



18233 - COS LP11 FUV Target Acquisition Enabling and Verification

Cycle: 33, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) WDG-1 (2) WDG-1-OFFSET+1AD+1XD-VISIT1	COS/FUV COS/NUV	1	30-Sep-2026 07:00:16.0	yes
02	(1) WDG-1 (3) WDG-1-OFFSET+0.7AD-VISIT2 (5) WDG-1-OFFSET+0.3AD-VISIT2	COS/FUV COS/NUV	1	30-Sep-2026 07:00:18.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
03	(1) WDG-1 (4) WDG-1-OFFSET+0.7XD-VISIT3 (6) WDG-1-OFFSET+0.3XD-VISIT3	COS/FUV COS/NUV	1	30-Sep-2026 07:00:19.0	yes
04	(1) WDG-1 (7) WDG-1-OFFSET+1AD+1XD-VISIT4 (8) WDG-1-OFFSET+1AD+1.8XD-VISIT4 (9) WDG-1-OFFSET+1.8AD+1.8XD-VISIT4	COS/FUV COS/NUV	1	30-Sep-2026 07:00:21.0	yes

4 Total Orbits Used

ABSTRACT

This program is designed to verify acquisition parameters at LP11 and to produce spectra at several regions on the detector that would normally be used for target acquisition, but for which data are not downlinked as part of the acquisition process. The idea is that if anything does go wrong with the acquisition tests we will have detailed spectra that we can then use for diagnostics.

The program uses fictitious offset targets to nod the telescope away from a centered target and then test the re-acquisition. Because these displacements need to happen along the AD and XD detector direction and target offset coordinates must be entered in RA and DEC, the ORIENT angle for each visit must be restricted to +/- 0.5 degrees, which also means a date range restriction. The date ranges and ORIENT restrictions for each visit are described in the program description. The program is modeled after the LP4/5/6/7/10 versions of this program: 16432, 16851, 17246, 17886, and 18183.

The target that will be used for enabling is WDG-1 for cenwave G140L/1280 at LP11.

The target that will be used for verification at the start of Cycle 34 is also WDG-1.

Due to RGM, visibility windows around the Cycle 34 start date (2026 Nov 1) are:

2026 Oct 19-30

2026 Dec 7-17

Prior to the execution of this program all final LP11 SIAF, aperture mechanism positions, TA subarray, and foci must have been installed. To ensure this, LP11 enabling programs 18231 and 18232 need to be completed and analyzed before execution of this program.

There is no special commanding in this program.

Please see special request at the bottom of the proposal description. Those requests still apply here.

OBSERVING DESCRIPTION

This program is structured after the LP4/5/6/7/10 TA enabling programs 16432, 16851, 17246, 17886, and 18183.

All LP11 exposures use cenwave G140L/1280.

The general structure of each visit follows the following steps (visits 01-03):

- 1- Acquire the target using NUV ACQ/IMAGE. It is assumed that NUV ACQ/IMAGE acquisitions are correctly centered because ACQ/IMAGE is routinely monitored for accuracy.
- 2 - Take a high SN spectrum to use as a baseline comparison after ACQ/IMAGE
- 3 - Use POSTARG to offset the telescope to the positions where the acquisition sequence (SEARCH, PEAKD, or PEAKXD) will take exposures and take a spectrum at each position.
- 4 - Run the acquisition sequence that was simulated in step 3 on the centered target.
- 5 - Take a spectrum to verify the centering done on step 4. Verification is done by comparing this spectrum to the one taken on step 2.
- 6 - Offset the telescope using a virtual target, and run the relevant acquisition. This step tests that the telescope can actually perform an acquisition and center an offset target. This step is repeated for a few different offsets, depending on the acquisition mode being tested. See visit level comments for details.
- 7 - Take a spectrum after the acquisition to verify centering.

We specify the exposures so that a signal-to-noise ~ 10 -15 per resel will be obtained at 1410 Å. The signal-to-noise varies over the spectral range of G140L/1280, with a S/N of up to ~ 5 at 1100Å, and ~ 5 -7 from 1600-1800Å. The signal-to-noise for WDG-1 will be a factor of ~ 2 higher than compared to previous LP4 target AV-18 for this setup.

Visit 04 uses the parameters as default. The visit level exposures describe the defaults and/or recommended parameters in each case, as per Chapter 8 of the COS IHB.

Each visit should be spaced at least 6 weeks after the previous one to allow time for analysis and modification of the next visit, if necessary. The following windows are tentative and will depend on the progress of the other enabling programs.

NOTE: The offsets used for the targets are ORIENT dependent and need to be updated/verified before every visit, along with the ORIENT update before execution.

Possible dates and orients for Cycle 33

Apr 21 2026 to May 6 2026 ORIENT=190

May 29 2026 to June 20 2026 ORIENT=224 - Later half of window is no longer tentative for v01

July 11 2026 to Aug 4 2026 ORIENT=276

Aug 29 2026 to Sept 15 2026 ORIENT=301 - New Tentative for v03

Oct 19 2026 to Oct 30 2026 ORIENT=3 - New Tentative for v01

Dec 7 2026 to Dec 18 2026 ORIENT=49 - New Tentative for v02

Jan 24 2026 to Feb 5 2027 ORIENT=100 - New Tentative for v04

NOTE: Visit 03 was moved forward ahead of visits 01 and 02 to provide spectral observations below the nominal aperture position in the detector area with possible grid wire shadow.

Visit 04 - Defaults verification. First SMS for which LP11 becomes the default for G140L, either last week of October 2026 ORIENT=3 or 2026 December 7-17 window ORIENT=49 (ORIENTS will be finalized later).

Visit 04 repeats the tests using Cycle 34 values, as opposed to specifying them explicitly (except for LIFETIME-POS, which now requires specification). This is to verify that the defaults are working properly. This visit should be run on the first day or so of Cycle 34. The precise timing should be revised when the SMS schedule is known. No FUV acquisitions at LP11 should be scheduled until the results of this visit are verified.

The exposures are described in more detail at the visit level comments.

No special commanding is needed for this program.

----SUMMARY OF RECOMMENDED FUV ACQUISITION PARAMETERS, FROM IHB, CHAPTER 8 -----

ACQ/SEARCH

SCAN-SIZE should be picked to match uncertainty, as per IHB Table 8.2. We test 2 and 3.

Default STEP-SIZE is 1.767 always

CENTER=FLUX-WT for SCAN-SIZE=2 and CENTER=FLUX-WT-FLR for SCAN-SIZE >2

ACQ/PEAKXD

Default is NUM-POS=3, CENTER=FLUX-WT, STEP-SIZE=1.3

If using NUM-POS=5 then CENTER=FLUX-WT-FLR, STEP-SIZE=0.9

ACQ/PEAKD

Default is NUM-POS=5, CENTER=FLUX-WT-FLR, STEP-SIZE=0.9

If using NUM-POS=3 then CENTER=FLUX-WT, STEP-SIZE=1.3

-----SPECIAL REQUESTS:-----

The following requests still apply even for the visit that tests default values.

- (1) Please turn off calibration for the COS/FUV exposures. These data should not be used for scientific purposes.
- (2) Please disassociate all exposures. All data that are not calibrated must be disassociated to make it into the archive.

SQL is used to meet the above requests. In (1), qexposure.control_id is modified. In (2), qeassociation records are deleted. Contact A. McCormick, M. Harr, M. Reinhart, and the distribution list HST_SOC_SE_Team@stsci.edu for further information about this process.

(3) Please avoid the use of FGS2 when possible.

