

Recovery of missing boundary data for magnetic field in eddy-current problems: An iterative approach

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Abstract

We consider a linear steady-state eddy-current problem for a magnetic field in a bounded domain. The boundary consists of two parts: reachable with prescribed Cauchy data and unreachable with no data on it. We design an iterative (Landweber type) algorithm for solution of this problem. At each iteration step two auxiliary mixed well-posed boundary value problems are solved. The analysis of temporary problems is performed in suitable function spaces. This creates the basis for the convergence argument.