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**Numerical simulation of the field velocities and local disturbances of a long gravity wave passing above an immersed vertical barrier.** (English) [Zbl 1162.76010](#)

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**Summary:** We study the passage of a long gravity wave above an immersed vertical barrier. The latter is placed at a right angle in the middle of the occupied fluid domain which is limited vertically by both a free surface and an impermeable horizontal bottom. We want to determine the field velocity and the local disturbances in the vicinity of the barrier. For this, we use the generalized theory of shallow water and complex-variable method. For illustration, we consider a solitary wave as an emitted long wave.

**MSC:**

[76B15](#) Water waves, gravity waves; dispersion and scattering, nonlinear interaction

[76B25](#) Solitary waves for incompressible inviscid fluids

[76M40](#) Complex variables methods applied to problems in fluid mechanics

**Keywords:**

[generalized shallow-water theory; complex-variable method](#)

**Full Text:** [DOI](#) [EuDML](#)

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