On a quantitative isoperimetric inequality

Gisella Croce (Le Havre)

Abstract. The subject of this talk is the following quantitative isoperimetric inequality in the plane

$$[\lambda_0(\Omega)]^2 \leq C\delta(\Omega)\,, \quad \Omega \subset \mathbb{R}^2\,,$$

where δ is the isoperimetric deficit and λ_0 is the barycentric asymmetry introduced by Fuglede in 1993. The latter quantity measures the symmetric difference between Ω and the ball of same measure centered in the barycenter of Ω.