ICMAT

INSTITUTO DE CIENCIAS MATEMÁTICAS

UNIVERSIDAD COMPLUTENSE
MADRID

Colloquium ICMAT-UCM

GLUING METHODS FOR VORTEX DYNAMICS IN EULER FLOWS

SPEAKER: Manuel Del Pino (Department of Mathematical Sciences, University of Bath, UK)

DATE: Wednesday, January 29, 2019 - 13:00

VENUE: Aula Naranja, ICMAT

ABSTRACT: We consider the two-dimensional Euler flow for an incompressible fluid confined to a smooth domain. We construct smooth solutions with concentrated vorticities around points which evolve according to the Hamiltonian system for the Kirkhoff-Routh energy. The profile around each point resembles a scaled finite mass solution of Liouville's equation. We discuss extensions of this analysis to the case of vortex filaments in 3-dimensional space, along the lines of Da Rios 1904 vortex filament conjecture in connection with the binormal flow of curves.

MINISTERIO
DE CIENCIA, INNOVACIÓN
Y UNIVERSIDADES

CSIC

UAM
Universidad Autónoma
de Madrid

UNIVERSIDAD COMPLUTENSE
MADRID

EXCELENCIA
SEVERO
OCHOA