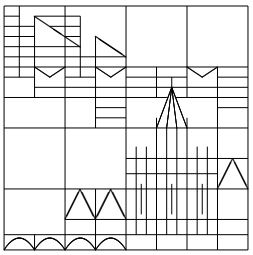
Universität Konstanz

Fachbereich
Mathematik und Statistik



Prof. Dr. Robert Denk

Prof. Dr. Reinhard Racke

Prof. Dr. Oliver Schnürer
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Konstanz, den 26. Oktober 2010

Im

Oberseminar Partielle Differentialgleichungen

wird am

Donnerstag, dem 4. November 2010,

folgender Vortrag gehalten:

Prof. Dr. Reinhard Racke (Universität Konstanz):
"Evolution Equations on non-flat waveguides"

Zeit: 14:15 Uhr

Raum: F 427

Interessenten sind herzlich willkommen!

R. Denk, R. Racke, O. Schnürer

Abstract: We investigate the dispersive properties of evolution equations on waveguides with a non-flat shape. More precisely we consider an operator

$$H = -\Delta_x - \Delta_y + V(x, y)$$

with Dirichled boundary condition on an unbounded domain Ω, and we introduce the notion of a *repulsive waveguide* along the direction of the first group of variables x. If Ω is a repulsive waveguide, we prove a sharp estimate for the Helmholtz equation $Hu - \lambda u = f$. As consequences we prove smoothing estimates for the Schrödinger and wave equations associated to H, and Strichartz estimates for the Schrödinger equation. Additionally, we deduce that the operator H does not admit eigenvalues.