

17582 - Cycle 31 COS FUV Target Acquisition Monitor

Cycle: 31, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

V IDI				-	
Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
01	(1) WD-1657+343	COS/FUV COS/NUV	1	05-Oct-2023 17:01:01.0	yes
02	(1) WD-1657+343	COS/FUV COS/NUV	1	05-Oct-2023 17:01:02.0	yes
03	(1) WD-1657+343	COS/FUV COS/NUV	2	05-Oct-2023 17:01:05.0	yes

⁴ Total Orbits Used

ABSTRACT

This program verifies that FUV spectroscopic target acquisitions are working nominally for the modes allowed in cycle 31: G130M at LP5, G140L at LP4, and G160M at LP4 and LP6. For each grating the cenwave with the widest cross dispersion profile in which acquisitions are done is used,

Proposal 17582 (STScI Edit Number: 0, Created: Thursday, October 5, 2023 at 4:01:06 PM Eastern Standard Time) - Overview yielding the combinations G130M/1291, G140L/1280, and G160M/1600. After the standard target WD 1657+343 is centered using ACQ/IMAGE we take spectra at the NUM-POS positions used by the PEAKXD and PEAKD algorithms to inspect those regions of the detector and check the vignetted flux. We then perform a PEAKXD and/or PEAKD acquisition and take a spectrum to verify centering. We test PEAKXD with NUM-POS=3 (default) and 5, and PEAKD with NUM-POS=5 (default). A detailed description of the observations is given in the visit level comments. This program follows the prescription used in the last several cycles, and is most recently adapted from cycle 29 and 30 programs 16831 and 16942, respectively. Note that 16942 included a repeat of the LP6 enabling test for peakxd, which has been removed for this program.

OBSERVING DESCRIPTION

This program consists of four orbits, each with a non-interrupt sequence. The program is divided into three visits to allows the last three orbits to have schedulability 100, whereas the first orbit needs schedulability 80. The last three orbits are split into two visits to facilitate scheduling, and the two orbit visit can also be separated if necessary.

We request that this program execute in January of 2024 (via a BETWEEN), and within 30 days of Visit PB of Program 17321 (via a visit-level comment).

The program is divided into 3 parts, one for each FUV grating. The central wavelengths tested are G130M/1291 at LP5, G140L/1280 at LP4, and G160M/1600 at LP4 and LP6. These cenwaves were chosen because they provide the widest cross-dispersion profile allowed for acquisitions.

For each grating, we first acquire the target using ACQ/IMAGE, take a spectrum to verify the ACQ/IMAGE centering, take off-centered spectra using POSTARG, and then run an acquisition sequence. The visit level comments contain a detailed description of the observations.

Comments for each exposure give the Buffer Time calculations. However, in most cases we use slighter shorter buffer times in case the targets are brighter than expected. The logic being that if any of the PEAKXDs are not exactly perfect, the followup POS-TARGs may be off and give different count rates than expected.

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01) - Cycle 31 COS FUV Target Acquisition Monitor Proposal 17582, PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01) Thu Oct 05 21:01:06 GMT 2023 **Diagnostic Status: Warning** Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 80%; BETWEEN 01-JAN-2024:00:00:00 AND 31-JAN-2024:00:00:00 Comments: This visit is separated from visits 2 and 3 because this visit needs schedulability 80, whereas visits 2 and 3 can use 100. This visit has the following timing requirement: * It should execute between 1/1/24 and 1/31/24 * It should execute within 30 days of visit PB of program 17321 This visit tests spectroscopic target acquisition using FUV G130M/1291. The sequence of events is as follows 01.001 - NUV ÂCQ/IMÂĞE 01.002 - NUV Image with WCA lamps, to check alignment later on. 01.003 - G130M/1291 spectrum to establish center position after ACQ/IMAGE 01.004, 01.005 - +/-1.3" XD POSTARGS to simmulate NUM-POS=3 PEAKXD 01.006 - PEAKXD with NUM-POS=3 01.007 - Verification spectrum 01.008 to 01.011 - Simulates PEAKXD with NUM-POS=5, STEP-SIZE=0.9 01.012 - PEAKXD with NUM-POS=5 01.013 - Verification spectrum 01.014 - PEÅKD 01.015 - Verification spectrum (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE gnostics (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT **Target Coordinates** Targ. Coord. Corrections **Fluxes** Miscellaneous Name (1) WD-1657+343 RA: 16 58 51.1202 (254.7130008d) Proper Motion RA: 11 mas/yr V = 16.1Reference Frame: ICRS Dec: +34 18 53.29 (34.31480d) Proper Motion Dec: -31 mas/yr Equinox: J2000 Epoch of Position: 2000 ets Radial Velocity: 78 km/sec = 40 in 5.2s. SIMBAD coordinates are 16 58 51.1202 +34 18 53.293 otions mas/yr: 11-31 [3 3 133] C 2011MNRAS.417.1210G, RV=78

arg	Comments: COS.ta.1032496 indicates S/N = 4 Proper Motion from SIMBAD is Proper motio
Гþ	Proper Motion from SIMBAD is Proper motio B 16.12 [~] D ~ u (AB) 15.749 [0.005] B 2013yCat.51390A g (AB) 16.139 [0.003] B 2013yCat.51390A r (AB) 16.691 [0.004] B 2013yCat.51390A i (AB) 17.054 [0.005] B 2013yCat.51390A z (AB) 17.388 [0.015] C 2013yCat.51390A
	Category=STAR

