## Absolute continuity of harmonic measure for lower dimensional boundaries

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The talk is based on the joint work with Joseph Feneuil, Max Englestein, and Svitlana Mayboroda

Let  $E \subset \mathbf{R}^n$  be an Ahlfors-regular set of dimension d, with d < n - 1. We consider degenerate elliptic operators  $L = \operatorname{div} D^{-n+d+1} \nabla$ , where D is a smooth function on  $\Omega = \mathbf{R}^n \setminus E$  which is comparable to the distance to E. With this choice of exponent, it is possible to solve the Dirichlet problem and define on Ea hamonic measure  $\omega_L$  relative to L, with nice basic properties. Then we want to investigate which regularity properties of E and D imply that  $\omega_L$  and the restriction to E of the d-dimensional Hausdorff measure are mutually absolutely continuous. Here we whell discuss some sufficient conditions, starting with a version of Dahlberg's theorem (in codimension 1).