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Universidad Zaragoza



Departamento de
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y

Grupo de Hidráulica Computacional

Conferencia

por

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"Robust Numerical methods for problems with layers"

Resumen:

Singularly perturbed differential equations are characterized by the presence of a small parameter multiplying the highest order derivative term(s) appearing in the differential equation. The analytical solutions of these problems typically exhibit steep gradients in narrow regions (often called layers) of the domain. Given the presence of these layers, global (as opposed to simply nodal) accuracy of any numerical approximation is desirable.

Standard numerical methods typically fail to accurately capture these layers. If one can establish some basic asymptotic information, robust numerical methods can be designed to generate pointwise accurate numerical approximations to the continuous solution throughout the entire domain. This talk will outline the rationale for the definition of parameter-uniform numerical methods and it will also highlight some of the central tools used to construct an appropriate numerical method for some commonly studied singularly perturbed problems.

Fecha: Viernes, 7 de octubre de 2022

Hora: 12:00 horas

Lugar: Seminario del Departamento de Ciencia y Tecnología de Materiales y Fluidos, 1ª planta del Edificio Torres Quevedo, EINA. Campus Río Ebro.