

The solution of the inner and outer Dirichlet problems based on the discrete double-layer potential

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Abstract

Discrete double-layer potentials are powerful tools to describe the solution of discrete Dirichlet problems for the Laplace equation. In discrete potential theory there are already theorems known, regarding the existence and uniqueness of the solution of Dirichlet problems. The results on the solution of these finite difference Dirichlet problems are based on the single-layer potential. In this paper we extend the theory by using double-layer potentials.

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