

Im

Oberseminar Analysis

hält

M.Phil. **Himani Sharma**

Australian National University, Canberra

einen Vortrag zum Thema

Spectral multiplier theorems in L^p for abstract differential operations

Abstract:

For an operator generating a group on L^p spaces transference results give bounds on the Phillips functional calculus also known as spectral multiplier estimates. In this talk, we will consider specific group generators which are abstraction of first order differential operators and show similar spectral multiplier estimates assuming only that the group is bounded on L^2 rather than L^p . We will also show some R-bounded Hörmander calculus results. Firstly for the square of a perturbed Hodge-Dirac operator, by assuming an abstract Sobolev embedding property. Secondly for an abstract Harmonic oscillator obtained using Weyl pairs.

Datum: **Donnerstag, 22. April 2021**

Zeit: **11:00 Uhr**

Der Vortrag findet über das Videokonferenzsystem „Zoom“ statt.

Ansprechpartner: Prof. Dr. Ralph Chill

Der virtuelle Raum ist über folgenden Link erreichbar:

[https://tu-dresden.zoom.us/j/89887698744?
pwd=TVR3djhXNkV2U1ZFMTJ3czBOd3c4dz09](https://tu-dresden.zoom.us/j/89887698744?pwd=TVR3djhXNkV2U1ZFMTJ3czBOd3c4dz09)

Meeting ID: 898 8769 8744 , Passcode: @8%qq2

Alle Interessenten sind herzlich eingeladen.

SPECTRAL MULTIPLIER THEOREMS IN L^p FOR ABSTRACT DIFFERENTIAL OPERATORS

HIMANI SHARMA*

ABSTRACT. For an operator generating a group on L^p spaces transference results give bounds on the Phillips functional calculus also known as spectral multiplier estimates. In this talk, we will consider specific group generators which are abstraction of first order differential operators and show similar spectral multiplier estimates assuming only that the group is bounded on L^2 rather than L^p . We will also show some R-bounded Hörmander calculus results. Firstly for the square of a perturbed Hodge-Dirac operator, by assuming an abstract Sobolev embedding property. Secondly for an abstract Harmonic oscillator obtained using Weyl pairs.

Mathematics Subject Classification(2020): 47A60, 42B20, 42A45, 47D03, 47F05

Key Words: spectral multiplier estimates, Phillips calculus, Hörmander calculus, Sobolev embedding, Weyl pairs.

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