

12797 - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {FENA4}

Cycle: 19, Proposal Category: ENG/COS (Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
	(1) AZV18 (11) AZV18-OFFSET-NE-1.4AS DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:28:18.0	yes
	(1) AZV18 (13) AZV18-OFFSET-AD+0.3 (14) AZV18-OFFSET-AD-0.5 DARK	COS/FUV COS/NUV S/C	3	24-Jul-2012 21:29:10.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
03	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	3	24-Jul-2012 21:30:02.0	yes
04	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	3	24-Jul-2012 21:30:46.0	yes
05	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	3	24-Jul-2012 21:31:42.0	yes
06	(2) WD1657+343 (21) WD1657+343-OFFSET-NW- 1.4AS (22) WD1657+343-OFFSET-XD-1.0	COS/FUV COS/NUV	2	24-Jul-2012 21:32:37.0	yes
66	(2) WD1657+343 (21) WD1657+343-OFFSET-NW- 1.4AS (22) WD1657+343-OFFSET-XD-1.0	COS/FUV COS/NUV	2	24-Jul-2012 21:33:28.0	yes
11	(1) AZV18 (11) AZV18-OFFSET-NE-1.4AS DARK	COS/FUV COS/NUV S/C	1	24-Jul-2012 21:33:55.0	yes
12	(1) AZV18 (13) AZV18-OFFSET-AD+0.3 (14) AZV18-OFFSET-AD-0.5 DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:34:39.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
13	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:35:19.0	yes
14	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:36:01.0	yes
15	(1) AZV18 (5) AZV18-OFFSET-XD+0.5 (10) AZV18-OFFSET-XD+1.0 (15) AZV18-OFFSET-XD+1.5 DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:36:49.0	yes
16	(2) WD1657+343 (21) WD1657+343-OFFSET-NW-1.4AS (22) WD1657+343-OFFSET-XD-1.0 DARK	COS/FUV COS/NUV S/C	2	24-Jul-2012 21:37:46.0	yes

²⁹ Total Orbits Used

ABSTRACT

Verify the ability of the Cycle 20 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 Second Lifetime Position (SLP). This program is modeled from the activity summary of FENA4.

This program should be executed after the new HV, XD spectral positions, and focus are determined and updated. In addition, the LIFETIME=ALTERNATE TA FSW parameters should be updated prior to execution of this program.

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

OBSERVING DESCRIPTION

Successful FUV dispersed light centering (target acquisition, TA) of a point source within the PSA at the second lifetime position (SLP) is verified. This activity confirms the FUV TA parameters in the cycle 20 flight software (FSW) and verifies that the FUV centering error is within the required thresholds. viz. 0.1 arcsec.

All Visits will be run at LIFETIME=ALTERNATE. Before each exposure, the focus is updated to the position recommended at the SLP. At the end of each visit, the focus positions are restored to their original values. Each orbit which uses a non-standard FUV Voltage at the time of execution (all of them) are wrapped by a single NON-INT sequence per orbit.

Visit 1 tests ACQ/SEARCH and also verifies that the updated FUV TA sub-arrays are correct for the 2LP. After an NUV imaging TA and the standard NUV to FUV offset to the 2LP, 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 (no 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 POSTARGs) using G130M/1309. Track Ly 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 7x0.5" (offset -0.8" Y)]. Roll angle second week of April is 190 +/- 2.5°.

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 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, ± 0.5 ", and finally ± 0.5 " 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.

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 20 conditions as possible. (LIFETIME=ALTERNATE, using FSW HV and focus values if possible)

Visits 11-16 are near duplicates of Visits 1-6 without the commanding at the beginning to reset the Detector HV to the second lifetime position value, and without the exposure at the end to return it to HVLOW. The NON-INT sequences in these visits are based upon the needs of the original program goals. The NON-INTs in Visits 1-6 (the executing visits) are set to be one per orbit to prevent the HV from being accidently reset during the orbits.

Visits 11-16 are on permant hold and are included only to demonstrate the actual desired timing of the Visits on-orbit. (The HV rampups will be performed before the orbit starts so that this time is not used up during the actual visit.)

On March 22, 2012 we decided on HV values of 157/153 for SegA/SegB and focus offsets for G130M (+190), G160M (+250), and G140L (+0). The G140L focus offset is unknown at this time as a contingency visit of 12796 will not have executed before this program.

On March 26, 2012 we realised that the breathing correction was not being applied correctly. Our new values for the focus offsets are G130M (+120), G160M (+160), and G140L (+0)

On March 26, 2012 we decided to slip Visits 1-5 by one week. New Roll angles have been calculated.

Then new roll angles are:

Visit 1 and 2: 195 +/- 2.5 (+5)

Visits 3-5: 205 +/- 2.5 (no change)

Visit 6: (225 +/- 2.5) (+45)

On March 29, 2012 we decided to execute visits 1 and 2 at the HV of FUVA/B = 167/163. Since it took 403s to ramp to 162/159 we need an additional 15s to get the A segment to 167 (3s per step), or 418s.

On April 24, 2012 we decided to slip Visit 5 to the week of May 14 or May 21, 2012 and Visit 6 to Jun 5, 2012.

So the roll angles are now: Visit 5 = 225 + /-2.5 Visit 6 = 180 + /-2.5

After the Comsic Bug Zapping event of late April 2012, we have once again been forced to move visits 3-6. Then new plan windows have

Visits 3-5: 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

Visit 6 : 03-Jul-2012 til 07-Aug-2012

Visit 66: 06-Aug-2012 til 20-Aug-2012

ADDITIONAL COMMENTS

As of 3/5/2012, the planned schedule for 12797 is:

SMS of Apr 9 visit 1 of 12797 1 orbit (external)

SMS of Apr 9 visit 2 of 12797 2 orbits (external)

SMS of Apr 30 visits 3-5 of 12797 6 orbits (external)

SMS of May 21 or May 28 visit 6 (confirmation) of 12797 2 orbits (external)

From APT (V20.0.3), the roll angles availble during these dates are:

09 Apr 2012 181.27 - 191.27 (original Visit 1/2) (Visit 1) Target Date, Roll angle = 190 +/- 2.5

10 Apr 2012 182.18 - 192.18 (original Visit 1/2)

11 Apr 2012 183.08 - 193.08 (original Visit 1/2)

12 Apr 2012 183.98 - 193.98 (original Visit 1/2)

13 Apr 2012 184.88 - 194.88 (original Visit 1/2) (Visit 2) Target Date, Roll angle = 190 +/- 2.5

14 Apr 2012 185.78 - 195.78 (original Visit 1/2)

Proposal 12797 (STScI Edit Number: 10, Created: Tuesday, July 24, 2012 8:38:03 PM EST) - Overview 15 Apr 2012 186.68 - 196.68 (original Visit 1/2) 30 Apr 2012 199.92 - 209.92 (original Visit 3-5) 01 May 2012 200.80 - 210.80 (original Visit 3-5) 02 May 2012 191.87 - 221.47 (original Visit 3-5) 03 May 2012 192.75 - 222.35 (original Visit 3-5) Target Date, Roll angle = 205 +/- 2.5 04 May 2012 193.62 - 223.22 (original Visit 3-5) 05 May 2012 194.49 - 224.09 (original Visit 3-5) 06 May 2012 195.37 - 224.97 (original Visit 3-5)

- 21 May 2012 179.12 218.12
- 22 May 2012 177.98 216.98
- 23 May 2012 176.83 215.83 (Visit 6) Target Date, Roll angle = 180 +/- 2.5
- 24 May 2012 175.68 214.68
- 25 May 2012 174.53 213.53
- 26 May 2012 173.38 212.38
- 27 May 2012 172.23 211.23

This version was created with the final APT build 20.0.3 APT (Mon Mar 19 2012)

On March 26, we decided to slip Visits 1-5 by one week. The new roll angles are :

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16 Apr 2012 187.57 - 197.57 (revised Visit 1/2) (Visit 1) Target Date, Roll angle = 195 +/- 2.5 (+5)
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- 17 Apr 2012 188.46 198.46 (revised Visit 1/2)
- 18 Apr 2012 189.35 199.35 (revised Visit 1/2)
- 19 Apr 2012 190.24 200.24 (revised Visit 1/2)
- 20 Apr 2012 191.13 201.13 (revised Visit 1/2) (Visit 2) Target Date, Roll angle = 195 +/- 2.5 (+5)
- 21 Apr 2012 192.01 202.01 (revised Visit 1/2)
- 22 Apr 2012 192.89 202.89 (revised Visit 1/2)

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07 May 2012 193.84 - 226.06 (revised Visit 3-5)
08 May 2012 194.72 - 226.94 (revised Visit 3-5)
09 May 2012 195.59 - 227.84 (revised Visit 3-5)
10 May 2012 196.47 - 228.72 (revised Visit 3-5) Target Date, Roll angle = 205 +/- 2.5 (no change)
11 May 2012 197.34 - 229.62 (revised Visit 3-5)
12 May 2012 198.22 - 230.50 (revised Visit 3-5)
13 May 2012 199.09 - 231.37 (revised Visit 3-5)
21 May 2012 206.84 - 238.67
22 May 2012 207.72 - 239.55
23 May 2012 208.61 - 240.44 (Visit 6) Target Date, Roll angle = 225 +/- 2.5 (+45)
24 May 2012 209.50 - 241.41
25 May 2012 210.39 - 242.30
26 May 2012 211.18 - 243.29
27 May 2012 212.07 - 244.18
28 May 2012 212.97 - 245.08
29 May 2012 213.87 - 246.09
30 May 2012 214.77 - 246.99
31 May 2012 215.57 - 248.01
01 Jun 2012 216.48 - 248.92
02 Jun 2012 217.38 - 249.82
03 Jun 2012 218.29 - 250.86
04 Jun 2012 220.50 - 251.30
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We are forced to slip Visit 5 to 14-MAY-2012 to 28-MAY-2012 &

Visit 6 to 05-JUN-2012 to 21-JUN-2012.

So, we are back to 180 degrees for Visit 6 and 225 degrees for Visit 5

- 07 May 2012 193.84 226.06
- 08 May 2012 194.72 226.94
- 09 May 2012 195.59 227.84
- 10 May 2012 196.47 228.72
- 11 May 2012 197.34 229.62
- 12 May 2012 198.22 230.50
- 13 May 2012 199.09 231.37
- 14 May 2012 199.97 232.30 -> Visit 5 is 225 +/- 2.5
- 15 May 2012 200.85 233.18
- 16 May 2012 201.73 234.11
- 17 May 2012 202.61 234.99
- 18 May 2012 203.49 235.87
- 19 May 2012 204.37 236.82
- 20 May 2012 205.25 237.70
- 21 May 2012 206.84 238.67 -> Visit 5 is 225 +/- 2.5
- 22 May 2012 207.72 239.55
- 23 May 2012 208.61 240.44
- 24 May 2012 209.50 241.41
- 25 May 2012 210.39 242.30
- 26 May 2012 211.18 243.29
- 27 May 2012 212.07 244.18
- 28 May 2012 212.97 245.08
- 05 Jun 2012 163.51 199.31 -> Visit 6, back to 180 degrees
- 06 Jun 2012 162.38 198.18
- 07 Jun 2012 161.44 196.84
- 08 Jun 2012 160.31 195.71
- 09 Jun 2012 159.19 194.59
- 10 Jun 2012 158.06 193.46

11 Jun 2012 151.99 - 195.77

12 Jun 2012 150.87 - 194.65

Due to the 'bonus counts' anamoly, visits 3-5 have been shifted to the Jun 13 to Jun 30 window.

The available roll angles are:

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13 Jun 2012 220.83 - 260.57 -> Visit 3-5 is 250 +/- 2.5 works for the entire window
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14 Jun 2012 221.77 - 261.51

15 Jun 2012 222.61 - 262.63

16 Jun 2012 223.56 - 263.58

17 Jun 2012 224.50 - 264.52

18 Jun 2012 230.06 - 265.68

19 Jun 2012 231.01 - 266.63

20 Jun 2012 231.97 - 267.59

21 Jun 2012 232.83 - 268.76

22 Jun 2012 233.79 - 269.72

23 Jun 2012 234.76 - 270.69

24 Jun 2012 235.73 - 271.66

25 Jun 2012 239.81 - 271.61

26 Jun 2012 240.78 - 272.58

27 Jun 2012 241.76 - 273.56

28 Jun 2012 242.75 - 274.55

29 Jun 2012 243.63 - 275.63

30 Jun 2012 244.62 - 276.62 -> Visit 3-5 is 250 +/- 2.5 works for the entire window

Visit 6 is now sometime in July (TBD), we can cover this entire window with a roll constlrtaint of 135+-/-2.5

Visit 6 performed on July 23, 2012, BUT the wrong SIAF file was in the TRANS. That is, it used the BEST position as requested, which on July 23rd was

Proposal 12797 (STScI Edit Number: 10, Created: Tuesday, July 24, 2012 8:38:03 PM EST) - Overview the SLP. However, when the program was TRANSed on July 10ish, the 'BEST' was the OLP, so that is where it left it!!

Re-executiving Visit 6 as Visit 66, the roll angle was relaxed, so we may not get exactly what we want (135=orient), but we can do the math and figure out the correct motions.

Proposal 12797 - HV+ACQ/SEARCH TEST (01) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FE...

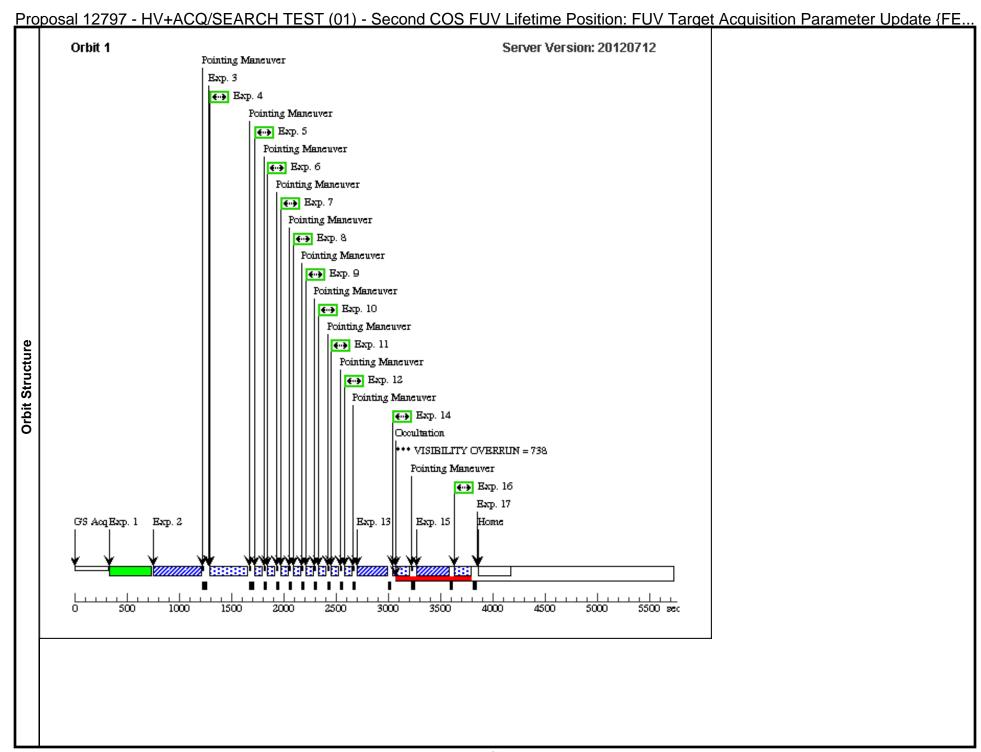
Proposal 12797, HV+ACO/SEARCH TEST (01), completed Wed Jul 25 01:38:04 GMT 201: **Diagnostic Status: Warning** Scientific Instruments: COS/NUV, S/C, COS/FUV Special Requirements: SCHED 100%; ORIENT 192.5D TO 197.5 D; BETWEEN 16-APR-2012 AND 22-APR-2012 Comments: ACQ/SEARCH Test. The target is AVZ18 (the SMOV TA target). For a 3x3x1" spiral pattern, the telescope slew is [AD,XD] 0.000.001.00 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 195 +/- 2.5 degrees, 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. (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): VISIBILITY OVERRUN (HV+ACQ/SEARCH TEST (01)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE. (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE iagnostic (HV+ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): VISIBILITY OVERRUN (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE ۵ (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): VISIBILITY OVERRUN (HV+ACO/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. (HV+ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE **Target Coordinates** Targ. Coord. Corrections Miscellaneous Name Fluxes (1) AZV18 RA: 00 47 12.1700 (11.8007083d) Proper Motion RA: -0.0003 sec of time/yr V = 12.48Reference Frame: ICRS Dec: -73 06 32.68 (-73.10908d) Proper Motion Dec: -0.0035 arcsec/yr (B-V)=+0.04Equinox: 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) Target FUV, G160M, 1600: 0215s S/N=10 spectroscopy (COS.sp.389715) (11)AZV18-OFFSET-NE-V = 12.48Offset Position (AZV18-OFFSET-NE-Offset from AZV18 by 1.4AS 1.4AS) RA Offset: -3.7945E-4 Degrees (B-V)=+0.04Fixed Reference Frame: ICRS 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 190 +/- 2.5 degree. AZV18 offset for ACO/SEARCH (AD,XD)=(-1",-1")=-sart(2")@10°N of W RA = -sqrt(2)"* $cos(10^{\circ}) = -1.3927$ "= -0.000386869° DEC = + sart(2)"* $sin(10^\circ) = 0.24558$ " 3/26/12: Target changed to 195 +/- 2.5 degrees AZV18 offset for ACQ/SEARCH(AD,XD) = (-1",-1") = -sqrt(2") @ 15°N of WRA = -sqrt(2)"* $cos(15^{\circ}) = -1.36603$ " = -0.00037945° DEC = + sqrt(2)"* $sin(15^{\circ}) = 0.366025$ "

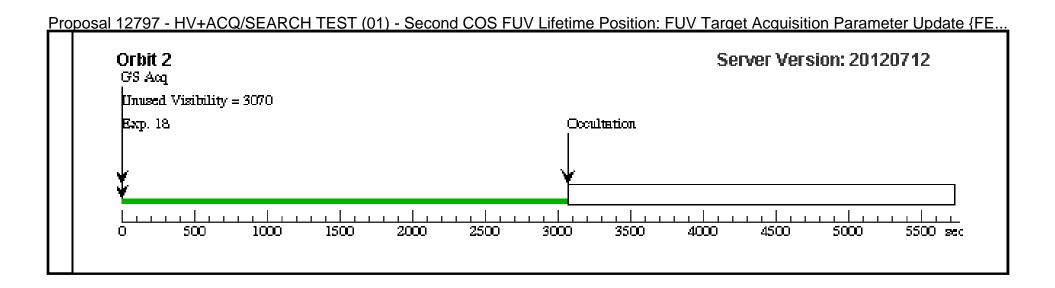
Proposal 12797 - HV+ACQ/SEARCH TEST (01) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FE. Spectral Els. Label **Target** Config, Mode, Aperture Opt. Params. Special Reqs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) FUV HV R DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-17 Non-I | 418 Secs AMPUP (16 nt in HV+ACO/SEA SPEC COM INSTR I = = > 1RCH TEST (01) 7/163) ELHLTHVF; **OASISTATES COS FUV HVLOW HVN** OM; [1] **QESIPARM ENDC** TSA 167; **OESIPARM ENDC** TSB 163 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 167 and 163, respectively. 403s is the correct rampup time for 162/159. A n allow 3 additional seconds for every positive unit of offset is required. Therefore, the rampup time is 403+(167-162)*3=4182 nuv a/im (1) AZV18 COS/NUV, ACO/IMAGE, BOA MIRRORA Sequence 1-17 Non-I 27 Secs (COS.ta.360 nt in HV+ACQ/SEA I = = > 1[1] 711) RCH TEST (01) Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. COS.ta.360711, gives S/N=60.000 in 27.4 seconds S/C to updat DARK S/C, DATA, NONE SPEC COM INSTR Sequence 1-17 Non-I 8 Secs e the G130 ELOSMPATCH: nt in HV+ACQ/SEA I = = > 1RCH TEST (01) M/1309 focu OESIPARM ACTIO s from 170 t N REPLACE; o 290 (+120 Exposures **OESIPARM GRATI** NG G130M; [1] **OESIPARM CENT** WAVE 1309; **QESIPARM FOCUS** 290 Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */

<u> 1797 - HV</u>	<u>+ACQ/SE</u>	<u> </u>	<u>- Second CO</u>	S FUV LITEUME	POSILION, FUV	Target Acqui	<u>Silion Parameter Opua</u>	<u> </u>
I - B (1) AZV			G130M	BUFFER-TIME=60		Sequence 1-17 Non-I		
			1309 A			nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
p.360				· · · · · · · · · · · · · · · · · · ·		. ,		
				6;				[1]
				LIFETIME-POS=A LTERNATE				
pectrum of sou 130M. Tagflash	rce to define co sequence is 36	rrect location of star when it is s on - 54 off - 36s on - 54 off (7	s centered in NUV. (Co 72s lamp time).	OS.sp.360698, simulates S.	/N=10 per RE, BT=986	6*(2/3) = 629. This specifies	ectrum will be used to define the WC	CA-to-PSA off
S ETC RUN W	AS MADE BEF	FORE THE CYCLE 20 ETC UP	PDATE TO ETC20.1.1	**				
ies assumed het .1 Simulation o actor is therefo	re.` f the G130M/1. re >=182/258	309 (COS.sp.389705) gives S/N	V/RE=10 in 258s.	n ETC20.1.1) The G140L (and G160M ETC simui	lations were made using	3 20.1.1 and will be scaled back to m	natch the G13
I - P (1) AZV		COS/FUV, TIME-TAG, PSA	G130M		POS TARG 1.0,null	Sequence 1-17 Non-I	20 Secs	
			1309 A	*			[==>]	
))				· · · · · · · · · · · · · · · · · · ·				F11
a.300				<i>'</i>				[1]
				LTERNATE				
	18	COS/FUV, TIME-TAG, PSA			POS TARG 1.0,1.0	Sequence 1-17 Non-I		
RU			1309 A			RCH TEST (01)	[==>]	
1)(Co								[1]
a.360				LIFETIME-POS=A LTERNATE				
OSTARG TO S	IMULATE AC	Q/SEARCH						
	18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG 0,1.0	Sequence 1-17 Non-I		
RU			1309 A	*		RCH TEST (01)	[==>]	
				· · · · · · · · · · · · · · · · · · ·				[1]
u500				LIFETIME-POS=A				[11]
				LTERNATE				
	18	COS/FUV, TIME-TAG, PSA			POS TARG -1,1	Sequence 1-17 Non-I		
RU			1309 A	FP-POS=3;		RCH TEST (01)	[==>]	
				FLASH=YES;				[1]
a.360				LIFETIME-POS=A				
POSTARG TO S	IMIII.ATE ACO	O/SFARCH		LIEKNAIE				
		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG -1,null	Sequence 1-17 Non-I	20 Secs	
I-P (I) AZV		, -,		0;	- ,	nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
[-P (1) AZV RG+			1309 A					
RG + RU 0)			1309 A	FP-POS=3;		KCH IESI (01)		
RG + RU			1309 A	FP-POS=3; FLASH=YES; LIFETIME-POS=A		RCH TEST (01)		[1]
	I-B (1) AZV NE S RUM pp.360 Spectrum of soun 130M. Tagflash IS ETC RUN W. od thing since it ies assumed her 1.1 Simulation of factor is therefo 0.75 for simplic 1-P (1) AZV RG + RU 0) a.360 POSTARG TO S 1-P (1) AZV RG + RU 1) (Co a.360 POSTARG TO S 1-P (1) AZV RG + RU 1) ia.360 POSTARG TO S 1-P (1) AZV RG + RU 1) ia.360 POSTARG TO S 1-P (1) AZV RG + RU 1) ia.360	In B (1) AZV18 NE S RUM Sp.360 Spectrum of source to define collisom. Tagflash sequence is 36 IS ETC RUN WAS MADE BEFORM thing since it is probably claites assumed here. I. I Simulation of the G130M/1. factor is therefore >= 182/258 0.75 for simplicity) In P (1) AZV18 COSTARG TO SIMULATE ACCOMPANY ACC	T. B (1) AZV18 COS/FUV, TIME-TAG, PSA NE S RUM pp.360 Spectrum of source to define correct location of star when it is 130M. Tagflash sequence is 36s on - 54 off - 36s on - 54 off (7 IS ETC RUN WAS MADE BEFORE THE CYCLE 20 ETC UP od thing since it is probably closer to reality than the pessimis ies assumed here. 1.1 Simulation of the G130M/1309 (COS.sp.389705) gives S/N factor is therefore >= 182/258=0.71 to convert from ETC20. 0.75 for simplicity) 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 0) ia.360 POSTARG TO SIMULATE ACQ/SEARCH. S/N = 60 is reache 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.)(Co ia.360 POSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) ia.360 POSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) ia.360 POSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) RG + RU 1.) RG + RU 1.) ROSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) ROSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) RG + RU 1.) ROSTARG TO SIMULATE ACQ/SEARCH 1. P (1) AZV18 COS/FUV, TIME-TAG, PSA RG + RU 1.) RG + RG + RU 1.) RG + RU 1.) RG +	I. B. (1) AZV18 COS/FUV, TIME-TAG, PSA G130M NE S NE S UN 1309 A 1309 M 1309 A 1309 M 1309 A 1309 M 1309 A 1309 M 1309 A	1. B. (1) AZV18	1. B	1. B. 1) AZV18	NE S 1309 A 0;

10	G130M - P	(1) A7V19	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TAPG 1 1	Sequence 1-17 Non-I	20 Secs	
10	OSTARG + SPECTRU	(1) AZV18	COS/FUV, TIME-TAG, PSA	1309 A	0;	POS TARG -1,-1	nt in HV+ACQ/SEA RCH TEST (01)	l==>J	
	M6 (-1,-1) (Corner)				FP-POS=3; FLASH=YES;				[1
	(COS.sa.360 701)				LIFETIME-POS=A LTERNATE				
Com	ments: POSTA	RG TO SIMULATE A	ACQ/SEARCH						•
1	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG 0,-1	Sequence 1-17 Non-I	20 Secs	
	OSTARG + SPECTRU			1309 A	0; FP-POS=3;		nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
	M7 (0,-1) (COS.sa.360				FLASH=YES;				[]
	701)				LIFETIME-POS=A LTERNATE				
Com	ments: POSTA	RG TO SIMULATE A	ACQ/SEARCH						l
2	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG 1,-1	Sequence 1-17 Non-I		
	OSTARG + SPECTRU			1309 A	0;		nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
	M8 (1,-1) (C				FP-POS=3;				,
	orner) (COS.sa.360				FLASH=YES; LIFETIME-POS=A				I.
	701)				LTERNATE				
		RG TO SIMULATE A		C120M	CCAN CIZE 2.		C 1 17 N I	25	
3	G130M - A CQ/SEARC	(1) AZV18	COS/FUV, ACQ/SEARCH, PSA	G130M 1309 A	SCAN-SIZE=3; STEP-SIZE=1.0;		Sequence 1-17 Non-I nt in HV+ACQ/SEA	[==>]	
	H (COS.sa.360			1309 A	LIFETIME-POS=A		RCH TEST (01)	[==>]	[2
	701)				LTERNATE				
			the centered target. COS.sa.360701, S					T	
4	G130M - B ASELINE S	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;		Sequence 1-17 Non-I nt in HV+ACQ/SEA		
	PECTRUM			1309 A	FP-POS=3;		RCH TEST (01)	[==>]	
	(COS.sp.360 698)				FLASH=YES;				I.
	,				LIFETIME-POS=A LTERNATE				
	ments: Spectri //N/RE=8.	um of source to verify	that the ACQ/SEARCH improved the	target centering j	for 3x3x1". (COS.sp.360698	8). BT=986*(2/3) = ~	-630. 182s gives S/N/RE	=10. 182s*0.64=116s. We use	~115 seconds
5	G130M - A		COS/FUV, ACQ/SEARCH, PSA	G130M	SCAN-SIZE=3;		Sequence 1-17 Non-I		
	CQ/SEARC H	T-NE-1.4AS		1309 A	STEP-SIZE=1.767;		nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
	(COS.sa.360 701)				LIFETIME-POS=A LTERNATE		Kell ILSI (01)		[-
			COS.sa.360701, S/N = 60 is reached in 100000000000000000000000000000000000	n 2 (A+B) second	ds. This is performed on the	fictious target 1" to		<u> </u>	
6			COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;		Sequence 1-17 Non-I		
	PECTRUM	T-NE-1.4AS		1309 A	FP-POS=3;		nt in HV+ACQ/SEA RCH TEST (01)	[==>]	
	(COS.sp.360 698)				FLASH=YES;				[2
					LIFETIME-POS=A LTERNATE				
			accurate centering (COS.sp.360698).	BT=986*(2/3) =	~630. 182s gives S/N/RE=	10.			
I =	182*0.64=116	6. We use ~115 second	is to get $\sim S/N/RE=8$.						

<u>oposal 12797 - HV+AC</u>	CQ/SEARCH TEST (01) - Second COS FU'	V Lifetime Position: FUV Target Ad	cquisition Parameter	· Update {FE.
17 S/C to RES DARK ET the G130	S/C, DATA, NONE	SPEC COM INSTR Sequence 1-17 ELOSMPATCH; nt in HV+ACQ	/SEA1	
M/1309 focu s		QESIPARM ACTIO RCH TEST (0) N REPLACE;	1) >1	
		QESIPARM GRATI NG G130M;		[1]
		QESIPARM CENT WAVE 1309;		
		QESIPARM FOCUS 170		
Comments: Special Commanding t	to reset the G130M/1309 settings with the original focus, the SCR 344 I	FSW position (170).		
18 HV_RAMP DARK	S/C, DATA, NONE	NEW OBSET;	1 Secs	
DOWN_TO _HVLOW		QASISTATES COS FUV HVLOW HVL OW;	[==>]	(2)
		QASISTATES COS SI OBSERVE OBSE RVE		[2]
Comments: SQL required for qexp	osure to specify the si_used = "COS".			•
New obset SR necessary to force th	iis exposure to be the very last exposure after Home.			





Proposal 12797 - HV+ACQ/PEAKD TEST (02) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FEN

Proposal 12797, HV+ACQ/PEAKD TEST (02), completed

Wed Jul 25 01:38:11 GMT 201

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; ORIENT 192.5D TO 197.5 D; AFTER 01 BY 0 D TO 7 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" ACO/PEAKD on the centered target, then attempt a 9x0.3" ACO/PEAKD on a target offset by +0.3", then a 7x0.5" offset by -0.8".

The roll angle is constrained to 195 ± -2.5 degrees, schedulability = 100%.

(HV+ACQ/PEAKD TEST (02)) Warning (Orbit Planner): VISIBILITY OVERRUN (HV+ACQ/PEAKD TEST (02)) Warning (Orbit Planner): VISIBILITY OVERRUN

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

(HV+ACO/PEAKD TEST (02)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKD TEST (02)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACO/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.

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

(HV+ACO/PEAKD TEST (02)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/IMAGE.

Proposal 12797 - HV+ACQ/PEAKD TEST (02) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FEN..

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	AZV18	RA: 00 47 12.1700 (11.8007083d) Dec: -73 06 32.68 (-73.10908d) Equinox: J2000	Proper Motion RA: -0.0003 sec of time/yr Proper Motion Dec: -0.0035 arcsec/yr Epoch of Position: 2000	V=12.48 (B-V)=+0.04	Reference Frame: ICRS
	Comments	s: B2Ia, Magellanic Clouds	s. Nominal ETC exposure times from spectrum	1		
	FUV, G13 FUV, G14	40L, 1105: 038s S/N=10 spe	.360711) a.360701) & 182s S/N=10 spectroscopy (COS ectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	S.sp.360698)		
ı	(13)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-AD+0.3)
		AD+0.3	RA Offset: -4.16667E-5 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.259808 Arcsec			
argets	Comments The roll a	s: This target WILL BE offs ngle the second week of Ap				
ed Targ	RA = -0.3''	offset = (-0.3",0)=-0.3"@5. *cos(55°)=-0.172073" =-0. .3"*sin(55°)= 0.245746"				
Ë	AZV18 off RA=-0.3"	Target changed to 195 +/- 2 fset#1 for ACQ/PEAKD (-0. *cos(60°)=-0.15"=-0.0000- 3"*sin(60°)= 0.259808"	$(3'',0) = -0.3'' @ 60^{\circ} N \text{ of } W$			
	(14)	AZV18-OFFSET-AD-0.	.5 Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-AD-0.5)
			RA Offset: 6.9444E-5 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: -0.433013 Arcsec			
		s: This target WILL BE offs ngle the second week of Ap	et -0.5" in the -AD direction. ril is 190+/-2.5d (visit 2)			
	RA = 0.5''*	=0.5"@55° N of W cos(55°)=0.286788"=0.000 5"*sin(55°)=-0.409576"	00796633°			
	RA = 0.5"*	Target changed to 195 +/- 2 cos(60°)=0.25" =0.000069 5"*sin(60°)=-0.433013"	2.5 degrees (+0.5",0)=0.5"@60° N of W 4444°			

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	FUV HVSE	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-25 Non-I		
	GA RAMP UP (167)					SPEC COM INSTR ELHLTHVF;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
						GS ACQ SCENARI O BASE1BN3;			
						QASISTATES COS FUV HVLOW HVS EGA;			[1]
						QESIPARM ENDC TSA 167;			
						QESIPARM SEGM ENT A			
c	omments: SQL r	equired for qexpo	sure to specify the si_used = "COS".			EIVI 71			
Т	he special comm	anding here sets t	the SEGMENT A high voltage to 167 (E	NDCTSA = 167). 40.	3s is the correct ramp	up time for 162/159. An a	llow 3 additional secon	nds for every positive unit of offse	t is required. Th
		p time is 403+(10	•	,					
$\frac{1}{2}$	<i>he FUV state of I</i> 2 nuv a/im		maintained until the FUV G140L 1105 COS/NUV, ACQ/IMAGE, BOA).	OASISTATES COS	Sequence 1-25 Non-I	28 Secs	
	(COS.ta.360 711)					FUV HVSEGA HVS EGA	nt in HV+ACQ/PEA KD TEST (02)	[==>]	[1]
c	<i>'</i>	ACQ/IMAGE with	n BOA+MIRRORA to refine centering. (COS92525 gives S/N	= 60 in 28s)		(/		ļ.
$ _{T}$	he FUV qasistate	es s.r. is specifical	lly for maintaining the FUV in the HVS.	EGA state.					
S	QL is required fo	r the dump create	ed by this exposure. The FUV state sho	uld be changed to HV	SEGA.				
3	S/C to updat e the G140L		S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;	Sequence 1-25 Non-I nt in HV+ACQ/PEA		
i	/1105 focus (-370+0)					QASISTATES COS FUV HVSEGA HVS EGA;	KD TEST (02)	[==>]	
						QESIPARM ACTIO N REPLACE;			
						QESIPARM GRATI NG G140L;			[1]
						QESIPARM CENT WAVE 1105;			
						QESIPARM FOCUS			
	omments: Special focus value.	al Commanding to	o overwrite the G140L/1280 settings wit	h the SLP focus positi	on. Right now, this is j		sition (-370), the contir	ngency visit of 12796 will give us	the actual upda
T	const pcmech_O: {1, 11 {1, 12	SM_position_tabl 05, 1598, -370, 3 30, 1591, -30, 3	g focus G140L positions; e_struct pcmech_OSMTbl[MECH_OSN 35092, 39716}, /* G140L, OSM1 */ 5055, 39680}, /* G140L, OSM1 */ 5050, 39675), /* G140L, OSM1 */	1_TABLE_SIZE] =					
ı									

po:		<u> 2/PEAKD TEST (02) - S</u>	econa COS I	<u>-UV Litetime P</u>				<u> ∤⊢EN.</u>
4	S/C to updat DARK e the G140L	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;	Sequence 1-25 Non-I nt in HV+ACQ/PEA		
	/1280 focus (19+0)				QESIPARM ACTIO N REPLACE;	KD TEST (02)	[==>]	
					QESIPARM GRATI NG G140L;			[1]
					QESIPARM CENT WAVE 1280;			
					QESIPARM FOCUS 19			
	nments: Special Commanding to ous value.	werwrite the G140L/1280 settings with	the SLP focus positio	n. Right now, this is just	the current lifetime po	sition (19), the conting	ency visit of 12796 will give us the act	ual update
	{1, 1105, 1598, -370, 350 {1, 1230, 1591, -30, 350	focus G140L positions; _struct pcmech_OSMTbl[MECH_OSM_ 092, 39716},	_TABLE_SIZE] =					
5	G140L/1105 (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 1-25 Non-I	30 Secs	
	- BASELIN E SPECTR UM		1105 A	0; FP-POS=3;		nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	(COS.sp.389 720)			FLASH=S0200D03 0;				[1]
				WAVECAL=YES;				
				LIFETIME-POS=A LTERNATE				
COS	S.sp.389720 gives $S/N/RE = 10$ at	ine the G140L/1105 XD location of tat 1400.00 Å in 38.5800 seconds. We don ar lamp flash). BT=2/3 (838*0.75) = 42	t bother to scale this,	d w/ NUV ACQ/IMAGE because the				
6	FUV HV R DARK	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 1-25 Non-I	418 Secs	
	AMPUP (16 7/163)				SPEC COM INSTR ELHLTHVF;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
					QASISTATES COS FUV HVLOW HVN OM;			617
					QESIPARM ENDC TSA 167;			[1]
					QESIPARM ENDC TSB 163			
Con	nments: SQL required for qexposu	ure to specify the si_used = "COS".						•
		e the nominal high voltage for this visit y positive unit of offset is required. The				7 and 163, respectively.	403s is the correct rampup time for	162/159.
7	G140L/1280 (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 1-25 Non-I		
	- BASELIN E SPECTR UM		1280 A	0; FP-POS=3;		nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	(COS.sp.389 720)			FLASH=S0200D03 6;				[1]
				WAVECAL=YES;				
				LIFETIME-POS=A LTERNATE				
COS	S.sp.389720 gives Š/N/RE = 10 at	ine the G140L/1280 XD location of tat 1400.00 Å in 38.5800 seconds. We don ar lamp flash). BT=2/3 (838*0.75) = 42	t bother to scale this					

Proposa Proposa	<u> 12797 - HV+AC</u>	<u>Q/PEAKD TEST (02) -</u>	Second COS FUV Lifetime	Position: FUV T	arget Acquisit	ion Parameter Update	{FEN
8 S/	C to updat DARK	S/C, DATA, NONE		SPEC COM INSTR	Sequence 1-25 Non-I	8 Secs	
M	the G160 /1577 focu			ELOSMPATCH; QESIPARM ACTIO	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	from -384 t -224 (+16			N REPLACE;			
0)				QESIPARM GRATI NG G160M;			[1]
				QESIPARM CENT			[1]
				WAVE 1577; QESIPARM FOCUS			
				-224			
Comme. o -224.	nts: Special Commanding to	o overwrite the G160M/1577 settings	with the SLP focus position. FENA3 Results s	suggest we need a +160 focu	us step adjustment from	these values. So, G160M/1577 goes fi	rom -384 t
The SCi const po	{2, 1577, 11203, -384, {2, 1589, 11199, -214, {2, 1600, 11195, -44, {2, 1611, 11191, 126,	g focus G160M positions; _struct pcmech_OSMTbl[MECH_OSI 18693, 23323], /* G160M, OSM1 * 18671, 23301], /* G160M, OSM1 * 18651, 23281], /* G160M, OSM1 */ 18631, 23261], /* G160M, OSM1 *, 18609, 23239], /* G160M, OSM1 *	6/ 6/ /				
	C to updat DARK	S/C, DATA, NONE			Sequence 1-25 Non-I	8 Secs	
M	the G160 /1600 focu			ELOSMPATCH; QESIPARM ACTIO	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	from -44 to 116 (+160)			N REPLACE;			
				QESIPARM GRATI NG G160M;			[1]
				QESIPARM CENT			[1]
				WAVE 1600; QESIPARM FOCUS			
				116			
+116.	nts: Special Commanding to	o overwrite the G160M/1600 settings	with the SLP focus position. FENA3 Results s	suggest we need a +160 foct	us step adjustment from	these values. So, G160M/1600 goes fi	rom -44 to
	{2, 1577, 11203, -384, {2, 1589, 11199, -214, {2, 1600, 11195, -44, 2, 1611, 11191, 126,	g focus G160M positions; e_struct pemech_OSMTbl[MECH_OS 18693, 23323], /* G160M, OSM1 *, 18671, 23301], /* G160M, OSM1 *, 18651, 23281}, /* G160M, OSM1 *, 18631, 23261], /* G160M, OSM1 *, 18609, 23239], /* G160M, OSM1 *,	() () ()				

