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Relativistic and PNG contributions to initial conditions of N-body simulations

We implement relativistic corrections to the evolutions of dark matter structures in Newtonian simulations of a LCDM universe via the initial conditions. We show how fNL and gNL contributions can be introduced consistently in the same fashion. We implement such corrections to the L-PICOLA code and compute the power spectrum and bispectrum of the evolved matter field. Our results confirm that both relativistic and PNG features are the most prominent at very large scales and for squeezed triangulations.

Primary author:ENRIQUEZ, MiguelPresenter:ENRIQUEZ, MiguelSession Classification:Poster session