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Boundary and asymptotic behavior of L-harmonic functions in non-smooth domains

ABSTRACT:

We consider solutions of second order elliptic and parabolic equations with measurable coefficients Lu=0 in the divergence or non-divergence form. For Lipschitz domains, it is known that positive solutions, which vanish on a portion of the boundary, have same rate of decay. We extend this result to John domains, i.e. domains satisfying a twisted interior cone condition. No assumptions on the complement of domains are imposed. In the case of harmonic functions, our approach is elementary and is based on the mean value theorem.