

Regularization by noise in ordinary and partial differential equations

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Resumo/Abstract:

In this mini course we present the new advances in the theory of stochastic differential equations. We discuss existence and uniqueness of SDEs with non-degenerate additive diffusion and singular drift. It would be of great interest to discuss perturbation of several qualitative properties and objects (like asymptotic behavior, soliton and other special solutions, and so on), we will concentrate only on the fundamental issue of well posedness. We also present the effect of the noise in some partial differential equations.

Pré-requisitos: notions of stochastic process, functional analysis.