Bernoullis Tafelrunde

Graduate Student Seminar

Thursday, 16 April, 12:15-13:00
Seminarraum 05.002, Spiegelgasse 5

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Adaptive inversion methods for the Helmholtz equation

Abstract

The inverse scattering problem is a classical problem to determinate the form of the inhomogeneity inside an object. At first, I will introduce the mathematical model of the inverse scattering problem based on the Helmholtz equation. This yields two numerical problems: solving the PDE and finding the best-fit of the inhomogeneity in terms of measured data (optimization problem). In the second part, I present a classical approach for the Helmholtz equation and some optimization methods for the inverse problem. In the end, I propose a new method of my master thesis to approach the scattering problem.