14179 - FUVB Flat Fields for the COS FUV Blue Modes

Cycle: 23, Proposal Category: GO

(Calibration)

(Availability Mode: SUPPORTED)

INVESTIGATORS

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
02	(2) G191B2B WAVE	COS/FUV COS/NUV	2	05-Dec-2015 21:01:57.0	yes

2 Total Orbits Used

ABSTRACT

We are requesting 2 orbits to obtain the data needed to produce 1-D flat fields for the COS FUV blue modes (CENWAVE = 1055, 1096). We use data obtained in a previous calibration program to demonstrate that the 1-D flats currently used by the COS team to correct the grid-wire shadows in the FUV channels are inappropriate for the "blue modes". Unfortunately, only the FUVA data from the previous program are adequate to create new 1-D flats. FUVB 1-D flats are needed for two reasons. First, they are essential for high signal-to-noise observations of any object below 1150 Ang, including hot stars, objects with strong emission lines below 1150 Ang, and the rich interstellar spectrum that lies below 1150 Ang. Further, blue mode FUVB data are typically obtained with the FUVA off. This means that wavelength calibrations must be done separately and can result in crippling overheads if a full complement of FPPOS observations are obtained. However, different FPPOS settings are needed to suppress the fixed pattern noise in the COS FUV detectors. Application of a high quality 1-D flat will minimize the effect of the fixed pattern noise, reducing the

number of WAVCALs needed and increasing the efficiency of the instrument. Finally, blue mode FUVB data are now the only medium resolution modes lacking high quality 1-D flats.

OBSERVING DESCRIPTION

Obtain high S/N COS FUV data to construct FUVB P-flats for the blue modes.

Visit

Proposal 14179, FP=2 & 4 WAVECALs (02) Sun Dec 06 02:01:58 GMT 2015

Diagnostic Status: Warning

Scientific Instruments: COS/FUV, COS/NUV

Special Requirements: (none)

Diagnostics

(Exposure 2 (FP=2 & 4 WAVECALs (02))) Warning (Form): An FUV exposure with Wavelength 1055 or 1096 has been specified with SEGMENT=B.

(Exposure 3 (FP=2 & 4 WAVECALs (02))) Warning (Form): An FUV exposure with Wavelength 1055 or 1096 has been specified with SEGMENT=B.

(Exposure 5 (FP=2 & 4 WAVECALs (02))) Warning (Form): An FUV exposure with Wavelength 1055 or 1096 has been specified with SEGMENT=B.

(Exposure 6 (FP=2 & 4 WAVECALs (02))) Warning (Form): An FUV exposure with Wavelength 1055 or 1096 has been specified with SEGMENT=B.

(Exposure 7 (FP=2 & 4 WAVECALs (02))) Warning (Form): An FUV exposure with Wavelength 1055 or 1096 has been specified with SEGMENT=B.

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	G191B2B	RA: 05 05 30.6700 (76.3777917d)	Proper Motion RA: 0.00071 sec of time/yr	V=11.69	Reference Frame: ICRS
		Dec: +52 49 51.95 (52.83110d)	Proper Motion Dec: -0.09070 arcsec/yr		
		Equinox: J2000	Epoch of Position: 2000		

Comments: Coordinates and proper motions are form COS TIR 2009-02(v2)
This object was generated by the targetselector and retrieved from the SIMBAD database.This object was generated by the targetselector and retrieved from the SIMBAD database.
Extended=NO

Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(732101)	(2) G191B2B	COS/NUV, ACQ/IMAGE, BOA	MIRRORB				25 Secs (25 Secs) *[==>]*	***[1]***
Comments: This TA is a duplicate of two previous ACQ/IMAGES of this target. These 25 second TAs had ~5404 counst; S/N = ~70. Target Brightest Pixel = 1.7 counts/s									
2	(683683)	(2) G191B2B	COS/FUV, TIME-TAG, PSA	G130M 1096 A	SEGMENT=B; BUFFER-TIME=312; FP-POS=1			1350 Secs (1350 Secs) *[==>]*	***[1]***
*Comments: From the ETC run, the Buffer time should be less than 2.35E6/4088. * (2/3.) < 383.2. For 1350s, the best buffer time is (1350-100)/4 = 312 s*									
3	(683683)	(2) G191B2B	COS/FUV, TIME-TAG, PSA	G130M 1096 A	SEGMENT=B; BUFFER-TIME=275; FP-POS=2			1200 Secs (1200 Secs) *[==>]*	***[1]***
*Comments: From the ETC run, the Buffer time should be less than 2.35E6/4088. * (2/3.) < 383.2. For 1200s, the best buffer time is (1350-100)/4 = 275 s*									
4	FP=2 WAV ECAL	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=2; SEGMENT=BOTH			*[==>]*	***[1]***
5	(683683)	(2) G191B2B	COS/FUV, TIME-TAG, PSA	G130M 1096 A	SEGMENT=B; BUFFER-TIME=312; FP-POS=2			160 Secs (160 Secs) *[==>]*	***[2]***
*Comments: From the ETC run, the Buffer time should be less than 2.35E6/4088. * (2/3.) < 383.2. We used 312 s for others, so we'll just use that one here as well.*									
6	(683683)	(2) G191B2B	COS/FUV, TIME-TAG, PSA	G130M 1096 A	SEGMENT=B; BUFFER-TIME=312; FP-POS=3			1350 Secs (1350 Secs) *[==>]*	***[2]***
*Comments: From the ETC run, the Buffer time should be less than 2.35E6/4088. * (2/3.) < 383.2. For 1350s, the best buffer time is (1350-100)/4 = 312 s*									
7	(683683)	(2) G191B2B	COS/FUV, TIME-TAG, PSA	G130M 1096 A	SEGMENT=B; BUFFER-TIME=312; FP-POS=4			1350 Secs (1350 Secs) *[==>]*	***[2]***
*Comments: From the ETC run, the Buffer time should be less than 2.35E6/4088. * (2/3.) < 383.2. For 1350s, the best buffer time is (1350-100)/4 = 312 s*									
8	FP=4 WAV ECAL	WAVE	COS/FUV, TIME-TAG, WCA	G130M 1096 A	FP-POS=4; SEGMENT=BOTH			*[==>]*	***[2]***

Orbit Structure