14859 - COS NUV Internal/External Wavelength Scale Monitor

Cycle: 24, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

INVESTIGATORS

Name	*Institution*	*E-Mail*
Dr. Paule G. Sonnentrucker (PI) (ESA Member) (Contact)	**Space Telescope Science Institute - ESA**	**sonnentr@stsci.edu**
Dr. William J. Fischer (CoI) (Contact)	Space Telescope Science Institute	wfischer@stsci.edu

VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) HD-6655	COS/NUV	1	30-Jan-2017 21:07:08.0	yes
02	(1) HD-6655	COS/NUV	1	30-Jan-2017 21:07:10.0	yes

2 Total Orbits Used

ABSTRACT

This program monitors the offset between the internal and external wavelength scales: 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 the WCA and PSA in orbit : (WCA-PSA_)_TV03 - (WCA - PSA)_orbit. Analysis of TV data indicates that this DELTA (offset) is cenwave and FPPOS independent for a particular grating, but it is grating and stripe dependent. To verify and monitor this, this program observes various cenwaves.

OBSERVING DESCRIPTION

This program monitors the offset between the internal and external wavelength scales by obtaining spectra of a select number of cenwaves for the G230L, G285M, G225M and G185M gratings two times per cycle. All data are obtained at FP-POS=3. This program structure has been modified

compared to that of cycle 21 program 13529 due to GS acquisition issues. The double PEAKXD sequence was replaced by the traditional ACQ/SEARCH, ACQ/PEAKXD and ACQ/PEAKD for the remaining visits following the recommendations after the failure investigation for V02. The BETWEEN ranges for the remaining visits were updated accordingly but could be relaxed for easier scheduling purposes as long as the available GS pairs are carefully vetted. Optimum target centering is critical to this program. This program was reduced to 2 observing epochs separated by about 6 months in Cycle 23, as 2 epochs were deemed sufficient to perform the dispersion solution verification for COS/NUV. Note also that the proper motion in RA was modified from 0.0111 sec of time/year to the latest GAIA measurement of 48.9 mas/year (or 0.00326 sec of time /year). The proper motion in declination did not need update.

Proposal 14859 - Visit 01 - COS NUV Internal/External Wavelength Scale Monitor

Visit

Proposal 14859, Visit 01, completed Tue Jan 31 02:07:11 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 30%; BETWEEN 11-JAN-2017:00:00:00 AND 18-JAN-2017:00:00:00

Diagnostics

(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.

(Visit 01) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-6655	RA: 01 05 18.2073 (16.3258637d) Dec: -72 33 14.47 (-72.55402d) Equinox: J2000	Proper Motion RA: 48.9 mas/yr Proper Motion Dec: -0.118 arcsec/yr Epoch of Position: 2000 Radial Velocity: 19.5 km/sec	V=8.05+/-0.05	Reference Frame: ICRS

Comments: This object was generated by the target selector and retrieved from the SIMBAD database.
Extended=NO