<u> </u>	<u> </u>						
10 S/C to updat DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-25 Non-I		
e the G160 M/1623 focu s from +296				ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
to +456 (+1 60)				QESIPARM GRATI NG G160M;			[1]
				QESIPARM CENT WAVE 1623;			
				QESIPARM FOCUS 456			
Comments: Special Commanding to to +456.	overwrite the G160M/1623 settings with	the SLP focus posi	tion. FENA3 Results sugg	est we need a +160 foo	cus step adjustment froi	n these values. So, G160M/1623 g	zoes from +290
{2, 1577, 11203, -384, I {2, 1589, 11199, -214, I {2, 1600, 11195, -44, I {2, 1611, 11191, 126, I	focus G160M positions; struct pcmech_OSMTbl[MECH_OSM_ 8693, 23323}, /* G160M, OSM1 */ 8671, 23301}, /* G160M, OSM1 */ 8651, 23281}, /* G160M, OSM1 */ 8631, 23261}, /* G160M, OSM1 */ 8609, 23239}, /* G160M, OSM1 */	TABLE_SIZE] =					
11 G160M/157 (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=48		Sequence 1-25 Non-I	36 Secs	
7 - BASELI NE SPECT		1577 A	0; ED DOG 2.		nt in HV+ACQ/PEA KD TEST (02)	[==>]	
RUM			FP-POS=3; FLASH=S0200D03		. ,		
							[1]
(COS.sp.389 715)			6;				
(COS.sp.389			6; WAVECAL=YES;				1-7
(COS.sp.389			WAVECAL=YES; LIFETIME-POS=A				
(COS.sp.389 715)	fine WCA location for G160M/1623, E1	T = LAMP TIME = .	WAVECAL=YES; LIFETIME-POS=A LTERNATE				
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S.	/N/RE=10 @ 1610A in 287s. (BT=2/3*5	956=640). We atten	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s.				
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S, o April 2012 by multiplying by 0.75	•	956=640). We atten	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s.		Sequence 1-25 Non-I	200 Secs	
(COS.sp.389 715) Comments: Spectrum of source to describe to desc	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atten 180s (we use 420 to	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. upt to scale this be safe). BUFFER-TIME=48 0;		nt in HV+ACQ/PEA	200 Secs [==>]	
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atten 480s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. upt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3;		Sequence 1-25 Non-I nt in HV+ACQ/PEA KD TEST (02)		
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atten 480s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. upt to scale this be safe). BUFFER-TIME=48 0;		nt in HV+ACQ/PEA		
(COS.sp.389 715) Comments: Spectrum of source to describe COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atten 480s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. upt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03		nt in HV+ACQ/PEA		[1]
(COS.sp.389 715) Comments: Spectrum of source to describe COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atten 480s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. upt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6;		nt in HV+ACQ/PEA		
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Sto April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives St	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4 COS/FUV, TIME-TAG, PSA fine G160M/1600 location of a target /N/RE=10 @ 1610A in 287s. (BT=2/3*9	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered to 1056=640). We atten	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE w/NUV ACQ/IMAGE. upt to scale this		nt in HV+ACQ/PEA		
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Sto April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Sto April 2012 by multiplying by 0.75 13 G160M/162 (1) AZV18	/N/RE=10 @ 1610A in 287s. (BT=2/3*) => ET= 215s, BT =(2/3*956*0.75) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered to 1056=640). We atten	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE w/NUV ACQ/IMAGE. apt to scale this be safe) BUFFER-TIME=48		nt in HV+ACQ/PEA KD TEST (02)	[==>]	
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Sto April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Sto April 2012 by multiplying by 0.75 13 G160M/162 (1) AZV18 3 - BASELI	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered 156=640). We atten 180s (we use 420 to	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE w/NUV ACQ/IMAGE. apt to scale this be safe) BUFFER-TIME=48 0;		nt in HV+ACQ/PEA KD TEST (02) Sequence 1-25 Non-Int in HV+ACQ/PEA	[==>]	
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 13 G160M/162 (1) AZV18 3 - BASELI NE SPECT RUM	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered 156=640). We atten 180s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE w/ NUV ACQ/IMAGE. apt to scale this be safe) BUFFER-TIME=48 0; FP-POS=3;		nt in HV+ACQ/PEA KD TEST (02)	[==>] 36 Secs	
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives S. to April 2012 by multiplying by 0.75 13 G160M/162 (1) AZV18 3 - BASELI NE SPECT	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered 156=640). We atten 180s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE w/NUV ACQ/IMAGE. apt to scale this be safe) BUFFER-TIME=48 0;		nt in HV+ACQ/PEA KD TEST (02) Sequence 1-25 Non-Int in HV+ACQ/PEA	[==>] 36 Secs	[1]
(COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Stot April 2012 by multiplying by 0.75 12 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) Comments: Spectrum of source to de COS.sp.389715 (ETC20.1.1) gives Stot April 2012 by multiplying by 0.75 13 G160M/162 (1) AZV18 3 - BASELI NE SPECT RUM (COS.sp.389	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atten 180s (we use 420 to G160M 1600 A when it is centered 156=640). We atten 180s (we use 420 to G160M	WAVECAL=YES; LIFETIME-POS=A LTERNATE 36s. apt to scale this be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE apt to scale this be safe) BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03		nt in HV+ACQ/PEA KD TEST (02) Sequence 1-25 Non-Int in HV+ACQ/PEA	[==>] 36 Secs	

opo	<u>sal 12797 - HV+A0</u>	<u> CQ/PEAKD TEST (02) - S</u>	econd COS I	FUV Lifetime Pi	osition: FUV I	arget Acquisit	<u>tion Parameter Update</u>	: {FEN
14	S/C to updat DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-25 Non-I		
	e the G130 M/1291 focu s from -170 t				ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	o -50 (+120)				QESIPARM GRATI NG G130M;			[1]
					QESIPARM CENT WAVE 1291;			
					QESIPARM FOCUS -50			
Cor o -5		to overwrite the G130M/1291 settings with	the SLP focus positi	on. FENA3 Results sugge	est we need a +120 foc	us step adjustment fron	n these values. So, G130M/1291 goes	from -170 t
	{0, 1291, 7999, -170, {0, 1300, 7995, 0, {0, 1309, 7991, 170, {0, 1318, 7987, 340, }	ng focus G130M positions; ble_struct pcmech_OSMTbl[MECH_OSM_ . 2259, 6898}, /* G130M, OSM1 */ 2238, 6877}, /* G130M, OSM1 */ 2218, 6857}, /* G130M, OSM1 */ 2198, 6837], /* G130M, OSM1 */ 2177, 6816], /* G130M, OSM1 */	TABLE_SIZE] =					
15	S/C to updat DARK	S/C, DATA, NONE				Sequence 1-25 Non-I	8 Secs	
	e the G130 M/1327 focu s from 511 t				ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	o 631 (+120)				QESIPARM GRATI NG G130M;			[1]
					QESIPARM CENT WAVE 1327;			123
					QESIPARM FOCUS			
Cor o 6.		to overwrite the G130M/1327 settings with	the SLP focus positi	on. FENA3 Results sugg		cus step adjustment from	n these values. So, G130M/1327 goe.	s from 511 t
	{0, 1291, 7999, -170, {0, 1300, 7995, 0, {0, 1309, 7991, 170, {0, 1318, 7987, 340,	ng focus G130M positions; ble_struct pemech_OSMTbl[MECH_OSM_ . 2259, 6898}, /* G130M, OSM1 */ . 2238, 6877}, /* G130M, OSM1 */ . 2218, 6857}, /* G130M, OSM1 */ . 2198, 6837], /* G130M, OSM1 */ . 2177, 6816], /* G130M, OSM1 */	TABLE_SIZE] =					
16	G130M/129 (1) AZV18 1 - BASELI	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;		Sequence 1-25 Non-I nt in HV+ACQ/PEA		
	NE SPECT RUM		1291 A	FP-POS=3;		KD TEST (02)	[==>]	
	(COS.sp.360			FLASH=S0060D03				
	698)			6; WAVECAL=YES;				[1]
				LIFETIME-POS=A LTERNATE				
Cor **N	nments: Spectrum of source to NOTE THIS ETC RUN WAS M.	define correct location of star when it is co ADE BEFORE THE CYCLE 20 ETC UPDA	entered in NUV (COS ATE TO ETC20.1.1*	S.sp.360698). BT=986*(2 *	$/3$) = \sim 630. This will g	et us S/N~10 per RE. 3	6s lamp flash	
	is is a good thing since it is pro s assumed here.	obably closer to reality than the sensitivitie	s used in ETC20.1.1)	The G140L and G160M	ETC simulations were	made using 20.1.1 and	l will be scaled back to match the G1	30M sensitiv
1								

ror	<u>oosal 12797 - HV+ACQ/</u>	<u> 'PEAKD TEST (02) - S</u>	econd COS F	UV Lifetime Po	osition: FUV T	arget Acquisit	tion Parameter Update	{FEN
	17 G130M/132 (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 1-25 Non-I	36 Secs	
	7 - BASELI NE SPECT		1327 A	0;		nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	RUM			FP-POS=3;		11251 (02)		
	(COS.sp.360 698)			FLASH=S0060D03 6;				[1]
	,			WAVECAL=YES;				[1]
				LIFETIME-POS=A				
				LTERNATE				
	Comments: Spectrum of source to defin **NOTE THIS ETC RUN WAS MADE I	e correct location of star when it is co BEFORE THE CYCLE 20 ETC UPD	entered in NUV (COS.s ATE TO ETC20.1.1**	sp.360698). BT=986*(2	$/3) = \sim 630$. This will g	et us S/N~10 per RE. 3	6s lamp flash.	
								014
1	This is a good thing since it is probably ties assumed here.	y closer to reality than the sensitivitie	s usea in E1C20.1.1) I	ne G140L ana G160M	EIC simulations were	maae using 20.1.1 and	will be scaled back to match the G130	JW sensitiv
	8 S/C to RES DARK	S/C, DATA, NONE				Sequence 1-25 Non-I	8 Secs	
	ET the G140 L/1105 focu				ELOSMPATCH;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	s				QESIPARM ACTIO N REPLACE;	112 1231 (02)		
					QESIPARM GRATI NG G140L;			[1]
					QESIPARM CENT WAVE 1105;			[1]
					QESIPARM FOCUS			
1.	Commenter Special Commenting to BE	ESET 4b a C 1401 /1105 action on 40 it/a			-370			
	Comments: Special Commanding to RE The SCR 344 FSW has the following foo	cus G140L positions;						
	const pcmech_OSM_position_table_str	ruct pcmech_OSMTbl[MECH_OSM_	$[TABLE_SIZE] =$					
	{1, 1230, 1591, -30, 3505.	92, 39716}, /* G140L, OSM1 */ 5, 39680}, /* G140L, OSM1 */						
-	1, 1280, 1590, 19, 35050 19 S/C to RES DARK	0, 39675}, /* G140L, OSM1 */ S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-25 Non-I	8 Sacs	
	ET the G140	S/C, DATA, NONE			ELOSMPATCH;	nt in HV+ACQ/PEA	[==>]	
	L/1280 focu s				QESIPARM ACTIO N REPLACE;	KD TEST (02)		
					QESIPARM GRATI NG G140L;			[1]
					QESIPARM CENT WAVE 1280;			[1]
					QESIPARM FOCUS			
					19			
9	Comments: Special Commanding to RE	SET the G140L/1280 settings to it's n	ıormal value (19).					
-	The SCR 344 FSW has the following foo const pcmech_OSM_position_table_str	cus G140L positions; ruct pcmech_OSMTbl[MECH_OSM_	TABLE_SIZE] =					
		92, 39716}, /* G140L, OSM1 */						
	{1, 1230, 1591, -30, 3505. {1, 1280, 1590, 19, 3505(5, 39680}, /* G140L, OSM1 */ 0, 39675}, /* G140L, OSM1 */						
	(1, 1200, 1000, 10, 0000	,, e, e						
- 1								

<u>Pro</u>	<u>posal 12797 - HV+ACQ/PEAKD TEST (02) - Second COS FUV Lifetime</u>	Position: FUV	<u> Farget Acquisit</u>	ion Parameter Update	<u>{FE</u> N
	20 S/C to RES DARK S/C, DATA, NONE	SPEC COM INSTR	Sequence 1-25 Non-I	8 Secs	
	ET the G160 M/1577 focu s	ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
		QESIPARM GRATI NG G160M;			[1]
		QESIPARM CENT WAVE 1577;			
		QESIPARM FOCUS -384			
	Comments: Special Commanding to RESET the G160M/1577 settings with it's normal value (-384).				
	The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =				
	{2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */				
	21 S/C to RES DARK S/C, DATA, NONE	SPEC COM INSTR	Sequence 1-25 Non-I		
	ET the G160 M/1600 focu	ELOSMPATCH; QESIPARM ACTIO	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
	S	N REPLACE;			
		QESIPARM GRATI NG G160M;			[1]
		QESIPARM CENT WAVE 1600;			
		QESIPARM FOCUS			
	Comments: Special Commanding to RESET the G160M/1600 settings to it's normal value (-44).				1
	The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =				
	{2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */				

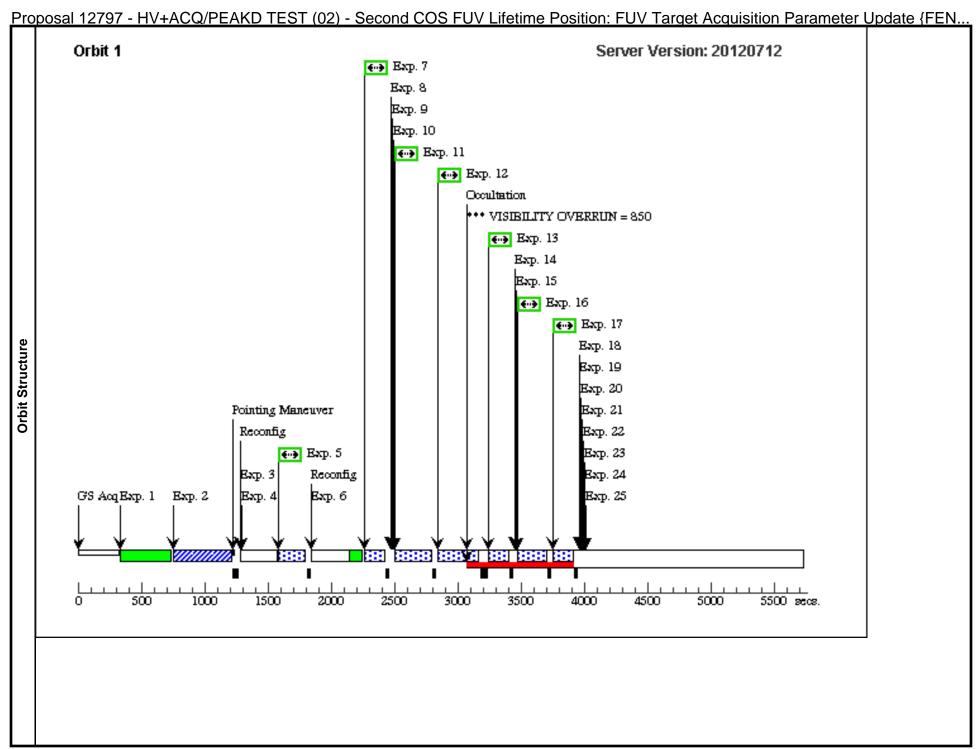
get Acquisition Parameter Upda uence 1-25 Non-1 8 Secs	
the HV+ACQ/PEA	
TEST (02) $ l==> 1 $	
	[1]
	[1]
	,
uence 1-25 Non-I 8 Secs	
n HV+ACQ/PEA TEST (02) [==>]	
	[1]
uence 1-25 Non-I 8 Secs	
$ \begin{array}{ll} \text{n HV+ACQ/PEA} \\ \text{TEST (02)} \end{array} [t==>] $	
	[1]

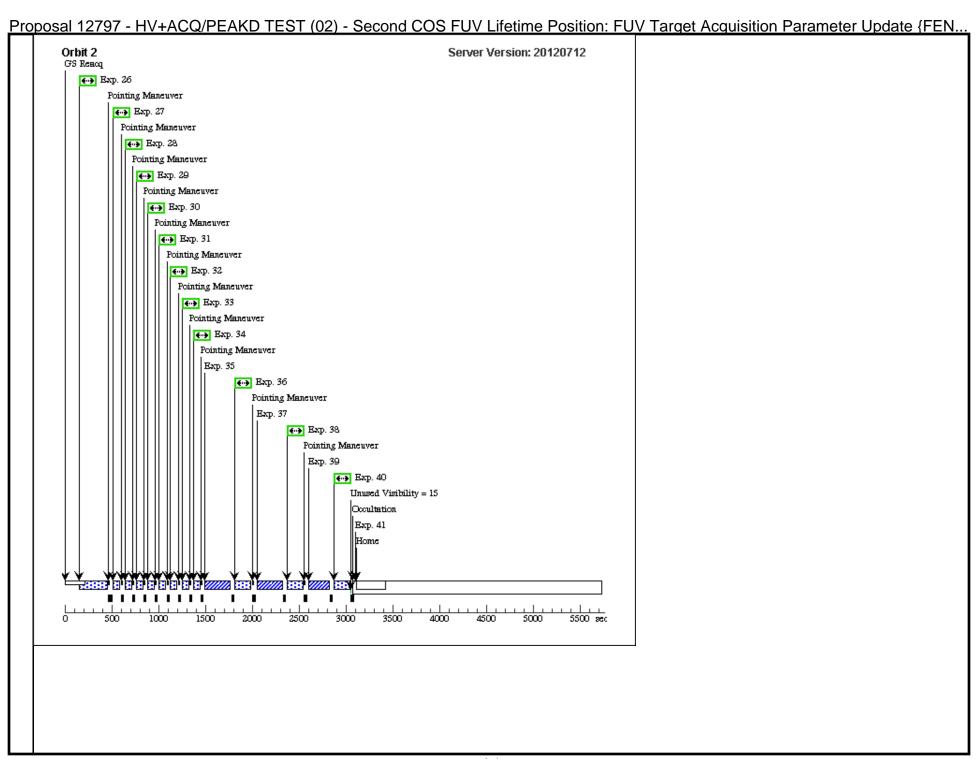
)pos	<u>sai 12797</u>	<u> </u>	<u> </u>	econd COS	<u>FUV Litetime P</u>	<u>osition: FUV I</u>	arget Acquisit	<u>ion Parameter Update</u>	<u>{FEN</u>
25	S/C to updat	DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 1-25 Non-I	8 Secs	
	e the G130 M/1309 focu s from 170 t o 290 (+120					ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in HV+ACQ/PEA KD TEST (02)	[==>]	
)					QESIPARM GRATI NG G130M;			[1]
						QESIPARM CENT WAVE 1309;			
						QESIPARM FOCUS 290			
Com +290		l Commanding t	to overwrite the G130M/1309 settings with	the SLP focus positi	ion. FENA3 Results sugge	est we need a +120 foc	us step adjustment from	n these values. So, G130M/1309 goes f	rom 170 to
	sst pcmech_OS { {0, 10 {0, 10; {0, 12; {0, 13; {0, 13; {0, 13;	M_position_tab 55, 8095, -170, 96, 8078, -170, 91, 7999, -170, 00, 7995, 0, 2 09, 7991, 170, 18, 7987, 340,	ng focus G130M positions; le_struct pemech_OSMTbl[MECH_OSM_2750, 7402], /* G130M, OSM1 */ 2665, 7312], /* G130M, OSM1 */ 2259, 6898], /* G130M, OSM1 */ 2238, 6877], /* G130M, OSM1 */ 2218, 6857], /* G130M, OSM1 */ 2198, 6837], /* G130M, OSM1 */ 2177, 6816], /* G130M, OSM1 */	_TABLE_SIZE] =					
26	G130M/130		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 26-41 Non	176 Secs	
	9 - BASELI NE SPECT			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	RUM				FP-POS=3;		(/		
	(COS.sp.360 698)				FLASH=S0200D03 6;				[2]
					WAVECAL=YES;				, ,
					LIFETIME-POS=A LTERNATE				
		um of source to NT Sequence. 3	define correct location of star when it is ce 6s lamp flash	entered in NUV (CO	S.sp.360698). BT=986*(2	2/3) = ~630. This will g	et us S/N~10 per RE in	182s. This exposure and the next 8 sho	ould be co
**N	OTE THIS ET	C RUN WAS MA	ADE BEFORE THE CYCLE 20 ETC UPDA	ATE TO ETC20.1.1*	*				
(This		ng since it is pro	bably closer to reality than the pessimistic			and G160M ETC simul	ations were made using	3 20.1.1 and will be scaled back to mat	tch the G13
27	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -1.6,null	Sequence 26-41 Non	20 Secs	
	OSTARG + SPECTRU M1 (-1.6)			1309 A	0; FP-POS=3;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	(COS.sa.360				FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				
Com	ments: POSTA	ARG TO SIMUL	ATE $9x0.4''$ ACQ/PEAKD. This is the $x=-$	1.6 " position. S/N =	60 is reached in 2 secon	ds. We want to get a de	ecent look at the spectri	um, so we'll observe for 20 seconds.	
28	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -1.2,null	Sequence 26-41 Non		
	SPECTRU			1309 A	0; FP-POS=3;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	M2 (-1.2) (COS.sa.360	(-1.2) OS.sa.360			FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				
Com	ments: POSTA	ARG TO SIMUL	ATE ACQ/PEAKD. his is the $x = -1.2$ " pos	sition. $S/N = 60$ is re	ached in 2 seconds. We w	ant to get a decent loo	k at the spectrum, so we	e'll observe for 20 seconds.	,
							•	·	

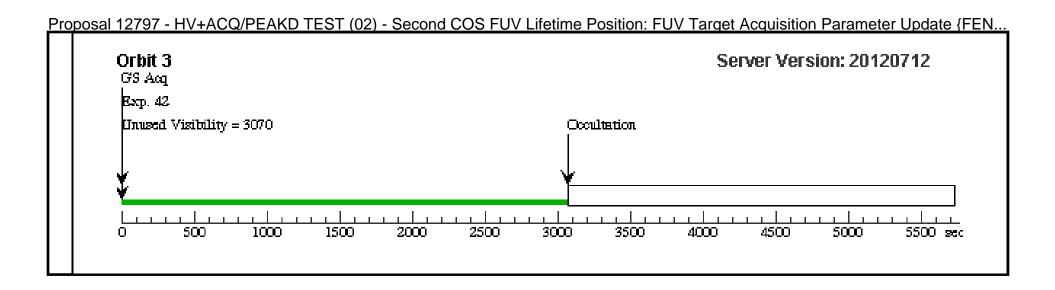
<u>oqc</u>	<u>sai 12797</u>	- HV+AC	<u>Q/PEAKD TEST (02) - Se</u>	<u> </u>	FUV LITETIME P	<u>osilion: FUV i</u>	arget Acquisit	<u>lion Parameter Opdate</u>	<u>{FEIN</u>
29	G130M - P		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 26-41 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	M3 (-0.8)				FP-POS=3;		ARD ILDI (02)		
	(COS.sa.360 701)				FLASH=YES;				[2]
	,01)				LIFETIME-POS=A LTERNATE				
Con	ments: POSTA	RG TO SIMULA	TE ACQ/PEAKD. his is the $x = -0.8$ " posi	tion. $S/N = 60$ is re	eached in 2 seconds. We w	ant to get a decent loo	k at the spectrum, so we	e'll observe for 20 seconds.	_
30	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -0.4,null	Sequence 26-41 Non		
	OSTARG + SPECTRU			1309 A	0; FP-POS=3;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	M4 (-0.4) (COS.sa.360				FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				[2]
Con	ments: POSTA	RG TO SIMULA	TE ACQ/PEAKD. his is the $x=-0.4"$ positi	fon. $S/N = 60$ is red	ached in 2 seconds. We wa	nt to get a decent look	at the spectrum, so we	'll observe for 20 seconds.	
31	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG 0.4,null	Sequence 26-41 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	M5 (0.4)				FP-POS=3;		7 HD 1251 (02)		527
	(COS.sa.360 701)				FLASH=YES;				[2]
	,				LIFETIME-POS=A LTERNATE				
Con	ments: POSTA	RG TO SIMULA	TE ACQ/PEAKD. This is the $x = +0.4$ " po	sition. $S/N = 60$ is	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	we'll observe for 20 seconds.	
32	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG 0.8,null	Sequence 26-41 Non -Int in HV+ACQ/PE		
	SPECTRU			1309 A	0; FP-POS=3;		AKD TEST (02)	[==>]	
	M6 (0.8) (COS.sa.360				FLASH=YES;				[2]
	701)				LIFETIME-POS=A				[2]
					LTERNATE				
Con	ments: POSTA	RG TO SIMULA	TE ACQ/PEAKD. This is the $x = +0.8"$ po	sition. $S/N = 60$ is					
33	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;	POS TARG 1.2,null	Sequence 26-41 Non -Int in HV+ACQ/PE		
	SPECTRU			1309 A	FP-POS=3;		AKD TEST (02)	[==>]	
	M7 (1.2) (COS.sa.360				FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				1-5
Con	ments: POSTA	RG TO SIMULA	TE ACQ/PEAKD. This is the $x = +1.2$ " po	sition. $S/N = 60$ is	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	we'll observe for 20 seconds.	
34	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG 1.6,null	Sequence 26-41 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	I = => J	
	M8 (1.6)				FP-POS=3;		11112 1251 (02)		(2)
	(COS.sa.360 701)				FLASH=YES;				[2]
	,				LIFETIME-POS=A LTERNATE				
Con (A+)		RG TO SIMULA	TE ACQ/PEAKD. This is the $x = +1.6$ " po	sition. $S/N = 60$ is	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	we'll observe for 20 seconds (~16000 t	otal counts
35	G130M - A	(1) AZV18	COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=9;		Sequence 26-41 Non	2 Secs	
	CQ/PEAKD		-	1309 A	STEP-SIZE=0.4;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	(COS.sa.360 701)				LIFETIME-POS=A LTERNATE		AKD 1E31 (02)		[2]
Con	ments: ACQ/P	EAKD of a cente	red target on the same 9x0.4" pattern S/	N = 60 is reached	in 2 seconds. This exposur	re and the next should	be considered a NON-I	NT sequence.	-
			-		-				

200	<u>sai 1279 i</u>	<u>/ - HV+AC</u> Q	<u> (/PEAKD TEST (02) - 8</u>	secona COS	<u>S FUV Litetime</u> P	<u>'osition: FUV</u> I	<u>ı arget Acqu</u> isi	<u>tion Parameter Update</u>	<u>; {FEN</u>
36	G130M - B		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 26-41 Non		
	ASELINE S PECTRUM			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	(COS.sp.360				FP-POS=3;		AKD 1131 (02)		
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
Con	ments: Confir	mation Spectrum afi	ter the PEAKD (COS.sp.360698). BT	$=986*(2/3) = \sim 630.$. This will get us S/N~10 pe	er RE in 182s, we are fo	orced to use less due to	time constraints.	
37			SE COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=9;		Sequence 26-41 Non		
	CQ/PEAKD (COS.sa.360			1309 A	STEP-SIZE=0.3;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	701)				LIFETIME-POS=A LTERNATE				[2]
		ACQ/PEAKD on ar idered a NON-INT s	n off centered target. The target is dej sequence.	fined 0.3" in the +A	D direction from the actual	target, so the target w	ill actually now be 0.3"	off in the -AD direction. This exposu	ıre and the n
38		(13) AZV18-OFFSE	SE COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 26-41 Non	120 Secs	
	ASELINE S T- PECTRUM (COS.sp.360			1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
					FP-POS=3;		1112 1231 (02)		
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
Con , so	ments: Confir the target is ac	mation spectrum aft ctually at +0.8" whe	ter the 9x0.3" ACQ/PEAKD. Our cook on we start the ACQ/PEAKD pattern.	rdinate system is no (COS.sp.360698). B	ow off by -0.3". Our next tar $3T = 986*(2/3) = \sim 630$. This	get is defined to be -0.5 will get us S/N~10 per	5" from the original loc RE in 182s, we are for	ation, which is now -0.8" from the or ced to use less due to time constraint	riginal target ts.
39			SE COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=7;		Sequence 26-41 Non	2 Secs	
	CQ/PEAKD (COS.sa.360			1309 A	STEP-SIZE=0.55;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	701)				LIFETIME-POS=A LTERNATE		THE TEST (02)		[2]
Con	ments: 9x0.5 /	ACQ/PEAKD on an	off centered target, this time the target	et is 0.8" off to the ∃	+AD. This exposure and the	e next should be consid	ered a NON-INT seque	nce.	
40			SE COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 26-41 Non	120 Secs	
	ASELINE S PECTRUM	T-AD-0.5		1309 A	0;		-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	(COS.sp.360				FP-POS=3;		AKD 1131 (02)		
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
		um of source to dete me constraints.	ermine if correctly centered after the S	9x0.5" pattern on the	e target offset by +0.8". (C	OS.sp.360698). BT=98	$36*(2/3) = \sim 630$. This w	ill get us S/N~10 per RE in 182s, we	are forced t
41	S/C to reset t	DARK	S/C, DATA, NONE			SPEC COM INSTR	Sequence 26-41 Non	8 Secs	
	he G130M/1 309 focus					ELOSMPATCH;	-Int in HV+ACQ/PE AKD TEST (02)	[==>]	
	30) 10003					QESIPARM ACTIO N REPLACE;	71120 1231 (02)		
						QESIPARM GRATI			
						NG G130M;			[2]
						QESIPARM CENT			
						WAVE 1309;			
						QESIPARM FOCUS 170			
Con	ments: Specia	l Commanding to re	eset the G130M/1309 settings with the	e original focus, the	SCR 344 FSW position (17	70).			
	•	_	Ū		•				

<u> Pr</u>	<u>opo</u>	<u>sai 1279 i</u>	<u>′ - HV+A(</u>	JQ/PEAKD I	<u> 1EST (02)</u>	<u>- Second COS FUV</u>	Litetime Position: FUV	<u> Larget Acquisi</u>	<u>tion Parameter</u>	<u>Update </u>	FEN
	42	HV_RAMP	DARK	S/C, DATA	, NONE		NEW OBSET;		1 Secs		
		DOWN_TO _HVLOW					QASISTATES COS FUV HVLOW HVL OW;		[==>]		121
							QASISTATES COS SI OBSERVE OBSI RVE				[3]
	Cor	nments: SQL re	quired for qexp	posure to specify the	si_used = "COS	7".					
ı	Nev	obset SR nece	ssary to force th	his exposure to be th	e very last expos	sure after Home.					







Proposal 12797 - HV+ACQ/PEAKXD TEST G130M (03) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd

Proposal 12797, HV+ACQ/PEAKXD TEST G130M (03), completed

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; ORIENT 247.5D TO 252.5 D; BETWEEN 13-JUN-2012 AND 30-JUN-2012

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 +/- 1.6" offsets are double the exposure time to compensate for vignetting. We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".

Wed Jul 25 01:38:18 GMT 201

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

(HV+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.

(HV+ACQ/PEAKXD TEST G130M (03)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

(HV+ACO/PEAKXD TEST G130M (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(HV+ACQ/PEAKXD TEST G130M (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Diagnostics (HV+ACQ/PEAKXD TEST G130M (03)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G130M (03)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(HV+ACQ/PEAKXD TEST G130M (03)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACO/PEAKXD TEST G130M (03)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G130M (03)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.

(HV+ACO/PEAKXD TEST G130M (03)) Warning (Orbit Planner): VISIBILITY OVERRUN

Proposal 12797 - HV+ACQ/PEAKXD TEST G130M (03) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd...

#		Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	arget Acquisition Parameter Upd 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		
Co	omments.	: B2Ia, Magellanic Cloud	ls. Nominal ETC exposure times from spectrum su	pplied by D. Lennon:		
F0 F0	UV, G130 UV, G140	OL, 1105: 038s S/N=10 sp	a.360711) .sa.360701) & 182s S/N=10 spectroscopy (COS.sp pectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	.360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
		XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.211309 Arcsec			
			' in the XD direction, and is valid for visits 3-5 onl 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	y.		
(A RA	$(D, XD) = (A = -0.5)^{\circ}$	set for ACQ/PEAKXD (0,-0.5")=-0.5"@25°S of *cos(25°)=-0.453154"=-0 "*sin(25°)=0.211309"	E 0.000125876°			
RA -0 -0	A(") DEC 9.453 0.21 9.906 0.42	onfirmation spreadsheet g C(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
o (1	0)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
⊢		XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
eq			Dec Offset: 0.422618 Arcsec			
芒 Cd			' in the XD direction, and is valid for visits 3-5 onl 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	y.		
RA	4=-1.0"*	" offset for ACQ/PEAKD cos(20°)= -0.906308"= - sin(20°)=0.422618"	(0,-1.0")=-1"@25° S of E -0.000251752°			
-0 -0	A(") DEC 0.453 0.23 0.906 0.42	onfirmation spreadsheet g C(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
(1	5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
		XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.633927 Arcsec			
Co Th	omments. he roll an	: This target is offset 1.0" ngle for 13-Jun-2012 till 3	' in the XD direction, and is valid for visits 3-5 onl 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	y.		
(0) RA	,-1.5")=- 4=-1.5"*	" offset for ACQ/PEAKD -1.5"@25° S of E *cos(20°)=-1.35946=-0.0 '*sin(20°)= 0.633927"				
-0 -0	A(") DEC 9.453 0.21 9.906 0.42	onfirmation spreadsheet g C(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			

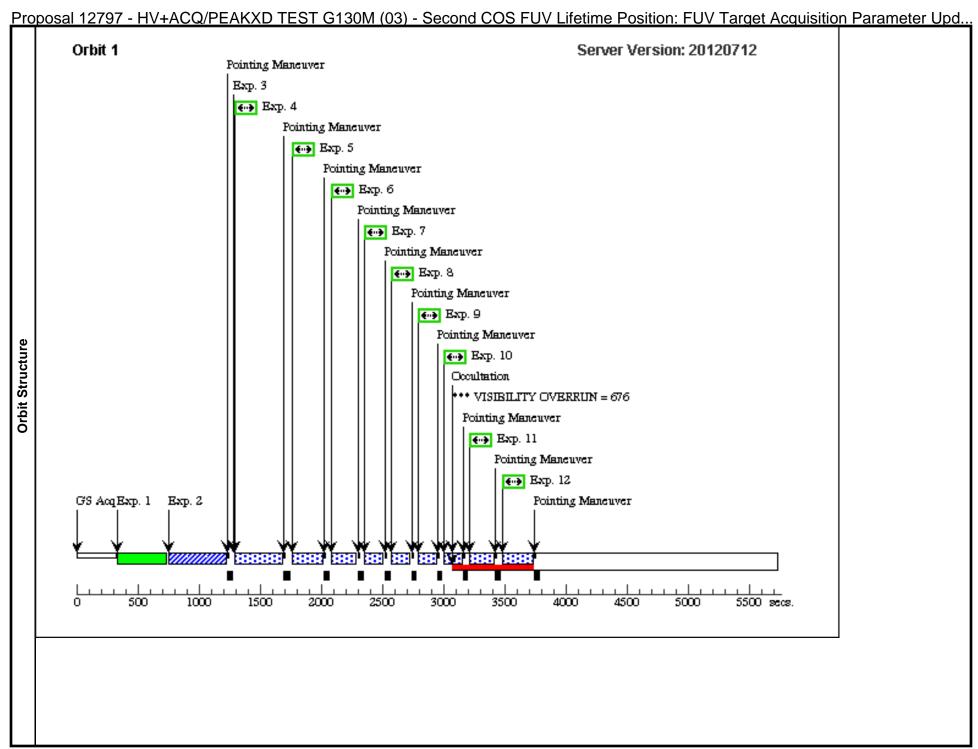
Proposal 12797 - HV+ACQ/PEAKXD TEST G130M (03) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd. Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Reqs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) FUV HV R DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-12 Non-I | 418 Secs AMPUP (16 nt in HV+ACO/PEA SPEC COM INSTR I = = > 1KXD TEST G130M 7/163) ELHLTHVF; GS ACO SCENARI O BASE1BN3; **OASISTATES COS FUV HVLOW HVN** [1] OM; **OESIPARM ENDC** TSA 167; **OESIPARM ENDC** TSB 163 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 167 and 163, respectively. 403s is the correct rampup time for 162/159. A n allow 3 additional seconds for every positive unit of offset is required. Therefore, the rampup time is 403+(167-162)*3=4182 nuv a/im (1) AZV18 COS/NUV, ACQ/IMAGE, BOA MIRRORA Sequence 1-12 Non-I 30 Secs (COS.ta.360 nt in HV+ACQ/PEA I = = > 1711) KXD TEST G130M [1] (03)Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. (COS92525 gives S/N = 40 in 14.5s) S/C to updat DARK S/C. DATA, NONE SPEC COM INSTR Sequence 1-12 Non-I 8 Secs e the G130 ELOSMPATCH; nt in HV+ACO/PEA M/1309 focu KXD TEST G130M Exposures **OESIPARM ACTIO** s from 170 t N REPLACE; o 290 (+120 **QESIPARM GRATI** NG G130M; [1] **QESIPARM CENT WAVE 1309**; **OESIPARM FOCUS** Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ (0, 1291, 7999, -170, 2259, 6898), /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */ G130M - B (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=60 Sequence 1-12 Non-I 202 Secs ASELINE S nt in HV+ACO/PEA 0: 1309 A KXD TEST G130M PECTRUM FP-POS=3; (COS.sp.360 (03)FLASH=S0200D03 698) [1] LIFETIME-POS=A LTERNATE Comments: Spectrum of source to define correct location of star when it is centered using NUV ACQ/IMAGE. COS.sp.360698 gives S/N/RE = 10 in 182 seconds, BT=2/3*986 or ~630.

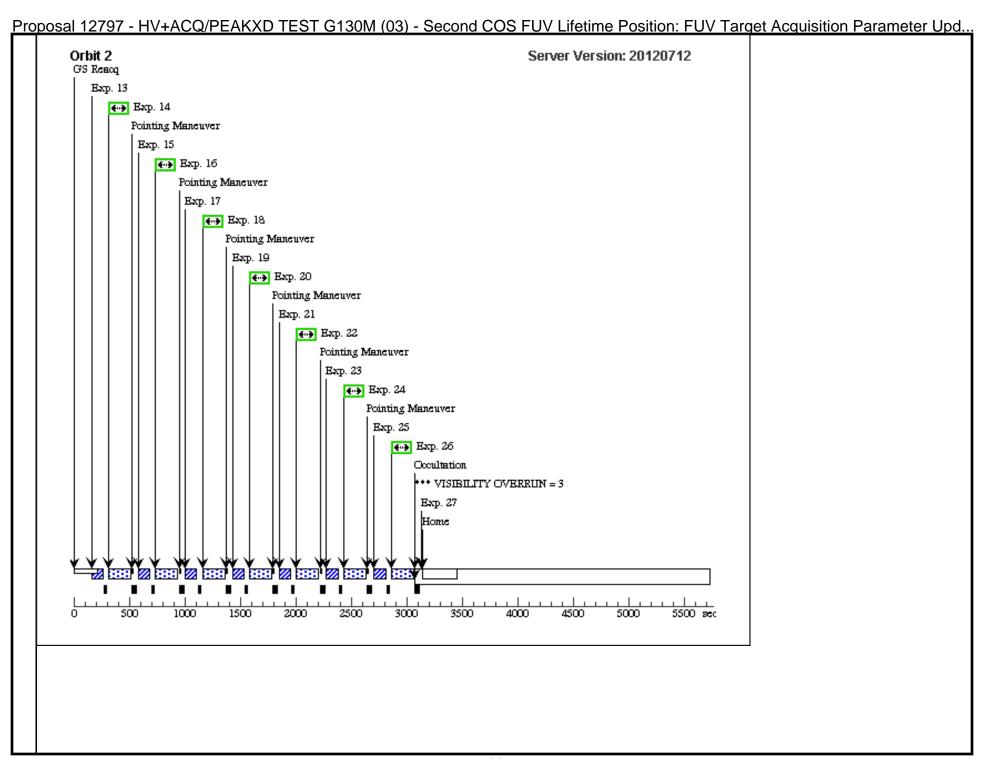
<u> po:</u>	<u>sai 12797</u>	<u> - HV+ACC</u>	<u>Q/PEAKXD TEST G130N</u>	<u>/I (03) - Se</u>	cond COS FUV L	<u> Itetime Positio</u>	on: FUV Targe	<u>et Acquisition Parame</u>	<u>ter Upd.</u>
5	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG null,-1.6	Sequence 1-12 Non-I	200 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in HV+ACQ/PEA KXD TEST G130M	f==>1	
	M1				FP-POS=3;		(03)		
	(COS.sa.360				FLASH=YES;		(03)		[1]
	701)				LIFETIME-POS=A				
					LTERNATE				
Con ecor	ıments: POSTA ıds, since it is h	RG TO Move to Y eavily vignetted. V	=-1.6. S/N = 60 is reached in 2 seconds Ve FLASH just to make sure the target i	. But, we are tryir s not drifting in ro	ng to determine the local pla nw coordinates due to therm	te scale of the detector al variations.	, so want to get a decer	nt look at the spectrum, so we'll obso	erve for 200
6	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG null,-1.1	Sequence 1-12 Non-I	150 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in HV+ACQ/PEA KXD TEST G130M	[==>]	
	M2				FP-POS=3;		(03)		
	(COS.sa.360 701)				FLASH=YES;				[1]
	701)				LIFETIME-POS=A LTERNATE				
Con	nments: POSTA	RG TO Move to Y >40% vignetted.	=-1.1". $S/N=60$ is reached in 2 second	s. But, we are try	ing to determine the local pla	ate scale of the detecto	r, so want to get a dece	ent look at the spectrum, so we'll ob	serve for 150
7	G130M - P	· · ·	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=30	POS TARG null,-0.6	Sequence 1-12 Non-I	100 Secs	
	OSTARG +	` '	,	1309 A	0;	,	nt in HV+ACO/PEA	f==>1	
	SPECTRU M3				FP-POS=3;		KXD TEST G130M (03)		
	(COS.sa.360				FLASH=YES;		(03)		[1]
	701)				LIFETIME-POS=A LTERNATE				
	nments: POSTA onds.	RG TO Move to Y	=-0.6". $S/N=60$ is reached in 2 second	s. But, we are try	ing to determine the local pl	ate scale of the detecto	r, so want to get a dece	ent look at the spectrum, so we'll ob	serve for 10
8	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG null,-0.3	Sequence 1-12 Non-I	100 Secs	
	OSTARG +	` '	,	1309 A	0;	,	nt in HV+ACO/PEA	f==>1	
	SPECTRU M4			150511	FP-POS=3;		KXD TEST G130M (03)		
	(COS.sa.360				FLASH=YES;		(03)		[1]
	701)				LIFETIME-POS=A LTERNATE				
Con	ıments: POSTA	RG TO Move to Y	=-0.3. $S/N = 60$ is reached in 2 seconds	. But, we are tryir		te scale of the detector	, so want to get a decer	nt look at the spectrum, so we'll obse	erve for 100
ecor								I	
9	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;	POS TARG null,0.3	Sequence 1-12 Non-I nt in HV+ACQ/PEA	100 Secs	
	SPECTRU			1309 A			KXD TEST G130M	[==>]	
	M5				FP-POS=3;		(03)		
	(COS.sa.360 701)				FLASH=YES;				[1]
	,01)				LIFETIME-POS=A LTERNATE				
Con		RG TO Move to Y	=0.3. $S/N = 60$ is reached in 2 seconds.	But, we are trying	g to determine the local plat	e scale of the detector,	so want to get a decen	t look at the spectrum, so we'll obse	rve for 100 s
10	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG null,0.6	Sequence 1-12 Non-I	100 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in HV+ACQ/PEA KXD TEST G130M	[==>]	
	M6				FP-POS=3;		(03)		
	(COS.sa.360				FLASH=YES;		,		[1]
	701)				LIFETIME-POS=A LTERNATE				
Con	iments: POSTA	RG TO Move to Y	=0.6. $S/N = 60$ is reached in 2 seconds.	But, we are trvin		e scale of the detector	so want to get a decen	t look at the spectrum, so we'll obse	rve for 100
cone		10 11010 10 1	5.5. 5/11 – 55 is reached in 2 seconds.	za, ne are ir yut	5 actermine the toeth plan	e searce of the activity,	so wan to get a accent	took at the spectrum, so we it obse	. , c joi 100 k
1									

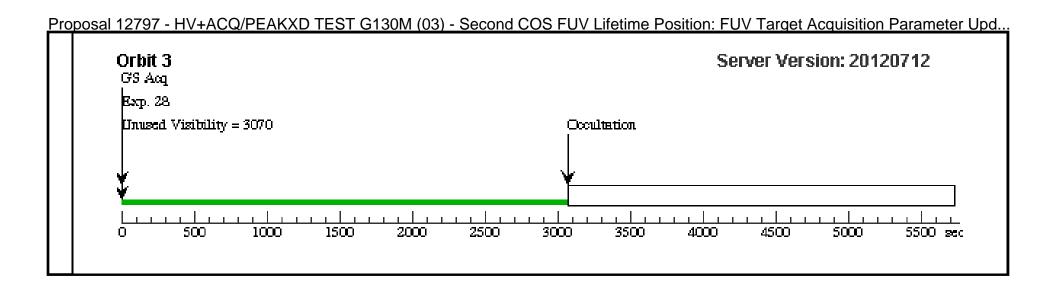
	[==>] It look at the spectrum, s	[1] so we'll observe for 150 so
get a decent 1-12 Non-I ACO/PEA	at look at the spectrum, s	
get a decent 1-12 Non-I ACO/PEA	200 Secs	
1-12 Non-I -ACO/PEA	200 Secs	
1-12 Non-I -ACO/PEA	200 Secs	so we'll observe for 150 s
1-12 Non-I -ACO/PEA	200 Secs	so we'll observe for 150 s
ACO/PEA		
GT G130M	[==>]	
		[1]
) get a decer	nt look at the spectrum,	so we'll observe for 200 s
13-27 Non	10 Secs	
/+ACQ/PE EST G130	[==>]	
		[2]
osure and th	he next should be consid	dered a NON-INT sequen
13-27 Non	150 Secs	
/+ACQ/PE EST G130	[==>]	
201 0130		
		[2]
13-27 Non /+ACQ/PE		
EST G130	[==>]	f21
		[2]
his exposure	e and the next should be	considered a NON-INT s
10.07.11	150 Secs	
13-27 Non	[==>]	
13-2/ Non '+ACQ/PE		
13-27 Non V+ACQ/PE EST G130		[2]
13-27 Non 7+ACQ/PE EST G130		
13-27 Non 7+ACQ/PE EST G130		
13-27 Non 7+ACQ/PE EST G130		
V+ACQ/PE EST G130	10 Secs	
V+ACQ/PE EST G130	10 Secs [==>]	
V+ACQ/PE EST G130 13-27 Non V+ACQ/PE		[2]
į		

<u>opo</u>	<u>sai 12797 - </u>	HV+ACQ/P	EAKAD TEST GT30M	(03) - Seco	<u>na COS FUV Lit</u>	<u>etime Position: FUV Targe</u>	t Acquisition Paramet	<u>er upa.</u>
18	G130M - B ASELINE S PECTRUM (COS.sp.360 698)	AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G130 M (03)	150 Secs [==>]	[2]
Con	nments: ACQ/PEAK	XD confirmation sp	ectrum		ETERIMIE			
19		<u> </u>	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 13-27 Non	10 Secs	
	AKXD-XD -XI +0.5 (COS.sa.360 701)		COST CV, TOQT EMBID, TOT	1309 A	LTERNATE	-Int in HV+ACQ/PE AKXD TEST G130 M (03)	[==>]	[2]
	nments: ACQ/PEAK ence.	XXD on the target of	offset by +0.5". COS.sa.360701, S/N =	= 60 is reached in 2	seconds $(A+B)$, we use 10	s sure we get enough counts. This exposure	and the next should be considered a	n NON-INT s
20		AZV18-OFFSET	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	Sequence 13-27 Non	150 Secs	
	ASELINE S -XI PECTRUM (COS.sp.360			1309 A	0; FP-POS=3;	-Inf in HV+ACQ/PE AKXD TEST G130 M (03)	[==>]	
	698)				FLASH=YES; LIFETIME-POS=A LTERNATE	11 (60)		[2]
Con	nments: Spectrum oj	f source to test pre	vious ACQ/PEAKXD centering. COS	.sp.360698 gives S	N/RE = 10 in 182 seconds,	, BT=2/3*986 or ~630.		,
21	G130M - PE (1) AKXD-XD-	AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A LTERNATE	Sequence 13-27 Non -Int in HV+ACO/PE		
	0.5 (COS.sa.360 701)			1309 A	DIERWIE	AKXD TEST G130 M (03)	[==>]	[2]
Con	nments: Back on ori	iginal target, -0.5".	COS.sa.360701, S/N = 60 is reached	l in 2 seconds (A+B	B), we use 10s sure we get e	nough counts. This exposure and the next s	hould be considered a NON-INT seq	јиепсе.
22	G130M - B ASELINE S PECTRUM (COS.sp.360 698)	AZV18	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G130 M (03)	150 Secs [==>]	[2]
Con	nments: Spectrum o	f source to test pre	vious ACQ/PEAKXD centering. COS	.sp.360698 gives S	N/RE = 10 in 182 seconds,	, BT=2/3*986 or ~630.		
23			COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 13-27 Non	15 Secs	
	AKXD-XD T-X +1.5 (COS.sa.360 701)	XD+1.5		1309 A	LTERNATE	-Int in HV+ACQ/PE AKXD TEST G130 M (03)	[==>]	[2]
	nments: ACQ/PEAK ence.	XXD on the target o	offset by +1.5". COS.sa.360701, S/N =	= 60 is reached in 2	seconds $(A+B)$, we use 10 s	s sure we get enough counts. This exposure	and the next should be considered a	n NON-INT s
24	G130M - B (15)		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	Sequence 13-27 Non	150 Secs	
	ASELINE S T-X PECTRUM (COS.sp.360 698)	XD+1.5		1309 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	-Int in HV+ACQ/PE AKXD TEST G130 M (03)	[==>]	[2]
Con	nments: Spectrum oj	f source to test pre	vious ACQ/PEAKXD centering. COS	l.sp.360698 gives S/	/N/RE =10 in 182 seconds,	, BT=2/3*986 or ~630.		

po	<u>sal 12797 - HV+ACC</u>	<u>Q/PEAKXD TEST G130M</u>	(03) - Se	cond COS FUV L	<u> Lifetime Positio</u>	on: FUV Targe	et Acquisition Para	ameter Upd.
25	G130M - PE (1) AZV18 AKXD-XD- 1.5 (COS.sa.360 701)	COS/FUV, ACQ/PEAKXD, PSA	G130M 1309 A	LIFETIME-POS=A LTERNATE		Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G130 M (03)	15 Secs [==>]	[2]
	nments: ACQ/PEAKXD on the tan nce.	rget offset by -1.5". COS.sa.360701, S/N =	= 60 is reached in	n 2 seconds (A+B), we use	10s sure we get enough	counts. This exposure	and the next should be consid	dered a NON-INT so
26	G130M - B (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 13-27 Non	150 Secs	
	ASELINE S PECTRUM		1309 A	0; FP-POS=3;		-Int in HV+ACQ/PE AKXD TEST G130	[==>]	
	(COS.sp.360 698)			FLASH=YES;		M (03)		[2]
				LIFETIME-POS=A LTERNATE				
Cor	nments: Spectrum of source to tes	st previous ACQ/PEAKXD centering. CO.	S.sp.360698 give	es S/N/RE =10 in 182 secon	nds, BT=2/3*986 or ~6	30.		
27	S/C to RES DARK ET the G130	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH:	Sequence 13-27 Non -Int in HV+ACQ/PE		
	M/1309 focu s				QESIPARM ACTIO N REPLACE;	AKXD TEST G130 M (03)	[==>]	
					QESIPARM GRATI NG G130M;			[2]
					QESIPARM CENT WAVE 1309;			
					QESIPARM FOCUS 170			
Cor	nments: Special Commanding to I	RESET the G130M/1309 settings with the	original focus, t	he SCR 344 FSW position (170).			
28	HV_RAMP DARK	S/C, DATA, NONE			NEW OBSET;		1 Secs	
	DOWN_TO _HVLOW				QASISTATES COS FUV HVLOW HVL OW;		[==>]	
					QASISTATES COS SI OBSERVE OBSE RVE			[3]
Cor	nments: SQL required for qexpos	ure to specify the si_used = "COS".						
Nev	w obset SR necessary to force this	exposure to be the very last exposure afte	r Home.					







