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Laboratory and numerical modeling of attached internal waves and vortex systems in the wake past a strip.

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Complete set of linearized governing equations describing fluid flows past a thin strip moving in a continuously stratified fluid along a horizontal and sloping straight trajectory is solved analytically and analyzed numerically. Results of numerical visualization compared with data of Schlieren visualization. Both in theory and in experiment precise high-resolution methods enable to reveal conventional transient and stationary internal waves and a fine flow structure. Transient upstream, stationary downstream and mixed interfere flow patterns are investigated in wide range of flow parameters. Edges singular disturbed components are distinguished. Velocity fields of flow patterns are drawn and compared with Schlieren visualization of the disturbed density gradient fields. Calculated and observed flow patterns fit each other rather well. Extrapolation on environmental conditions is discussed.