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Optimal Control for Absolutely Continuous Stochastic Processes and the Mass Transportation Problem

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Abstract

We study the optimal control problem for R^d-valued absolutely continuous stochastic processes with given marginal distributions at every time. When $d=1$, we show the existence and the uniqueness of a minimizer which is a function of a time and an initial point. When $d>1$, we show that a minimizer exists and that minimizers satisfy the same ordinary differential equation.

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