Proposal 17327 (STScI Edit Number: 1, Created: Tuesday, October 15, 2024, 11:00:22AM Eastern Standard Time) - Overview



17327 - Cycle 31 COS FUV Wavelength Scale Monitor

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

INVESTIGATORS

Name	Institution
Dr. David M. French (PI) (Contact)	Space Telescope Science Institute
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Dr. Kate Rowlands (CoI) (ESA Member) (Contact)	Space Telescope Science Institute - ESA - JWST

VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used		OP Current with Visit?
01	(1) AV75	COS/FUV COS/NUV	4	15-Oct-2024 12:00:19.0	yes
02	(1) AV75	COS/FUV COS/NUV	1	15-Oct-2024 12:00:21.0	yes

5 Total Orbits Used

ABSTRACT

This program monitors the stability of the constant terms in the FUV dispersion solutions. To monitor for any changes, the program observes AV 75 at selected cenwaves at multiple FP-POS positions for all FUV gratings. Via cross-correlation, spectra are compared to those obtained in previous iterations of the program, to STIS spectra obtained in-orbit, and to a model.

OBSERVING DESCRIPTION

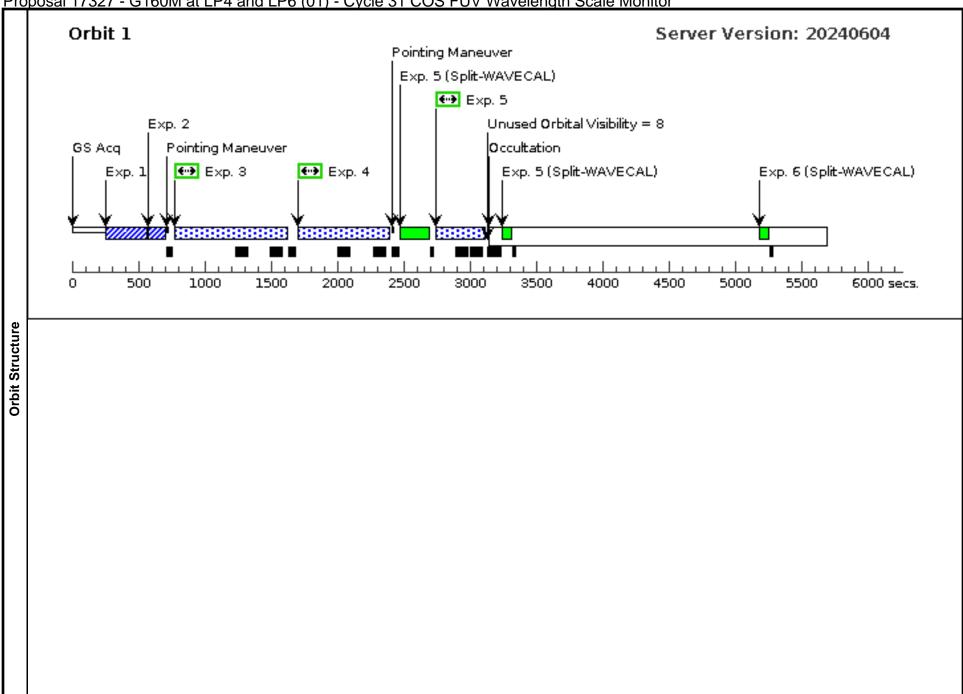
Proposal 17327 (STScl Edit Number: 1, Created: Tuesday, October 15, 2024, 11:00:22AM Eastern Standard Time) - Overview To monitor the constant terms in the COS/FUV dispersion solutions in Cycle 31, we take spectra with the cenwaves 1096, 1222, 1291, and 1327 in G130M, cenwaves 1577 and 1623 in G160M, and cenwaves 1105 and 1280 in G140L. In accordance with the COS 2025 rules, changes were made for Cycle 25 and going forward: FP-POS 2 of cenwave 1291 was changed to 3, segment B of cenwave 1327 is not observed, and exposures were rearranged due to the overhead associated with turning a segment off. With the M gratings, FP-POS are alternated between exposures to fulfill our S/N requirements and mitigate the effects of gain sag. The enabling of LP6 for Cycle 30 requires G160M spectra at both LP4 and LP6. Orients have been put in place to avoid field objects that are too bright for the PSA/MIRRORA when performing the TA with the BOA. The detailed clearance of the target and crowded field was done in the CS review of calibration program 13070. Due to past GS acquisition issues (e.g., Visit 01 of Cycle 23 program 14437; see HOPR 83980), there is an ACQ/SEARCH in the TA sequence. Data from previous iterations of this program were used to update the ETC calculations for Cycle 25; mild adjustments were made to the exposure times in Cycle 29 to allow for increased overheads due to LP changes. Cycle 31 retains these exposure times. To maintain a regular interval of about 12 months since the last visit, the program will ideally be carried out in June-July 2024. The schedulability is set to 80% to fit all the observations in four orbits. The PC and schedulers approved keeping this program as a single visit with 4 orbits.

