ERIC SCHIPPERS, University of Manitoba

Transmission of harmonic functions of finite Dirichlet norm

Consider a Jordan curve in the Riemann sphere. A harmonic function with finite Dirichlet norm on the interior of the curve has non-tangential limits in a certain sense except on a negligible set. If the Jordan curve is sufficiently regular, these are also the boundary values of a harmonic function of bounded Dirichlet norm on the exterior of the curve. We call this harmonic function on the exterior the "transmission" of the original harmonic function. The transmission operator exists and is bounded if and only if the curve is a quasicircle. We will discuss transmission and related results for the Cauchy and Grunsky operators, as well as integral operators of Schiffer.