
SEMINARIO

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Asymptotic preserving discretizations for hyperbolic approximations of dispersive wave equations

Abstract: I will describe a technique for constructing hyperbolic PDE approximations of higher order dispersive wave equations like the KdV, BBM, and NLS equations. These hyperbolic systems take the form of a relaxation system that formally approximates the original problem in the limit as the relaxation parameter vanishes. Then I will show how IMEX Runge-Kutta methods can be used to efficiently integrate these systems in a way that also ensures they numerically approximate the original problem when the relaxation parameter is small.

Sala de Grados I, Facultad de Ciencias
Martes 16 de Septiembre de 2025 (17:00)
Organiza: G.I.R. MTANPOEE

