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Exponential Convergence of Parabolic Optimal Transport on Bounded Domains

I will speak about joint work with Jun Kitagawa on the asymptotic behavior of solutions to a parabolic version of the optimal mass transport problem. Our main result is an exponential rate of convergence for solutions of the evolution equation to the stationary solution of the optimal transport problem. The key ingredient we use is a global differential Harnack inequality for a special class of functions that solve the linearized problem. I will discuss the proof of this differential Harnack inequality in the case of domains with boundary, and show how it implies the desired exponential convergence result.