Sören Bartels[*]

joint work with

Patrick Schoen[*]

[*]Abteilung für Angewandte Mathematik, Albert-Ludwigs-Universität Freiburg, Germany

ADAPTIVE APPROXIMATION OF THE MONGE-KANTOROVICH PROBLEM

Optimal transportation problems define high-dimensional linear programs. An efficient approach to their numerical solution is based on reformulations as nonlinear partial differential equations. If transportation cost is proportional to distance this leads to the Monge–Kantorovich problem which is a constrained minimization problem on Lipschitz continuous functions. We discuss the iterative solution via splitting methods and devise an adaptive mesh refinement strategy based on an a posteriori error estimate for the primal-dual gap.