



14388 - WFC3 -1st Grism Order Calibration in IR Grisms

Cycle: 23, Proposal Category: CAL/WFC3

(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	(4) 18022716	WFC3/IR	1	10-Nov-2015 21:16:47.0	yes
02	(4) 18022716	WFC3/IR	1	10-Nov-2015 21:16:49.0	yes

2 Total Orbits Used

ABSTRACT

Goals: Improve the flux calibration and correct and map the sensitivity curve of the -1st orders of G102 and G141 to enable accurate and precise spectroscopic observations of bright targets. This is a continuation of SMOV, Cy 17 & 20 programs.

OBSERVING DESCRIPTION

Description of the observations: One external orbit for each of the two IR grisms will be used to obtain S/N~100 -1st order spectra of the brightest photometric standard star, 1802271, placed at 4-5 positions on the detector. Observations of P330E in the G141 -1st order showed that the sensitivity curve is incorrect, therefore high S/N spectra of the standard stars are needed to correct the shape, consistent with measurements for the +1st orders. S/N of the -1st order spectra from existing calibration exposures is not useful as the exposure times were optimized for the much brighter primary +1st order (see figure). Because the -1st orders are ~ 100 times less sensitive than the +1st orders, obtaining high SNR spectra in the -1st order saturates the +1st order.

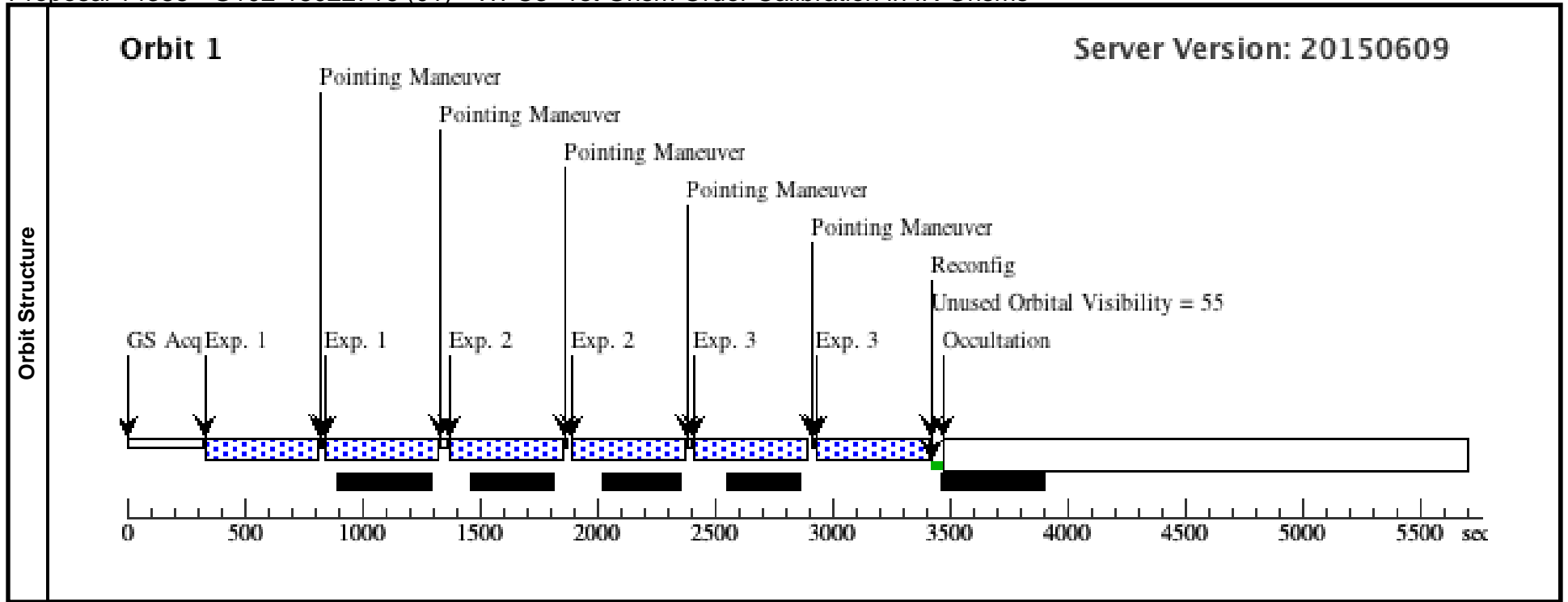
1 orbit per grism = 2 external orbits

We use the AV standard star, 1802271, because it is very bright, ~11 mag in J and H, and relatively isolated. The former is important because it enables observations of 4 dithered positions in each grism. Dithering is needed to account for bad or unstable pixels, blobs. The relative isolation means that spectra will not be contaminated with those of nearby stars.