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

	Proposal 18233, WDG-1 LP11/G140L ACQ/SEARCH TEST (01), implementation Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: ORIENT 3D TO 3.9 D; BETWEEN 19-OCT-2026 AND 31-OCT-2026 Comments: <i>The BETWEEN for this visit is TBD, after other enabling programs are first completed. This visit likely won't execute until June 2026.</i> <i>The ORIENT angle is TBD.</i> <i>The offsets used for the targets are ORIENT dependent and need to be updated/verified, along with the ORIENT update before execution.</i> <i>The sequence of events is:</i> 01.001 - NUV Acquisition 01.002 - centered baseline spectrum after NUV acquisition 01.003 through 01.010 - taking spectra to examine the 3x3 grid used in a 3x3 FUV acq/search - see note below about exposure times and buffer times 01.011 - perform 3x3 ACQ/SEARCH 01.012 - verification spectrum 01.013 - 3x3 ACQ/SEARCH on an offset target 01.014 - verification spectrum 01.015 - 2x2 ACQ/SEARCH on a centered target 01.016 - verification spectrum <i>For exposures 2 through 10:</i> <i>For the 3x3 offset pattern used to simulate ACQ/SEARCH, we use the same timing scheme that was used at LP6 (16851) and LP7/10 (17886). Throughput at a side position (e.g., 0.0, 1.1) is ~58%. Throughout at a corner position (1.1, 1.1) is ~28.6%. We would like the sides and the corners to have the same count rate. However, we would like to have a high SN spectrum for verifying position, so make the center 25s because that's what fits in the orbit. Buffer times are also increased to account for the vignetted flux. Here we do not use the default STEP-SIZE=1.767 because doing so would not provide enough flux. Using a smaller STEP-SIZE illuminates the same regions of the detector, but with more light.</i> <i>SCAN-SIZE should be picked to match uncertainty, as per IHB Table 8.2. We test 2 and 3.</i> <i>Default STEP-SIZE is 1.767 always</i> <i>CENTER=FLUX-WT for SCAN-SIZE=2 and CENTER=FLUX-WT-FLR for SCAN-SIZE >2</i>	Wed Sep 30 11:00:22 GMT 2026
Diagnostics	(WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser. (WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN (WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (WDG-1 LP11/G140L ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE	

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WDG-1	RA: 01 41 42.0684 (25.4252850d) Dec: -73 50 38.18 (-73.84394d) Equinox: J2000	Proper Motion RA: 1.238 mas/yr Proper Motion Dec: -1.5679999251005938 mas/yr Epoch of Position: 2000	V=11.84	Reference Frame: ICRS
Fixed Targets	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM. Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO				
	(2)	WDG-1-OFFSET+1AD+1XD-VISIT1	Offset from WDG-1 RA Offset: -0.0014091575551816518 Degrees Dec Offset: 0.08633567257326447 Arcsec	V=11.84	Offset Position (WDG-1-OFFSET+1AD+1XD-VISIT1)
Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for Cycle 33 Apr 21 2026 to May 6 2026 ORIENT=190 May 29 2026 to June 20 2026 ORIENT=227 (current offsets above apply 227) July 11 2026 to Aug 4 2026 ORIENT=270 Aug 29 2026 to Sept 15 2026 ORIENT=317 Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 18 2026 ORIENT=49 Jan 24 2027 to Feb 5 2027 ORIENT=100 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	NUV ACQ/I MAGE (COS.ta.228 4447)	(1) WDG-1	COS/NUV, ACQ/IMAGE, BOA	MIRRORB		GS ACQ SCENARI O BASE1OR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	23 Secs (23 Secs) [==>]	[1]
	Comments: ACQ/IMAGE to determine center. Used Castelli-Kurucz Models B0I 26000 normalized to V=11.84 because the exisiting spectrum does not cover the entire NUV range.									
	Note: Pickles model was used last cycle, suggesting exptime=23 second. There was a partial overlap between instrument throughput band and target spectrum. A few seconds could be shaved from the exptime, if nee ded for other exposures.									
	2	G140L/1280 - BASELIN E SPECTR UM (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FLASH=NO; BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; WAVECAL=NO		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	25 Secs (25 Secs) [==>]	[1]
Comments: Take spectrum after ACQ/IMAGE centering to establish center position. Used abutted ULLYSES spectrum (FUSE + COS G130M/G160M) for the ETC. Exposure time of 25 seconds gives SNR=14 at 1410A. See visit level note about exposures 01.002 through 01.010.										
Exposures	3	G140L/1280 - POSTARG + SPECTR UM1 (1.1,0) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=35 0; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO; FP-POS=3	POS TARG 1.1,0	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	24 Secs (24 Secs) [==>]	[1]
	Comments: (1.1, 0.0) POSTARG TO SIMULATE ACQ/SEARCH. At 1.1,0 throughput is ~58%. BUFFER-TIME is adjusted from 01.002 to take into account the decreased throughput. 250/0.58 = 430, applying 350 to be conservative. See visit level note about exposures 01.002 through 01.010.									
	S/N will be lower than baseline spectrum to fit within one orbit.									
	4	G140L/1280 - POSTARG + SPECTR UM2 (1.1,1. 1)(Corner) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=73 0; FLASH=NO; LIFETIME-POS=L P11; FP-POS=3; WAVECAL=NO	POS TARG 1.1,1.1	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	46 Secs (46 Secs) [==>]	[1]
	Comments: (1.1, 1.1) POSTARG TO SIMULATE ACQ/SEARCH. At 1.1, 1.1 (corner) throughput is ~28.6% BUFFER-TIME is adjusted from 01.002 to take into account the decreased throughput. 250/0.286 = 874, applying 730 to be conservative See visit level note about exposures 01.002 through 01.010.									
	S/N will be lower than baseline spectrum to fit within one orbit.									

