

Quantum turbulence: aspects of visualization and homogeneous turbulence

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Quantum turbulence is now a mature field of study, which cannot be surveyed easily in a single presentation. The paper will therefore focus on reviews in two areas: the visualization of quantum turbulence, which has the potential to transform our knowledge of the subject; and homogeneous quantum turbulence, which, although much studied, still presents us with interesting and fundamental problems. The latest results based on the use of He₂ metastable excimer molecules as tracers will be presented. Other topics addressed will include the behaviour of the normal fluid in thermal counterflow, fluctuations in vortex-line density, and the mechanisms by which quantum turbulence on a small scale can evolve in various types of flow to a larger scale.

Section: VT - Vortices and turbulence

Keywords: Homogeneous turbulence, counterflow turbulence, visualization

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