

Invariant manifolds for random dynamical system

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Abstract

One term describing the long-time behavior of dynamical systems are invariant manifolds. In our talk we will introduce invariant manifold for dynamical systems under random perturbations called random dynamical systems. We will describe special forms of these manifolds like global/local stable and unstable manifolds or inertial manifolds for parabolic or hyperbolic stochastic differential equations. In addition, we will use these techniques to study random multi-scale problems.