



## 复旦大学数学科学学院 数学综合报告会

报告题目: On the quantitative isoperimetric inequality in the plane

报告人: Professor Gisella Croce (Laboratoire de Mathematiques Appliquees du Havre)

时间: 2022-05-19 星期四 21:00 - 22:00

地点: ZOOM Id: 836 7313 8944, Passcode: 808818

报告摘要:

In this talk I will present two quantitative versions of the isoperimetric inequality in the plane. In the first part we will treat the minimization of  $\delta(\Omega)/\lambda^2(\Omega)$ , where  $\delta(\Omega)$  is the isoperimetric deficit and  $\lambda(\Omega)$  is the Fraenkel asymmetry. This latter quantity is the minimum, over the balls of same measure as  $\Omega$ , of the area of the symmetric difference between  $\Omega$  and a ball. I will prove the existence of an optimal set.

In the second part of the talk we will consider  $\lambda_G(\Omega)$ , instead of the Fraenkel asymmetry, which is the area of the symmetric difference between  $\Omega$  and the ball of same area centered in the barycenter of  $\Omega$ . In this case, I will prove the existence of an optimal set among the convex sets. The results that will be presented are joint with C. Bianchini and A. Henrot.



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