ANTEGEFI- Analytic techniques for geometric and functional inequalities
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Isoperimetric and Sobolev inequalities are the best known examples of geometric-functional inequalities. In recent years the PI and collaborators have obtained new and sharp quantitative versions of these and other important related inequalities. These results have been obtained by the combined use of classical symmetrization methods, new tools coming from mass transportation theory, deep geometric measure tools and ad hoc symmetrizations. The objective of this project is to further develop thes techniques in order to get: sharp quantitative versions of Faber-Krahn inequality, Gaussian isoperimetric inequality, Brunn-Minkowski inequality, Poincaré and Sobolev logarithm inequalities; sharp decay rates for the quantitative Sobolev inequalities and Polya-Szegö inequality.

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