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A coupling approach in the computation of geometric ergodicity for stochastic dynamics

This talk introduces a probabilistic approach to numerically compute geometric convergence rates in discrete or continuous stochastic systems. Choosing appropriate coupling mechanisms and combining them together, this approach works well in many settings, especially in high-dimensions. It is particularly observed that the rate of geometric ergodicity of a randomly perturbed system can, to some extent, reveal the degree of chaoticity of the unperturbed system. This talk is based on a joint work with Yao Li.