Abstract View

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The Numerical Modeling of Surface Wave Propagation in the Surf Zone

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ABSTRACT

A numerical model is used to simulate the shoreward propagation of a train of periodic borelike surface disturbances in the surf zone over a sloping beach. Turbulence production is included both in the shear layer at the beach and at the face of each breaking wave, and the numerical solution is used to evaluate the relative importance of these two processes. The bottom stress is calculated and the variation of this during a wave cycle is related to the form of the surface profile. Calculations also are made of the velocity profile during a wave cycle in the shear layer adjacent to the beach and the representation of this is considered in terms of a constant stress layer logarithmic profile.