visit (06)	23 Secs (23 Secs) [==>] *[2]*

Comments: confirmation spectrum

21	G130M - O FFSET SPE CTRUM (COS.sp.617 166)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES	Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	12 Secs (12 Secs) [==>] *[2]*

Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds. BT=2/3(441)=295*

22	G130M - PE AKXD (COS.sa.617 163)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A		Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	4 Secs (4 Secs) [==>] *[2]*

Comments: ETC Request ID: COS.sa.617163, SN = 40.000, gives: Time = 0.3526 seconds
    Time Required for Requested SNR in Segment A only: 0.9820

23	G130M - C ONFIRMA TION SPEC TRUM (COS.sp.617 166)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES	Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	12 Secs (12 Secs) [==>] *[2]*

Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds. BT=2/3(441)=295*

24	G130M - PE AKD (COS.sa.617 170)	(6) WD1657+343	COS/FUV, ACQ/PEAKD, PSA	G130M 1309 A	NUM-POS=5; STEP-SIZE=0.8	Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	3 Secs (3 Secs) [==>]	[2]

Comments: ETC Request ID: COS.sa.617170, SNR/RE = 60.000. gives: Time = 0.7931 seconds
Time Required for Requested SNR in Segment A only: 2.2088
Time Required for Requested SNR in Segment B only: 1.2375

25	G130M - C ONFIRMA TION SPEC TRUM (COS.sp.617 166)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=29 5; FP-POS=3; FLASH=YES	Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	12 Secs (12 Secs) [==>]	[2]

Comments: ETC Request ID: COS.sp.617166, SN = 3.000 at wavelength 1310.00A (per resolution element) gives: Time = 8.6358 seconds. BT=2/3(441)=295*

26	G130M - PE AKXD with NUM_POS =5 (COS.sa.617 170)	(6) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	NUM-POS=5; STEP-SIZE=0.8	Sequence 21-26 Non -Int in LP3 Verificati on Visit (06)	3 Secs (3 Secs) [==>]	[2]

Comments: ETC Request ID: COS.sa.617170, SNR/RE = 60.000. gives: Time = 0.7931 seconds
Time Required for Requested SNR in Segment A only: 2.2088
Time Required for Requested SNR in Segment B only: 1.2375

27	G160M - O FFSET SPE CTRUM (COS.sp.617 173)	(61) WD1657+343- OFFSET-SE-1.4AS	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES	Sequence 27-34 Non -Int in LP3 Verificati on Visit (06)	23 Secs (23 Secs) [==>]	[2]

*Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds, BT=2/3 *769 = 513*

28	G160M - A CQ/SEARC H on OFFS ET (COS.sa.617 174)	(61) WD1657+343- OFFSET-SE-1.4AS	COS/FUV, ACQ/SEARCH, PSA	G160M 1600 A	CENTER=FLUX-W T-FLR; SCAN-SIZE=3	Sequence 27-34 Non -Int in LP3 Verificati on Visit (06)	5 Secs (5 Secs) [==>]	[2]

Comments: ETC Request ID: COS.sa.617174,SNR = 60, gives: Time = 1.2549 seconds
Time Required for Requested SNR in Segment A only: 4.2322
Time Required for Requested SNR in Segment B only: 1.7838

29	G160M - C ONFIRMA TION SPEC TRUM (COS.sp.617 173)	(61) WD1657+343- OFFSET-SE-1.4AS	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=51 3; FP-POS=3; FLASH=YES	Sequence 27-34 Non -Int in LP3 Verificati on Visit (06)	23 Secs (23 Secs) [==>]	[2]

*Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds, BT=2/3 *769 = 513*

30	G160M - A CQ/PEAKX D on OFFS ET (COS.sa.617 171)	(61) WD1657+343- OFFSET-SE-1.4AS	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A		Sequence 27-34 Non -Int in LP3 Verificati on Visit (06)	11 Secs (11 Secs) [==>]	[2]

Comments: ETC Request ID: COS.sa.617171, SNR = 60, Time = 2.0012 seconds
Time Required for Requested SNR in Segment A only: 9.9563
Time Required for Requested SNR in Segment B only: 2.5045

31	G160M - CONFIRMATION SPECTRUM (COS.sp.617173)	(61) WD1657+343-OFFSET-SE-1.4AS	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=YES		Sequence 27-34 Non-Int in LP3 Verification Visit (06)	23 Secs (23 Secs) [==>]	
									[2]
Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds, BT=2/3 *769 = 513									
32	G160M - ACQ/PEAKD on OFFSET (COS.sa.617174)	(61) WD1657+343-OFFSET-SE-1.4AS	COS/FUV, ACQ/PEAKD, PSA	G160M 1600 A	NUM-POS=7; STEP-SIZE=0.45		Sequence 27-34 Non-Int in LP3 Verification Visit (06)	5 Secs (5 Secs) [==>]	
									[2]

Comments: ETC Request ID: COS.sa.617174,SNR = 60, gives: Time = 1.2549 seconds
        Time Required for Requested SNR in Segment A only: 4.2322
        Time Required for Requested SNR in Segment B only: 1.7838									

33	G160M - CONFIRMATION SPECTRUM (COS.sp.617173)	(61) WD1657+343-OFFSET-SE-1.4AS	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=513; FP-POS=3; FLASH=YES	POS TARG 0.333,null	Sequence 27-34 Non-Int in LP3 Verification Visit (06)	23 Secs (23 Secs) [==>]	
									[2]
Comments: ETC Request ID: COS.sp.617173, SNR/RE = 3 at wavelength 1610A gives: Time = 24.8232 seconds, BT=2/3 *769 = 513									
34	G160M - ACQ/PEAKXD on OFFSET NUM_POS=3 (COS.sa.617171)	(61) WD1657+343-OFFSET-SE-1.4AS	COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	NUM-POS=3; STEP-SIZE=1.3		Sequence 27-34 Non-Int in LP3 Verification Visit (06)	11 Secs (11 Secs) [==>]	
									[2]

Comments: ETC Request ID: COS.sa.617171, SNR = 60, Time = 2.0012 seconds
        Time Required for Requested SNR in Segment A only: 9.9563
        Time Required for Requested SNR in Segment B only: 2.5045									