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

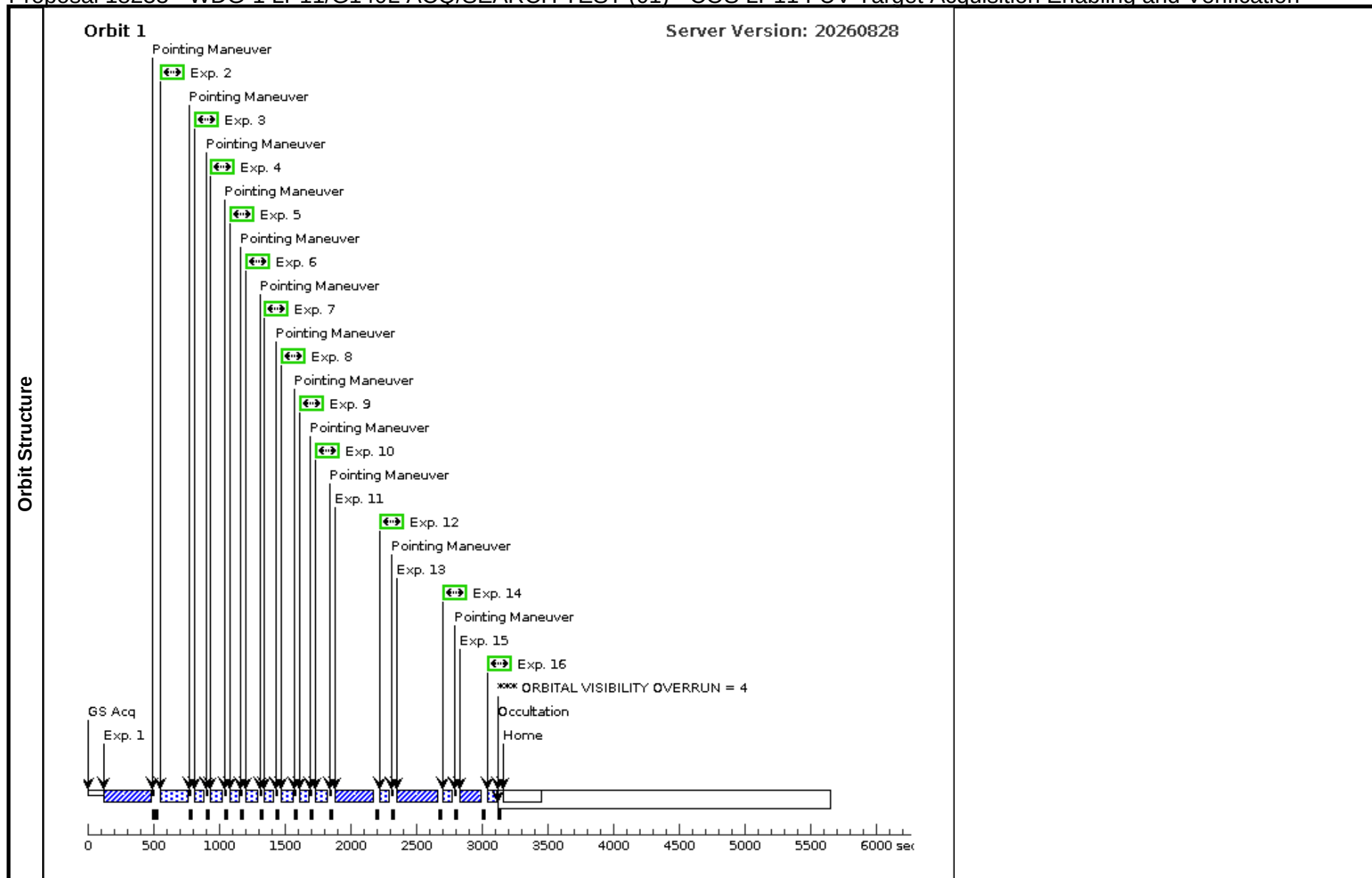
5	G140L/1280 - POSTARG + SPECTR UM3 (0,1.1) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=35 0; FLASH=NO; FP-POS=3; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,1.1	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	24 Secs (24 Secs) [==>]	[1]
Comments: (0, 1.1) POSTARG TO SIMULATE ACQ/SEARCH this is a side, so see exposure 01.003 for comments See visit level note about exposures 01.002 through 01.010.									
6	G140L/1280 - POSTARG + SPECTR UM4 (-1.1,1 .1) (Corner) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=73 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG -1.1,1.1	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	46 Secs (46 Secs) [==>]	[1]
Comments: (-1.1, 1.1) POSTARG TO SIMULATE ACQ/SEARCH this is a corner, so see exposure 01.004 for comments. See visit level note about exposures 01.002 through 01.010.									
7	G140L/1280 - POSTARG + SPECTR UM5 (-1.1,0) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=35 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG -1.1,0	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	24 Secs (24 Secs) [==>]	[1]
Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a side, so see exposure 01.003 for comments. See visit level note about exposures 01.002 through 01.010.									
8	G140L/1280 - POSTARG + SPECTR UM6 (-1.1,- 1.1) (Corner) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=73 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG -1.1,-1.1	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	46 Secs (46 Secs) [==>]	[1]
Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a corner, so see exposure 01.004 for comments. See visit level note about exposures 01.002 through 01.010.									
9	G140L/1280 - POSTARG + SPECTR UM7 (0,-1.1) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=35 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,-1.1	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	24 Secs (24 Secs) [==>]	[1]
Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a side, so see exposure 01.003 for comments. See visit level note about exposures 01.002 through 01.010.									

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

10	G140L/1280 - POSTARG + SPECTR UM8 (+1.1,- 1.1) (Corner) (COS.sp.228 1679)	(1) WDG-1 COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=73 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 1.1,-1.1 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	46 Secs (46 Secs) [==>]	[1]
Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a corner, so see exposure 01.004 for comments. See visit level note about exposures 01.002 through 01.010.							
11	G140L/1280 - ACQ/SEA RCH (COS.sa.226 9976)	(1) WDG-1 COS/FUV, ACQ/SEARCH, PSA	G140L 1280 A	SCAN-SIZE=3; STEP-SIZE=1.1; LIFETIME-POS=L P11; CENTER=FLUX-W T-FLR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	2 Secs (2 Secs) [==>]	[1]
Comments: This actually performs the ACQ/SEARCH that was mapped in exposures 01.003 to 01.010. For this reason it is not using the default STEP-SIZE of 1.76". See visit level comment on exposures 01.002 to 01.010 Requested Signal/Noise Ratio = 40.000 for Segment A and Segment B combined gives: Time = 0.5994 seconds Time Required for Requested SNR in Segment A only: 0.5994							
12	G140L/1280 - Verificatio n spectrum (COS.sp.228 1679)	(1) WDG-1 COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	25 Secs (25 Secs) [==>]	[1]
Comments: This exposure is identical to 01.002. The result should be identical as well.							
13	G140L/1280 - 3x3 ACQ/ SEARCH - OFFSET +1 AD +1XD (COS.sa.226 9976)	(2) WDG-1-OFFSET COS/FUV, ACQ/SEARCH, PSA +1AD+1XD-VISIT1	G140L 1280 A	SCAN-SIZE=3; STEP-SIZE=1.767; LIFETIME-POS=L P11; CENTER=FLUX-W T-FLR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	2 Secs (2 Secs) [==>]	[1]
Comments: Same as 01.011, but now it starts on an offset position with a virtual target at +1AD, +1XD. Note also that this one uses the default STEP-SIZE.							
14	G140L/1280 - Verificatio n spectrum (COS.sp.228 1679)	(2) WDG-1-OFFSET COS/FUV, TIME-TAG, PSA +1AD+1XD-VISIT1	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	25 Secs (25 Secs) [==>]	[1]
Comments: Functionally the same as 01.012 and 01.002, but after centering from an offset position.							

Proposal 18233 - WDG-1 LP11/G140L ACQ/SEARCH TEST (01) - COS LP11 FUV Target Acquisition Enabling and Verification

15	G140L/1280 (1) WDG-1 - 2x2 ACQ/ SEARCH - OFFSET -1 AD -1XD (COS.sa.226 9976)	COS/FUV, ACQ/SEARCH, PSA	G140L 1280 A	SCAN-SIZE=2; STEP-SIZE=1.767; LIFETIME-POS=L P11; CENTER=FLUX-W T	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	2 Secs (2 Secs) [==>]	[1]
Comments: 2x2x1.767" ACQ/SEARCH, default settings explicitly selected. Starting from target offset by -1AD, -1XD.							
16	G140L/1280 (1) WDG-1 - Verificatio n spectrum (COS.sp.228 1679)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/SEAR CH TEST (01)	24 Secs (24 Secs) [==>]	[1]
Comments: To verify the ACQ/SEARCH results. Identical to 01.002							



Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKD TEST (02) - COS LP11 FUV Target Acquisition Enabling and Verification

