



12726 - Dissecting star formation and extinction in the brightest lensed galaxy

Cycle: 19, Proposal Category: GO

(Availability Mode: SUPPORTED)

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) RCS0327	WFC3/IR	2	12-Dec-2011 21:23:38.0	yes
02	(1) RCS0327	WFC3/IR	2	12-Dec-2011 21:23:43.0	yes

4 Total Orbits Used

ABSTRACT

Gravitational lensing provides rare chances to study high-redshift galaxies in otherwise unobtainable ways. We propose to study a spectacular lensed galaxy that is not only exceptionally bright, but has redshifted H-alpha and H-beta into narrow-band filters on HST. We have already obtained H-beta and broad-band filters. We originally proposed to map H-alpha with NICMOS, but have submitted a change request to switch to G141 grating observations, to measure the ratio of H gamma to H beta, and its spatial variation, in order to map the extinction over this remarkably bright $z=1.7$ lensed galaxy.

OBSERVING DESCRIPTION

We are using the WFC3 G141 grism to measure the ratio of Hbeta to Hgamma across this giant (38") lensed arc. As justified in the Program Change Request, 4 orbits gives a simulated signal-to-noise ratio of >50 which is sufficient to measure the extinction to a precision of ± 0.12 mag on A_v .

We use two different roll angles to minimize crowding from cluster galaxies, and do two dither positions at each roll angle.

