

A new vocabulary for textures and its astronomical applications

Friday, 28 May 2021 13:50 (5 minutes)

Textures and patterns are ubiquitous in imaging data but challenging for quantitative analysis. I will present a new tool, called the “scattering transform”. It borrows ideas from convolutional neural nets while sharing advantages of traditional statistical estimators. As an example, I will show its application to cosmic density maps for cosmological parameter inference and show that it outperforms classic statistics. It is a powerful new approach in astrophysics and beyond.

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