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Constraining Modified Gravity with Euclid

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(Submitted on 27 Oct 2010)

Future proposed satellite missions as Euclid can offer the opportunity to test general relativity on cosmic scales through mapping of the galaxy weak lensing signal. In this paper we forecast the ability of these experiments to constrain modified gravity scenarios as those predicted by scalar-tensor and \$f(R)\$ theories. We found that Euclid will improve constraints expected from the PLANCK satellite on these modified gravity models by two orders of magnitude. We discuss parameter degeneracies and the possible biases introduced by modified gravity.

Subjects: Cosmology and Extragalactic Astrophysics (astro-ph.CO); High

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