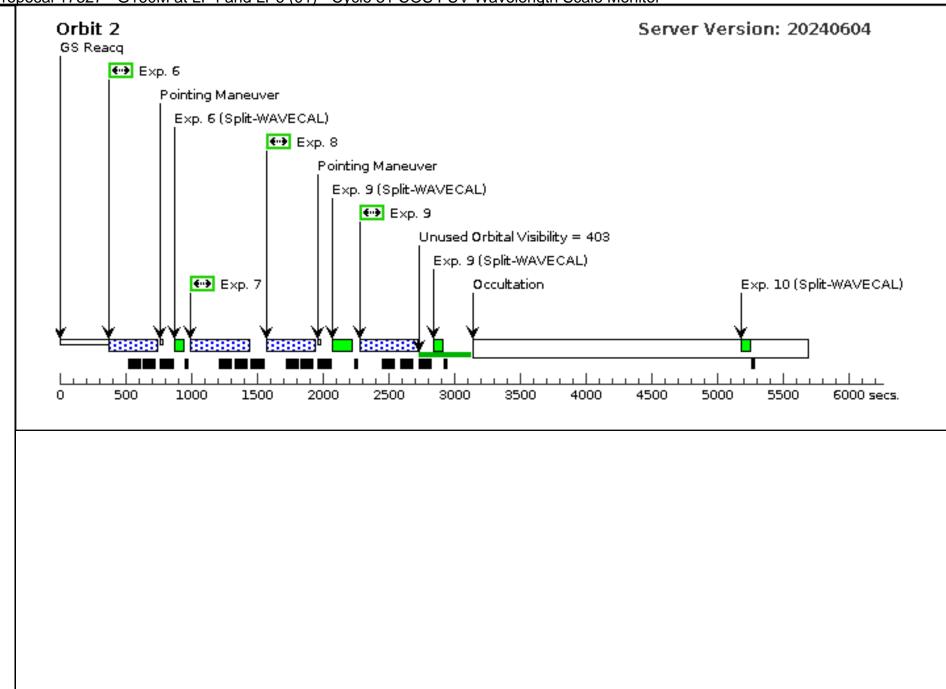
	Proposal 17327, G160M at I				Tue Oct 15 16:00:22 GMT 2024						
1	Diagnostic Status: Warning										
isi	Scientific Instruments: COS/F	FUV, COS/NUV									
>	P Special Requirements: SCHED 80%; ORIENT 275D TO 60 D; ORIENT 160D TO 165 D; BETWEEN 26-JUN-2024:00:00:00 AND 31-JUL-2024:00:00:00										
	Comments: An ACQ/SEARCH was added to the TA sequence in Cycle 23 and should be carried over each cycle to avoid GS issues. This is a crowded field. The window in June-July 2023 is preferred to maintain a pattern of about 12 months between visits. The schedulability is set to 80% to fit all the observations in four orbits.										
cs	(G160M at LP4 and LP6 (01)) 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.										
sti	(G160M at LP4 and LP6 (01)) Warning (Orbit Planner): INEFFICIENT ORDERING OF FP-POS POSITIONS										
<u></u>											
ag	(G160M at LP4 and LP6 (01)) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN										
ã	(G160M at LP4 and LP6 (01)) Warning (Orbit Planner): ORBITAL VISIBILI	TY OVERRUN								
6	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous						
ets	(1) AV75	RA: 00 50 32.3900 (12.6349583d)		V=12.79	Reference Frame: ICRS						
arg		Dec: -72 52 36.48 (-72.87680d)									
		Equinox: J2000									
xed		enerated by the target selector and retrieved from	n the SIMBAD database.								
Ē	Category=STAR Description=[SUPERGIANT	01									
	Extended=NO	~;									

