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Numerical simulation of propagation and overturning of a tsunami wave running to and on shore

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The ocean and atmosphere are considered as a uniform continuous medium. By means of numerical solving of two-dimensional hydrodynamic equations (one axis is vertical and the other is a horizontal one), tsunami wave propagation, overturning and turbulisation are simulated. The problem solution is searched for as a generalized one. The wave comes from the ocean and runs to a coast. At some moment, when wave is near the shore, the wave is overturning. Later, the wave with overturning is propagated on shore. A reflected wave arises as well.