Seminario de Análisis Numérico y Modelación Matemática

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Título de la Charla:

Adaptive techniques applied to well-balanced schemes for shallow water flows

Fecha y Hora:
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Lugar:
Auditorio Alamiro Robledo, FCFM

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Resumen

Well-balancing is a property that enables numerical schemes to accurately capture quasi steady-state flows governed by conservation laws with source terms. These schemes are typically based on shock-capturing technology and their computational cost can be large if high accuracy in the approximated solution is required. Structured adaptive mesh refinement is a technique that is widely used in CFD for its computational savings and simplicity. We propose a structured adaptive mesh refinement algorithm for the efficient simulation of shallow water flows via the hybrid second order scheme introduced in. We analyze the well-balancing properties of the resulting scheme and the multiresolution implementation of wet/dry front treatments.

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