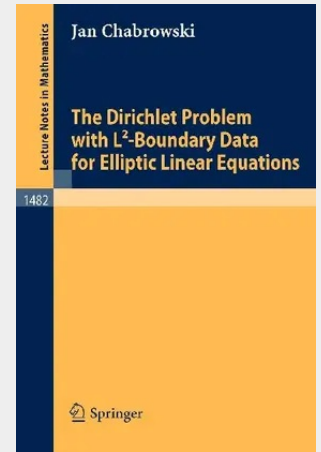


The Dirichlet Problem with L²-Boundary Data for Elliptic Linear Equations

The Dirichlet problem has a very long history in mathematics and its importance in partial differential equations, harmonic analysis, potential theory and the applied sciences is well-known. In the last decade the Dirichlet problem with L²-boundary data has attracted the attention of several mathematicians. The significant features of this recent research are the use of weighted Sobolev spaces, existence results for elliptic equations under very weak regularity assumptions on coefficients, energy estimates involving L²-norm of a boundary data and the construction of a space larger than the usual Sobolev space $W_{1,2}$ such that every L²-function on the boundary of a given set is the trace of a suitable element of this space. The book gives a concise account of main aspects of these recent developments and is intended for researchers and graduate students. Some basic knowledge of Sobolev spaces and measure theory is required.

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