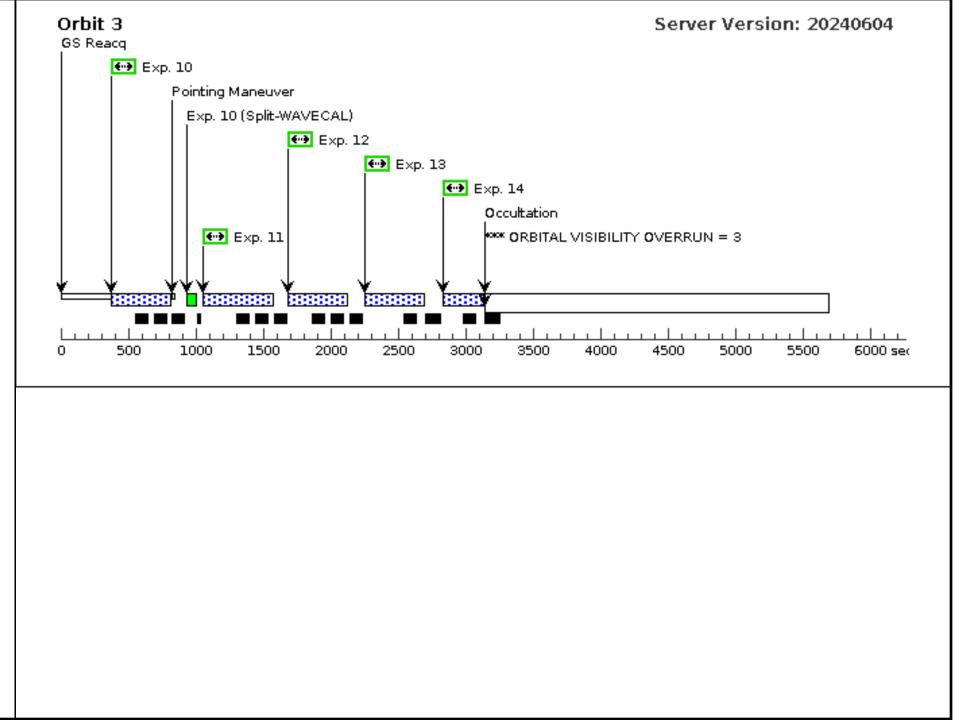
2 <i>cased exposure til</i> G (1) AV75 2 9 (1) AV75 2 <i>er-time has been i</i> <i>cad from cycle 30.</i> 9 (1) AV75	AG (1) AV75 02 09 (1) AV75 02	COS/NUV, ACQ/SEARCH, BOA <u>1s based on updated ETC: COS.ta.182</u> COS/NUV, ACQ/IMAGE, BOA COS/FUV, TIME-TAG, PSA COS/FUV, TIME-TAG, PSA COS/FUV, TIME-TAG, PSA	MIRRORA G130M 1096 A	STEP-SIZE=1.767; SCAN-SIZE=2; CENTER=FLUX-W T BUFFER-TIME=26 4; FP-POS=2; LIFETIME-POS=L P2 e is calculated via (EXP	,		$ \begin{array}{r} 8.3 \text{ Secs } (8.3 \text{ Secs}) \\ [==>] \\ \hline 13.0 \text{ Secs } (13 \text{ Secs}) \\ [==>] \\ \hline 638 \text{ Secs } (638 \text{ Secs}) \\ [==>] \\ \end{array} $	[1]	
G (1) AV75 2 9 (1) AV75 2 2 9 (1) AV75 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	AG (1) AV75 02 09 (1) AV75 02 fer-time has been reduce ged from cycle 30. 09 (1) AV75	COS/NUV, ACQ/IMAGE, BOA COS/FUV, TIME-TAG, PSA ed based on updated ETC run: COS.sp.	MIRRORA G130M 1096 A 1823228. New time	4; FP-POS=2; LIFETIME-POS=L P2			[==>] 638 Secs (638 Secs)	[1]	
G (1) AV75 2 9 (1) AV75 2 2 9 (1) AV75 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	AG (1) AV75 02 09 (1) AV75 02 fer-time has been reduce ged from cycle 30. 09 (1) AV75	COS/NUV, ACQ/IMAGE, BOA COS/FUV, TIME-TAG, PSA ed based on updated ETC run: COS.sp.	MIRRORA G130M 1096 A 1823228. New time	4; FP-POS=2; LIFETIME-POS=L P2			[==>] 638 Secs (638 Secs)	[1]	
9 (1) AV75 92 er-time has been t ed from cycle 30. 9 (1) AV75	09 (1) AV75 02 fer-time has been reduce ged from cycle 30. 09 (1) AV75	ed based on updated ETC run: COS.sp.	1096 A 1823228. New time	4; FP-POS=2; LIFETIME-POS=L P2			638 Secs (638 Secs)	[1]	
2 er-time has been t ed from cycle 30. 9 (1) AV75	02 fer-time has been reduce ged from cycle 30. 09 (1) AV75	ed based on updated ETC run: COS.sp.	1096 A 1823228. New time	4; FP-POS=2; LIFETIME-POS=L P2					
er-time has been t ed from cycle 30. 9 (1) AV75	fer-time has been reduce ged from cycle 30. 09 (1) AV75		1823228. New time	FP-POS=2; LIFETIME-POS=L P2			[==>]		
<i>ed from cycle 30.</i> 9 (1) AV75	<i>ged from cycle 30.</i> 09 (1) AV75			e is calculated via (EXP				[1]	
