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# SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA

Departamento de Matemática, UBB  
Centro de Investigación en Ingeniería Matemática (CI<sup>2</sup>MA), UDEC

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*Expositor:*

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*Título de la Charla:*

***Mixed finite element method for the spectral  
analysis of the elasticity equations***

**Fecha y Hora:**

**Martes 28 de Mayo de 2013, 16:00 Horas.**

**Lugar:**

**Sala Seminario, Facultad de Ciencias**

**Universidad del Bío-Bío.**

## **Resumen**

This work deals with the approximation of the linear elasticity eigenvalue problem formulated in terms of the stress tensor and the rotation. This is achieved by considering a mixed variational formulation in which the symmetry of the stress tensor is imposed weakly. We show that a discretization of the mixed eigenvalue elasticity problem with reduced symmetry based on the lowest order Arnold-Falk-Winther element, provides a correct approximation of the spectrum and prove quasi-optimal error estimates. Finally, we report some numerical experiments.

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