

Seminário de sistemas dinâmicos e estocásticos

IMECC - UNICAMP

Título: Penalized Stochastic Optimal Control Problems.

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Resumo:

In this talk the construction of weakly constrained diffusion processes that minimize a given cost function by means of penalized methods is presented. Weakly constrained diffusion processes feature a particular class of stochastic processes whose distribution undergoes some given restriction, and which have been previously studied in some particular setting. For the approximation of such diffusion processes, we introduce a stochastic optimal control problem involving a penalized approximation of the weak constraint. The solvability of this control problem yields to a McKean-Vlasov dynamic requiring the combination of stochastic analysis, controlled diffusion and the theory of optimal transport.