		COS/FUV, TIME-TAG, PSA	G130M		- 110)/N to minimize	overheads. Exposu	re time remains unchanged from cycle 29. B	uffer tim	
)2	.02		013014	BUFFER-TIME=26			638 Secs (638 Secs)	+	
			1096 A	4; FP-POS=4; LIFETIME-POS=L P2			[==>]	[1]	
Comments: Buffer-time has been reduced based on updated ETC run: COS.sp.1823228. New time is calculated via (EXP - 110)/N to minimize overheads. Exposure time remains unchanged from cycle 29. Buffe emains unchanged from cycle 30.									
	57 (1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=11			322 Secs (322 Secs)		
	5 02		1577 A	1; FP-POS=2; LIFETIME-POS=L P6			[==>]	[1]	
	fer-time has been reduce Suffer time remains unch		1824304. New tim		- 110)/N, set to the m	ninimum of 111s to r	minimize overheads. Exposure time remains	unchang	
00	57 (1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=11			322 Secs (322 Secs)		
	5 02		1577 A	1;			[==>]		
(COS.sp.102 5737)			FP-POS=4; LIFETIME-POS=L P6				[2]		
er-time has been i uffer time remain	fer-time has been reduce Buffer time remains unch	ed based on updated ETC run: COS.sp. nanged from cycle 30.	1824304. New tim	e is calculated via (EXP	- 110)/N, set to the m	ninimum of 111s to r	minimize overheads. Exposure time remains	unchang	
7 (1) AV75	57 (1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=11			322 Secs (322 Secs)		
02	4 .02		1577 A	1; FP-POS=2:			[==>]		
				LIFETIME-POS=L P4				[2]	
			1824304. New tim	e is calculated via (EXP	- 110)/N, set to the m	ninimum of 111s to n	ninimize overheads. Exposure time remains	unchang	
			time has been reduced based on updated ETC run: COS.sp. er time remains unchanged from cycle 30.		LIFETIME-POS=L P4 time has been reduced based on updated ETC run: COS.sp.1824304. New time is calculated via (EXP	LIFETIME-POS=L P4 time has been reduced based on updated ETC run: COS.sp.1824304. New time is calculated via (EXP - 110)/N, set to the n	LIFETIME-POS=L P4 time has been reduced based on updated ETC run: COS.sp.1824304. New time is calculated via (EXP - 110)/N, set to the minimum of 111s to r	LIFETIME-POS=L P4 time has been reduced based on updated ETC run: COS.sp.1824304. New time is calculated via (EXP - 110)/N, set to the minimum of 111s to minimize overheads. Exposure time remains	