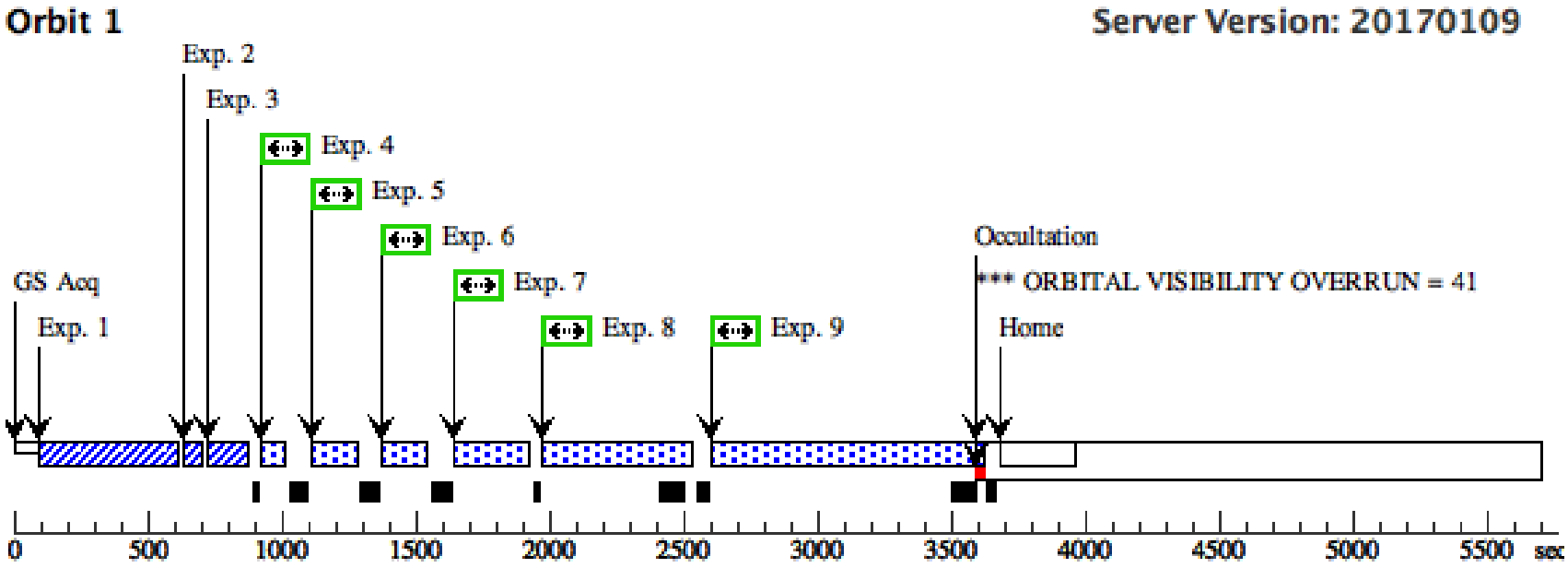
Exposures

#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/SEARCH, PSA	G230L 2635 A	SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-WT-FLR			1. Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=MEDIUM			1. Secs (1 Secs) *[==>]*	*[1]*
3	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	NUM-POS=5; STEP-SIZE=1; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
4	(COS.sa.837 487)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=177.; FP-POS=3			80 Secs (80 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (2642.97 A) 9.338 *Count rate entire detector 8,954.261* *Count rate stripe A 12.459* *Count rate stripe B 8,071.484* *Stripe C contains only second order light not calculated*									
5	(COS.sp.837 489)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G230L 2950 A	BUFFER-TIME=123; FP-POS=3			80 Secs (80 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2913.11 A) 10.584 *Count rate entire detector 12,733.322* *Count rate Stripe A 834.800* *Count rate Stripe B 11,028.204* *Stripe C contains only second order light not calculated*									
6	(COS.sp.837 490)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G230L 3000 A	BUFFER-TIME=124; FP-POS=3			80 Secs (80 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2905.81A) 10.089 *Count rate entire detector 12,614.449* *Count rate Stripe A 1,363.961* *Count rate Stripe B 10,380.171* *Stripe C contains only second order light not calculated*									
7	(COS.sp.837 491)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=1142; FP-POS=3			90 Secs (90 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2668.63 A) 0.122 *Count rate entire detector 1,095.635* *Count rate Stripe A 46.149* *Count rate Stripe B 129.523* *Count rate Stripe C 49.646*									
8	(COS.sp.837 492)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=330; FP-POS=3			440 Secs (440 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2324.63 A) 0.306 *Count rate entire detector 1,476.927* *Count rate Stripe A 118.524* *Count rate Stripe B 233.414* *Count rate Stripe C 254.671*									

9	(COS.sp.837 (1) HD-6655 493)	COS/NUV, TIME-TAG, PSA	G185M 2010 A	BUFFER-TIME=75 0; FP-POS=3	860 Secs (860 Secs) [==>]	[1]

Comments: Brightest Pixel (at 2120.84 A) 0.239
Count rate entire detector 1,130.596
Count rate Stripe A 30.814
Count rate Stripe B 56.675
Count rate Stripe C 172.789

Orbit Structure



Proposal 14859 - Visit 02 - COS NUV Internal/External Wavelength Scale Monitor

Visit

Proposal 14859, Visit 02, scheduling Tue Jan 31 02:07:11 GMT 2017

Diagnostic Status: Warning

Scientific Instruments: COS/NUV

Special Requirements: SCHED 30%; BETWEEN 15-AUG-2017:00:00:00 AND 31-AUG-2017:00:00:00

Diagnostics

(Visit 02) 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.

(Visit 02) Warning (Orbit Planner): ORBITAL VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	HD-6655	RA: 01 05 18.2073 (16.3258637d) Dec: -72 33 14.47 (-72.55402d) Equinox: J2000	Proper Motion RA: 48.9 mas/yr Proper Motion Dec: -0.118 arcsec/yr Epoch of Position: 2000 Radial Velocity: 19.5 km/sec	V=8.05+/-0.05	Reference Frame: ICRS

Comments: This object was generated by the target selector 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	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/SEARCH, PSA	G230L 2635 A	SCAN-SIZE=3; STEP-SIZE=1.767; CENTER=FLUX-WT-FLR	GSPAIR S0XG2765 43F2S0XJ267306F1		1 Secs (1 Secs) *[==>]*	*[1]*
2	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/PEAKXD, PSA	G230L 2635 A	STRIPE=MEDIUM			1. Secs (1 Secs) *[==>]*	*[1]*
3	(COS.sa.837 487)	(1) HD-6655	COS/NUV, ACQ/PEAKD, PSA	G230L 2635 A	NUM-POS=5; STEP-SIZE=1; CENTER=FLUX-WT-FLR			1 Secs (1 Secs) *[==>]*	*[1]*
4	(COS.sa.837 487)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G230L 2635 A	BUFFER-TIME=177; FP-POS=3			80 Secs (80 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (2642.97 A) 9.338 *Count rate entire detector 8,954.261* *Count rate stripe A 12.459* *Count rate stripe B 8,071.484* *Stripe C contains only second order light not calculated*									
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Comments: BBrightest Pixel (at 2913.11 A) 10.584 *Count rate entire detector 12,733.322* *Count rate Stripe A 834.800* *Count rate Stripe B 11,028.204* *Stripe C contains only second order light not calculated*									
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Comments: BBrightest Pixel (at 2905.81A) 10.089 *Count rate entire detector 12,614.449* *Count rate Stripe A 1,363.961* *Count rate Stripe B 10,380.171* *Stripe C contains only second order light not calculated*									
7	(COS.sp.837 491)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G285M 2676 A	BUFFER-TIME=1142; FP-POS=3			90 Secs (90 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2668.63 A) 0.122 *Count rate entire detector 1,095.635* *Count rate Stripe A 46.149* *Count rate Stripe B 129.523* *Count rate Stripe C 49.646*									
8	(COS.sp.837 492)	(1) HD-6655	COS/NUV, TIME-TAG, PSA	G225M 2217 A	BUFFER-TIME=330; FP-POS=3			440 Secs (440 Secs) *[==>]*	*[1]*
Comments: Brightest Pixel (at 2324.63 A) 0.306 *Count rate entire detector 1,476.927* *Count rate Stripe A 118.524* *Count rate Stripe B 233.414* *Count rate Stripe C 254.671*									

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Comments: Brightest Pixel (at 2120.84 A) 0.239
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Orbit Structure