



The second mode internal solitary wave generation

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The mechanism of the second mode internal solitary wave generation is discussed. The second mode internal solitary waves are generated due to interaction of the first mode solitary wave with bottom step in three-layer flow. This nonlinear process is studied numerically using MITgsm model. The second mode solitary wave appear in the reflected wave as well as in the transmitted wave, but the last solitary wave amplitude is very small. Dependence of the second mode solitary wave amplitude on the incident wave amplitude is studied. The nonlinear process of solitary wave transformation on the step is compared with linear transformation of the internal wave pulse on the step into the first and the second modes.