V5B2 - Selected Topics in Analysis and PDE - Spectral Theory and Evolution Equations

Dr. Roland Donninger

Time and Place

Wednesday, 10 (c.t.) – 12 h, SemR 1.007
Course starts on October 28

Content

The lecture course gives an introduction to the spectral theory of compact, bounded, and unbounded operators on Banach spaces. The standard self-adjoint case in Hilbert spaces will only briefly be discussed. A further topic will be abstract evolution equations on Banach spaces, i.e., the theory of strongly continuous one-parameter semigroups. Finally, applications to dispersive wave equations will be presented.

Prerequisites

Basic knowledge in functional analysis, complex analysis, and partial differential equations.

Literature

- Kato, Perturbation Theory for Linear Operators, Springer
- Engel/Nagel, One-Parameter Semigroups for Linear Evolution Equations, Springer
- References provided in the course