

What Does Perturbative Field Theory Teaches Us on the Statistical Properties of Monge-Kantorovich Optimal Transportation in Dimension 2?

jeudi 16 novembre 2023 12:05 (45 minutes)

We all know that Feynman diagrams and integrals describe quantities in Particle Physics, and, sometimes, in Statistical Mechanics. We also know that, in these circumstances, we have to learn how to "deal with infinities", and regularise certain divergences. It may appear more surprising that the same ideas apply to this famous old problem in Functional Analysis, and also the same pathologies do arise. But at least, in this case, we see more clearly where they come from. The precise content of the talk is still to be determined, but the message shall be twofold: on one side, we get results on the Optimal Transportation Problem in itself; on the other side, we learn a lesson on why a more naive approach does fail, while a more accurate approach allows to cure the apparent divergences, which could be of general interest.

Orateur: Prof. SPORTIELLO, Andrea (LIPN, Université Paris Nord)