

Entropic Measure and Wasserstein Diffusion of Probability Measures on the Unit Interval

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This is a report on recent results obtained jointly with K-T Sturm (Bonn). We construct a diffusion process on the space of probability measures on the unit interval by Dirichlet form methods. For this we construct a Gibbs type invariant measure with the Boltzmann entropy function as Hamiltonian. We show an integration by parts formula for this measure and demonstrate, that choosing the appropriate notion of a gradient, the intrinsic metric of the process is the quadratic Wasserstein distance.