Description=[DA] Extended=NO

3

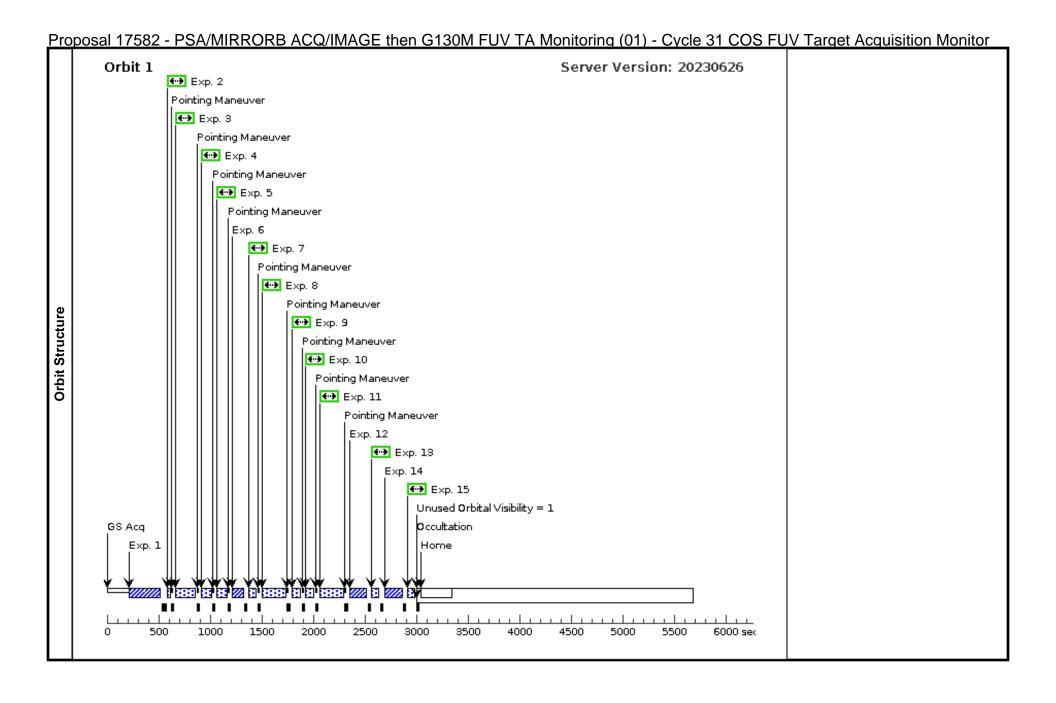
Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01) - Cycle 31 COS FUV Target Acquisition Monitor

	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
ľ	1		(1) WD-1657+343	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 1-15 Non-I	7 Secs (7 Secs)	
		ORB ACQ/I MAGE (COS.ta.154 0223)						nt in PSA/MIRROR B ACQ/IMAGE then G130M FUV TA Mo nitoring (01)	[==>]	[1]
	2		(1) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB			Sequence 1-15 Non-I	15.0 Secs (15 Secs)	
		ORB LAMP +TARGET I MAGE (P2/ MEDIUM)				5;	MP LINE2; QESIPARM CURR ENT MEDIUM	nt in PSA/MIRROR B ACQ/IMAGE then G130M FUV TA Mo nitoring (01)	[==>]	[1]
		(COS.im.15 40224)				CURRENT=MEDI UM				
	USE. CUR	ments: PSA/M LAMP = LINE PRENT = MED	T2 NUM	rrent, see above for expected count rat						
	Inis	target was use	d in Visit BA of 1485	7 (ldozbadhq). Bck subtracted counts	n second image = 3	5430; $S/N = /3.69$, $ET =$	138			
	Repo Lam	orted Lamp Eve p Background	$ents = 3316 \ counts : H$) = P2/Medium, LAMP EXPTIME = 12 Rate = 276.33334 counts/s BOX for lampflash time (12s) = 112 ct: e = 267.026 counts/s		unts/s				
	3	PSA/C1291/		COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;		Sequence 1-15 Non-I	25 Secs (25 Secs)	
		3 - CENTE R			1291 A	BUFFER-TIME=30	MP LINE2;	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]	
Exposures		(COS.sp.154 0225)				0; LIFETIME-POS=D EF	QESIPARM CURR ENT MEDIUM	G130M FUV TA Mo nitoring (01)		[1]
ns	Com	ments: HST St	andard Star, S/N ~ 5 i	in 25s						•
od:	4		(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;	POS TARG null,1.3;	Sequence 1-15 Non-I	50 Secs (50 Secs)	
ш		3 +1.3arcsec onds in XD			1291 A	BUFFER-TIME=50 0:	QESIPARM USELA MP LINE2;	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]	
		(COS.sp.154 0225)				- ,	QESIPARM CURR ENT MEDIUM	G130M FUV TA Mo nitoring (01)		[1]
			.3", the throughput is from 55 to 50 due to o	~45%. To get the same counts, we nee verrun in cycle 31)	d to increase the ex	cposure time to 55s.				
	5		(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G130M	FP-POS=3;	POS TARG null,-1.3	Sequence 1-15 Non-I	50 Secs (50 Secs)	
		3 -1.3arcsec onds in XD			1291 A	BUFFER-TIME=50 0;	; QESIPARM USELA	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]	
		(COS.sp.154 0225)				LIFETIME-POS=D EF	MP LINE2; QESIPARM CURR ENT MEDIUM	G130M FUV TA Mo nitoring (01)		[1]
			.3", the throughput is from 55 to 50 due to o	~45%. To get the same counts, we nee verrun in cycle 31)	d to increase the ex	sposure time to 55s.				
	6		(1) WD-1657+343	COS/FUV, ACQ/PEAKXD, PSA	G130M	LIFETIME-POS=D		Sequence 1-15 Non-I	2 Secs (2 Secs)	
		PEAKXD/N P=3/DEF (COS.sa.154 0226)			1291 A	EF	MP LINE2; QESIPARM CURR ENT MEDIUM	nt in PSA/MIRROR B ACQ/IMAGE then G130M FUV TA Mo nitoring (01)	[==>]	[1]
	Com	<i>'</i>	M_POS and STEP_S	IZE are not included to make sure that	t the correct DEFA	ULTS of NUM_POS=3 a	and STEP_SIZE=1.3",	U , ,	-WT are still inserted.	1
			 Standard Star:WD-16S			. –	ŕ			
		s: Time = 0.420 Time Reauire	05 seconds d for Requested SNR i	for Segment A and Segment B combine in Segment A only: 1.2676 in Segment B only: 0.6292	d					

