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

*Thursday, June 30, 2022 2:00 PM (1 hour)*

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](https://arxiv.org/abs/1710.05162) ; [arxiv.org/abs/1912.06621](https://arxiv.org/abs/1912.06621) ; [arxiv.org/abs/2107.02300](https://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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