Contribution ID: **11** Type: **not specified**

# Knowledge-Driven Generative Models for Fields

*Tuesday, 27 February 2024 14:15 (45 minutes)*

Many scientific and technological applications require knowledge of physical fields that are functions over continuous spaces. Here, we demonstrate how to construct flexible generative models for fields that incorporate domain knowledge and do not require any previous training. We also show how the actual field configuration and its uncertainty can be inferred from the data using the Numerical Information Field Theory (NIFTy) package.
The versatility of NIFTy is demonstrated in a number of astrophysical applications, ranging from spatio-spectral sky imaging, to 3D galactic tomography, to movies of black hole environments.

**Primary author:** EBERLE, Vincent

**Presenter:** EBERLE, Vincent