Proposal 12797 - HV+ACQ/PEAKXD TEST G160M (04) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd

Proposal 12797, HV+ACQ/PEAKXD TEST G160M (04), completed

Wed Jul 25 01:38:24 GMT 2013

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; SAME ORIENT AS 03; BETWEEN 13-JUN-2012 AND 27-JUN-2012

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 +/- 1.6" offsets are double the exposure time to compensate for vignetting. We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+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.

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Diagnostics (HV+ACQ/PEAKXD TEST G160M (04)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(HV+ACQ/PEAKXD TEST G160M (04)) Warning (Orbit Planner): VISIBILITY OVERRUN

Proposal 12797 - HV+ACQ/PEAKXD TEST G160M (04) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd...

#		Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	arget Acquisition Parameter Upd 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		
C	omments.	: B2Ia, Magellanic Cloud	ls. Nominal ETC exposure times from spectrum su	pplied by D. Lennon:		
F	UV, G130 UV, G140	0L, 1105: 038s S/N=10 sp	a.360711) sa.360701) & 182s S/N=10 spectroscopy (COS.sp pectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	.360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
		XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.211309 Arcsec			
			in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	у.		
(A R	$(D, XD) = (A = -0.5)^{\circ}$	set for ACQ/PEAKXD (0,-0.5")=-0.5"@25°S of *cos(25°)=-0.453154"=-0 *sin(25°)=0.211309"	E 0.000125876°			
R0	A(") DEC .453 0.21 .906 0.42	nfirmation spreadsheet g Z(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
	0)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
<u>⊬</u>		XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
eq			Dec Offset: 0.422618 Arcsec			
			' in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	y.		
R	A=-1.0"*	" offset for ACQ/PEAKD cos(20°)= -0.906308"= - *sin(20°)=0.422618"	(0,-1.0")=-1"@25° S of E 0.000251752°			
R. -0 -0	A(") DEC .453 0.21 .906 0.42	onfirmation spreadsheet g. C(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
(1	5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
		XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.633927 Arcsec			
C Ti	omments. ne roll an	: This target is offset 1.0" igle for 13-Jun-2012 till 3	in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	y.		
(0 R.	,-1.5")=- 4=-1.5"*	" offset for ACQ/PEAKD -1.5"@25° S of E *cos(20°)=-1.35946=-0.00 **sin(20°)= 0.633927"				
-0 -0	A(") DEC .453 0.21 .906 0.42	nfirmation spreadsheet g C(") RA(°) 11 -1.25876E-04 23 -2.51752E-04 34 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			

Proposal 12797 - HV+ACQ/PEAKXD TEST G160M (04) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd. Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Reqs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) FUV HV R DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-12 Non-I | 418 Secs AMPUP (16 nt in HV+ACO/PEA SPEC COM INSTR KXD TEST G160M 7/163) ELHLTHVF; (04)GS ACO SCENARI O BASE1BN3; **QASISTATES COS FUV HVLOW HVN** [1] OM; **OESIPARM ENDC** TSA 167; **OESIPARM ENDC** TSB 163 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 167 and 163, respectively. 403s is the correct rampup time for 162/159. A n allow 3 additional seconds for every positive unit of offset is required. Therefore, the rampup time is 403+(167-162)*3=418COS/NUV, ACQ/IMAGE, BOA Sequence 1-12 Non-I 30 Secs 2 nuv a/im (1) AZV18 MIRRORA (COS.ta.360 nt in HV+ACQ/PEA *[==>]* 711) KXD TEST G160M [1] (04)Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. (COS.ta.360711gives S/N = 60 in 27s) S/C to updat DARK S/C. DATA, NONE SPEC COM INSTR Sequence 1-12 Non-I 8 Secs e the G160 ELOSMPATCH; nt in HV+ACO/PEA M/1600 focu KXD TEST G160M Exposures **OESIPARM ACTIO** s from -44 to N REPLACE; +116 (+160)**OESIPARM GRATI** NG G160M: [1] **QESIPARM CENT WAVE 1600; OESIPARM FOCUS** 116 Comments: Special Commanding to overwrite the G160M/1600 settings with the SLP focus position. FENA3 Results suggest we need a +160 focus step adjustment from these values. So, G160M/1600 goes from -44 to +116. The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */

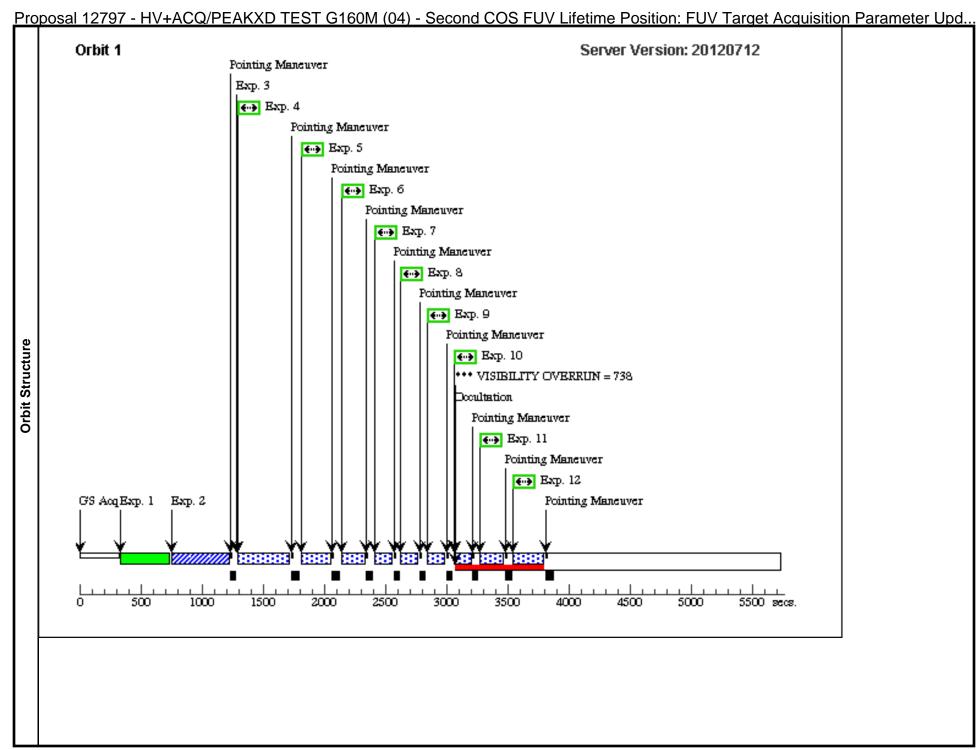
pos	sal 1279	7 - HV+A	ACQ/PE	<u>-AKXD IE</u>	<u>:STG160M</u>	<u>(04) - Secor</u>	<u>nd COS FUV L</u>	<u> </u>	on: FUV Targe	et Acquisition Paramete	r Upd.
4	G160M - B			COS/FUV, TIME		G160M	BUFFER-TIME=40		Sequence 1-12 Non-I	205 Secs	
	ASELINE S PECTRUM					1600 A	0; ED DOS_2:		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
	(COS.sp.389 715)						FP-POS=3; FLASH=YES;		(04)		[1]
	713)						LIFETIME-POS=A				[1]
							LTERNATE				
COS	S.sp.389715 (E	TC20.1.1) giv	ves Š/N/RE=	=10 @ 1610A in .	ation of a target whe 287s. (BT=2/3*956: /3*956*0.75) = 480s	=640). We attempt t	to scale this				
Thei	re are ~2000 R	E/detector so	the $cps = 1$	100*2000./(215)	~ 930 counts/s, to ge	et S/N=3600 we est	imate 4s.				
C		ıent 810.9 *	*0.75 = 600		re detector=2,467.1 =60 in 6 seconds.						
5	G160M - P	(1) AZV18	(COS/FUV, TIME	E-TAG, PSA	G160M		POS TARG null,-1.6	Sequence 1-12 Non-I	190 Secs	
	OSTARG + SPECTRU					1600 A	0; ED DOG 2:		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
	M1 (COS.sp.389						FP-POS=3; FLASH=YES;		(04)		[1]
	715)						LIFETIME-POS=A				[1]
							LTERNATE				
Con s he	ments: POSTA avily vignetted	ARG TO Move . We FLASH j	e to Y=-1.6. just to make	S/N = 60 in 4-6, sure the target	s. But, we are trying is not drifting in raw	to determine the lo coordinates due to	cal plate scale of the de thermal variations.	etector, so want to get a	a decent look at the spe	ectrum, so we'll observe for 190 second	s, since it i
6	G160M - P OSTARG +	(1) AZV18	(COS/FUV, TIME	3-TAG, PSA	G160M	BUFFER-TIME=40 0:	POS TARG null,-1.1	Sequence 1-12 Non-I nt in HV+ACQ/PEA		
	SPECTRU					1600 A	FP-POS=3;		KXD TEST G160M	[==>]	
	M2 (COS.sp.389						FLASH=YES;		(04)		[1]
	715)						LIFETIME-POS=A LTERNATE				
							ocal plate scale of the de rget is not drifting in ra			ectrum, so we'll observe for 140 second	s, since it i
7	G160M - P	(1) AZV18	(COS/FUV, TIME	E-TAG, PSA	G160M		POS TARG null,-0.6		95 Secs	
	OSTARG + SPECTRU					1600 A	0; FP-POS=3;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
	M3 (COS.sp.389						FLASH=YES;		(04)		[1]
	715)						LIFETIME-POS=A LTERNATE				
Con H ju	nments: POSTA st to make sur	ARG TO Move the target is	e to Y=-0.6. not drifting	S/N = 60 in 4-6; in raw coording	s. But, we are trying ates due to thermal v	to determine the lo variations.	cal plate scale of the de	etector, so want to get c	ı decent look at the spe	ectrum, so we'll observe for 95 seconds.	. We FLAS
8	G160M - P	(1) AZV18	(COS/FUV, TIME	E-TAG, PSA	G160M		POS TARG null,-0.3	Sequence 1-12 Non-I	95 Secs	
	OSTARG + SPECTRU					1600 A	0; FP-POS=3;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
	M4 (COS.sp.389						FLASH=YES;		(04)		[1]
	715)						LIFETIME-POS=A				[1]
							LTERNATE				
							cal plate scale of the de	etector, so want to get a	a decent look at the spe	ectrum, so we'll observe for ~100 second	ds. We FL
ASH	! just to make s	ure the target	t is not drift	ing in raw coord	linates due to thermo	il variations.					
											ŀ

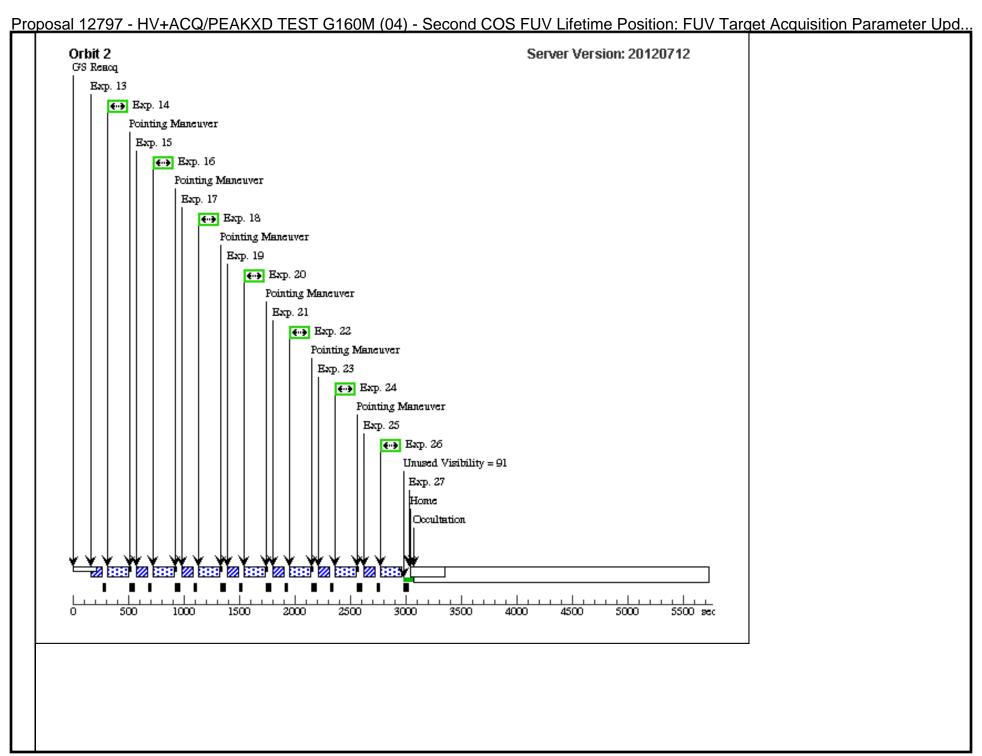
9 G160N							et Acquisition Pa	
	I - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=40	POS TARG null,0.3	Sequence 1-12 Non-I		
OSTAI SPECT			1600 A	0;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
M5				FP-POS=3;		(04)		
(COS.s 715)	sp.389			FLASH=YES;				[1]
713)				LIFETIME-POS=A LTERNATE				
Comments: I I just to mal	POSTARG TO Move ke sure the target is t	to $Y=0.3$. $S/N=60$ in 4-6s. But, we are that drifting in raw coordinates due to the	rying to determine th rmal variations.	ne local plate scale of the de	etector, so want to get o	ı decent look at the spec	trum, so we'll observe for I	100 seconds. We FLA
	I - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,0.6	Sequence 1-12 Non-I	95 Secs	
OSTAI SPECT	RG + RU		1600 A	0;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
M6				FP-POS=3;		(04)		(7)
(COS.s 715)	sp.389			FLASH=YES;				[1]
,				LIFETIME-POS=A LTERNATE				
Comments: I H just to mo	POSTARG TO Move ake sure the target is	to $Y=0.6$. $S/N=60$ in 4-6s. But, we are to not drifting in raw coordinates due to the	rying to determine the ermal variations.	ne local plate scale of the de	etector, so want to get o	ı decent look at the spec	trum, so we'll observe for ~	~100 seconds. We FL
	I - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,1.1	Sequence 1-12 Non-I	140 Secs	
OSTAI SPECT			1600 A	0;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
M7				FP-POS=3;		(04)		
(COS.s 715)	sp.389			FLASH=YES;				[1]
,13)				LIFETIME-POS=A LTERNATE				
Comments: 1 10% vignette	POSTARG TO Move ed, for centered expo	to $Y=1.1$. $S/N=60$ in 4-6s. But, we are t sures, we'll use 150 seconds. We FLASH	rying to determine th just to make sure the	ne local plate scale of the de target is not drifting in rav	etector, so want to get on the coordinates due to the	ı decent look at the spec ermal variations.	trum, so we'll observe for I	140 seconds, since it
	1 - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,1.6	Sequence 1-12 Non-I	200 Secs	
OSTAI SPECT			1600 A	0;		nt in HV+ACQ/PEA KXD TEST G160M	[==>]	
M8				FP-POS=3;		(04)		(1)
(COS.s 715)	p.389			FLASH=YES;				[1]
,				LIFETIME-POS=A LTERNATE				
				1 1 1 . 1 . 1 . 1				
Comments: I heavily vigne	POSTARG TO Move etted. We FLASH jus	to $Y=1.6$. $S/N=60$ in 4-6s. But, we are to make sure the target is not drifting in	rying to determine the raw coordinates due	e tocal plate scale of the de e to thermal variations.	etector, so want to get a	i aeceni iook ai ine spec	trum, so we ii observe for 1	190 seconds, since it i
heavily vigne 13 G160M	<u>etted. We FLASH jus</u> 1 - PE (1) AZV18	to Y=1.6. S/N = 60 in 4-6s. But, we are t t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS	raw coordinates due	e to thermal variations. LIFETIME-POS=A	etector, so want to get t	Sequence 13-27 Non	10 Secs	190 seconds, since it i
heavily vigne 13 G160M AKXD	<u>etted. We FLASH jus</u> 1 - PE (1) AZV18	t to make sure the target is not drifting in	raw coordinates due	e to thermal variations.	stector, so want to get t	Sequence 13-27 Non -Int in HV+ACO/PE	- 	
heavily vigne 13 G160M AKXD ntered (COS.s	etted. We FLASH jus 1 - PE (1) AZV18 1 - Ce	t to make sure the target is not drifting in	s raw coordinates due SA G160M	e to thermal variations. LIFETIME-POS=A	etector, so want to get c	Sequence 13-27 Non	10 Secs	190 seconds, since it i
heavily vigne 13 G160M AKXD ntered (COS.s 715)	etted. We FLASH jus 1 - PE (1) AZV18 1 - Ce pp.389	t to make sure the target is not drifting in	raw coordinates due SA G160M 1600 A	e to thermal variations. LIFETIME-POS=A LTERNATE	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04)	10 Secs [==>]	
heavily vigne 13 G160M AKXD ntered (COS.s 715) Comments: C	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS	raw coordinates due SA G160M 1600 A	e to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) uld be considered a NO. Sequence 13-27 Non	10 Secs [==>] N-INT sequence	
neavily vigne 13 G160M AKXD ntered (COS.s 715) Comments: (COMMENTS)	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the	A raw coordinates due SA G160M 1600 A ne centered target, so	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp BUFFER-TIME=42 0;	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) and be considered a NO. Sequence 13-27 Non -Int in HV+ACQ/PE	10 Secs [==>] N-INT sequence	
neavily vigne Gl60M AKXD ntered (COS.s. 715) Comments: C Gl60M ASELI PECTF (COS.s.	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the	SA G160M 1600 A ne centered target, so G160M	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3;	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) uld be considered a NO. Sequence 13-27 Non	10 Secs [==>] N-INT sequence 140 Secs	[2]
13 G160M AKXD ntered (COS.s. 715) Comments: (4 G160M ASELI PECTE	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the	SA G160M 1600 A ne centered target, so G160M	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3; FLASH=YES;	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) uld be considered a NO Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160	10 Secs [==>] N-INT sequence 140 Secs	
neavily vigne Gl60M AKXD ntered (COS.s 715) Comments: C Gl60M ASELI PECTF (COS.s	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the	SA G160M 1600 A ne centered target, so G160M	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3;	· · · · · ·	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) uld be considered a NO Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160	10 Secs [==>] N-INT sequence 140 Secs	[2]
neavily vigne Gl60M AKXD ntered (COS.s 715) Comments: C Gl60M ASELI PECTF (COS.s 715) Comments: C	######################################	t to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the	SA G160M 1600 A 1600 A 1600 A 1600 A 1600 A	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	osure and the next sho	Sequence 13-27 Non-Int in HV+ACQ/PE AKXD TEST G160 M (04) sequence 13-27 Non-Int in HV+ACQ/PE AKXD TEST G160 M (04)	10 Secs [==>] N-INT sequence 140 Secs [==>]	[2]
neavily vigne Gl60M AKXD ntered (COS.s 715) Comments: C Gl60M ASELI PECTF (COS.s 715) Comments: C O be safe), d Gl60M	tetted. We FLASH jus 1 - PE (1) AZV18 2 - Ce 4p.389 COS.sp.389715 gives 1 - B (1) AZV18 NE S RUM 4p.389 COS.sp.389715 (ETC) 4ue to time constrain 1 - PE (10) AZV18	to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on th COS/FUV, TIME-TAG, PSA	A raw coordinates due SA G160M 1600 A Be centered target, so G160M 1600 A 1600 A	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 40). We attempt to scale thi	osure and the next sho	Sequence 13-27 Non-Int in HV+ACQ/PE AKXD TEST G160 M (04) ald be considered a NO-Sequence 13-27 Non-Int in HV+ACQ/PE AKXD TEST G160 M (04) Sequence 13-27 Non-Int in HV+ACQ/PE AKXD TEST G160 M (04)	10 Secs [==>] N-INT sequence 140 Secs [==>]	[2]
heavily vigne Gl60M AKXD ntered (COS.s 715) Comments: C Gl60M ASELI PECTF (COS.s 715) Comments: C to be safe), d Gl60M	etted. We FLASH jus 1 - PE (1) AZV18 2 - Ce pp.389 COS.sp.389715 gives 1 - B (1) AZV18 NE S RUM pp.389 COS.sp.389715 (ETC) tue to time constrain.	to make sure the target is not drifting in COS/FUV, ACQ/PEAKXD, PS S/N/RE=60 in 4-6 seconds. This is on the COS/FUV, TIME-TAG, PSA COS/FU	A raw coordinates due SA G160M 1600 A Be centered target, so G160M 1600 A 1600 A	to thermal variations. LIFETIME-POS=A LTERNATE it shouldn't move. This exp. BUFFER-TIME=42 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 40). We attempt to scale this	osure and the next sho	Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04) uld be considered a NO Sequence 13-27 Non -Int in HV+ACQ/PE AKXD TEST G160 M (04)	10 Secs [==>] N-INT sequence 140 Secs [==>] = 215s, BT =(2/3*956*0.75)	[2]

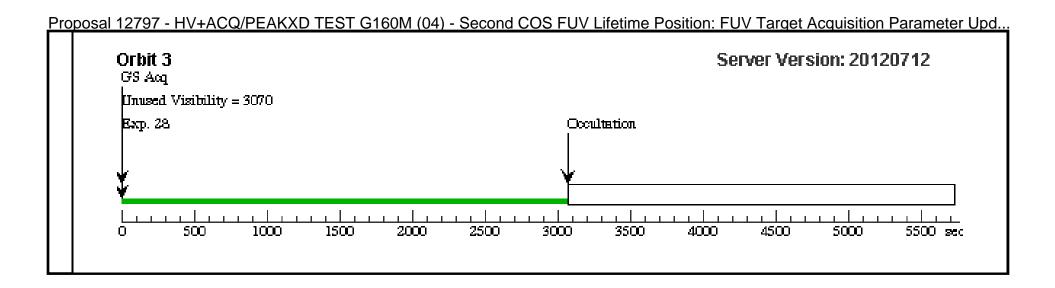
pos	<u>sal 12797 - HV+ACQ/</u>	<u>PEAKXD TEST G160M</u>	<u>(04) - Se</u>	<u>cond COS FUV Lifetin</u>	<u>ne Position: FUV Targe</u>	t Acquisition Parar	<u>neter Upd.</u>
16	G160M - B (10) AZV18-OFFSE	E COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 13-27 Non	140 Secs	
	ASELINE S T-XD+1.0 PECTRUM		1600 A	0;	-Int in HV+ACQ/PE AKXD TEST G160	[==>]	
	(COS.sp.389			FP-POS=3;	M (04)		
	715)			FLASH=YES;			[2]
				LIFETIME-POS=A LTERNATE			
) gives S/N/RE=10 @ 1610A in 287s. (exposure time has been dropped to 140		640). We attempt to scale this to April	12012 by multiplying by $0.75 => ET =$	= 215s, BT =(2/3*956*0.75) = 4	480s (we use 42)
17	G160M - PE (1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 13-27 Non	10 Secs	
	AKXD TES T-XD-1.0 (COS.sp.389 715)		1600 A	LTERNATE	-Int in HV+ACQ/PE AKXD TEST G160 M (04)	[==>]	[2]
Com	ments: COS.sp.389715 gives S/N/R	E=60 in 4-6 seconds. Back to the origi	nal, so a 1" PE	AKDXD from the other direction. Thi	is exposure and the next should be con	nsidered a NON-INT sequence	
18	G160M - B (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 13-27 Non	140 Secs	
	ASELINE S		1600 A	0;	-Int in HV+ACQ/PE AKXD TEST G160	[==>]	
	PECTRUM (COS.sp.389			FP-POS=3;	M (04)		
	715)			FLASH=YES;	,		[2]
				LIFETIME-POS=A LTERNATE			
Com to be	ments: COS.sp.389715 (ETC20.1.1) e safe), due to time constraints, the e) gives S/N/RE=10 @ 1610A in 287s. (exposure time has been dropped to 140	BT=2/3*956=6 s.	640). We attempt to scale this to April	12012 by multiplying by $0.75 => ET=$	= 215s, BT = (2/3*956*0.75) = 4	480s (we use 420
19		Γ COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 13-27 Non	10 Secs	
	AKXD- 0.5 -XD+0.5 (COS.sp.389 715)		1600 A	LTERNATE	-Int in HV+ACQ/PE AKXD TEST G160 M (04)	[==>]	[2]
Com	<i>'</i>	E=60 in 4-6 seconds. Now try from 0.5	" away This a	enouse and the next should be consid	` '		
20	G160M - B (5) AZV18-OFFSET	* *	G160M	BUFFER-TIME=42	Sequence 13-27 Non	140 Saas	
20	ASELINE S -XD+0.5	COS/FOV, TIME-TAG, FSA		0;	-Int in HV+ACQ/PE		
	PECTRUM		1600 A	FP-POS=3;	AKXD TEST G160	[==>]	
1	(COS.sp.389 715)			FLASH=YES;	M (04)		[2]
	,			LIFETIME-POS=A LTERNATE			1-5
Com	ments: COS.sp.389715 (ETC20.1.1)) gives S/N/RE=10 @ 1610A in 287s. (exposure time has been dropped to 140	BT=2/3*956=6		12012 by multiplying by $0.75 => ET=$	= 215s, BT = (2/3*956*0.75) = 4	480s (we use 420
	, , , , , , , , , , , , , , , , , , ,	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 13-27 Non	10 Secs	
	AKXD-0.5		1600 A	LTERNATE	-Int in HV+ACQ/PE	[==>]	
	(COS.sp.389 715)		100011		AKXD TEST G160 M (04)		[2]
Com	,	E=60 in 4-6 seconds. Now 0.5" from the	e other directio	on. This exposure and the next should	` '		l .
22	G160M - B (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 13-27 Non	140 Secs	
	ASELINE S	110,101	1600 A	0;	-Int in HV+ACQ/PE	[==>]	
	PECTRUM (COS.sp.389		100071	FP-POS=3;	AKXD TEST G160 M (04)		
	715)			FLASH=YES;	IVI (OT)		[2]
				LIFETIME-POS=A LTERNATE			
) gives S/N/RE=10 @ 1610A in 287s. (exposure time has been dropped to 140		640). We attempt to scale this to April	12012 by multiplying by $0.75 => ET=$	= 215s, BT =(2/3*956*0.75) = 4	480s (we use 420
10 06	, sage, and to time constraints, the e	мрозыте ите низ осен иторреи 10 140					
ł							

<u> posal 12797 - HV+ACQ/</u>	<u>PEAKXD TEST G160M</u>	<u>(04) - Sec</u>	<u>ond COS FUV L</u>	<u> Litetime Positio</u>	<u>on: FUV Targe</u>	<u>et Acquisition Paramete</u>	<u>r Upd.</u>
AKXD-1.5 T-XD+1.5	E COS/FUV, ACQ/PEAKXD, PSA	G160M 1600 A	LIFETIME-POS=A LTERNATE		Sequence 13-27 Non -Int in HV+ACQ/PE	15 Secs [==>]	
(COS.sp.389 715)		1000 A			AKXD TEST G160 M (04)	[>]	[2]
Comments: COS.sp.389715 gives S/N/Re	E=60 in 4-6 seconds. Ok, one last time	from 1.5" away, s	so increase the exposure ti	ime due to the vignettin	g. This exposure and th	he next should be considered a NON-II	VT sequen
24 G160M - B (15) AZV18-OFFS1 ASELINE S T-XD+1.5	E COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42 0;		Sequence 13-27 Non -Int in HV+ACQ/PE		
PECTRUM (COS.sp.389		1600 A	FP-POS=3;		AKXD TEST G160 M (04)	[==>]	
715)			FLASH=YES;		(* 1)		[2]
			LIFETIME-POS=A LTERNATE				
Comments: COS.sp.389715 (ETC20.1.1 to be safe), due to time constraints, the)). We attempt to scale this	to April 2012 by multi	iplying by $0.75 => ET =$	= 215s, BT = (2/3*956*0.75) = 480s (M	ve use 420
25 G160M - PE (1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A LTERNATE		Sequence 13-27 Non -Int in HV+ACQ/PE	15 Secs	
AKXD+1.5 (COS.sp.389 715)		1600 A	LIERNAIE		AKXD TEST G160 M (04)	[==>]	[2]
Comments: COS.sp.389715 gives S/N/Re	E=60 in 4-6 seconds. Ok, one last time	from 1.5" away, s	so increase the exposure ti	ime due to the vignettin	g. This exposure and th	he next should be considered a NON-II	VT sequen
26 G160M - B (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42		Sequence 13-27 Non	140 Secs	
ASELINE S PECTRUM		1600 A	0; FP-POS=3;		-Int in HV+ACQ/PE AKXD TEST G160	[==>]	
(COS.sp.389 715)			FLASH=YES;		M (04)		[2]
			LIFETIME-POS=A LTERNATE				
Comments: COS.sp.389715 (ETC20.1.1 to be safe), due to time constraints, the				s to April 2012 by multi	iplying by $0.75 => ET$	= 215s, BT = (2/3*956*0.75) = 480s (w	ve use 420
27 S/C to reset t DARK	S/C, DATA, NONE	3.				8 Secs	
he G160M/1 600 focus				ELOSMPATCH; QESIPARM ACTIO	-Int in HV+ACQ/PE AKXD TEST G160	[==>]	
				N REPLACE;	M (04)		
				QESIPARM GRATI NG G160M;			[2]
				QESIPARM CENT WAVE 1600;			
				QESIPARM FOCUS			
Comments: Special Commanding to RE	SET the G160M/1600 settings to the no	minal position (-4	14).				
The SCR 344 FSW has the following foo	cus G160M positions;						
const pcmech_OSM_position_table_st	truct pcmech_OSMTbl[MECH_OSM_T	$ABLE_SIZEJ =$					
2, 1589, 11199, -214, 186 2, 1600, 11195, -44, 1863 2, 1611, 11191, 126, 186.	93, 23323], /* G160M, OSM1 */ 71, 23301], /* G160M, OSM1 */ 51, 23281], /* G160M, OSM1 */ 31, 23261], /* G160M, OSM1 */ 09, 23239], /* G160M, OSM1 */						

<u> </u>	<u>ropo</u>	<u>sai 1279 i</u>	<u> </u>	<u>CQ/PEAKXD</u>	<u> 1551</u>	G160M (04)	- Second COS FUV	Lifetime Position: FUV	rarge	et Acquisition	<u>Parameter</u>	<u> Upa</u>
	28	HV_RAMP	DARK	S/C, DATA,	NONE			NEW OBSET;		1 Secs		
		DOWN_TO _HVLOW						QASISTATES COS FUV HVLOW HVL OW;		[==>]		<i>[2]</i>
								QASISTATES COS SI OBSERVE OBSE RVE				[3]
ı	Cor	nments: SQL re	quired for qexpo	osure to specify the si	_used = "0	COS".						
	Nev	v obset SR nece	ssary to force th	is exposure to be the	very last e	xposure after Home.						







Proposal 12797 - HV+ACQ/PEAKXD TEST G140L (05) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd

Proposal 12797, HV+ACO/PEAKXD TEST G140L (05), completed

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; SAME ORIENT AS 03; BETWEEN 13-JUN-2012 AND 27-JUN-2012

Comments: ACQ/PEAKXD Test for G140L The target is AVZ18 (the SMOV TA target). After obtaining a good spectrum of the centered target, WE NOW TAKE A G130M PEAKD to test the SIAF UPDATE. 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. The +/- 1.6" offsets are double the exposure time to compensate for vignetting.

Wed Jul 25 01:38:29 GMT 201

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

Note that this visit should only proceed after the April/May 2012 SIAF file update (AD=AD - 0.1") as the first exposures are designed to test any SIAF changes in the dispersion direction.

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G140L (05)) Warning (Form): COS ACQ/PEAKD exposure should be preceded by an ACQ/PEAKXD exposure in the Visit.

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/IMAGE.

(HV+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.

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

Diagnostic (HV+ACO/PEAKXD TEST G140L (05)) Warning (Form): COS ACO/PEAKXD exposure should be followed by an ACO/PEAKD exposure in the Visit.

(HV+ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): VISIBILITY OVERRUN

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/PEAKXD.

(HV+ACQ/PEAKXD TEST G140L (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(HV+ACO/PEAKXD TEST G140L (05)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Proposal 12797 - HV+ACQ/PEAKXD TEST G140L (05) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd..

#	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		
Commen	nts: B2Ia, Magellanic Cloud	ds. Nominal ETC exposure times from spectrum sup	pplied by D. Lennon:		
FUV, G FUV, G	G140L, 1105: 038s S/N=10 s	a.360711) .sa.360701) & 182s S/N=10 spectroscopy (COS.sp pectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5
	XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.211309 Arcsec			
		" in the XD direction, and is valid for visits 3-5 only. 30-Jun-2012 is 250 +/-2.5d (visits 3-5)			
(AD,XD RA=-0.5 DEC=0.	offset for ACQ/PEAKXD)=(0,-0.5")=-0.5"@25°S of 5"*cos(25°)=-0.453154"=-0.5"*sin(25°)=0.211309" c confirmation spreadsheet g				
RA(") D -0.453 0 -0.906 0	DEC(") RA(°) 0.211 -1.25876E-04 0.423 -2.51752E-04 0.634 -3.77628E-04				
(10)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0
	XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.422618 Arcsec			
		" in the XD direction, and is valid for visits 3-5 only. 30-Jun-2012 is 250 +/-2.5d (visits 3-5)			
RA=-1.0	1.0" offset for ACQ/PEAKD 0"*cos(20°)= -0.906308"= '.0"*sin(20°)=0.422618"				
RA(") D -0.453 0 -0.906 0	c confirmation spreadsheet g DEC(") RA(°) 9.211 -1.25876E-04 9.423 -2.51752E-04 9.634 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
(15)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5
	XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.633927 Arcsec			
Commer The roll	nts: This target is offset 1.0' l angle for 13-Jun-2012 till 3	" in the XD direction, and is valid for visits 3-5 only. 30-Jun-2012 is 250 +/-2.5d (visits 3-5)			
(0,-1.5") RA=-1.5	1.5" offset for ACQ/PEAKD ')=-1.5"@25° S of E 5"*cos(20°)=-1.35946=-0.0 '.5"*sin(20°)= 0.633927"				
RA(") D -0.453 0 -0.906 0	c confirmation spreadsheet g DEC(") RA(°) 9.211 -1.25876E-04 9.423 -2.51752E-04 9.634 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			

Proposal 12797 - HV+ACQ/PEAKXD TEST G140L (05) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd. Spectral Els. Opt. Params. Label **Target** Config, Mode, Aperture Special Reqs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) FUV HV R DARK S/C, DATA, NONE SAA CONTOUR 31; Sequence 1-17 Non-I | 418 Secs AMPUP (16 nt in HV+ACO/PEA SPEC COM INSTR KXD TEST G140L (7/163) ELHLTHVF; 05) GS ACQ SCENARI O BASE1BN3; **QASISTATES COS FUV HVLOW HVN** [1] OM; **OESIPARM ENDC** TSA 167; **OESIPARM ENDC** TSB 163 Comments: SQL required for qexposure to specify the si_used = "COS". The special commanding here sets the the nominal high voltage for this visit (HVNOM) for segments A and B (ENDCTSA and ENDCTS B) to 167 and 163, respectively. 403s is the correct rampup time for 162/159. A n allow 3 additional seconds for every positive unit of offset is required. Therefore, the rampup time is 403+(167-162)*3=418COS/NUV, ACQ/IMAGE, BOA 2 nuv a/im (1) AZV18 MIRRORA Sequence 1-17 Non-I 30 Secs (COS.ta.360 nt in HV+ACQ/PEA I = = > 1711) KXD TEST G140L ([1] 05) Comments: NUV ACQ/IMAGE with BOA+MIRRORA to refine centering. (COS92525 gives S/N = 40 in 14.5s) S/C to updat DARK S/C. DATA, NONE SPEC COM INSTR Sequence 1-17 Non-I 8 Secs e the G130 ELOSMPATCH; nt in HV+ACO/PEA M/1309 focu KXD TEST G140L (Exposures **OESIPARM ACTIO** s from 170 t N REPLACE; o 290 (+120 **OESIPARM GRATI** NG G130M; [1] **QESIPARM CENT WAVE 1309**; **OESIPARM FOCUS** Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */

ogo	<u>sal 12797 -</u> H	<u>V+ACQ/PE</u> Ak	<u>XD TEST G140</u> 1	<u>L (05) - Seco</u> i	<u>nd COS FUV Li</u>	<u>itetime Positic</u>	<u>on: FUV Targe</u>	<u>t Acquisition Parameter</u>	<u>r Upd</u>
4	G130M/130 (1) A2	ZV18 COS/I	FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 1-17 Non-I	212 Secs	
	9 - BASELI NE SPECT			1309 A	0;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	RUM				FP-POS=3;		05)		
	(COS.sp.360 698)				FLASH=S0200D03 6:				
	098)				WAVECAL=YES;				[1]
					LIFETIME-POS=A				
					LTERNATE				
			location of star when it is c	entered in NUV (COS	.sp.360698). BT=986*(2.	$/3$) = \sim 630. This will g	get us S/N~10 per RE in	182s. This exposure and the next 8 sh	ould be co
nsia	lered an NON-INT Seq	uence. 36s lamp flash							
The	actual count rate from	1 Visit 1 was 0.07-0.14	counts/s/column, or a total	count rate of ~1-2000	counts/segment/second.	In 180s, we obtained?	75-150 counts/RE or S/I	N of 8-12 as expected.	
5	G130M - A (1) A2	ZV18 COS/I	FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=9;		Sequence 1-17 Non-I		
	CQ/PEAKD (COS.sa.360			1309 A	STEP-SIZE=0.4;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	701)				LIFETIME-POS=A LTERNATE		05)		[1]
Con	nments: ACO/PFAKD	of a contared target or	the same 9x0.4" pattern S	S/N = 60 is reached in		re and the next should	he considered a NON-I	NT saguanca	
6	G130M/130 (1) A2		FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	e ana ine nexi snouia i	Sequence 1-17 Non-I		
Ü	9 - CONFIR	2 1 1 0 0 0 0 / 1	C V, THVIL TAO, TOA	1309 A	0;		nt in HV+ACQ/PEA	[==>]	
	MATION S PECTRUM			1507 A	FP-POS=3;		KXD TEST G140L (05)		
	(COS.sp.360				FLASH=S0200D03		03)		
	698)				6;				[1]
					WAVECAL=YES;				
					LIFETIME-POS=A LTERNATE				
nsia	lered an ÑON-INT Seo	uence. 36s lamp flash	location of star when it is co				•	182s. This exposure and the next 8 sh	ould be co
7	S/C to updat DARI		DATA, NONE	count rule of -1-2000	counts/segment/second.		Sequence 1-17 Non-I		
ľ	e the G140L	2 5, 5, 2	1111,110112			ELOSMPATCH;	nt in HV+ACQ/PEA	[==>1	
	/1280 focus (19-165)					QESIPARM ACTIO N REPLACE;			
						QESIPARM GRATI			
						NG G140L;			[1]
						QESIPARM CENT WAVE 1280;			
						QESIPARM FOCUS			
						-146			
			e G140L/1280 settings with s appropriate for the G140L		n.				
		•		_					
The	SCR 344 FSW has the	following focus G140	L positions; ech_OSMTbl[MECH_OSM_	TABLE SIZE1 =					
			}, /* G140L, OSM1 */-> !, /* G140L, OSM1 */ -> -						
			, /* G140L, OSM1 */->-						
1									

pos	sal 12797 - HV+ACQ)/PEAKXD TEST G140L	. (05) - Sec	cond COS FUV L	<u>itetime Positio</u>	<u>n: FUV Targe</u>	<u>t Acquisition Parameter</u>	_Upd
8	G140L - BA (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 1-17 Non-I		
	SELINE SP	,	1280 A	0;		nt in HV+ACQ/PEA KXD TEST G140L ([==>1	
	ECTRUM (COS.sp.389			FP-POS=3;		05)		
	720)			FLASH=YES;				[1]
				LIFETIME-POS=A LTERNATE				
Com COS	ments: Spectrum of source to defi .sp.389720 gives S/N/RE = 10 at	ine the G140L/1280 XD location of targ 1400.00 Å in 38.5800 seconds. We don'	get when it is cent 't bother to scale t	ered w/ NUV ACQ/IMAGE. his, because the exposure til	me is so small (equal to	o our lamp flash). BT=2	2/3 (838*0.75) = 420 (we use 400)	
cos	.sp.389720 gives Count rate Segn	nent A 2,312.100 *0.75 = 1734. S/N=60) in 2-3s.					
)	G140L- PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,-1.6	Sequence 1-17 Non-I	45 Secs	
	STARG + S PECTRUM		1280 A	0; FP-POS=3;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	1 (COS.sp.389			FLASH=YES;		05)		[1]
	720)			LIFETIME-POS=A LTERNATE				[1]
om	ments: POSTARG TO Move to Y=	=-1.6. COS.sp.389720 gives Count rate	Segment A 2,312.		in 2-3s. But, we are try	ing to determine the lo	cal plate scale of the detector, so want	to get a de
ent	look at the spectrum, so we'll obse	erve for 20 seconds. we double the exposure time to 45s for t	-			8	· · · · · · · · · · · · · · · · · · ·	
поw We I	EVER, since it is neavity vignetied FLASH just to make sure the targe	we acuate the exposure time to 43s for t et is not drifting in raw coordinates due	to thermal variat	ions.				
	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40	POS TARG null,-1.1	Sequence 1-17 Non-I	30 Secs	
	STARG + S PECTRUM		1280 A	0;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	2			FP-POS=3;		05)		
	(COS.sp.389 720)			FLASH=YES;				[1]
	,			LIFETIME-POS=A LTERNATE				
lece	nt look at the spectrum, so we'll o	=-1.1". COS.sp.389720 gives Count rate bserve for 20 seconds. we double the exposure time to 30s for t		12.100 *0.75 = 1734. S/N=6	0 in 2-3s. But, we are t	rying to determine the	local plate scale of the detector, so was	nt to get a
	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40	POS TARG null,-0.6	Sequence 1-17 Non-I	20 Secs	
	STARG + S	.,	1280 A	0;		nt in HV+ACQ/PEA	[==>]	
	PECTRUM 3			FP-POS=3;		KXD TEST G140L (05)		
	(COS.sp.389 720)			FLASH=YES;				[1]
	720)			LIFETIME-POS=A LTERNATE				
	ments: POSTARG TO Move to Y= nt look at the spectrum, so we'll o	=-0.6". COS.sp.389720 gives Count rate	e Segment A=2,31		60 in 2-3s. But, we are t	rying to determine the	local plate scale of the detector, so wa	nt to get a
	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,-0.3		20 Secs	
	STARG + S PECTRUM		1280 A	0;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	4			FP-POS=3;		05)		<i>[11]</i>
	(COS.sp.389 720)			FLASH=YES;				[1]
	,			LIFETIME-POS=A LTERNATE				
Com	ments: POSTARG TO Move to Y=	=-0.3". COS.sp.389720 gives Count rate	e Segment A=2,31	12.100 *0.75 = 1734. S/N=6	00 in 2-3s. But, we are t	rying to determine the	local plate scale of the detector, so wa	int to get a
dece	nt look at the spectrum, so we'll o	bserve for 20 seconds.						

