ATENEO

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Numerical Analysis of some long-wave models for surface water waves

Abstract: In this talk, attention will be given to some long-wave (shallow-water) models that describe two-way propagation of surface water waves and approximate the 2d Euler equations. These will include the nonlinear hyperbolic system of shallow water equations, the weakly nonlinear dispersive Boussinesq systems, and the 'fully nonlinear' dispersive Serre (or Green-Naghdi) equations. An overview will be given of issues such as modelling, well-posedness, and numerical analysis of these systems. Results of numerical experiments on the properties of solitary-wave solutions of the dispersive systems will also be shown.

Sala de Grados I, Facultad de Ciencias
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