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# Experiments on Up-slope to Down-slope Transition in an Inclined Box Filled with Water

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Summary The natural convection of water in inclined side-heated rectangular box is investigated experimentally and numerically. The aim is to demonstrate existence and features of the convective front formation typical for the evening transition of the atmospheric boundary layer on gentle slopes. Particle image velocimetry and thermometry allows for quantitative analysis of the temporary velocity and temperature fields generated in a small scale laboratory model. The laboratory experiment is compared with numerical simulations performed with Fluent. Observations confirmed predictions of the evening transition front described for the atmospheric flows by Hunt et al [1].

View the extended summary