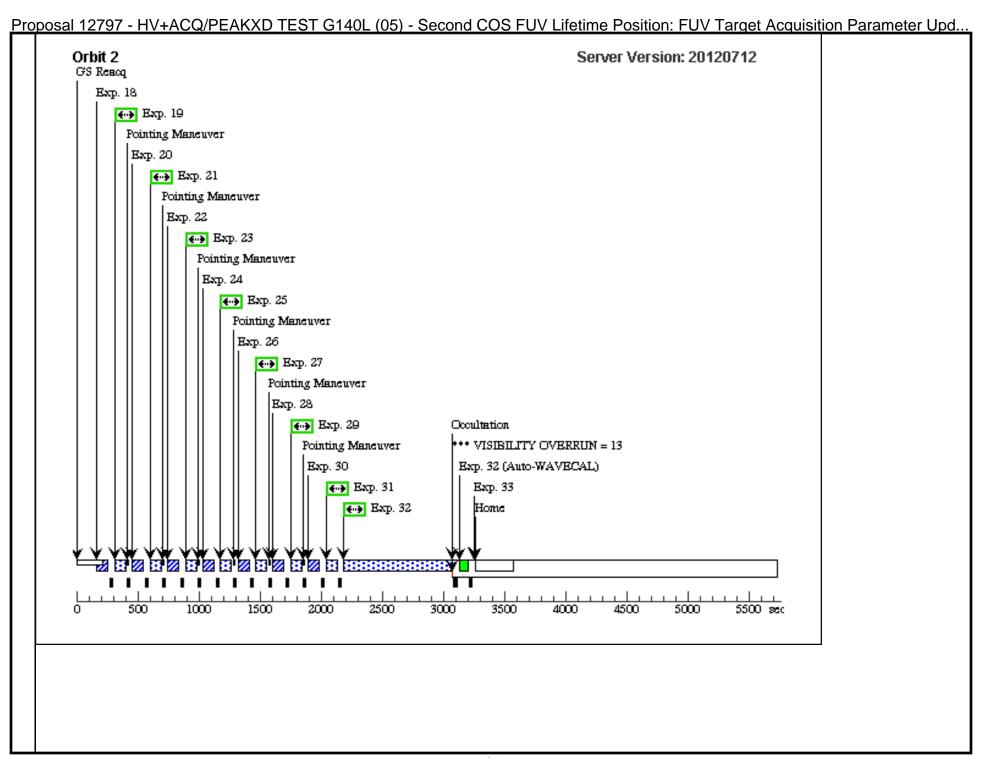
13							t Acquisition Paramet	
	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,0.3	Sequence 1-17 Non-I	20 Secs	
	STARG + S PECTRUM		1280 A	0; ED DOS 2:		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	5 (COS.sp.389			FP-POS=3; FLASH=YES;		05)		[1]
	720)			LIFETIME-POS=A				[1]
				LTERNATE				
	nments: POSTARG TO Move to Y= ent look at the spectrum, so we'll ob	0.3". COS.sp.389720 gives Count rate in berve for 20 seconds.	Segment A=2,312.1	00 *0.75 = 1734. S/N=6	60 in 2-3s. But, we are t	rying to determine the l	ocal plate scale of the detector, so v	vant to get a
14	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,0.6	Sequence 1-17 Non-I	20 Secs	
	STARG + S PECTRUM		1280 A	0; FP-POS=3;		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	6 (COS.sp.389			FLASH=YES;		05)		[1]
	720)			LIFETIME-POS=A				[1]
				LTERNATE				
	nments: POSTARG TO Move to Y= ent look at the spectrum, so we'll ob	0.6". COS.sp.389720 gives Count rate in Sobserve for 20 seconds.	Segment A=2,312.1	00 *0.75 = 1734. S/N=6	60 in 2-3s. But, we are t	rying to determine the l	ocal plate scale of the detector, so v	vant to get a
15	G140L - PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,1.1	Sequence 1-17 Non-I	30 Secs	
	STARG + S PECTRUM		1280 A	0; ED DOS 2:		nt in HV+ACQ/PEA KXD TEST G140L ([==>]	
	7 (COS.sp.389			FP-POS=3; FLASH=YES;		05)		[1]
	720)			LIFETIME-POS=A				[1]
1				LTERNATE				
dece	ent look at the spectrum, so we'll ob	1.1". COS.sp.389720 gives Count rate observe for 20 seconds. we double the exposure time to 30s for ti		00 *0.75 = 1734. S/N=6				vant to get a
16	G140L - PO (1) AZV18 STARG + S	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40 0;	POS TARG null,1.6	Sequence 1-17 Non-I nt in HV+ACQ/PEA		
	PECTRUM		1280 A	FP-POS=3;		KXD TEST G140L ([==>]	
	8 (COS.sp.389			FLASH=YES;		05)		[1]
	720)			LIFETIME-POS=A LTERNATE				
				LIEKNAIE				
cent How	look at the spectrum, so we'll obse vever, since it is heavily vignetted w	1.6". COS.sp.389720 gives Count rate in the coun	he +/-1.6".	00 *0.75 = 1734. S/N=60) in 2-3s. But, we are tr	ying to determine the lo	cal plate scale of the detector, so w	ant to get a d
cent How	look at the spectrum, so we'll obse vever, since it is heavily vignetted w FLASH just to make sure the target S/C to RES DARK	erve for 20 seconds. ve double the exposure time to 45s for ti	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR	Sequence 1-17 Non-I		ant to get a d
cent How We	look at the spectrum, so we'll obse vever, since it is heavily vignetted w FLASH just to make sure the target	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH;	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (ant to get a d
cent How We	look at the spectrum, so we'll obsever, since it is heavily vignetted we'll have to make sure the target S/C to RES DARK ET the G130	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR	Sequence 1-17 Non-Int in HV+ACQ/PEA	8 Secs	ant to get a a
cent How We	look at the spectrum, so we'll obsever, since it is heavily vignetted we'll have been since it is heavily vignetted we'll have been since the target S/C to RES DARK ET the G130 M/1309 focu	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (8 Secs	
cent How We	look at the spectrum, so we'll obsever, since it is heavily vignetted we'll have been since it is heavily vignetted we'll have been since the target S/C to RES DARK ET the G130 M/1309 focu	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M;	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (8 Secs	ant to get a d
cent How We	look at the spectrum, so we'll obsever, since it is heavily vignetted we'll have been since it is heavily vignetted we'll have been since the target S/C to RES DARK ET the G130 M/1309 focu	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (8 Secs	
cent How We	look at the spectrum, so we'll obsever, since it is heavily vignetted we'll have been since it is heavily vignetted we'll have been since the target S/C to RES DARK ET the G130 M/1309 focu	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6".	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1309; QESIPARM FOCUS	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (05)	8 Secs	
cent How We 1	look at the spectrum, so we'll obse rever, since it is heavily vignetted w FLASH just to make sure the target S/C to RES DARK ET the G130 M/1309 focu s	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due to S/C, DATA, NONE	he +/-1.6". to thermal variation	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1309; QESIPARM FOCUS 170	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (05)	8 Secs	
cent How We 1	look at the spectrum, so we'll obse rever, since it is heavily vignetted w FLASH just to make sure the target S/C to RES DARK ET the G130 M/1309 focu s	erve for 20 seconds. we double the exposure time to 45s for ti t is not drifting in raw coordinates due t	he +/-1.6". to thermal variation	00 *0.75 = 1734. S/N=60	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1309; QESIPARM FOCUS 170	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (05)	8 Secs	
Com	look at the spectrum, so we'll obse vever, since it is heavily vignetted we FLASH just to make sure the target S/C to RES DARK ET the G130 M/1309 focu s	erve for 20 seconds. we double the exposure time to 45s for the tis not drifting in raw coordinates due to S/C, DATA, NONE ESET the G130M/1309 settings with the	he +/-1.6". to thermal variation original focus, the	00 *0.75 = 1734. S/N=60 is. SCR 344 FSW position (SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1309; QESIPARM FOCUS 170	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (05) Sequence 18-33 Non -Int in HV+ACQ/PE	8 Secs [==>]	
Com	look at the spectrum, so we'll obsevever, since it is heavily vignetted wFLASH just to make sure the target S/C to RES DARK ET the G130 M/1309 focu s	erve for 20 seconds. we double the exposure time to 45s for the tis not drifting in raw coordinates due to S/C, DATA, NONE ESET the G130M/1309 settings with the	the +/-1.6". to thermal variation original focus, the G140L	00 *0.75 = 1734. S/N=60 is. SCR 344 FSW position (LIFETIME-POS=A	SPEC COM INSTR ELOSMPATCH; QESIPARM ACTIO N REPLACE; QESIPARM GRATI NG G130M; QESIPARM CENT WAVE 1309; QESIPARM FOCUS 170	Sequence 1-17 Non-I nt in HV+ACQ/PEA KXD TEST G140L (05)	8 Secs [==>] 10 Secs	

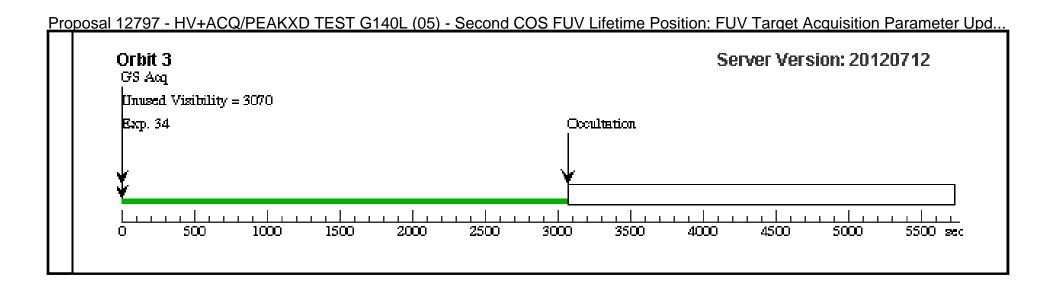
Proposal 12797 - HV+ACQ/PEAKXD TEST G140L (05) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd... Sequence 18-33 Non G140L - BA (1) AZV18 COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=40 SELINE SP 0: -Int in HV+ACO/PE 1280 A **ECTRUM** AKXD TEST G140L FP-POS=3: (05)(COS.sp.389 720) FLASH=YES: [2] LIFETIME-POS=A LTERNATE Comments: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400.00 Å in 38.5800 seconds. BT=2/3 (838*0.75) = 420 (we use 400) G140L - PE (10) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA LIFETIME-POS=A Sequence 18-33 Non 10 Secs G140L AKXD-XD T-XD+1.0 LTERNATE -Int in HV+ACO/PE 1280 A [==>1 AKXD TEST G140L +1.0[2] (COS.sp.389 720) Comments: ACQ/PEAKXD on the target offset by +1.0". This exposure and the next should be treated just like an NON-INT Sequence. (COS.sp.389720) G140L - BA (10) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=40 Sequence 18-33 Non 40 Secs SELINE SP T-XD+1.0 -Int in HV+ACO/PE 0: 1280 A **ECTRUM** AKXD TEST G140L FP-POS=3; (COS.sp.389 (05)720) FLASH=YES: [2] LIFETIME-POS=A LTERNATE Comments: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400.00 Å in 38.5800 seconds. BT=2/3 (838*0.75) = 420 (we use 400) G140L - PE (1) AZV18 COS/FUV, ACO/PEAKXD, PSA G140L LIFETIME-POS=A Sequence 18-33 Non 10 Secs AKXD-XD-LTERNATE -Int in HV+ACO/PE 1280 A AKXD TEST G140L 1.0 [2] (COS.sp.389 (05)720) Comments: ACO/PEAKXD on the target offset by -1.0". This exposure and the next should be treated just like an NON-INT Sequence. 23 Sequence 18-33 Non 40 Secs G140L - BA (1) AZV18 COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=40 SELINE SP -Int in HV+ACQ/PE 0; 1280 A AKXD TEST G140L ECTRUM FP-POS=3: (COS.sp.389 (05)720) FLASH=YES: [2] LIFETIME-POS=A LTERNATE Comments: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400.00 Å in 38.5800 seconds. BT=2/3 (838*0.75) = 420 (we use 400) G140L - PE (5) AZV18-OFFSET COS/FUV, ACO/PEAKXD, PSA G140L LIFETIME-POS=A Sequence 18-33 Non 10 Secs AKXD-XD -XD+0.5 -Int in HV+ACO/PE LTERNATE 1280 A +0.5AKXD TEST G140L [2] (COS.sp.389 (05)720) Comments: ACO/PEAKXD on the target offset by +0.5". This exposure and the next should be treated just like an NON-INT Sequence. G140L- BA (5) AZV18-OFFSET COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=40 Sequence 18-33 Non 40 Secs SELINE SP -XD+0.5 -Int in HV+ACQ/PE 1280 A [==>1 **ECTRUM** AKXD TEST G140L FP-POS=3: (COS.sp.389 (05)720) FLASH=YES: [2] LIFETIME-POS=A LTERNATE Comments: Confirmation Spectrum. COS.sp. 389720 gives S/N/RE = 10 at 1400.00 Å in 38.5800 seconds. BT = 2/3 (838*0.75) = 420 (we use 400) G140L - PE (1) AZV18 COS/FUV, ACO/PEAKXD, PSA G140L LIFETIME-POS=A Sequence 18-33 Non 10 Secs AKXD-XD-LTERNATE -Int in HV+ACO/PE 1280 A [==>1 0.5 AKXD TEST G140L [2] (COS.sp.389 (05)Comments: ACQ/PEAKXD on the target offset by -0.5". This exposure and the next should be treated just like an NON-INT Sequence.

ELINE SP ECTRUM COS.sp.389 20)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 18-33 Non -Int in HV+ACQ/PE AKXD TEST G140L (05)	r - 1	[2]
ents: Confirm	nation Spectrum. C	OS.sp.389720 gives S/N/RE = 10 at 140	0.00 Å in 38.580	0 seconds. BT=2/3 (838*0.75) = 420 (v)	we use 400).		
		SE COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=A LTERNATE	Sequence 18-33 Non -Int in HV+ACQ/PE AKXD TEST G140L (05)	10 Secs [==>]	[2]
ents: ACQ/P	EAKXD on the targ	get offset by -1.5". This exposure and the	next should be t	reated just like an NON-INT Sequence.			•
		SE COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 18-33 Non -Int in HV+ACQ/PE AKXD TEST G140L (05)	40 Secs [==>]	[2]
ents: Confirm	nation Spectrum. C	COS.sp.389720 gives S/N/RE = 10 at 140	0.00 Å in 38.580	0 seconds. BT=2/3 (838*0.75) = 420 (v)	we use 400)		!
G140L - PE AKXD-XD -1.5 COS.sp.389	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=A LTERNATE	Sequence 18-33 Non -Int in HV+ACQ/PE AKXD TEST G140L (05)	10 Secs [==>]	[2]
20)							
G140L - BA	BA (1) AZV18 C	cos/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40	Sequence 18-33 Non		
CCTRUM COS.sp.389 20)			1280 A	FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	AKXD TEST G140L (05)	[==>]	[2]
ents: Confirm	nation Spectrum. C	COS.sp.389720 gives S/N/RE = 10 at 140e	0.00 Å in 38.580	0 seconds. $BT=2/3$ (838*0.75) = 420 (v	we use 400)		
G140L-BO A COS.sp.389 22)	(1) AZV18	COS/FUV, TIME-TAG, BOA	G140L 1280 A	LIFETIME-POS=A LTERNATE; BUFFER-TIME=40 00;	Sequence 18-33 Non -Int in HV+ACQ/PE AKXD TEST G140L (05)	832 Secs [==>]	[2]
	mts: Confirm 140L - PE KXD-XD-5 COS.sp.389 20) mts: ACQ/P 140L - BA ELINE SP CTRUM COS.sp.389 20) mts: Confirm 140L - PE KXD-XD 1.5 COS.sp.389 20) mts: ACQ/P 140L - BA ELINE SP CTRUM COS.sp.389 20) mts: Confirm 140L - BA ELINE SP CTRUM COS.sp.389 20) mts: Confirm 140L-BO COS.sp.389 22)	nts: Confirmation Spectrum. C 140L - PE (15) AZV18-OFFS KXD-XD- T-XD+1.5 5 COS.sp.389 20) nts: ACQ/PEAKXD on the targ 140L - BA (15) AZV18-OFFS ELINE SP T-XD+1.5 CTRUM COS.sp.389 20) nts: Confirmation Spectrum. C 140L - PE (1) AZV18 KXD-XD 1.5 COS.sp.389 20) nts: ACQ/PEAKXD on the targ 140L - BA (1) AZV18 ELINE SP CTRUM COS.sp.389 20) nts: Confirmation Spectrum. C 140L-BA (1) AZV18 ELINE SP CTRUM COS.sp.389 20) nts: Confirmation Spectrum. C 140L-BO (1) AZV18	nts: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400 140L - PE (15) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA KXD-XD- T-XD+1.5 5 COS.sp.389 20) nts: ACQ/PEAKXD on the target offset by -1.5". This exposure and the 140L - BA (15) AZV18-OFFSE COS/FUV, TIME-TAG, PSA ELINE SP T-XD+1.5 CTRUM COS.sp.389 20) nts: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400 140L - PE (1) AZV18 COS/FUV, ACQ/PEAKXD, PSA KXD-XD 1.5 COS.sp.389 20) nts: ACQ/PEAKXD on the target offset by +1.5". This exposure and the 140L - BA (1) AZV18 COS/FUV, TIME-TAG, PSA ELINE SP CTRUM COS.sp.389 20) nts: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400 140L - BA (1) AZV18 COS/FUV, TIME-TAG, PSA ELINE SP CTRUM COS.sp.389 20) nts: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400 140L-BO (1) AZV18 COS/FUV, TIME-TAG, BOA COS.sp.389	### ### ##############################	LIFETIME-POS=A LTERNATE mts: Confirmation Spectrum. COS.sp.389720 gives S/N/RE = 10 at 1400.00 Å in 38.5800 seconds. BT=2/3 (838*0.75) = 420 (140L - PE (15) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA G140L LIFETIME-POS=A LTERNATE 1280 A LTERNATE 1280 A LTERNATE 1280 A 1280 A	LIFETIME-POS=A LITERNATE mts: Confirmation Spectrum. COS.sp.389720 gives S/NRE = 10 at 1400.00 Å in 38.5800 seconds. BT=23 (838*0.75) = 420 (we use 400). 140L - PE (15) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA	LIFETIME-POS=A LTERNATE LIFETIME-POS=A LTERNATE LIFETIME-POS=A LTERNATE LIFETIME-POS=A LTERNATE Sequence 18-33 Non In INV-ACQ/PE AKXD TEST G140L (0.5) In INV-ACQ/PE In INV-ACQ/PE

33 S/C to RES DARK S/C, DATA, NONE	SPEC COM INSTR Sequence 18	-33 Non 8 Secs	
ET the G140 L/1280 focu	ELOSMPATCH; -Int in HV+A QESIPARM ACTIO (05)		
S	N REPLACE; (03)		
	QESIPARM GRATI NG G140L;		[2]
	QESIPARM CENT WAVE 1280;		[]
	QESIPARM FOCUS 19		
Comments: Special Commanding to RESET the G140L/1280 settings to the nominal position (19).			
The SCR 344 FSW has the following focus G140L positions;			
const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =			
{1, 1105, 1598, -370, 35092, 39716}, /* G140L, OSM1 */ {1, 1230, 1591, -30, 35055, 39680}, /* G140L, OSM1 */ {1, 1280, 1590, 19, 35050, 39675}, /* G140L, OSM1 */			
(1, 1230, 1591, -30, 35055, 39680), /* G140L, OSM1 */ (1, 1280, 1590, 19, 35050, 39675), /* G140L, OSM1 */ 34 HV_RAMP DARK S/C, DATA, NONE	NEW OBSET;	1 Secs	
[1, 1230, 1591, -30, 35055, 39680], /* G140L, OSM1 */ {1, 1280, 1590, 19, 35050, 39675}, /* G140L, OSM1 */	NEW OBSET; QASISTATES COS FUV HVLOW HVL OW;	1 Secs [==>]	
{1, 1230, 1591, -30, 35055, 39680], /* G140L, OSM1 */ {1, 1280, 1590, 19, 35050, 39675}, /* G140L, OSM1 */ 34 HV_RAMP DARK S/C, DATA, NONE DOWN_TO	QASISTATES COS FUV HVLOW HVL		[3]
{1, 1230, 1591, -30, 35055, 39680], /* G140L, OSM1 */ {1, 1280, 1590, 19, 35050, 39675}, /* G140L, OSM1 */ 34 HV_RAMP DARK S/C, DATA, NONE DOWN_TO	QASISTATES COS FUV HVLOW HVL OW; QASISTATES COS SI OBSERVE OBSE		[3

Proposal 12797 - HV+ACQ/PEAKXD TEST G140L (05) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Upd... Orbit 1 Server Version: 20120712 **€--)** Ехф. б Exp. 7 **ۥ•** Exp. 8 Pointing Maneuver **ۥ** Exp. 9 Pointing Maneuver ۥ• Exp. 10 Pointing Maneuver Occultation *** VISIBILITY OVERRUN = 734 € Bxp. 11 Pointing Maneuver €--> Exp. 12 Pointing Maneuver Orbit Structure **ۥ•** Exp. 13 Pointing Maneuver € Exp. 14 Pointing Maneuver ۥ• Exp. 15 Pointing Maneuver Pointing Maneuver ۥ• Exp. 16 Exp. 3 ۥ• Exp. 4 Pointing Maneuver GS AcqExp. 1 Exp. 2 Exp. 5 Exp. 17 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 secs.





Proposal 12797 - Verification Visit @ Second Lifetime Position (06) - Second COS FUV Lifetime Position: FUV Target Acquisition Par.

Proposal 12797, Verification Visit @ Second Lifetime Position (06), completed

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: ORIENT 132.5D TO 137.5 D; BETWEEN 23-JUL-2012 AND 30-JUL-2012

Comments: Test ACQ/PEAKXD for each grating, then perform two full TA sequences, one with G160M, one with G130M. Orientation for Visit 6 is (135 +/- 2.5), which is good from Jul 02, to Aug 07, 2012. After that, we will need to change the roll angle and redefine the targets. We now start with a G130M PEAKXD to see if the SIAF file is off in the XD.

Wed Jul 25 01:38:36 GMT 201:

Offset Position (WD1657+343-OFFSET-

Offset Position (WD1657+343-OFFSET-

NW-1.4AS)

XD-1.0)

Reference Frame: ICRS

Reference Frame: ICRS

THIS VISIT MUST BE EXECUTED AFTER THE MOVE TO THE NEW (SECOND) LIFETIME POSITON (the POSITION=ALTERNATEs should all have been stripped out along with the focus adjustments).

(Verification Visit @ Second Lifetime Position (06)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/PEAKXD.

(Verification Visit @ Second Lifetime Position (06)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

(Verification Visit @ Second Lifetime Position (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.

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	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		
Comme	nts: This object is visible a	all year. The roll angle for the offsets is set to 180	9+/-2.5 (Jun 5-12, 2012)		
The ori		175297A and are [12,-32] mas/yr. 4 sec of time/yr, -0.0342 "/yr]. 51.12 +34 18 53.3			
For BO For PS	A/MIŘROŘB/NUV imagin NG130M/1309, we get S/N	1657+343 and the exposure times are based on a g the time is 98s (COS.ta.389915). 160 in 2.6sec (COS.sa.389905). 160 in 40 sec (COS.sa.389908).	spectrum provided by A. Aloisi (extrapolated in	wavelength). The nominal expe	osure time

Radial Velocity: 78 km/sec

Radial Velocity: 78 km/sec

V=16.4+/-0.1

V=16.4+/-0.1

Fixed Targets For PSA/G160M/1600, we get S/N=60 (Seg A) in 11 sec (COS.sa.389907). (21)

Diagnostics

WD1657+343-OFFSET- Offset from WD1657+343 by NW-1.4AS

RA Offset: 2.77778E-4 Degrees

Dec Offset: -1.0 Arcsec

Comments: The new roll angle is set to 135+/-2.5. This target is offset 1" in -X, +Y or delta[AD,XD]=(1,-1)"

WD1657+343 offset for ACQ Sequence for a roll angle of 135 +/- 2.5

 $(AD,XD)=(0,-1.0")=1"@45^{\circ} E \text{ of } N$

 $RA = + sart(2)''*cos(45^\circ) = +1'' = 0.00027777778^\circ$

 $DEC = -sart(2)^{"*}sin(45^{\circ}) = -1"$

(22)WD1657+343-OFFSET- Offset from WD1657+343 by

XD-1.0

RA Offset: 0.0 Degrees

Dec Offset: 1.0 Arcsec

Comments: The new roll angle is set to 135+/-2.5. This offset is 1" in -Y (XD).

WD1657+343 offset for ACQ/PEAKXD

 $(AD,XD)=(0,1.0^{\circ\prime\prime})=1^{\circ\prime\prime}$ to the S

RA=0, DEC=+1.0"

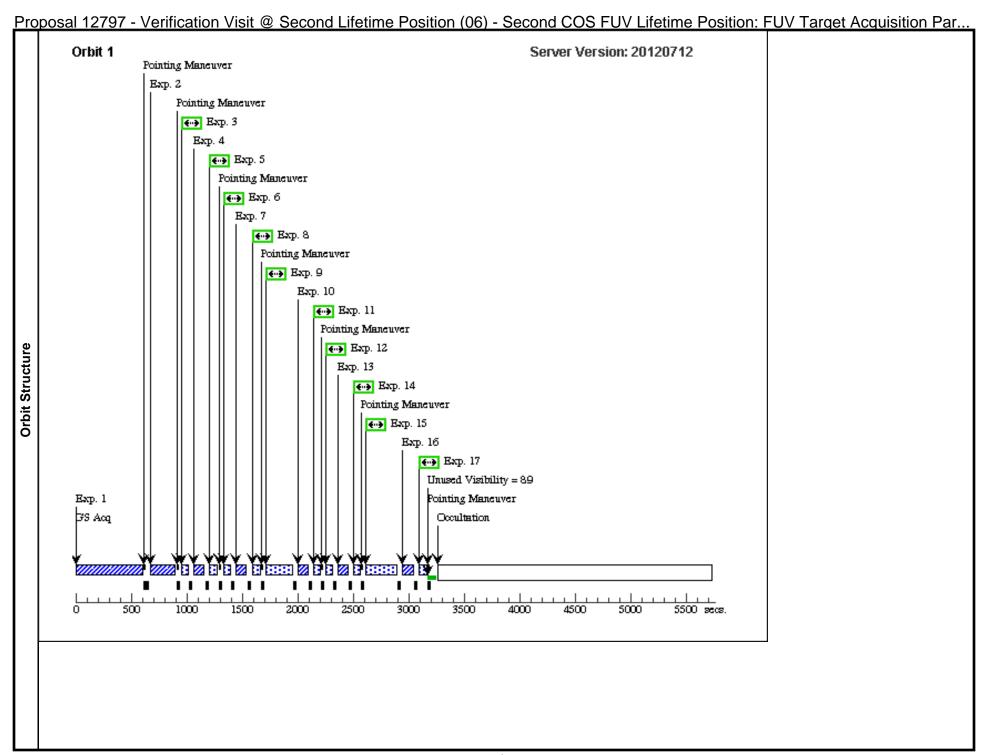
Proposal 12797 - Verification Visit @ Second Lifetime Position (06) - Second COS FUV Lifetime Position: FUV Target Acquisition Par...

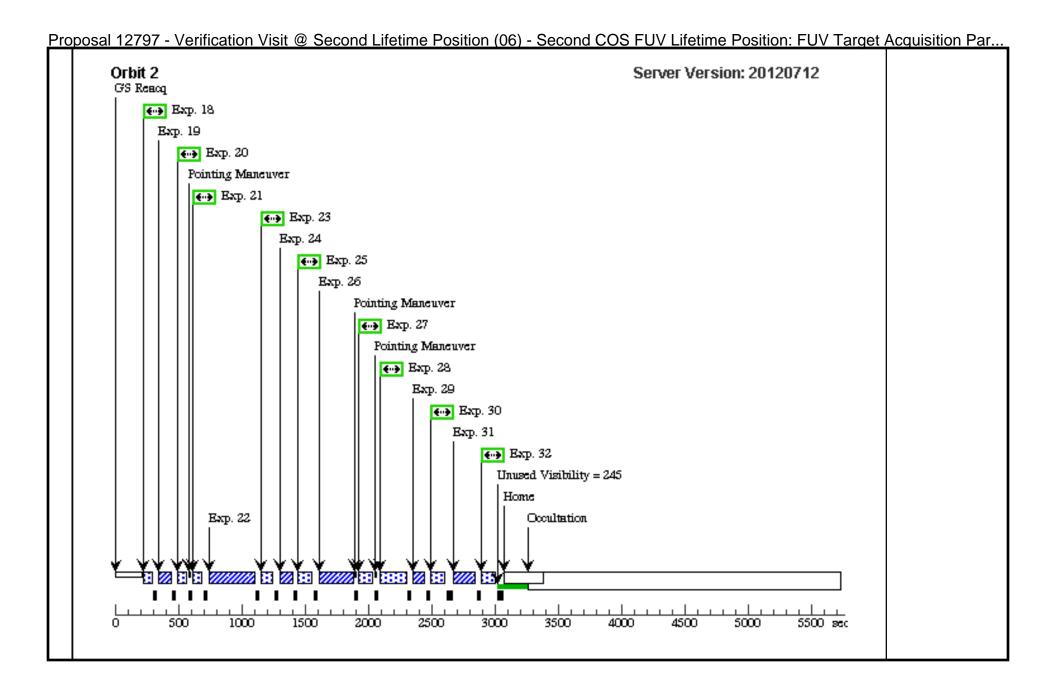
#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	2 nuv a/im	(2) WD1657+343	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI		98 Secs	
	(COS.ta.389 915)					O BASE1BN3		[==>]	[1]
			A+MIRRORA to define centering. COS gives: Time = 98.1324 seconds	S.ta.389915					
2		(2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M				3 Secs	
	AKXD - No minal (COS.sa.389 905)			1309 A				[==>]	[1]
	omments: ACQ/I about 4500 is 3		al position to test any SIAF file issue i	n the XD. The exp	ected count rate on segm	ent A is 1600 counts in	1.16s,		
3			COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20		Sequence 3-5 Non-In	12 Secs	
	CTRUM (COS.sa.389 905)	OFFSET-XD-1.0		1309 A	0; FP-POS=3; FLASH=YES		t in Verification Visit @ Second Lifetime Position (06)	[==>]	[1]
Co	omments: COS.s	a.389910 gives S/N=6	60 in only in 2.6s, we go for 12 becaus	e that is the lamp f	lash time.				•
4			COS/FUV, ACQ/PEAKXD, PSA	G130M			Sequence 3-5 Non-In	3 Secs	
	AKXD-XD- 1.0 (COS.sa.389 905)	OFFSET-XD-1.0		1309 A			t in Verification Visit @ Second Lifetime Position (06)	[==>]	[1]
Co	omments: ACQ/I	PEAKXD, see previou.	s comment						
	G130M - C	(22) WD1657+343-	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20		Sequence 3-5 Non-In	20 Secs	
5	ONFIRMA TION SPEC TRUM (COS.sa.389 905)			1309 A	0; FP-POS=3; FLASH=YES		t in Verification Visit @ Second Lifetime Position (06)	[==>]	[1]
	v	*	S.sa.389905 Gives = 40.000 for Segme	ř		0 0			
Th			.07-0.14 counts/s/column, or a total co			In 20s, we obtained 8		T	
6	G130M - O FFSET SPE	(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20 0;		Sequence 6-8 Non-In t in Verification Visit		
	CTRUM (COS.sa.389 905)			1309 A	FP-POS=3; FLASH=YES		@ Second Lifetime Position (06)	[==>]	[1]
Co	omments: COS.s	a.389905 Gives = 40.	000 for Segment A only in 1.16 S/N=60) in 3s, we go for 1	2 because this is the lam	o flash time			
7		(2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M			Sequence 6-8 Non-In	3 Secs	
	AKXD-XD +1.0 (COS.sa.389 905)			1309 A			t in Verification Visit @ Second Lifetime Position (06)	[==>]	[1]
Co	omments: ACQ/I	PEAKXD							
8		(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20		Sequence 6-8 Non-In	20 Secs	
	ONFIRMA TION SPEC TRUM (COS.sa.389 905)			1309 A	0; FP-POS=3; FLASH=YES		t in Verification Visit @ Second Lifetime Position (06)	[==>]	[1]
Co	omments: Confir	mation spectrum. CO	S.sa.389905 Gives = 40.000 for Segme	nt A only in 1.16 S	S/N=60 in 3s, we go for 20	Os to get a good look.			

Proposal 12797 - Verification Visit @ Second Lifetime Position (06) - Second COS FUV Lifetime Position: FUV Target Acquisition Par... Sequence 9-11 Non-I 7 Secs G140L - BA (22) WD1657+343- COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=50 SELINE SP OFFSET-XD-1.0 0: nt in Verification Vis 1280 A **ECTRUM** it @ Second Lifetim FP-POS=3: [1] (COS.sa.389 e Position (06) 908) FLASH=YES Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sG140L - PE (22) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA Sequence 9-11 Non-I 4 Secs G140L AKXD-XD- OFFSET-XD-1.0 nt in Verification Vis 1280 A I = = > 1it @ Second Lifetim 1.0 [1] (COS.sa.389 e Position (06) 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sG140L - CO (22) WD1657+343- COS/FUV, TIME-TAG. PSA G140L BUFFER-TIME=70 Sequence 9-11 Non-I 10 Secs NFIRMATI OFFSET-XD-1.0 nt in Verification Vis 0: 1280 A ON SPECT it @ Second Lifetim FP-POS=3; RUM e Position (06) [1] (COS.sa.389 FLASH=YES 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s BUFFER-TIME=50 G140L - BA (2) WD1657+343 G140L COS/FUV, TIME-TAG, PSA Sequence 12-14 Non 7 Secs SELINE SP -Int in Verification V 1280 A I = = > 1**ECTRUM** isit @ Second Lifeti FP-POS=3; [1] (COS.sa.389 me Position (06) FLASH=YES 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s 13 G140L - PE (2) WD1657+343 COS/FUV, ACO/PEAKXD, PSA G140L Sequence 12-14 Non | 4 Secs AKXD-XD -Int in Verification V 1280 A f = = > 1+1.0isit @ Second Lifeti (COS.sa.389 [1] me Position (06) 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s G140L - CO (2) WD1657+343 COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=50 Sequence 12-14 Non 10 Secs -Int in Verification V NFIRMATI 1280 A [==>1 ON SPECT isit @ Second Lifeti FP-POS=3: RUM me Position (06) [1] (COS.sa.389 FLASH=YES 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sG160M - B (22) WD1657+343- COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=70 Sequence 15-17 Non | 22 Secs ASELINE S OFFSET-XD-1.0 -Int in Verification V 1600 A PECTRUM isit @ Second Lifeti FP-POS=3; [1] (COS.sa.389 me Position (06) 907) FLASH=YES Comments: Spectrum of source to check centering. G160M - PE (22) WD1657+343- COS/FUV, ACO/PEAKXD, PSA G160M Sequence 15-17 Non 11 Secs AKXD-XD- OFFSET-XD-1.0 -Int in Verification V 1600 A 1.0 isit @ Second Lifeti [1] (COS.sa.389 me Position (06) 907) Comments: ACQ/PEAKD on -1.0" offset G160M - C (22) WD1657+343- COS/FUV, TIME-TAG, PSA BUFFER-TIME=70 Sequence 15-17 Non 22 Secs G160M ONFIRMA OFFSET-XD-1.0 -Int in Verification V 1600 A [==>1 TION SPEC isit @ Second Lifeti FP-POS=3; TRUM me Position (06) [1] (COS.sa.389 FLASH=YES Comments: COS.sa.389907. Gives S/N=60 for Segment A only in 10.8, wo go for 12 secs, the lamp flash time. BT=2/3*1.412 or ~1.000. We use 700 to be safe.

G160M - O (2) WD1657+343	COS/FUV, TIME-TAG, PSA	G160M	n (06) - Second COS F	Sequence 18-20 Non		
FFSET SPE CTRUM (COS.sa.389	COS/PUV, HIVIE-TAG, FSA	1600 A	0; FP-POS=3; FLASH=YES	-Int in Verification V isit @ Second Lifeti me Position (06)	[==>]	[2]
nments: Check spectrum location.						
G160M - PE (2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G160M		Sequence 18-20 Non	11 Secs	
AKXD-XD +1.0 (COS.sa.389 907)		1600 A		-Int in Verification V isit @ Second Lifeti me Position (06)	[==>]	[2
nments: ACQ/PEAKXD						
G160M - C (2) WD1657+343	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70		22 Secs	
ONFIRMA TION SPEC TRUM (COS.sa.389 907)		1600 A	0; FP-POS=3; FLASH=YES	-Int in Verification V isit @ Second Lifeti me Position (06)	[==>]	[2]
nments: confirmation spectrum						
		G160M	BUFFER-TIME=70	Sequence 21-27 Non	22 Secs	
	S	1600 A	0;	-Int in Verification V	[==>]	
(COS.sa.389			· · · · · · · · · · · · · · · · · · ·	me Position (06)		[2
,						
		for $4x$ that. $BT = $	2/3*1,412 or ~1,000. We use 700 to be	V	T	
		G160M	CENTER=FLUX-W		8 Secs	
H on OFFS ET (COS.sa.389 907)	5	1600 A	SCAN-SIZE=3	isit @ Second Lifeti me Position (06)	[==>]	[2
nments: COS.sa.389907. Gives S/N=	=60 for Segment A only in 10.8.					
		G160M	BUFFER-TIME=70	Sequence 21-27 Non	44 Secs	
	S	1600 A	0;	-Int in Verification V	[==>]	
TRUM (COS.sa.389			FP-POS=3; FLASH=YES	me Position (06)		[2
nments: COS.sa.389907. Gives S/N=	=60 for Segment A only in 10.8. wo go	for 4x that. BT=	2/3*1,412 or ~1,000. We use 700 to be	safe.		•
		G160M	,	Sequence 21-27 Non	11 Secs	
CQ/PEAKX OFFSET-NW-1.4A	S	1600 A		-Int in Verification V	<i>[==>1</i>	
ET (COS.sa.389 907)				me Position (06)		[2
nments: COS.sa.389907. Gives S/N=	=60 for Segment A only in 10.8.					
	COC/ELIV TIME TAC DCA	G160M	BUFFER-TIME=70	Sequence 21-27 Non	60 Secs	
G160M - C (21) WD1657+343- ONFIRMA OFFSET-NW-1.4A	COS/FUV, TIME-TAG, PSA	1600 A	0;	-Int in Verification V isit @ Second Lifeti	[==>]	
1	(COS.sa.389 907) mments: Check spectrum location. G160M - PE (2) WD1657+343 AKXD-XD +1.0 (COS.sa.389 907) mments: ACQ/PEAKXD G160M - C (2) WD1657+343 ONFIRMA TION SPEC TRUM (COS.sa.389 907) mments: confirmation spectrum G160M - O (21) WD1657+343- FFSET SPE OFFSET-NW-1.4A. CTRUM (COS.sa.389 907) mments: COS.sa.389907. Gives S/N= G160M - A (21) WD1657+343- CQ/SEARC OFFSET-NW-1.4A. H on OFFS ET (COS.sa.389 907) mments: COS.sa.389907. Gives S/N= G160M - C (21) WD1657+343- ONFIRMA OFFSET-NW-1.4A. TION SPEC TRUM (COS.sa.389 907) mments: COS.sa.389907. Gives S/N= G160M - A (21) WD1657+343- ONFIRMA OFFSET-NW-1.4A. TION SPEC TRUM (COS.sa.389 907) mments: COS.sa.389907. Gives S/N= G160M - A (21) WD1657+343- ONFIRMA OFFSET-NW-1.4A. TION SPEC TRUM (COS.sa.389 907) mments: COS.sa.389907. Gives S/N= G160M - A (21) WD1657+343- CQ/PEAKX OFFSET-NW-1.4A. On OFFS ET	(COS.sa.389 907) mments: Check spectrum location. G160M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA AKXD-XD +1.0 (COS.sa.389 907) mments: ACQ/PEAKXD G160M - C (2) WD1657+343 COS/FUV, TIME-TAG, PSA ONFIRMA TION SPEC TRUM (COS.sa.389 907) mments: confirmation spectrum G160M - O (21) WD1657+343- CTRUM (COS.sa.389 907) mments: COS.sa.389907. Gives S/N=60 for Segment A only in 10.8. wo go journel of the company of the c	(COS.sa.389 907) ***ments: Check spectrum location.** G160M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA G160M AKXD-XD	CCOS,sa.389	COS.sa.389 FY-POS=3; me Position (06)	FP-POS=3;

Proposal 12797 - Verification Visit @ Second Lifetime Position (06) - Second COS FUV Lifetime Position: FUV Target Acquisition Par... G160M - A (21) WD1657+343- COS/FUV, ACQ/PEAKD, PSA G160M NUM-POS=7; Sequence 21-27 Non 10 Secs CO/PEAKD OFFSET-NW-1.4AS -Int in Verification V 1600 A STEP-SIZE=0.45 on OFFSET isit @ Second Lifeti [2] (COS.sa.389 me Position (06) 907) Comments: ACQ/PEAKD. COS.sa.389907 G160M - C (21) WD1657+343- COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=70 POS TARG 0.333,nu Sequence 21-27 Non 60 Secs ONFIRMA OFFSET-NW-1.4AS 11 -Int in Verification V 1600 A *[==>]* TION SPEC isit @ Second Lifeti FP-POS=3; TRUM me Position (06) [2] (COS.sa.389 FLASH=YES 907) Comments: COS.sa.389907. Gives S/N=60 for Segment A only in 10.8. wo go for 4x that. BT=2/3*1.412 or $\sim 1,000$. We use 700 to be safe. Sequence 28-32 Non G130M - O (2) WD1657+343 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 20 Secs FFSET SPE -Int in Verification V 0: 1309 A I==>1isit @ Second Lifeti CTRUM FP-POS=3: [2] (COS.sa.389 me Position (06) FLASH=YES 905) Comments: Baseline spectrum, we last centered 1" off in both XD and AD, so this spectrum should be off center. COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s. BT=2/3*476G130M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA G130M Sequence 28-32 Non 3 Secs AKXD -Int in Verification V 1309 A *[==>1* (COS.sa.389 isit @ Second Lifeti [2] me Position (06) 905) Comments: ACQ/PEAKXD. COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s. The target should be offset by 1" in both AD and XD, so this is a challenging TA. G130M - C (2) WD1657+343 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 28-32 Non 60 Secs **ONFIRMA** -Int in Verification V 1309 A [==>1 TION SPEC isit @ Second Lifeti FP-POS=3; TRUM me Position (06) [2] (COS.sa.389 FLASH=YES 905) Comments: Confirmation spectrum, did we center in XD? This is a longer exposure so that we can get a decent read on the AD position G130M - PE (2) WD1657+343 Sequence 28-32 Non | 3 Secs COS/FUV. ACO/PEAKD. PSA G130M NUM-POS=5: AKD -Int in Verification V 1309 A STEP-SIZE=0.8 I = = > 1(COS.sa.389 isit @ Second Lifeti [2] 905) me Position (06) Comments: ACQ/PEAKD. COS.sa.389905 Gives S/N=40 for Segment A only in 1.2s, S/N=60 in 3s. The target should be offset by 1" in both AD and XD, so this is a challenging TA. G130M - C (2) WD1657+343 COS/FUV. TIME-TAG. PSA G130M BUFFER-TIME=20 Sequence 28-32 Non 60 Secs **ONFIRMA** -Int in Verification V 0; 1309 A TION SPEC isit @ Second Lifeti FP-POS=3; TRUM me Position (06) [2] (COS.sa.389 FLASH=YES 905) Comments: Confirmation Spectrum on Centered Target. 2x the normal exposure time to check AD centering





Proposal 12797 - Repeat of Verification Visit @ Second Lifetime Position (66) - Second COS FUV Lifetime Position: FUV Target Acqui

Proposal 12797, Repeat of Verification Visit @ Second Lifetime Position (66)

Diagnostic Status: Warning

Scientific Instruments: COS/NUV, COS/FUV

Special Requirements: ORIENT 129D TO 137.5 D; BETWEEN 23-JUL-2012 AND 20-AUG-2012

Comments: Test ACQ/PEAKXD for each grating, then perform two full TA sequences, one with G160M, one with G130M. Orientation for Visit 6 is (135 + 2.5, -6), which is good from Jul 24, to Aug 20, 2012. After that, we will need to change the roll angle and redefine the targets. We now start with a G130M PEAKXD to see if the SIAF file is off in the XD.

This is a repeat of Visit 6 to verify that all the COS FUV TA algorithms work together, and is our test of the new plate scales values.

(Repeat of Verification Visit @ Second Lifetime Position (66)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/PEAKXD.

(Repeat of Verification Visit @ Second Lifetime Position (66)) 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.

Diagnostics (Repeat of Verification Visit @ Second Lifetime Position (66)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACO/SEARCH should precede the ACO/IMAGE.

# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
(2) 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 vi	sible all year. The roll angle for the offsets is set to 18	0+/-2.5 (Jun 5-12, 2012)					
The original proposal used	pJS175297A and are [12,-32] mas/yr. [0.0014 sec of time/yr, -0.0342 "/yr]. 16 58 51.12 +34 18 53.3						
ICRS coord. (ep=J2000): 16 58 51.12 +34 18 53.3 The secondary target used is WD1657+343 and the exposure times are based on a spectrum provided by A. Aloisi (extrapolated in wavelength). The nominal exposure time For BOA/MIRRORB/NUV imaging the time is 98s (COS.ta.389915). For PSA/G130M/1309, we get S/N=60 in 2.6sec (COS.sa.389905). For PSA/G140L/1280, we get S/N=60 in 40 sec (COS.sa.389908).							

