



Seminario de Matemática Aplicada

Conferencia

por

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"A numerical method for singularly perturbed elliptic problems posed on domains with a curved boundary"

Resumen:

A domain decomposition method is constructed for singularly perturbed linear elliptic problems of convection-diffusion type, which are posed on a non-rectangular domain. Regular boundary layers, characteristic boundary layers and interior parabolic layers can be present in the solutions of these problems. Asymptotic information is used to identify a suitable Shishkin mesh for each of these layers. The mesh associated with the regular boundary layer is aligned to any curved segments of the outflow boundary. A simple upwind finite difference scheme is used to discretize the differential operator. Several test problems are examined to illustrate the effectiveness of the proposed numerical algorithm over an extensive range of the singular perturbation parameter.

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Hora: 11:30

Lugar: Aula 24, Edificio Torres Quevedo de la Escuela de Ingeniería y Arquitectura