

# 16432 - COS LP5 FUV Target Acquisition Enabling and Verification

Cycle: 28, Proposal Category: CAL/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?
01	(1) AZV18	COS/FUV	1	29-Sep-2021 13:01:20.0	yes
	(11) AZV18-OFFSET+1AD+1XD- OR+1.4OFF	COS/NUV			
02	(1) AZV18	COS/FUV	1	29-Sep-2021 13:01:23.0	yes
	(21) AZV18-OFFSET-AD-0.3	COS/NUV			
	(22) AZV18-OFFSET-AD+0.4				
03	(1) AZV18	COS/FUV	1	29-Sep-2021 13:01:26.0	yes
	(31) AZV18-OFFSET-XD+0.5	COS/NUV			
	(32) AZV18-OFFSET-XD+0.8				

Proposal 16432 (STScI Edit Number: 2, Created: Wednesday, September 29, 2021 at 12:01:29 PM Eastern Standard Time) - Overview

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
	(6) WD1657+343 (61) WD1657+343- OFFSET+0.7AD+0.7XD (62) WD1657+343- OFFSET+0.7AD+1.05XD (63) WD1657+343- OFFSET+1.05AD+1.05XD	COS/FUV COS/NUV	1	29-Sep-2021 13:01:28.0	yes

4 Total Orbits Used

#### **ABSTRACT**

- ----SPECIAL REQUESTS FOR ARCHIVE:----
- 1. Please turn off calibration for the COS/FUV exposures.
- 2. Please disassociate all exposures. SQL is used to meet the above requests.

In case 1 gexposure.control\_id is modified. In case 2 geassociation records are deleted. Please see G. Chapman/M. Reinhart.

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This program is designed to verify acquisition parameters at LP5 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 maps of the detector that we can then use for diagnostics. These images also produce an additional check of the detector plate scale after the aperture placement and focus enabling programs are done.

The program uses ficticious 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 version of this program: 14907. It uses targets AZV18 for visits 1, 2, and 3, and target WD1657+343 for visit 4.

Prior to the submission of this program all LP5 SIAF, aperture mechnism positions, TA subarray, and foci must have been installed.

There is no special commanding in this program.

Proposal 16432 (STScI Edit Number: 2, Created: Wednesday, September 29, 2021 at 12:01:29 PM Eastern Standard Time) - Overview

#### **OBSERVING DESCRIPTION**

- ----SPECIAL REQUESTS FOR ARCHIVE:----
- 1. Please turn off calibration for the COS/FUV exposures.
- 2. Please disassociate all exposures. SQL is used to meet the above requests.

In case 1 qexposure.control\_id is modified. In case 2 qeassociation records are deleted. Please see G. Chapman/M. Reinhart.

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Details of the overall program are described in the abstract and details on individual observations are described at the visit level. A copy of the abstract is entered here.

This program is designed to verify acquisition parameters at LP5 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 maps of the detector that we can then use for diagnostics. These images also produce an additional check of the detector plate scale after the aperture placement and focus enabling programs are done.

The program uses ficticious 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 as follows:

### VIST DATE RANGE ORIENT

- 1 11/16/20 to 11/22/20 153 degrees
- 2 01/03/21 to 01/10/21 90
- 3 03/01/21 to 03/09/21 150
- 4 10/01/21 to 10/02/21 70 (Changed to 74.5 on Bill J's request due to guide star issue. virtual targets for visit 4 updated.

The offset targets used in different dates have been defined according to the COS ORIENT parameters, Phase II instructions section 6.2.2. From there we derive:

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 $Delta(dec) = Delta(AD)*cos(ORIENT - 45) + Delta(XD)*cos(ORIENT - 135) \ will \ yield \ the \ result \ in \ arcseconds, \ which \ is \ what \ APT \ wants.$   $Delta(RA) = (\ Delta(AD)*sin(ORIENT - 45) + Delta(XD)*sin(ORIENT - 135))/(3600. * cos(dec)) \ will \ yield \ the \ result \ in \ decimal \ degrees \ of \ RA,$   $which \ is \ what \ APT \ wants.$ 

In all cases, a test consists of:

- 1 Acquire the target with a NUV ACQ/IMAGE, so it is centered.
- 2 Take a cenetered spectrum for comparison.
- 3 Use POSTARG to take spectrum at the detector placements where acquisition spectra will be taken because these acquisition spectra are not downlinked.
- 4 Use a ficticious target to generate an offset from the real target and run the acquisition.
- 5 Take another spectrum to compare the result of the acquisition to the original spectrum.

The structure of the program is as follows, and detailed explanations are at the visit level:

Visit 1: testing ACQ/SEARCH

Visit 2: testing PEAKD

Visit 3: testing PEAKXD

Visit 4: Testing all FUV ACQ modes as the default on the first day of LP5 as the default, October 1, 2021

The program is modeled after the LP4 version of this program: 14907. It uses targets AZV18 for visits 1, 2, and 3, and target WD1657+343 for visit 4.

In all cases we use the G130M/1291 cenwave because it is the cenwave with the widest profile for which observations are allowed in grating G130M. That profile will therefore cover the width in the detector covered by the other exposures.

Prior to the submission of this program all LP5 SIAF, aperture mechnism positions, TA subarray, and foci must have been installed.

There is no special commanding in this program.

# Proposal 16432 - ACQ/SEARCH TEST (01) - COS LP5 FUV Target Acquisition Enabling and Verification

Category=STAR Description=[B0-B2 III-I]

Extended=NO

Proposal 16432, ACO/SEARCH TEST (01), completed Wed Sep 29 17:01:29 GMT 2021 **Diagnostic Status: Warning** Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 100%; ORIENT 152.9D TO 153.1 D; BETWEEN 28-FEB-2021:00:00:00 AND 09-MAR-2021:00:00:00 Comments: ACO/SEARCH Test. The target is AVZ18 (the SMOV TA target). 1-orbit. For a 3x3x1.1" spiral pattern, the telescope slew is [AD,XD] 0.00 0.001.10 0.00 1.10 1.10 0.00 1.10 -1.10 1.10 -1.10 0.00 -1.10 -1.10 0.00-1.10 1.10 -1.10 We want the ~same S/N for each spectrum in the pattern, the arms of the central cross are at 1.1" offset, the corners are sqrt(2)\*1.1". The centered count rate is ~ 2350 counts/s. The throughput at 1.1" offset is 58.1% of center, whereas at 1.55" it is 28.6% To be balanced, we'll use 22 sec for the sides, and 44s for the corners. This should be FUVA/B total counts of 45k counts/segment for each. The ORIENT angle is constrained to 40.5 degrees +/- 0.5 degrees +/- 0.5 degree. First we use pos-targs to simulate the 3x3x1.1" pattern, taking TAGFLASHed spectra at each location. We then perform a 3x3x1.1" 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 and then a 2x2x1.767" ACO/SEARCH on the target. The data range for this visit is from 15 NOV 2020 to 23 NOV 2020. (ACO/SEARCH TEST (01)) Warning (Orbit Planner): COS EXPOSURE TIME ROUNDED DOWN TO NEAREST 0.1 SECONDS **Diagnostic** (ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACO/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (ACQ/SEARCH TEST (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE **Target Coordinates** Miscellaneous Name Targ. Coord. Corrections 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. B2Ia, Magellanic Clouds. Nominal ETC exposure times derived from previous COS + IUE spectrum. Category=STAR Description=[B0-B2 III-I] Target Extended=NO (11)AZV18-Offset from AZV18 V = 12.48Offset Position (AZV18-OFFSET+1AD+1XD-OFFSET+1AD+1XD-OR+1.4OFF) RA Offset: 0.001205 Degrees (B-V)=+0.04Fixed . OR+1.4OFF Dec Offset: 0.64204 Arcsec Comments: This target is offset by +1" in both AD (X) and XD (Y), so sqrt(2)=1.414" total offset. Note than the AZV18 offset is (AD,XD)=(-1",-1") this moves AV18 in [AD,XD] of [+1,+1] *Orient is constrained to 40.5 +/- 0.5 degrees.* 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.

