

Galaxy Clustering Beyond the Power Spectrum

Wednesday, November 9, 2022 10:00 AM (1 hour)

The 2-point Correlation Function and its Fourier-space counterpart, the Power Spectrum play a major role in the analysis of spectroscopic galaxy surveys. Yet, they do not describe the full statistical properties of cosmological perturbations at low redshift, a highly non-Gaussian random field. Non-Gaussian properties are quantified by higher-order correlation functions such as the galaxy bispectrum, an observable measured and analysed already in the earliest data-sets, that is now enjoying a renewed interest as a way to more fully exploit the cosmological information in current galaxy surveys. I will briefly review the current state-of-the-art of the power spectrum and bispectrum theoretical modelling and data analysis before presenting what we expect for the future, with a specific attention to the preparation for the Euclid mission.

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