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*Quasi-linear PDEs and low-dimensional sets*

**Abstract:** In this talk I will discuss new results concerning boundary Harnack inequalities and the Martin boundary problem, for non-negative solutions to equations of  $p$ -Laplace type with variable coefficients. The key novelty is that we consider solutions which vanish only on a low-dimensional set  $\Sigma$  in  $\mathbb{R}^n$  and this is different compared to the more traditional setting of boundary value problems set in the geometrical situation of a bounded domain in  $\mathbb{R}^n$  having a boundary with (Hausdorff) dimension in the range  $[n-1, n)$ . We establish our quantitative and scale-invariant estimates in the context of low-dimensional Reifenberg flat sets. This is joint work with John Lewis.