Zhen WU

Shandong University- Jinan

Title:
Backward Stochastic Differential Equations with Markov Chains and The Application: Homogenization of Systems of Partial Differential Equations

Zhen WU
School of mathematics, Shandong University, Jinan 250100, China
(joint with Dr. Huaibin Tang, INRIA-IRISA, Campus de Beaulieu, 35042 Rennes Cedex, France)

Abstract:
Motivated by a stochastic linear-quadratic (LQ in short) control problem with Markov jumps, we consider one kind of backward stochastic differential equations (BSDEs in short) where the coefficient f is affected by a Markovian switching in this talk. Then we study the weak convergence of BSDEs with a singular-perturbed Markov chain which is involved in a large state space. At last, as an application of our results, we show the homogenization of one system of partial differential equation (PDE in short).