

Convergence of a Finite-Volume scheme for a heat equation with multiplicative noise

jeudi 26 octobre 2023 16:00 (1 heure)

In this talk we will focus on the finite volume approximation of the heat equation with a continuous Lipschitz multiplicative noise. The aim is to prove the convergence of the numerical scheme to the unique variational solution of the continuous problem.

To this end, we adapt the method based on Prokhorov's theorem to obtain a first convergence result, then Skorokhod's representation theorem is used to obtain convergence of the scheme to a martingale solution. Finally, the Gyöngy-Krylov argument is used to prove convergence in probability to the unique variational solution of our problem.

This work was carried out in collaboration with C. Bauzet, K. Schmitz and A. Zimmermann.

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