

## VST in the era of the large sky surveys



Contribution ID: 15

Type: **not specified**

## KiDSLens: Gotta catch'em all

*Wednesday, June 6, 2018 10:05 AM (20 minutes)*

“Strong gravitational lenses are valuable systems that can provide unique insights into a large number of open issues in cosmology and extragalactic astrophysics. For instance, strong galaxy-galaxy lensing is by far the most accurate mass-measurement technique available for the central regions of massive galaxies, providing a one-shot, purely gravity-dependent measurement of the mass enclosed by the lensed images. Thus, when combined with dynamical analysis, lensing provides excellent means of investigating dark matter in galaxies.

Strong gravitational lensing is also a very effective and successful way to investigate the distant universe, thanks to the source light magnification. Lensed quasars (QSOs), especially quadruples can work as crucial cosmological tests providing firm constraints on the Hubble constant and other cosmological parameters. Unfortunately, in these mentioned cases, the biggest limitation remains the paucity of confirmed lenses.

It is for this reason that, with the KiDSLens Project, we set out to find as many as possible previously undiscovered gravitational lenses in the Kilo Degree Survey, the deepest optical imaging survey on the VST. KiDS is particularly suitable for a systematic census of strong gravitational lenses, thanks to its exceptional image quality, deep optical imaging and great spatial resolution.

In this talk I will highlight the methods and techniques to find QSOs and arcs, I will show the first candidates, as part of our pilot program and also present first results based on the first spectroscopic follow-up of arc-like systems. Finally, I will focus on a very interesting case of study: the possible discovery of the first ultra-compact massive strong gravitational lens.”

**Presenter:** SPINIELLO, C.