Proposal 16432 - ACQ/SEARCH TEST (01) - COS LP5 FUV Target Acquisition Enabling and Verification

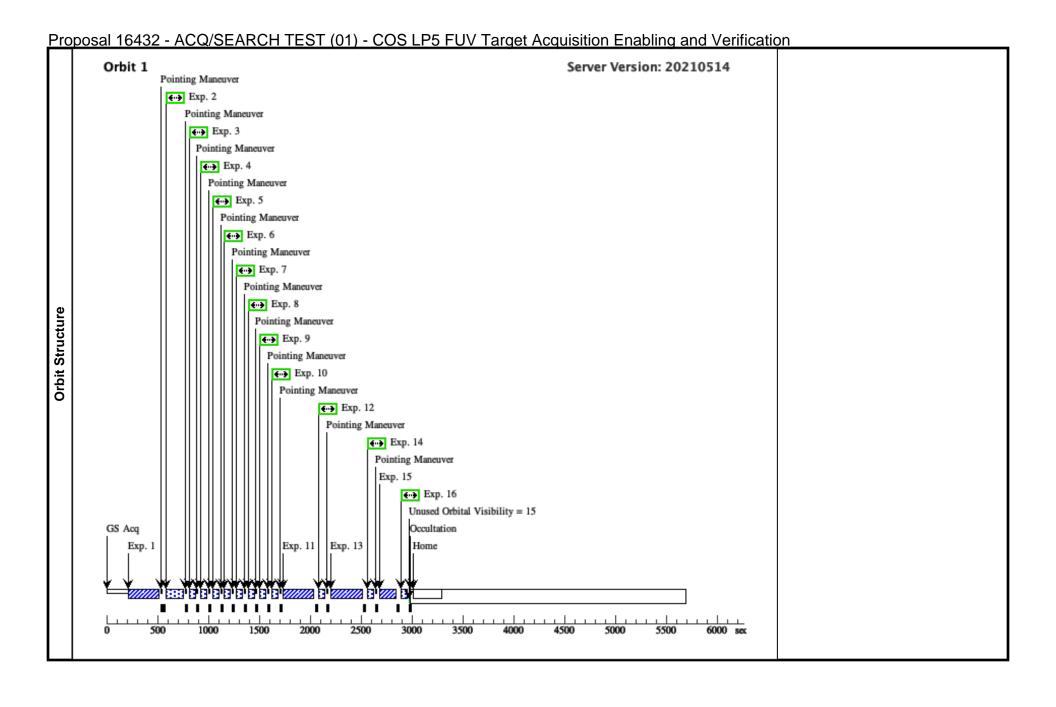
п	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				32 Secs (32 Secs)	
	(COS.ta.904 984)							[==>]	[1]
Thi	s ETC25.1.1 giv	ves S/N=60 in 27	BOA+MIRRORA to refine centering. CO .4 seconds, we go for 32s just be to sure. ground subtraction)	S.ta.904984 uses a p The previous ACQ/	previous COS spectrum p IMAGEs in 13636 gave a	olus an IUE spectrum.			
2	G130M - B	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=50		Sequence 2-10 Non-I	` '	
	ASELINE S PECTRUM			1291 A	0; FP-POS=3;		nt in ACQ/SEARCH TEST (01)	[==>2.099999999999996 Secs ]	
	(COS.sp.904 989)				FLASH=S0080D03				
	, , ,				0;				[1]
					LIFETIME-POS=L P5				
Cor e sk	nments: Spectri would expect a S	um of source to de E/N of 3/RE with a	fine correct location of star when it is ce BT < 1000*(2/3) = 666, we use 500 to b	ntered in NUV. The e safe. Tagflash seg	ETC uses a previous CO juence is 30s on.	S spectrum from 1363	6 . This ETC run (COS	sp.904989) is for 22 seconds and indic	cates that v
3	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=50	POS TARG 1.1,0	Sequence 2-10 Non-I nt in ACO/SEARCH	,	
	OSTARG + SPECTRU			1291 A	0; FP-POS=3;		TEST (01)	[==>14.0 Secs ]	
	M1 (1.1,0) (COS.sp.904				FLASH=YES;				[1]
	989)				LIFETIME-POS=L P5				
Coi 30k		ARG TO SIMULAT	TE ACQ/SEARCH. $S/N = 60$ is reached in	n 2 seconds. Observ	e for 22 seconds. (~45k to	otal counts(A+B), cent	tered). at 1.1" in off, the	throughput will be 58% total counts s	should be -
4	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=50	POS TARG 1.1,1.1	Sequence 2-10 Non-I	44 Secs (14 Secs)	
	OSTARG + SPECTRU			1291 A	0; FP-POS=3:		nt in ACQ/SEARCH TEST (01)	[==>14.0 Secs ]	
	M2 (1.1,1.1) (Corner)				FP-POS=5; FLASH=YES;				[1]
	(COS.sp.904 989)				LIFETIME-POS=L				[1]
Coi	<i>'</i>	ARG TO SIMULAT	TE ACQ/SEARCH. S/N = 60 is reached in	n 2 seconds. Observ	P5 e for 44 seconds. (~1000	00 total counts(A+B),	centered). 1.55" it is 28	2.6 %. Total counts should be ~ 30k,	
5	G130M - P		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=50		Sequence 2-10 Non-I	22 Secs (14 Secs)	
	OSTARG + SPECTRU			1291 A	0;		nt in ACQ/SEARCH TEST (01)	[==>14.0 Secs ]	
	M3 (0,1.1)				FP-POS=3;		(*-)		<i>[11]</i>
	(COS.sp.904 989)				FLASH=YES; LIFETIME-POS=L				[1]
Coi	nments: POSTA	ARG TO SIMULAT	TE ACQ/SEARCH this is a side, so see ex	sporuse 01.003 for c	P5 omments				
6	G130M - P	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M		POS TARG -1.1,1.1		44 Secs (14 Secs)	
	OSTARG + SPECTRU			1291 A	0; ED DOS 2:		nt in ACQ/SEARCH TEST (01)	[==>14.0 Secs ]	
	M4 (-1.1,1.1) (Corner)				FP-POS=3; FLASH=YES;		. ,		[1]
	(COS.sp.904				LIFETIME-POS=L				[1]
	989)				P5				
Coi	nments: POSTA	ARG TO SIMULAT	TE ACQ/SEARCH this is a corner, so see	exporuse 01.004 fo	r comments				

Proposal 16432 - ACQ/SEARCH TEST (01) - COS LP5 FUV Target Acquisition Enabling and Verification G130M - P (1) AZV18 Sequence 2-10 Non-I COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 POS TARG -1.1.0 22 Secs (14 Secs) OSTARG+ nt in ACO/SEARCH 1291 A I = > 14.0 Secs 1SPECTRU TEST (01) FP-POS=3: M5 (-1.1,0) (COS.sp.904 FLASH=YES: [1] 989) LIFETIME-POS=L Comments: POSTARG TO SIMULATE ACO/SEARCH this is a side, so see exporuse 01.003 for comments G130M - P (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 POS TARG -1.1,-1.1 Sequence 2-10 Non-I | 44 Secs (14 Secs) OSTARG + nt in ACO/SEARCH 1291 A I = > 14.0 Secs 1SPECTRU TEST (01) FP-POS=3; M6 (-1.1,-1. 1) (Corner) FLASH=YES; [1] (COS.sp.904 LIFETIME-POS=L 989) Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a corner, so see exporuse 01.004 for comments G130M - P (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 POS TARG 0,-1.1 Sequence 2-10 Non-I 22 Secs (14 Secs) OSTARG + nt in ACQ/SEARCH 1291 A I = > 14.0 Secs 1**SPECTRU** TEST (01) FP-POS=3; M7(0,-1.1)(COS.sp.904 FLASH=YES; [1] 989) LIFETIME-POS=L P5 Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a side, so see exporuse 01.003 for comments BUFFER-TIME=50 POS TARG 1.1,-1.1 Sequence 2-10 Non-I | 44 Secs (14 Secs) G130M - P (1) AZV18 COS/FUV, TIME-TAG, PSA G130M OSTARG + nt in ACQ/SEARCH 1291 A I = > 14.0 Secs 1SPECTRU TEST (01) FP-POS=3; M8 (+1.1,-1.FLASH=YES; [1] 1) (Corner) (COS.sp.904 LIFETIME-POS=L 989) Comments: POSTARG TO SIMULATE ACQ/SEARCH this is a corner, so see exporuse 01.004 for comments G130M - A (1) AZV18 COS/FUV, ACQ/SEARCH, PSA SCAN-SIZE=3; G130M Sequence 11-12 Non 2 Secs (2 Secs) CQ/SEARC -Int in ACQ/SEARC 1291 A STEP-SIZE=1.1; I = = > 1Η H TEST (01) [1] (COS.sa.904 LIFETIME-POS=L 990) P5 Comments: 3x3x1.1" ACO/SEARCH on the centered target. COS.sa,904990. S/N = 60 is reached in 1.0 (A+B) seconds, we go for 2s This is performed on the actual target. A similar ACO/SEARCH in 13636 found a S 12 G130M - B (1) AZV18 COS/FUV. TIME-TAG. PSA G130M BUFFER-TIME=50 Sequence 11-12 Non 24 Secs (14 Secs) ASELINE S -Int in ACO/SEARC 0; 1291 A [==>14.0 Secs ]PECTRUM H TEST (01) FP-POS=3; (COS.sp.904 989) FLASH=YES; [1] LIFETIME-POS=L Comments: Spectrum of source to verify accurate centering. The ETC uses a previous COS spectrum from 13636. This ETC run (COS.sp.904989) is for 22 seconds and indicates that we should expect a S/N of 3/RE w. th a BT < 1000\*(2/3) = 666, we use 500 to be safe. FLASH=YES G130M - A (11) AZV18-OFFSE COS/FUV, ACQ/SEARCH, PSA G130M SCAN-SIZE=3; Sequence 13-14 Non | 2 Secs (2 Secs) CO/SEARC T+1AD+1XD-OR+1 -Int in ACO/SEARC 1291 A STEP-SIZE=1.767; I = = > 1Η .4OFF H TEST (01) [1] (COS.sa.904 LIFETIME-POS=L 990) P5 Comments: 3x3x1.767" ACQ/SEARCH. COS.sa.904990. S/N = 60 is reached in 1.0 (A+B) seconds, we go for 2s. This is performed on the actual target. A similar ACQ/SEARCH in 13636 found a S/N of 65 in 2s This is s performed on the fictious target offset in [AD,XD] by [+1,+1]". The target will be 1/3 vignetted, in the center search position, but that's ok, that's what we want.

