SEMINARIO DE ANÁLISIS Y APLICACIONES

Viernes 13 de enero,

11:30 h., Módulo 17 - Aula 520 (Depto. Matemáticas UAM)

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UAM

Time periodic solutions for the 3D quasi-geostrophic system

Resumen:

The aim of this talk is to study time periodic solutions for a 3D inviscid quasigeostrophic model. We show the existence of non trivial simply-connected rotating patches by suitable perturbation of stationary solutions given by generic revolution shapes around the vertical axis. The construction of those special solutions are done through bifurcation theory. In general, the spectral problem is very delicate and strongly depends on the shape of the initial stationary solutions. More specifically, the spectral study can be related to an eigenvalue problem of a self-adjoint compact operator and we are able to implement the bifurcation only from the largest eigenvalues of such operator which are simple. This is a joint work with T. Hmidi and J. Mateu.

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