

Nonhomogenous Boundary Value Problems and Trace Theorems

Emil Engström

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The study of nonhomogenous boundary value problems is an essential tool for solving partial differential equations, both analytically and numerically. However, most sources from the theory of partial differential equations assume homogeneous boundary conditions. In this talk, I will show how to extend existence and uniqueness results for homogeneous boundary value problems to nonhomogenous. The main ingredient is the study of trace theorems, which explain how to assign boundary values to non continuous functions. I therefore present a brief overview of the many surprising results in Sobolev and Besov spaces.