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Higher-order massive neutrino perturbations in large-scale structure

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I will present a new first principle approach for higher order perturbation theory for massive neutrinos in large scale structure. The approach is based on a non-linear generalization of Gilbert's equation.

Combined with standard perturbation theory, it allows to calculate N-point statistics of density perturbations in mixed cold+hot dark matter cosmologies.

I apply the theory to compute the leading order bispectrum and use it as benchmark to test the validity of some simple approximations schemes.

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