Expositor:

Tomás P. Barrios Faúndez

Departamento de Matemática y Física Aplicadas, Facultad de Ingeniería, Universidad Católica de la Santísima Concepción

Título de la Charla:

A stabilized mixed method for generalized Stokes problem based on the velocity-pseudostress formulation: A priori error estimates and an optimal control problem

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Resumen

In this talk we present an augmented mixed formulation applied to generalized Stokes problem and uses it as state equation in an optimal control problem. The augmented scheme is obtained adding suitable least squares terms to the corresponding velocity-pseudostress formulation of the generalized Stokes problem. To ensure the existence and uniqueness of solution, at continuous and discrete levels, we prove coerciveness of the corresponding augmented bilinear form, and using approximation properties of the respective discrete subspaces, we deduce the optimal rate of convergence. As by product, and considering the associated optimal control problem, we derive error estimates for the approximated control unknown. Finally, we present several numerical examples confirming the theoretical properties of this approach.

Informaciones: royarzua@ubiobio.cl y dmora@ubiobio.cl