Proposal 16432 - ACQ/SEARCH TEST (01) - COS LP5 FUV Target Acquisition Enabling and Verification 24 Secs (14 Secs) G130M - B (11) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 13-14 Non -Int in ACQ/SEARC H TEST (01) ASELINE S T+1AD+1XD-OR+1 0: 1291 A I = > 14.0 Secs 1PECTRUM .4OFF FP-POS=3; (COS.sp.904 989) FLASH=YES: [1] LIFETIME-POS=L Comments: Spectrum of source to verify accurate centering. The ETC uses a previous COS spectrum from 13636. This ETC run (COS.sp.904989) is for 22 seconds and indicates that we should expect a S/N of 3/RE wi th a BT < 1000\*(2/3) = 666, we use 500 to be safe. FLASH=YES G130M - A (1) AZV18 COS/FUV, ACO/SEARCH, PSA G130M SCAN-SIZE=2; Sequence 15-16 Non 2 Secs (2 Secs) -Int in ACQ/SEARC CQ/SEARC 1291 A STEP-SIZE=1.767; [==>] Η H TEST (01) [1] (COS.sa.904 LIFETIME-POS=L 990) Comments: 2x2x1.767" ACQ/SEARCH. COS.sa.904990. S/N = 60 is reached in 1.0 (A+B) seconds, we go for 2s. This is performed on the actual target. A similar ACQ/SEARCH in 13636 found a S/N of 65 in 2s This s performed on the fictious target offset in [AD,XD] by [-1,-1]". The target will be 1/3 vignetted, in the center search position, but that's ok, that's what we want COS/FUV, TIME-TAG, PSA 16 G130M - B (1) AZV18 G130M BUFFER-TIME=50 Sequence 15-16 Non 24 Secs (14 Secs) -Int in ACQ/SEARC ASELINE S 0; 1291 A [==>14.0 Secs]H TEST (01) PECTRUM FP-POS=3; (COS.sp.904 989) FLASH=YES; [1] LIFETIME-POS=L

Comments: Spectrum of source to verify accurate centering. The ETC uses a previous COS spectrum from 13636. This ETC run (COS.sp.904989) is for 22 seconds and indicates that we should expect a S/N of 3/RE wi

th a BT < 1000\*(2/3) = 666, we use 500 to be safe. FLASH=YES



Proposal 16432, ACQ/PEAKD TEST (02), completed

Wed Sep 29 17:01:29 GMT 2021

**Diagnostic Status: Warning** 

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; ORIENT 184.9D TO 185.1 D; BETWEEN 03-APR-2021:00:00:00 AND 13-APR-2021:00:00:00

Comments: 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. We flash the lamp at all positions. This will allow up to verify that the TA subarrays are correctly preventing geocoronal lines and hot spots from affecting the ACQ/PEAKD algorithm.

We then perform an actual 5x0.8" ACQ/PEAKD on the centered target, then attempt a 3x1.2" ACQ/PEAKD on a target offset by +0.3", then a 3x1.3" offset by -0.7".

The ORIENT angle is constrained to 185 +/- 0.1 degrees

In this visit we take a 30s exposure to be the baseline value, corresponding to SN~3.5 per resel. ETC calculation COS.sp.1483195

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

OFFSET %LOSS ET equivalent/second ET

0.00 0.00 1.00 30s 0.80 20.00 1.25 40s 1.60 73.33 3.75 100s

**Diagnostics** 

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

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

(ACQ/PEAKD TEST (02)) 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)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
		Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
		Equinox: J2000	Epoch of Position: 2000		
	Comments: B2Ia, Magellan Category=STAR Description=[B0-B2 III-I] Extended=NO	ic Clouds. B2Ia, Magellanic Clouds. Nominal ETC e:	xposure times derived from previous COS + IUE spec	trum.	
Targets	(21) AZV18-OFFSI	ET-AD-0.3 Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-AD-0.3)
l g		RA Offset: -1.84E-4 Degrees		(B-V)=+0.04	
		Dec Offset: 0.229813 Arcsec			
Fixed	Comments: This target is of Category=STAR Description=[B0-B2 III-I] Extended=NO	fset -0.3" in +AD direction. ORIENT is constrained to	o 185 +/- 0.1 degrees		
	(22) AZV18-OFFSI	ET- Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-AD+0.4)
	AD+0.4	RA Offset: 5.6E-5 Degrees		(B-V)=+0.04	
		Dec Offset: -0.206418 Arcsec			
	Comments: This target is of Category=STAR Description=[B0-B2 III-I] Extended=NO	fset $+0.4$ " in the AD direction. Orient must be $185 + /-$	-0.1 degrees		

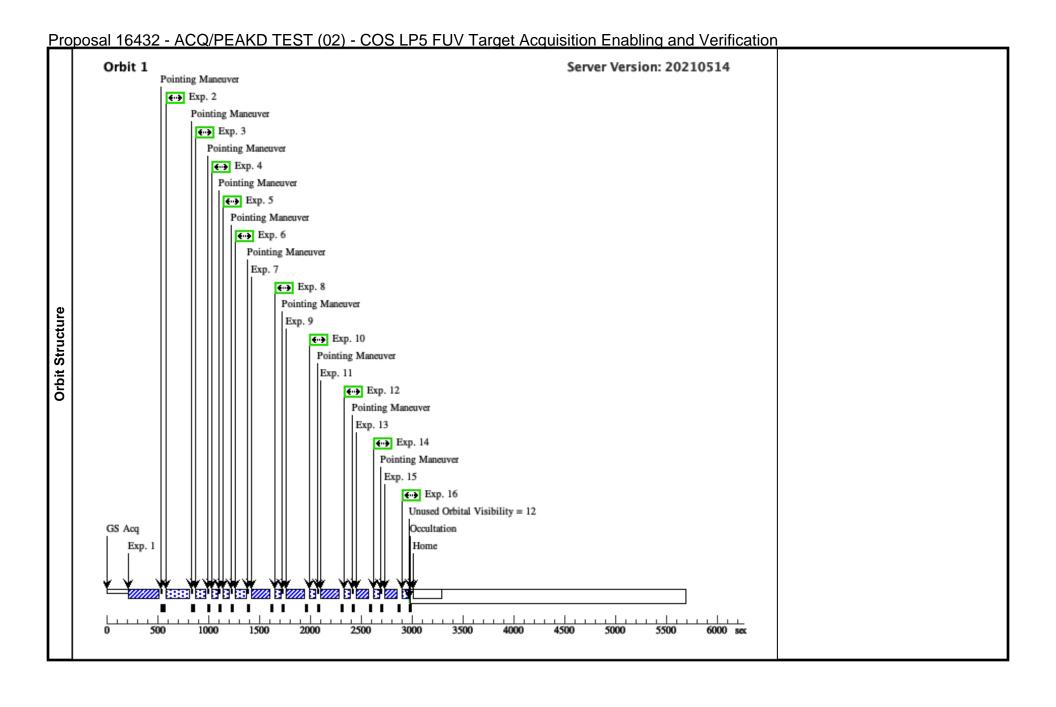
Proposal 16432 - ACQ/PEAKD TEST (02) - COS LP5 FUV Target Acquisition Enabling and Verification

