Intepretable and higher-order statistics for late-time cosmology



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## Analysing the PDF of density fluctuations - can it work in real data?

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Key analyses of the cosmic large-scale structure only capture the "scale-dimension" of the cosmic web: they measure the variance of fluctuations as a function of scale. A powerful way to complement this vast compression of data is to add the "density-dimension": at a fix smoothing scale one can analyse the entire shape of the probability density function (PDF) of density fluctuations (cf. Cora Uhlemann's talk). I will give an overview on a number of efforts ( arxiv.org/abs/1710.05162 ; arxiv.org/abs/1912.06621 ; arxiv.org/abs/2107.02300 ; and more) that have helped PDF-analyses to catch up with 2-point functions, and I will discuss how to employ these techniques in real data.

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