Einladung zum Oberseminar Wissenschaftliches Rechnen

Julius-Maximilians-Universität Würzburg
Lehrstuhl für Wissenschaftliches Rechnen IX

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Controlling a generalized Fokker-Planck equation via inputs with nonlocal action

This paper concerns an optimal control problem (P) related to a generalized Fokker-Planck equation. Basic properties of the solutions to the generalized FP equation are derived via a semigroup approach in the space $H^{-1}(R^d)$. Problem (P) is proven to be deeply related to a stochastic optimal control problem (PS) for a McKean-Vlasov equation. The existence of an optimal control is obtained for the deterministic problem (P). The existence of an optimal control is established for an approximatting optimal control problem (Ph) related to a backward Euler approximation of the generalized FP equation (with a constant discretization step h). One proves under additional hypotheses that "(Ph) converges to (P)" in a certain sense. First order necessary conditions for (Ph) are derived as well.

Ort: Raum 30.02.003 (Mathematik West, 2.Stock) Zeit: Mittwoch, 6.12.2023, 12:00Uhr

Zu diesem Vortrag laden wir Sie herzlich ein.
You are cordially invited to this lecture.

gez. Prof. Dr. Alfio Borzì
gez. Prof. Dr. Frank Werner