	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	2 nuv a/im (COS.ta.904	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				32 Secs (32 Secs)	
	984)	•						[==>]	[1]
TI	his ETC25.1.1 gi	ives S/N=60 in 2	h BOA+MIRRORA to refine centering. CO 27.4 seconds, we go for 31s just be to sure ckground subtraction)	OS.ta.904984 uses a , . The previous ACQ/	previous COS spectrum p IMAGEs in 13636 gave c	plus an IUE spectrum. a			
2		(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=50		Sequence 2-6 Non-In	100 Secs (61 Secs)	
	7- BASELI NE SPECT			1291 A	0; FP-POS=3;		t in ACQ/PEAKD T EST (02)	[==>61.0 Secs ]	
	RUM (COS.sp.148	3			FLASH=S0040D02				
	3195)				5;				[1]
					WAVECAL=YES;				
					LIFETIME-POS=L P5				
$C_{i}$	Comments: Spectr	rum of source to	define correct location of star when it is ce	entered in PSA BT=1	$100*(2/3) = \sim 666$ , we us.	500. This will get us S	/N~3 per RE with 25s l	amp flash	_
3	G130M - P OSTARG +	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60 0;	POS TARG -1.6,0	Sequence 2-6 Non-In t in ACQ/PEAKD T	` '	
	SPECTRU			1291 A	FP-POS=3:		EST (02)	[==>51.0 Secs]	
	M1 (-1.6) (COS.sp.148	3			FLASH=YES;				[1]
	3195)				LIFETIME-POS=L				
_	Commontes POST	ADC TO SIMIII	ATE $5x0.8''''$ ACQ/PEAKD. This is the $x=$	16" position S/M	P5 = 60 is reached in 2 sees	ands (non seement). Th	a vianattina at 1.6" is 73	20/ 00 seconds achieves the same SN	as the 20
	posures at POST		ATE 5x0.0 ACG/TEARD. This is the x-	-1.0 position. 5/1v	= 00 is reached in 2 seco	mas (per segment). In	e vigheiting at 1.0 13/3	70, 90 seconds demeves the same 51v	us me so.
4		(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=60	POS TARG -0.8.0	Sequence 2-6 Non-In	40 Secs (12 Secs)	
	( )CTA D( ÷ +						t in ACO/DEAKD T	` '	_
	OSTARG + SPECTRU			1291 A	0;	,	t in ACQ/PEAKD T EST (02)	[==>12.0 Secs ]	
	SPECTRU M3 (-0.8) (COS.sp.148			1291 A				` '	[1]
	SPECTRU M3 (-0.8)			1291 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L			` '	[1]
	SPECTRU M3 (-0.8) (COS.sp.148 3195)	3 ARG TO SIMUL	ATE 5x0.8"" ACQ/PEAKD. This is the x=		0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5		EST (02)	[==>12.0 Secs ]	
	SPECTRU M3 (-0.8) (COS.sp.148 3195) Comments: POST posure, we need	3 ARG TO SIMUL	ATE $5x0.8''''$ ACQ/PEAKD. This is the $x=$ COS/FUV, TIME-TAG, PSA		0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	onds (per segment). Th	e vignetting at 0.8" is 20 Sequence 2-6 Non-In	[==>12.0 Secs ]  10%, To achieve the same S/N as the be	
	SPECTRU M3 (-0.8) (COS.sp.148 3195) Comments: POST. posure, we need - G130M - P OSTARG +	3 ARG TO SIMUL 40s		-0.8 " position. S/N	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 second BUFFER-TIME=60 0;	onds (per segment). Th	e vignetting at 0.8" is 20  Sequence 2-6 Non-In t in ACQ/PEAKD T	[==>12.0 Secs ]  10%, To achieve the same S/N as the be	
	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need G130M - P OSTARG + SPECTRU M7 (0.8)	SARG TO SIMUL 40s (1) AZV18		-0.8 " position. S/N	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon BUFFER-TIME=60 0; FP-POS=3;	onds (per segment). Th	e vignetting at 0.8" is 20 Sequence 2-6 Non-In	[==>12.0 Secs ]  0%, To achieve the same S/N as the ba 40 Secs (12 Secs)	aseline 30.
	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST posure, we need G130M - P OSTARG + SPECTRU	SARG TO SIMUL 40s (1) AZV18		-0.8 " position. S/N	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 seco BUFFER-TIME=60 0; FP-POS=3; FLASH=YES;	onds (per segment). Th	e vignetting at 0.8" is 20  Sequence 2-6 Non-In t in ACQ/PEAKD T	[==>12.0 Secs ]  0%, To achieve the same S/N as the ba 40 Secs (12 Secs)	
	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need of G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148	SARG TO SIMUL 40s (1) AZV18		-0.8 " position. S/N	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon BUFFER-TIME=60 0; FP-POS=3;	onds (per segment). Th	e vignetting at 0.8" is 20  Sequence 2-6 Non-In t in ACQ/PEAKD T	[==>12.0 Secs ]  0%, To achieve the same S/N as the ba 40 Secs (12 Secs)	aseline 30.
5 C	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need - G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148 3195)	ARG TO SIMUL 40s (1) AZV18 3 CARG TO SIMUL 140s	COS/FUV, TIME-TAG, PSA  ATE $5x0.8""$ ACQ/PEAKD. This is the $x=$	-0.8 " position. S/N G130M 1291 A	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	onds (per segment). Th	e vignetting at 0.8" is 20  Sequence 2-6 Non-In t in ACQ/PEAKD T EST (02)  the vignetting at 0.8" is 2	[==>12.0 Secs ]  [0%, To achieve the same S/N as the base of the same S/N as the same S/N as the base of the same S/N as the base of the same	aseline 30
5 C	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148 3195)	ARG TO SIMULA  (1) AZV18  CARG TO SIMULA  140s  (1) AZV18	COS/FUV, TIME-TAG, PSA	-0.8 " position. S/N G130M 1291 A +0.8 " position. S/N G130M	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon  BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 T= 60 is reached in 2 secon  BUFFER-TIME=60	onds (per segment). Th  POS TARG 0.8,0  onds (per segment). To	e vignetting at 0.8" is 20  Sequence 2-6 Non-Int in ACQ/PEAKD TEST (02)  the vignetting at 0.8" is 20  Sequence 2-6 Non-Int 20	[==>12.0 Secs ]  [==>12.0 Secs ]  40 Secs (12 Secs) [==>12.0 Secs ]	aseline 30
5 C	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST posure, we need of G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148 3195) Somments: POST exposure, we need G130M - P OSTARG + SPECTRU	ARG TO SIMULA  (1) AZV18  CARG TO SIMULA  140s  (1) AZV18	COS/FUV, TIME-TAG, PSA  ATE $5x0.8""$ ACQ/PEAKD. This is the $x=$	-0.8 " position. S/N G130M 1291 A +0.8 " position. S/N	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 seco  BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 T = 60 is reached in 2 seco	onds (per segment). Th  POS TARG 0.8,0  onds (per segment). To	e vignetting at 0.8" is 20  Sequence 2-6 Non-In t in ACQ/PEAKD T EST (02)  the vignetting at 0.8" is 2	[==>12.0 Secs ]  [0%, To achieve the same S/N as the base of the same S/N as the same S/N as the base of the same S/N as the base of the same	aseline 30
5 C	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need of G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148 3195) Somments: POST. xposure, we need G130M - P OSTARG + SPECTRU M8 (1.6) (COS.sp.148	ARG TO SIMUL.  (1) AZV18  SARG TO SIMUL.  (140s  (1) AZV18	COS/FUV, TIME-TAG, PSA  ATE $5x0.8""$ ACQ/PEAKD. This is the $x=$	-0.8 " position. S/N G130M 1291 A +0.8 " position. S/N G130M	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon  BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 T= 60 is reached in 2 secon  BUFFER-TIME=60	onds (per segment). Th  POS TARG 0.8,0  onds (per segment). To	e vignetting at 0.8" is 20  Sequence 2-6 Non-Int in ACQ/PEAKD TEST (02)  the vignetting at 0.8" is 2  Sequence 2-6 Non-Int in ACQ/PEAKD T	[==>12.0 Secs ]  [==>12.0 Secs ]  40 Secs (12 Secs) [==>12.0 Secs ]	aseline 30.
5 C	SPECTRU M3 (-0.8) (COS.sp.148 3195) Somments: POST. posure, we need of G130M - P OSTARG + SPECTRU M7 (0.8) (COS.sp.148 3195) Somments: POST. xposure, we need G130M - P OSTARG + SPECTRU M8 (1.6)	ARG TO SIMUL.  (1) AZV18  SARG TO SIMUL.  (140s  (1) AZV18	COS/FUV, TIME-TAG, PSA  ATE $5x0.8""$ ACQ/PEAKD. This is the $x=$	-0.8 " position. S/N G130M 1291 A +0.8 " position. S/N G130M	0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon BUFFER-TIME=60 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5 = 60 is reached in 2 secon BUFFER-TIME=60 0; FP-POS=3;	onds (per segment). Th  POS TARG 0.8,0  onds (per segment). To	e vignetting at 0.8" is 20  Sequence 2-6 Non-Int in ACQ/PEAKD TEST (02)  the vignetting at 0.8" is 2  Sequence 2-6 Non-Int in ACQ/PEAKD T	[==>12.0 Secs ]  [==>12.0 Secs ]  40 Secs (12 Secs) [==>12.0 Secs ]	[1]