(21) NW-1.4AS

Fixed Targets

WD1657+343-OFFSET- Offset from WD1657+343 by RA Offset: 2.77778E-4 Degrees Radial Velocity: 78 km/sec

Radial Velocity: 78 km/sec

V=16.4+/-0.1

V=16.4+/-0.1

Offset Position (WD1657+343-OFFSET-NW-1.4AS)

Offset Position (WD1657+343-OFFSET-

Wed Jul 25 01:38:39 GMT 201

Reference Frame: ICRS

Reference Frame: ICRS

XD-1.0)

Comments: The new roll angle is set to 135+/-2.5. This target is offset 1" in -X, +Y or delta[AD,XD]=(1,-1)"

Dec Offset: -1.0 Arcsec

WD1657+343 offset for ACQ Sequence for a roll angle of 135 +/- 2.5

For PSA/G160M/1600, we get S/N=60 (Seg A) in 11 sec (COS.sa.389907).

 $(AD,XD)=(0,-1.0")=1"@45^{\circ} E \text{ of } N$

 $RA = + sart(2)''*cos(45^\circ) = +1'' = 0.00027777778^\circ$

DEC = -sqrt(2)"* $sin(45^\circ) = -1$ "

(22)WD1657+343-OFFSET- Offset from WD1657+343 by XD-1.0

RA Offset: 0.0 Degrees

Dec Offset: 1.0 Arcsec

Comments: The new roll angle is set to 135+/-2.5. This offset is 1" in -Y (XD).

WD1657+343 offset for ACQ/PEAKXD $(AD,XD)=(0,1.0^{\circ\prime\prime})=1^{\circ\prime\prime}$ to the S

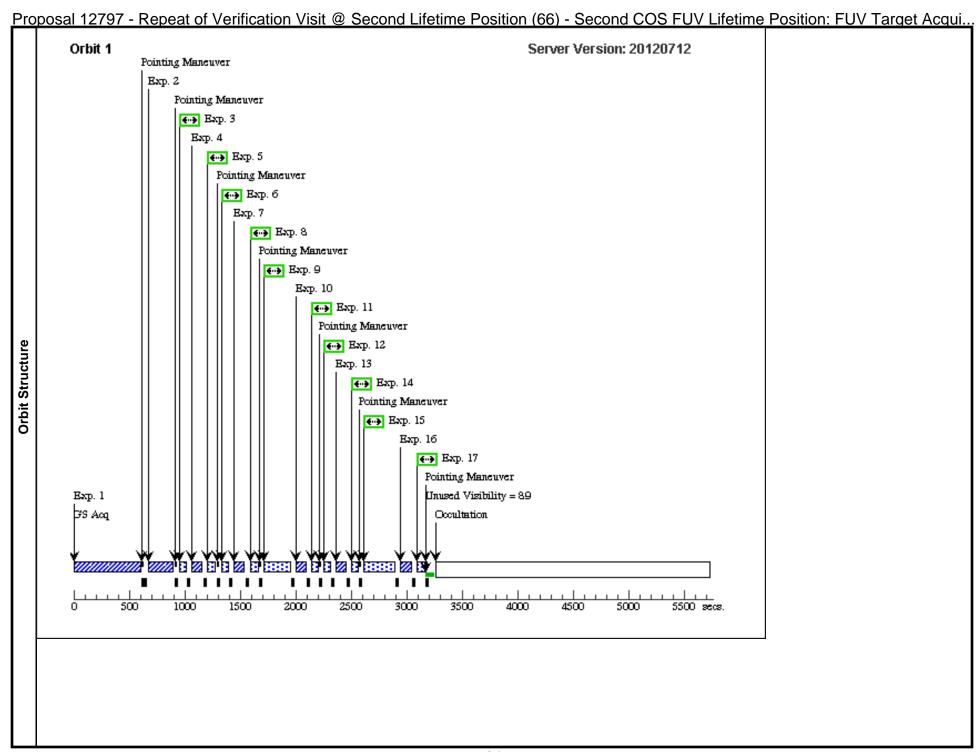
RA=0, DEC=+1.0"

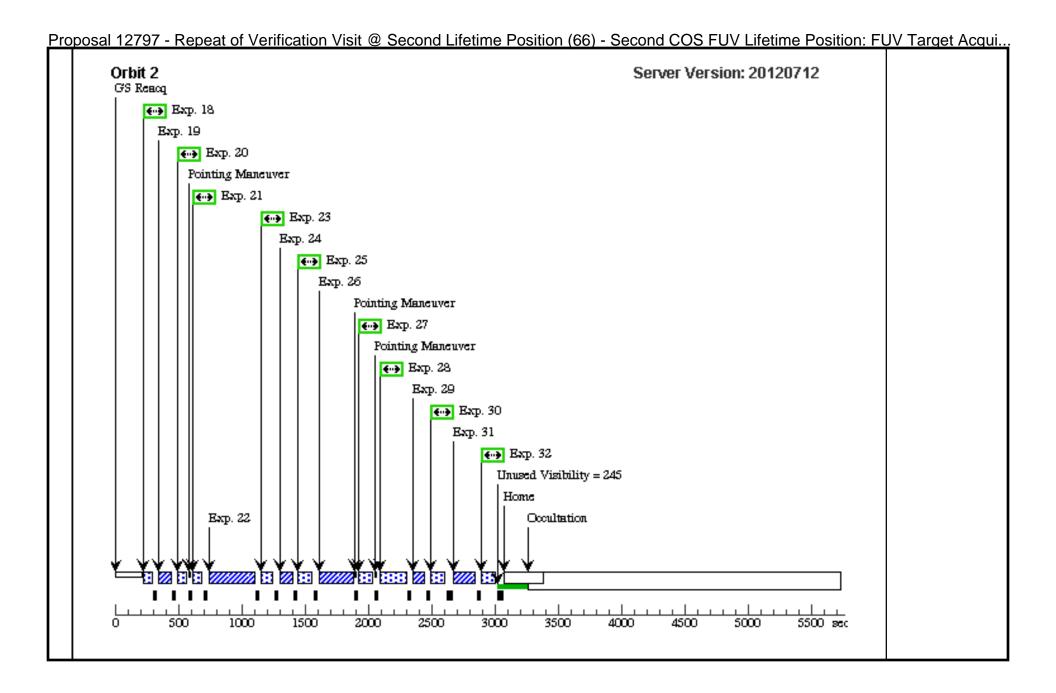
Proposal 12797 - Repeat of Verification Visit @ Second Lifetime Position (66) - Second COS FUV Lifetime Position: FUV Target Acqui. Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) 2 nuv a/im (2) WD1657+343 COS/NUV, ACQ/IMAGE, BOA MIRRORA GS ACO SCENARI 98 Secs (COS.ta.389 O BASE1BN3 I = = > 1[1] 915) Comments: NUV ACO/IMAGE with BOA+MIRRORA to define centering, COS.ta.389915 Requested Signal/Noise Ratio = 60.000 gives: Time = 98.1324 seconds G130M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA G130M 3 Secs AKXD - No 1309 A [==>] minal [1] (COS.sa.389 905) Comments: ACQ/PEAKXD at the nominal position to test any SIAF file issue in the XD. The expected count rate on segment A is 1600 counts in 1.16s, or about 4500 is 3s. G130M - O (22) WD1657+343- COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 3-5 Non-In 12 Secs FFSET SPE OFFSET-XD-1.0 t in Repeat of Verific 0: 1309 A ation Visit @ Second CTRUM FP-POS=3; [1] (COS.sa.389 Lifetime Position (66 905) FLASH=YES Comments: COS.sa.389910 gives S/N=60 in only in 2.6s, we go for 12 because that is the lamp flash time. G130M - PE (22) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA G130M Sequence 3-5 Non-In 3 Secs AKXD-XD- OFFSET-XD-1.0 t in Repeat of Verific 1309 A ation Visit @ Second 1.0 [1] (COS.sa.389 Lifetime Position (66 905) Comments: ACO/PEAKXD, see previous comment Exposures G130M - C (22) WD1657+343- COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 3-5 Non-In 20 Secs ONFIRMA OFFSET-XD-1.0 t in Repeat of Verific 0; 1309 A TION SPEC ation Visit @ Second FP-POS=3; TRUM Lifetime Position (66 [1] (COS.sa.389 FLASH=YES 905) Comments: Confirmation spectrum, COS.sa, 389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s, we go for 20s to get a good look. The actual count rate from Visit 1 was 0.07-0.14 counts/s/column, or a total count rate of ~1-2000 counts/segment/second. In 20s, we obtained 8-17 counts/RE. G130M - O (2) WD1657+343 COS/FUV, TIME-TAG. PSA G130M BUFFER-TIME=20 Sequence 6-8 Non-In 12 Secs FFSET SPE t in Repeat of Verific 0: 1309 A ation Visit @ Second CTRUM FP-POS=3: [1] (COS.sa.389 Lifetime Position (66 905) FLASH=YES Comments: COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s, we go for 12 because this is the lamp flash time G130M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA G130M Sequence 6-8 Non-In 3 Secs AKXD-XD t in Repeat of Verific 1309 A I = = > 1+1.0ation Visit @ Second [1] (COS.sa.389 Lifetime Position (66 905) Comments: ACQ/PEAKXD G130M - C (2) WD1657+343 G130M BUFFER-TIME=20 COS/FUV, TIME-TAG, PSA Sequence 6-8 Non-In 20 Secs **ONFIRMA** t in Repeat of Verific 1309 A TION SPEC ation Visit @ Second FP-POS=3; TRUM Lifetime Position (66 [1] (COS.sa.389 FLASH=YES Comments: Confirmation spectrum. COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s, we go for 20s to get a good look.

Proposal 12797 - Repeat of Verification Visit @ Second Lifetime Position (66) - Second COS FUV Lifetime Position: FUV Target Acqui... Sequence 9-11 Non-I 7 Secs G140L - BA (22) WD1657+343- COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=50 SELINE SP OFFSET-XD-1.0 nt in Repeat of Verifi 1280 A **ECTRUM** cation Visit @ Secon FP-POS=3: [1] (COS.sa.389 d Lifetime Position (908) FLASH=YES Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sG140L - PE (22) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA Sequence 9-11 Non-I 4 Secs G140L nt in Repeat of Verifi I==>1AKXD-XD- OFFSET-XD-1.0 1280 A cation Visit @ Secon 1.0 [1] (COS.sa.389 d Lifetime Position (908) 66) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sG140L - CO (22) WD1657+343- COS/FUV, TIME-TAG. PSA G140L BUFFER-TIME=70 Sequence 9-11 Non-I 10 Secs NFIRMATI OFFSET-XD-1.0 nt in Repeat of Verifi 0: 1280 A ON SPECT cation Visit @ Secon FP-POS=3; RUM d Lifetime Position ([1] (COS.sa.389 FLASH=YES 66) 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s 12 G140L - BA (2) WD1657+343 G140L COS/FUV, TIME-TAG, PSA BUFFER-TIME=50 Sequence 12-14 Non | 7 Secs SELINE SP -Int in Repeat of Veri 1280 A I = = > 1**ECTRUM** fication Visit @ Sec FP-POS=3; [1] (COS.sa.389 ond Lifetime Positio 908) FLASH=YES n (66) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s G140L - PE (2) WD1657+343 COS/FUV, ACO/PEAKXD, PSA G140L Sequence 12-14 Non | 4 Secs AKXD-XD -Int in Repeat of Veri 1280 A r = > 1+1.0fication Visit @ Sec (COS.sa.389 ond Lifetime Positio [1] 908) n (66) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527s G140L - CO (2) WD1657+343 COS/FUV, TIME-TAG, PSA G140L BUFFER-TIME=50 Sequence 12-14 Non 10 Secs NFIRMATI -Int in Repeat of Veri 1280 A I = = > 1ON SPECT fication Visit @ Sec FP-POS=3: RUM ond Lifetime Positio [1] (COS.sa.389 FLASH=YES n (66) 908) Comments: COS.sa.389908 Gives S/N=60 for Seg A only in 4s. (BT=2/3*790)=527sSequence 15-17 Non 22 Secs G160M - B (22) WD1657+343- COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=70 ASELINE S OFFSET-XD-1.0 -Int in Repeat of Veri 1600 A PECTRUM fication Visit @ Sec FP-POS=3; [1] (COS.sa.389 ond Lifetime Positio 907) FLASH=YES n (66) Comments: Spectrum of source to check centering. G160M - PE (22) WD1657+343- COS/FUV, ACO/PEAKXD, PSA G160M Sequence 15-17 Non 11 Secs AKXD-XD- OFFSET-XD-1.0 -Int in Repeat of Veri 1600 A 1.0 fication Visit @ Sec [1] (COS.sa.389 ond Lifetime Positio 907) n (66) Comments: ACQ/PEAKD on -1.0" offset G160M - C (22) WD1657+343- COS/FUV, TIME-TAG, PSA BUFFER-TIME=70 Sequence 15-17 Non 22 Secs G160M -Int in Repeat of Veri I==>1ONFIRMA OFFSET-XD-1.0 1600 A TION SPEC fication Visit @ Sec FP-POS=3; TRUM ond Lifetime Positio [1] (COS.sa.389 FLASH=YES n (66) Comments: COS.sa.389907. Gives S/N=60 for Segment A only in 10.8, wo go for 12 secs, the lamp flash time. BT=2/3*1.412 or ~1.000. We use 700 to be safe.

### PEAKXD (2) WD1657+343 C	COS/FUV, ACQ/PEAKXD, PSA COS/FUV, TIME-TAG, PSA COS/FUV, TIME-TAG, PSA O for Segment A only in 10.8. wo go for COS/FUV, ACQ/SEARCH, PSA	G160M 1600 A G160M 1600 A G160M 1600 A	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W T-FLR;	Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66)	11 Secs [==>]	[2]
E (2) WD1657+343 PS (2) WD1657+343 C (2) WD1657+343 C (2) WD1657+343 C (21) WD1657+343- E OFFSET-NW-1.4AS (21) WD1657+343- C (21) WD1657+343-	COS/FUV, TIME-TAG, PSA COS/FUV, TIME-TAG, PSA 0 for Segment A only in 10.8. wo go j	G160M 1600 A G160M 1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66)	==>	[2]
### PEAKXD (2) WD1657+343 C	COS/FUV, TIME-TAG, PSA COS/FUV, TIME-TAG, PSA 0 for Segment A only in 10.8. wo go j	G160M 1600 A G160M 1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66) sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Position (66)	==>	[2]
7/PEAKXD 2 (2) WD1657+343 3 (2) WD1657+343 4 (21) WD1657+343-4 (21) WD1657+343-5 (21) WD1657+343-6 (21) WD1657+345-6 (21) WD1657+345-6 (21) WD1657+345-6 (21) WD1657+345-6 (21) WD1657+345-6 (21) WD1657-6 (21) WD1657-6 (21) WD1657	COS/FUV, TIME-TAG, PSA 0 for Segment A only in 10.8. wo go j	G160M 1600 A G160M 1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	Sequence 18-20 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) Sequence 21-27 Non -Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) se safe. Sequence 21-27 Non	22 Secs [==>] 22 Secs [==>]	[2]
rmation spectrum 0 (21) WD1657+343 C OFFSET-NW-1.4AS 1. (21) WD1657+343- 2. (21) WD1657+343- 3. (21) WD1657+343- C OFFSET-NW-1.4AS	COS/FUV, TIME-TAG, PSA 0 for Segment A only in 10.8. wo go j	G160M 1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Verification Visit @ Sec ond Lifetime Position (66) Sequence 21-27 Non -Int in Repeat of Verification Visit @ Sec ond Lifetime Position (66) se safe. Sequence 21-27 Non	==>	
rmation spectrum (21) WD1657+343- (27) WD1657+343- (28) Sa.389907. Gives S/N=6 (21) WD1657+343- (21) WD1657+343-	COS/FUV, TIME-TAG, PSA 0 for Segment A only in 10.8. wo go j	G160M 1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Verification Visit @ Sec ond Lifetime Position (66) Sequence 21-27 Non -Int in Repeat of Verification Visit @ Sec ond Lifetime Position (66) se safe. Sequence 21-27 Non	==>	
c (21) WD1657+343- E OFFSET-NW-1.4AS 19 19 19 19 19 19 19 19 19 19	0 for Segment A only in 10.8. wo go j	G160M 1600 A for 4x that. BT= G160M	FP-POS=3; FLASH=YES BUFFER-TIME=70 0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	fication Visit @ Sec ond Lifetime Position (66) Sequence 21-27 Non-Int in Repeat of Verification Visit @ Sec ond Lifetime Position (66) se safe. Sequence 21-27 Non-	22 Secs [==>] 8 Secs	
(21) WD1657+343- E OFFSET-NW-1.4AS (9) .sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS	0 for Segment A only in 10.8. wo go j	1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) e safe. Sequence 21-27 Non	[==>] 8 Secs	[2]
sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS	0 for Segment A only in 10.8. wo go j	1600 A for 4x that. BT= G160M	0; FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	-Int in Repeat of Veri fication Visit @ Sec ond Lifetime Positio n (66) e safe. Sequence 21-27 Non	[==>] 8 Secs	[2]
sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS	, 0 ,	for 4x that. BT= G160M	FP-POS=3; FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	ond Lifetime Position (66) e safe. Sequence 21-27 Non	8 Secs	[2]
.sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS	, 0 ,	G160M	FLASH=YES 2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	ond Lifetime Positio n (66) e safe. Sequence 21-27 Non		[2]
(21) WD1657+343- C OFFSET-NW-1.4AS	, 0 ,	G160M	2/3*1,412 or ~1,000. We use 700 to be CENTER=FLUX-W	e safe. Sequence 21-27 Non		
(21) WD1657+343- C OFFSET-NW-1.4AS	, 0 ,	G160M	CENTER=FLUX-W	Sequence 21-27 Non		
C OFFSET-NW-1.4AS	COS/FUV, ACQ/SEARCH, PSA					
		1600 A	T TER,			
9			SCAN-SIZE=3	fication Visit @ Sec ond Lifetime Positio n (66)	[==>]	[2]
.sa.389907. Gives S/N=6	0 for Segment A only in 10.8.					·
	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70	Sequence 21-27 Non	44 Secs	
		1600 A	0;	-Int in Repeat of Veri	[==>]	
9			FP-POS=3; FLASH=YES	ond Lifetime Positio n (66)		[2
.sa.389907. Gives S/N=6	0 for Segment A only in 10.8. wo go t	for 4x that. BT=	2/3*1,412 or ~1,000. We use 700 to be	e safe.		
(21) WD1657+343-		G160M	,	C 21 27 N	11 Secs	
X OFFSET-NW-1.4AS		1600 A		-Int in Repeat of Veri	[==>]	
9				ond Lifetime Positio n (66)		[2
.sa.389907. Gives S/N=6	0 for Segment A only in 10.8.					•
(21) WD1657+343-	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70	Sequence 21-27 Non	60 Secs	
OFFSET-NW-1.4AS		1600 A	0;	-Int in Repeat of Veri	[==>]	
9			FP-POS=3; FLASH=YES	ond Lifetime Positio n (66)		[2
	Sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS 9 Sa.389907. Gives S/N=6 (21) WD1657+343- C OFFSET-NW-1.4AS	Sa.389907. Gives S/N=60 for Segment A only in 10.8. wo go. (21) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA OFFSET-NW-1.4AS 9 sa.389907. Gives S/N=60 for Segment A only in 10.8. (21) WD1657+343- COS/FUV, TIME-TAG, PSA OFFSET-NW-1.4AS	Sa.389907. Gives S/N=60 for Segment A only in 10.8. wo go for 4x that. BT= (21) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA G160M (32) Gives S/N=60 for Segment A only in 10.8. (21) WD1657+343- COS/FUV, TIME-TAG, PSA G160M (32) GIVES S/N=60 for Segment A only in 10.8. (21) WD1657+343- COS/FUV, TIME-TAG, PSA G160M (32) GFSET-NW-1.4AS G160M (33) GFSET-NW-1.4AS	OFFSET-NW-1.4AS 1600 A 0; FP-POS=3; FLASH=YES	OFFSET-NW-1.4AS 1600 A 1600	C

Proposal 12797 - Repeat of Verification Visit @ Second Lifetime Position (66) - Second COS FUV Lifetime Position: FUV Target Acqui. G160M - A (21) WD1657+343- COS/FUV, ACQ/PEAKD, PSA G160M NUM-POS=7; Sequence 21-27 Non 10 Secs CO/PEAKD OFFSET-NW-1.4AS -Int in Repeat of Veri 1600 A STEP-SIZE=0.45 on OFFSET fication Visit @ Sec [2] (COS.sa.389 ond Lifetime Positio 907) n (66) Comments: ACQ/PEAKD. COS.sa.389907 G160M - C (21) WD1657+343- COS/FUV, TIME-TAG, PSA G160M BUFFER-TIME=70 POS TARG 0.333,nu Sequence 21-27 Non 60 Secs -Int in Repeat of Veri I==>1ONFIRMA OFFSET-NW-1.4AS 11 1600 A TION SPEC fication Visit @ Sec FP-POS=3; ond Lifetime Positio TRUM [2] (COS.sa.389 FLASH=YES n (66) 907) Comments: COS.sa.389907. Gives S/N=60 for Segment A only in 10.8. wo go for 4x that. BT=2/3*1.412 or $\sim 1,000$. We use 700 to be safe. G130M - O (2) WD1657+343 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 28-32 Non | 20 Secs FFSET SPE -Int in Repeat of Veri 0: 1309 A I = = > 1fication Visit @ Sec CTRUM FP-POS=3: [2] (COS.sa.389 ond Lifetime Positio FLASH=YES 905) n (66) Comments: Baseline spectrum, we last centered 1" off in both XD and AD, so this spectrum should be off center. COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s. BT=2/3*476G130M - PE (2) WD1657+343 COS/FUV, ACQ/PEAKXD, PSA G130M Sequence 28-32 Non 3 Secs AKXD -Int in Repeat of Veri 1309 A I = = > 1(COS.sa.389 fication Visit @ Sec [2] ond Lifetime Positio 905) n (66) Comments: ACQ/PEAKXD. COS.sa.389905 Gives = 40.000 for Segment A only in 1.16 S/N=60 in 3s. The target should be offset by 1" in both AD and XD, so this is a challenging TA. G130M - C (2) WD1657+343 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 28-32 Non 60 Secs **ONFIRMA** -Int in Repeat of Veri 1309 A TION SPEC fication Visit @ Sec FP-POS=3: TRUM ond Lifetime Positio [2] (COS.sa.389 FLASH=YES n (66) 905) Comments: Confirmation spectrum, did we center in XD? This is a longer exposure so that we can get a decent read on the AD position G130M - PE (2) WD1657+343 COS/FUV, ACO/PEAKD, PSA G130M NUM-POS=5; Sequence 28-32 Non 3 Secs AKD -Int in Repeat of Veri 1309 A STEP-SIZE=0.8 I==>1(COS.sa.389 fication Visit @ Sec [2] 905) ond Lifetime Positio n (66) Comments: ACO/PEAKD. COS.sa.389905 Gives S/N=40 for Segment A only in 1.2s, S/N=60 in 3s. The target should be offset by 1" in both AD and XD, so this is a challenging TA. G130M - C (2) WD1657+343 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 28-32 Non 60 Secs ONFIRMA -Int in Repeat of Veri 0; 1309 A TION SPEC fication Visit @ Sec FP-POS=3; TRUM ond Lifetime Positio [2] (COS.sa.389 FLASH=YES n (66) 905) Comments: Confirmation Spectrum on Centered Target. 2x the normal exposure time to check AD centering





Proposal 12797 - ACQ/SEARCH TEST (11) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FENA4)

Proposal 12797, ACO/SEARCH TEST (11), implementation Wed Jul 25 01:38:42 GMT 2012 **Diagnostic Status: Warning** Scientific Instruments: COS/NUV, S/C, COS/FUV Special Requirements: SCHED 100%; ORIENT 192.5D TO 197.5 D; ON HOLD Comments: ACQ/SEARCH Test. The target is AVZ18 (the SMOV TA target). For a 3x3x1" spiral pattern, the telescope slew is [AD,XD] 0.000.001.00 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 $195 \pm .2.5$ degrees, 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" ACO/SEARCH on the target. On Hold Comments: ACO/SEARCH TEST w/o HV reset to simulate actual timing (ACO/SEARCH TEST (11)) 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. gnostic (ACQ/SEARCH TEST (11)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE. (ACO/SEARCH TEST (11)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACQ/SEARCH TEST (11)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACO/SEARCH TEST (11)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACO/SEARCH TEST (11)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE Name **Target Coordinates** Targ. Coord. Corrections Fluxes Miscellaneous (1) AZV18 Reference Frame: ICRS RA: 00 47 12.1700 (11.8007083d) Proper Motion RA: -0.0003 sec of time/yr V = 12.48Dec: -73 06 32.68 (-73.10908d) Proper Motion Dec: -0.0035 arcsec/yr (B-V)=+0.04Equinox: 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) ixed Tar V=12.48 (11)AZV18-OFFSET-NE-Offset from AZV18 by Offset Position (AZV18-OFFSET-NE-1.4AS 1.4AS) RA Offset: -3.7945E-4 Degrees (B-V)=+0.04Reference Frame: ICRS 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 190 +/- 2.5 degree. AZV18 offset for ACO/SEARCH (AD,XD)=(-1",-1")=-sqrt(2")@10°N of W RA = -sqrt(2)"* $cos(10^{\circ}) = -1.3927$ "= -0.000386869° DEC = + sqrt(2)"* $sin(10^\circ) = 0.24558$ " 3/26/12: Target changed to 195 +/- 2.5 degrees AZV18 offset for ACO/SEARCH (AD,XD)=(-1'',-1'')=-sqrt(2'')@ 15°N of W RA = -sqrt(2)"* $cos(15^{\circ}) = -1.36603$ " = -0.00037945°

DEC = + sqrt(2)"* $sin(15^{\circ}) = 0.366025$ "

Proposal 12797 - ACQ/SEARCH TEST (11) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FENA4) Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) 2 nuv a/im (1) AZV18 COS/NUV, ACQ/IMAGE, BOA MIRRORA 27 Secs (COS.ta.360 I = = > 1[1] 711) Comments: NUV ACO/IMAGE with BOA+MIRRORA to refine centering. COS.ta.360711, gives S/N=60.000 in 27.4 seconds S/C to updat DARK S/C, DATA, NONE SPEC COM INSTR 8 Secs e the G130 ELOSMPATCH; I==>1M/1309 focu **QESIPARM ACTIO** s from 170 t N REPLACE; o 290 (+120 **OESIPARM GRATI** NG G130M: [1] OESIPARM CENT WAVE 1309; **OESIPARM FOCUS** 290 Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; $const\ pcmech_OSM_position_table_struct\ pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = \\$ { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ Exposures {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */ G130M - B (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=60 180 Secs ASELINE S 0; 1309 A I = = > 1PECTRUM FP-POS=3; (COS.sp.360 698) FLASH=S0090D03 [1] LIFETIME-POS=A LTERNATE Comments: Spectrum of source to define correct location of star when it is centered in NUV. (COS.sp.360698, simulates S/N=10 per RE in 182s) BT=986*(2/3) = 629. This spectrum will be used to define the WCA-to -PSA offset for the G130M. 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 BEFORE THE CYCLE 20 ETC UPDATE TO ETC20.1.1** (This is a good thing since it is probably closer to reality than the pessimistic sensitivities used in ETC20.1.1) The G140L and G160M ETC simulations were made using 20.1.1 and will be scaled back to match the G1 30M sensitivities assumed here. The ETC20.1.1 Simulation of the G130M/1309 (COS.sp.389705) gives S/N/RE=10 in 258s. Our scaling factor is therefore >=182/258=0.71 to convert from ETC20.1.1 today. (We will use 0.75 for simplicity) G130M - P (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=60 POS TARG 1.0,null 20 Secs OSTARG + 0: 1309 A [==>1 SPECTRU FP-POS=3; M1(1,0)FLASH=YES; (COS.sa.360 [1] 701) LIFETIME-POS=A LTERNATE

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))

5	G130M - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI	RG 1.0,1.0	20 Secs	
	OSTARG +	,	1309 A	0;	,	[==>]	
	SPECTRU M2 (1,1)(Co			FP-POS=3;			
	rner)			FLASH=YES;			[1]
	(COS.sa.360 701)			LIFETIME-POS=A LTERNATE			
Com	ments: POSTARG TO SIMULA	TE ACQ/SEARCH					
6	G130M - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI	RG 0,1.0	20 Secs	
	OSTARG + SPECTRU		1309 A	0;		[==>]	
	M3 (0,1)			FP-POS=3;			-
	(COS.sa.360 701)			FLASH=YES;			[1
	, (1)			LIFETIME-POS=A LTERNATE			
Сот	ments: POSTARG TO SIMULA	~				T	
7	G130M - P (1) AZV18 OSTARG +	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI 0;	RG -1,1	20 Secs	
	SPECTRU		1309 A	FP-POS=3;		[==>]	
	M4 (-1,1) (C orner)			FLASH=YES:			/1
	(COS.sa.360			LIFETIME-POS=A			11
	701)			LTERNATE			
	ments: POSTARG TO SIMULA	~				T	
8	G130M - P (1) AZV18 OSTARG +	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI 0;	RG -1,null	20 Secs	
	SPECTRU		1309 A	FP-POS=3;		[==>]	
	M5 (-1,0) (COS.sa.360			FLASH=YES;			[1
	701)			LIFETIME-POS=A LTERNATE			
Com	ments: POSTARG TO SIMULA	TE ACO/SEARCH					
9	G130M - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI	RG -1,-1	20 Secs	
	OSTARG +		1309 A	0;		[==>]	
	SPECTRU M6 (-1,-1) (FP-POS=3;			
	Corner)			FLASH=YES;			[1
	(COS.sa.360 701)			LIFETIME-POS=A LTERNATE			
Com	ments: POSTARG TO SIMULA	TE ACO/SEARCH		BIERWITE			
	G130M - P (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI	RG 0,-1	20 Secs	
	OSTARG + SPECTRU		1309 A	0;		[==>]	
	M7 (0,-1)			FP-POS=3;			
	(COS.sa.360			FLASH=YES;			[1
	701)			LIFETIME-POS=A LTERNATE			
	ments: POSTARG TO SIMULA					1.0.0	ı
11	G130M - P (1) AZV18 OSTARG +	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 POS TAI 0;	RG 1,-1	20 Secs	
	SPECTRU		1309 A	FP-POS=3;		[==>]	
	M8 (1,-1) (C orner)			FLASH=YES;			[1
	(COS.sa.360			LIFETIME-POS=A			
	701)			LTERNATE			1

ropo	sal 12797	7 - ACQ/SEAF	RCH TEST (11) - Seco	nd COS FU\	V Lifetime Posi	ition: FUV Target Acquisitio	n Parameter Update {FE	NA4}
12	G130M - A	(1) AZV18	COS/FUV, ACQ/SEARCH, PSA	G130M	SCAN-SIZE=3;		2 Secs	
	CQ/SEARC H			1309 A	STEP-SIZE=1.0;		I = = > J	
	(COS.sa.360 701)				LIFETIME-POS=A LTERNATE			[1]
Con	nments: 3x3x1.	0" ACQ/SEARCH on t	the centered target. COS.sa.360701, S.	N = 60 is reached i	in 2 seconds $(A+B)$.			
13		(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		115 Secs	
	ASELINE S PECTRUM			1309 A	0;		[==>]	
	(COS.sp.360				FP-POS=3;			647
	698)				FLASH=YES; LIFETIME-POS=A			[1]
					LTERNATE			
	nments: Spectri S/N/RE=8.	um of source to verify	that the ACQ/SEARCH improved the	target centering for	3x3x1". (COS.sp.360696	8). $BT=986*(2/3) = \sim 630$. $182s$ gives S/N/RE	=10. 182s*0.64=116s. We use ~116 sec	conds to g
14			COS/FUV, ACQ/SEARCH, PSA	G130M	SCAN-SIZE=3;		2 Secs	
	CQ/SEARC H	T-NE-1.4AS		1309 A	STEP-SIZE=1.767;		I = = > J	
	(COS.sa.360 701)				LIFETIME-POS=A LTERNATE			[1]
Con	nments: 3x3x1.	767" ACQ/SEARCH. (COS.sa.360701, $S/N = 60$ is reached i	$n \ 2 \ (A+B) \ seconds.$	This is performed on the	e fictious target 1" to the NE, so the actual ta	rget is actually 1" to the SW.	
15			COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		115 Secs	
	PECTRUM	ASELINE S T-NE-1.4AS		1309 A	0; FP-POS=3;		[==>]	
	(COS.sp.360 698)				FF-POS=5; FLASH=YES:			[1]
	070)				LIFETIME-POS=A LTERNATE			[1]
Cor	umanta. Cnaatu	um of source to varify	accurate centering (COS.sp.360698).	PT_096*(2/2) = 6		-10		
BT=	=182*0.64=110	5. We use ~115 second	ls to get ~S/N/RE=8.	B1 = 900 ·(2/3) = ~0	30. 1628 gives 3/11/KE=	10.		
16	S/C to RES		S/C, DATA, NONE			SPEC COM INSTR	8 Secs	
	ET the G130 M/1309 focu					ELOSMPATCH;	[==>]	
	S					QESIPARM ACTIO N REPLACE;		
						QESIPARM GRATI NG G130M;		[1]
						QESIPARM CENT WAVE 1309;		
						QESIPARM FOCUS 170		
Con	nments: Specia	l Commanding to rese	t the G130M/1309 settings with the or	iginal focus, the SC	R 344 FSW position (17	70).		

Proposal 12797 - ACQ/SEARCH TEST (11) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {FENA4} Orbit 1 Server Version: 20120712 Pointing Maneuver Exp. 2 ۥ•**>** Exp. 3 Pointing Maneuver €--> Exp. 4 Pointing Maneuver ۥ• Exp. 5 Pointing Maneuver **€--**∍ Ехф. б Pointing Maneuver ۥ• Exp. 7 Pointing Maneuver **€-->** Exp. 8 **Orbit Structure** Pointing Maneuver €-- Exp. 9 Pointing Maneuver ۥ• Exp. 10 Pointing Maneuver € ¥ Exp. 11 Pointing Maneuver € 3 Exp. 13 Pointing Maneuver ۥ• Exp. 15 Unused Visibility = 13 Occultation Ехр. 16 Exp. 1 Exp. 12 FS Acq Exp. 14 Home 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec

Proposal 12797 - ACQ/PEAKD TEST (12) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FENA4)

Proposal 12797, ACQ/PEAKD TEST (12), implementation

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; ORIENT 192.5D TO 197.5 D; AFTER 11 BY 0 D TO 7 D; ON HOLD

isit

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.

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

The roll angle is constrained to $195 \pm ... \pm ... \pm ... \pm ... \pm ... \pm ... \pm 100\%$.

On Hold Comments: ACQ/PEAKD TEST w/o HV reset to simulate actual timing

(ACQ/PEAKD TEST (12)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKD TEST (12)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

(ACQ/PEAKD TEST (12)) 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 (12)) Warning (Orbit Planner): VISIBILITY OVERRUN

(ACQ/PEAKD TEST (12)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	AZV18	RA: 00 47 12.1700 (11.8007083d) Dec: -73 06 32.68 (-73.10908d) Equinox: J2000	Proper Motion RA: -0.0003 sec of time/yr Proper Motion Dec: -0.0035 arcsec/yr Epoch of Position: 2000	V=12.48 (B-V)=+0.04	Reference Frame: ICRS
	Comments	s: B2Ia, Magellanic Clouds	s. Nominal ETC exposure times from spectrus	•		
	FUV, G13 FUV, G14	40L, 1105: 038s S/N=10 sp	n.360711) sa.360701) & 182s S/N=10 spectroscopy (CO. pectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	S.sp.360698)		
	(13)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-AD+0.3)
		AD+0.3	RA Offset: -4.16667E-5 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: 0.259808 Arcsec			
gets		s: This target WILL BE offs ngle the second week of Ap	set +0.3" in +AD direction. oril is 190+/-2.5d (visit 2)			
ed Tarç	RA = -0.3"	offset = (-0.3",0)=-0.3"@5 *cos(55°)=-0.172073" =-0 3"*sin(55°)= 0.245746"				
FİX	AZV18 off. RA=-0.3"	Farget changed to 195 +/-2 fset#1 for ACQ/PEAKD (-0 *cos(60°)=-0.15"=-0.0000 3"*sin(60°)= 0.259808"	$0.3'',0) = -0.3'' @ 60^{\circ} N \text{ of } W$			
	(14)	AZV18-OFFSET-AD-0	.5 Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-AD-0.5)
			RA Offset: 6.9444E-5 Degrees		(B-V)=+0.04	Reference Frame: ICRS
			Dec Offset: -0.433013 Arcsec			
		s: This target WILL BE offs ngle the second week of Ap	set -0.5" in the -AD direction. oril is 190+/-2.5d (visit 2)			
	RA=0.5"*	=0.5"@55° N of W icos(55°)=0.286788"=0.00 5"*sin(55°)=-0.409576"	000796633°			
	RA = 0.5"*	Farget changed to 195 +/-2 cos(60°)=0.25" =0.000065 5"*sin(60°)=-0.433013"	2.5 degrees (+0.5",0)=0.5"@60° N of W 9444°			

7	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	L		(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI O BASE1BN3; QASISTATES COS		28 Secs [==>]	
							FUV HVSEGA HVS EGA			[1]
(Comi	ments: NUV A	CQ/IMAGE with BO	OA+MIRRORA to refine centering. (CC)S92525 gives S/N =	= 60 in 28s)				
3	Γhe I	FUV qasistate:	s s.r. is specifically f	for maintaining the FUV in the HVSEG.	A state.					
į	<i>SQL</i>	is required for	r the dump created l	by this exposure. The FUV state should	l be changed to HVS	SEGA.			1	-
2		S/C to updat e the G140L	DARK	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;		8 Secs	
		/1105 focus (-370+0)					QASISTATES COS FUV HVSEGA HVS EGA;		[==>]	
							QESIPARM ACTIO N REPLACE;)		
							QESIPARM GRATI NG G140L;	I		[1]
							QESIPARM CENT WAVE 1105;			
							QESIPARM FOCUS	5		
δί		ments: Special ocus value.	l Commanding to ov	verwrite the G140L/1105 settings with the	he SLP focus positic	on. Right now, this is j		osition (-370), the cor	ntingency visit of 12796 will give us the	e actual updat
Exposures	The S con.	nst pcmech_OS {1, 110 {1, 123	SM_position_table_s 05, 1598, -370, 350 30, 1591, -30, 3505	ocus G140L positions; struct pcmech_OSMTbl[MECH_OSM_1 192, 39716], /* G140L, OSM1 */ 55, 39680], /* G140L, OSM1 */ 50, 39675}, /* G140L, OSM1 */	ΓABLE_SIZE] =					
3	3	S/C to updat e the G140L	DARK	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;		8 Secs	
		/1280 focus (19+0)					QESIPARM ACTIO N REPLACE;	•	[==>]	
							QESIPARM GRATI NG G140L;	I		[1]
							QESIPARM CENT WAVE 1280;			
							QESIPARM FOCUS 19	S		
		ments: Special s value.	l Commanding to ov	verwrite the G140L/1280 settings with the	he SLP focus positic	on. Right now, this is j	ust the current lifetime po	osition (19), the conti	ingency visit of 12796 will give us the c	actual updated
7	The S	SCR 344 FSW ist pcmech_OS	has the following fo SM_position_table_s	ocus G140L positions; ttruct pcmech_OSMTbl[MECH_OSM_1	TABLE_SIZE] =					
		{1, 123	30, 1591, -30, 3505	92, 39716}, /* G140L, OSM1 */ 55, 39680}, /* G140L, OSM1 */ 50, 39675}, /* G140L, OSM1 */						
		• /	,, ,	-,,						

<u>oosal 12797 - ACQ/P</u>	<u>'EAKD TEST (12) - Secor</u>	<u>nd COS FU</u>	<u> V Lifetime Position: FL</u>	<u>JV Target Acqu</u>	<u>isition Parameter Updat</u>	<u>:e {FENA4}</u>
G140L/1105 (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		30 Secs	
- BASELIN E SPECTR		1105 A	0; FP-POS=3;		[==>]	
UM (COS.sp.389			FLASH=S0200D03			
720)			0;			[1]
			WAVECAL=YES;			
			LIFETIME-POS=A LTERNATE			
COS.sp.389720 gives $S/N/RE = 10$	define the G140L/1105 XD location of ta o at1400.00 Å in 38.5800 seconds. We don our lamp flash). BT=2/3 (838*0.75) = 42	't bother to scale tl	ered w/ NUV ACQ/IMAGE. nis, because the			
5 FUV HV R DARK	S/C, DATA, NONE	,	SAA CO	ONTOUR 31;	418 Secs	
AMPUP (16 7/163)			SPEC C ELHLT	OM INSTR HVF;	[==>]	
				CATES COS VLOW HVN		[1]
			QESIPA TSA 16'	ARM ENDC 7;		
			QESIPA TSB 163	ARM ENDC		
Comments: SOL required for aexn	osure to specify the si_used = "COS".		135 10.	,		
The special commanding here sets	the the nominal high voltage for this visit very positive unit of offset is required. The	(HVNOM) for seg refore, the rampup	ments A and B (ENDCTSA and END) time is 403+(167-162)*3 = 418	CTS B) to 167 and 163, r	respectively. 403s is the correct rampi	up time for 162/159. A
6 G140L/1280 (1) AZV18 - BASELIN	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		36 Secs	
E SPECTR		1280 A	0; FP-POS=3;		[==>]	
UM (COS.sp.389 720)			FLASH=S0200D03 6;			[1]
, 20,			WAVECAL=YES;			[1]
			LIFETIME-POS=A LTERNATE			
COS.sp.389720 gives $S/N/RE = 10$	define the G140L/1280 XD location of ta) at 1400.00 Å in 38.5800 seconds. We doi our lamp flash). BT=2/3 (838*0.75) = 42	ı't bother to scale t	ered w/ NUV ACQ/IMAGE. his, because the			

<u> Proposal 12797 - ACQ/PEAKD TEST (12) - Second COS FUV Lifeti</u>	<u>ime Position: FUV Target Acqu</u>	isition Parameter Update {	FENA4}
7 S/C to updat DARK S/C, DATA, NONE	SPEC COM INSTR	8 Secs	
e the G160 M/1577 focu s from -384 t	ELOSMPATCH; QESIPARM ACTIO N REPLACE;	[==>]	
o -224 (+16 0)	QESIPARM GRATI NG G160M;		[1]
	QESIPARM CENT WAVE 1577;		[2]
	QESIPARM FOCUS -224		
Comments: Special Commanding to overwrite the G160M/1577 settings with the SLP focus position. FEN o -224.	AA3 Results suggest we need a +160 focus step adju	astment from these values. So, G160M/1577	goes from -384 t
The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =			
8 S/C to updat DARK S/C, DATA, NONE e the G160	SPEC COM INSTR ELOSMPATCH;	8 Secs [==>]	
M/1600 focu s from -44 to +116 (+160)	QESIPARM ACTIO N REPLACE;	[>]	
+110 (+100)	QESIPARM GRATI NG G160M;		[1]
	QESIPARM CENT WAVE 1600;		1-7
	QESIPARM FOCUS 116		
Comments: Special Commanding to overwrite the G160M/1600 settings with the SLP focus position. FEN. +116.	A3 Results suggest we need a +160 focus step adju	astment from these values. So, G160M/1600	goes from -44 to
The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =			

