Synchronization by noise for order-preserving random dynamical systems

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Abstract

We present recent results on weak synchronization by noise for order-preserving random dynamical systems on Polish spaces. That is, under these conditions we prove the existence of a weak point attractor consisting of a single random point. This generalizes previous results in two directions: First, we do not restrict to Banach spaces and second, we do not require the partial order to be admissible nor normal. As a second main result and application we present weak synchronization by noise for stochastic porous media equations with additive noise. This is joint work with Franco Flandoli and Michael Scheutzow.

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