Proposal 16432 - ACQ/PEAKD TEST (02) - COS LP5 FUV Target Acquisition Enabling and Verification G130M - A (1) AZV18 COS/FUV, ACO/PEAKD, PSA G130M NUM-POS=5: Sequence 7-8 Non-In 5 Secs (5 Secs) CO/PEAKD t in ACO/PEAKD T 1291 A STEP-SIZE=0.8; f = = > 1(COS.sa.148 EST (02) [1] 3201) LIFETIME-POS=L Comments: ACQ/PEAKD of a centered target on the same 5x0.8"" pattern. S/N = 60 is reached in 2 seconds on each segement COS/FUV. TIME-TAG. PSA BUFFER-TIME=50 Sequence 7-8 Non-In 30 Secs (12 Secs) G130M - B (1) AZV18 G130M ASELINE S t in ACO/PEAKD T 0; 1291 A f = > 12.0 Secs 1PECTRUM EST (02) FP-POS=3; (COS.sp.148 3195) FLASH=YES; [1] LIFETIME-POS=L Comments: Confirmation Spectrum after the PEAKD. BT=100\*(2/3) = ~666, we us 500. This will get us S/N~3 per RE with standard lamp flash G130M - A (21) AZV18-OFFSE COS/FUV, ACQ/PEAKD, PSA G130M NUM-POS=5; Sequence 9-10 Non-I 5 Secs (5 Secs) CO/PEAKD T-AD-0.3 nt in ACO/PEAKD 1291 A STEP-SIZE=0.8; I ==> 1TEST (02) (COS.sa.148 [1] 3201) LIFETIME-POS=L Comments: 5x0.8" ACQ/PEAKD on an off centered target. The target is defined 0.3" in the +AD direction from the actual target, so the target will actually now be 0.3" off in the -AD direction. 10 G130M - B (21) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 9-10 Non-I 30 Secs (12 Secs) ASELINE S T-AD-0.3 nt in ACQ/PEAKD 0; 1291 A f = > 12.0 Secs 1PECTRUM TEST (02) FP-POS=3; (COS.sp.148 3195) FLASH=YES; [1] LIFETIME-POS=L Comments: Confirmation spectrum after the ACO/PEAKD. Confirmation Spectrum after the PEAKD. BT=100\*(2/3) = ~666, we us 500. This will get us S/N~3 per RE with standard lamp flash G130M - A (22) AZV18-OFFSE COS/FUV, ACO/PEAKD, PSA G130M NUM-POS=5; Sequence 11-12 Non | 5 Secs (5 Secs) -Int in ACQ/PEAKD CO/PEAKD T-AD+0.4 1291 A STEP-SIZE=0.9; *[==>1* TEST (02) (COS.sa.148 [1] 3201) LIFETIME-POS=L Comments: 5x0.9'' ACQ/PEAKD on an off centered target, this time the target is 0.7'' off to the +AD. (We just centered on the -0.3 position, now we are at +0.4'') 12 G130M - B (22) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 11-12 Non 30 Secs (12 Secs) ASELINE S T-AD+0.4 -Int in ACO/PEAKD 0; 1291 A I = > 12.0 Secs 1PECTRUM TEST (02) FP-POS=3; (COS.sp.148 3195) [1] FLASH=YES; LIFETIME-POS=L Comments: Confirmation spectrum after the ACO/PEAKD. Confirmation Spectrum after the PEAKD. BT=100\*(2/3) = ~666, we us 500. This will get us S/N~3 per RE with standard lamp flash G130M - A (21) AZV18-OFFSE COS/FUV, ACO/PEAKD, PSA G130M Sequence 13-14 Non | 5 Secs (5 Secs) NUM-POS=3; CQ/PEAKD T-AD-0.3 -Int in ACQ/PEAKD 1291 A STEP-SIZE=1.2; I = = > 1TEST (02) (COS.sa.148 [1] 3201) LIFETIME-POS=L Comments: 3x1.2" ACQ/PEAKD on an off centered target. The target is 0.7" in the -AD direction from the actual target. (We just centered on the +0.4 position, now we are at -0.3") BUFFER-TIME=50 G130M - B (21) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M Sequence 13-14 Non 30 Secs (12 Secs) ASELINE S T-AD-0.3 -Int in ACO/PEAKD 1291 A I = > 12.0 Secs 1PECTRUM TEST (02) FP-POS=3; (COS.sp.148 3195) FLASH=YES; [1] LIFETIME-POS=L P5 Comments: Confirmation spectrum after the ACQ/PEAKD. Confirmation Spectrum after the PEAKD. BT=100\*(2/3) = ~666, we us 500. This will get us S/N~3 per RE with standard lamp flash

Proposal 16432 - ACQ/PEAKD TEST (02) - COS LP5 FUV Target Acquisition Enabling and Verification

i iopi	to to to to to de to	AND 1231 (02) - 003 L	10101	raiget / toquisition Enab	ing and vermoation	
15	G130M - A (1) AZV18 CQ/PEAKD (COS.sa.148 3201)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	NUM-POS=3; STEP-SIZE=1.3; LIFETIME-POS=L P5	Sequence 15-16 Non Int in ACQ/PEAKD TEST (02)	[1]
Co	mments: 7x0.55" ACQ/PEAKD on	an off centered target. We just centered	on the -0.3" tar	get, now we are back to the center, so	the target is at +0.3"	
16	G130M - B (1) AZV18 ASELINE S PECTRUM (COS.sp.148 3195)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=50 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	Sequence 15-16 Non	[1]
Co	mments: Confirmation spectrum a	fter the ACO/PEAKD. Confirmation Spe	ctrum after the	PEAKD. $BT=100*(2/3) = \sim 666$ , we us	s 500. This will get us S/N~3 per RE with standard lamp flash	



# Proposal 16432 - ACQ/PEAKXD TEST G130M/1291 (03) - COS LP5 FUV Target Acquisition Enabling and Verification

Proposal 16432, ACQ/PEAKXD TEST G130M/1291 (03), completed

Wed Sep 29 17:01:29 GMT 2021

**Diagnostic Status: Warning** 

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; ORIENT 219.9D TO 220.1 D; BETWEEN 15-MAY-2021:00:00:00 AND 25-MAY-2021:00:00:00

Comments: ACQ/PEAKXD Test for G130M/1291. The target is AVZ18. After obtaining a good spectrum of the centered target, take spectra at the following positions (-1.6,-0.8,+0.8,+1.6) " in the XD direction. The > +/- 0.5" offsets have expanded exposure times to compensate for vignetting. To maintain S/N, the scale factor for the exposure times should be:

OFFSET %LOSS ET equivalent/second"

0.00 0.00 1.00 0.80 22.58 1.29 1.60 73.33 3.75

**Diagnostics** 

We expect 1100 FUVA counts/sec over the  $\sim$ 2300 RE, the target spectrum is  $\sim$ flat, so we get 2 count/RE/s. To get 50 counts/RE, we need 25s. We have time for 35s or 45s at +/- 0.8", and  $\sim$ 130s at +/- 1.6" After obtaining the offset spectra, we then proceed to test PEAKXD with targets offsets by +/-0.5, +/-0.8" in the XD.

ORIENT should be 150.5+/-0.5 degrees

(ACQ/PEAKXD TEST G130M/1291 (03)) Warning (Form): COS ACQ/PEAKXD exposure should be followed by an ACQ/PEAKD exposure in the Visit.

(ACQ/PEAKXD TEST G130M/1291 (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(ACQ/PEAKXD TEST G130M/1291 (03)) 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)	Proper Motion RA: -0.0003 sec of time/yr	V=12.48	Reference Frame: ICRS
1			Dec: -73 06 32.68 (-73.10908d)	Proper Motion Dec: -0.0035 arcsec/yr	(B-V)=+0.04	
			Equinox: J2000	Epoch of Position: 2000		
	Category=	STAR n=[B0-B2 III-I]	. B2Ia, Magellanic Clouds. Nominal ETC exposur	e times derived from previous COS + IUE spect	rum.	
Targets	(31)	AZV18-OFFSET-	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+0.5)
l g		XD+0.5	RA Offset: 4.76E-4 Degrees		(B-V)=+0.04	
			Dec Offset: 0.043578 Arcsec			
Fixed	Category=	STAR n=[B0-B2 III-I]	" in the XD direction. The orient angle must be 220	) +/- 0.1		
	(32)	AZV18-OFFSET-	Offset from AZV18		V=12.48	Offset Position (AZV18-OFFSET-XD+0.8)
		XD+0.8	RA Offset: 7.62E-4 Degrees		(B-V)=+0.04	
			Dec Offset: 0.069725 Arcsec			
	Category=	STAR n=[B0-B2 III-I]	" in the XD direction. Orient must be 220 +/- 0.1.			