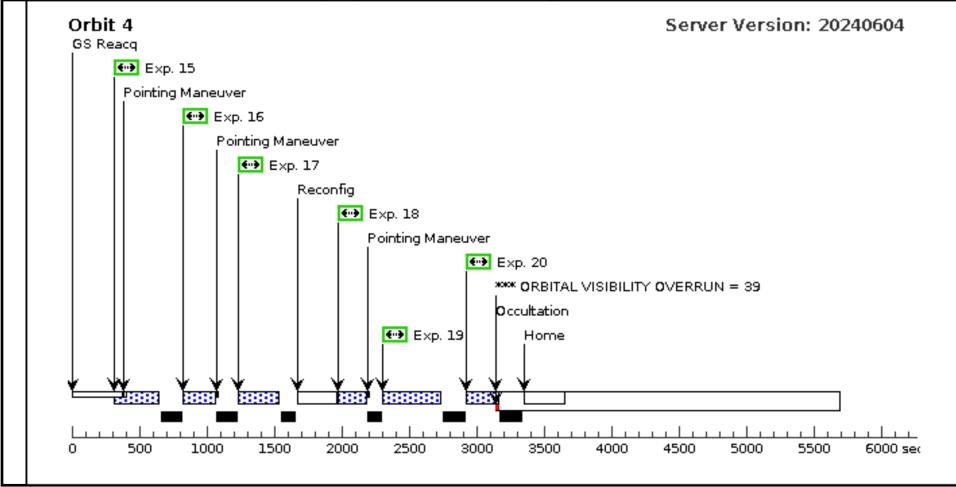
500	501 17 527	0.000.000					
8	G160M/157 (1	1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=11	322 Secs (322 Secs)	
	7/FP4/LP4 (COS.sp.102			1577 A	1; ED DOC 4.	[==>]	
	5737)				FP-POS=4;		[2]
					LIFETIME-POS=L P4		
		ne has been reduced time remains uncha		.1824304. New time	is calculated via (EXP - 110)/N, set to the minimum of 111s to minim	nize overheads. Exposure time remains i	unchanged
9	G160M/162 (1	1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=13	389 Secs (389 Secs)	
	3/FP1/LP6 (COS.sp.102			1623 A	9;	[==>]	
	(COS.sp.102 5738)				FP-POS=1;		[2]
					LIFETIME-POS=L		[-]
C	D (()			1024210 11	P6	· / // / 20 P	<i>cc</i> .:
Con ema	iments: Buffer-tin ins unchanged fro	ne has been reduced om cycle 30.	based on updated ETC run: COS.sp	0.1824318. New time	t is calculated via (EXP - 110)/N to minimize overheads. Exposure times the second s	ne remains unchanged from cycle 29. Bu	iffer time r
	G160M/162 (1	2	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=13	389 Secs (389 Secs)	
	3/FP3/LP6	, , , , , , , , , , , , , , , , , , , ,		1623 A	9;	[==>]	
	(COS.sp.102 5738)				FP-POS=3;		[3]
	0,00)				LIFETIME-POS=L		[3]
~	D 00 1			100 (010)	P6		
ета	ins unchanged fro	om cycle 30.			e is calculated via (EXP - 110)/N to minimize overheads. Exposure tin		iffer time r
11	G160M/162 (1 3/FP1/LP4	1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=13	389 Secs (389 Secs)	
