



SEMINARIO DE ANÁLISIS NUMÉRICO Y MODELACIÓN MATEMÁTICA

Departamento de Matemática, UBB
Centro de Investigación en Ingeniería Matemática (CI²MA), UDEC

Expositor:

Rommel Bustinza

CI²MA y Departamento de Ingeniería Matemática, Universidad de Concepción

Título de la Charla:

An augmented DG formulation for the Darcy problem

Fecha y Hora:

Martes 9 de Octubre de 2012, 16:00 Horas.

Lugar:

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

Resumen

In this talk we present an overview of the so called augmented Discontinuous Galerkin methods, and its application to solve the Darcy problem. We prove the well posedness of the method, obtain the a priori error estimate, and present a reliable and efficient a posteriori error estimator, which consists of residual terms. We give a brief description of how to prove the reliability as well as the efficiency. Then, we present several numerical experiments, showing the robustness of the method and the theoretical properties of the estimator, thus confirming the capability of the corresponding adaptive algorithms to localize the inner layers, the singularities and/or the large stress regions of the exact solution. We conclude this talk giving some final comments and a description of ongoing work.

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