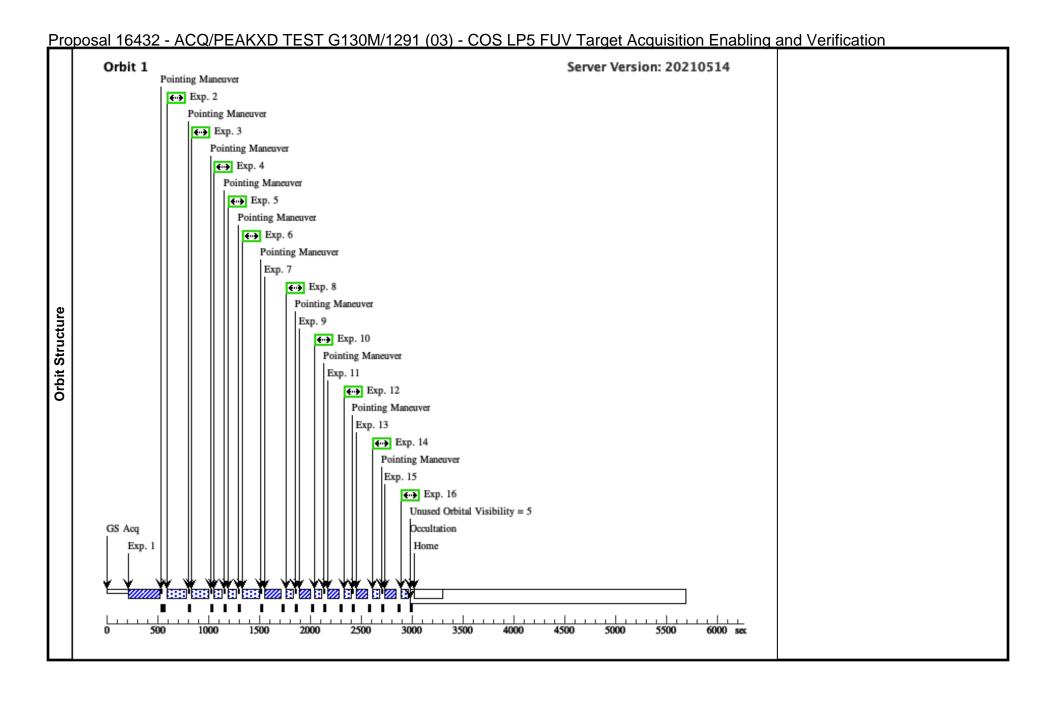
Proposal 16432 - ACQ/PEAKXD TEST G130M/1291 (03) - COS LP5 FUV Target Acquisition Enabling and Verification

0	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	BOA/MIRR ORA ACQ/I MAGE (COS.ta.904 984)	(1) AZV18	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				36 Secs (36 Secs) [==>]	[1]
	Com us A	nments: NUV A CO/IMAGEs ir	CQ/IMAGE with BOA n 13636 gave a S/N of	A+MIRRORA to refine centering. COS 62.6 is 31 seconds (after background	ta.904984 uses a p subtraction)	previous COS+IUE spec	trum. This ETC25.1.1	gives S/N=60 in 27.4 s	seconds, we go for 36s just be to sure.	The previo
	2	G130M - B ASELINE S PECTRUM (COS.sp.906 443)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=50 0; FP-POS=3; FLASH=S0200D03 0; LIFETIME-POS=L P5		Sequence 2-8 Non-In t in ACQ/PEAKXD TEST G130M/1291 ( 03)	f > 22.0 G 1	[1]
				correct location of star when it is cent = 35 at wavelength 1310A gives: SNI			1000 - < 666			
	3	G130M - P OSTARG + SPECTRU M1 (-1.6) (COS.sp.906 443)	, , ,	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 00; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5		Sequence 2-8 Non-In t in ACQ/PEAKXD TEST G130M/1291 ( 03)	130 Secs (118 Secs) [==>118.0 Secs ]	[1]
es	Com	ments: POSTA	RG TO Move to Y=-1	.6. The vignetting here is 73%, so to n	natch the 34s in 03.	002, we need 35*3.75 =	~130s		1	
Exposures	4	G130M - P OSTARG + SPECTRU M2 (-0.8) (COS.sp.906 443)	(1) AZV18	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=65 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	POS TARG 0,-0.8	Sequence 2-8 Non-In t in ACQ/PEAKXD TEST G130M/1291 ( 03)	I > 24 0 C 1	[1]
	Com			0.8. The vignetting here is 23%, so to n	natch the 34s in 03.	002, we need $35*1.3 = 4$	46s. BT=650.		· · · · · · · · · · · · · · · · · · ·	
	5	G130M - P OSTARG + SPECTRU M3 (+0.8) (COS.sp.906 443)		COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=65 0; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	POS TARG 0,0.8	Sequence 2-8 Non-In t in ACQ/PEAKXD TEST G130M/1291 ( 03)	46 Secs (34 Secs) [==>34.0 Secs ]	[1]
	Com	ments: Same a G130M - P	$\frac{48 \ 03.004, \ but \ at +0.8'}{40.004}$	COS/FUV. TIME-TAG. PSA	G130M	BUFFER-TIME=12	DOS TARCO 16	Saguanas 2 9 Non In	130 Secs (118 Secs)	
	υ	OSTARG + SPECTRU M4 (+1.6) (COS.sp.906 443)	(1) AZV18	COS/FUV, HME-TAG, PSA	1291 A	BUFFER-TIME=12 00; FP-POS=3; FLASH=YES; LIFETIME-POS=L P5	103 1ARU 0,1.0	sequence 2-8 Non-in t in ACQ/PEAKXD TEST G130M/1291 ( 03)	I> 118 0 Sacs 1	[1]
	Com	nments: Same a	as 03.003, but at 1.6"							

