

Generative models and component separation with Scattering Transforms

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Scattering Transforms are a type of summary statistics developed for the study of highly non-Gaussian processes. These statistics can be used to build generative models of data, and even to develop new component separation techniques. In this seminar, I will first give a general introduction to these tools. Then, I will show how they can be used for generative models of physical fields, with examples on various data formats (2D planar or spherical maps, 3D data). Finally, I will show an example of component separation between galactic dust emission and the cosmic infrared background using Scattering Transforms.

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