Invariant Manifolds for Products of Random Diffeomorphisms

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Abstract

This paper is concerned with the construction of invariant families of submanifolds for products of random diffeomorphisms on a compact Riemannian manifold. These submanifolds can be obtained for almost arbitrary parameters disjoint from the Lyapunov spectrum of the resulting cocycle. Local measurable families are constructed and the globalization problem is discussed. We present a globalization result for generalized stable and unstable manifolds.

Key Words: Invariant manifolds, random diffeomorphisms, Lyapunov exponents, ergodic theory.

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