LIFETIME-POS=L   PSETIME-POS=L   PSETIME-POS	netred (COS.as) 904   990   OS.as) 904   OS.as) 905   OS.as) 905   OS.as) 905   OS.as) 906   OS.as) 907   OS.as) 907   OS.as) 907   OS.as) 908   OS.as) 909   O	
STEP-SIZE=0.8   STEP-SIZE=0.	STEP-SIZE=0.8   STEP-SIZE=0.	
Comments: COS.no.99990 Requested Signal/Noise Ratio = 40.00 gives: Time = 0.8984 seconds   Time Required for Requested Signal Noise Regiment and Signal Society   1.029   Time Required for Requested Signal Noise Regiment and Signal Society   1.029   Time Required for Requested Signal Noise Regiment and Signal Society   1.029   Time Required for Requested Signal Noise Regiment and Signal Society   1.029   Time Required for Requested Signal Noise Regiment and Signal Society   1.029   Time   1.029	Comments: COS sa 904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds   Time Required for Requested SNR in Segment B only: 1.4029	[1]
Time Required for Requested SNR in Segment Anniy: 14092 Time Required for Requested SNR in Segment and in 2: 4982 The target should only more slightly (ACQ/IMAGE error and counting uncertainty), unless there is residual pointing error from the POS-TARGS.  8 G130M-8 (1) AZV18	Time Required for Requested SNR in Segment 8 only: 1.4029 Time Required for Requested SNR in Segment 8 only: 2.4982 The target should only move slightly (ACQ/MAGE error and counting uncertainty), unless there is residual pointing error from the POS-TARGS.  8 G130M - B (1) AZV18	
Second Companies	8 G130M - B (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 (1) AZV18 ASELINES PECTRUM (COS.sp. 906 443)  8 G130M - B (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 (1) AZV18 ASELINES PECTRUM (COS.sp. 906 443)  8 G130M - B (1) AZV18 COS/FUV, ACQ/PEAKXD centering. COS.sp. 906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element (s	
Second   Comments   Second	8 G130M - P. (1) AZV18 COS/FUV, TIME-TAG, PSA PETRITM (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS/FUV, TIME-TAG, PSA PETRITM (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS/FUV, TIME-TAG, PSA PETRITM (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS/FUV, TIME-TAG, PSA PETRITM (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU POLICY (COS.sp. 906 4443)  8 G130M - P. (1) AZV18 COS SAU	
FP-POS-3;	FP-POS=3;   TEST Gi 30M/129   FP-POS=3;   TEST Gi 30M/129   FIASH=YES;   LIFETIME-POS=LP   FS-POS=2;   TEST Gi 30M/129   FS-POS=2;   FIASH=YES;   LIFETIME-POS=LP   FS-POS=2;   TEST Gi 30M/129   FS-POS=2;   FS-POS=2;   FS-POS=3;   TEST Gi 30M/129   FS-POS=2;   FS-POS=3;	
COS sp. 906   FIP-FOS=1;   O3)   FIP-FOS=1;   FIRSH-YES;   LIFETIME-POS=L PS   LIFET	COS.sp.906   FP-POS=1;   Gas   FLASH=YES;   LIFETIME-POS=L   PS	
LIFETIME-POS=L   PS	LIFETIME-POS=L   PS	
P5   Comments: Spectrum of source to test previous ACQ/PEAKXD centering, COS sp. 906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element), BT=2/3 * 1000 =            9 G130M - PE (32) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA G130M (COS sa. 904)         LIFETIME-POS-L.P (sq. per resolution element), BT=2/3 * 1000 =            9 G130M - PE (32) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA G130M (COS sa. 904)         1291 A (sq. per sq.	P5   Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element)	[1]
Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element). BT=2/3 *1000 = <	Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element of the start of the star	
Sequence   0, 10 April   2   2   2   2   2   3   3   3   2   2	9 G130M - PE (32) AZV18-OFFSE COS/FUV, ACQ/PEAKXD, PSA AKXD-XD T-XD+0.8 + 0.8 (UP) c(OS. sa. 904 990) T-XD+0.8 (UP) sign of the target offset by +0.8".   1291 A	BT=2/3 * 1000 = < 66
AKXD-XD	AKXD-XD T-XD+0.8	B1=2/3 1000 = < 00
NUM-POS=3	Ho.8 (UP)	
STEP-SIZE=1.3   STEP-SIZE=1.3	STEP-SIZE=1.3	[1]
COS.sa.904990 Requested Signal/Noise Ratio = 40,000 gives: Time = 0.8984 seconds   Time Required for Requested SNR in Segment A only: 1.4029   Time Required for Requested SNR in Segment B only: 2.4982	COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds  Time Required for Requested SNR in Segment A only: 1.4029  Time Required for Requested SNR in Segment B only: 2.4982  10 G130M - Co (32) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 9-10 Non-I nt in ACQ/PEAKXD FP-POS=3; TEST G130M/1291 (	
Time Required for Requested SNR in Segment A only: 1.4029   Time Required for Requested SNR in Segment B only: 2.4982	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	
Riffmation   T-XD+0.8   1291 A   0;	nfirmation   SPECTRU   Nd   1291 A   0;   nt in ACQ/PEAKXD   TEST G130M/1291 (	
PF-POS=3;   TEST G[30M/1291	SPECTRU   M   FP-POS=3;   TEST G130M/1291 (	
M	M	
LIFETIME-POS=L   PS	LIFETIME-POS=L   P5	
Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element). BT=2/3 * 1000 = <	Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution elements)	[1]
Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element). BT=2/3 * 1000 =    1	Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution elements)	
The content of the	11 G130M - PE (1) AZV18 COS/FUV, ACQ/PEAKXD, PSA G130M LIFETIME-POS=LP Sequence 11-12 Non AKXD-XD- 0.8 (DOWN ) (COS.sa.904 990)	BT=2/3*1000=<66
0.8 (DOWN ) (COS.sa.904 990)  Comments: Back on original target, -0.8"  COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds	0.8 (DOWN ) NUM-POS=3 D TEST G130M/129 (COS.sa.904 990)	
NUM-POS=3   1 (03)   (COS. sa. 904 990   990)	) (COS.sa.904 990)	
590    Comments: Back on original target, -0.8"	990)	[1]
Comments: Back on original target, -0.8"  COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds		12.
COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds  Time Required for Requested SNR in Segment A only: 1.4029  Time Required for Requested SNR in Segment B only: 2.4982  12 G130M - Co (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 11-12 Non  nfirmation SPECTRU FP-POS=3; FP-POS=3; I (03)  (COS.sp.906 443)  LIFETIME-POS=L P5		
12 G130M - Co (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 11-12 Non -Int in ACQ/PEAKX D TEST G130M/129 I (03)    SPECTRU   FP-POS=3; I (03)   FLASH=YES;   LIFETIME-POS=L P5   LIFETIME-POS=L   FS   FIRST G130M/129   FS   FS   FS   FS   FS   FS   FS   F	COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds Time Required for Requested SNR in Segment A only: 1.4029	
nfirmation		
FP-POS=3; D TEST G130M/129 M (COS.sp.906 (COS.sp.906 443) LIFETIME-POS=L P5	nfirmation 1291 A 0; -Int in ACQ/PEAKX (>23.0 Sacs I	
(COS.sp.906 443) FLASH=YES; LIFETIME-POS=L P5	FP-POS=3; D TEST G150M/129 T 1 (03)	
P5	(COS.sp.906 FLASH=YES;	[1]
	LIFET IME-POS=L	
		DT 2/2 * 1000

Proposal 16432 - ACQ/PEAKXD TEST G130M/1291 (03) - COS LP5 FUV Target Acquisition Enabling and Verification LIFETIME-POS=LP G130M -PE (31) AZV18-OFFSE COS/FUV, ACO/PEAKXD, PSA G130M Sequence 13-14 Non | 2 Secs (2 Secs) AKXD- XD T-XD+0.5 5 -Int in ACQ/PEAKX 1291 A D TEST G130M/129 [==>]+0.5[1] (COS.sa.904 1 (03) 990) Comments: ACQ/PEAKXD on the target offset by +0.5". COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds Time Required for Requested SNR in Segment A only: 1.4029 Time Required for Requested SNR in Segment B only: 2.4982 G130M -Co (31) AZV18-OFFSE COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 13-14 Non 35 Secs (23 Secs) -Int in ACQ/PEAKX nfirmation T-XD+0.5 0: 1291 A I = > 23.0 Secs 1SPECTRU D TEST G130M/129 FP-POS=3; 1 (03) M (COS.sp.906 FLASH=YES; [1] 443) LIFETIME-POS=L P5 Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element). BT=2/3 \* 1000 = < 666 15 G130M -PE (1) AZV18 COS/FUV, ACQ/PEAKXD, PSA G130M LIFETIME-POS=LP Sequence 15-16 Non | 2 Secs (2 Secs) AKXD- XD 5; -Int in ACQ/PEAKX 1291 A [==>] D TEST G130M/129 -0.5 NUM-POS=3; [1] (COS.sa.904 1 (03) 990) STEP-SIZE=1.25 Comments: ACQ/PEAKXD on the target offset by -0.5". COS.sa.904990 Requested Signal/Noise Ratio = 40.000 gives: Time = 0.8984 seconds Time Required for Requested SNR in Segment A only: 1.4029 Time Required for Requested SNR in Segment B only: 2.4982 G130M - Co (1) AZV18 COS/FUV, TIME-TAG, PSA G130M BUFFER-TIME=50 Sequence 15-16 Non 35 Secs (23 Secs) -Int in ACQ/PEAKX nfirmation D TEST G130M/129 [==>23.0 Secs ] 1291 A SPECTRU FP-POS=3; 1 (03) M (COS.sp.906 FLASH=YES; [1] 443) LIFETIME-POS=L

Comments: Spectrum of source to test previous ACQ/PEAKXD centering. COS.sp.906443 Exposure time (seconds) = 35 at wavelength 1310A gives: SNR = 3.8135 (per resolution element). BT = 2/3 \* 1000 = < 666.



F	Proposal 16432 - LP 5 Integratio	n Test (04) - COS LP5 FUV	/ Target Acquisition Enabling and Verification

