

Improvement on open boundaries on a time dependent numerical model of wave propagation in the nearshore region

Oliveira, F.S.B.F.

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Summary

An improvement on the simulation of outgoing waves on a time dependent numerical model for water wave propagation in the nearshore region is presented. The governing equations consist of a system of first order partial differential equations (PDEs), the equation of continuity and the equation of motion. A comparative study of first order radiation boundary conditions (BCs) and first order radiation BCs combined with sponge layers is presented for cases where outgoing waves leave the numerical domain of calculation through the open boundary. A reduction of spurious reflections from the numerical open boundaries can be obtained with an irrelevant increase in terms of computational cost.

Email to: foliveira,

Return to: [Filipa Simões de Brito Ferreira de Oliveira](mailto:Filipa.Simões.de.Brito.Ferreira.de.Oliveira)

