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## Liran Rotem: A Brunn-Minkowski inequality for the KL-divergence

mercredi 31 mai 2023 16:10 (45 minutes)

It is well known that there are curious analogies between convex geometry and information theory. In particular, inequalities about entropy of random variables correspond to Brunn—Minkowski type inequalities about volumes of convex bodies.

In this talk we will discuss displacement concavity of entropy-like functionals, i.e. concavity with respect to geodesics in Wasserstein space. We will mention known results which are analogous to (and even imply) the standard Brunn—Minkowski inequality and Borell's theorem on log-concave measures. We will then explain how such inequalities can improve when the involved measures are centrally symmetric, and present a new inequality which corresponds to the newly discovered dimensional Gaussian Brunn—Minkowski inequality.

Based on joint work with Gautam Aishwarya

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