Operators of $p$ Laplace Type: Estimates for Solutions Vanishing on Lower Dimensional Sets

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In this talk I will first review work with Kaj Nyström concerning boundary Harnack inequalities, the Martin boundary problem, and boundary regularity for non-negative solutions to equations of $p$-Laplace type in domains whose boundaries are Lipschitz or sufficiently flat in the sense of Reifenberg. After that I will discuss work in progress with Nyström concerning boundary Harnack inequalities, the Martin boundary problem, and boundary regularity for non-negative solutions to equations of $p$-Laplace type vanishing on codimension $> 1$ Reifenberg flat sets in Euclidean $n$ space for certain values of $p$. The novelty of our work is that more traditional boundary value problems (e.g., boundary value problems for the Laplace operator) require that the boundary have a certain fatness in order that a solution exist.