Fachbereich Mathematik und Statistik

Prof. Dr. R. Denk, Prof. Dr. R. Racke, Prof. Dr. O. Schnürer

Im

Oberseminar Partielle Differentialgleichungen

gibt es am

Donnerstag, dem 14. Dezember 2017,

einen Vortrag von Herrn

Felix Kammerlander

(Universität Konstanz)

" Lack of analyticity for a coupled system of damped-undamped plate equations "

Beginn: **15.15 Uhr**

Raum: **F 426**

Interessenten sind herzlich willkommen!
R. Denk, R. Racke, O. Schnürer

Abstract: We consider a transmission problem for elastic plates in a bounded domain Ω with interior domain $\Omega_2 \subset \Omega$ satisfying $\overline{\Omega_2} \subset \Omega$ and outer domain $\Omega_1 = \Omega \setminus \overline{\Omega_2}$. In the inner part Ω_2 we consider an undamped plate equation whereas in Ω_1 a structurally damped plate equation of parabolic type is considered. The equations are coupled via transmission conditions on the common interface. It was shown that the associated operator generates a exponentially stable C_0-semigroup on a suitable Hilbert space.
Naturally the question arises, whether the associated semigroup is analytic or not, i.e. if the analyticity of the damped part is strong enough to provide the whole system with this desirable property. We will see that this is not the case. In order to do this, we derive a necessary condition for analyticity of semigroups based on results in the literature dealing with parabolic L_p theory of boundary value problems.
