



## **Substance Transfer into Spiral and Helical Filaments in Rotating Fluid**

Eugenia V. Stepanova and Tatiana O. Chaplina

A. Yu. Ishlinski Institute for Problems in Mechanics of the Russian Academy of Sciences, Laboratory of fluid mechanics, Moscow, Russian Federation (chakin@ipmnet.ru, +7-499-739-9531)

Substance transfer is a general problem of fluid mechanics and is studied regularly mathematically and experimentally. The dye transfer in compound vortex flow is an object of interest of our research. The compound vortex is generated in the cylindrical container by the rotating disk. The dye is put on the free surface of vortex drop by drop from the 2-5 cm height. Penetration of dye starts immediately after the drop reaches free surface. The pronounced spiral and helical dye filaments are observed in water column. The spiral forms the Taylor 'dye wall' equidistant the vertical axis of fluid rotation. Registered flow patterns are compared with environmental observations.