



PHYSICS AND ASTRONOMY SEMINAR

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“Cosmology and More with Euclid”

Abstract

Euclid is an ESA M-class mission which has recently been selected to be launched in 2019. Its main science driver is the study of dark energy. To do so it will employ two main probes, namely weak gravitational lensing and galaxy clustering, although the project will by design a number of other studies as well. Euclid will survey 15000 square degrees with HST resolution and in many respects can be considered the $z \sim 1$ equivalent of the SDSS. Euclid will improve dark energy constraints by well over two orders of magnitude when all probes are combined. Furthermore it provides unprecedented tests of our understanding of gravity on cosmological scales, tell us more about the nature of dark matter, the initial conditions of the Universe and constrain the combined mass of the neutrinos. Finally, it will leave a legacy of deep optical and NIR data that will impact many aspects of (extra-galactic) astronomy.

Thursday, November 24, 2011

2:30 p.m.

Elliott Building

Room 160