Wed Sep 30 11:00:22 GMT 2026

Proposal 18233, WDG-1 LP11/G140L ACQ/PEAKD TEST (02), implementation		Wed Sep 30 11:00:22 GMT 2026															
Visit	Diagnostic Status: Warning																
	Scientific Instruments: COS/FUV, COS/NUV																
	Special Requirements: ORIENT 3D TO 3.9 D; BETWEEN 19-OCT-2026 AND 31-OCT-2026																
	Comments: ***** The BETWEEN for this visit is TBD, after other enabling programs are first completed.																
	The offsets used for the targets are ORIENT dependent and need to be updated/verified, along with the ORIENT update before execution.																
	The ORIENT angle is TBD. Any ORIENT is possible, but if the ORIENT changes then the PI will have to change the offsets for the virtual targets (not hard to do). *****																
	First we perform an ACQ/IMAGE and take a G140L/1280 high SN spectrum and use it as the baseline for comparing the position of the other spectra.																
	We then perform an actual 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKD on the centered target and take a spectrum. The position of this spectrum should be centered to the same specifications as the flux weighted centroiding in the previous step.																
	We simulate a 5x0.8" ACQ/PEAKD taking short spectra. We start with the centered (0) position then go to -1.6" in X and proceed in steps of 0.8" out to +1.6" X. The flux weighted centroid of all 5 exposures should provide the same result as the acquisition.																
	We then use virtual targets to perform 5x0.9" ACQ/PEAKD starting from offsets of -0.7" and +0.7". We then repeat the process for a 3x1.3 ACQ/PEAKD for offsets of -0.3" and +0.3".																
Default is NUM-POS=5, CENTER=FLUX-WT-FLR, STEP-SIZE=0.9 If using NUM-POS=3 then CENTER=FLUX-WT, STEP-SIZE=1.3																	
In this visit we take a 25s exposure to be the baseline value for the POSTARG observations. ETC calculation COS.sp.2281679. We scale exptimes for the POSTARG'd spectra by the expected throughput (which is a function of radius), as implemented in previous iterations of this program. Note that recent analyses indicate throughput loss may actually be larger for 1.6" offsets than stated below.																	
<table><tr><td>OFFSET</td><td>%LOSS</td><td>ET equivalent/second</td><td>ET</td></tr><tr><td>0.00</td><td>0.00</td><td>1.00</td><td>25s</td></tr><tr><td>0.80</td><td>20.00</td><td>1.25</td><td>31s</td></tr><tr><td>1.60</td><td>73.33</td><td>3.75</td><td>94s</td></tr></table>		OFFSET	%LOSS	ET equivalent/second	ET	0.00	0.00	1.00	25s	0.80	20.00	1.25	31s	1.60	73.33	3.75	94s
OFFSET	%LOSS	ET equivalent/second	ET														
0.00	0.00	1.00	25s														
0.80	20.00	1.25	31s														
1.60	73.33	3.75	94s														
Diagnostics	(WDG-1 LP11/G140L ACQ/PEAKD TEST (02)) Warning (Form): COS ACQ/PEAKD exposure should be preceded by an ACQ/PEAKXD exposure in the Visit.																
	(WDG-1 LP11/G140L ACQ/PEAKD TEST (02)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.																
	(WDG-1 LP11/G140L ACQ/PEAKD TEST (02)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN																
	(WDG-1 LP11/G140L ACQ/PEAKD TEST (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE																
	(WDG-1 LP11/G140L ACQ/PEAKD TEST (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE																

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKD TEST (02) - COS LP11 FUV Target Acquisition Enabling and Verification

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	WDG-1	RA: 01 41 42.0684 (25.4252850d) Dec: -73 50 38.18 (-73.84394d) Equinox: J2000	Proper Motion RA: 1.238 mas/yr Proper Motion Dec: -1.5679999251005938 mas/yr Epoch of Position: 2000	V=11.84	Reference Frame: ICRS
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM. Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					
	(3)	WDG-1-OFFSET+0.7AD-VISIT2	Offset from WDG-1 RA Offset: -4.6303942541566195E-4 Degrees Dec Offset: 0.5242690045523014 Arcsec		V=11.84	Offset Position (WDG-1-OFFSET+0.7AD-VISIT2)
Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for Cycle 33 Apr 21 2026 to May 6 2026 ORIENT=190 May 29 2026 to June 20 2026 ORIENT=227 (current offsets above apply 227) July 11 2026 to Aug 4 2026 ORIENT=270 Aug 29 2026 to Sept 15 2026 ORIENT=317 Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 18 2026 ORIENT=49 Jan 24 2027 to Feb 5 2027 ORIENT=100 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO						
(5) WDG-1-OFFSET+0.3AD-VISIT2 Offset from WDG-1 V=11.84 Offset Position (WDG-1-OFFSET+0.3AD-VISIT2) RA Offset: -1.984454680352837E-4 Degrees Dec Offset: 0.2246867162367006 Arcsec Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for Cycle 33 Apr 21 2026 to May 6 2026 ORIENT=190 May 29 2026 to June 20 2026 ORIENT=227 (current offsets above apply 227) July 11 2026 to Aug 4 2026 ORIENT=270 Aug 29 2026 to Sept 15 2026 ORIENT=317 Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 18 2026 ORIENT=49 Jan 24 2027 to Feb 5 2027 ORIENT=100 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO						

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKD TEST (02) - COS LP11 FUV Target Acquisition Enabling and Verification