Proposal 16432, LP 5 Integration Test (04), scheduling Wed Sep 29 17:01:29 GMT 2021 **Diagnostic Status: No Diagnostics** Scientific Instruments: COS/FUV, COS/NUV Special Requirements: ORIENT 74.5D TO 75 D; BETWEEN 04-OCT-2021:00:00:00 AND 06-OCT-2021:00:00:00 Comments: This visit tests all FUV TA modes as defaults on the first day of cycle 29. That is the day that LP5 becomes the default. Orient should be 70.5+/-0.5. The order of tests is: NUV acquisition POSTAŔG ACQ/SEARCH  $P\widetilde{EAKXD}$ PEAKD PEAKXD with offset PEAKD with offset ORIENT should be constrained to 74.5 to 75 degrees Name **Target Coordinates** Targ. Coord. Corrections Fluxes Miscellaneous (6) WD1657+343 V=16.4+/-0.1Reference Frame: ICRS RA: 16 58 51.1200 (254.7130000d) Proper Motion RA: 12 mas/yr Dec: +34 18 53.30 (34.31481d) Proper Motion Dec: -32 mas/yr Equinox: J2000 Epoch of Position: 2000 Radial Velocity: 78 km/sec Comments: This object is visible all year. Proper Motions from 2008ApJS..175..297A and are [12,-32] mas/yr. The original proposal used [0.0014 sec of time/yr, -0.0342 "/yr]. ICRS coord. (ep=J2000): 16 58 51.12 +34 18 53.3 The target used is WD1657+343 and the exposure times are based on a spectrum provided by A. Aloisi (extrapolated in wavelength). Category=STAR Description=[DA] Extended=NO (61) WD1657+343-Offset from WD1657+343 Radial Velocity: 78 km/sec V=16.4+/-0.1Offset Position (WD1657+343-OFFSET+0.7AD+0.7XD OFFSET+0.7AD+0.7XD) arget RA Offset: -8.9E-5 Degrees Dec Offset: 0.953945 Arcsec Comments: Offset to (Ra. Dec) = (+0.7,+0.7), assuming ORIENT=74.5 Category=STAR Description=[DA] Extended=NO (62) WD1657+343-Offset from WD1657+343 V=16.4+/-0.1Offset Position (WD1657+343-Radial Velocity: 78 km/sec OFFSET+0.7AD+1.05X OFFSET+0.7AD+1.05XD) RA Offset: -1.91E-4 Degrees Dec Offset: 1.12629 Arcsec Comments: This target is offset +0.35" in the XD direction with respect to target 61, which was the last target to be acquired, so it thinks we are there (61). This is testing position (0",-0.35") in the detector. The roll angle is  $74.5 \pm 1$  degree and is valid for OCT 1 and 2, 2021. Category=STAR Description=[DA] Extended=NO WD1657+343-Offset from WD1657+343 Radial Velocity: 78 km/sec V=16.4+/-0.1Offset Position (WD1657+343-(63)OFFSET+1.05AD+1.05X OFFSET+1.05AD+1.05XD) RA Offset: -1.33E-4 Degrees Dec Offset: 1.43092 Arcsec Comments: Category=STAR Description=[DA] Extended=NO

Proposal 16432 - LP 5 Integration Test (04) - COS LP5 FUV Target Acquisition Enabling and Verification

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	BOA/MIRR ORA ACQ/I MAGE (COS.ta.616 985)	(6) WD1657+343	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				162 Secs (162 Secs) [==>]	[1]
Cor	,	CQ/IMAGE with BO	A+MIRRORA to define centering. COS	S.ta.616985 Reques	sted Signal/Noise Ratio =	60.000 gives: Time =	= 150 seconds		
2	G130M/129 1 spectrum (COS.sp.146 4645)	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;	BUFFER-TIME=31 t in LP 5 Integration Test (04)  LIFETIME-POS=D	Sequence 2-4 Non-In	25.0 Secs (31 Secs)	
				1291 A	BUFFER-TIME=31 6; LIFETIME-POS=D		[==>31.0 Secs ]	[1]	
					EF				
Cor			urison after NUV ACQ/IMAGE center						1
3	POS-TARG (6) WD1657+343 (1.0, 0) G1 30M/1291 s pectrum (COS.sp.146	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3;	POS TARG 1.0,0	Sequence 2-4 Non-In t in LP 5 Integration Test (04)		
					BUFFER-TIME=31 6; LIFETIME-POS=D			[==>31.0 Secs ]	[1]
	4645)	noamina. I i	- ·		EF				
Coi		POS-TARG in the A		G1203.f	ED DOG 2	DOG TARGOTO	G 24N I	25.0.5 (21.5.)	1
4	(0, 1.0) G1	(6) WD1657+343	COS/FUV, TIME-TAG, PSA	G130M 1291 A	FP-POS=3;	POS TARG 0,1.0	S TARG 0,1.0 Sequence 2-4 Non-In t in LP 5 Integration Test (04)		
	30M/1291 s				BUFFER-TIME=31 6;			[==>31.0 Secs ]	
	pectrum (COS.sp.146 4645)	S.sp.146			LIFETIME-POS=D EF				[1]
Cor		POS-TARG in the X							1
5			61) WD1657+343- COS/FUV, ACQ/SEARCH, PSA DFFSET+0.7AD+0. XD	G130M 1291 A	LIFETIME-POS=D EF; SCAN-SIZE=4	Sequence 5-9 N	Sequence 5-9 Non-In t in LP 5 Integration	·	
	rget (COS.sa.146 4651)	7XD					Test (04)	[==>]	[1]
Cor	mments: ACQ/S	EARCH starting at po	osition (0.7, 0.7) with respect to the rec	al target.					•
6	G130M/129 (61) WD1657+343-		G130M	FP-POS=3;		Sequence 5-9 Non-In	25.0 Secs (31 Secs)		
	1 spectrum (COS.sp.146 4645)	OFFSET+0.7AD+0. 7XD		1291 A	BUFFER-TIME=31 6;		t in LP 5 Integration Test (04)	[==>31.0 Secs ]	[1]
					LIFETIME-POS=D EF				
Cor	mments: Spectri	ım for baseline compe	arison after FUV ACQ/SEARCH cente	ring.					1
7	•		COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=D		Sequence 5-9 Non-In t in LP 5 Integration Test (04)	2 Secs (2 Secs)	
	ter ACQ/SE ARCH (COS.sa.146 4651)	OFFSET+0.7AD+0. 7XD		1291 A	EF			[==>]	[1]
Cor	/	entering with ACQ/SE	EARCH alone, do the PEAKS, which is	what is required in	n a real acquisition.				1
8		SEA OFFSET+0.7AD+0. 7XD	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	LIFETIME-POS=D EF; STEP-SIZE=0.9		Sequence 5-9 Non-In t in LP 5 Integration Test (04)	2 Secs (2 Secs)	
	r ACQ/SEA RCH (COS.sa.146 4672)							[==>]	[1]
Cor	<i>'</i>	EAKD after FUV PE	AKXD, after FUV ACQ/SEARCH					L	1
1									

Proposal 16432 - LP 5 Integration Test (04) - COS LP5 FUV Target Acquisition Enabling and Verification

-			rarget Acquisition Enac			
)	G130M/129 (61) WD1657+343- COS/FUV, TIME-TAG, PSA 1 spectrum OFFSET+0.7AD+0.	G130M	FP-POS=3;	Sequence 5-9 Non-In t in LP 5 Integration	` '	
	(COS.sp.146 7XD)	1291 A	BUFFER-TIME=31 6; LIFETIME-POS=D EF	Test (04)	[==>31.0 Secs ]	
	4645)			` '		[
C	G C C C C C C FUNACO/CEARCH REAKWR	I DEAKD	<b>2.</b>	. I d C d NIII	• • • •	
	nments: Spectrum for verification after FUV ACQ/SEARCH, PEAKXD and			· · · · · · · · · · · · · · · · · · ·	<u> </u>	<del></del>
10	PEAKXD te (62) WD1657+343- COS/FUV, ACQ/PEAKXD, PSA st offset -0.3 OFFSET+0.7AD+1.	G130M	LIFETIME-POS=D EF	Sequence 10-11 Non	` '	
	st offset -0.5 OFFSET+0./AD+1. 5 on detecto 05XD	1291 A		-Int in LP 5 Integrati on Test (04)	[==>]	
	r					
	(COS.sa.146					"
	4672)					
Com	uments: It thinks we were at (0.7, 0.7) on the sky, and centered on the dete	ctor. Now go to (		own to 0.35 in XD in the detector ar	nd re-acquire.	
11	G130M/129 (62) WD1657+343- COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;	Sequence 10-11 Non	25.0 Secs (31 Secs)	
	1 spectrum OFFSET+0.7AD+1. (COS.sp.146 05XD	1291 A	BUFFER-TIME=31	-Int in LP 5 Integrati on Test (04)	[==>31.0  Secs ]	
	4645)		6;	on Test (04)		//
			LIFETIME-POS=D			
			EF			
Com	uments: Spectrum for verification after PEAKXD.					
12	PEAKD test (63) WD1657+343- COS/FUV, ACQ/PEAKD, PSA	, PSA G130M 1291 A	LIFETIME-POS=D	Sequence 12-13 Non -Int in LP 5 Integrati on Test (04)	2 Secs (2 Secs)	
	offset +0.5 o OFFSET+1.05AD+1 n detector .05XD		EF; STEP-SIZE=0.9		[==>]	
	(COS.sa.146					
	4672)					
Com	uments: ;; It thinks we are starting from (0.7, 1.05). Moving to 0.7 in XD p	uts the target at	+0.35 in the detector and then reacquir	res.		
13	G130M/129 (63) WD1657+343- COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;	Sequence 12-13 Non	25.0 Secs (31 Secs)	
	1 spectrum OFFSET+1.05AD+1	1291 A	BUFFER-TIME=31	-Int in LP 5 Integrati on Test (04)	I = > 31.0  Secs  1	
	(COS.sp.146 .05XD 4645)		6;		, 51.0 5003 j	
	<del>1013)</del>		LIFETIME-POS=D			
			EF			
C	nments: Spectrum for verification after FUV PEAKD centering.					

