

1116-31-2755

Lucio M.G. Prado* (lprado@gradcenter.cuny.edu), Department of Mathematics, BMCC, The City University of New York, New York, NY - 10007, New York, NY 10007. ***Poisson Equation for p -Laplacian on Infinite Graphs and Existence of Solution.***

The aim of this talk is to present concepts and techniques from p -potential theory on Riemannian manifolds adapted to *infinite graphs*. We investigated p -Laplacian Poisson equation on a connected locally finite simplicial graph G with vertex set V . The principal tool will be p -capacity that allow us to classify the infinite graphs regarding p -hyperbolicity/ p -parabolicity, under determined condition in terms of p . With p -hyperbolicity/ p -parabolicity, we examine the conditions under which the existence of solution of the Poisson equation on p -Dirichlet space can be determined. Finally, if time permits, examples will be presented.

(Received September 22, 2015)