



13522 - COS FUV Internal/External Wavelength Scale Monitor

Cycle: 21, Proposal Category: CAL/COS

(Calibration)

(Availability Mode: RESTRICTED)

INVESTIGATORS

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VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	(1) AV75 DARK	COS/FUV COS/NUV S/C	3	11-Oct-2013 21:15:35.0	yes

3 Total Orbits Used

ABSTRACT

This program monitors the offset between the internal and external dispersion solutions. This offset is referred to as DELTA in the wavelength dispersion reference file and corrects for the shift between the WCA and PSA in TV03 versus the shift between WCA and PSA on orbit. Analysis indicates that DELTA is independent of cenwave and grating, but is grating and stripe dependent. To monitor this, the program observes selected cenwaves at multiple FP-POS positions.

OBSERVING DESCRIPTION

Proposal 13522 (STScI Edit Number: 6, Created: Friday, October 11, 2013 8:15:46 PM EST) - Overview

This program monitors the offset between the internal and external dispersion solutions. This offset is referred to as DELTA in the wavelength dispersion reference file and corrects for the shift between the WCA and PSA in TV03 versus the shift between WCA and PSA on orbit. Analysis indicates that DELTA is independent of cenwave and grating, but is grating and stripe dependent. To monitor this, the program observes selected cenwaves at multiple FP-POS positions. This program is different from the wavelength scale monitor program done in cycle 20, as we have added observations of the G130M/1096 and G130M/1222 modes to monitor the COS FUV dispersion solution down to 940 Angstroms.

CALIBRATION JUSTIFICATION

This program monitors the offset between the internal and external dispersion solutions. This offset is referred to as DELTA in the wavelength dispersion reference file and corrects for the shift between the WCA and PSA in TV03 versus the shift between WCA and PSA on orbit. Analysis indicates that DELTA is independent of cenwave and grating, but is grating and stripe dependent. To continue monitoring this at the new lifetime position, the program observes selected cenwaves at multiple FP-POS positions for the regular COS FUV modes. In Cycle 21, the G130M/1055, 1096 and 1222 configurations have been added as regular observing modes. As a result, monitoring of the dispersion solution for these new modes has been added to this Cycle 21 calibration program.

The structure of this monitoring program mirrors some of the observations made in cycle 20 program 13122 for the regular M gratings modes and the L grating modes. We added observations using the G130M/1096 and G130M/1222 at 2 FP-POS each to this program. The observations taken will be compared to those already obtained in cycle 20 programs 13122 and 13070. This new set of observations will allow monitoring of the stability of the COS dispersion solution for the FUV gratings at the new lifetime position and down to 940 Angstroms.

Proposal 13522 - Visit 01 - COS FUV Internal/External Wavelength Scale Monitor

Sat Oct 12 01:15:47 GMT 2013

Visit	<p>Proposal 13522, Visit 01, implementation</p> <p>Diagnostic Status: Warning</p> <p>Scientific Instruments: COS/NUV, S/C, COS/FUV</p> <p>Special Requirements: SCHED 100%; ORIENT 270D TO 60 D; ORIENT 165D TO 165 D; BETWEEN 14-MAR-2014:00:00:00 AND 23-MAR-2014:00:00:00</p>																		
Diagnostics	<p>(Visit 01) Warning (Form): For the best data quality, it is strongly recommended that all four FP-POS positions be used when observing at a given COS CENWAVE setting.</p>																		
Fixed Targets	<table border="1"> <thead> <tr> <th>#</th> <th>Name</th> <th>Target Coordinates</th> <th>Targ. Coord. Corrections</th> <th>Fluxes</th> <th>Miscellaneous</th> </tr> </thead> <tbody> <tr> <td>(1)</td> <td>AV75</td> <td>RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000</td> <td></td> <td>V=12.79</td> <td>Reference Frame: ICRS</td> </tr> <tr> <td colspan="6"><i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i></td> </tr> </tbody> </table>	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous	(1)	AV75	RA: 00 50 32.3900 (12.6349583d) Dec: -72 52 36.48 (-72.87680d) Equinox: J2000		V=12.79	Reference Frame: ICRS	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i>					
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Proposal 13522 - Visit 01 - COS FUV Internal/External Wavelength Scale Monitor

Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit	
	1	(COS.ta.424 208)	(1) AV75	COS/NUV, ACQ/IMAGE, BOA	MIRRORA					13.0 Secs (13 Secs)	
									[==>]	[1]	
	2	(COS.sp.536 230)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=29 0; FP-POS=2				620. Secs (620 Secs)	
									[==>]	[1]	
	3	(COS.sp.536 230)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1096 A	BUFFER-TIME=29 0; FP-POS=4				620. Secs (620 Secs)	
									[==>]	[1]	
	4	(COS.sp.536 245)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=1				226. Secs (226 Secs)	
									[==>]	[1]	
	5	(COS.sp.536 245)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1222 A	BUFFER-TIME=12 0; FP-POS=3				226. Secs (226 Secs)	
									[==>]	[1]	
	6	(COS.sp.536 190)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=2				191. Secs (191 Secs)	
									[==>]	[2]	
	7	(COS.sp.536 190)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1291 A	BUFFER-TIME=12 0; FP-POS=4				191. Secs (191 Secs)	
									[==>]	[2]	
	8	(COS.sp.536 195)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 0; FP-POS=1				192. Secs (192 Secs)	
								[==>]	[2]		
9	(COS.sp.536 195)	(1) AV75	COS/FUV, TIME-TAG, PSA	G130M 1327 A	BUFFER-TIME=12 0; FP-POS=3				192. Secs (192 Secs)		
								[==>]	[2]		
10	(COS.sp.536 196)	(1) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=12 4; FP-POS=2				305 Secs (305 Secs)		
								[==>]	[2]		
11	(COS.sp.536 196)	(1) AV75	COS/FUV, TIME-TAG, PSA	G160M 1577 A	BUFFER-TIME=12 4; FP-POS=4				305. Secs (305 Secs)		
								[==>]	[2]		
12	(COS.sp.536 200)	(1) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=15 4; FP-POS=1				369. Secs (369 Secs)		
								[==>]	[3]		
13	(COS.sp.536 200)	(1) AV75	COS/FUV, TIME-TAG, PSA	G160M 1623 A	BUFFER-TIME=15 4; FP-POS=3				369. Secs (369 Secs)		
								[==>]	[3]		
14	(COS.sp.536 201)	(1) AV75	COS/FUV, TIME-TAG, PSA	G140L 1280 A	BUFFER-TIME=80; FP-POS=3				80. Secs (80 Secs)		
								[==>]	[3]		
15		DARK	S/C, DATA, NONE				QASISTATES COS FUV HVLOW HVL OW		1 Secs (1 Secs)		
								[==>]	[3]		
<i>Comments: Eliminates SPSS induced reconfiguration gaps.</i>											
16	(COS.sp.536 202)	(1) AV75	COS/FUV, TIME-TAG, PSA	G140L 1105 A	BUFFER-TIME=80; FP-POS=3				80 Secs (80 Secs)		
								[==>]	[3]		



