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Pressure Predictions and Run-Up on a Vertical Wall and Sloping Beach JANNETTE FRANDSEN, CAROLINE SÉVIGNY, RÉGIS XHARDÉ, INRS-ETE, University of Quebec, Canada — This paper presents large scale experiments of water wave impact on wall. This study is concerned with advancing knowledge on rapidly varying pressure magnitude and distributions on different types of sea/river/harbor walls. The experiments are conducted in the new Quebec Coastal Physics Laboratory (QCPL), Canada. The flume has a depth and a width of 5 m and is 120 m long. It is designed for modeling the interactions of waves, currents and sediment transport. The wall has a test area of 1.2 $\times$ 2.4 m. The outer regions of the wall are made of steel to span the entire width of the tank. The wall is designed to behave as a rigid plate. The geometric model to full scale is about 1:4. Sensors are mounted along the flume, beach slope and wall to monitor hydrodynamics parameters. The incoming waves evolve over a flat bed to climb the final 25 m on a beach with a constant slope of 1:10. Broad- and narrow-banded spectra representing operational and storm events were investigated. The initial results are promising. Details of the underlying mechanism of various types of breaking and impact on the wall will be presented.

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