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# Visualization of Stratified Flows past 2D Bluff Obstacles

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Stratified flows past 2D bluff bodies that are sloping and vertical strips, horizontal cylinders of different diameters uniformly moving in a viscous exponentially stratified fluid are visualized by schlieren methods. Different light cutting diaphragms producing schlieren effects that are Foucault knife, Maksoutov thread and regular horizontal grating for producing 'natural rainbow' colour schlieren images are used. Buoyancy frequency and profiles of horizontal component of velocity are measured using different markers. Variations of density are measured by conductivity probes taking into account dynamic calibration before particular experiment. As initial state the diffusion induced flows on the motionless bodies are registered. Different flow components that are upstream disturbance, edges singularities, complex field of internal waves, and downstream wakes with submerged and soaring vortex systems are visualized and measured. Features of both small and large scale vortex structures are used as indicators for flow classification. 3D flow regimes diagram is constructed in space Reynolds number-Froude number-ratio of buoyancy and geometrical scales. Comparison with numerical is given. Data extrapolation on environmental condition is discussed.