

Journées de Modélisation des Vagues à Phases Résolues

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Titre: On a new way to handle boundary conditions for Boussinesq-type systems.

Résumé: In the littoral area, extreme waves have a great socio-economic impact, yet the mechanisms behind their formation are not well understood. In order to have a good description of such events, it is especially important to take into account nonlinear and dispersive effects, and an accurate handling of boundary conditions proves crucial to generate incoming waves that are physically relevant. In this regard, a reformulation of a Boussinesq model has been recently introduced in the literature, which enables an efficient numerical implementation of the so-called generating boundary conditions. We propose to extend this method to the case of a varying bathymetry while allowing to enforce more generic data at the boundary. To validate this approach and illustrate its benefits, numerical experiments are then undertaken.