

In this work we extend the perturbation theory for modified gravity (MG) in two main aspects. First, the construction of matter overdensities from Lagrangian displacement fields is shown to hold in a general framework, allowing us to find Standard Perturbation Theory (SPT) kernels from known Lagrangian Perturbation Theory (LPT) kernels. We then develop a theory of biased tracers for generalized cosmologies, extending already existing formalisms for Λ CDM. We present the correlation function in Convolution-LPT and the power spectrum in SPT for Λ CDM, $f(R)$ Hu-Sawicky, and DGP braneworld models. Our formalism can be applied to many generalized cosmologies and to facilitate it, we are making public a code to compute these statistics. We further study the relaxation of bias with the use of a simple model and of excursion set theory, showing that in general the bias parameters have smaller values in MG than in General Relativity.