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Euclid space mission: a challenge devoted to the study of Cosmological Dark Energy & Dark Matter

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Euclid is the next ESA mission devoted to Cosmology. The mission is expected to be launched in year 2020 and to last six years. The on board instruments have wide field capabilities and are provided by the Euclid Consortium. The payload is hosting a visible and a near infrared camera which cover a joint field of view of half square degree.

The main scientific aim is the study of Dark Energy and Dark Matter. These will be studied over ~15000 square degrees via gravitational lensing from imaging and clustering from NIR slitless spectra.

The survey will cover most of the extragalactic sky, therefore the wealth of data data will be extremely valuable to several areas in astrophysics. Indeed, the sheer amount of data of different kinds, the variety of (un)known systematic effects and the complexity of measures require novel efforts both in simulations and techniques of data analysis.

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