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Title of the talk

Regularity of the boundary vs approximation of the Green function for elliptic operators

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Abstract

We consider elliptic operators $L = -\mathrm{div} A\nabla$ on a domain $\Omega \subset \mathbb{R}^n$. We would like to characterize the regularity (uniform rectifiability) of the boundary $\partial\Omega$ in terms of properties of solutions of $Lu = 0$. A very good example is, in terms of the absolute continuity of the elliptic measure for L with respect to the natural measure $\mathcal{H}^d_{|\partial\Omega}$, but in this lecture we want to suggest approximation properties of the Green function G^∞ by distance functions. Such properties may be easier to handle when $\partial\Omega$ has co-dimensions other than 1.