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Internal waves generated by simple obstacles: theory and laboratory experiments

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The goal of this work the analysis of flow patterns near the strip uniformly moving in an exponentially stratified fluid along a rigid underlying surface. Cases of horizontal movement of the strip and the movement along the inclined plane are considered. The problem is solved on the basis of the set of fundamental governing equations including continuity and Navier-Stokes equations with standard no-slip and no-flux boundary conditions on the strip and the entire underlying surface. All perturbations are damped at infinity. The calculated data are compared with experiment. Extrapolation on environmental conditions is discussed.