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Fabian Schmidt (MPA Garching) IR modifications of gravity in Cosmology

Abstract

Infrared (large-scale) modifications of General Relativity have attracted significant interest over the past decade - both as a possible explanation for the observed accelerated expansion of the universe, and for fundamental reasons, i.e. the search for a viable nonlinear theory of massive gravitons. The natural testing ground for such models is cosmology. I will review their phenomenology in cosmology, focusing on the most prominent effects in the large-scale structure as well as the nonlinear screening mechanisms generally present in such models. I will also describe the constraints that have already been placed using observational data.