Experimental Validation of a Mathematical Model for Seabed Liquefaction Under Waves - DTU Orbit (25/10/2019)

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This paper summarizes the results of an experimental study directed towards the validation of a mathematical model for the buildup of pore water pressure and resulting liquefaction of marine soils under progressive waves. Experiments were conducted under controlled conditions with silt \((d(50) = 0.070 \text{ mm})\) in a wave flume with a soil pit. Waves with wave heights in the range of 7.7-18 cm, 55-cm water depth and 1.6-s wave period enabled us to study both the liquefaction and no-liquefaction regime pore water pressure buildup. The experimental data were used to validate the model. A numerical example is also included in the paper to demonstrate the implementation of the model for real-life scenarios.

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