

QUASICONFORMAL MAPS, ANALYTIC CAPACITY, AND NONLINEAR POTENTIALS

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In this talk we will see that if E is a subset of the complex plane which is not removable for K -quasiconformal maps, then the Riesz capacity $C_{a,p}$ of E with indices $a = 2K/(2K + 1)$, $p = (2K + 1)/(K + 1)$ must be positive. This sharpens a previous result of Astala, Clop, Mateu, Orobitg and Uriarte-Tuero which asserts that E must have non sigma-finite Hausdorff measure of dimension $2/(K + 1)$. The indices a , p , above are sharp. We will try to explain some of the ideas involved in the proof. (Joint work with Uriarte-Tuero.)