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01) - Cycle 31 COS FUV Target Acquisition Monitor QESIPARM USELA Sequence 1-15 Non-I 25 Secs (25 Secs) PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M FP-POS=3: 3 - After NU MP LINE2; nt in PSA/MIRROR 1291 A BUFFER-TIME=30 M POS=3 P B ACO/IMAGE then OESIPARM CURR **EAKXD** G130M FUV TA Mo [1] ENT MEDIUM LIFETIME-POS=D (COS.sp.154 nitoring (01) 0225) EF FP-POS=3; PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M POS TARG null, 1.8; Sequence 1-15 Non-I | 180 Secs (180 Secs) 3 +1.8arcsec nt in PSA/MIRROR 1291 A BUFFER-TIME=10 **OESIPARM USELA** I = = > 1B ACQ/IMAGE then onds in XD MP LINE2; 00; G130M FUV TA Mo (COS.sp.154 [1] 0225) LIFETIME-POS=D OESIPARM CURR nitoring (01) ENT MEDIUM Comments: At R=1.8", the throughput is ~13%. To get the same counts, we need to increase the exposure time. (exp time reduced from 192 to 180 due to overrun in cycle 31) POS TARG null,0.9; Sequence 1-15 Non-I | 32 Secs (32 Secs) PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M FP-POS=3; QESIPARM USELA nt in PSA/MIRROR 3 +0.9arcsec 1291 A BUFFER-TIME=40 onds in XD B ACO/IMAGE then MP LINE2; G130M FUV TA Mo (COS.sp.154 [1] 0225) LIFETIME-POS=D OESIPARM CURR nitoring (01) **ENT MEDIUM** Comments: At R=0.9", the throughput is ~71%. To get the same counts, we need to increase the exposure time. (exp time reduced from 35 to 32 due to overrun in cycle 31) PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M FP-POS=3; POS TARG null,-0.9 Sequence 1-15 Non-I 32 Secs (32 Secs) 3 -0.9arcsec nt in PSA/MIRROR 1291 A BUFFER-TIME=40 B ACO/IMAGE then onds in XD **OESIPARM USELA** (COS.sp.154 G130M FUV TA Mo MP LINE2; [1] 0225)LIFETIME-POS=D nitoring (01) OESIPARM CURR EF ENT MEDIUM Comments: At R=0.9", the throughput is ~71%. To get the same counts, we need to increase the exposure time. (exp time reduced from 35 to 32 due to overrun in cycle 31) PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M FP-POS=3; POS TARG null,-1.8 Sequence 1-15 Non-I | 180 Secs (180 Secs) 3 -1.8arcsec nt in PSA/MIRROR 1291 A BUFFER-TIME=10 onds in XD B ACQ/IMAGE then OESIPARM USELA (COS.sp.154 G130M FUV TA Mo MP LINE2; [1] 0225)LIFETIME-POS=D nitoring (01) **OESIPARM CURR** ENT MEDIUM Comments: At R=1.8", the throughput is ~13%. To get the same counts, we need to increase the exposure time. (exp time reduced from 192 to 180 due to overrun in cycle 31) PSA/C1291/ (1) WD-1657+343 COS/FUV, ACO/PEAKXD, PSA G130M LIFETIME-POS=D QESIPARM USELA Sequence 1-15 Non-I 2 Secs (2 Secs) PEAKXD/N EF; MP LINE2; nt in PSA/MIRROR 1291 A I==>1B ACO/IMAGE then P=5/DEF NUM-POS=5; **OESIPARM CURR** [1] (COS.sa.154 G130M FUV TA Mo ENT MEDIUM 0226) STEP-SIZE=0.9 nitoring (01) Comments: The default STEP-SIZE is 1.0", but at +/- 2", the POS_TARGS would not create enough counts to track the operation of the NUM_POS=5 PEAKXD. 5x0.9" is used instead. Double check that the DEFAUI T CENTER=FLUX-WT-FLR is used. It is left unspecified to test that the default APT logic is still correctly choosing the correct CENTER algorithm. PSA/C1291/ (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G130M FP-POS=3: QESIPARM USELA Sequence 1-15 Non-I 25 Secs (25 Secs) 3 - After NU MP LINE2; nt in PSA/MIRROR 1291 A BUFFER-TIME=30 f = = > 1M POS=5 P B ACO/IMAGE then OESIPARM CURR EAKXD G130M FUV TA Mo [1] ENT MEDIUM LIFETIME-POS=D (COS.sp.154 nitoring (01) 0225) EF Comments: HST Standard Star, S/N ~ 5 in 25s

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G130M FUV TA Monitoring (01) - Cycle 31 COS FUV Target Acquisition Monitor

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14	PSA/C1291/ (1) WD-1657+343 PEAKD/NP =5/DEF (COS.sa.154 0226)	COS/FUV, ACQ/PEAKD, PSA	G130M 1291 A	LIFETIME-POS=D EF; NUM-POS=5; STEP-SIZE=0.9	QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	Sequence 1-15 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G130M FUV TA Mo nitoring (01)	[==>]	[1]
	ments: We want to check the AD No still correctly choosing the correct PSA/C1291/ (1) WD-1657+343		n a good PEAKD. I	Double check that the DE FP-POS=3:			is left unspecified to test that the defau	ılt APT l
	3 - After PE AKD (COS.sp.154 0225)	COS/10 V, TIME 1/10, 15/1	1291 A	BUFFER-TIME=30 0; LIFETIME-POS=D EF	MD LINEA.	nt in PSA/MIRROR B ACQ/IMAGE then G130M FUV TA Mo nitoring (01)	[==>]	[1]
Com	ments: HST Standard Star, S/N ~ 5	in 25c						•



Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02) - Cycle 31 COS FUV Target Acquisition Monitor

Thu Oct 05 21:01:06 GMT 2023

Proposal 17582, PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 31-JAN-2024:00:00:00

Comments: This orbit is separated from visit 01 because it can use schedulability 100. The orbit in visit 01 requires schedulability 80.

This visit has the following timing requirement:

* It should execute between 1/1/24 and 1/31/24

* It should execute within 30 days of visit PB of program 17321

This visit has one orbit, structured as follows

Tests FUV G160M/1600 spectroscopic acquisitionat LP4

02.001 - ACQ/IMAGE

02.002 - NUV image with WCA lamps to verify alignment

02.003 - spectrum centered after AĈQ/IMAĞE, for comparison

02.004, 02.005 - simulate PEAKXD with NUM-POS=3

02.006 - PEAKXD with NUM-POS=3

02.007 - verification spectrum

02.008 - PEAKD with NUM-POS=5

02.009 - verification spectrum

(PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS cenwave.

(PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE

(PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
	(1)	WD-1657+343	RA: 16 58 51.1202 (254.7130008d)	Proper Motion RA: 11 mas/yr	V=16.1	Reference Frame: ICRS
			Dec: +34 18 53.29 (34.31480d)	Proper Motion Dec: -31 mas/yr		
			Equinox: J2000	Epoch of Position: 2000		
jets				Radial Velocity: 78 km/sec		
ð	Commenter	COS to 1022/06 in diagram	C/N = 40 in 5 2a CIMDAD and in aton one 16 50 5	1 1202 + 24 10 52 202		

Comments: COS.ta.1032496 indicates S/N = 40 in 5.2s. SIMBAD cordinates are 16 58 51.1202 +34 18 53.293 Proper Motion from SIMBAD is Proper motions mas/yr: 11 -31 [3 3 133] C 2011MNRAS.417.1210G, RV=78

B 16.12 [~] D ~

gnostics

u (AB) 15.749 [0.005] B 2013yCat.5139....0A

g (AB) 16.139 [0.003] B 2013yCat.5139....0A

r (AB) 16.691 [0.004] B 2013yCat.5139....0A

i (AB) 17.054 [0.005] B 2013yCat.5139....0A

z (AB) 17.388 [0.015] C 2013yCat.5139....0A

Category=STAR

Description=[DA]

Extended=NO

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02) - Cycle 31 COS FUV Target Acquisition Monitor

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	PSA/MIRR	(1) WD-1657+343	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 1-9 Non-In	7 Secs (7 Secs)	
	ORB ACQ/ MAGE (COS.ta.154 0223)						t in PSA/MIRRORB ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	[1]
2	PSA/MIRR		COS/NUV, TIME-TAG, PSA	MIRRORB			Sequence 1-9 Non-In	15.0 Secs (15 Secs)	
	ORB LAMI +TARGET MAGE (P2/ MEDIUM) (COS.im.15 40224)	I			0; FLASH=S0060D01 5; CURRENT=MEDI UM	MP LINE2; QESIPARM CURR ENT MEDIUM	t in PSA/MIRRORB ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	[1]
$\frac{P}{U}$	omments: Identi SA/MIRRORB/F SELAMP = LIN URRENT = ME	22/MED current. To ge E2	rt PtNe Lamp 2, there are 2 QESIPARN	As set:					
3	PSA/G160 M/1600/3 -	(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;	QESIPARM USELA MP LINE2;	Sequence 1-9 Non-In t in PSA/MIRRORB	82 Secs (82 Secs)	
	CENTER (COS.sp.15- 0231)	4		1600 A	BUFFER-TIME=80 0; LIFETIME-POS=L P4	QESIPARM CURR ENT MEDIUM	ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	[1]
		sure time (seconds) = 8 889 (per resolution ele	82.0000 at wavelength 1602.00 ment)						
4		(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;		Sequence 1-9 Non-In	182 Secs (182 Secs)	
Exposures	M/1600/3 + 1.3arcsecon ds in XD (COS.sp.15- 0231)			1600 A	00;	QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	P4 G160M FUV TA	[==>]	[1]
ב <u>ל</u>		1.3", the throughput is	s ~45%. To get the same counts, we ne	ed to increase the e		EIVI MEDIOM			1
5		(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;	POS TARG null,-1.3	Sequence 1-9 Non-In	182 Secs (182 Secs)	
	M/1600/3 -1 .3arcsecond in XD (COS.sp.15- 0231)	S		1600 A	BUFFER-TIME=10 00; LIFETIME-POS=L P4	; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	t in PSA/MIRRORB ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	[1]
C	omments: At R=	1.3", the throughput is	s ~45%. To get the same counts, we ne	ed to increase the e	exposure time.				
6	PSA/G160 M/PEAKX	(1) WD-1657+343	COS/FUV, ACQ/PEAKXD, PSA	G160M	LIFETIME-POS=LP 4;	QESIPARM USELA MP LINE2;	Sequence 1-9 Non-In t in PSA/MIRRORB		
	D/NP=3/DE F (COS.sa.154 0232)			1600 A	NUM-POS=3; STEP-SIZE=1.3	QESIPARM CURR ENT MEDIUM	ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	[1]
	omments: Reque ives: Time = 1.0 Time Requi	474 seconds ed for Requested SNR	io = 40.000 for Segment A and Segmen in Segment A only: 5.7791 in Segment B only: 1.2792	nt B combined					
7	PSA/G160	(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;		Sequence 1-9 Non-In	82 Secs (82 Secs)	
	M/1600/3 (COS.sp.154 0231)	4		1600 A	BUFFER-TIME=80 0; LIFETIME-POS=L	MP LINE2; QESIPARM CURR ENT MEDIUM	t in PSA/MIRRORB ACQ/IMAGE then L P4 G160M FUV TA monitor (02)	[==>]	
					P4				[1]

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then LP4 G160M FUV TA monitor (02) - Cycle 31 COS FUV Target Acquisition Monitor LIFETIME-POS=LP Sequence 1-9 Non-In 3 Secs (3 Secs) PSA/G160 (1) WD-1657+343 COS/FUV, ACQ/PEAKD, PSA G160M t in PSA/MIRRORB M/1600/PE 1600 A AKD/NP=5/ ACO/IMAGE then L NUM-POS=5; P4 G160M FUV TA DEF [1] (COS.sa.154 STEP-SIZE=0.9 monitor (02) 0232)Comments: Analogous to exposure 01.014 carried over from previous cycles, but this time to test PEAKD at LP4. PSA/G160 (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G160M FP-POS=3; QESIPARM USELA Sequence 1-9 Non-In 82 Secs (82 Secs) M/1600/3 t in PSA/MIRRORB MP LINE2; 1600 A BUFFER-TIME=80 (COS.sp.154 ACQ/IMAGE then L **OESIPARM CURR** 0231) P4 G160M FUV TA [1] **ENT MEDIUM** LIFETIME-POS=L monitor (02) Orbit 1 Server Version: 20230626 **ۥ** Exp. 2 Pointing Maneuver **ۥ•** Exp. 3 Pointing Maneuver ۥ• Exp. 4 Pointing Maneuver **ۥ•** Exp. 5 Pointing Maneuver Orbit Structure Exp. 6 **ۥ•** Exp. 7 Exp. 8 ۥ• Exp. 9 Unused Orbital Visibility = 600 GS Acq Occultation Home Exp. 1 0 500 1000 1500 2000 2500 3500 5000 5500 6000 sec 3000 4000 4500

