

THE LOOMIS-WHITNEY INEQUALITY

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ABSTRACT. The Loomis-Whitney inequality, in spite of its simplicity, is one of the most natural and powerful inequalities of geometric type. It gives a sharp upper estimate of the measure of a Borel set in \mathbb{R}^n , in terms of the $(n-1)$ -contents of its orthogonal projections on the coordinate hyperplanes. I will present a functional generalisation of the Loomis-Whitney inequality and its proof via optimal transport.

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