Departamento de Matemática Aplicada

Instituto de Matemática Interdisciplinar

SEMINARIO DE MATEMÁTICA APLICADA

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On a nonlinear viscoelastic plate equation with *p(x, t)* - Laplacian operator: Existence, Uniqueness and Blow up

This talk concerns about a class nonlinear viscoelastic plate equation with lower order perturbation of the ***p***(*x, t*) - Laplacian operator

$$u_{tt} + \Delta^2 u - \Delta_{p(x,t)} u + \int_0^t g(t-s)\Delta u(s)ds - \varepsilon \Delta u_t + f(u) = 0$$

associated with initial and Dirichlet - Neumann boundary conditions. Under suitable conditions on *g*, *f(u)* and the variable exponent of ***p***(*x, t*) - Laplacian operator, it is proved the existence, uniqueness and blow up of solutions. This equation corresponds to a viscoelastic version arising in dynamics of elastoplastic flows and plate vibrations. The analysis relies on the use of some methods recently developed by the author in collaboration with P. Amorin and with J. Ferreira.

Organizado por el Departamento de Matemática Aplicada, con la colaboración del grupo UCM MOMAT y del IMI

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Lugar: Aula 209 (Seminario Alberto Dou)
Facultad de CC Matemáticas, UCM