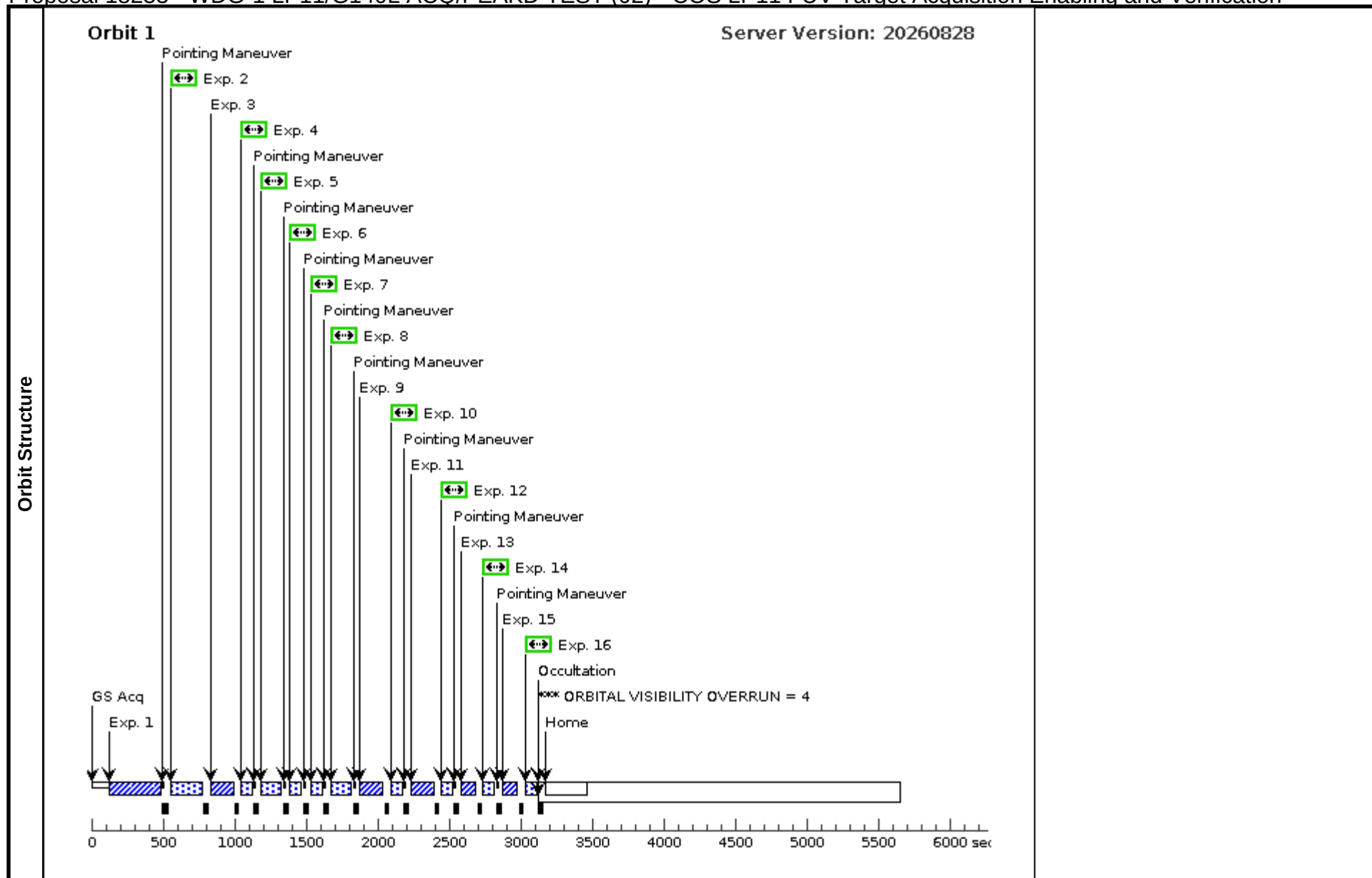
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	NUV ACQ/I MAGE (COS.ta.228 4447)	(1) WDG-1	COS/NUV, ACQ/IMAGE, BOA	MIRRORB		GS ACQ SCENARI O BASE1OR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	23 Secs (23 Secs) [==>]	[1]
	Comments: ACQ/IMAGE to determine center. Used Castelli-Kurucz Models B0I 26000 normalized to V=11.84 because the exisiting spectrum does not cover the entire NUV range.									
	Note: Pickles model was used last cycle, suggesting exptime=23 second. There was a partial overlap between instrument throughput band and target spectrum. A few seconds could be shaved from the exptime, if need ded for other exposures.									
	2	Baseline spe ctrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11; FP-POS=3		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	34 Secs (34 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/IMAGE centering. Need high SN for determining position of other spectra.										
	3	ACQ/PEAK D (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	NUM-POS=5; STEP-SIZE=0.8; LIFETIME-POS=L P11; CENTER=FLUX-W T-FLR		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	2 Secs (2 Secs) [==>]	[1]
	Comments: ACQ/PEAKD of a centered target on the same 5x0.8"" pattern. This ACQ/PEAKD goes through the same positions that exposures 02.005 through 02.008 do. The flux weighted centroid of those exposures should yield the same center as this PEAKD. Here we do not use the default STEP-SIZE because we would like to replicate the mapping done in exposures 02.005 to 02.008. Using STEP-SIZE=0.9 there would have yielded too low a flux for analysis.									
	4	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	33 Secs (33 Secs) [==>]	[1]
	Comments: Spectrum to determine location after ACQ/PEAKD.									
	5	POSTARG + SPECTR UM1 (-1.6) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=75 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG -1.6,0	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	94 Secs (94 Secs) [==>]	[1]
	Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKD. This is the x= -1.6 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=-1.6" is assumed 73%: 25s / (1-0.73)=94s. Buffer-time: 250/(1-0.73) = 925.9, applying 750 to be conservative.									
	While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8"									

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKD TEST (02) - COS LP11 FUV Target Acquisition Enabling and Verification

6	POSTARG + SPECTR UM3 (-0.8) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=26 5; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG -0.8,0 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	36 Secs (36 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKD. This is the x= -0.8 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=-0.8" is 20%: 25s/(1-0.20)=31s. Buffer-time: 250/(1- 0.20) = 312.5, applying 265 to be conservative. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8"								
7	POSTARG + SPECTR UM3 (+0.8) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=26 5; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0.8,0 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	36 Secs (36 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKD. This is the x= +0.8 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=+0.8" is 20%: 25s/(1-0.20)=31s. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8".								
8	POSTARG + SPECTR UM1 (+1.6) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=75 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 1.6,0 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	94 Secs (94 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKD. This is the x= +1.6 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=+1.6" is 73%: 25s / (1-0.73)=94s. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8".								
9	ACQ/PEAK D on offset - 0.7 AD (COS.sa.226 9976)	(3) WDG-1-OFFSET	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	NUM-POS=5; STEP-SIZE=0.9; LIFETIME-POS=L P11; CENTER=FLUX-W T-FLR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	2 Secs (2 Secs) [==>]	[1]
Comments: 5x0.9" ACQ/PEAKD on an off centered target. The virtual target is defined as being at a +0.7" offset from the real target. So at the beginning of acquisition the real target is offset -0.7" from the center of the field of view.								
10	Verification spectrum (COS.sp.228 1679)	(3) WDG-1-OFFSET	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	33 Secs (33 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKD. This exposure is identical to 02.002, except the telescope thinks that it's at an off-center target. But really it centered on the real target.								

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKD TEST (02) - COS LP11 FUV Target Acquisition Enabling and Verification

11	ACQ/PEAK D on offset +0.7 AD (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	NUM-POS=5; STEP-SIZE=0.9; LIFETIME-POS=L P11; CENTER=FLUX-W T-FLR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	2 Secs (2 Secs) [==>]	[1]
Comments: 5x0.9" ACQ/PEAKD on an off centered target. From the previous acquisition, the telescope thinks it's at +0.7AD from the real target, but the real target is actually centered in the field of view. Now we ask the telescope to go back to the coordinates of the real target. That moves the telescope -0.7"AD. So now the real target is at +0.7"AD.								
12	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	33 Secs (33 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKD. This exposure is identical to 02.002								
13	ACQ/PEAK D on offset - 0.4 AD (COS.sa.226 9976)	(5) WDG-1-OFFSET	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	NUM-POS=3; STEP-SIZE=1.3; LIFETIME-POS=L P11; CENTER=FLUX-W T	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	2 Secs (2 Secs) [==>]	[1]
Comments: 3x1.3" ACQ/PEAKD on an off centered target. From the previous acquisition, the telescope is centered on the real target and also thinks that it is centered on the real target. We now command the telescope to move to a virtual target at +0.3"AD from the real target. That places the real target at -0.4"AD in the field of view.								
14	Verification spectrum (COS.sp.228 1679)	(5) WDG-1-OFFSET	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	33 Secs (33 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKD. It's actually centered on the real target.								
15	ACQ/PEAK D on offset +0.4 AD (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	NUM-POS=3; STEP-SIZE=1.3; LIFETIME-POS=L P11; CENTER=FLUX-W T	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	2 Secs (2 Secs) [==>]	[1]
Comments: 3x1.3" ACQ/PEAKD on an off centered target. From the previous acquisition, the telescope thinks it's at +0.3AD from the real target, but the real target is actually centered in the field of view. Now we ask the telescope to go back to the coordinates of the real target. That moves the telescope -0.3"AD. So now the real target is at +0.4"AD.								
16	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK D TEST (02)	33 Secs (33 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKD. This exposure is identical to 02.002								



Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKXD TEST (03) - COS LP11 FUV Target Acquisition Enabling and Verification

