



13283 - Testing ISM Evolution Models with Gravitational Lenses

Cycle: 21, Proposal Category: GO

(UV Initiative)

(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) CLASS-B1152+199-ABS01	COS/NUV	4	24-Jan-2014 21:01:28.0	yes

4 Total Orbits Used

ABSTRACT

The inter-stellar medium (ISM) has been well studied in the Milky Way and nearby galaxies. However, less is known about ISM properties of cosmologically distant galaxies. We propose to study the ISM properties of moderate redshift galaxies using lens galaxies, and compare the measurements with the ISM evolution models. In particular, we plan to use COS to measure the gas column density through the damped Lyman_alpha absorption system of the lens B1152+199, where our existing constraints on ISM properties are in conflict with ISM evolution model predictions. The COS observations will break the degeneracy between neutral hydrogen column density and metallicity in our existing measurements from the X-ray data, and provide accurate measurements of dust-metal-gas ratios of this galaxy, which will in turn constrain ISM evolution models at $z \sim 0.5$.

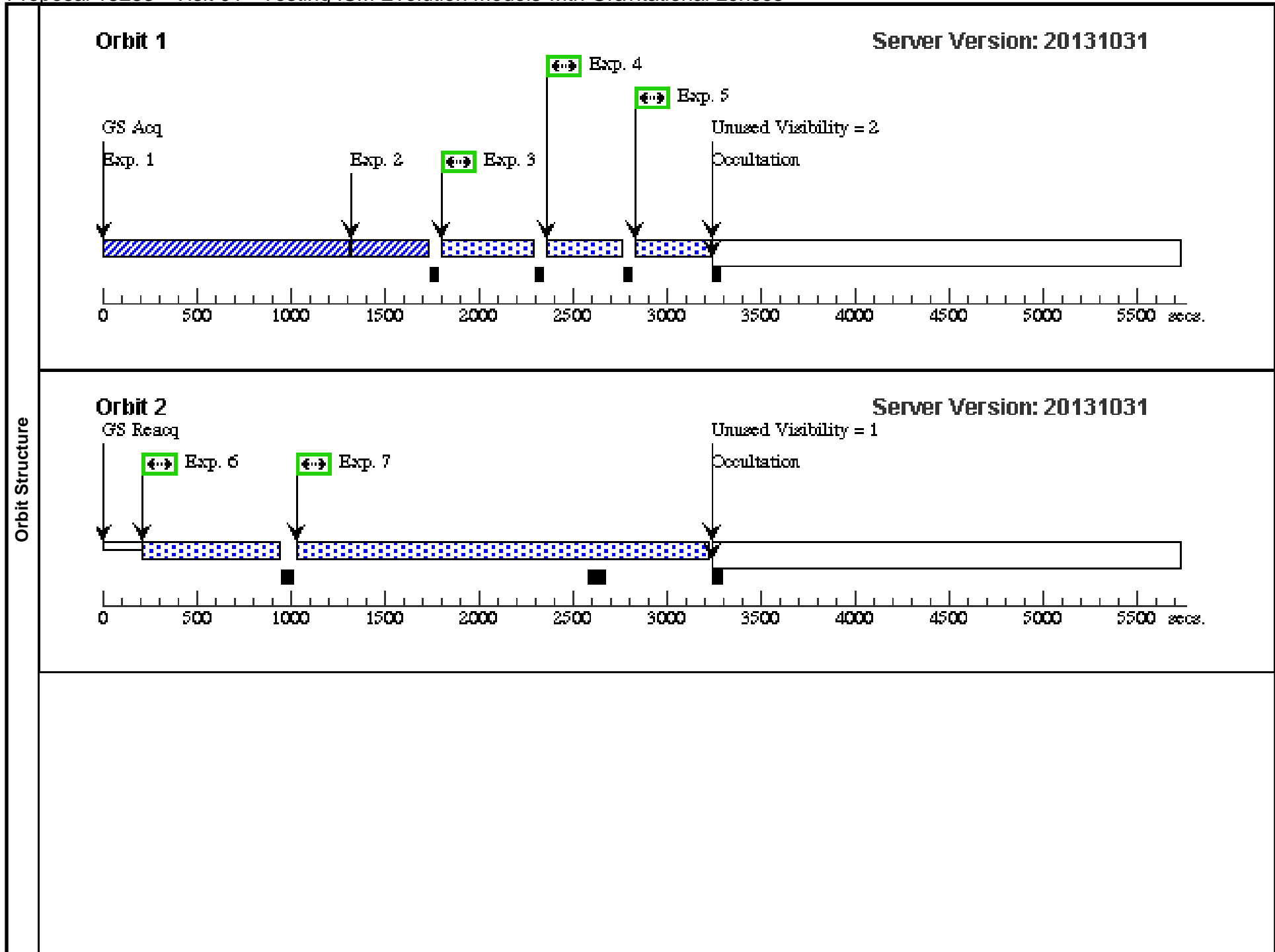
OBSERVING DESCRIPTION

COS NUV spectroscopic observations of B1152+199A. B1152+199 is a gravitational lens system containing two quasar images, A and B at $z = 1.02$ separated by 1.6 arcsec and a lens at $z=0.439$. We plan to use the G230 (3360) and G230 (2950) gratings to measure the NUV spectra of B1152+199A. We plan to detect the damped Lyman alpha and other metal absorption lines associated with the lensing galaxy in the NUV spectra of B1152+199A.

