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Michael Goldman: On recent progress on the optimal matching problem

mardi 30 mai 2023 11:10 (45 minutes)

In this talk I will present some recent progress in the understanding of the optimal matching problem. Since it is one of the simplest (random) combinatorial problem and because of its numerous connections to theoretical physics, computer sciences and of course probability theory, this problem has attracted a lot of attention from various communities. One of the most striking properties of this problem is the unexpected logarithmic divergence of the average matching cost in dimension 2. This was first understood by Ajtai Komlos and Tusnady in the 80's. Recently, based on the optimal transport formulation of the problem, Caracciolo and al. proposed a PDE ansatz which lead to a renewed interest in the problem. I will give an overview of what is currently known and what is still open in this field.

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