Wed Sep 30 11:00:22 GMT 2026

Proposal 18233, WDG-1 LP11/G140L ACQ/PEAKXD TEST (03), completed		Wed Sep 30 11:00:22 GMT 2026
Visit	Diagnostic Status: Warning	
	Scientific Instruments: COS/FUV, COS/NUV	
	Special Requirements: ORIENT 301D TO 301.9 D; BETWEEN 29-AUG-2026 AND 15-SEP-2026	
	Comments: ***** The BETWEEN for this visit is TBD, after other enabling programs are first completed.	
	The offsets used for the targets are ORIENT dependent and need to be updated/verified, along with the ORIENT update before execution.	
	The ORIENT angle is TBD. Any ORIENT is possible, but if the ORIENT changes then the PI will have to change the offsets for the virtual targets (not hard to do).	
	***** This visit tests PEAKXD. It is a copy of visit 02, PEAKD test, with X and Y displacements inverted. The process is entirely symmetrical.	
	First we perform an ACQ/IMAGE and take a G140L/1280 high SN spectrum and use it as the baseline for comparing the position of the other spectra.	
	We then perform an actual 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKXD on the centered target and take a spectrum. The position of this spectrum should be centered to the same specifications as the flux weighted centroiding in the previous step.	
	We simulate a 5x0.8" ACQ/PEAKXD taking short spectra. We start with the centered (0) position then go to -1.6" in Y and proceed in steps of 0.8" out to +1.6" Y. The flux weighted centroid of all 5 exposures should provide the same result as the acquisition.	
We then use virtual targets to perform 5x0.9" ACQ/PEAKXD starting from offsets of -0.7" XD and +0.7" XD. We then repeat the process for a 3x1.3 ACQ/PEAKXD for offsets of -0.3" XD and +0.3" XD.		
Default is NUM-POS=3, CENTER=FLUX-WT, STEP-SIZE=1.3 If using NUM-POS=5 then CENTER=FLUX-WT-FLR, STEP-SIZE=0.9		
We scale exptimes for the POSTARG'd spectra by the expected throughput (which is a function of radius), as implemented in previous iterations of this program. Note that recent analyses indicate throughput loss may actually be larger for 1.6" offsets than stated below.		
OFFSET %LOSS ET equivalent/second ET 0.00 0.00 1.00 25s 0.80 20.00 1.25 31s 1.60 73.33 3.75 94s		
Diagnostics	(WDG-1 LP11/G140L ACQ/PEAKXD TEST (03)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.	
	(WDG-1 LP11/G140L ACQ/PEAKXD TEST (03)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser.	
	(WDG-1 LP11/G140L ACQ/PEAKXD TEST (03)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN	
	(WDG-1 LP11/G140L ACQ/PEAKXD TEST (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE	
	(WDG-1 LP11/G140L ACQ/PEAKXD TEST (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE	

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKXD TEST (03) - COS LP11 FUV Target Acquisition Enabling and Verification

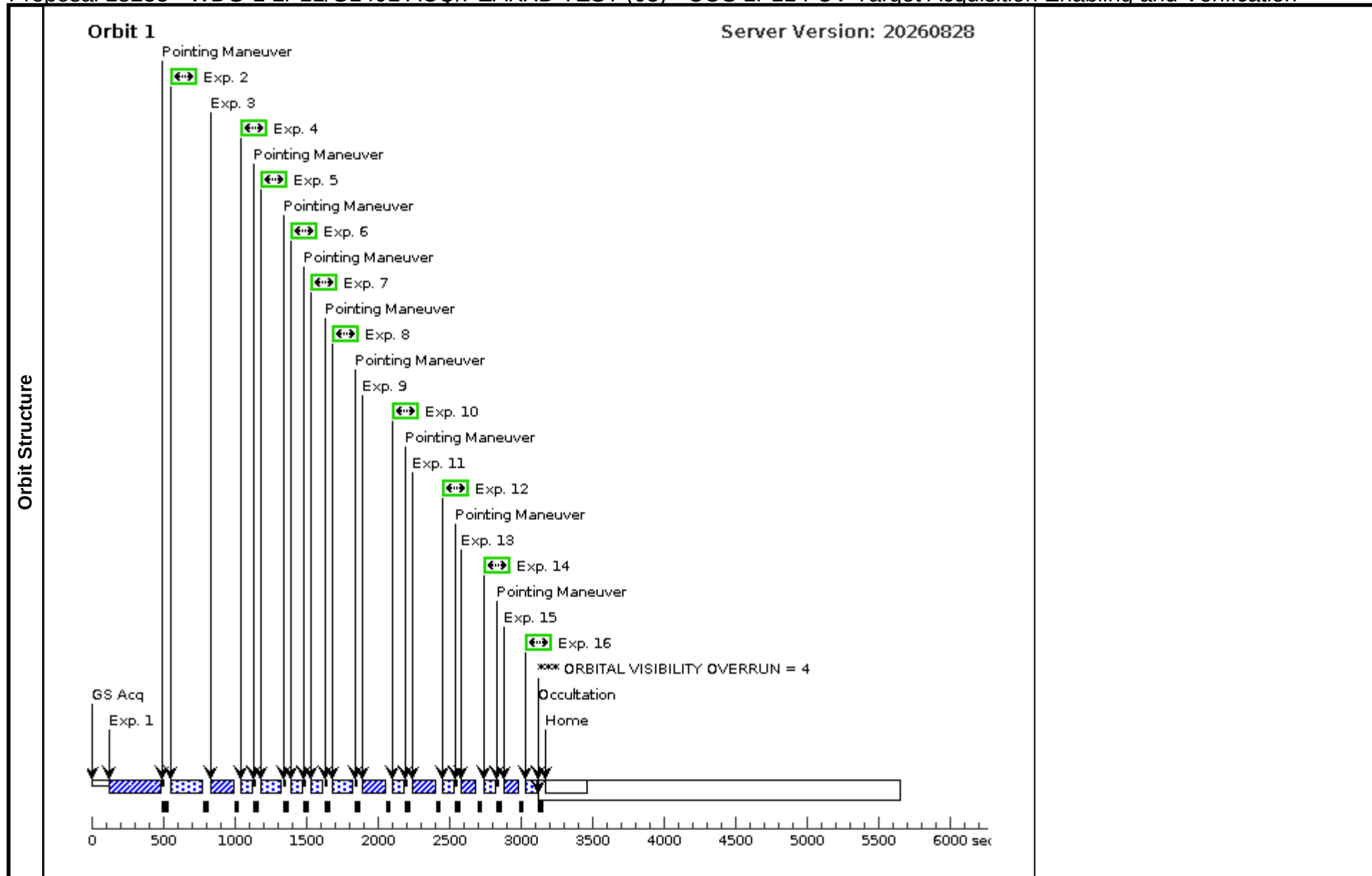
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	NUV ACQ/I MAGE (COS.ta.228 4447)	(1) WDG-1	COS/NUV, ACQ/IMAGE, BOA	MIRRORB		GS ACQ SCENARI O BASE1OR	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	23 Secs (23 Secs) [==>]	[1]
	Comments: ACQ/IMAGE to determine center. Used Castelli-Kurucz Models B0I 26000 normalized to V=11.84 because the exisiting spectrum does not cover the entire NUV range.									
	Note: Pickles model was used last cycle, suggesting exptime=23 second. There was a partial overlap between instrument throughput band and target spectrum. A few seconds could be shaved from the exptime, if need ded for other exposures.									
	2	Baseline spe ctrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	33 Secs (33 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/IMAGE centering. Need high SN for determining position of other spectra.										
	3	ACQ/PEAK XD (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; NUM-POS=5; STEP-SIZE=0.8; CENTER=FLUX-W T-FLR		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	2 Secs (2 Secs) [==>]	[1]
	Comments: ACQ/PEAKXD of a centered target on the same 5x0.8"" pattern. This ACQ/PEAKXD goes through the same positions that exposures 03.005 through 03.008 do. The flux weighted centroid of those exposures should yield the same center as this PEAKXD. Here we do not use the default STEP-SIZE because we would like to replicate the mapping done in exposures 03.005 to 03.008. Using STEP-SIZE=0.9 there would have yielded too low a flux for analysis.									
	4	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11		Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	30 Secs (30 Secs) [==>]	[1]
	Comments: Spectrum to determine location after ACQ/PEAKXD.									
	5	POSTARG + SPECTR UM1 (-1.6) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=75 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,-1.6	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	99 Secs (99 Secs) [==>]	[1]
	Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKXD. This is the y= -1.6" position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=-1.6" is assumed 73%: 25s / (1-0.73)=94s. Buffer-time: 250/(1-0.73) = 925.9, applying 750 to be conservative.									
	While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8"									