Proposal 13283 - Visit 01 - Testing ISM Evolution Models with Gravitational Lenses

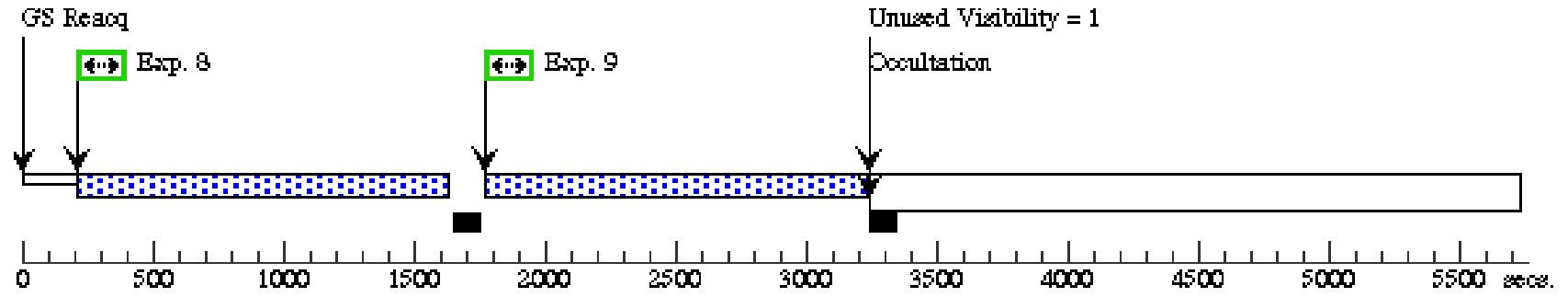
Sat Jan 25 02:01:40 GMT 2014

Visit	Proposal 13283, Visit 01, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/NUV Special Requirements: (none)									
	Fixed Targets	#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous			
	(1)	CLASS-B1152+199-ABS01	RA: 11 55 18.2976 (178.8262400d) Dec: +19 39 42.23 (19.66173d) Equinox: J2000		V=16.9 16.75 in the U band	Reference Frame: ICRS				
	<i>Comments: This object was generated by the targetselector and retrieved from the NED database.</i>									
Exposures	#	Label (ETC Run)	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	(COS.ta.512 417)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, ACQ/SEARCH, PSA	G230L 3360 A	CENTER=FLUX-W T-FLR; SCAN-SIZE=3; STEP-SIZE=1.3			76.7 Secs (76.7 Secs) [==>]	[1]
	2	(COS.ta.512 410)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, ACQ/IMAGE, PSA	MIRRORB				95.6 Secs (95.6 Secs) [==>]	[1]
	3	(COS.sp.512 413)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 3360 A	BUFFER-TIME=14 54; FP-POS=1			381.0 Secs (381 Secs) [==>]	[1]
	4	(COS.sp.512 413)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 3360 A	BUFFER-TIME=14 54; FP-POS=2			381.0 Secs (381 Secs) [==>]	[1]
	5	(COS.sp.512 413)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 3360 A	BUFFER-TIME=14 54; FP-POS=3			381.0 Secs (381 Secs) [==>]	[1]
	6	(COS.sp.512 413)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 3360 A	BUFFER-TIME=14 54; FP-POS=4			381.0 Secs (710 Secs) [==>710.0 Secs]	[2]
	7	(COS.sp.512 412)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 2950 A	BUFFER-TIME=14 70; FP-POS=1			1776.3 Secs (2105.3 Secs) [==>2105.3 Secs]	[2]
	8	(COS.sp.512 412)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 2950 A	BUFFER-TIME=14 70; FP-POS=2			1400.0 Secs (1408 Secs) [==>1408.0 Secs]	[3]
	9	(COS.sp.512 412)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 2950 A	BUFFER-TIME=14 70; FP-POS=3			1434.0 Secs (1442 Secs) [==>1442.0 Secs]	[3]
10	(COS.sp.512 412)	(1) CLASS-B1152+1 99-ABS01	COS/NUV, TIME-TAG, PSA	G230L 2950 A	BUFFER-TIME=14 70; FP-POS=4			1776.3 Secs (2994.3 Secs) [==>2994.3 Secs]	[4]	



Orbit 3

Server Version: 20131031



Orbit 4

Server Version: 20131031

