

Consistent Clustering Analysis in Configuration and Fourier Space

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Understanding the large-scale distribution of galaxies often relies on two-point statistics—either the configuration-space two-point correlation function or its Fourier-space counterpart, the power spectrum. Although these measures are theoretically equivalent, practical estimates can lead to subtle differences that impacts the cosmological interpretation of the results.

In this talk, I will present a comparison of clustering statistics derived from both Fourier and configuration spaces within a full-shape analysis framework. I will explore their methodological similarities and differences and discuss the implications for cosmological modeling and parameter estimation.

Furthermore, I will share results from a joint likelihood analysis that combines both approaches. This analysis leverages a theoretically motivated covariance model and advanced denoising techniques to enhance the robustness and accuracy of the inferred cosmological parameters.

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