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKXD TEST (03) - COS LP11 FUV Target Acquisition Enabling and Verification

6	POSTARG + SPECTR UM3 (-0.8) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=26 5; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,-0.8 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	39 Secs (39 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKXD. This is the y= -0.8 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=-0.8" is 20%: 25s/(1-0.20)=31s. Buffer-time: 250/(1- 0.20) = 312.5, applying 265 to be conservative. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8"								
7	POSTARG + SPECTR UM3 (+0.8) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=26 5; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,0.8 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	39 Secs (39 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKXD. This is the y= +0.8 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=+0.8" is 20%: 25s/(1-0.20)=31s. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8".								
8	POSTARG + SPECTR UM1 (+1.6) (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=75 0; FP-POS=3; FLASH=NO; LIFETIME-POS=L P11; WAVECAL=NO	POS TARG 0,1.6 Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	99 Secs (99 Secs) [==>]	[1]
Comments: POSTARG to simulate 5x0.8" (NUM-POS=5, STEP-SIZE=0.8") ACQ/PEAKXD. This is the y= +1.6 " position. If the beam was not vignetted we would reach SNR~10 in a 25s exposure. But throughput loss at x=+1.6" is 73%: 25s / (1-0.73)=94s. While the default STEP-SIZE for NUM-POS=5 is 0.9", that would not allow enough light through for analysis, so we use STEP-SIZE=0.8".								
9	ACQ/PEAK XD on offse t -0.7 XD (COS.sa.226 9976)	(4) WDG-1-OFFSET +0.7XD-VISIT3	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	2 Secs (2 Secs) [==>]	[1]
Comments: 5x0.9" ACQ/PEAKXD on an off centered target. The virtual target is defined as being at a +0.7" offset from the real target. So at the beginning of acquisition the real target is offset -0.7" from the center of the field of view.								
10	Verification spectrum (COS.sp.228 1679)	(4) WDG-1-OFFSET +0.7XD-VISIT3	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	30 Secs (30 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKD. This exposure is identical to 03.002, except the telescope thinks that it's at an offset position. But really it centered on the real target.								

Proposal 18233 - WDG-1 LP11/G140L ACQ/PEAKXD TEST (03) - COS LP11 FUV Target Acquisition Enabling and Verification

11	ACQ/PEAK XD on offse t +0.7 XD (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; CENTER=FLUX-W T-FLR; NUM-POS=5; STEP-SIZE=0.9	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	2 Secs (2 Secs) [==>]	[1]
Comments: 5x0.9" ACQ/PEAKXD on an off centered target. From the previous acquisition, the telescope thinks it's at +0.7XD from the real target, but the real target is actually centered in the field of view. Now we ask the telescope to go back to the coordinates of the real target. That moves the telescope -0.7"XD. So now the real target is at +0.7"XD.								
12	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	30 Secs (30 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKXD. This exposure is identical to 03.002								
13	ACQ/PEAK XD on offse t -0.4 XD (COS.sa.226 9976)	(6) WDG-1-OFFSET +0.3XD-VISIT3	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	2 Secs (2 Secs) [==>]	[1]
Comments: 3x1.3" ACQ/PEAKXD on an off centered target. From the previous acquisition, the telescope is centered on the real target and also thinks that it is centered on the real target. We now command the telescope to move to a virtual target at +0.3"XD from the real target. That places the real target at -0.4"XD in the field of view.								
14	Verification spectrum (COS.sp.228 1679)	(6) WDG-1-OFFSET +0.3XD-VISIT3	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	30 Secs (30 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKXD. This exposure is identical to 03.002, except the telescope thinks it's offset but it's actually centered on the real target.								
15	ACQ/PEAK XD on offse t +0.4 XD (COS.sa.226 9976)	(1) WDG-1	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; CENTER=FLUX-W T; NUM-POS=3; STEP-SIZE=1.3	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	2 Secs (2 Secs) [==>]	[1]
Comments: 3x1.3" ACQ/PEAKXD on an off centered target. From the previous acquisition, the telescope thinks it's at +0.3XD from the real target, but the real target is actually centered in the field of view. Now we ask the telescope to go back to the coordinates of the real target. That moves the telescope -0.3"XD. So now the real target is at +0.3"XD.								
16	Verification spectrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; FLASH=NO; WAVECAL=NO; LIFETIME-POS=L P11	Sequence 1-16 Non-I nt in WDG-1 LP11/ G140L ACQ/PEAK XD TEST (03)	30 Secs (30 Secs) [==>]	[1]
Comments: Spectrum to determine location after ACQ/PEAKXD. This exposure is identical to 03.002								



Proposal 18233 - WDG-1 LP11/G140L Defaults verification test (04) - COS LP11 FUV Target Acquisition Enabling and Verification

Visit	Proposal 18233, WDG-1 LP11/G140L Defaults verification test (04), implementation Wed Sep 30 11:00:22 GMT 2026 Diagnostic Status: Warning Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 100%; ORIENT 100D TO 100.9 D; BETWEEN 24-JAN-2027:00:00:00 AND 05-FEB-2027:00:00:00 <i>Comments: This visit should run on the first days for which G140L exposures default to LP11. Nominally this is the first day of Cycle 34, but in practice it may depend on the SMS schedule. ORIENT and BETWEEN will need to be updated before this visit can execute.</i> <i>The offsets used for the targets are ORIENT dependent and need to be updated/verified, along with the ORIENT update before execution.</i> <i>It tests that the intended Cycle 34 values are now the defaults.</i> <i>It does an ACQ/IMAGE, ACQ/PEAKXD, and ACQ/PEAKD, all from offset positions.</i>
Diagnostics	(WDG-1 LP11/G140L Defaults verification test (04)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions at a given COS cenwave (or 2 positions for certain exception cases). See extended explanation in the diagnostic browser. (WDG-1 LP11/G140L Defaults verification test (04)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Proposal 18233 - WDG-1 LP11/G140L Defaults verification test (04) - COS LP11 FUV Target Acquisition Enabling and Verification

Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	WDG-1	RA: 01 41 42.0684 (25.4252850d) Dec: -73 50 38.18 (-73.84394d) Equinox: J2000	Proper Motion RA: 1.238 mas/yr Proper Motion Dec: -1.5679999251005938 mas/yr Epoch of Position: 2000	V=11.84	Reference Frame: ICRS
	Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. SIMBAD listed proper motion for this target. When retrieving targets with PM from SIMBAD, APT requests the coordinates be calculated with an epoch of the year 2000. Do not modify this epoch. Always review coordinates using the Target Confirmation tool, which graphically displays the PM. Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					
	(7)	WDG-1-OFFSET+1AD+1XD-VISIT4	Offset from WDG-1 RA Offset: -7.058954148325681E-4 Degrees Dec Offset: -1.2247448713915892 Arcsec		V=11.84	Offset Position (WDG-1-OFFSET+1AD+1XD-VISIT4)
	Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for approximate Cycle 34 start Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 16 2026 ORIENT=49 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					
Fixed Targets	(8)	WDG-1-OFFSET+1AD+1.8XD-VISIT4	Offset from WDG-1 RA Offset: -4.991948914376281E-4 Degrees Dec Offset: -1.9974855324228438 Arcsec		V=11.84	Offset Position (WDG-1-OFFSET+1AD+1.8XD-VISIT4)
	Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for approximate Cycle 34 start Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 16 2026 ORIENT=49 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					
	(9)	WDG-1-OFFSET+1.8AD+1.8XD-VISIT4	Offset from WDG-1 RA Offset: -0.0012706117466986227 Degrees Dec Offset: -2.204540768504861 Arcsec		V=11.84	Offset Position (WDG-1-OFFSET+1.8AD+1.8XD-VISIT4)
	Comments: From the geometry of COS, going from offsets in AD and XD to offsets in ra and dec: $\Delta(dec) = \Delta(AD) * \cos(ORIENT - 45) + \Delta(XD) * \cos(ORIENT - 135)$ will yield the result in arcseconds, which is what APT wants. $\Delta(RA) = (\Delta(AD) * \sin(ORIENT - 45) + \Delta(XD) * \sin(ORIENT - 135)) / (3600. * \cos(dec))$ will yield the result in decimal degrees of RA, which is what APT wants. Possible dates and orients for approximate Cycle 34 start Oct 19 2026 to Oct 30 2026 ORIENT=3 Dec 7 2026 to Dec 16 2026 ORIENT=49 Category=CALIBRATION Description=[TARGET ACQUISITION TEST] Extended=NO					

Proposal 18233 - WDG-1 LP11/G140L Defaults verification test (04) - COS LP11 FUV Target Acquisition Enabling and Verification

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	NUV ACQ/I MAGE (COS.ta.228 4447)	(1) WDG-1	COS/NUV, ACQ/IMAGE, BOA	MIRRORB		GS ACQ SCENARI O BASE10R	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	23 Secs (23 Secs) [==>]	[1]
	Comments: ACQ/IMAGE to determine center. Used Castelli-Kurucz Models B0I 26000 normalized to V=11.84 because the exisiting spectrum does not cover the entire NUV range.									
	Note: Pickles model was used last cycle, suggesting exptime=23 second. There was a partial overlap between instrument throughput band and target spectrum. A few seconds could be shaved from the exptime, if needed for other exposures.									
	2	Baseline spe ctrum (COS.sp.228 1679)	(1) WDG-1	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO		Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
	Comments: Spectrum to determine location after ACQ/IMAGE centering. Need high SN for determining position of other spectra.									
	3	3x3 ACQ/S EARCH - O FFSET +1A D +1XD (COS.sa.226 9976)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, ACQ/SEARCH, PSA	G140L 1280 A	LIFETIME-POS=LP 11; SCAN-SIZE=3		Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
	Comments: 3x3 FUV ACQ/SEARCH starting at position +1 AD, +1 XD									
	4	Verification spectrum (COS.sp.228 1679)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO		Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
	Comments: Functionally the same as and 04.002, but after centering from an offset position.									
	5	ACQ/PEAK XD from off set -0.8 in X D (COS.sa.226 9976)	(8) WDG-1-OFFSET +1AD+1.8XD-VISI T4	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11		Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
	Comments: Performing a PEAKXD from -0.8" offset in XD. From the previous acquisition, the telescope thinks it's at +1AD, +1XD, but really it's centered on the real target. To place the target at 0.0 AD, -0.8 XD, define a virtual target at +1.0AD, +1.8XD.									
	6	Verification spectrum (COS.sp.228 1679)	(8) WDG-1-OFFSET +1AD+1.8XD-VISI T4	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO		Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
	Comments: Functionally the same as and 04.002, but after centering from an offset position.									

Proposal 18233 - WDG-1 LP11/G140L Defaults verification test (04) - COS LP11 FUV Target Acquisition Enabling and Verification

7	ACQ/PEAK D from offse t -0.8 in AD (COS.sa.226 9976)	(9) WDG-1-OFFSET +1.8AD+1.8XD-VIS IT4	COS/FUV, ACQ/PEAKD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; STEP-SIZE=0.9	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
Comments: Performing a PEAKD from -0.8" offset in AD. From the previous acquisition, the telescope thinks it's at +1AD, +1.8XD, but really it's centered on the real target. To place the target at -0.8 AD, 0.0 XD, define a virtual target at +1.8AD, +1.8XD.								
8	Verification spectrum (COS.sp.228 1679)	(9) WDG-1-OFFSET +1.8AD+1.8XD-VIS IT4	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
Comments: Functionally the same as and 04.002, but after centering from an offset position.								
9	2x2 ACQ/S EARCH - of fset -0.8AD, -0.8XD (COS.sa.226 9976)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, ACQ/SEARCH, PSA	G140L 1280 A	CENTER=DEF; LIFETIME-POS=L P11; SCAN-SIZE=2	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
Comments: Testing 2x2 acq/search with defaults. The telescope thinks it was at +1.8AD, +1.8XD, but really it was centered. Now we command it to go to +1.0AD, +1.0XD, which means that the real target will be offset to -0.8AD, -0.8XD.								
10	Verification spectrum (COS.sp.228 1679)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
Comments: Functionally the same as and 04.002, but after centering from an offset position.								
11	ACQ/PEAK XD after AC Q/SEARCH centering (COS.sa.226 9976)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, ACQ/PEAKXD, PSA	G140L 1280 A	LIFETIME-POS=LP 11; STEP-SIZE=1.3; CENTER=DEF; NUM-POS=3	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
Comments: Performing a PEAKXD from -0.8" offset in XD. From the previous acquisition, the telescope thinks it's at +1AD, +1XD, but really it's centered on the real target. To place the target at 0.0 AD, -0.8 XD, define a virtual target at +1.0AD, +1.8XD.								
12	Verification spectrum (COS.sp.228 1679)	(7) WDG-1-OFFSET +1AD+1XD-VISIT4	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
Comments: Functionally the same as and 04.002, but after centering from an offset position.								

Proposal 18233 - WDG-1 LP11/G140L Defaults verification test (04) - COS LP11 FUV Target Acquisition Enabling and Verification

13	ACQ/PEAK (7) WDG-1-OFFSET COS/FUV, ACQ/PEAKD, PSA D after ACQ +1AD+1XD-VISIT4 /SEARCH c entering (COS.sa.226 9976)	G140L 1280 A	LIFETIME-POS=LP 11; CENTER=DEF; NUM-POS=5; STEP-SIZE=0.9	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	2 Secs (2 Secs) [==>]	[1]
Comments: Performing a PEAKD from -0.8" offset in AD. From the previous acquisition, the telescope thinks it's at +1AD, +1.8XD, but really it's centered on the real target. To place the target at -0.8 AD, 0.0 XD, define a virtual target at +1.8AD, +1.8XD.						
14	Verification (7) WDG-1-OFFSET COS/FUV, TIME-TAG, PSA spectrum +1AD+1XD-VISIT4 (COS.sp.228 1679)	G140L 1280 A	BUFFER-TIME=25 0; FP-POS=3; LIFETIME-POS=L P11; FLASH=NO; WAVECAL=NO	Sequence 1-14 Non-I nt in WDG-1 LP11/ G140L Defaults verif ication test (04)	30 Secs (30 Secs) [==>]	[1]
Comments: Functionally the same as and 04.002, but after centering from an offset position. Wavevals are not tested as they are not split.						