	S/C to updat DARK	S/C, DATA, NONE			SPEC COM INSTR	8 Secs	
	e the G160 M/1623 focu				ELOSMPATCH; QESIPARM ACTIO	[==>]	
	s from +296 to +456 (+1				N REPLACE;		
	60)				QESIPARM GRATI NG G160M;		[1]
				(QESIPARM CENT		
				(WAVE 1623; QESIPARM FOCUS		
		overwrite the G160M/1623 settings with	the SLP focus po		456 st we need a +160 focus step ad	justment from these values. So, G160)M/1623 goes from +29
to +	456.						
The con	{2, 1577, 11203, -384, 1 {2, 1589, 11199, -214, 1 {2, 1600, 11195, -44, 18 {2, 1611, 11191, 126, 1	focus G160M positions; struct pcmech_OSMTbl[MECH_OSM_ 8693, 23323}, /* G160M, OSM1 */ 8671, 23301}, /* G160M, OSM1 */ 8651, 23281}, /* G160M, OSM1 */ 8631, 23261}, /* G160M, OSM1 */ 8609, 23239}, /* G160M, OSM1 */	TABLE_SIZE] =				
10	G160M/157 (1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=48		36 Secs	
	7 - BASELI NE SPECT		1577 A	0; ED DOG 2:		[==>]	
	RUM (COS.sp.389			FP-POS=3; FLASH=S0200D03			
	715)			6;			[1]
				WAVECAL=YES;			
				LIFETIME-POS=A LTERNATE			
Com	unents: Spectrum of source to de	fine WCA location for G160M/1623, E1	S = LAMP TIME =	LTERNATE			
COS	S.sp.389715 (ETC20.1.1) gives S/	/N/RE=10 @ 1610A in 287s. (BT=2/3*9	956=640). We atte	LTERNATE 36s. mpt to scale this			
COS to A	S.sp.389715 (ETC20.1.1) gives S/ pril 2012 by multiplying by 0.75	/N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atte 180s (we use 420 to	LTERNATE 36s. mpt to scale this obe safe).		200 Secs	
COS to A	S.sp.389715 (ETC20.1.1) gives S/ pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI	/N/RE=10 @ 1610A in 287s. (BT=2/3*9	956=640). We atte 180s (we use 420 to G160M	LTERNATE 36s. mpt to scale this		200 Secs I == > I	
COS to A	S.sp.389715 (ETC20.1.1) gives S/pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18	/N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atte 180s (we use 420 to	LTERNATE 36s. mpt to scale this o be safe). BUFFER-TIME=48		200 Secs [==>]	
COS to A	S.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389	/N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atte 180s (we use 420 to G160M	LTERNATE 36s. mpt to scale this p be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03			
COS to A	S.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM	/N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atte 180s (we use 420 to G160M	LTERNATE 3 36s. mpt to scale this o be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6;			[1]
COS to A	S.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389	/N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4	956=640). We atte 180s (we use 420 to G160M	LTERNATE 36s. mpt to scale this p be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03			[1]
COS to A 11	S.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) mments: Spectrum of source to de 5.sp.389715 (ETC20.1.1) gives S.	(N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT = (2/3*956*0.75) = 4 COS/FUV, TIME-TAG, PSA fine G160M/1600 location of a target = (N/RE=10 @ 1610A in 287s. (BT=2/3*9	056=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte	LTERNATE 36s. mpt to scale this be be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE W/ NUV ACQ/IMAGE. mpt to scale this			[1]
COS to A	S.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) mments: Spectrum of source to de 5.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/162 (1) AZV18	(N/RE=10 @ 1610A in 287s. (BT=2/3*9 => ET= 215s, BT =(2/3*956*0.75) = 4 COS/FUV, TIME-TAG, PSA	056=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte	LTERNATE 36s. mpt to scale this be be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE My NUV ACQ/IMAGE. mpt to scale this be be safe) BUFFER-TIME=48			[1]
COS to A	S.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) mments: Spectrum of source to de 5.sp.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/162 (1) AZV18 3 - BASELI	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) COS/FUV, TIME-TAG, PSA	056=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte 180s (we use 420 to	LTERNATE a 36s. mpt to scale this b be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE d. w/ NUV ACQ/IMAGE. mpt to scale this b be safe) BUFFER-TIME=48 0;		[==>]	[1]
COS to A	S.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) aments: Spectrum of source to de S.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/162 (1) AZV18 3 - BASELI NE SPECT RUM	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) COS/FUV, TIME-TAG, PSA	256=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte 180s (we use 420 to G160M	LTERNATE 3 36s. mpt to scale this be be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE W/NUV ACQ/IMAGE. mpt to scale this be be safe) BUFFER-TIME=48 0; FP-POS=3;		[==>] 36 Secs	[1]
COS to A	S.s.p.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) mments: Spectrum of source to de S.s.p.389715 (ETC20.1.1) gives S. pril 2012 by multiplying by 0.75 G160M/162 (1) AZV18 3 - BASELI NE SPECT	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) COS/FUV, TIME-TAG, PSA	256=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte 180s (we use 420 to G160M	LTERNATE a 36s. mpt to scale this b be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE d. w/ NUV ACQ/IMAGE. mpt to scale this b be safe) BUFFER-TIME=48 0;		[==>] 36 Secs	
COS to A	S.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/160 (1) AZV18 0 - BASELI NE SPECT RUM (COS.sp.389 715) aments: Spectrum of source to de 5.sp.389715 (ETC20.1.1) gives S.spril 2012 by multiplying by 0.75 G160M/162 (1) AZV18 3 - BASELI NE SPECT RUM (COS.sp.389	fine G160M/1600 location of a target (N/RE=10 @ 1610A in 287s. (BT=2/3*9) COS/FUV, TIME-TAG, PSA	256=640). We atte 180s (we use 420 to G160M 1600 A 1600 A when it is centered 156=640). We atte 180s (we use 420 to G160M	LTERNATE 3 36s. mpt to scale this be be safe). BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03 6; WAVECAL=YES; LIFETIME-POS=A LTERNATE My NUV ACQ/IMAGE. mpt to scale this be be safe) BUFFER-TIME=48 0; FP-POS=3; FLASH=S0200D03		[==>] 36 Secs	[1]

pos	<u>sai 12797 - ACQ/PE</u>	<u> EAKD TEST (12) - Secon</u>	d COS FUV	<u>Lifetime Positio</u>	<u>on: FUV Target Ac</u>	<u>cquisition F</u>	<u> 'arameter U</u>	<u>pdate {FEN</u>	NA4}
	S/C to updat DARK e the G130	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;		8 Secs		
	M/1291 focu s from -170 t				QESIPARM ACTIO N REPLACE;		[==>]		
	o -50 (+120)				QESIPARM GRATI NG G130M;				
					QESIPARM CENT WAVE 1291;				[1]
					QESIPARM FOCUS				
		overwrite the G130M/1291 settings with	the SLP focus positio	on. FENA3 Results sugge	20	o adjustment from	these values. So, G		from -170 t
o -50		6 (12014)::							
	{0, 1291, 7999, -170, 2} {0, 1300, 7995, 0, 22} {0, 1309, 7991, 170, 2} {0, 1318, 7987, 340, 2}	r focus G130M positions; 2 struct pcmech_OSMTbl[MECH_OSM_' 2259, 6898), /* G130M, OSM1 */ 338, 6877}, /* G130M, OSM1 */ 2218, 6857}, /* G130M, OSM1 */ 2198, 6837}, /* G130M, OSM1 */ 2177, 6816}, /* G130M, OSM1 */	TABLE_SIZE] =						
14	S/C to updat DARK e the G130	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;		8 Secs		
	M/1327 focu s from 511 t				QESIPARM ACTIO		[==>]		
	o 631 (+120				N REPLACE;				
)				QESIPARM GRATI NG G130M;				[1]
					QESIPARM CENT WAVE 1327;				
					QESIPARM FOCUS				
Com	ments: Special Commanding to	overwrite the G130M/1327 settings with	the SLP focus positic	on. FENA3 Results sugg	631 est we need a +120 focus ste	p adiustment fron	n these values. So. C		 from 511 t
con.	SCR 344 FSW has the following st pcmech_OSM_position_table {0, 1291, 7999, -170, 2 {0, 1300, 7995, 0, 22 {0, 1309, 7991, 170, 2 {0, 1318, 7987, 340, 2 {0, 1327, 7983, 511, 2	o_struct pcmech_OSMTbl[MECH_OSM_' 2259, 6898],	TABLE_SIZE] =						
15	G130M/129 (1) AZV18 1 - BASELI	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;			36 Secs		
	NE SPECT RUM		1291 A	FP-POS=3;			[==>]		
	(COS.sp.360			FLASH=S0060D03					
	698)			6; WAVECAL=YES;					[1]
				LIFETIME-POS=A LTERNATE					
Comi	ments: Spectrum of source to de OTE THIS ETC RUN WAS MAI	efine correct location of star when it is ce DE BEFORE THE CYCLE 20 ETC UPDA	ntered in NUV (COS. ATE TO ETC20.1.1**	.sp.360698). BT=986*(2	$/3$) = \sim 630. This will get us	S/N~10 per RE. 3	6s lamp flash.		
	is a good thing since it is probassumed here.	ably closer to reality than the sensitivities	s used in ETC20.1.1)	The G140L and G160M	ETC simulations were made	using 20.1.1 and	will be scaled back	to match the G130	OM sensitiv
I									

osal 12797 - ACQ/P	<u> EAKD TEST (12) - Secor</u>	nd COS FU	/ Lifetime Position: FUV	Larget Acquis	ition Parameter Upd	ate {FENA4}
6 G130M/132 (1) AZV18 7 - BASELI	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		36 Secs	
NE SPECT		1327 A	0; FP-POS=3;		[==>]	
RUM (COS.sp.360			FLASH=S0060D03			
698)			6;			[1]
			WAVECAL=YES;			
			LIFETIME-POS=A LTERNATE			
ments: Spectrum of source to a	lefine correct location of star when it is c	entered in NUV (C	$OS.sp.360698$). $BT=986*(2/3) = \sim 630$. T	This will get us S/N~10 p	per RE. 36s lamp flash.	
NOTE THIS ETC RUN WAS MA	DE BEFORE THE CYCLE 20 ETC UPD	ATE TO ETC20.1.	**			
his is a good thing since it is probes assumed here.	pably closer to reality than the sensitivition	es used in ETC20.1.	1) The G140L and G160M ETC simulat	ions were made using 2	0.1.1 and will be scaled back to m	atch the G130M sensit
S/C to RES DARK	S/C, DATA, NONE		SPEC COM		8 Secs	
ET the G140 L/1105 focu			ELOSMPA' QESIPARM		[==>]	
S			N REPLAC			
			QESIPARM NG G140L;			(1)
			QESIPARM	I CENT		[1]
			WAVE 110. QESIPARM			
			-370			
<i>{1, 1280, 1590, 19, 3</i> } 8 S/C to RES DARK	5055, 39680], /* G140L, OSM1 */ 5050, 39675], /* G140L, OSM1 */ S/C, DATA, NONE		SPEC COM		8 Secs	
ET the G140 L/1280 focu			ELOSMPA'		[==>]	
S			QESIPARM N REPLAC			
			QESIPARM NG G140L;			[1]
			QESIPARM	I CENT		
			WAVE 128 QESIPARM			
			19	110005		
omments: Special Commanding to the SCR 344 FSW has the followin	RESET the G140L/1280 settings with w	ith its nominal vali	ue(19).			
eonst pcmech_OSM_position_tabl	g Jocus G140L positions, e_struct pcmech_OSMTbl[MECH_OSM] 35092, 39716}, /* G140L, OSM1 */	_TABLE_SIZE] =				
{1, 1105, 1598, -370, . {1, 1230, 1591, -30, 3	35092, 39716}, /* G140L, OSM1 */ 5055, 39680}, /* G140L, OSM1 */					
	5050, 39675}, /* G140L, OSM1 */					

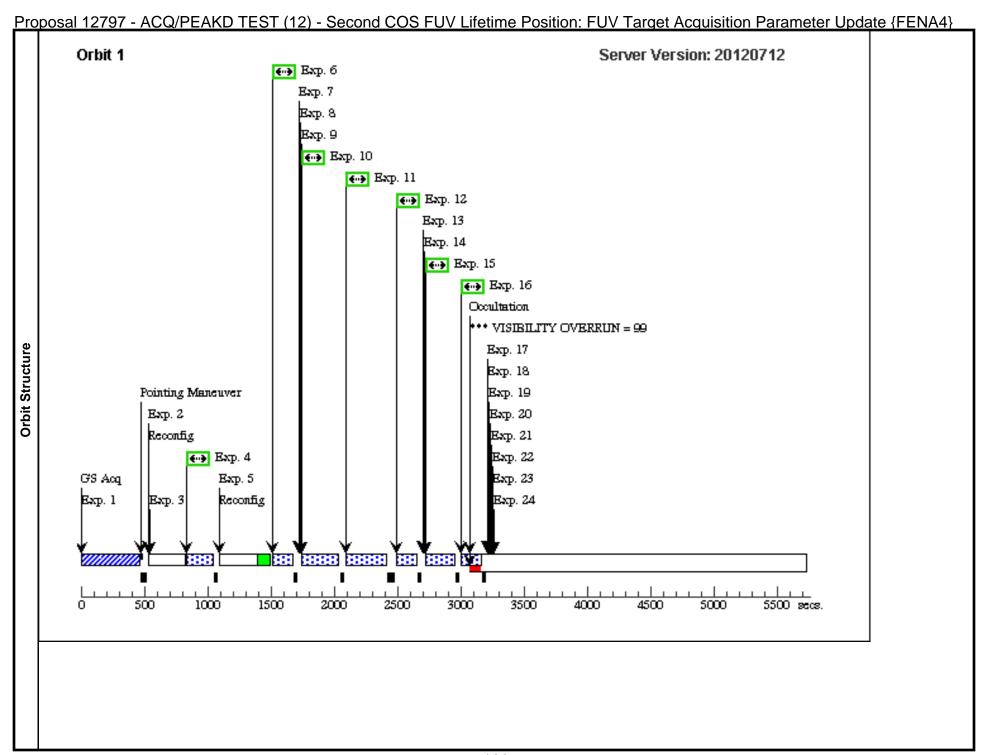
oposal 12797 - ACQ/PEAKD TEST (12) - Second COS FUV Lifetime	e Position: FUV Target Acqu	<u>lisition Parameter Upda</u>	ate {FENA4}
19 S/C to RES DARK S/C, DATA, NONE ET the G160	SPEC COM INSTR ELOSMPATCH;	8 Secs	
M/1577 focu s	QESIPARM ACTIO N REPLACE;	[==>]	
	QESIPARM GRATI NG G160M;		[1]
	QESIPARM CENT WAVE 1577;		1-1
	QESIPARM FOCUS -384		
Comments: Special Commanding to RESET the G160M/1577 settings with its nominal value (-384).			
The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */			
20 S/C to RES DARK S/C, DATA, NONE	SPEC COM INSTR	8 Secs	
ET the G160 M/1600 focu s	ELOSMPATCH; QESIPARM ACTIO N REPLACE:	[==>]	
	QESIPARM GRATI NG G160M;		
	QESIPARM CENT WAVE 1600;		[1]
	QESIPARM FOCUS		
Comments: Special Commanding to RESET the G160M/1600 settings with its nominal value(-44). The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */			
21 S/C to RES DARK S/C, DATA, NONE ET the G160	SPEC COM INSTR ELOSMPATCH;	8 Secs	
M/1623 focu s	QESIPARM ACTIO N REPLACE;	[==>]	
	QESIPARM GRATI NG G160M;		[1]
	QESIPARM CENT WAVE 1623;		
	QESIPARM FOCUS 296		
Comments: Special Commanding to RESET the G160M/1623 settings with its nominal value (296). The SCR 344 FSW has the following focus G160M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {2, 1577, 11203, -384, 18693, 23323}, /* G160M, OSM1 */ {2, 1589, 11199, -214, 18671, 23301}, /* G160M, OSM1 */ {2, 1600, 11195, -44, 18651, 23281}, /* G160M, OSM1 */ {2, 1611, 11191, 126, 18631, 23261}, /* G160M, OSM1 */ {2, 1623, 11187, 296, 18609, 23239}, /* G160M, OSM1 */			

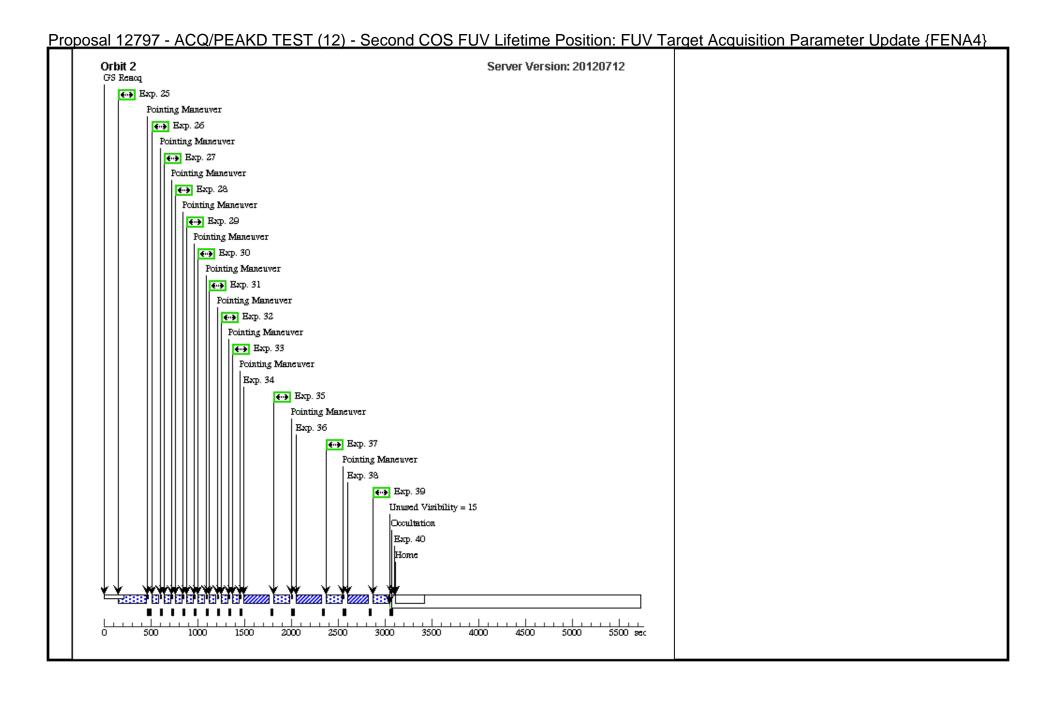
<u>posal 12797 - ACQ/PEAKD TEST (12) - Second COS FUV Lit</u>	<u>fetime Position: FUV Target Acqui</u>	<u>sition Parameter Upd</u>	ate {FENA4}
22 S/C to RES DARK S/C, DATA, NONE ET the G130	SPEC COM INSTR ELOSMPATCH:	8 Secs	
M/1291 focu s	QESIPARM ACTIO N REPLACE:	[==>]	
	QESIPARM GRATI NG G130M;		[1]
	QESIPARM CENT WAVE 1291;		
	QESIPARM FOCUS -170		
Comments: Special Commanding to RESET the G130M/1291 settings with its nominal value (-170). The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {0, 1291, 7999, -170, 2259, 6898}, /*G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /*G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /*G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /*G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /*G130M, OSM1 */			
23 S/C to RES DARK S/C, DATA, NONE	SPEC COM INSTR	8 Secs	
ET the G130 M/1327 focu s	ELOSMPATCH; QESIPARM ACTIO	[==>]	
	N REPLACE; QESIPARM GRATI NG G130M;		
	QESIPARM CENT WAVE 1327;		[1]
	QESIPARM FOCUS 511		
Comments: Special Commanding to RESET the G130M/1327 settings with its nominal value (511). The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */			
24 S/C to updat DARK S/C, DATA, NONE e the G130	SPEC COM INSTR ELOSMPATCH;	8 Secs	
M/1309 focu s from 170 t	QESIPARM ACTIO N REPLACE;	[==>]	
o 290 (+120)	QESIPARM GRATI NG G130M;		[1]
	QESIPARM CENT WAVE 1309;		
	QESIPARM FOCUS 290		
Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. ± 290	FENA3 Results suggest we need a +120 focus step adjus	stment from these values. So, G130	M/1309 goes from 170 to
The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */			

$\nu \sigma$	<u>ai 12131</u>	- <u>HUQ/F</u>	<u> PEAKD TEST (12) - Secor</u>	<u>la CO3 FO</u>	<u>v Liietiinie Positio</u>	<u>m. FUV Targe</u>	<u>t Acquisition r</u>	<u> arameter opuate (</u>	<u> FEINA4}</u>
25	G130M/130	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 25-33 Non	176 Secs	
	9 - BASELI NE SPECT			1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	RUM				FP-POS=3;		, ,		
	(COS.sp.360 698)				FLASH=S0200D03 6;				[2]
					WAVECAL=YES;				[2]
					LIFETIME-POS=A LTERNATE				
Com	ments: Spectru	ım of source to	define correct location of star when it is c	entered in NUV (C	OS.sp.360698). BT=986*(2	$(3) = \sim 630$. This will go	et us S/N~10 per RE. 3	6s lamp flash	
N	OTE THIS ETC	RIIN WAS M	ADE BEFORE THE CYCLE 20 ETC UPD	ATE TO ETC20 1	1				
					•				
(This sens	is a good thin tivitys used in	g since it is pro ETC20.1.1) Th	obably closer to reality than the pessimisti ne G140L and G160M ETC simulations we	: re made					
			ack to match the G130M sensitivities assum					T	
26	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -1.6,null	Sequence 25-33 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0; FP-POS=3;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M1 (-1.6) (COS.sa.360				FLASH=YES;				[2]
	701)				LIFETIME-POS=A				[2]
					LTERNATE				
Com	ments: POSTA	RG TO SIMUL	LATE $9x0.4''$ ACQ/PEAKD. This is the $x=$	-1.6 " position. S/N	= 60 is reached in 2 secon	ds. We want to get a de	cent look at the spectri	ım, so we'll observe for 20 secon	ıds.
27	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -1.2,null	Sequence 25-33 Non		
	OSTARG + SPECTRU		1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]		
	M2 (-1.2)	(COS.sa.360			FP-POS=3;		. ,		F2.7
	701)			FLASH=YES;				[2]	
					LIFETIME-POS=A LTERNATE				
Сот	ments: POSTA	RG TO SIMUI	LATE ACQ/PEAKD. his is the $x = -1.2$ " po	sition. $S/N = 60$ is	reached in 2 seconds. We w	ant to get a decent look	at the spectrum, so we	e'll observe for 20 seconds.	·
28	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -0.8,null	Sequence 25-33 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M3 (-0.8)				FP-POS=3;		1251 (12)		527
	(COS.sa.360 701)				FLASH=YES;				[2]
	,				LIFETIME-POS=A LTERNATE				
Сот	ments: POSTA	RG TO SIMUI	LATE ACQ/PEAKD. his is the $x = -0.8$ " po	sition. $S/N = 60$ is	reached in 2 seconds. We w	ant to get a decent look	at the spectrum, so we	e'll observe for 20 seconds.	'
29	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG -0.4,null		20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M4 (-0.4)				FP-POS=3;		TEST (12)		
	(COS.sa.360 701)				FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				
Com	ments: POSTA	RG TO SIMUL	LATE ACQ/PEAKD. his is the $x=-0.4"$ post	ition. $S/N = 60$ is re		nt to get a decent look	at the spectrum. so we'	'll observe for 20 seconds.	
	G130M - P		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60			20 Secs	
	OSTARG + SPECTRU	,		1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M5 (0.4)				FP-POS=3;		1ES1 (12)		
	(COS.sa.360	(COS.sa.360			FLASH=YES;				[2]
	701)				LIFETIME-POS=A LTERNATE				
					LIEKINAIE			1	

ropo	<u>sal 12797</u>	<u>' - ACQ/PEAK</u>	<u>(D TEST (12) - Second</u>	<u>d COS FUV</u>	<u>Lifetime Position</u>	<u>on: FUV Targe</u>	et Acquisition F	<u> Parameter Update {FEN</u>	√A4}
31	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG 0.8,null	Sequence 25-33 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M6 (0.8)				FP-POS=3;				F27
	(COS.sa.360 701)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
Cor	nments: POSTA	RG TO SIMULATE A	CQ/PEAKD. This is the $x = +0.8"$ pos	sition. $S/N = 60$ is r	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	ve'll observe for 20 seconds.	
32	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG 1.2,null	Sequence 25-33 Non	20 Secs	
	OSTARG + SPECTRU			1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	M7 (1.2) (COS.sa.360				FP-POS=3; FLASH=YES;				[2]
	701)				LIFETIME-POS=A				[2]
					LTERNATE				
Cor			CQ/PEAKD. This is the $x = +1.2"$ poor	sition. $S/N = 60$ is r	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	ve'll observe for 20 seconds.	
33	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;	POS TARG 1.6,null	Sequence 25-33 Non -Int in ACQ/PEAKD		
	SPECTRU			1309 A	FP-POS=3;		TEST (12)	[==>]	
	M8 (1.6) (COS.sa.360				FLASH=YES:				[2]
	701)				LIFETIME-POS=A				[2]
					LTERNATE				
Cor (A+	nments: POSTA ·B))	RG TO SIMULATE A	CQ/PEAKD. This is the $x=+1.6"$ positive points $x=+1.6$	sition. $S/N = 60$ is r	reached in 2 seconds. We	want to get a decent lo	ook at the spectrum, so	ve'll observe for 20 seconds (~16000 ;	total counts
34	G130M - A CQ/PEAKD	(1) AZV18	COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=9;		Sequence 34-35 Non -Int in ACQ/PEAKD	2 Secs	
	(COS.sa.360			1309 A	STEP-SIZE=0.4;		TEST (12)	[==>]	523
	701)				LIFETIME-POS=A LTERNATE				[2]
Cor	nments: ACQ/P	EAKD of a centered to	arget on the same 9x0.4" pattern S/2	N = 60 is reached i	in 2 seconds.				
35	G130M - B ASELINE S	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;		Sequence 34-35 Non -Int in ACQ/PEAKD	120 Secs	-
	PECTRUM			1309 A	FP-POS=3;		TEST (12)	[==>]	
	(COS.sp.360 698)				FLASH=YES;				[2]
	0,0,				LIFETIME-POS=A				1-3
					LTERNATE				
	*		the PEAKD (COS.sp.360698). BT=9			er RE in 182s, we are fo			
36	G130M - A CO/PEAKD		COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=9;		Sequence 36-37 Non -Int in ACQ/PEAKD		
	(COS.sa.360	111010.3		1309 A	STEP-SIZE=0.3;		TEST (12)	[==>]	[2]
	701)				LIFETIME-POS=A LTERNATE				[2]
Cor	nments: 9x0.3"	ACQ/PEAKD on an of	f centered target. The target is define	ed 0.3" in the +AD	direction from the actual	target, so the target w	ill actually now be 0.3"	off in the -AD direction.	
37		<u> </u>	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 36-37 Non	120 Secs	
	ASELINE S PECTRUM	T-AD+0.3		1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	(COS.sp.360				FP-POS=3;				527
	698)				FLASH=YES; LIFETIME-POS=A				[2]
					LIFETIME-POS=A LTERNATE				
								ation, which is now -0.8" from the ori	
, <i>so</i>	the target is act	tually at +0.8" when w	e start the ACQ/PEAKD pattern. CC)S.sp.360698). BT=	=986*(2/3) = ~630. This v	will get us S/N~10 per l	RE in 182s, we are forc	ed to use less due to time constraints.	

ropo	<u>sal 12797</u>	<u>' - ACQ/PEAŁ</u>	<u> KD TEST (12) - Seconc</u>	<u>I COS FUV I</u>	<u> Lifetime Positio</u>	<u>on: FUV Targe</u>	et Acquisition I	Parameter Update {FEN	IA4}
38	G130M - A CO/PEAKD		COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=7;		Sequence 38-39 Non -Int in ACQ/PEAKD		
	(COS.sa.360	1-AD-0.3		1309 A	STEP-SIZE=0.55;		TEST (12)	[==>]	521
	701)				LIFETIME-POS=A LTERNATE				[2]
Con	nments: 9x0.5 A	.CQ/PEAKD on an off	f centered target, this time the target is	s 0.8" off to the +AL).				
39			COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 38-39 Non	120 Secs	
	ASELINE S PECTRUM	OS.sp.360		1309 A	0;		-Int in ACQ/PEAKD TEST (12)	[==>]	
	(COS.sp.360				FP-POS=3;				
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
			nine if correctly centered after the 9x0. . This will get us S/N~10 per RE in 18			straints.			
40	S/C to RES	DARK	S/C, DATA, NONE			SPEC COM INSTR		8 Secs	
	ET the G130 M/1309 focu					ELOSMPATCH;		[==>]	
	S					QESIPARM ACTIO N REPLACE;			
						QESIPARM GRATI NG G130M;			[2]
					QESIPARM CENT WAVE 1309;				
						QESIPARM FOCUS 170			
Con	nments: Special	Commanding to rese	t the G130M/1309 settings with the or	iginal focus, the SCI	R 344 FSW position (17	9).			





Proposal 12797 - ACQ/PEAKXD TEST G130M (13) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update

Proposal 12797, ACQ/PEAKXD TEST G130M (13), implementation

Wed Jul 25 01:38:49 GMT 201

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; ORIENT 247.5D TO 252.5 D; BETWEEN 13-JUN-2012 AND 30-JUN-2012; ON HOLD

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 +/-1.6" offsets are double the exposure time to compensate for vignetting. We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

On Hold Comments: ACO/PEAKXD TEST w/o HV reset to simulate actual timing

(ACQ/PEAKXD TEST G130M (13)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(ACQ/PEAKXD TEST G130M (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

Diagnostics (ACQ/PEAKXD TEST G130M (13)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKXD TEST G130M (13)) 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 (13)) Warning (Orbit Planner): VISIBILITY OVERRUN

(ACQ/PEAKXD TEST G130M (13)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

ACO/PEAKXD TEST G130M (13)) Warning (Form): COS ACO/PEAKXD exposure should be followed by an ACO/PEAKD exposure in the Visit

Proposal 12797 - ACQ/PEAKXD TEST G130M (13) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {...

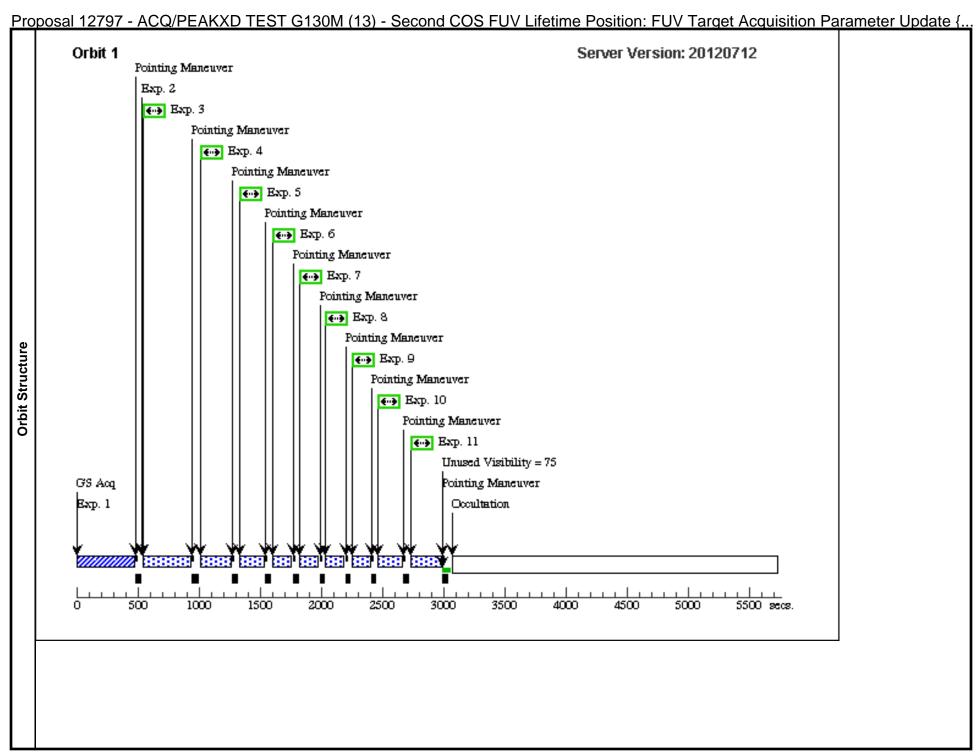
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	TACQUISITION Parameter Update { Miscellaneous
(1)	AZV18	RA: 00 47 12.1700 (11.8007083d)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
		Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
		Equinox: J2000	Epoch of Position: 2000		
Com	ments: B2Ia, Magellanic Clo	uds. Nominal ETC exposure times from spectrum	supplied by D. Lennon:		
FUV FUV	. G140L. 1105: 038s S/N=10	S.ta.360711) SS.sa.360701) & 182s S/N=10 spectroscopy (COS spectroscopy (COS.sp.389720) 10 spectroscopy (COS.sp.389715)	.sp.360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
	XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.211309 Arcsec			
Com The 1	ments: This target is offset 1. roll angle for 13-Jun-2012 til	0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
(AD, RA = 0)	18 offset for ACQ/PEAKXD XD)=(0,-0.5")=-0.5"@25°S o -0.5"*cos(25°)=-0.453154"= =0.5"*sin(25°)=0.211309"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ') DEC(") RA(°) 53 0.211 -1.25876E-04 06 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	ts		
(10)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
<u> </u>	XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
ed		Dec Offset: 0.422618 Arcsec			
Comi	ments: This target is offset 1. roll angle for 13-Jun-2012 til	0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
RA =	18 1.0" offset for ACQ/PEAK -1.0"*cos(20°)= -0.906308"= E=1.0"*sin(20°)=0.422618"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ') DEC(") RA(°) 53 0.211 -1.25876E-04 06 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	rts		
(15)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
	XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.633927 Arcsec			
		0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
(0,-1. RA=	18 1.5" offset for ACQ/PEAK 1.5")=-1.5"@25° S of E -1.5"*cos(20°)=-1.35946=-0 =1.5"*sin(20°)= 0.633927"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ') DEC(") RA(°) 53 0.211 -1.25876E-04 96 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	its		

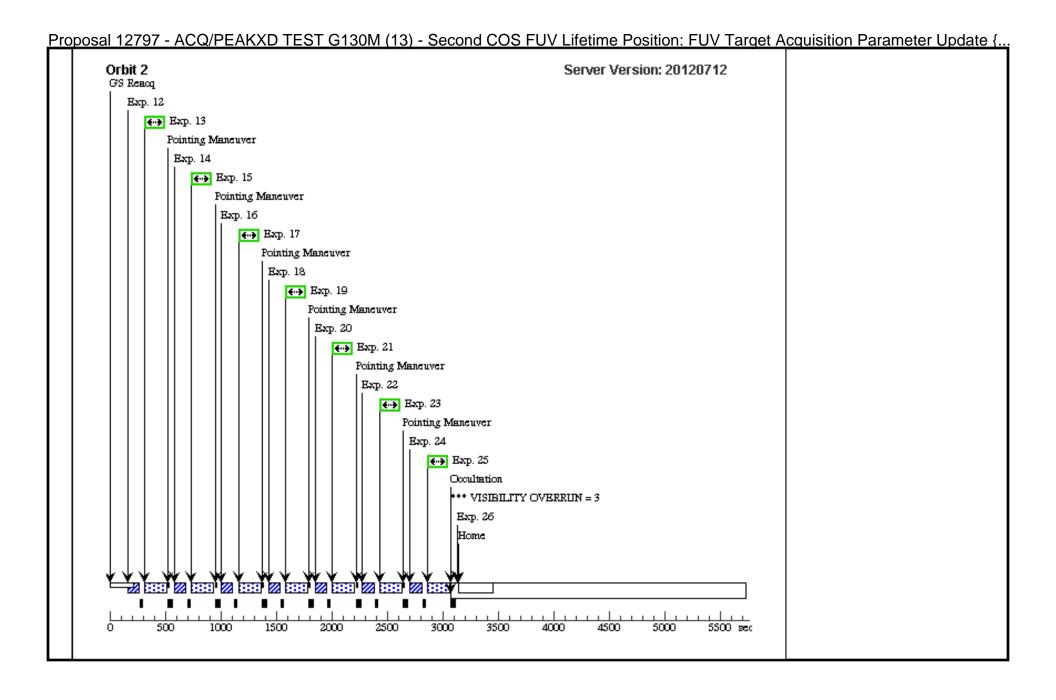
Proposal 12797 - ACQ/PEAKXD TEST G130M (13) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) 2 nuv a/im (1) AZV18 COS/NUV, ACQ/IMAGE, BOA MIRRORA GS ACO SCENARI 30 Secs (COS.ta.360 O BASE1BN3 I = = > 1[1] 711) Comments: NUV ACO/IMAGE with BOA+MIRRORA to refine centering. (COS92525 gives S/N = 40 in 14.5s) S/C to updat DARK S/C, DATA, NONE SPEC COM INSTR 8 Secs e the G130 ELOSMPATCH; I = = > 1M/1309 focu **QESIPARM ACTIO** s from 170 t N REPLACE; o 290 (+120 **OESIPARM GRATI** NG G130M; [1] OESIPARM CENT WAVE 1309: **OESIPARM FOCUS** Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pemech OSM position table struct pemech OSMTbl/MECH OSM TABLE SIZE] = $\{ \{0, 1055, 8095, -170, 2750, 7402 \}, \ /* G130M, OSM1 */$ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ Exposures {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */ G130M - B (1) AZV18 COS/FUV, TIME-TAG, PSA G130M Sequence 3-11 Non-I 202 Secs BUFFER-TIME=60 ASELINE S nt in ACQ/PEAKXD 0; 1309 A PECTRUM TEST G130M (13) FP-POS=3; (COS.sp.360 FLASH=S0200D03 698) [1] LIFETIME-POS=A LTERNATE Comments: Spectrum of source to define correct location of star when it is centered using NUV ACQ/IMAGE. COS.sp.360698 gives S/N/RE = 10 in 182 seconds, BT=2/3*986 or ~630. G130M - P (1) AZV18 COS/FUV, TIME-TAG, PSA BUFFER-TIME=60 POS TARG null.-1.6 Sequence 3-11 Non-I 200 Secs G130M OSTARG + nt in ACO/PEAKXD 0; 1309 A SPECTRU TEST G130M (13) FP-POS=3; M1 (COS.sa.360 FLASH=YES; [1] 701) LIFETIME-POS=A LTERNATE 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 s econds, since it is heavily vignetted. We FLASH just to make sure the target is not drifting in raw coordinates due to thermal variations. G130M - P (1) AZV18 COS/FUV. TIME-TAG, PSA G130M BUFFER-TIME=60 POS TARG null,-1.1 Sequence 3-11 Non-I 150 Secs OSTARG + nt in ACO/PEAKXD 1309 A SPECTRU TEST G130M (13) FP-POS=3; M2(COS.sa.360 [1] FLASH=YES; 701) LIFETIME-POS=A LTERNATE 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.

po:	<u>sal 12797</u>	<u>′ - ACQ/P</u>	<u>EAKXD TEST G130M (13</u>	<u> 8) - Second</u>	<u>I COS FUV Lifetir</u>	<u>ne Position: F</u>	<u>UV Target Ac</u>	<u>quisition Parameter Up</u>	<u>odate {.</u>
6	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=30	POS TARG null,-0.6	Sequence 3-11 Non-I	100 Secs	
	OSTARG +			1309 A	0;		nt in ACQ/PEAKXD	f==>1	
	SPECTRU M3				FP-POS=3;		TEST G130M (13)		
	(COS.sa.360				FLASH=YES;				[1]
	701)				LIFETIME-POS=A				
_	p.o.am.	D.C. T.C. 1.		-	LTERNATE				
	nments: POSTA onds.	ARG TO Move to	Y=-0.6". $S/N=60$ is reached in 2 second	s. But, we are try	ing to determine the local pl	ate scale of the detecto	r, so want to get a dece	ent look at the spectrum, so we'll obse	erve for 10
7	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG null,-0.3	Sequence 3-11 Non-I	100 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in ACQ/PEAKXD TEST G130M (13)	[==>]	
	M4				FP-POS=3;		1251 015011 (15)		
	(COS.sa.360 701)				FLASH=YES;				[1]
	701)				LIFETIME-POS=A LTERNATE				
		RG TO Move to	Y=-0.3. $S/N=60$ is reached in 2 seconds	. But, we are tryir	ng to determine the local pla	te scale of the detector	, so want to get a decer	nt look at the spectrum, so we'll obser	ve for 100
<u>есот</u> 8	nas. G130M - P	(1) A7V18	COS/FUV, TIME-TAG, PSA	G130M	RUFFER_TIME=60	POS TARG null,0.3	Sequence 3-11 Non-I	100 Secs	
O	OSTARG +	(1) AZ V 10	CO5/1 0 V, TIME-1AG, 15A	1309 A	0;	1 OS TAKO hun,0.5	nt in ACQ/PEAKXD	[==>]	
	SPECTRU M5			1309 A	FP-POS=3;		TEST G130M (13)	[/]	
	(COS.sa.360				FLASH=YES;				[1]
	701)				LIFETIME-POS=A				
					LTERNATE				
Con cond		RG TO Move to	Y=0.3. $S/N=60$ is reached in 2 seconds.	But, we are tryin	g to determine the local plat	e scale of the detector,	so want to get a decen	t look at the spectrum, so we'll observ	ve for 100 :
9	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG null,0.6	Sequence 3-11 Non-I	100 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in ACQ/PEAKXD TEST G130M (13)	[==>]	
	M6				FP-POS=3;		1L51 G130M (13)		
	(COS.sa.360 701)				FLASH=YES;				[1]
	701)				LIFETIME-POS=A LTERNATE				
		RG TO Move to	Y=0.6. $S/N=60$ is reached in 2 seconds.	But, we are tryin		e scale of the detector,	so want to get a decen	t look at the spectrum, so we'll observ	ve for 100
cond		(1) 157710		G1202.5		DOG TI DO 1144		1.500	1
10	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;	POS TARG null,1.1	Sequence 3-11 Non-I nt in ACQ/PEAKXD	_	
	SPECTRU			1309 A	FP-POS=3;		TEST G130M (13)	[==>]	
	M7 (COS.sa.360				FLASH=YES;				[1]
	701)				LIFETIME-POS=A				[1]
					LTERNATE				
Con con	nments: POSTA ds, since are >4	RG TO Move to	Y=1.1. $S/N=60$ is reached in 2 seconds.	But, we are tryin	g to determine the local plat	e scale of the detector,	so want to get a decen	t look at the spectrum, so we'll observ	ve for 150
11	G130M - P		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG null,1.6	Sequence 3-11 Non-I	200 Secs	
	OSTARG + SPECTRU			1309 A	0;		nt in ACQ/PEAKXD TEST G130M (13)	[==>]	
	M8				FP-POS=3;		1E31 G130M (13)		
	(COS.sa.360				FLASH=YES;				[1]
	701)				LIFETIME-POS=A LTERNATE				
C	um anta, DACTA	DC TO Mana	V-16" S/N - 60 is march of in 2 community	Dut we are to		to souls of the data-t-	on want to act a Jee	at look at the speetween so we'll -1	mia for 201
		ARG TO Move to heavily vignetted	Y=1.6". $S/N=60$ is reached in 2 seconds d.	. виt, we are tryii	ng to aetermine the local pla	te scale of the detector	, so want to get a decei	н took at the spectrum, so we'll obser	rve for 200
	, since ii la i	vignelle	•••						

12		/ 10 Q// 1	CAD TECT C TOOLAT (TO	<u> </u>	OOO I O V EIIOMINO I O	<u>sition: FUV Target Ac</u>	quisition i arannot	<u>ci Opaale j.</u>
12	G130M - PE		COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 12-13 Non	10 Secs	
	AKXD- Cen tered (COS.sa.360			1309 A	LTERNATE	-Int in ACQ/PEAKX D TEST G130M (13	[==>]	[2]
	701))		1-3
Com	ments: ACQ/P	EAKXD on the centere	ed target. COS.sa.360701, S/N = 60 is	reached in 2 sec	conds (A+B), we use 10s sure we get	enough counts.		<u>, </u>
13	G130M - B	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	Sequence 12-13 Non	150 Secs	
	ASELINE S PECTRUM			1309 A	0; FP-POS=3;	-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sp.360 698)				FLASH=YES;)		[2]
	090)				LIFETIME-POS=A LTERNATE			
Com	ments: Spectru	m of source to test pre	evious ACQ/PEAKXD centering. CO	S.sp.360698 gives		2/3*986 or ~630.		
14	G130M -PE	(10) AZV18-OFFSE	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 14-15 Non	10 Secs	
l	AKXD- XD +1.0	T-XD+1.0		1309 A	LTERNATE	-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sa.360 701))		[2]
Com	ments: ACQ/P.	EAKXD on the target	offset by +1.0". COS.sa.360701, S/N	= 60 is reached in	n 2 seconds $(A+B)$, we use 10s sure v	we get enough counts.		•
15			COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	Sequence 14-15 Non	150 Secs	
	ASELINE S PECTRUM	T-XD+1.0		1309 A	0;	-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sp.360				FP-POS=3;)		
l	698)				FLASH=YES;			[2]
					LIFETIME-POS=A LTERNATE			
Com	ments: Spectru	m of source to test pre	evious ACQ/PEAKXD centering. CO	S.sp.360698 gives	SS/N/RE = 10 in 182 seconds, $BT=2$	2/3*986 or ~630.		
16	G130M - PE	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 16-17 Non	10 Secs	
	AKXD-XD- 1.0			1309 A	LTERNATE	-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sa.360 701))		[2]
Con	,	FAKKD back on orig	inal target, now -1.0" offset.					
	G130M - B		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	Sequence 16-17 Non	150 Secs	
	ASELINE S	(1)112110	205/101, 11112 1110, 1511	1309 A	0;	-Int in ACQ/PEAKX	[==>]	
	PECTRUM (COS.sp.360				FP-POS=3;	D TEST G130M (13		
	698)				FLASH=YES;	,		[2]
					LIFETIME-POS=A LTERNATE			
	ments: ACQ/P	EAKD confirmation sp	pectrum.					,
Com		(5) AZV18-OFFSET	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	Sequence 18-19 Non	10 Secs	
18				1200 4	LTERNATE	-Int in ACQ/PEAKX	[==>]	
	AKXD-XD			1309 A		D TEST G130M (13		
	AKXD-XD +0.5 (COS.sa.360			1309 A		D TEST G130M (13		[2]
18	AKXD-XD +0.5 (COS.sa.360 701)	-XD+0.5	· · · · · · · · · · · · · · · · · · ·)		[2]
18	AKXD-XD +0.5 (COS.sa.360 701) ments: ACQ/P	-XD+0.5 EAKXD on the target	offset by +0.5". COS.sa.360701, S/N	= 60 is reached is	· ·) we get enough counts.		[2]
18	AKXD-XD +0.5 (COS.sa.360 701) ments: ACQ/P. G130M - B	-XD+0.5 EAKXD on the target (5) AZV18-OFFSET	offset by +0.5". COS.sa.360701, S/N COS/FUV, TIME-TAG, PSA	= 60 is reached in G130M	BUFFER-TIME=60) we get enough counts. Sequence 18-19 Non	150 Secs	[2]
18	AKXD-XD +0.5 (COS.sa.360 701) ments: ACQ/P. G130M - B ASELINE S PECTRUM	-XD+0.5 EAKXD on the target (5) AZV18-OFFSET		= 60 is reached is	BUFFER-TIME=60 0;) we get enough counts.	150 Secs [==>]	[2]
18	AKXD-XD +0.5 (COS.sa.360 701) ments: ACQ/P G130M - B ASELINE S	-XD+0.5 EAKXD on the target (5) AZV18-OFFSET		= 60 is reached in G130M	BUFFER-TIME=60) we get enough counts. Sequence 18-19 Non -Int in ACQ/PEAKX		[2]

<u>rop</u>	osal 1279 <i>1</i>	<u>' - ACQ/PEAP</u>	<u>(XD TEST G130M (13)</u>	 Second C 	COS FUV Lifetii	<u>me Position: F</u>	<u>UV Target Ac</u>	<u>quisition Parameter Up</u>	<u>date {</u>
20		(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A		Sequence 20-21 Non	10 Secs	
	AKXD-XD- 0.5			1309 A	LTERNATE		-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sa.360)		[2]
	701)								
C	omments: Back or	n original target, -0.5'	". COS.sa.360701, S/N = 60 is reached	d in 2 seconds (A+1	B), we use 10s sure we go	et enough counts.			1
2		(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 20-21 Non	150 Secs	
	ASELINE S PECTRUM			1309 A	0;		-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sp.360				FP-POS=3;)		
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
C	omments: Spectru	m of source to test pro	evious ACQ/PEAKXD centering. COS	5.sp.360698 gives S	S/N/RE = 10 in 182 secon	nds, BT=2/3*986 or ~6	30.		
22			COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A		Sequence 22-23 Non	15 Secs	
	AKXD-XD +1.5	T-XD+1.5		1309 A	LTERNATE		-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sa.360)		[2]
	701)								
			offset by +1.5". COS.sa.360701, S/N =			10s sure we get enough		T	
23	G130M - B ASELINE S	(15) AZV18-OFFSE T-XD+1 5	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;		Sequence 22-23 Non-Int in ACQ/PEAKX		
	PECTRUM	1 AD+1.5		1309 A	FP-POS=3;		D TEST G130M (13	[==>]	
	(COS.sp.360 698)				FLASH=YES;)		[2]
	098)				LIFETIME-POS=A				[2]
					LTERNATE				
C	omments: Spectru	um of source to test pro	evious ACQ/PEAKXD centering. COS	S.sp.360698 gives S	S/N/RE = 10 in 182 secon	nds, BT=2/3*986 or ~6	30.		
24		(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A			15 Secs	
	AKXD-XD- 1.5			1309 A	LTERNATE		-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sa.360)		[2]
	701)								
C	omments: ACQ/P	EAKXD on the target	offset by -1.5". COS.sa.360701, S/N =	60 is reached in 2	seconds (A+B), we use	10s sure we get enough	counts.		ı
25		(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 24-25 Non	150 Secs	
	ASELINE S PECTRUM			1309 A	0;		-Int in ACQ/PEAKX D TEST G130M (13	[==>]	
	(COS.sp.360				FP-POS=3;)		
	698)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
C	omments: Spectru	ım of source to test pro	evious ACQ/PEAKXD centering. COS	S. sn. 360698 gives S		nds_BT=2/3*986 or ~6	30.		
20	•		S/C, DATA, NONE	p.200070 gives b	,,.tt =10 iii 102 secti	SPEC COM INSTR		8 Secs	
[-	ET the G130	2.1111	S. C., DIIII, 11011L			ELOSMPATCH;		[==>]	
	M/1309 focu					QESIPARM ACTIO		1/	
	3					N REPLACE;			
						QESIPARM GRATI NG G130M;			
						OESIPARM CENT			[2]
						WAVE 1309;			
						QESIPARM FOCUS			
						170			
IC	omments: Special	Commanding to rese	t the G130M/1309 settings with the or	iginal focus the SC	'R 3// FSW position (17)	70)			





Proposal 12797 - ACQ/PEAKXD TEST G160M (14) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update

Wed Jul 25 01:38:52 GMT 201

Proposal 12797, ACQ/PEAKXD TEST G160M (14), implementation

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; SAME ORIENT AS 13; BETWEEN 13-JUN-2012 AND 27-JUN-2012; ON HOLD

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 +/- 1.6" offsets are double the exposure time to compensate for vignetting. We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

On Hold Comments: ACO/PEAKXD TEST w/o HV reset to simulate actual timing

(ACQ/PEAKXD TEST G160M (14)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE. **Diagnostics**

(ACQ/PEAKXD TEST G160M (14)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(ACQ/PEAKXD TEST G160M (14)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKXD TEST G160M (14)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.