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis Proposal 17582, PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) Thu Oct 05 21:01:06 GMT 2023 **Diagnostic Status: Warning** Scientific Instruments: COS/FUV, COS/NUV Special Requirements: SCHED 100%; BETWEEN 01-JAN-2024:00:00:00 AND 31-JAN-2024:00:00:00 Comments: These two orbits are in a different visit because they can use schedulability 100. The orbit in visit 01 requires schedulability 80. the 2 orbits in this visit may also be placed into individual visits if it helps with scheduling, so long as the non-interrupt sequences and the BETWEEN are respected. This visit has the following timing requirement: * It should execute between 1/1/24 and 1/31/24 * It should execute within 30 days of visit PB of program 17321 This visit has two orbits, each with a non-interrupt sequence. Each orbit is structured as follows First orbit, tests FUV G140L/1280 spectroscopic acquisition 03.001 - ACQ/IMAGE 03.002 - NUV image with WCA lamps to verify alignment 03.003 - spectrum centered after ACO/IMAGE, for comparison 03.004, 02.005 - simulate PEAKXD with NUM-POS=3 03.006 - PEAKXD with NUM-POS=3 03.007 - Verification spectrum 03.008 to 03.011 - Simulate PEAKXD with NUM-POS=5 03.012 - PEAKXD with NUM-POS=5 03.013 - Verification spectrum Orbit 2, tests FUV G160M/1600 spectroscopic acquisition at LP6 03.014 - ACO/IMAGE 03.015 - NUV image with WCA lamps to verify alignment 03.016 - spectrum centered after ACO/IMAGE, for comparison 03.017, 03.018 - simulate PEAKXD with NUM-POS=3 03.019 - PEAKXD with NUM-POS=3 03.020 - verification spectrum 03.021 - PEAKD with NUM-POS=5 03.022 - verification spectrum (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Form): For the best data quality, it is generally required to use all four FP-POS positions when observing at a given COS (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACO/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

gnostic Dia

(PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

(PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT (PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03)) Warning (Orbit Planner): POS TARG OUTSIDE OF APERTURE NO ORIENT

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis...

					7 (0 1 0 0 1 0 1 1 a 1 g 0 1 7 to 1
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	WD-1657+343	RA: 16 58 51.1202 (254.7130008d)	Proper Motion RA: 11 mas/yr	V=16.1	Reference Frame: ICRS
		Dec: +34 18 53.29 (34.31480d)	Proper Motion Dec: -31 mas/yr		
		Equinox: J2000	Epoch of Position: 2000		
2			Radial Velocity: 78 km/sec		
Proper Mo B 16.12 [~ u (AB) 15. g (AB) 16. r (AB) 16. i (AB) 17.0	otion from SIMBAD is F -] D ~ 749 [0.005] B 2013yCa 139 [0.003] B 2013yCa 691 [0.004] B 2013yCa 354 [0.005] B 2013yCa 388 [0.015] C 2013yCa -STAR m=[DA]	nt.51390A nt.51390A nt.51390A	5 38 31.1202 +34 18 33.293 MNRAS.417.1210G, RV=78		

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis...

	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(1) WD-1657+343	COS/NUV, ACQ/IMAGE, PSA	MIRRORB			Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)	I> 1	[1]
	2	ORB LAMP +TARGET I MAGE (P2/ MEDIUM) (COS.im.15 40224)	(1) WD-1657+343	COS/NUV, TIME-TAG, PSA	MIRRORB	BUFFER-TIME=15 0; FLASH=S0060D01 5; CURRENT=MEDI UM	QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)	f . 1	[1]
	PSA/ USE	ments: Identic /MIRRORB/P2 LAMP = LINE RRENT = MED	2/ME. To get PtNe Lar E2	np 2, there are 2 QESIPARMs set:						
	3	PSA/G140L /1280/3 - CE NTER (COS.sp.154 0229)	(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4	QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)	I>1	[1]
•		•		p=10 at wavelength 1310. (per RE): t LP3, while default acquisition for G		ify all TIME-TAG expos	sures to be at LP4 so th	at acqs and test exposi	ires are done at the same place.	
Exposures	4	PSA/G140L /1280/3 +1.3 arcseconds i n XD (COS.sp.154 0229)	(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G140L 1280 A	0;	QESIPARM USELA MP LINE2;	Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)		[1]
				~45%. To get the same counts, we need tLP3, while default acquisition for GI	•		sures to be at LP4 so th	at acas and test exposi	ires are done at the same place.	
	5		*	COS/FUV, TIME-TAG, PSA	G140L 1280 A	FP-POS=3; BUFFER-TIME=80 0; LIFETIME-POS=L P4		Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito		[1]
				~45%. To get the same counts, we need tLP3, while default acquisition for Gi	•		sures to be at IPA so th	at acas and test exposs	uras ara dona at the same place	
	6			COS/FUV, ACQ/PEAKXD, PSA	G140L is at LF4. Spec G140L 1280 A	LIFETIME-POS=D EF; NUM-POS=3; STEP-SIZE=1.3	QESIPARM USELA	Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)	3 Secs (3 Secs)	[1]
				Signal/Noise Ratio = 40.000 for Segm uired for Requested SNR in Segment A						

