



Transport of soluble and insoluble contaminants in compound vortex

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Transport of solvable substances by separate vortices and vortex flows is studied regularly in environmental and laboratory conditions. The compound vortex is generated in the cylindrical container by the rotating disk. It is possible to observe strongly pronounced area – a vortex core by means of dye injection into the centre of surface trough. Inside the fluid the dye gathers in the central cylindrical area. On a free surface contaminants are located in separate compact areas - in bounded areas near the vertical axis of compound vortex and spiral arms. The separate tinted and clear water areas are observed for a long time in scales of activator rotation period. Parameters of flow patterns geometry are measured in wide range of basic flow conditions. Strong effect of insoluble contaminant on general flow dynamics in the container is found. Registered flow patterns are compared with environmental observations.