(ACQ/PEAKXD TEST G160M (14)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKXD TEST G160M (14)) 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.

Proposal 12797 - ACQ/PEAKXD TEST G160M (14) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {...

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	TACQUISITION Parameter Update { 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		
Com	nments: B2Ia, Magellanic Clo	uds. Nominal ETC exposure times from spectrum	supplied by D. Lennon:		
FUV FUV	V. G140L. 1105: 038s S/N=10	S.ta.360711) SS.sa.360701) & 182s S/N=10 spectroscopy (COS spectroscopy (COS.sp.389720) 10 spectroscopy (COS.sp.389715)	.sp.360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
	XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.211309 Arcsec			
Com The	nments: This target is offset 1. roll angle for 13-Jun-2012 til	0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
(AD, RA =	718 offset for ACQ/PEAKXD ,XD)=(0,-0.5")=-0.5"@25°S 0.5"*cos(25°)=-0.453154"= C=0.5"*sin(25°)=0.211309"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ") DEC(") RA(°) 53 0.211 -1.25876E-04 06 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	ts		
(10)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0)
<u> </u>	XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
ed G		Dec Offset: 0.422618 Arcsec			
Com	nments: This target is offset 1. roll angle for 13-Jun-2012 til	0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
RA =	718 1.0" offset for ACQ/PEAK 1.0"*cos(20°)= -0.906308"= C=1.0"*sin(20°)=0.422618"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ") DEC(") RA(°) 53 0.211 -1.25876E-04 06 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	ts		
(15)		Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5)
	XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.633927 Arcsec			
		0" in the XD direction, and is valid for visits 3-5 of 130-Jun-2012 is 250 +/-2.5d (visits 3-5)	only.		
(0,-1 RA=	/18 1.5" offset for ACQ/PEAK 1.5")=-1.5"@25° S of E 1.5"*cos(20°)=-1.35946=-0 C=1.5"*sin(20°)= 0.633927"				
RA(" -0.45 -0.90	ia's confirmation spreadsheet ") DEC(") RA(°) 53 0.211 -1.25876E-04 06 0.423 -2.51752E-04 59 0.634 -3.77628E-04	gives the following for the -0.5, -1.0, & -1.5 offse	ts		

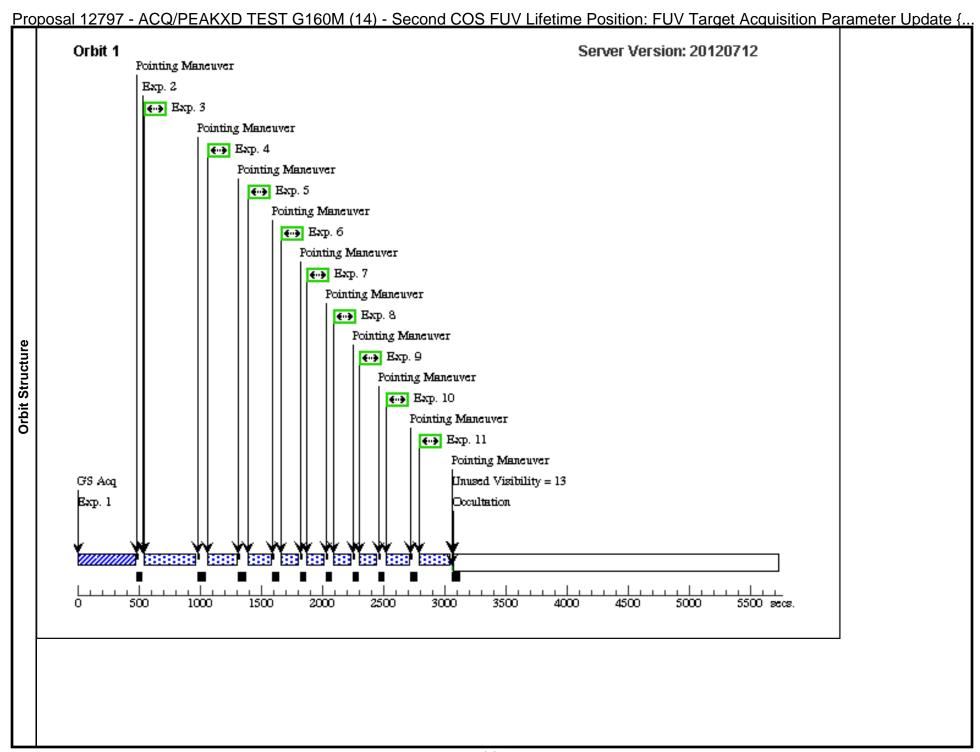
	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA		GS ACQ SCENARI		30 Secs	
	(COS.ta.360 711)					O BASE1BN3		[==>]	[1]
Co	mments: NUV A	CQ/IMAGE with B	OA+MIRRORA to refine centering. (CC	OS.ta.360711gives S	S/N = 60 in 27s				1
2	S/C to updat	DARK	S/C, DATA, NONE			SPEC COM INSTR		8 Secs	
	e the G160 M/1600 focu s from -44 to					ELOSMPATCH; QESIPARM ACTIO N REPLACE;		[==>]	
	+116 (+160)					QESIPARM GRATI NG G160M;			
						QESIPARM CENT WAVE 1600;			[1]
						QESIPARM FOCUS			
Co	mments: Specia	l Commanding to o	verwrite the G160M/1600 settings with a	the SLP focus positi	ion FFNA3 Results sugg		us step adjustment fron	these values So. G160M/1600 o	nes from -44
+1			3	J		,		3	,
	nst pcmech_OSI {2, 157 {2, 156 {2, 166 {2, 16.	M_position_table_si 77, 11203, -384, 186 89, 11199, -214, 186 00, 11195, -44, 186 11, 11191, 126, 186	ocus G160M positions; truct pcmech_OSMTbl[MECH_OSM_T 693, 23323}, /* G160M, OSM1 */ 671, 23301}, /* G160M, OSM1 */ 551, 23281}, /* G160M, OSM1 */ 531, 23261}, /* G160M, OSM1 */ 609, 23239}, /* G160M, OSM1 */	SABLE_SIZE] =					
3	G160M - B		COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=40		Sequence 3-11 Non-I	205 Secs	
3	ASELINE S	(1) AZ V 16	COS/TOV, TIME-TAG, TSA	1600 A	0;		nt in ACQ/PEAKXD	[==>]	
	PECTRUM (COS.sp.389				FP-POS=3;		TEST G160M (14)		
1	715)				FLASH=YES;				[1]
					LIFETIME-POS=A LTERNATE				
CO	S.sp.389715 (E	TC20.1.1) gives S/N	ne G160M/1600 location of a target w l/RE=10 @ 1610A in 287s. (BT=2/3*95 > ET= 215s, BT =(2/3*956*0.75) = 48	56=640). We attemp	ot to scale this				
	ere are ~2000 R	E/detector so the cp	es = 100*2000./(215) ~ 930 counts/s, to	get S/N=3600 we e	estimate 4s.				
The			nates :Count rate entire detector=2,467.	.1					
For	r comparison, C Count rate Segm Count rate Segm	ent Å 810.9 *0.75 =	= 600 counts/s -> $S/N=60$ in 6 seconds.						
For	Count rate Segm Count rate Segm G160M - P	nent Å 810.9 *0.75 = nent B 1,656.2	= 600counts/s -> S/N=60 in 6 seconds. COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,-1.6	Sequence 3-11 Non-I	190 Secs	
For	Count rate Segm Count rate Segm G160M - P OSTARG +	nent Å 810.9 *0.75 = nent B 1,656.2	= 600counts/s -> S/N=60 in 6 seconds.		0;	POS TARG null,-1.6	nt in ACQ/PEAKXD	190 Secs [==>]	
For	Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1	nent Å 810.9 *0.75 = nent B 1,656.2	= 600counts/s -> S/N=60 in 6 seconds.	G160M	0; FP-POS=3;	POS TARG null,-1.6	Sequence 3-11 Non-I nt in ACQ/PEAKXD TEST G160M (14)		(1)
For	Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU	nent Å 810.9 *0.75 = nent B 1,656.2	= 600counts/s -> S/N=60 in 6 seconds.	G160M	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A	POS TARG null,-1.6	nt in ACQ/PEAKXD		[1]
For ()	Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1 (COS.sp.389 715)	eent Å 810.9 *0.75 = eent B 1,656.2 (1) AZV18	= 600counts/s -> S/N=60 in 6 seconds. COS/FUV, TIME-TAG, PSA	G160M 1600 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
For (Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1 (COS.sp.389 715)	ent Å 810.9 *0.75 = ent B 1,656.2 (1) AZV18 ARG TO Move to Y=	= 600counts/s -> S/N=60 in 6 seconds.	G160M 1600 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE local plate scale of the d		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
For G	Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1 (COS.sp.389 715)	ent Å 810.9 *0.75 = ent B 1,656.2 (1) AZV18 ARG TO Move to Y=	COS/FUV, TIME-TAG, PSA 1.6. S/N = 60 in 4-6s. But, we are trying	G160M 1600 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE local plate scale of the d		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
For (Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1 (COS.sp.389 715)	ent Å 810.9 *0.75 = ent B 1,656.2 (1) AZV18 ARG TO Move to Y=	COS/FUV, TIME-TAG, PSA 1.6. S/N = 60 in 4-6s. But, we are trying	G160M 1600 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE local plate scale of the d		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
For G	Count rate Segm Count rate Segm G160M - P OSTARG + SPECTRU M1 (COS.sp.389 715)	ent Å 810.9 *0.75 = ent B 1,656.2 (1) AZV18 ARG TO Move to Y=	COS/FUV, TIME-TAG, PSA 1.6. S/N = 60 in 4-6s. But, we are trying	G160M 1600 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE local plate scale of the d		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	

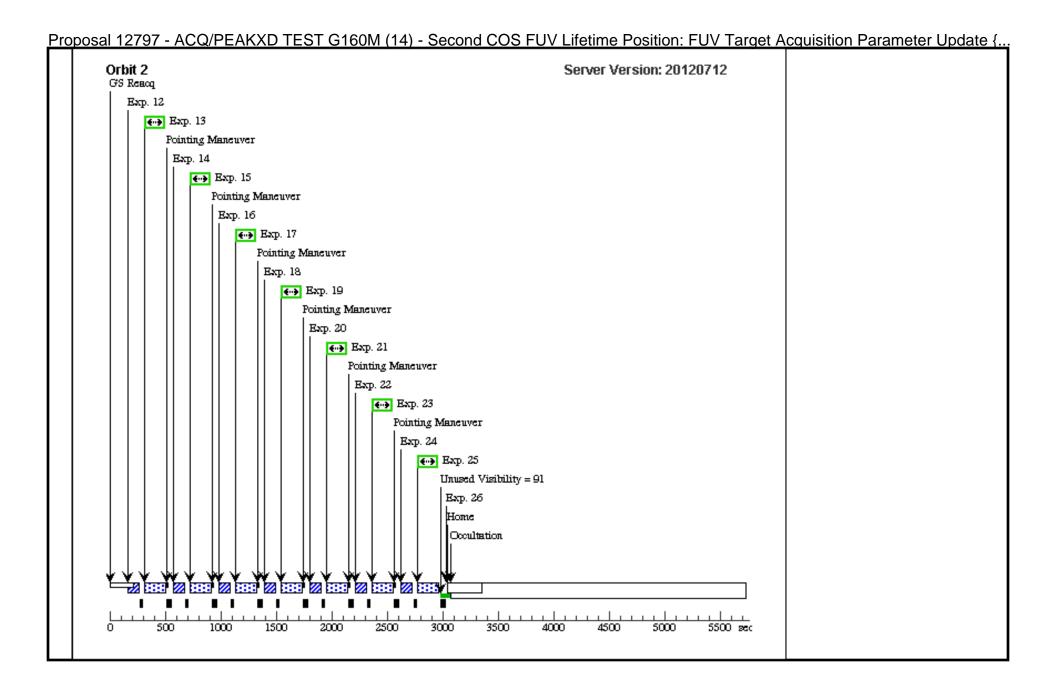
<u>oos</u>	al 12797		<u> </u>	.,					
	G160M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,-1.1	Sequence 3-11 Non-I	140 Secs	
	OSTARG + SPECTRU M2			1600 A	0; FP-POS=3;		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
	(COS.sp.389				FLASH=YES;				[1]
	715)				LIFETIME-POS=A LTERNATE				
Comr 40%	nents: POSTA 6 vignetted, fo	ARG TO Move to or centered expos	Y=-1.1. $S/N=60$ in 4-6s. But, we are try sures, we'll use 150 seconds. We FLASH j	ving to determine th just to make sure th	he local plate scale of the do ne target is not drifting in ro	etector, so want to get w coordinates due to t	a decent look at the spe hermal variations.	ctrum, so we'll observe for 1	40 seconds, since i
	G160M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M		POS TARG null,-0.6	Sequence 3-11 Non-I	95 Secs	
	OSTARG + SPECTRU			1600 A	0;		nt in ACQ/PEAKXD TEST G160M (14)	[==>]	
	M3 (COS.sp.389				FP-POS=3; FLASH=YES:		` ,		m
	715)				LIFETIME-POS=A				[1]
omi	nents: POSTA	ARG TO Move to	Y=-0.6. $S/N=60$ in 4-6s. But, we are try	ving to determine ti	LTERNATE he local plate scale of the de	etector, so want to get	a decent look at the spe	ctrum, so we'll observe for 9)5 seconds. We FLA
			t drifting in raw coordinates due to therm		<u> </u>			, , , , , , , , , , , , , , , , , , ,	
	G160M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=40 0;	POS TARG null,-0.3	Sequence 3-11 Non-I nt in ACQ/PEAKXD		
	SPECTRU			1600 A	FP-POS=3;		TEST G160M (14)	[==>]	
	M4 (COS.sp.389				FLASH=YES;				[1]
					LIEFTIME DOC A				
	715)				LIFETIME-POS=A LTERNATE				
omi SH	nents: POSTA just to make si	sure the target is	o Y=-0.3. S/N = 60 in 4-6s. But, we are try not drifting in raw coordinates due to the	ermal variations.	LTERNATE he local plate scale of the de				·100 seconds. We F
omi SH	ments: POSTA just to make si G160M - P OSTARG +	sure the target is		G160M	LTERNATE he local plate scale of the de	POS TARG null,0.3	Sequence 3-11 Non-I nt in ACQ/PEAKXD	95 Secs	-100 seconds. We F
'omi SH	nents: POSTA just to make si G160M - P OSTARG + SPECTRU	sure the target is	not drifting in raw coordinates due to the	ermal variations.	LTERNATE the local plate scale of the de BUFFER-TIME=40		Sequence 3-11 Non-I		-100 seconds. We F
Comi SH_	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389	(1) AZV18	not drifting in raw coordinates due to the	G160M	LTERNATE the local plate scale of the do BUFFER-TIME=40 0;		Sequence 3-11 Non-I nt in ACQ/PEAKXD	95 Secs	-100 seconds. We F
omi SH_	nents: POSTA just to make si G160M - P OSTARG + SPECTRU M5	(1) AZV18	not drifting in raw coordinates due to the	G160M	LTERNATE the local plate scale of the de BUFFER-TIME=40 0; FP-POS=3;		Sequence 3-11 Non-I nt in ACQ/PEAKXD	95 Secs	
Comr	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA	sure the target is (1) AZV18 ARG TO Move to	not drifting in raw coordinates due to the	ermal variations. G160M 1600 A	LTERNATE the local plate scale of the de BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.3	Sequence 3-11 Non-I nt in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>]	[1]
Comi SH_ Comi Jus	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P	sure the target is (1) AZV18 ARG TO Move to the target is no	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o Y=0.3. S/N = 60 in 4-6s. But, we are try.	ermal variations. G160M 1600 A	LTERNATE the local plate scale of the december	POS TARG null,0.3	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the specific Sequence 3-11 Non-I	95 Secs [==>] trum, so we'll observe for 10	[1]
SH SH Somr	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU	sure the target is (1) AZV18 ARG TO Move to the target is no	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o $Y=0.3$. $S/N=60$ in 4-6s. But, we are try the drifting in raw coordinates due to therm	ermal variations. G160M 1600 A ing to determine thal variations.	LTERNATE the local plate scale of the deal plate scale	POS TARG null,0.3	Sequence 3-11 Non-I nt in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10	[1]
SH SH Somi	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG +	ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o $Y=0.3$. $S/N=60$ in 4-6s. But, we are try the drifting in raw coordinates due to therm	ormal variations. G160M 1600 A ing to determine the variations. G160M	LTERNATE the local plate scale of the december	POS TARG null,0.3	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD	95 Secs [==>] trum, so we'll observe for 10 95 Secs	[1]
SH .	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6	ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o $Y=0.3$. $S/N=60$ in 4-6s. But, we are try the drifting in raw coordinates due to therm	ormal variations. G160M 1600 A ing to determine the variations. G160M	LTERNATE the local plate scale of the december	POS TARG null,0.3	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD	95 Secs [==>] trum, so we'll observe for 10 95 Secs	[1] 00 seconds. We FLA
Comi S Comi Jus	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715)	ARG TO Move to (1) AZV18 ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o $Y=0.3$. $S/N=60$ in 4-6s. But, we are try the drifting in raw coordinates due to therm	rmal variations. G160M 1600 A ing to determine the variations. G160M 1600 A	LTERNATE the local plate scale of the december	POS TARG null,0.3 tector, so want to get a	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10 95 Secs [==>]	[1] 00 seconds. We FL
SH SH SH SOME SOME SOME SOME SOME SOME SOME SOME	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715) ments: POSTA set to make sure G160M - P	ARG TO Move to (1) AZV18 ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o Y=0.3. S/N = 60 in 4-6s. But, we are try, the drifting in raw coordinates due to therm COS/FUV, TIME-TAG, PSA o Y=0.6. S/N = 60 in 4-6s. But, we are try.	rmal variations. G160M 1600 A ing to determine the variations. G160M 1600 A	LTERNATE the local plate scale of the decelerate local plate local plate local plate local plate scale of the decelerate local plate scale plate local plate scale plate local plate scale plate local plate scale	POS TARG null,0.3 tector, so want to get a POS TARG null,0.6	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10 95 Secs [==>] trum, so we'll observe for ~1	[1] 00 seconds. We FL
Comi Ljus Ljus O	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715) ments: POSTA st to make sur G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715)	ARG TO Move to (1) AZV18 ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o Y=0.3. S/N = 60 in 4-6s. But, we are try the drifting in raw coordinates due to therm COS/FUV, TIME-TAG, PSA o Y=0.6. S/N = 60 in 4-6s. But, we are try of drifting in raw coordinates due to therm	rmal variations. G160M 1600 A ing to determine the sal variations. G160M 1600 A	LTERNATE the local plate scale of the december	POS TARG null,0.3 tector, so want to get a POS TARG null,0.6	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10 95 Secs [==>] trum, so we'll observe for ~1	[1] 00 seconds. We FL
Comi ASH_ 3 Comi H jus)	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715) ments: POSTA st to make sur G160M - P OSTARG + SPECTRU M6 GCOS.sp.389 715)	ARG TO Move to the target is no (1) AZV18 ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o Y=0.3. S/N = 60 in 4-6s. But, we are try the drifting in raw coordinates due to therm COS/FUV, TIME-TAG, PSA o Y=0.6. S/N = 60 in 4-6s. But, we are try of drifting in raw coordinates due to therm	rmal variations. G160M 1600 A ing to determine the sal variations. G160M 1600 A ing to determine the sal variations. G160M	LTERNATE the local plate scale of the december	POS TARG null,0.3 tector, so want to get a POS TARG null,0.6	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10 95 Secs [==>] trum, so we'll observe for ~1	[1] 00 seconds. We FLA
Comi 3 Comi H jus O	ments: POSTA just to make si G160M - P OSTARG + SPECTRU M5 (COS.sp.389 715) ments: POSTA t to make sure G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715) ments: POSTA st to make sur G160M - P OSTARG + SPECTRU M6 (COS.sp.389 715)	ARG TO Move to the target is no (1) AZV18 ARG TO Move to the target is no (1) AZV18	not drifting in raw coordinates due to the COS/FUV, TIME-TAG, PSA o Y=0.3. S/N = 60 in 4-6s. But, we are try the drifting in raw coordinates due to therm COS/FUV, TIME-TAG, PSA o Y=0.6. S/N = 60 in 4-6s. But, we are try of drifting in raw coordinates due to therm	rmal variations. G160M 1600 A ing to determine the sal variations. G160M 1600 A ing to determine the sal variations. G160M	LTERNATE the local plate scale of the december of the local plate scale of the december of the local plate scale of the loc	POS TARG null,0.3 tector, so want to get a POS TARG null,0.6	Sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14) decent look at the spector of the sequence 3-11 Non-Int in ACQ/PEAKXD TEST G160M (14)	95 Secs [==>] trum, so we'll observe for 10 95 Secs [==>] trum, so we'll observe for ~1	[1] 00 seconds. We FLA [1] 100 seconds. We FL

ogo	<u>sai 12797 - A</u>	ICQ/PEAK	<u>XD TEST G160M (14)</u>	 Second C 	OS FUV Lifetii	<u>me Position: F</u>	·UV Target Ac	<u> </u>	<u>) date {.</u>
11	G160M - P (1) A OSTARG + SPECTRU M8 (COS.sp.389 715)	ZV18	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.6	Sequence 3-11 Non-I nt in ACQ/PEAKXD TEST G160M (14)	200 Secs [==>]	[1]
			6. $S/N = 60$ in 4-6s. But, we are trying e sure the target is not drifting in raw			tector, so want to get a	decent look at the spec	ctrum, so we'll observe for 190 second	ls, since it i
	G160M - PE (1) A	*	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A		Sequence 12-13 Non	10 Secs	
	AKXD - Ce ntered (COS.sp.389 715)			1600 A	LTERNATE		-Int in ACQ/PEAKX D TEST G160M (14	[==>]	[2]
Con	nments: COS.sp.3897	15 gives S/N/RE	=60 in 4-6 seconds. This is on the cen	tered target, so it sl	houldn't move.				
13		ZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42		Sequence 12-13 Non	140 Secs	
	ASELINE S PECTRUM			1600 A	0; FP-POS=3;		-Int in ACQ/PEAKX D TEST G160M (14	[==>]	
	(COS.sp.389 715)				FLASH=YES;)		[2]
	, 10,				LIFETIME-POS=A LTERNATE				
Con to b	nments: COS.sp.3897 e safe), due to time co	15 (ETC20.1.1) gonstraints, the ex	gives S/N/RE=10 @ 1610A in 287s. (1 posure time has been dropped to 140s	BT=2/3*956=640).	We attempt to scale this	s to April 2012 by mult	iplying by $0.75 => ET =$	= 215s, BT = (2/3*956*0.75) = 480s (1)	we use 420
14	G160M - PE (10)	AZV18-OFFSE	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A		Sequence 14-15 Non	10 Secs	
	AKXD-XD T-XD +1.0 (COS.sp.389 715)	D+1.0		1600 A	LTERNATE		-Int in ACQ/PEAKX D TEST G160M (14)	[==>]	[2]
Con	,,	15 gives S/N/RE	=60 in 4-6 seconds. PEAKXD of a tar	get offset by 1.0"					
15			COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42		Sequence 14-15 Non	140 Secs	
	ASELINE S T-XE PECTRUM	D+1.0		1600 A	0;		-Int in ACQ/PEAKX D TEST G160M (14	[==>]	
	(COS.sp.389 715)				FP-POS=3; FLASH=YES;)		[2]
	713)				LIFETIME-POS=A LTERNATE				[2]
			gives S/N/RE=10 @ 1610A in 287s. (1 posure time has been dropped to 140s		We attempt to scale this	s to April 2012 by mult	iplying by $0.75 => ET =$	= 215s, BT = (2/3*956*0.75) = 480s (1)	we use 420
16	G160M - PE (1) A		COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A		Sequence 16-17 Non	10 Secs	
	AKXD TES T-XD-1.0 (COS.sp.389 715)			1600 A	LTERNATE		-Int in ACQ/PEAKX D TEST G160M (14)	[==>]	[2]
Con	,	15 gives S/N/RE	=60 in 4-6 seconds. Back to the origin	nal. so a 1" PEAKD	XD from the other direc	ction.			
17	G160M - B (1) A		COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42		Sequence 16-17 Non	140 Secs	
	ASELINE S PECTRUM			1600 A	0;		-Int in ACQ/PEAKX D TEST G160M (14	[==>]	
	(COS.sp.389				FP-POS=3;)		527
	715)				FLASH=YES; LIFETIME-POS=A LTERNATE				[2]
						s to April 2012 by mult	iplying by $0.75 => ET$	= 215s, BT = (2/3*956*0.75) = 480s (1)	we use 420
10 0	е ѕаје), ане 10 11те СС	mstraints, the ex	posure time has been dropped to 140s	·.					

opos	<u>ai 12797</u>	- AUQ/PEAR	<u>XD 1601 G160M (14)</u>	<u>- Secona C</u>	<u> COS FUV Lifetime Position:</u>	FUV Target Ac	<u>quisition Parameter Upo</u>	<u> aate {</u>
			COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 18-19 Non		
10	AKXD- 0.5		000/10 1,110 0/12/11/15,15/1	1600 A	LTERNATE	-Int in ACO/PEAKX	[==>]	
	(COS.sp.389			1000 A		D TEST G160M (14	[>]	[2]
	715))		
		· · · · · · · · · · · · · · · · · · ·	=60 in 4-6 seconds. Now try from 0.5	" away.				
19			COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 18-19 Non	140 Secs	
	ASELINE S	-XD+0.5		1600 A	0;	-Int in ACQ/PEAKX	I==>1	
	PECTRUM (COS.sp.389				FP-POS=3;	D TEST G160M (14		
	715)				FLASH=YES;	,		[2]
	•				LIFETIME-POS=A			
					LTERNATE			
Com	ments: COS.sp	.389715 (ETC20.1.1)	gives S/N/RE=10 @ 1610A in 287s. (BT=2/3*956=640).	We attempt to scale this to April 2012 by mi	ultiplying by $0.75 = ET$	= 215s. $BT = (2/3*956*0.75) = 480s$ (w	e use 420
			posure time has been dropped to 140s					
20	G160M - PE	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 20-21 Non	10 Secs	
	AKXD-0.5		,	1600 A	LTERNATE	-Int in ACO/PEAKX	f==>1	
1	(COS.sp.389			1000 A		D TEST G160M (14	[>]	[2]
	715))		
Com	ments: COS.sp	.389715 gives S/N/RE	=60 in 4-6 seconds. Now 0.5" from th	e other direction.				
21	G160M - B	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 20-21 Non	140 Secs	
	ASELINE S PECTRUM			1600 A	0;	-Int in ACQ/PEAKX D TEST G160M (14	[==>]	
	(COS.sp.389				FP-POS=3;)		
	715)				FLASH=YES;	,		[2]
					LIFETIME-POS=A			
					LTERNATE			
to be	safe), due to ti	me constraints, the ex	posure time has been dropped to 140:	r	We attempt to scale this to April 2012 by mu			e use 420
22	G160M - PE AKXD-1.5	(15) AZV18-OFFSE	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A LTERNATE	Sequence 22-23 Non -Int in ACQ/PEAKX		
	(COS.sp.389	1-AD+1.3		1600 A	LIERNATE	D TEST G160M (14	[==>]	[2]
	715))		[2]
Com	ments: COS.sp	.389715 gives S/N/RE	=60 in 4-6 seconds. Ok, one last time	from 1.5" away, so	increase the exposure time due to the vignet	tting.		
			COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 22-23 Non	140 Secs	
	ASELINE S		COB/1 C V, TIME 1716, 15/1	1600 A	0;	-Int in ACQ/PEAKX		
	PECTRUM			1000 A	FP-POS=3;	D TEST G160M (14	[==>]	
	(COS.sp.389 715)				FLASH=YES;)		[2]
	713)							[2]
					LIFETIME-POS=A LTERNATE			
			gives S/N/RE=10 @ 1610A in 287s. (1 posure time has been dropped to 140s		We attempt to scale this to April 2012 by mu	ultiplying by $0.75 => ET$	= 215s, BT = (2/3*956*0.75) = 480s (w)	e use 420
	G160M - PE		COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A	Sequence 24-25 Non	15 Secs	
l~ .	AKXD+1.5	(1)112110	COB/T C V, TICQ/T EFINITE, T B/T	1600 A	LTERNATE	-Int in ACO/PEAKX	[==>]	
	(COS.sp.389			1000 A		D TEST G160M (14	[==>]	[2]
	715))		
Com	ments: COS.sp	.389715 gives S/N/RE	=60 in 4-6 seconds. Ok, one last time	from 1.5" away, so	increase the exposure time due to the vignet	ting.		
25	G160M - B	(1) AZV18	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=42	Sequence 24-25 Non	140 Secs	
	ASELINE S			1600 A	0;	-Int in ACQ/PEAKX	[==>]	
	PECTRUM (COS.sp.389				FP-POS=3;	D TEST G160M (14		
	715)				FLASH=YES;	,		[2]
	•				LIFETIME-POS=A			
					LTERNATE			
Com	ments: COS.sp	.389715 (ETC20.1.1)	gives S/N/RE=10 @ 1610A in 287s (BT=2/3*956=640)	We attempt to scale this to April 2012 by mi	ultiplying by $0.75 = > ET$	= 215s, $BT = (2/3*956*0.75) = 480s$ (w	e use 420
			posure time has been dropped to 140s				(2,2 ,25 ,35 ,35 , ,36 , ,	

8 Secs	
[==>]	
	[2]





Proposal 12797 - ACQ/PEAKXD TEST G140L (15) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update

Wed Jul 25 01:38:55 GMT 201

Proposal 12797, ACQ/PEAKXD TEST G140L (15), implementation

Diagnostic Status: Warning

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

Special Requirements: SCHED 100%; SAME ORIENT AS 13; BETWEEN 13-JUN-2012 AND 27-JUN-2012; ON HOLD

Comments: ACQ/PEAKXD Test for G140L The target is AVZ18 (the SMOV TA target). After obtaining a good spectrum of the centered target, , WE NOW TAKE A G130M PEAKD to test the SIAF UPDATE. 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. The +/- 1.6" offsets are double the exposure time to compensate for vignetting. We then proceed to test PEAKXD at offsets of +/-0.5, +/-1.0 and +/-1.5".

The roll angle for 13-Jun-2012 till 30-Jun-2012 is 250 +/-2.5d (visits 3-5)

Note that this visit should only proceed after the April/May 2012 SIAF file update (AD=AD - 0.1") as the first exposures are designed to test any SIAF changes in the dispersion direction.

On Hold Comments: ACO/PEAKD TEST w/o HV reset to simulate actual timing. Note that this visit should only proceed after the April/May 2012 SIAF file update (AD=AD - 0.1")

(ACQ/PEAKXD TEST G140L (15)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.

(ACQ/PEAKXD TEST G140L (15)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(ACQ/PEAKXD TEST G140L (15)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACO/PEAKXD TEST G140L (15)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACO/PEAKXD TEST G140L (15)) 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 (15)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

(ACO/PEAKXD TEST G140L (15)) Warning (Orbit Planner): VISIBILITY OVERRUN

ACO/PEAKXD TEST G140L (15)) Warning (Form): COS ACO/PEAKD exposure should be preceded by an ACO/PEAKXD exposure in the Visit.

Proposal 12797 - ACQ/PEAKXD TEST G140L (15) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update {...

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Acquisition Parameter Update { 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		
Commen	nts: B2Ia, Magellanic Cloud	ls. Nominal ETC exposure times from spectrum su	pplied by D. Lennon:		
FUV, G.	140L, 1105: 038s S/N=10 s	a.360711) sa.360701) & 182s S/N=10 spectroscopy (COS.sp. pectroscopy (COS.sp.389720) spectroscopy (COS.sp.389715)	360698)		
(5)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5
	XD+0.5	RA Offset: -1.25876E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.211309 Arcsec			
		' in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	2.		
(AD,XD) RA=-0.5 DEC=0.	offset for ACQ/PEAKXD 1)=(0,-0.5")=-0.5"@25°S of 5"*cos(25°)=-0.453154"=-6 0.5"*sin(25°)=0.211309"	0.000125876°			
RA(") D.	confirmation spreadsheet g DEC(") RA(°) D.211 -1.25876E-04 D.423 -2.51752E-04 D.634 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
-0.906 0 -1.359 0 (10)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.0
	XD+1.0	RA Offset: -2.51752E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.422618 Arcsec			
Commer The roll	nts: This target is offset 1.0' l angle for 13-Jun-2012 till 3	' in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	<i>.</i>		
RA=-1.0	1.0" offset for ACQ/PEAKD 0"*cos(20°)= -0.906308"= - .0"*sin(20°)=0.422618"				
RA(") D -0.453 0 -0.906 0	confirmation spreadsheet g bEC(") RA(°) 211 -1.25876E-04 423 -2.51752E-04 634 -3.77628E-04	ives the following for the -0.5, -1.0, & -1.5 offsets			
(15)	AZV18-OFFSET-	Offset from AZV18 by		V=12.48	Offset Position (AZV18-OFFSET-XD+1.5
	XD+1.5	RA Offset: -3.77628E-4 Degrees		(B-V)=+0.04	Reference Frame: ICRS
		Dec Offset: 0.633927 Arcsec			
Commer The roll	nts: This target is offset 1.0' l angle for 13-Jun-2012 till 3	' in the XD direction, and is valid for visits 3-5 only 30-Jun-2012 is 250 +/-2.5d (visits 3-5)	<i>.</i>		
(0,-1.5") RA=-1.5	1.5" offset for ACQ/PEAKD)=-1.5"@25° S of E 5"*cos(20°)=-1.35946=-0.0 .5"*sin(20°)= 0.633927"				
Olivia's RA(") D. -0.453 0 -0.906 0		ives the following for the -0.5, -1.0, & -1.5 offsets			

Proposal 12797 - ACQ/PEAKXD TEST G140L (15) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (... Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Reqs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) 2 nuv a/im (1) AZV18 COS/NUV, ACQ/IMAGE, BOA MIRRORA GS ACO SCENARI 30 Secs O BASE1BN3 (COS.ta.360 I = = > 1[1] 711) Comments: NUV ACO/IMAGE with BOA+MIRRORA to refine centering. (COS92525 gives S/N = 40 in 14.5s) S/C to updat DARK S/C, DATA, NONE SPEC COM INSTR Sequence 2-5 Non-In 8 Secs e the G130 ELOSMPATCH; t in ACQ/PEAKXD I = = > 1M/1309 focu TEST G140L (15) OESIPARM ACTIO s from 170 t N REPLACE; o 290 (+120 **OESIPARM GRATI** NG G130M; [1] **OESIPARM CENT** WAVE 1309: **OESIPARM FOCUS** Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pemech OSM position table struct pemech OSMTbl/MECH OSM TABLE SIZE] = $\{ \{0, 1055, 8095, -170, 2750, 7402 \}, \ /* G130M, OSM1 */$ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ Exposures {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */ G130M/130 (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=60 Sequence 2-5 Non-In 212 Secs 9 - BASELI t in ACQ/PEAKXD 0; 1309 A I = = > 1NE SPECT TEST G140L (15) FP-POS=3; RUM (COS.sp.360 FLASH=S0200D03 698) [1] WAVECAL=YES; LIFETIME-POS=A LTERNATE Comments: Spectrum of source to define correct location of star when it is centered in NUV (COS.sp.360698), BT=986*(2/3) = ~630. This will get us S/N~10 per RE in 182s. This exposure and the next 8 should be co nsidered an NON-INT Sequence. 36s lamp flash The actual count rate from Visit 1 was 0.07-0.14 counts/s/column, or a total count rate of ~1-2000 counts/segment/second. In 180s, we obtained 75-150 counts/RE or S/N of 8-12 as expected. G130M - A (1) AZV18 COS/FUV, ACQ/PEAKD, PSA G130M NUM-POS=9; Sequence 2-5 Non-In 4 Secs CQ/PEAKD t in ACQ/PEAKXD 1309 A STEP-SIZE=0.4; *[==>1* (COS.sa.360 TEST G140L (15) [1] 701) LIFETIME-POS=A LTERNATE Comments: ACO/PEAKD of a centered target on the same 9x0.4" pattern. . S/N = 60 is reached in 2 seconds. This exposure and the next should be considered a NON-INT sequence.

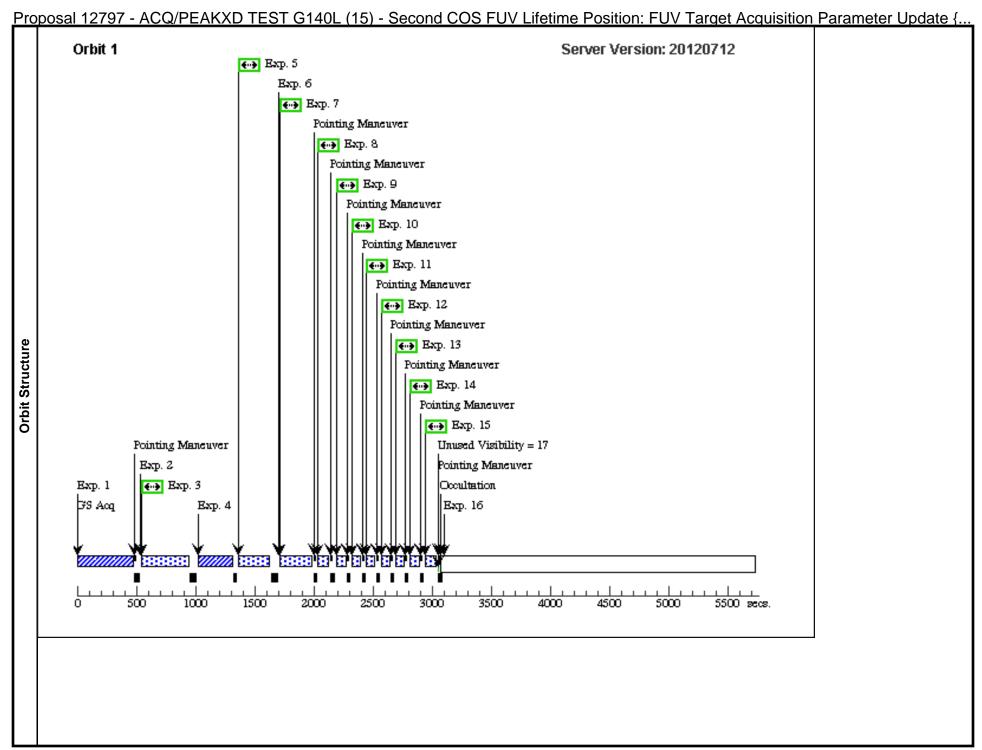
pos	<u>sai 12797 - ACQ/PE</u>	AKXD TEST G140L (15)) - Second	COS FUV Lifetim	<u>ne Position: Fl</u>	UV Target Acc	<u> Juisition Parameter Upo</u>	<u>} ate :</u>
5	G130M/130 (1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60		Sequence 2-5 Non-In		
	9 - CONFIR MATION S		1309 A	0;		t in ACQ/PEAKXD TEST G140L (15)	[==>]	T
	PECTRUM			FP-POS=3;		, ,		
	(COS.sp.360 698)			FLASH=S0200D03 6;				[1]
				WAVECAL=YES;				'
				LIFETIME-POS=A				
C		**************************************		LTERNATE	(2) 620 This will a	CAL 10 DE :	192 This are a 141 and 9 d.	1 1 1
nsid	iments: Spectrum of source to def ered an NON-INT Sequence. 36s	ine correct location of star when it is ce lamp flash	nterea in NOV (C	.OS.sp.300098). B1 = 980*(2/	$(3) = \sim 030$. This will go	et us s/N~10 per KE in	182s. This exposure and the next 8 sh	ouia be co
The	actual count rate from Visit 1 wa	s 0.07-0.14 counts/s/column, or a total c	count rate of ~1-2	000 counts/segment/second.	In 180s, we obtained 7	75-150 counts/RE or S/	N of 8-12 as expected.	
6	S/C to updat DARK e the G140L	S/C, DATA, NONE			SPEC COM INSTR ELOSMPATCH;	Sequence 6-16 Non-I nt in ACQ/PEAKXD	8 Secs	
	/1280 focus (19-165)				QESIPARM ACTIO N REPLACE;	TEST G140L (15)	[==>]	
					QESIPARM GRATI			
					NG G140L;			[1]
					QESIPARM CENT WAVE 1280;			
					QESIPARM FOCUS			
C			d. CID C	-tvt	-146			
		overwrite the G140L/1280 settings with t we of -165 is appropriate for the G140L		mon.				
The	SCR 344 FSW has the following j	focus G140L positions; struct pcmech_OSMTbl[MECH_OSM_	TARIF SIZE1 -					
COL	. – – –	. – . – –	_ ,					
	{1, 1230, 1591, -30, 350	092, 39716},	195					
7	G140L - BA (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 6-16 Non-I		T
	SELINE SP ECTRUM		1280 A	0;		nt in ACQ/PEAKXD TEST G140L (15)	[==>]	
	(COS.sp.389			FP-POS=3;		1E31 G140E (13)		633
	720)			FLASH=YES;				[1]
				LIFETIME-POS=A LTERNATE				
Com	ments: Spectrum of source to def	ine the G140L/1280 XD location of targ	get when it is cen	tered w/ NUV ACQ/IMAGE.				
COS	S.sp.389720 gives Š/N/RE = 10 åt	1400.00 Å in 38.5800 seconds. We don	't bother to scale t	this, because the exposure tir	ne is so small (equal to	o our lamp flash). BT=2	2/3 (838*0.75) = 420 (we use 400)	
COS	S.sp.389720 gives Count rate Segr	nent A 2,312.100 *0.75 = 1734. S/N=60	0 in 2-3s.					
8	G140L-PO (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,-1.6	Sequence 6-16 Non-I	45 Secs	
	STARG + S PECTRUM		1280 A	0;		nt in ACQ/PEAKXD TEST G140L (15)	[==>]	
	1 (COS.sp.389			FP-POS=3; FLASH=YES;		` ,		[1]
	720)			LIFETIME-POS=A				[1]
				LTERNATE				
		=-1.6. COS.sp.389720 gives Count rate	Segment A 2,312	.100 *0.75 = 1734. S/N=60	in 2-3s. But, we are try	ing to determine the lo	cal plate scale of the detector, so want	t to get a de
cent How	look at the spectrum, so we'll observer, since it is heavily vienetted	serve for 20 seconds. we double the exposure time to 45s for t	the +/-1.6".					
We I	FLASH just to make sure the targ	et is not drifting in raw coordinates due	to thermal variat	cions.				