						31 COS FU		
7 PSA/G140L (1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G140L	FP-POS=3;		Sequence 1-13 Non-I	20 Secs (20 Secs)		
/1280/3 (COS.sp.103		1280 A	BUFFER-TIME=40	MP LINE2;	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]		
2431)			0;	QESIPARM CURR ENT MEDIUM	G140L and LP6 G16			[1]
			LIFETIME-POS=L P4		0M FUV TA monito r (03)			
Comments: In cycle 31 default G140L o	bserving is at LP3, while default acqui	sition for G140L is	at LP4. Specify all TIME	E-TAG exposures to be	` '	l test exposures are de	one at the same pla	ace.
B PSA/G140L (1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G140L	FP-POS=3;	POS TARG null,1.8;	Sequence 1-13 Non-I	154 Secs (154 Secs)		
/1280/3 +1.8 arcseconds i		1280 A		QESIPARM USELA	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]		
n XD			0;	MP LINE2;	G140L and LP6 G16			[1]
(COS.sp.154 0229)			LIFETIME-POS=L P4	QESIPARM CURR ENT MEDIUM	0M FUV TA monito r (03)			
Comments: 13% flux at 1.8". 20s/.13 =	154s				(/		1	
In cycle 31 default G140L observing is a	ut LP3, while default acquisition for G	140L is at LP4. Spec	cify all TIME-TAG expos	sures to be at LP4 so th	at acgs and test exposu	eres are done at the sa	me place.	
9 PSA/G140L (1) WD-1657+343		G140L	FP-POS=3;		Sequence 1-13 Non-I		•	
/1280/3 +0.9 arcseconds i		1280 A	BUFFER-TIME=40	QESIPARM USELA	nt in PSA/MIRROR B ACQ/IMAGE then	[==>]		
n XD			0;	MP LINE2;	G140L and LP6 G16			[1]
(COS.sp.154 0229)			LIFETIME-POS=L P4	QESIPARM CURR ENT MEDIUM	0M FUV TA monito r (03)			. ,
Comments: 71% flux at 0.9". 20s/.71 ~ 2	23s				(/		Į.	
In cycle 31 default G140L observing is a	at LP3 while default acquisition for G	140L is at LP4. Spec	rify all TIME-TAG expor	sures to be at LP4 so th	at acas and test exposu	ures are done at the so	me place	
10 PSA/G140L (1) WD-1657+343	* * * * * * * * * * * * * * * * * * * *	G140L	FP-POS=3;		Sequence 1-13 Non-I		me prace.	
/1280/3 -0.9	., .,	1280 A	BUFFER-TIME=40		nt in PSA/MIRROR	<i>[==>1</i>		
				OFCIDADM LICELA	B ACQ/IMAGE then	,		
arcseconds i n XD			0;	QESIPARM USELA	G140L and LP6 G16			
n XD (COS.sp.154			LIFETIME-POS=L	MP LINE2;	0M FUV TA monito			[1]
n XD					0M FUV TA monito			[1]
n XD (COS.sp.154	23s		LIFETIME-POS=L	MP LINE2; QESIPARM CURR	0M FUV TA monito			[1]
n XD (COS.sp.154 0229)		140L is at LP4. Spec	LIFETIME-POS=L P4	MP LINE2; QESIPARM CURR ENT MEDIUM	0M FUV TA monito r (03)	eres are done at the sa	me place.	[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343	nt LP3, while default acquisition for G	<u>140L is at LP4. Spec</u> G140L	LIFETIME-POS=L P4	MP LINE2; QESIPARM CURR ENT MEDIUM sures to be at LP4 so th	0M FUV TA monito r (03) at acqs and test exposises		me place.	[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 -1.8	nt LP3, while default acquisition for G		LIFETIME-POS=L P4 cify all TIME-TAG expos FP-POS=3; BUFFER-TIME=40	MP LINE2; QESIPARM CURR ENT MEDIUM sures to be at LP4 so the POS TARG null,-1.8;	0M FUV TA monito r (03) at acqs and test exposu. Sequence 1-13 Non-Int in PSA/MIRROR		me place.	[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD	nt LP3, while default acquisition for G	G140L	LIFETIME-POS=L P4 cify all TIME-TAG expos FP-POS=3; BUFFER-TIME=40 0;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the POS TARG null,-1.8 ; QESIPARM USELA	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16	154 Secs (154 Secs)	me place.	
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is at 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD (COS.sp.103	nt LP3, while default acquisition for G	G140L	LIFETIME-POS=L P4 Sify all TIME-TAG expos FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the POS TARG null,-1.8; QESIPARM USELA MP LINE2;	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito	154 Secs (154 Secs)	me place.	[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD	nt LP3, while default acquisition for G	G140L	LIFETIME-POS=L P4 cify all TIME-TAG expos FP-POS=3; BUFFER-TIME=40 0;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the POS TARG null,-1.8 ; QESIPARM USELA	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito	154 Secs (154 Secs)	me place.	
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is at 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD (COS.sp.103	at LP3, while default acquisition for G COS/FUV, TIME-TAG, PSA	G140L	LIFETIME-POS=L P4 Sify all TIME-TAG expos FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito	154 Secs (154 Secs)	me place.	
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is at 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431)	at LP3, while default acquisition for G. COS/FUV, TIME-TAG, PSA	G140L 1280 A	LIFETIME-POS=L P4 Eify all TIME-TAG exposions FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03)	154 Secs (154 Secs) [==>]		
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = 18	at LP3, while default acquisition for G COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G	G140L 1280 A	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 LIFETIME-POS=D	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-I	154 Secs (154 Secs) [==>] ares are done at the sa		
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 1280/3 -1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = In cycle 31 default G140L observing is a 1280 cycle 31 default G140L observing is a 130 cycle 31 default G140L observing is a 140 cycle 31 default G140L observing is 3	at LP3, while default acquisition for G COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G	G140L 1280 A 140L is at LP4. Spec	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 LIFETIME-POS=D EF;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so the QESIPARM USELA MP LINE2;	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR	154 Secs (154 Secs) [==>] ares are done at the sa		
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = In cycle 31 default G140L observing is a 12 PSA/G140L (1) WD-1657+343 /PEAKXD/ NP=5/DEF (COS.sa.154	at LP3, while default acquisition for G COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G	G140L 1280 A 140L is at LP4. Spec G140L	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 cify all TIME-TAG expos LIFETIME-POS=D EF; NUM-POS=5;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA	at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16	154 Secs (154 Secs) $[==>]$ ares are done at the sa 3 Secs (3 Secs)		
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = 1 In cycle 31 default G140L observing is a 12 PSA/G140L (1) WD-1657+343 /PEAKXD/ NP=5/DEF	at LP3, while default acquisition for G COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G	G140L 1280 A 140L is at LP4. Spec G140L	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 LIFETIME-POS=D EF;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA MP LINE2; QESIPARM USELA MP LINE2; QESIPARM USELA	om FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-I nt in PSA/MIRROR B ACQ/IMAGE then	154 Secs (154 Secs) $[==>]$ ares are done at the sa 3 Secs (3 Secs)		[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = In cycle 31 default G140L observing is a 12 PSA/G140L (1) WD-1657+343 /PEAKXD/ NP=5/DEF (COS.sa.154	at LP3, while default acquisition for G. COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G. COS/FUV, ACQ/PEAKXD, PSA Signal/Noise Ratio = 40.000 for Segm	G140L 1280 A 140L is at LP4. Spec G140L 1280 A	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 cify all TIME-TAG expos LIFETIME-POS=D EF; NUM-POS=5; STEP-SIZE=0.9	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA MP LINE2; QESIPARM USELA MP LINE2; QESIPARM USELA	at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 0M FUV TA monito	154 Secs (154 Secs) $[==>]$ ares are done at the sa 3 Secs (3 Secs)		[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 - 1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = In cycle 31 default G140L observing is a 12 PSA/G140L (1) WD-1657+343 /PEAKXD/ NP=5/DEF (COS.sa.154 0230) Comments: COS.sa.1032455 Requested gives: Time = 1.6519 seconds Time Req 13 PSA/G140L (1) WD-1657+343	at LP3, while default acquisition for G. COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G. COS/FUV, ACQ/PEAKXD, PSA Signal/Noise Ratio = 40.000 for Segmuired for Requested SNR in Segment A	G140L 1280 A 140L is at LP4. Spec G140L 1280 A	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 cify all TIME-TAG expos LIFETIME-POS=D EF; NUM-POS=5; STEP-SIZE=0.9	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM QESIPARM CURR ENT MEDIUM	at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03)	154 Secs (154 Secs) $[==>]$ ares are done at the sa 3 Secs (3 Secs)		[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is at 1280/3 - 1.8 arcseconds in XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = 1 In cycle 31 default G140L observing is at 12 PSA/G140L (1) WD-1657+343 / PEAKXD/ NP=5/DEF (COS.sa.154 0230) Comments: COS.sa.1032455 Requested gives: Time = 1.6519 seconds Time Req 13 PSA/G140L (1) WD-1657+343 / 1280/3	at LP3, while default acquisition for G. COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G. COS/FUV, ACQ/PEAKXD, PSA Signal/Noise Ratio = 40.000 for Segmuired for Requested SNR in Segment A	G140L 1280 A 140L is at LP4. Spec G140L 1280 A ent A and Segment only: 1.6519	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 cify all TIME-TAG expos LIFETIME-POS=D EF; NUM-POS=5; STEP-SIZE=0.9 B combined FP-POS=3; BUFFER-TIME=40	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM QESIPARM CURR ENT MEDIUM	at acqs and test exposured in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) at acqs and test exposured in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) at acqs and test exposured in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) Sequence 1-13 Non-Int in PSA/MIRROR	$[==>]$ $[==>]$ $ares are done at the sa}$ $3 Secs (3 Secs)$ $[==>]$		[1]
n XD (COS.sp.154 0229) Comments: 71% flux at 0.9". 20s/.71 ~ 2 In cycle 31 default G140L observing is a 11 PSA/G140L (1) WD-1657+343 /1280/3 -1.8 arcseconds i n XD (COS.sp.103 2431) Comments: 13% flux at 1.8". 20s/.13 = In cycle 31 default G140L observing is a 12 PSA/G140L (1) WD-1657+343 /PEAKXD/ NP=5/DEF (COS.sa.154 0230) Comments: COS.sa.1032455 Requested gives: Time = 1.6519 seconds Time Req 13 PSA/G140L (1) WD-1657+343	at LP3, while default acquisition for G. COS/FUV, TIME-TAG, PSA 154s at LP3, while default acquisition for G. COS/FUV, ACQ/PEAKXD, PSA Signal/Noise Ratio = 40.000 for Segmuired for Requested SNR in Segment A	G140L 1280 A 140L is at LP4. Spec G140L 1280 A ent A and Segment only: 1.6519 G140L	LIFETIME-POS=L P4 FP-POS=3; BUFFER-TIME=40 0; LIFETIME-POS=L P4 cify all TIME-TAG expos LIFETIME-POS=D EF; NUM-POS=5; STEP-SIZE=0.9 B combined FP-POS=3;	MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th POS TARG null,-1.8; QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM Sures to be at LP4 so th QESIPARM USELA MP LINE2; QESIPARM CURR ENT MEDIUM QESIPARM CURR ENT MEDIUM	at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) at acqs and test exposus Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03) Sequence 1-13 Non-Int in PSA/MIRROR B ACQ/IMAGE then G140L and LP6 G16 OM FUV TA monito r (03)	[l] 154 Secs (154 Secs) $[l] = > J$ $[l] ares are done at the satisfies (3 Secs)$ $[l] = > J$ $[l] 20 Secs (20 Secs)$		[1]

