

Varopoulos' extensions in domains with Ahlfors-regular boundaries

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Abstract

In this talk we shall describe the construction of Varopoulos' type extensions of L^p and BMO boundary functions in rough domains. That is, smooth extensions of functions such that the L^p -norms of their non-tangential maximal function and the Carleson functional of their gradients can be controlled by the norm of the boundary data. After giving the geometric motivation and a brief survey of known results, we will proceed to present a new and more general approach of constructing Varopoulos' extensions in domains with minor geometrical assumptions for the boundaries.

This talk is based on joint work with Mihalis Mouroglou.