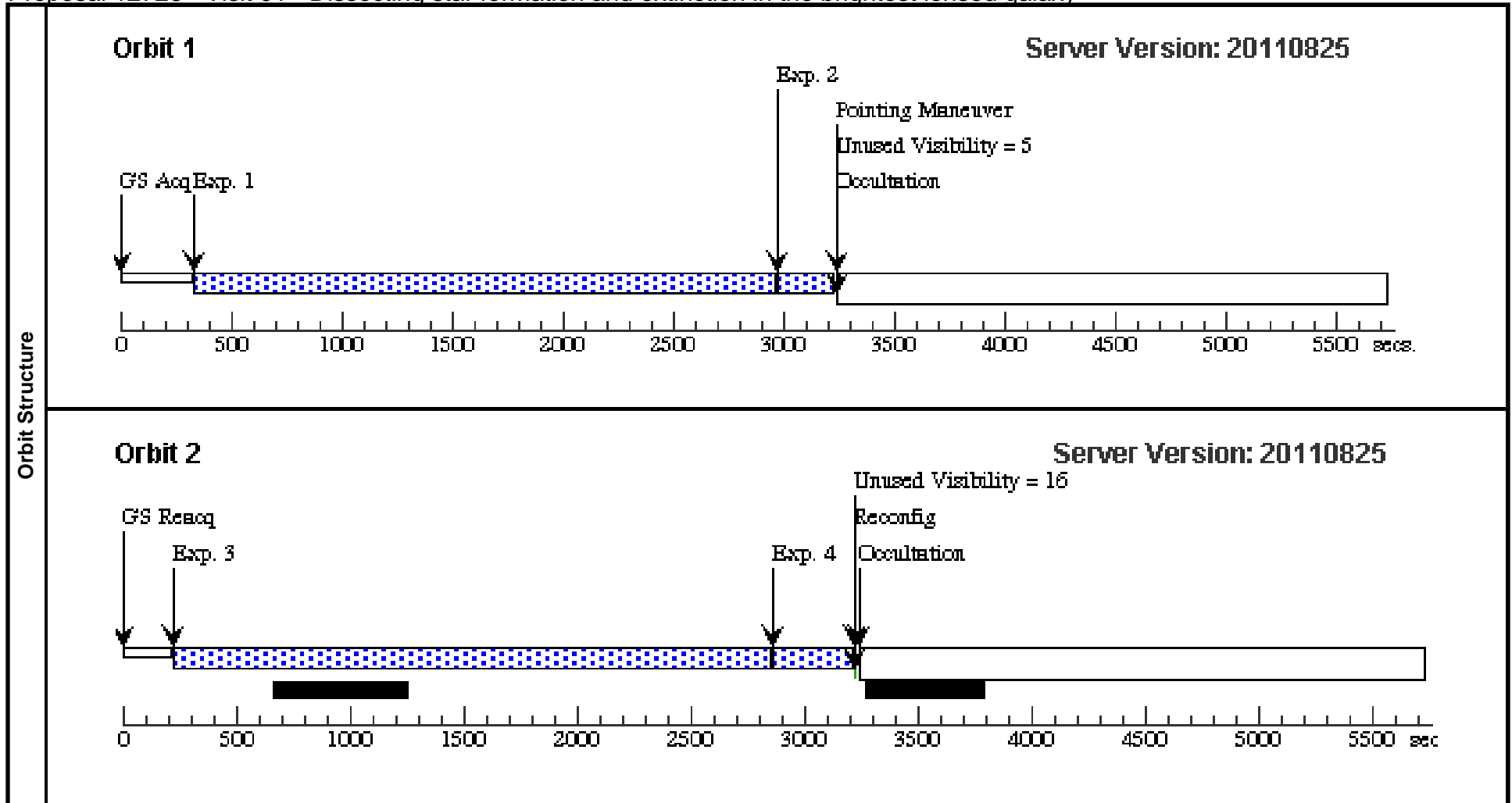
ADDITIONAL COMMENTS

As the PII instructions request, we here explain how we calculate ORIENT, and ask STScI to check our math, please! We assume the G141 grating disperses along the +X axis on the detector; ****PLEASE TELL US**** if this false. We measure the sky position angle (E of N) we want to run along the +X axis. We add the value from Table 7.4 of the PIIpI of 225.18 degrees, appropriate for the +X direction of WFC3-IR. This should be ORIENT.

Proposal 12726 - Visit 01 - Dissecting star formation and extinction in the brightest lensed galaxy

Tue Dec 13 02:23:47 GMT 2011

Visit	Proposal 12726, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 80D TO 82 D Comments: See comments in Proposal Description for discussion of ORIENT.										
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	RCS0327	RA: 03 27 27.4820 (51.8645083d) Dec: -13 26 14.52 (-13.43737d) Equinox: J2000	Redshift: 1.70	V=19.15+/-0.1 r=19.0	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	roll-A dith-1	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S200	GS ACQ SCENARI O BASE1B3	Sequence 1-2 Non-Int in Visit 01	[==>]	[1]	
	2	direct	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPAR S25		Sequence 1-2 Non-Int in Visit 01	[==>]	[1]	
	Comments: HELP! Manual says to set aperture to G141-REF for direct image, but this is not an option!!!**										
	3	roll-A dith-2	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S200	POS TARG 3.5,3.5	Sequence 3-4 Non-Int in Visit 01	[==>]	[2]	
4	direct	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG 3.5,3.5	Sequence 3-4 Non-Int in Visit 01	[==>]	[2]		
Comments: HELP! Manual says to set aperture to G141-REF for direct image, but this is not an option!!!**											



Proposal 12726 - Visit 02 - Dissecting star formation and extinction in the brightest lensed galaxy

Tue Dec 13 02:23:48 GMT 2011

Visit	Proposal 12726, Visit 02, implementation Diagnostic Status: No Diagnostics Scientific Instruments: WFC3/IR Special Requirements: ORIENT 86.18D TO 87.18 D Comments: See comments in Proposal Description for discussion of ORIENT.										
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous				
	(1)	RCS0327	RA: 03 27 27.4820 (51.8645083d) Dec: -13 26 14.52 (-13.43737d) Equinox: J2000	Redshift: 1.70	V=19.15+/-0.1 r=19.0	Reference Frame: ICRS					
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
	1	roll-B dith-1	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S200	GS ACQ SCENARI O BASE1B3	Sequence 1-2 Non-Int in Visit 02	[==>]	[1]	
	2	direct	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=10; SAMP-SEQ=SPAR S25		Sequence 1-2 Non-Int in Visit 02	[==>]	[1]	
	Comments: HELP! Manual says to set aperture to G141-REF for direct image, but this is not an option!!!**										
	3	roll-B dith-2	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	G141	NSAMP=14; SAMP-SEQ=SPAR S200	POS TARG 3.5,3.5	Sequence 3-4 Non-Int in Visit 02	[==>]	[2]	
4	direct	(1) RCS0327	WFC3/IR, MULTIACCUM, GRISM1024	F140W	NSAMP=14; SAMP-SEQ=SPAR S25	POS TARG 3.5,3.5	Sequence 3-4 Non-Int in Visit 02	[==>]	[2]		
Comments: HELP! Manual says to set aperture to G141-REF for direct image, but this is not an option!!!**											