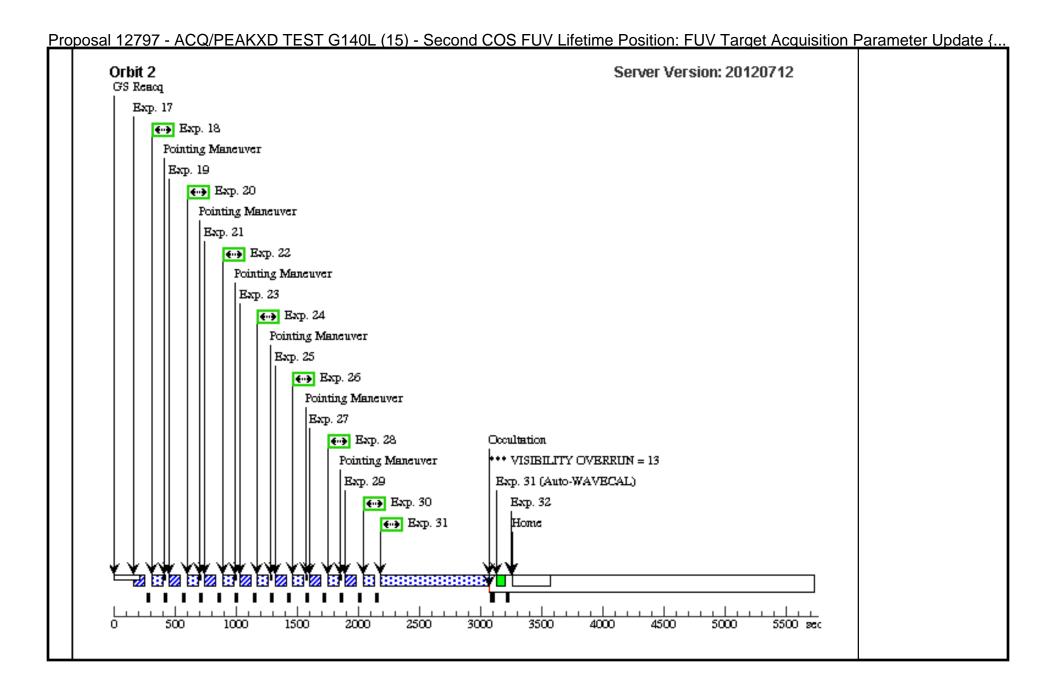
pos									
9	G140L - PO (1) AZY STARG + S	V18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40 0;	POS TARG null,-1.1	Sequence 6-16 Non-I nt in ACQ/PEAKXD		
	PECTRUM 2			1280 A	FP-POS=3;		TEST G140L (15)	[==>]	
	(COS.sp.389 720)				FLASH=YES;				[1]
	,20)				LIFETIME-POS=A LTERNATE				
ecei	it look at the spectrum	n, so we'll obse	1". COS.sp.389720 gives Coun rve for 20 seconds. double the exposure time to 30s		212.100 *0.75 = 1734. S/N=6	60 in 2-3s. But, we are	trying to determine the	local plate scale of the det	tector, so want to get
0	G140L - PO (1) AZ		COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,-0.6	Sequence 6-16 Non-I	20 Secs	
	STARG + S PECTRUM			1280 A	0; FP-POS=3;		nt in ACQ/PEAKXD TEST G140L (15)	[==>]	
	3 (COS.sp.389				FLASH=YES;				[1]
	720)				LIFETIME-POS=A LTERNATE				
omi ecer	ments: POSTARG TO nt look at the spectrum	Move to Y=-0.	6". COS.sp.389720 gives Coun	t rate Segment A=2,3		60 in 2-3s. But, we are	trying to determine the	local plate scale of the det	tector, so want to get
1	G140L - PO (1) AZ		COS/FUV, TIME-TAG, PSA	G140L		POS TARG null,-0.3	Sequence 6-16 Non-I	20 Secs	
	STARG + S PECTRUM			1280 A	0; FP-POS=3;		nt in ACQ/PEAKXD TEST G140L (15)	[==>]	
	4				FLASH=YES;				[1]
	(COS.sp.389								
	(COS.sp.389 720)				LIFETIME-POS=A LTERNATE				
Comi	720)	Move to Y=-0. n, so we'll obse	3". COS.sp.389720 gives Coun rve for 20 seconds.	t rate Segment A=2,3	LTERNATE	60 in 2-3s. But, we are	trying to determine the	local plate scale of the det	tector, so want to get
omi ecer	ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZ	n, so we'll obse	3". COS.sp.389720 gives Coun rve for 20 seconds. COS/FUV, TIME-TAG, PSA	G140L	LTERNATE 212.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40	POS TARG null,0.3	Sequence 6-16 Non-I	20 Secs	tector, so want to get
omi ecer	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM	n, so we'll obse	rve for 20 seconds.		LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0;			20 Secs	tector, so want to get
'omi ecer 2	ments: POSTARG TO at look at the spectrum G140L - PO (1) AZ' STARG + S PECTRUM 5 (COS.sp.389	n, so we'll obse	rve for 20 seconds.	G140L	LTERNATE 212.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40		Sequence 6-16 Non-I nt in ACQ/PEAKXD	20 Secs	tector, so want to get
Comi l <u>ecer</u> 2	ments: POSTARG TO at look at the spectrum G140L - PO (1) AZ' STARG + S PECTRUM 5	n, so we'll obse	rve for 20 seconds.	G140L	LTERNATE 212.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3;		Sequence 6-16 Non-I nt in ACQ/PEAKXD	20 Secs	
Comi l <u>ecer</u> 2	ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO	n, so we'll obse	rve for 20 seconds. COS/FUV, TIME-TAG, PSA B". COS.sp.389720 gives Count	G140L 1280 A	LTERNATE 212.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.3	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	20 Secs [==>]	[1]
Comi ecer 2 Comi ecer 3	ments: POSTARG TO at look at the spectrum G140L - PO (1) AZ' STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO at look at the spectrum G140L - PO (1) AZ'	n, so we'll obse IV18 Move to Y=0.3 n, so we'll obse	rve for 20 seconds. COS/FUV, TIME-TAG, PSA B". COS.sp.389720 gives Count	G140L 1280 A	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40	POS TARG null,0.3	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I	20 Secs $[==>]$ ocal plate scale of the determinant	[1]
ecer 2 Comi ecer 3	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZ' STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum	n, so we'll obse IV18 Move to Y=0.3 n, so we'll obse	rve for 20 seconds. COS/FUV, TIME-TAG, PSA ". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,33	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0;	POS TARG null,0.3 0 in 2-3s. But, we are to	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	20 Secs $[==>]$ ocal plate scale of the determinant	[1]
Comi 2 Comi ecer 3	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6	n, so we'll obse IV18 Move to Y=0.3 n, so we'll obse	rve for 20 seconds. COS/FUV, TIME-TAG, PSA ". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,31	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40	POS TARG null,0.3 0 in 2-3s. But, we are to	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD	20 Secs [==>] ocal plate scale of the dete	[1]
Comi 2 Comi ecer 3	ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM	n, so we'll obse IV18 Move to Y=0.3 n, so we'll obse	rve for 20 seconds. COS/FUV, TIME-TAG, PSA ". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,31	LTERNATE #12.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE #22.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3;	POS TARG null,0.3 0 in 2-3s. But, we are to	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD	20 Secs [==>] ocal plate scale of the dete	[1] ector, so want to get a
Comi 2 Comi lecer 3	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720)	Move to Y=0.3 Move to Y=0.3 Move to Y=0.4 Move to Y=0.4	rve for 20 seconds. COS/FUV, TIME-TAG, PSA B". COS.sp. 389720 gives Count rve for 20 seconds. COS/FUV, TIME-TAG, PSA	G140L 1280 A rate Segment A=2,33 G140L 1280 A	LTERNATE #12.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE #12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,0.3 0 in 2-3s. But, we are to POS TARG null,0.6	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	20 Secs $[==>]$ ocal plate scale of the determinant of the determinan	[1]
comi ecer 2 3	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY	Move to Y=0.3 Move to Y=0.3 Move to Y=0.6 Move to Y=0.6	rve for 20 seconds. COS/FUV, TIME-TAG, PSA B". COS.sp. 389720 gives Count rve for 20 seconds. COS/FUV, TIME-TAG, PSA	G140L 1280 A rate Segment A=2,33 G140L 1280 A	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 22.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 22.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 BUFFER-TIME=40	POS TARG null,0.3 0 in 2-3s. But, we are to POS TARG null,0.6 0 in 2-3s. But, we are to	Sequence 6-16 Non-Int in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-Int in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I	20 Secs $[==>]$ ocal plate scale of the determinant of the determinan	[1]
comi ecer 2 3	ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720) ments: POSTARG TO nt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM G140L - PO (1) AZY STARG + S PECTRUM	Move to Y=0.3 Move to Y=0.3 Move to Y=0.6 Move to Y=0.6	rve for 20 seconds. COS/FUV, TIME-TAG, PSA 8". COS.sp.389720 gives Country for 20 seconds. COS/FUV, TIME-TAG, PSA 6". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,33 G140L 1280 A	LTERNATE #12.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE #12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE #12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0;	POS TARG null,0.3 0 in 2-3s. But, we are to POS TARG null,0.6 0 in 2-3s. But, we are to	Sequence 6-16 Non-Int in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-Int in ACQ/PEAKXD TEST G140L (15)	20 Secs $[==>]$ ocal plate scale of the determinant of the determinan	[1]
Comi Secer 2 3 Comi decer 4	ments: POSTARG TO at look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO at look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720) ments: POSTARG TO at look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720)	Move to Y=0.3 Move to Y=0.3 Move to Y=0.6 Move to Y=0.6	rve for 20 seconds. COS/FUV, TIME-TAG, PSA 8". COS.sp.389720 gives Country for 20 seconds. COS/FUV, TIME-TAG, PSA 6". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,33 G140L 1280 A	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 22.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 22.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 BUFFER-TIME=40	POS TARG null,0.3 0 in 2-3s. But, we are to POS TARG null,0.6 0 in 2-3s. But, we are to	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	20 Secs [==>] ocal plate scale of the dete 20 Secs [==>] ocal plate scale of the dete 30 Secs	[1]
Comingle Com	ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 5 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720) ments: POSTARG TO tt look at the spectrum G140L - PO (1) AZY STARG + S PECTRUM 6 (COS.sp.389 720)	Move to Y=0.3 Move to Y=0.3 Move to Y=0.6 Move to Y=0.6	rve for 20 seconds. COS/FUV, TIME-TAG, PSA 8". COS.sp.389720 gives Country for 20 seconds. COS/FUV, TIME-TAG, PSA 6". COS.sp.389720 gives Country for 20 seconds.	G140L 1280 A rate Segment A=2,33 G140L 1280 A	LTERNATE 212.100 *0.75 = 1734. S/N=0 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE 12.100 *0.75 = 1734. S/N=6 BUFFER-TIME=40 0; FP-POS=3;	POS TARG null,0.3 0 in 2-3s. But, we are to POS TARG null,0.6 0 in 2-3s. But, we are to	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15) rying to determine the l Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	20 Secs [==>] ocal plate scale of the dete 20 Secs [==>] ocal plate scale of the dete 30 Secs	[1] [1] [2] [2] [2] [3] [4] [5] [6] [7] [8] [8] [8] [9] [9] [9] [9] [9] [9] [9] [9] [9] [9

00	<u>sai 12797 -</u>	- ACQ/FEAN	<u>(XD TEST G140L (15)</u>	- Second Co	<u>JS FUV LIIEIII</u>	ne Position. F	<u>UV Target Acc</u>	<u>juisition Parameter Ut</u>	<u> Juaie {</u>
15	G140L - PO (1 STARG + S PECTRUM 8 (COS.sp.389 720)) AZV18	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=40 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	POS TARG null,1.6	Sequence 6-16 Non-I nt in ACQ/PEAKXD TEST G140L (15)	45 Secs [==>]	[1]
cent How	look at the spectreever, since it is h	rum, so we'll observe eavily vignetted we	6". COS.sp.389720 gives Count rate S e for 20 seconds. double the exposure time to 45s for th not drifting in raw coordinates due t	he +/-1.6".) *0.75 = 1734. S/N=60) in 2-3s. But, we are tr	ving to determine the lo	cal plate scale of the detector, so we	ant to get a c
	S/C to reset t D		S/C, DATA, NONE			SPEC COM INSTR	Sequence 6-16 Non-I	8 Secs	
	he G130M/1 309 focus					ELOSMPATCH; QESIPARM ACTIO N REPLACE;	nt in ACQ/PEAKXD TEST G140L (15)	[==>]	
						QESIPARM GRATI NG G130M;			[1]
						QESIPARM CENT WAVE 1309;			
						QESIPARM FOCUS			
Con	ments: Special C	ommanding to reset	the G130M/1309 settings with the or	riginal focus, the SCI	R 344 FSW position (17	70).			
17	G140L - PE (1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A		Sequence 17-18 Non	10 Secs	
	AKXD-Cent ered (COS.sp.389 720)			1280 A	LTERNATE		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	[2]
Con	ments: ACQ/PEA	AKXD test on a cente	ered target. COS.sp.389720 gives cou	ınt rate Segment A=	2,312.100 *0.75 = 1734	4. S/N=60 in 2-3s. 10s i	s plenty.		•
18	G140L - BA (1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40			40 Secs	
	SELINE SP ECTRUM (COS.sp.389			1280 A	0; FP-POS=3;		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	<i>(2)</i>
	720)				FLASH=YES; LIFETIME-POS=A LTERNATE				[2]
Con	ments: Confirma	tion Spectrum. COS	.sp.389720 gives S/N/RE = 10 at 140	0.00 Å in 38.5800 se	econds. BT=2/3 (838*0.	75) = 420 (we use 400)			
19			COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A		Sequence 19-20 Non	10 Secs	
	AKXD-XD T- +1.0 (COS.sp.389 720)	-XD+1.0		1280 A	LTERNATE		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	[2]
Con	ments: ACQ/PEA	AKXD on the target	offset by +1.0". (COS.sp.389720)						•
20			COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 19-20 Non	40 Secs	
	SELINE SP T- ECTRUM (COS.sp.389	-XD+1.0		1280 A	0; FP-POS=3;		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	
	720)				FLASH=YES; LIFETIME-POS=A LTERNATE				[2]
Con	ments: Confirma	tion Spectrum. COS	.sp.389720 gives S/N/RE = 10 at 140	0.00 Å in 38.5800 se		75) = 420 (we use 400))		I
21	G140L - PE (1		COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A	,	Sequence 21-22 Non	10 Secs	
	AKXD-XD-			1280 A	LTERNATE		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	[2]

22	G140L - BA		COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40	Sequence 21-22 Non		
	SELINE SP	(1) AL V 10	COS/1 C V, THVIE-TAO, I SA	1280 A	0;	-Int in ACO/PEAKX	[==>]	
	ECTRUM			1280 A	FP-POS=3;	D TEST G140L (15)	[==>]	
	(COS.sp.389 720)				FLASH=YES;			[2]
	720)				*			[2]
				0	LIFETIME-POS=A LTERNATE			
Com			S.sp.389720 gives S/N/RE = 10 at 1400	0.00 Å in 38.5800	0 seconds. BT=2/3 (838*0.75) = 420 (838*0.75)		I	
23			COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A	Sequence 23-24 Non	10 Secs	
	AKXD-XD +0.5	-XD+0.5		1280 A	LTERNATE	-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	
	(COS.sp.389							[2]
	720)							
Com	ments: ACQ/PI	EAKXD on the target	<i>offset by</i> +0.5".				Γ	
24			COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		40 Secs	
	SELINE SP ECTRUM	-XD+0.5		1280 A	0;	-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	
	(COS.sp.389				FP-POS=3;	D 1251 G1 (02 (13)		
	720)				FLASH=YES;			[2]
					LIFETIME-POS=A			
_					LTERNATE			
			S.sp.389720 gives S/N/RE = 10 at 1400					
25	G140L - PE AKXD-XD-	(1) AZV18	COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A LTERNATE	Sequence 25-26 Non -Int in ACQ/PEAKX	10 Secs	
	0.5			1280 A	LIERNATE	D TEST G140L (15)	[==>]	
	(COS.sp.389							[2]
	720)							
		EAKXD on the target	<i>50</i>					
26	G140L-BA	(1) AZV18	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40	Sequence 25-26 Non		
	SELINE SP ECTRUM			1280 A	0;	-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	
	(COS.sp.389				FP-POS=3;	B 1251 01.02 (10)		
	720)				FLASH=YES;			[2]
					LIFETIME-POS=A			
<i>a</i>			G 200720 : GAVBE 10 : 140	0 00 1 : 20 5000	LTERNATE	(100)		ļ
			S.sp.389720 gives S/N/RE = 10 at 1400					
27	G140L - PE AKXD-XD-	(15) AZV18-OFFSE T-VD+1-5	COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A LTERNATE	Sequence 27-28 Non -Int in ACO/PEAKX	10 Secs	
	1.5	1-AD+1.3		1280 A	LIERNATE	D TEST G140L (15)	[==>]	
	(COS.sp.389					` '		[2]
_	720)							
		EAKXD on the target	- W	G1 107	DVIDED TO 10	2 22 20 32	10.0	
28	G140L - BA SELINE SP		COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40 0;	Sequence 27-28 Non -Int in ACQ/PEAKX	40 Secs	
	ECTRUM	1 AD+1.5		1280 A	FP-POS=3;	D TEST G140L (15)	[==>]	
	(COS.sp.389				*			523
	720)				FLASH=YES;			[2]
					LIFETIME-POS=A LTERNATE			
	ments: Confirm	ation Spectrum CO	S.sp.389720 gives S/N/RE = 10 at 1400	0 00 Å in 38 5800		(we use 400)	L	
Com	menus. Conjum		COS/FUV, ACQ/PEAKXD, PSA	G140L	LIFETIME-POS=A	Sequence 29-30 Non	10 Secs	
	C1401 DE	(1) AL V 10	COS/FUV, ACQ/PEAKAD, PSA		LIFETIME-POS=A LTERNATE	-Int in ACQ/PEAKX		
	G140L - PE AKXD-XD					D TECT C1 (01 (15)	[==>]	
	AKXD-XD +1.5			1280 A		D TEST G140L (15)	1, ,	ra1
	AKXD-XD			1280 A		D TEST G140L (15)		[2]

ropc	<u> sal 12797 - ACQ/P</u>	<u>EAKXD TEST G140L (15</u>	<u>) - Second</u>	COS FUV Lifetim	<u>ne Position: F</u>	<u>UV Target Acc</u>	<u>quisition Parameter Upo</u>	<u>date {</u>
30		COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=40		Sequence 29-30 Non	40 Secs	
	SELINE SP ECTRUM		1280 A	0;		-Int in ACQ/PEAKX D TEST G140L (15)	[==>]	
	(COS.sp.389			FP-POS=3;		()		(2)
	720)			FLASH=YES;				[2]
				LIFETIME-POS=A LTERNATE				
Co	mments: Confirmation Spectrum	n. COS.sp.389720 gives S/N/RE = 10 at 14	00.00 Å in 38.580	0 seconds. BT=2/3 (838*0.7	75) = 420 (we use 400))		
31	()	COS/FUV, TIME-TAG, BOA	G140L	LIFETIME-POS=A			832 Secs	
	L (COS.sp.389		1280 A	LTERNATE; BUFFER-TIME=40			[==>]	
	922)			00;				[2]
				FP-POS=3				
Co	mments: COS.sp.389922							
Ex	$posure\ time\ (seconds) = 2.000.0$	000 at wavelength 1310.00 Å gives: SNR =	= 5.5036 (per reso	lution element) Time shorte	d because we added in	the PEAKD at the beg	inning of the visit.	
32	S/C to RES DARK	S/C, DATA, NONE	, ,	,	SPEC COM INSTR	,	8 Secs	
	ET the G140 L/1280 focu				ELOSMPATCH;		[==>]	
	S S				QESIPARM ACTIO N REPLACE;			
					QESIPARM GRATI			
					NG G140L;			[2]
					QESIPARM CENT WAVE 1280;			
					QESIPARM FOCUS 19			
Co	mments: Special Commanding to	o RESET the G140L/1280 settings to the n	ominal value (19).					
Th	e SCR 344 FSW has the followin	g focus G140L positions;						
ce	onst pcmech_OSM_position_tab	le_struct pcmech_OSMTbl[MECH_OSM_	TABLE_SIZE] =					
	{1, 1230, 1591, -30, 3	35092, 39716}, /* G140L, OSM1 */ \$5055, 39680}, /* G140L, OSM1 */ \$5050, 39675}, /* G140L, OSM1 */						





Proposal 12797 - Verification Visit (16) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FENA4)

Proposal 12797, Verification Visit (16), implementation

Diagnostic Status: Warning

Diagnostics

Fixed Targets

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

Special Requirements: ORIENT 132.5D TO 137.5 D; BETWEEN 23-JUL-2012 AND 30-JUL-2012; ON HOLD

Comments: Test ACQ/PEAKXD for each grating, then perform two full TA sequences, one with G160M, one with G130M. Orientation for Visit 6 is (135 +/- 2.5), which is good from Jul 02, to Aug 07, 2012. After that, we will need to change the roll angle and redefine the targets. We now start with a G130M PEAKXD to see if the SIAF file is off in the XD. This visit retains the focus adjustments, but not the HV ramp up/down.

Wed Jul 25 01:38:59 GMT 2012

On Hold Comments: This visit shows the actual Verification visit without the HV rampup overheads.

(Verification Visit (16)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/PEAKXD.

(Verification Visit (16)) 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.

(Verification Visit (16)) Warning (Form): If the target coordinates are not known to 0.4" (or better) an ACQ/SEARCH should precede the ACQ/IMAGE.

<u> </u>									
	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(2) 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 of	all year. The roll angle for the offsets is set to 180	0+/-2.5 (Jun 5-12, 2012)						
	Proper Motions from 2008ApJS175297A 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 secondary target used is WD1657+343 and the exposure times are based on a spectrum provided by A. Aloisi (extrapolated in wavelength). The nominal exposure time For BOA/MIRRORB/NUV imaging the time is 98s (COS.ta.389915). For PSA/G130M/1309, we get S/N=60 in 2.6sec (COS.sa.389905).								

For PSA/G140L/1280, we get S/N=60 in 40 sec (COS.sa.389908). For PSA/G160M/1600, we get S/N=60 (Seg A) in 11 sec (COS.sa.389907).

		Offset from WD1657+343 by	Radiai velocity: /8 km/sec	V=16.4+/-0.1	Offset Position (WD1657+343-OFFSE1-
NW-1.4 <i>A</i>	AS	RA Offset: 2.77778E-4 Degrees			NW-1.4AS)
					Reference Frame: ICRS
		Dec Offset: -1.0 Arcsec			Reference France, Texas

Comments: The new roll angle is set to 135+/-2.5. This target is offset 1" in -X, +Y or delta[AD,XD]=(1,-1)"

WD1657+343 offset for ACQ Sequence for a roll angle of 135 +/- 2.5

(AD,XD)=(0,-1.0")=1"@45° E of N

RA = + sqrt(2)"* $cos(45^{\circ}) = +1$ "=0.00027777778°

 $DEC = -sqrt(2)"*sin(45^{\circ}) = -1"$

(22)WD1657+343-OFFSET- Offset from WD1657+343 by Radial Velocity: 78 km/sec V=16.4+/-0.1Offset Position (WD1657+343-OFFSET-XD-1.0) XD-1.0 RA Offset: 0.0 Degrees Reference Frame: ICRS

Dec Offset: 1.0 Arcsec

Comments: The new roll angle is set to 135+/-2.5. This offset is 1" in -Y (XD).

WD1657+343 offset for ACQ/PEAKXD $(AD,XD)=(0,1.0^{\circ\prime\prime})=1^{\circ\prime\prime}$ to the S

RA=0, DEC=+1.0"

Proposal 12797 - Verification Visit (16) - Second COS FUV Lifetime Position: FUV Target Acquisition Parameter Update (FENA4) Label **Target** Config, Mode, Aperture Spectral Els. Opt. Params. Special Regs. Groups Exp. Time/[Actual Dur.] Orbit (ETC Run) 2 nuv a/im (2) WD1657+343 COS/NUV, ACQ/IMAGE, BOA MIRRORA GS ACO SCENARI 100 Secs O BASE1BN3 (COS.ta.389 I = = > 1[1] 915) Comments: NUV ACO/IMAGE with BOA+MIRRORA to define centering, COS.ta.389915 Requested Signal/Noise Ratio = 60.000 gives: Time = 98.1324 seconds S/C to updat DARK S/C, DATA, NONE SPEC COM INSTR 8 Secs e the G130 ELOSMPATCH; *[==>1* M/1309 focu **OESIPARM ACTIO** s from 170 t N REPLACE; o 290 (+120 **OESIPARM GRATI** NG G130M: [1] OESIPARM CENT WAVE 1309; **OESIPARM FOCUS** 290 Comments: Special Commanding to overwrite the G130M/1309 settings with the SLP focus position. FENA3 Results suggest we need a +120 focus step adjustment from these values. So, G130M/1309 goes from 170 to The SCR 344 FSW has the following focus G130M positions; const pcmech_OSM_position_table_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = { {0, 1055, 8095, -170, 2750, 7402}, /* G130M, OSM1 */ {0, 1096, 8078, -170, 2665, 7312}, /* G130M, OSM1 */ {0, 1291, 7999, -170, 2259, 6898}, /* G130M, OSM1 */ {0, 1300, 7995, 0, 2238, 6877}, /* G130M, OSM1 */ {0, 1309, 7991, 170, 2218, 6857}, /* G130M, OSM1 */ Exposures {0, 1318, 7987, 340, 2198, 6837}, /* G130M, OSM1 */ {0, 1327, 7983, 511, 2177, 6816}, /* G130M, OSM1 */ G130M - PE (2) WD1657+343 COS/FUV, ACO/PEAKXD, PSA G130M LIFETIME-POS=A 3 Secs AKXD - No LTERNATE 1309 A [==>1 minal [1] (COS.sa.389 905) Comments: ACO/PEAKXD at the nominal position to test any SIAF file issue in the XD. The actual count rate from a previous COS exposure was 0.07-0.14 counts/s/column, or a total count rate of ~1-2000 counts/segment/second. In 3s, we obtained > 3600 counts/RE. G130M - O (22) WD1657+343- COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=20 Sequence 4-6 Non-In 12 Secs t in Verification Visit $I_{==>1}$ FFSET SPE OFFSET-XD-1.0 0; 1309 A CTRUM FP-POS=3; (COS.sa.389 FLASH=YES; [1] 905) LIFETIME-POS=A LTERNATE Comments: COS.sa.389910 gives S/N=60 in only in 2.6s, we go for 12 because that is the lamp flash time. G130M - PE (22) WD1657+343- COS/FUV, ACO/PEAKXD, PSA G130M LIFETIME-POS=A Sequence 4-6 Non-In 3 Secs t in Verification Visit AKXD-XD- OFFSET-XD-1.0 LTERNATE I==>11309 A 1.0 (16)[1] (COS.sa.389 905) Comments: ACO/PEAKKD, see previous comment

						FUV Target A		ameter Update {FENA4]	<u> </u>
6	G130M - C ONFIRMA TION SPEC TRUM (COS.sa.389 905)	(22) WD1657+343- OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G130M 1309 A	BUFFER-TIME=20 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE		Sequence 4-6 Non-In t in Verification Visit (16)	20 Secs [==>]	[1]
Con	ıments: Confirn	nation spectrum. CO	S.sa.389905 Gives = 40.000 for Segma	ent A only in 1.16 S/		Os to get a good look.			<u> </u>
The	actual count ra	ıte from Visit 1 was 0	0.07-0.14 counts/s/column, or a total co	ount rate of ~1-2000) counts/segment/second	. In 20s, we obtained 8-	·17 counts/RE.		
7		(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20	·	Sequence 7-9 Non-In		
	FFSET SPE CTRUM (COS.sa.389			1309 A	0; FP-POS=3;		t in Verification Visit (16)	[==>]	
	905)				FLASH=YES; LIFETIME-POS=A LTERNATE				[1]
Con	ments: COS.sa	1.389905 Gives = 40.	000 for Segment A only in 1.16 S/N=6	60 in 3s. we go for 12		n flash time			<u> </u>
3	G130M - PE	(2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A	,,	Sequence 7-9 Non-In	3 Secs	
	AKXD-XD +1.0 (COS.sa.389 905)			1309 A	LTERNATE		t in Verification Visit (16)	[==>]	[1]
Con	ments: ACQ/P	EAKKD							
9	G130M - C ONFIRMA	(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20 0;		Sequence 7-9 Non-In t in Verification Visit		<u> </u>
	TION SPEC			1309 A	FP-POS=3;		(16)	[==>]	
	TRUM (COS.sa.389			FLASH=YES;				[1]	
	905)				LIFETIME-POS=A LTERNATE				
Con	ıments: Confirn	nation spectrum. CO	S.sa.389905 Gives = 40.000 for Segme	ent A only in 1.16 S/	N=60 in 3s, we go for 2	Os to get a good look.			
10	S/C to updat	DARK	S/C, DATA, NONE			SPEC COM INSTR		8 Secs	
	e the G140L /1280 focus					ELOSMPATCH; QESIPARM ACTIO		[==>]	1
	(19-165)					N REPLACE;			1
						QESIPARM GRATI NG G140L;			[1]
						QESIPARM CENT WAVE 1280;			
						QESIPARM FOCUS -146			
			erwrite the G140L/1280 settings with the	he SLP focus positio	n.	- 10			
Ana	lysis of 12796 a	lata indicate a move	of -165 is appropriate for the G140L						
The cor	SCR 344 FSW ast pcmech_OS	has the following foc M_position_table_str	cus G140L positions; ruct pcmech_OSMTbl[MECH_OSM_1	TABLE_SIZE] =					
	{1, 123	30, 1591, -30, 35055	2, 39716}, /* G140L, OSM1 */-> -5.5, 39680}, /* G140L, OSM1 */-> -19.30675, /* G140L, OSM1 */	95					
	{1, 128	80, 1590, 19, 35050), 39675}, /* G140L, OSM1 */ -> -14	40					

11	G140L - BA (22 SELINE SP OF ECTRUM (COS.sa.389 908)	2) WD1657+343- FFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=50 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 11-13 Non -Int in Verification V isit (16)	7 Secs [==>]	[1]
Com	nents: COS.sa.38	89908 Gives S/N=6	0 for Seg A only in 4s. (BT=2/3*790)	=527s				
	G140L - PE (22 AKXD-XD- OF 1.0 (COS.sa.389 908)	2) WD1657+343- FFSET-XD-1.0	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=A LTERNATE	Sequence 11-13 Non -Int in Verification V isit (16)	4 Secs [==>]	[1]
			O for Seg A only in 4s. $(BT=2/3*790)$				T	
	G140L - CO (22 NFIRMATI OF ON SPECT RUM (COS.sa.389 908)		COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=70 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 11-13 Non -Int in Verification V isit (16)	10 Secs [==>]	[1]
Com	nents: COS.sa.38	89908 Gives S/N=6	O for Seg A only in 4s. $(BT=2/3*790)$	=527s				•
14	G140L - BA (2) SELINE SP ECTRUM (COS.sa.389) WD1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=50 0; FP-POS=3;	Sequence 14-16 Non -Int in Verification V isit (16)	7 Secs [==>]	
	908)				FLASH=YES; LIFETIME-POS=A LTERNATE			[1]
	nents: COS.sa.389 G140L - PE (2)		O for Seg A only in 4s. (BT=2/3*790) COS/FUV, ACQ/PEAKXD, PSA	=32/s G140L	LIFETIME-POS=A	Sequence 14-16 Non	4 Cass	
	AKXD-XD +1.0 (COS.sa.389 908)) WD1037+343	COS/FUV, ACQ/FEARAD, FSA	1280 A	LTERNATE	-Int in Verification V isit (16)	[==>]	[1]
Com	nents: COS.sa.38	89908 Gives S/N=6	0 for Seg A only in 4s. (BT=2/3*790)	=527s				
	G140L - CO (2) NFIRMATI ON SPECT RUM (COS.sa.389 908)) WD1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=50 0; FP-POS=3; FLASH=YES; LIFETIME-POS=A LTERNATE	Sequence 14-16 Non -Int in Verification V isit (16)	10 Secs [==>]	[1]

<u> 22 posal 12</u>	<u> 797 - Verificatio</u>	<u>n Visit (16) - Second CC</u>	<u>JS FUV Li</u>	<u>tetime Position: I</u>	<u>-UV Target Ac</u>	equisition Para	<u>ameter Update {FENA4</u>	.}
17 S/C to up	odat DARK	S/C, DATA, NONE			SPEC COM INSTR		8 Secs	
e the G1 M/1600 s from -4	focu 14 to				ELOSMPATCH; QESIPARM ACTIO N REPLACE;		[==>]	
+116 (+1	160)				QESIPARM GRATI NG G160M;			[1]
					QESIPARM CENT WAVE 1600;			
					QESIPARM FOCUS 116			
Comments: Sp+116.	ecial Commanding to ove	erwrite the G160M/1600 settings with t	he SLP focus pos	sition. FENA3 Results sugge	est we need a +160 focu	s step adjustment fron	n these values. So, G160M/1600 goes f	from -44 to
const pcmech {2 {2 {2 {2 {2	2, 1577, 11203, -384, 1869 2, 1589, 11199, -214, 1867 2, 1600, 11195, -44, 1865 2, 1611, 11191, 126, 1863	cus G160M positions; ruct pcmech_OSMTbl[MECH_OSM_T/ 93, 23323}, /* G160M, OSM1 */ 71, 23301}, /* G160M, OSM1 */ 11, 23281], /* G160M, OSM1 */ 81, 23261}, /* G160M, OSM1 */ 19, 23239), /* G160M, OSM1 */	ABLE_SIZE] =					
		COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70			22 Secs	
PECTRU	ASELINE S OFFSET-XD-1.0 PECTRUM	XD-1.0	1600 A	0; FP-POS=3;		-Int in Verification V isit (16)	[==>]	
(COS.sa. 907)	.389			FLASH=YES;				[1]
				LIFETIME-POS=A LTERNATE				
	ectrum of source to check	· · · · · · · · · · · · · · · · · · ·					I	T
	- PE (22) WD1657+343- XD- OFFSET-XD-1.0	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A LTERNATE		Sequence 18-20 Non -Int in Verification V	11 Secs	
1.0 (COS.sa. 907)			1600 A	ETERRATE		isit (16)	[==>]	[1]
	CQ/PEAKD on -1.0" offse						T	1
	- C (22) WD1657+343- MA OFFSET-XD-1.0	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70 0;		Sequence 18-20 Non -Int in Verification V	12 Secs	
TION SI TRUM			1600 A	FP-POS=3;		isit (16)	[==>]	
(COS.sa	.389			FLASH=YES;				[1]
907)				LIFETIME-POS=A LTERNATE				
Comments: Co BT=2/3*1,412	OS.sa.389907. Gives S/N= 2 or ~1,000. We use 700 to	=60 for Segment A only in 10.8. wo go j o be safe.	for 12 secs, the lo	amp flash time.				
	O (2) WD1657+343	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70		Sequence 21-23 Non	12 Secs	
FFSET S CTRUM			1600 A	0; FP-POS=3;		-Int in Verification V isit (16)	[==>]	
(COS.sa. 907)	.389			FLASH=YES;				[2]
ŕ				LIFETIME-POS=A LTERNATE				
Comments: Cl	neck spectrum location.							•
	- PE (2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=A		Sequence 21-23 Non		
+1.0 (COS.sa. 907)			1600 A	LTERNATE		-Int in Verification V isit (16)	[==>]	[2]
Comments: AC	CQ/PEAKXD							1

	G160M - C (2) WD1657+343 COS/FUV, TIME-TAG, PSA ONFIRMA TION SPEC TRUM (COS.sa.389	COS/FUV, TIME-TAG, PSA	G160M 1600 A	BUFFER-TIME=70 0; FP-POS=3; FLASH=YES;	Sequence 21-23 Non -Int in Verification V isit (16)	22 Secs [==>]	[2	
	907)				LIFETIME-POS=A LTERNATE			
		nation spectrum					T	
24			COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70	Sequence 24-30 Non -Int in Verification V	20 Secs	
	FFSET SPE OFFSET-NW-1.4AS CTRUM		1600 A	0; ED DOC 2:	isit (16)	[==>]		
	(COS.sa.389				FP-POS=3;			10
	907)				FLASH=YES;			[2
					LIFETIME-POS=A LTERNATE			
Com	ments: COS.sa	a.389907. Gives S/N=6	60 for Segment A only in 10.8. wo go j	for $4x$ that. $BT=2$	2/3*1,412 or ~1,000. We use 700 to be	safe.		
25	G160M - A	(21) WD1657+343-	COS/FUV, ACQ/SEARCH, PSA	G160M	CENTER=FLUX-W	Sequence 24-30 Non	8 Secs	
	CQ/SEARC OFFSET-NW-1.4AS H on OFFS ET (COS.sa.389 907)	1600 A	T-FLR;	-Int in Verification V isit (16)	[==>]			
			SCAN-SIZE=3;	13.11 (1.17)		[2		
			LIFETIME-POS=A LTERNATE					
		1.389907. Gives S/N=6 -1,000. We use 700 to 1	60 for Segment A only in 10.8. be safe.					
6	G160M - C	(21) WD1657+343-	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70	Sequence 24-30 Non	40 Secs	
	ONFIRMA OFFSET-NW-1.4AS TION SPEC		1600 A	0;	-Int in Verification V	[==>]		
	TRUM	TRUM			FP-POS=3;	isit (16)		
	(COS.sa.389			FLASH=YES;			[2	
	907)				LIFETIME-POS=A LTERNATE			
Comi	ments: COS.sa	a.389907. Gives S/N=6	60 for Segment A only in 10.8. wo go j	for 4x that. BT=2	2/3*1,412 or ~1,000. We use 700 to be	safe.		
	G160M - A (21) WD1657+343- CQ/PEAKX OFFSET-NW-1.4AS D on OFFS		G160M	LIFETIME-POS=A		11 Secs		
		1600 A	LTERNATE	-Int in Verification V isit (16)	[==>]			
	ET (COS.sa.389 907)					isit (10)		[2
Com	ments: COS.sa	a.389907. Gives S/N=6	60 for Segment A only in 10.8.					'
			COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=70		40 Secs	
	TION SPEC	OFFSET-NW-1.4AS		1600 A	0;	-Int in Verification V isit (16)	[==>]	
	TRUM				FP-POS=3;	1511 (10)		
	(COS.sa.389 907)				FLASH=YES;			[2
	907)		LIFETIME-POS=A LTERNATE					
				for $4x$ that. $BT=2$	2/3*1,412 or ~1,000. We use 700 to be	safe.		
29			COS/FUV, ACQ/PEAKD, PSA	G160M	NUM-POS=7;		10 Secs	
		OFFSET-NW-1.4AS		1600 A	STEP-SIZE=0.45;		[==>]	
	(COS.sa.389 907)	(COS.sa.389			LIFETIME-POS=A LTERNATE			[2
Comi	ments: ACQ/P	PEAKD. COS.sa.38990	7					•
	CQ/PEAKD on OFFSET (COS.sa.389 907)	OFFSET-NW-1.4AS			STEP-SIZE=0.45; LIFETIME-POS=A	Sequence 24-30 Non -Int in Verification V isit (16)		

rop	osal 12797	<u> ' - Verificatior</u>	<u>n Visit (16) - Second CC</u>	<u>OS FUV Life</u>	time Position:	<u>FUV Target Ad</u>	<u>cquisition Para</u>	<u>ameter Update {FENA4</u>	}
30	G160M - C	(21) WD1657+343-	COS/FUV, TIME-TAG, PSA	G160M		POS TARG 0.333,nu	Sequence 24-30 Non	40 Secs	
	ONFIRMA TION SPEC	OFFSET-NW-1.4AS		1600 A	0;	11	-Int in Verification V isit (16)	[==>]	
	TRUM				FP-POS=3;		1511 (10)		
	(COS.sa.389 907)				FLASH=YES;				[2]
	,				LIFETIME-POS=A LTERNATE				
C	omments: COS.sa	1.389907. Gives S/N=0	60 for Segment A only in 10.8. wo go f	For $4x$ that. $BT=2/3$	*1,412 or ~1,000. We us	e 700 to be safe.			Į.
31	G130M - O	(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20	м	Sequence 31-35 Non	20 Secs	
	FFSET SPE CTRUM			1309 A	0;		-Int in Verification V isit (16)	[==>]	
	(COS.sa.389				FP-POS=3;		1sit (10)		
	905)				FLASH=YES;				[2]
					LIFETIME-POS=A LTERNATE				
C_{ϵ}	omments: ACQ/P	EAKXD. COS.sa.3899	$905 \; Gives = 40.000 \; for \; Segment \; A \; only$	y in 1.16 S/N=60 in	1 3s. BT=2/3*476				
32		(2) WD1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=A		Sequence 31-35 Non	3 Secs	
	AKXD (COS.sa.389			1309 A	LTERNATE		-Int in Verification V isit (16)	[==>]	[2]
	905)						, ,		[2]
C_{ℓ}			905 Gives = 40.000 for Segment A only	y in 1.16 S/N=60 in	1 3s. The target should b	e offset by 1" in both Al			
33	G130M - C ONFIRMA	(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20 0;		Sequence 31-35 Non -Int in Verification V		
	TION SPEC			1309 A	FP-POS=3;		isit (16)	[==>]	
	TRUM (COS.sa.389				FLASH=YES:				[2]
	905)				LIFETIME-POS=A				1-1
					LTERNATE				
C_{ϵ}	omments: ACQ/P	EAKXD. COS.sa.3899	905 Gives = 40.000 for Segment A onl	y in 1.16 S/N=60 in	ı 3s				T
34	G130M - PE AKD	(2) WD1657+343	COS/FUV, ACQ/PEAKD, PSA	G130M	NUM-POS=5;		Sequence 31-35 Non -Int in Verification V	3 Secs	
	(COS.sa.389			1309 A	STEP-SIZE=0.8;		isit (16)	[==>]	<i>1</i> 23
	905)				LIFETIME-POS=A LTERNATE				[2]
$C\epsilon$	omments: ACQ/P	EAKD. COS.sa.38990	05 Gives S/N=40 for Segment A only in	n 1.2s, S/N=60 in 3	s. The target should be	offset by 1" in both AD	and XD, so this is a ch	allenging TA.	
35		(2) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=20		Sequence 31-35 Non	60 Secs	
	ONFIRMA TION SPEC			1309 A	0;		-Int in Verification V isit (16)	[==>]	
	TRUM				FP-POS=3;		()		<i>121</i>
	(COS.sa.389 905)				FLASH=YES; LIFETIME-POS=A				[2]
					LTERNATE				
C_{ϵ}	omments: Confirm	nation Spectrum on C	entered Target. ACQ/PEAKXD. COS	.sa.389905 Gives S	S/N= 40 for Segment A o	nly in 1.16 S/N=60 in 3	B_S		
		_							

Proposal 12797 - Verifica	ation Visit (16) - Second COS FUV Lifetim	ne Position: FUV Target Acquisition	n Parameter Update {F	ENA4}
36 S/C to RES DARK	S/C, DATA, NONE	SPEC COM INSTR	8 Secs	
ET the G140 L/1280 focu		ELOSMPATCH; OESIPARM ACTIO	[==>]	
S		N REPLACE;		
		QESIPARM GRATI NG G140L;		[2]
		QESIPARM CENT		[2]
		WAVE 1280;		
		QESIPARM FOCUS 19		
Comments: Special Commanding t	o RESET the G140L/1280 settings with the it's nominal value (19).			
{1, 1105, 1598, -370, {1, 1230, 1591, -30, .	ng focus G140L positions; nle_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] = 35092, 39716},			
37 S/C to RES DARK	S/C, DATA, NONE	SPEC COM INSTR	8 Secs	
ET the G130 M/1309 focu		ELOSMPATCH; OESIPARM ACTIO	[==>]	
S		N REPLACE;		
		QESIPARM GRATI NG G130M;		[2]
		QESIPARM CENT WAVE 1309;		
		QESIPARM FOCUS 170		
,	o RESET the G130M/1309 settings with the original focus, the SCR	, ,	T	
38 S/C to RES DARK ET the G160	S/C, DATA, NONE	SPEC COM INSTR ELOSMPATCH;	8 Secs	
M/1600 focu s		QESIPARM ACTIO N REPLACE;	[==>]	
		QESIPARM GRATI NG G160M;		[2]
		QESIPARM CENT WAVE 1600;		
		QESIPARM FOCUS -44		
Comments: Special Commanding t	o RESET the G160M/1600 settings with it's nominal position (-44).			
The SCR 344 FSW has the followin const pcmech_OSM_position_tab	ng focus G160M positions; le_struct pcmech_OSMTbl[MECH_OSM_TABLE_SIZE] =			
{2, 1589, 11199, -214, {2, 1600, 11195, -44, {2, 1611, 11191, 126,	18693, 23323}, /* G160M, OSM1 */ 18671, 23301}, /* G160M, OSM1 */ 18651, 23281}, /* G160M, OSM1 */ 18631, 23261}, /* G160M, OSM1 */ 18609, 23239}, /* G160M, OSM1 */			

