

Gyrotactic phytoplankton in turbulent flows

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Many unicellular algae, which compose phytoplankton, are able to swim. Some species have simple orientation mechanisms allowing them to swim against gravity towards the photic zone. A standard mechanistic model allows to account for several experimental observations as resulting from the balance between fluid torque and directed vertical motion, the so-called gyrotaxis. I will discuss how (turbulent) fluid motion and gyrotactic motility can generate patchy distributions.