

NIFTY: Numerical information field theory

Tuesday 19 November 2013 11:00 (1h 30m)

This Tutorial introduces NIFTY, “Numerical Information Field Theory”, which allows a user an abstract formulation and programming of SIGNAL inference AND IMAGE RECONSTRUCTION algorithms. NIFTY is a versatile Python library designed to enable the development of signal inference algorithms that operate regardless of the underlying spatial grid and its resolution. The Tutorial covers the simulation of mock data from Gaussian random processes and a Wiener filter reconstruction of the underlying signal field from this data set. Using NIFTY, this filter can be applied on a variety of spaces; e.g., point sets, n-dimensional regular grids, spherical spaces, their harmonic counterparts, and product spaces constructed as combinations of those.

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