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Optimal transportation and evolution problems in spaces of probability measures

Abstract: In the last years the theory of optimal mass transportation has been successfully applied in the study of geometric/functional inequalities, Riemannian geometry, optimization, partial differential equations. I will review some of the most recent progresses in this wide field, focussing in particular on the problem of existence of optimal transport maps and the applications of the optimal transport theory to evolution problems in the space of probability measures with a gradient flow structure.