

# Comparative assessment of nonlinear deterministic models for coastal wave propagation and run-up on a vertical wall

Guillaume Coulaud<sup>1,2</sup>, Michel Benoit<sup>1,2</sup>, Maria Teles<sup>1</sup>

<sup>1</sup> EDF R&D - Laboratoire National d'Hydraulique et Environnement (LNHE), Chatou.

<sup>2</sup> Laboratoire d'Hydraulique Saint-Venant (Ecole des Ponts, EDF R&D), Chatou.

[guillaume.coulaud@edf.fr](mailto:guillaume.coulaud@edf.fr)

- Wave propagation in coastal areas influenced by dispersive and nonlinear effects
- Comparative study of 7 depth-averaged wave models with various orders of dispersion, and weakly or fully-nonlinear
- Test-case of non-breaking wave propagation, transformation over a varying bathymetry, and run-up on vertical walls

