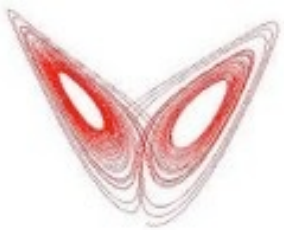

CADEDIF

Seminario del Departamento

Departamento de Matemática Aplicada
Universidad Complutense de Madrid

Jornada de Dinámica Infinito Dimensional

Martes 27 de Noviembre de 2007

Lugar: Sala 209, Seminario del Departamento de Matemática Aplicada
Facultad de Ciencias Matemáticas, UCM

9:30-10:20. "Attractors for Parabolic Problems in dumbbell domains", German Lozada, Univ. del Estado de Sao Paulo, Brasil

10:20-11:10. "Semilinear Damped Wave Equations with fast growing nonlinearities", Jan Cholewa, U. Silesia (Katowice), Polonia

11:15-11:45. Café

11:45-12:35. "Dynamical approach to elliptic BVP in asymptotically symmetric unbounded domains", Messoud Efendiev, Technische Universistät München, Alemania

12:35-13:25. "Non simultaneous quenching in a system of heat equations coupled at the boundary", Raul Ferreira, U. Complutense

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ABSTRACTS

"Attractors for Parabolic Problems in dumbbell domains", German Lozada, Univ. del Estado de Sao Paulo, Brasil

In this talk we analyze the dynamics of a parabolic equation with homogeneous Neumann boundary conditions in the dumbbell domain. We provide an appropriate functional setting to treat this problem and show that the attractors behave upper semicontinuous as the channel shrinks to a line segment.

"Semilinear Damped Wave Equations with fast growing nonlinearities", Jan Cholewa, U. Silesia (Katowice), Polonia

A class of the second order in time semilinear partial differential equations is considered in the Banach space setting. The results concerning local existence, regularity, bootstrapping continuation, and asymptotic properties of solutions are discussed in case when the nonlinear term satisfies certain critical growth conditions.

"Dynamical approach to elliptic BVP in asymptotically symmetric unbounded domains", Messoud Efendiev, Technische Universistät München, Alemania

We consider dynamical approach to the elliptic problem in asymptotically symmetric unbounded domain and study the large-time behaviour of solutions. Due to the lack of the uniqueness of the solutions the standard approach based both on the semigroup theory and on elliptic machinery fails. Our approach based on the trajectory dynamical systems. Symmetrization and stabilization of the solitions as well as open problem will also be discussed.

"Non simultaneous quenching in a system of heat equations coupled at the boundary", Raul Ferreira, U. Complutense

We study the formation of singularities in finite time for solutions of the heat equations coupled at the boundary through a nonlinear flux at one border and zero flux at the other border. We characterize, in terms of the parameters involved when non-simultaneous quenching may appear. Moreover, if quenching is non-simultaneous we find the quenching rate and the quenching set. We also find a possible continuation after quenching of the solutions. Joint work with A. de Pablo, Mayte Pérez-Llanos, F. Quirós and J. D. Rossi.