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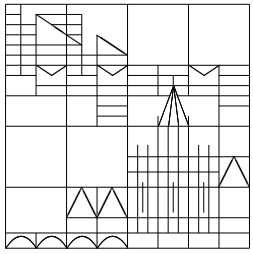

Universität Konstanz

Fachbereich Mathematik und Statistik

Prof. Dr. Robert Denk
Prof. Dr. Reinhard Racke
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Datum: 19. Mai 2009

Im

Oberseminar Partielle Differentialgleichungen

wird am

Donnerstag, dem 28. Mai 2009,

folgender Vortrag gehalten:

Prof. Dr. Alexander G. Ramm

(Kansas State University, Manhattan, USA)

„Invariant manifolds for dissipative systems“

Zeit: 14:15 Uhr

Raum: F 426

Interessenten sind herzlich willkommen!

R. Denk, R. Racke

Abstract:

A method is given for a study of a nonlinear evolution equation for finding "slow" invariant manifolds. The method is studied for the evolution problem $\dot{u} = -Au + \frac{(Au,u)}{(u,u)}u$, $u(0) = u_0$, where A is a linear, selfadjoint, possibly unbounded operator in a Hilbert space. Global existence and uniqueness of the solution to this problem are proved. Asymptotic behavior of the solution as $t \to \infty$ is studied. Analytic solution of the above nonlinear evolution problem is found. Conditions are given on the spectrum of A and on the initial data u_0 for the trajectory $u(t)$ not to have a strong limit in H as $t \to \infty$ and not to stay in any finite-dimensional space. In this sense the motion is chaotic.