Martingale Benamou-Brenier

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06 December 2023, 17:15–18:15* Berlin time
IRTG 2544: "Stochastic Analysis in Interaction"
— Berlin Probability Colloquium —

Abstract

In classical optimal transport, the contributions of Benamou-Brenier and McCann regarding the time-dependent version of the problem are cornerstones of the field and form the basis for a variety of applications in other mathematical areas.

Stretched Brownian motion provides an analogue for the martingale version of this problem. We provide a characterization in terms of gradients of convex functions, similar to the characterization of optimizers in the classical transport problem for quadratic distance cost.

Based on joint work with Julio Backhoff-Veraguas, Walter Schachermayer and Bertram Tschiderer.

*Punctual, i.e. sine tempore!