A minicourse on Harmonic measure and Rectifiability

J. M. Martell

Abstract

Solving the Dirichlet boundary value problem for an elliptic operator amounts to study the good properties of the associated elliptic measure. In the context of domains having an Ahlfors regular boundary and satisfying the so-called interior corkscrew and Harnack chain conditions (these are respectively scale-invariant/quantitative versions of openness and path-connectivity) we will show that for the class of Kenig-Pipher uniformly elliptic operators the solvability of the L^p -Dirichlet problem with some finite p is equivalent to the uniform rectifiability of the boundary.

Joint work with S. Hofmann, S. Mayboroda, T. Toro, and Z. Zhao.