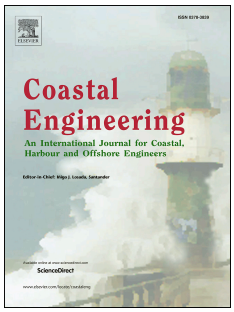
Journal Pre-proof



Numerical simulation of impulse wave generation by idealized landslides with OpenFOAM

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M. R. : Conceptualization, Software, Validation, Formal analysis, Investigation, Writing - Original Draft; L. H.: Validation, Investigation, Formal analysis; R. P. M.: Conceptualization, Writing - Review & Editing, Resources; W. A. T.: Conceptualization, Writing - Review & Editing, Resources; F. L.: Conceptualization, Writing - Review & Editing, Supervision, Project administration;

- Simulations of impulse waves with full Navier-Stokes Equations and Computational Fluid Dynamics are conducted
- The OpenFOAM multiphase solver is validated for impulse waves
- The CFL-condition is corrected to ensure accuracy and stability
- Scaling relations between landslide parameters and wave amplitude are derived and evaluated with a large set of simulations

Declaration of interests

X The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

☐The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: