

STEIN KERNELS, OPTIMAL TRANSPORT AND THE CLT

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Stein kernels are a way of measuring distances between probability measures, defined via integration by parts formulas. I will present a connection between these kernels and optimal transport. The main result is a way of deriving rates of convergence in the classical central limit theorem using regularity estimates for a variant of the Monge-Ampere PDE. As an application, we obtain new rates of convergence for the multi-dimensional CLT, with explicit dependence on the dimension.