
SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA

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Título de la Charla:

***Numerical methods for Timoshenko system with shear
boundary dissipation. Exponential stability.***

Fecha y Hora:

Martes 24 de Noviembre de 2015, 15:30 Horas.

Lugar:

Sala Seminario, Facultad de Ciencias

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Resumen

We consider a Timoshenko's model with only one boundary dissipation, effective over the shear force. We introduce two numbers χ_0 which depends on the difference of the wave speed and χ_1 that depends on the size of the interval. This numbers will describe the asymptotic behavior of the system. That is, we prove strong stability if and only if χ_1 is not a rational multiple of π^2 . If additionally $\chi_0 = 0$ and $\chi_1 < 1/2$, then the corresponding semigroup is exponentially stable. Finally, we calculate numerically some eigenvalues near the imaginary axis using the Chebyshev-tau method, and we present some numerical results illustrating the asymptotic behavior of the energy based on Finite Differences of second order and the β -Newmark Method.