l	(COS.sp.102			1623 A	9; ED DOC 1.	[==>]	
	5738)				FP-POS=1;		[3]
l					LIFETIME-POS=L P4		
Con ema	ments: Buffer-tin ins unchanged fro	ne has been reduced om cycle 30.	based on updated ETC run: COS.sp	.1824318. New time	r is calculated via (EXP - 110)/N to minimize overheads. Exposure tin	ne remains unchanged from cycle 29. Bu	ıffer time r
12	G160M/162 (1	1) AV75	COS/FUV, TIME-TAG, PSA	G160M	BUFFER-TIME=13	389 Secs (389 Secs)	
	3/FP3/LP4 (COS.sp.102			1623 A	9;	[==>]	
	(COS.sp.102 5738)				FP-POS=3;		[3]
	,				LIFETIME-POS=L P4		[5]
Con	iments: Buffer-tin	ne has been reduced	based on updated ETC run: COS.sp	.1824318. New time	P4 e is calculated via (EXP - 110)/N to minimize overheads. Exposure times	ne remains unchanged from cycle 29. Bu	ıffer time r
ета 13	ins unchanged fro G130M/122 (1		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12	246 Secs (246 Secs)	
15	2/FP1	1)11075		1222 A	0;	[==>]	
Í	(COS.sp.102 5734)			1222 11	FP-POS=1;		[2]
	5754)				LIFETIME-POS=L		[3]
					P4		
14	G130M/122 (1 2/FP3	1) AV75	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12	246 Secs (246 Secs)	
	(COS.sp.102			1222 A	0; ED DOC 2:	[==>]	
	5734)				FP-POS=3;		[3]
					LIFETIME-POS=L P4		
15	G130M/129 (1	1) AV75	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12	186 Secs (186 Secs)	
	1/FP3	,		1291 A	0;	[==>]	
	(COS.sp.102 5735)				FP-POS=3;		
	5155)				LIFETIME-POS=L		147
1					P5		[4]
1							
1							