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis... PSA/MIRR (1) WD-1657+343 COS/NUV, ACQ/IMAGE, PSA MIRRORB Sequence 14-22 Non 7 Secs (7 Secs) ORB ACQ/I -Int in PSA/MIRRO r==>1 MAGE RB ACO/IMAGE th (COS.ta.154 en G140L and LP6 G [2] 0223) 160M FUV TA moni tor (03) 15 PSA/MIRR (1) WD-1657+343 COS/NUV, TIME-TAG, PSA MIRRORB OESIPARM USELA Sequence 14-22 Non 15.0 Secs (15 Secs) BUFFER-TIME=15 ORB LAMP MP LINE2; -Int in PSA/MIRRO [==>1 +TARGET I RB ACQ/IMAGE th **QESIPARM CURR** FLASH=S0060D01 en G140L and LP6 G MAGE (P2/ **ENT MEDIUM** [2] MEDIUM) 160M FUV TA moni (COS.im.15 CURRENT=MEDI tor (03) 40224) UM Comments: Identical to 01.002 PSA/MIRRORB/P2/MED current. To get PtNe Lamp 2, there are 2 QESIPARMs set: USELAMP = LINE2CURRENT = MEDIUMPSA/G160 (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G160M FP-POS=3; OESIPARM USELA Sequence 14-22 Non 82 Secs (82 Secs) M/1600/3 --Int in PSA/MIRRO MP LINE2; 1600 A BUFFER-TIME=80 RB ACQ/IMAGE th CENTER **OESIPARM CURR** en G140L and LP6 G (COS.sp.154 **ENT MEDIUM** 0231) LIFETIME-POS=D 160M FUV TA moni [2] EF; tor (03) FLASH=NO; WAVECAL=NO Comments: Exposure time (seconds) = 82.0000 at wavelength 1602.00gives: SNR = 3.9389 (per resolution element) PSA/G160 (1) WD-1657+343 COS/FUV, TIME-TAG, PSA G160M FP-POS=3; POS TARG null, 1.3; Sequence 14-22 Non 182 Secs (182 Secs) M/1600/3 +-Int in PSA/MIRRO 1600 A BUFFER-TIME=10 **OESIPARM USELA** RB ACQ/IMAGE th 1.3arcsecon MP LINE2; ds in XD en G140L and LP6 G 160M FUV TA moni LIFETIME-POS=D **QESIPARM CURR** (COS.sp.154 [2] **ENT MEDIUM** 0231) tor (03) EF: FLASH=NO: WAVECAL=NO Comments: At R=1.3", the throughput is ~45%. To get the same counts, we need to increase the exposure time. PSA/G160 (1) WD-1657+343 COS/FUV. TIME-TAG, PSA G160M FP-POS=3: POS TARG null,-1.3 Sequence 14-22 Non 182 Secs (182 Secs) M/1600/3 -1 -Int in PSA/MIRRO 1600 A BUFFER-TIME=10 RB ACO/IMAGE th .3arcseconds 00; **OESIPARM USELA** en G140L and LP6 G in XD MP LINE2; LIFETIME-POS=D (COS.sp.154 160M FUV TA moni [2] **OESIPARM CURR** 0231)tor (03) **ENT MEDIUM** FLASH=NO; WAVECAL=NO Comments: At R=1.3", the throughput is ~45%. To get the same counts, we need to increase the exposure time. QESIPARM USELA Sequence 14-22 Non PSA/G160 (1) WD-1657+343 COS/FUV, ACO/PEAKXD, PSA G160M LIFETIME-POS=D 3 Secs (3 Secs) M/PEAKX EF: MP LINE2: -Int in PSA/MIRRO 1600 A f = = > 1D/NP=3/DE RB ACQ/IMAGE th OESIPARM CURR NUM-POS=3: en G140L and LP6 G [2] ENT MEDIUM (COS.sa.154 STEP-SIZE=1.3 160M FUV TA moni tor (03) Comments: Requested Signal/Noise Ratio = 40.000 for Segment A and Segment B combined gives: $Time = \hat{1}.0474$ seconds Time Required for Requested SNR in Segment A only: 5.7791 Time Required for Requested SNR in Segment B only: 1.2792

