Seminario de Análisis y Aplicaciones

Friday, March, 10th 2017

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

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Inverse boundary value problems for the magnetic Schrödinger operator

Abstract:

The main goal of this talk is to discuss an Inverse Boundary Value Problems associated with a magnetic Schrödinger operator on a bounded domain. We give results about the determination and the stable determination of the coefficients of the Schrödinger operator. Physically speaking, such coefficients represent the magnetic and the electric potentials within the domain.

We study two problems, both depending on the kind of measurements taken on the boundary and having in common that the measurements should be taken on open subsets. For the first problem, we take the measurements on a subset of the boundary by means of perturbations on its complement. Thus we say that in this case we may *access* this complement. On the contrary, in the second problem there is an *inaccessible part*, hence the perturbations and the corresponding measurements are taken on the same set, called the *accessible part* of the boundary.

In both problems, we can recover the magnetic field and the electric potential of the operator. We also derive the corresponding stability estimates, obtaining module of continuity of logarithmic type.

Presentación previa a la defensa de tesis doctoral.