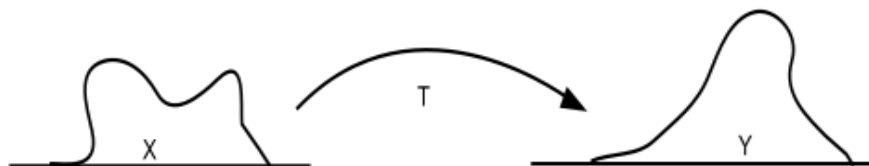


UNIVERSITY BONN
Institute for Applied Mathematics
Dr. Eva Kopfer, Prof. Dr. Karl-Theodor Sturm

Preliminary meeting of Seminar S4F2 in WS 2019/2020

Optimal Transport and Geometric Analysis



The problem of optimal transport has been introduced by Gaspard Monge in the year 1781. In modern language this involves the question of the existence of a map $T: \mathbb{R}^n \rightarrow \mathbb{R}^n$, which maps two measures μ and ν to each other via the so-called push forward $T_{\#}\mu = \nu$, and which minimizes the transport cost $\int c(x, T(x)) d\mu(x)$. It took almost 200 years to find a mathematically satisfying answer to this problem. Since then the developed tools and concepts have found many applications in the theory of partial differential equations, geometry, and dynamic systems.

The seminar gives an introduction to the problem and considers applications like gradient flows and geometry of singular spaces.

Prerequisites

Probability theory

Preliminary meeting

Thursday, 10.10.2019, 2:15 pm in seminar room 1.007 in Endenicher Allee 60.

References

Luigi Ambrosio and Nicola Gigli: A user's guide to optimal transport
Filippo Santambrogio: Optimal transport for Applied Mathematicians
Cédric Villani: Topics in optimal transport

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