NUMERICAL SOLUTION OF A SHAPE OPTIMIZATION PROBLEM

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ABSTRACT

This paper is concerned with the identification of the geometric structure of the boundary for a two-dimensional (stationary) elliptic equation. The domain identification problem is considered as a variational problem to minimize a defect functional, which utilizes some additional data on certain (known) parts of the boundary. The Gradient Projection Method is introduced for this problem and numerical results for two model examples are discussed.