AN EXISTENCE RESULT FOR A QUANTITATIVE ISOPERIMETRIC INEQUALITY WITH THE HAUSDORFF DISTANCE

SILVIO BOVE

ABSTRACT. Quantitative isoperimetrc inequalities are stability results of the ball as the solution of the isoperimetric inequality. In the last years much attention has been devoted to the estimation of the best constants for such type of inequalities and on its attainment by a given set. In the literature several results deal mostly with the quantitative isoperimetric inequality involving the Fraenkel asymmetry or the barycentric distance in the plane. Here we are interested in a similar question for Bonnesen's type inequalities, i.e. quantitative inequalities involving the Hausdorff asymmetry in any dimension. We prove the existence of an optimal set within various classes of competitors where the validity of the inequality is known to be true.

This is a joint work with G. Croce and G. Pisante.

(S. Bove) LABORATOIRE DE MATHÉMATIQUES RAPHAËL SALEM, UFR DES SCIENCES ET TECHNIQUES, UNIVERSITÉ DE ROUEN NORMANDIE, AVENUE DE L'UNIVERSITÉ, BP.12, 76801 SAINT-ÉTIENNE-DU-ROUVRAY, FRANCE

Email address: silvio.bove@univ-rouen.fr