
Effect of an irregular boundary on a rotating flow

David Gerard-Varet*¹

¹Institut de Mathématiques de Jussieu (IMJ) – CNRS : UMR7586, Université Paris VII - Paris Diderot
– 2, place Jussieu 75251 Paris Cedex 05, France

Abstract

We shall describe the effect of a rough boundary on a rotating viscous flow. When there is no roughness, a boundary layer called Ekman layer develops at the wall. When roughness is taken into account (through a small amplitude/small wavelength oscillation), the dynamics of the boundary layer becomes nonlinear. We shall discuss the associated mathematical difficulties and qualitative changes of the flow (based on joint works with E. Dormy and AL Dalibard)

*Speaker