Proposal 14388 - G102-18022716 (01) - WFC3 -1st Grism Order Calibration in IR Grisms

Wed Nov 11 02:16:50 GMT 2015

Visit	Proposal 14388, G102-18022716 (01) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 248D TO 280 D; ORIENT 350D TO 24 D; ORIENT 43D TO 149 D									
	Patterns	#	Primary Pattern			Secondary Pattern			Exposures	
		(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false					(1), (2), (3)	
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	18022716 Alt Name1: 2MASS- J18022716+6043356	RA: 18 02 27.1700 (270.6132083d) Dec: +60 43 35.70 (60.72658d) Equinox: J2000		V=11.985	Reference Frame: SIMBAD				
	<i>Comments: This object was generated by the targetselector and retrieved from the SIMBAD database.</i> isolated star - ~2 stars nearby A2V D 2011AJ....141..173B Fluxes (5) : B 12.0 [-] E ~ V 11.985 [-] D 2011AJ....141..173B J 11.872 [0.023] C 2003yCat.2246....0C H 11.850 [0.021] C 2003yCat.2246....0C K 11.832 [0.018] C 2003yCat.2246....0C									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G102	SAMP-SEQ=STEP5 0; NSAMP=14	POS TARG 42,-10	Pattern 1, Exps 1-1 i n G102-18022716 (0 1) (1)	449.233834 Secs (898.468 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	2		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G102	SAMP-SEQ=STEP5 0; NSAMP=14	POS TARG 42,20	Pattern 1, Exps 2-2 i n G102-18022716 (0 1) (1)	449.233834 Secs (898.468 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	3		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G102	SAMP-SEQ=STEP5 0; NSAMP=14	POS TARG 42,45	Pattern 1, Exps 3-3 i n G102-18022716 (0 1) (1)	449.233834 Secs (898.468 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]



Proposal 14388 - G141-18022716 (02) - WFC3 -1st Grism Order Calibration in IR Grisms

Wed Nov 11 02:16:51 GMT 2015

Visit	Proposal 14388, G141-18022716 (02) Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 236D TO 310 D									
Patterns	#	Primary Pattern	Secondary Pattern	Exposures						
	(1)	Pattern Type=LINE Purpose=DITHER Number Of Points=2 Point Spacing=2 Line Spacing=	Coordinate Frame=POS-TARG Pattern Orientation=45 Angle Between Sides= Center Pattern=false		(1), (2), (3), (4)					
Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(4)	18022716 Alt Name1: 2MASS-J18022716+6043356	RA: 18 02 27.1700 (270.6132083d) Dec: +60 43 35.70 (60.72658d) Equinox: J2000		V=11.985	Reference Frame: SIMBAD				
Comments: This object was generated by the targetselector and retrieved from the SIMBAD database. isolated star - ~2 stars nearby A2V D 2011AJ....141..173B Fluxes (5): B 12.0 [~] E ~ V 11.985 [~] D 2011AJ....141..173B J 11.872 [0.023] C 2003yCat.2246....0C H 11.850 [0.021] C 2003yCat.2246....0C K 11.832 [0.018] C 2003yCat.2246....0C										
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G141	SAMP-SEQ=STEP5 0;	POS TARG 42,-35	Pattern 1, Exps 1-1 in G141-18022716 (0 2) (1)	299.232481 Secs (598.465 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	2		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G141	SAMP-SEQ=STEP5 0;	POS TARG 42,-10	Pattern 1, Exps 2-2 in G141-18022716 (0 2) (1)	299.232481 Secs (598.465 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	3		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G141	SAMP-SEQ=STEP5 0;	POS TARG 42,20	Pattern 1, Exps 3-3 in G141-18022716 (0 2) (1)	299.232481 Secs (598.465 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]
	4		(4) 18022716	WFC3/IR, MULTIACCUM, GRISM1024	G141	SAMP-SEQ=STEP5 0;	POS TARG 42,45	Pattern 1, Exps 4-4 in G141-18022716 (0 2) (1)	299.232481 Secs (598.465 Secs) [==>(Pattern 1)] [==>(Pattern 2)]	[1]

