

Recent Progresses in the Asymptotic Dynamics of Fast Rotating Fluids

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Abstract

In this talk, we will review some recent results describing the asymptotic dynamics of fast rotating fluids. We will see how to derive the celebrated Taylor-Proudman theorem and the Ekman pumping effect, in the context of incompressible flows either moving in a domain with topography, or in presence of non-trivial variations of the density.

These are joint works with M. Bravin (Universidad de Cantabria), J.-Y. Chemin (Université Claude Bernard Lyon 1) and I. Gallagher (Université Paris Cité).