Strengthened inequalities for the mean width

Ferenc Fodor

University of Szeged

`fodorf@math.u-szeged.hu`

According to a result of Barthe the regular simplex maximizes the mean width of convex bodies whose John ellipsoid is the Euclidean unit ball. The reverse statement that the regular simplex minimizes the mean width of convex bodies whose Löwner ellipsoid is the Euclidean unit ball is also true as proved by Schmuckenschläger. In this talk we prove strengthened stability versions of these theorems and also some related stability statements for the convex hull of the support of centered isotropic measures on the sphere. This is joint work with Károly J. Böröczky (Budapest, Hungary) and Daniel Hug (Karlsruhe, Germany).