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Non-linear perturbations in the Galileon Ghost Condensate model

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Although the LCDM model is very successful in explaining current cosmological observations, in light of numerous tensions between data and theory, it is worth investigating the evolution of perturbations in alternative models, especially in the non-linear regime, where future surveys will provide a wealth of data. In this talk I will derive the relevant equations necessary to describe matter perturbations within the spherical collapse model for the Galileon Ghost Condensate, which extends the well known cubic covariant Galileon. I will show how the mass function is affected by the different evolution of perturbations and present a simple recipe which maps the linear matter power spectrum to the non-linear one. I will also extend the analysis to discuss the lensing convergence.

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