



SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA

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Título de la Charla:

***A fully-discrete finite element approximation for
a nonlinear magnetic eddy current problem***

Fecha y Hora:

Martes 23 de Abril de 2013, 16:00 Horas.

Lugar:

Sala Seminario, Facultad de Ciencias, Universidad del Bío Bío.

Resumen

The aim of this work is to analyze a nonlinear magnetic field formulation for the so-called “ $\mathbf{A}, V - \mathbf{A}$ potential formulation”, which is nowadays one of the most accepted formulations to solve numerically the time-dependent eddy current equations. We provide a backward-Euler fully-discrete approximation based on nodal finite elements and show that the resulting discrete variational problem is well posed by assuming physical properties of the magnetic reluctivity. Furthermore, error estimates that prove optimal convergence are settled.

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