

# On the Monge-Ampere type equations arising in optimal transport.

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The problem of optimal transportation is to find an optimal map that pushes masses from one location to another, where the optimality depends upon the context of the problem. These types of problems appear in several forms and in various areas of mathematics and its applications: economics, probability theory, optimization, meteorology, and computer graphics. The objective in this talk is to study a fully nonlinear pde of Monge-Ampere type arising in the problem of optimal transport for general cost functions and prove the solvability of the Dirichlet problem for this equation. As an introduction I will present a general description of this area of research.