Sessão: Análise e Aplicações

Well-balanced scheme for Tsunami Simulation/Esquema bem equilibrado para a simulação de Tsunami

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Tsunami is one of the most deadly phenomenon that resurges during the last decade (Japan 2011, Solomons 2013, Indonesia 2018). Modelling and simulating such an extreme event is a major challenge to forecast the possible damages on critical infrastructures (port, city) and to design adapted responses to mitigate the consequences. At the numerical level, the creation of efficient computational methods is non-trivial due to the presence of the so-called non-conservative term that characterizes the interaction between the wave and the bathymetry. The talk is dedicated to the well-balanced method that enables to carried out realistic simulations. I shall explain the principle of the technique and how it eliminates the undesirable numerical artefacts due to the non-conservative term.