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*Estimating the spectral density of a function-valued spatial process*

Function-valued spatial data have become increasingly common in applications. Modeling and inferring dependence of such data is a fundamental challenge in this emerging field. In this talk, we consider the notion of stationarity and the estimation of the spectral density function in the functional setting. As is common in spatial statistics, the process is assumed to be observed at irregularly-spaced spatial locations. We propose a lag-window estimator and present its asymptotic properties, including optimality results assuming that the spectral density belongs to a certain class of functions.