

1198 - IFU spectroscopy of the host galaxies of strongly lensed quasars

Cycle: 1, Proposal Category: GTO

INVESTIGATORS

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OBSERVATIONS

Folder Observation	Label	Observing Template	Science Target
SDSS J1206			
2		NIRCam Imaging	(3) SDSS-J1206+4332
1		NIRSpec IFU Spectroscopy	(3) SDSS-J1206+4332
WFI 2033			
4		NIRCam Imaging	(4) LQAC-308-047-001
5		NIRSpec IFU Spectroscopy	(4) LQAC-308-047-001
HE 0435			
7		NIRCam Imaging	(5) HE-0435-1223
8		NIRSpec IFU Spectroscopy	(5) HE-0435-1223
PG 1115			
10		NIRCam Imaging	(6) HB89-1115+080
11		NIRSpec IFU Spectroscopy	(6) HB89-1115+080

ABSTRACT

We will study the interaction of the host spheroid and central black hole by obtaining NIRCam images and NIRSpec IFU datacubes on 4 multiply imaged QSOs and on their lens galaxies. The main purpose of these observations is to take advantage of the gravitational stretching of the host galaxy to effectively obtain spatially resolved spectroscopic data at higher rest frame angular resolution than otherwise possible. We will also obtain

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spatially resolved data on the lens galaxy. The spectroscopic data will allow us to determine abundances, abundance ratios, and kinematical information.

This version of the APT uses no target acquisition and 2 by 2 dithering with the IFU. My plan is to ultimately use WATA on suitable off-target objects and 4 point small step cycle dithering.

GTO submission IDs: STIAVELLI_0011 through 0022.

OBSERVING DESCRIPTION

We will obtain IFU data at $R\sim1000$ for 4 multiply imaged QSOs chosen to be at similar redshift (around $z\sim1.7$). Three of the QSOs are quads while one of them (J1206-4332) is a double with a quadruply lensed host galaxy. The aim of the program is to:

- 1- measure kinematics and emission line strengths of the QSO host as close to the QSO as possible. Lines within the wavelength range include [OII], [OIII], Hbeta and Halpha;
- 2- if host absorption lines in the Fe-Mgb region are detectable, measure their line strengths and derive stellar kinematical information on the host;
- 3- measure the spatially resolved stellar kinematics (velocity and velocity dispersion) of the lens galaxy using the Ca triplet lines.

For the velocity dispersion we will use synthetic templates.

Pro	posal 1	198 - Observatio	n 2 - IFU spec	troscopy of th	e host gala:	xies of strongly	lensed quasa	ırs		
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