



Universität Hamburg
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FAKULTÄT
FÜR MATHEMATIK, INFORMATIK
UND NATURWISSENSCHAFTEN

Fachbereich Mathematik

Kolloquium über Mathematische Statistik und Stochastische Prozesse

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24.11.2020, 16:15 Uhr, Digital

A particle model for Wasserstein type diffusion

In the talk, we will discuss an interacting particle system on the real line obtained as a physical improvement of the classical Arratia flow (the system of coalescing Brownian particles). In our case, the Brownian particles transfer a mass that influences their motion. I will show that the associated measure-valued process solves a corrected Dean-Kawasaki equation and its short time asymptotic is governed by the Varadhan formula with the quadratic Wasserstein distance. This allows the process to be considered as a good candidate for the Brownian motion on the Wasserstein space of probability measure on the real line.

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