



Structure Stability of Flow Pattern for Subsequent Compact Sources of Dye in Compound Vortex

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The study of flow pattern generated by disk rotating at the bottom of the cylindrical container partly filled with water and transport of matter from surface compact spots is performed. Compact dye spots are formed by free falling drops of dye. Subsequent dropping of different dyes into surface trough produced by compound vortex leads to formation of embedded spiral arms of different colours on the liquid surface. The arms are separated by bands of the ambient liquid (in these experiments tap water was used). Sharp boundaries between arms of different colours are observed during long time measured in period of liquid rotation. The envelope of colour domain is gradually deformed, stretched and contracted by the main flow. Inside the fluid body the dye is transported in thin filaments winded on cylindrical surfaces. Geometrical parameters of the flow are measured for different values of flow parameters that are the liquid depth and frequency of the disk rotation.