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Nathael Gozlan: Transport-Entropy forms of direct and reverse Santalo type inequalities

Thursday, June 1, 2023 11:10 AM (45 minutes)

In this talk, we will present new equivalent formulations of direct and converse Santalo inequalities involving the relative entropy functional and various optimal transport costs. We will explore this connection on various model probability spaces. We will see in particular that the Mahler conjecture for the volume product of convex bodies is equivalent to sharp bounds on the deficit in the logarithmic Sobolev inequality for the Gaussian measure or for the uniform probability measure on the unit Euclidean sphere. Based on joint works with Matthieu Fradelizi, Shay Sadowsky and Simon Zugmeyer.

Presenter: GOZLAN, Nathael