16	G130M/129 (1) AV75 1/FP4 (COS.sp.102 5735)	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=4; LIFETIME-POS=L P5	186 Secs (186 Secs) [==>]	[4]
17	G140L/1280 (1) AV75 /FP3 (COS.sp.102 5740)	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=80; FP-POS=3; LIFETIME-POS=L P3	80 Secs (80 Secs) [==>]	[4]
18	G140L/1105 (1) AV75 /FP3 (COS.sp.102 5741)	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=80; FP-POS=3; LIFETIME-POS=L P3	80 Secs (80 Secs) [==>]	[4]
19	G130M/132 (1) AV75 7/FP1 (COS.sp.102 5736)	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 0; FP-POS=1; SEGMENT=A; LIFETIME-POS=L P5	190 Secs (190 Secs) [==>]	[4]
20	G130M/132 (1) AV75 7/FP3 (COS.sp.102 5736)	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 0; FP-POS=3; SEGMENT=A; LIFETIME-POS=L P5	190 Secs (190 Secs) [==>]	[4]









Proposal 17327 - Orbit 4 redo (02) - Cycle 31 COS FUV Wavelength Scale Monitor

	Proposal 17327, Orbit 4 red	o (02)			Tue Oct 15 16:00:22 GMT 2024							
	Diagnostic Status: Warning											
isit	Scientific Instruments: COS/F	FUV, COS/NUV										
>	Special Requirements: SCHED 80%; ORIENT 275D TO 60 D; ORIENT 160D TO 165 D											
	Comments: An ACQ/SEARCH was added to the TA sequence in Cycle 23 and should be carried over each cycle to avoid GS issues. This is a crowded field. The window in Nov 2024 is ideal for continuity with the original observations and the Cycle 32 version of this program. The schedulability is set to 80% to fit all the observations in four orbits.											
Diagnostics	(Orbit 4 redo (02)) Warning (I	Form): For the best data quality, it is generally requ	uired to use all four FP-POS positions when obse	erving at a given COS cenwave.								
<i>"</i>	# Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous							
ets	(1) AV75	RA: 00 50 32.3900 (12.6349583d)		V=12.79	Reference Frame: ICRS							
rg		Dec: -72 52 36.48 (-72.87680d)										
ΗË		Equinox: J2000										
Fixed	Comments: This object was ge Category=STAR Description=[SUPERGIANT Extended=NO	enerated by the target selector and retrieved from 1 0]	he SIMBAD database.									

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	ACQ/SEAR CH (COS.ta.102 5824)		COS/NUV, ACQ/SEARCH, BOA	MIRRORA	STEP-SIZE=1.767; SCAN-SIZE=2; CENTER=FLUX-V T			8.3 Secs (8.3 Secs) [==>]	[1]
Cor			e by 1s based on updated ETC: COS.ta.182						1
2	ACQ/IMAG E	(1) AV75	COS/NUV, ACQ/IMAGE, BOA	MIRRORA				13.0 Secs (13 Secs)	
	(COS.ta.102 5825)							[==>]	[1]
3	G130M/129	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12	!		105 Secs (105 Secs)	
	1/FP3 (COS.sp.102 5735)			1291 A	0; FP-POS=3; LIFETIME-POS=L			[==>]	[1]
Cor	nments: Reduce	ed exp from 186	-> 105. COS.sp.1935704 for new S/N.		P5				
4	G130M/129		COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12			105 Secs (105 Secs)	
	1/FP4 (COS.sp.102			1291 A	0;			[==>]	
	(COS.sp.102 5735)				FP-POS=4;				[1]
					LIFETIME-POS=L P5				
Cor	nments: Reduce	ed exp from 186	-> 105. COS.sp.1935704 for new S/N.						
5	G140L/1280	(1) AV75	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=80);		60 Secs (60 Secs)	
<u>Cor</u> 5	/FP3 (COS.sp.102 5740)			1280 A	FP-POS=3; LIFETIME-POS=L P3			[==>]	[1]
Cor	nments: Reduce	ed exp time 80 ->	> 60. COS.sp.1935702 for new S/N.						•
6	G140L/1105	(1) AV75	COS/FUV, TIME-TAG, PSA	G140L	BUFFER-TIME=80);		60 Secs (60 Secs)	
	/FP3 (COS.sp.102			1105 A	FP-POS=3;			[==>]	
	5741)				LIFETIME-POS=L P3				[1]
Cor			> 60. COS.sp.1938059 for new S/N.						1
7	G130M/132 7/FP1	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12 0;			125 Secs (125 Secs)	
	(COS.sp.102			1327 A	FP-POS=1;			[==>]	
	5736)				SEGMENT=A;				[1]
					LIFETIME-POS=L P5				
			>125. COS.sp.1935703 for new S/N.						
8	G130M/132 7/FP3	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M	BUFFER-TIME=12 0;			125 Secs (125 Secs)	
	(COS.sp.102			1327 A	FP-POS=3;			[==>]	
	5736)				SEGMENT=A;				[1]
					LIFETIME-POS=L P5				1-1
Co	nments: Reduci	ed exp time 190 -	>125. COS.sp.1935703 for new S/N.						•

Proposal 17327 - Orbit 4 redo (02) - Cycle 31 COS FUV Wavelength Scale Monitor

