



Instituto Universitario de Investigación  
**de Matemáticas  
y Aplicaciones**  
Universidad Zaragoza

# Seminario de Doctorado Rubio de Francia

## Conferencia

por

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título:

“Some Geometrical Estimates for the first eigenvalue of the (Fractional) Dirichlet - Laplacian in the plane”

### **Resumen**

We discuss geometrical estimates for the first eigenvalue of the Dirichlet-Laplacian of planar sets. In particular, we focus on a lower bound in terms of the inradius for sets which are convex, simply connected or connected with a fixed number  $k$  of “holes”.

We also discuss the existence of fractional counterparts of order  $s$  for such an estimate. We finally look for the optimality (in some sense) of its dependence with respect to the parameters  $s$  and  $k$ .

Some of the results presented are obtained in collaboration with Lorenzo Brasco (University of Ferrara).

**Fecha:** Jueves, 23 de febrero de 2023

**Hora:** 17:00 horas

**Lugar:** Seminario Rubio de Francia, Edificio de Matemáticas, 1ª planta