

Mini-Workshop “Analysis of PDEs”
March 27th - March 31st, 2023

15:00 - 16:00 pm, Thursday, March 30th 2023
Seminar room: SR 1.067, Math Building 20.30

Solvability of the stationary incompressible inhomogeneous Navier-Stokes equations

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Abstract

We will first revisit Leray’s method of constructing weak solutions to the stationary incompressible homogeneous Navier-Stokes equations. Based on this, we will discuss the solvability of the two-dimensional stationary incompressible inhomogeneous Navier-Stokes equations with density-dependent viscosity coefficients. Some explicit examples and regularity results will also be discussed. We will also discuss the solvability of three-dimensional axially symmetric and periodic cases.

This talk is based on joint work with Xian Liao and joint work with Erik Wahlén.