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis.

			COND ACQ/IMAGE THE						toquis.
20	PSA/G160 M/1600/3	(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;	QESIPARM USELA MP LINE2;	Sequence 14-22 Non -Int in PSA/MIRRO	82 Secs (82 Secs)	
	(COS.sp.154			1600 A	BUFFER-TIME=80	OESIPARM CURR	RB ACQ/IMAGE th	[==>]	
	0231)				0;	ENT MEDIUM	en G140L and LP6 G		
					LIFETIME-POS=D EF;		160M FUV TA moni tor (03)		[2]
					FLASH=NO;				
				WAVECAL=NO					
21		(1) WD-1657+343	WD-1657+343 COS/FUV, ACQ/PEAKD, PSA	G160M	LIFETIME-POS=D		Sequence 14-22 Non	3 Secs (3 Secs)	
	M/1600/PE AKD/NP=5/			1600 A	EF;	-Int in PSA/MIRI	-Int in PSA/MIRRO RB ACQ/IMAGE th	[==>]	
	DEF				NUM-POS=5;		en G140L and LP6 G		[2]
	(COS.sa.154 0232)				STEP-SIZE=0.9		160M FUV TA moni tor (03)		[2]
Con	nments: Analogo	ous to exposure 01.0	14 carried over from previous cycles,	, but this time to to	est PEAKD at LP6.				
22		(1) WD-1657+343	COS/FUV, TIME-TAG, PSA	G160M	FP-POS=3;	QESIPARM USELA		82 Secs (82 Secs)	
	M/1600/3 (COS.sp.154 0231)			1600 A	BUFFER-TIME=80 0;	ER-TIME=80 MP LINE2; QESIPARM CURR	-Int in PSA/MIRRO RB ACQ/IMAGE th en G140L and LP6 G	[==>]	
	0231)				LIFETIME-POS=D EF;	ENT MEDIUM	160M FUV TA moni tor (03)		[2]
					FLASH=NO;				
					WAVECAL=NO				

Proposal 17582 - PSA/MIRRORB ACQ/IMAGE then G140L and LP6 G160M FUV TA monitor (03) - Cycle 31 COS FUV Target Acquis... Orbit 1 Server Version: 20230626 ۥ• Exp. 2 Pointing Maneuver **ۥ** Exp. 3 Pointing Maneuver ۥ• Exp. 4 Pointing Maneuver ۥ• Exp. 5 Pointing Maneuver Exp. 6 ۥ• Exp. 7 Pointing Maneuver ۥ• Exp. 8 Pointing Maneuver **€**•• Exp. 9 Pointing Maneuver **Orbit Structure** ۥ• Exp. 10 Pointing Maneuver €→ Exp. 11 Pointing Maneuver Exp. 12 ۥ• Exp. 13 Pointing Maneuver Unused Orbital Visibility = 305 GS Acq Occultation Exp. 1 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 6000 sec

