Borderline Sobolev inequalities after Bourgain-Brezis and Applications

Sagun Chanillo

Rutgers University
E-mail:**chanillo@math.rutgers.edu**

Abstract

This is joint work with J. Van Schaftingen and Po-lam Yung. We consider borderline Sobolev inequalities of a type first proved by Bourgain and Brezis on Euclidean space. We consider versions of this inequality on Symmetric spaces of non-compact type. We also give applications of this inequality to incompressible 2D Navier-Stokes flow and to the Maxwell equations for electromagnetism.