Populations of Models for Stochastic Differential Equations

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Abstract

The Populations of Models technique is a new modelling approach in which the inherent variability in dynamical processes can be captured by generating sets of parameter values for a given mathematical model that have been successfully calibrated against experimental data and observations. The construction of the population is via Latin Hypercube or Orthogonal Sampling [1, 2]. In this presentation we show how these ideas can be applied to building Populations of Models based on a stochastic mathematical model. We illustrate these ideas by considering several stochastic differential equation models and give some probabilistic interpretation of forward prediction.

References


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