

Akman, Murat (ICMAT, Spain)

Hausdorff dimension of p -harmonic measure

Abstract: In this talk we present a recent result in the study of the Hausdorff dimension of p -harmonic measure in space associated to a positive weak solution to p -Laplace equation in an open subset and vanishing on a portion of the boundary of that open set. We show that p -harmonic measure is concentrated on a set of σ -finite $n - 1$ dimensional Hausdorff measure for $p > n$ and the same result holds for $p = n$ with an assumption on the boundary. We also construct an example of a domain in space for which corresponding p -harmonic measure has Hausdorff dimension strictly less than $n - 1$ for $p \geq n$.