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12. Probability and Statistics

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Nonparametric estimation for stochastic partial differential equations

Stochastic partial differential equations are used to describe complex physical systems. It may be necessary to estimate constant or nonconstant parameters in such systems.

To estimate the nonconstant coefficients of the differential operators in the stochastic partial differential equations, an increasing sequence of finite dimensional subspaces of the parameter space (sieves) is constructed on whihc the likelhood function is maximized. The asymptotic properties of the resulting estimators are discussed.