VARIATION AND OSCILLATION OF THE CAUCHY AND RIESZ TRANSFORMS ON LIPSCHITZ GRAPHS

In this talk I will explain a recent joint work with Albert Mas, where we have proved that the q-variation and oscillation of the Cauchy transform on Lipschitz graphs is bounded in L^p, for $1 < p < \infty$ and $q > 2$. The analogous result holds for n-dimensional Riesz transforms on n-dimensional Lipschitz graphs, as well as for other singular integrals with odd kernel. This strengthens the classical theorem on the L^p boundedness of the Cauchy transforms on Lipschitz graphs by Coifman, McIntosh, and Meyer.