



Workshop on Stochastic Analysis

IMECC - Unicamp

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On the moderate interactions model with common noise

Abstract

In a recent work, we derived quantitative estimates for stochastic systems of particles moderately interacting via singular kernels and perturbed by both idiosyncratic and environmental noises. However, the employed techniques required the environment noise to be only additive, leaving the multiplicative case to further analysis. I will present the main tools used in the framework of moderate interactions, such as commutator estimates and Ito formula for the norm of a H_q^1 valued process, and then show the obstacles that prevent us from proving propagation of chaos for multiplicative noise in this setting. Joint works with C. Olivera and A. de Souza.