

Fredholm Properties for Some Nonvariational Layer Potentials on Lipschitz Boundaries

Greg Verchota
Syracuse University

Harmonic functions of two variables that nontangentially have square integrable gradient and have nonnegative oblique derivative a.e. with respect to a continuous vector field are shown to be constant. Similar results in higher dimensions if the field is Holder. Explicit counter examples for $p < 2$ integrability. Certain potentials of A. P. Calderon are then good substitutes for classical potentials when $p = 2$.