Fakultät Mathematik
Institut für Analysis

Dresden, 16. Mai 2022

Im

Oberseminar Analysis

hält

Prof. Dr. **Ralph Chill**

TU Dresden, Institut für Analysis

einen Vortrag zum Thema

Nichtlineare Interpolation

Abstract:
The theory of interpolation between Banach spaces goes back to the 1960s. It is initially motivated by regularity theory for partial differential equations. In the theory of C_0-semigroups and maximal regularity, interpolation spaces between the domain of the generator and the underlying Banach space are spaces of initial values for which orbits of the semigroup have a precise time regularity. A first generalisation of the interpolation theory to nonlinear, strongly continuous semigroups and their generators goes back to two PhD theses by D. Brezis (1974) and A. Dufetel (1981). Motivated by their work, we start to develop an interpolation theory for couples of real-valued functions on a Banach space. The classical interpolation theory then corresponds to the special case of interpolation of norms. We introduce a K-method, a mean method and a trace method to define interpolation functions, show their interrelations, and prove a very general interpolation theorem for nonlinear operators. We apply the abstract theory to nonlinear semigroups.

Datum: **Donnerstag, 19. Mai 2022**
Zeit: **15:15 Uhr**
Raum: **WIL C 129**

Der Vortrag ist zeitgleich auch über das Videokonferenzsystem „Zoom“ abrufbar.

Der virtuelle Raum ist über folgenden, bereits bekannten Link erreichbar:
https://tu-dresden.zoom.us/j/89887698744?pwd=TVR3djhXNkV2U1ZFMTJ3czBOd3c4dz09
Meeting ID: 898 8769 8744, Passcode: @8%qq2

Ansprechpartner: Prof. Dr. Ralph Chill

Alle Interessenten sind herzlich eingeladen.