JM00 The Józef Marcinkiewicz
Centenary Conference

The geometry of convolution inequalities

Michele Ledoux

Université de Toulouse, Université Paul-Sabatier
Toulouse, France

The Brascamp–Lieb inequalities for multiple integrals describe versions of the Hölder inequality in directions of the Euclidean space. Established first by symmetrisation, optimisation of Gaussian kernels or optimal transportation, recent developments by E. Carlen, E. Lieb, M. Loss and J. Bennett, A. Carbery, M. Christ, T. Tao put forward a new approach by evolution along the heat equation. In particular, this proof relies on suitable geometric decompositions of the identity, covering some famous convolution inequalities in Harmonic Analysis with their best constants.

Organizers: