15223 - The Brightest Galaxy-Scale Lens

Cycle: 25, Proposal Category: GO

(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?*
01	(1) SDSSJ1059+4251	WFC3/UVIS	1	07-Jul-2017 21:02:10.0	yes

1 Total Orbits Used

ABSTRACT

We have very recently discovered the brightest galaxy-scale lens known to date (r = 18.7). This system is ideally suited for spatially resolved studies of the source galaxy at a redshift z = 2.8, i.e., the peak epoch of star formation. Such bright galaxy-scale lenses are key to constraining the evolutionary processes which take place at these redshifts owing to their high magnifications and simple lensing mass distributions; furthermore, they allow an extremely sensitive probe of dark substructures within the lensing galaxy. The requested deep, high-resolution imaging will be used to robustly infer the lensing potential and `de-lens' the galaxy to probe its structure on scales as small as ~20 pc, and will greatly facilitate future spectroscopic observations with, for example, JWST.

OBSERVING DESCRIPTION

We are observing a galaxy-scale strong gravitational lens. Our goal is to get excellent spatial resolution imaging of the foreground lensing galaxy and background lensed source. We will therefore use a 4-point box dither to achieve excellent sampling and reject detector artefacts and cosmic ray hits.

Visit

Proposal 15223, Visit 01 Sat Jul 08 01:02:11 GMT 2017

Diagnostic Status: No Diagnostics

Scientific Instruments: WFC3/UVIS

Special Requirements: (none)

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(1)	Pattern Type=WFC3-UVIS-DITHER-BOX Purpose=DITHER Number Of Points=4 Point Spacing=0.173 Line Spacing=0.112	Coordinate Frame=POS-TARG Pattern Orientation=23.884 Angle Between Sides=81.785 Center Pattern=false		(1)

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	SDSSJ1059+4251	RA: 10 59 55.1592 (164.9798300d) Dec: +42 51 34.16 (42.85949d) Equinox: J2000		V=19.2	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1		(1) SDSSJ1059+4251	WFC3/UVIS, ACCUM, UVIS1	F606W			Pattern 1, Exps 1-1 in Visit 01 (1)	643 Secs (2572 Secs) *[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	*[1]*

Orbit Structure