

Stability estimates for a special class of anisotropic conductivities with an ad-hoc functional

Friday, 24 September 2021 14:40 (20 minutes)

The Calderon problem, known also as the inverse conductivity problem, regards the determination of the conductivity inside a domain by the knowledge of the boundary data. For the isotropic case, the stability issue is almost solved. However, for the anisotropic case things get more complicated, since Tartar observation that any diffeomorphism of the domain which keeps the boundary points fixed has the property of leaving the Dirichlet-to-Neumann map unchanged, whereas the conductivity tensor is modified. In this talk we will introduce a special class of anisotropic conductivities for which we can prove a stability estimate. The novelty of this result lies in the fact that the stability is proved using an ad-hoc functional. As a corollary, we derive a Lipschitz stability estimate in terms of the classical Dirichet-to-Neumann map. This talk is based on a joint work with Eva Sincich and Romina Gaburro.

Primary authors: FOSCHIATTI, Sonia (Università degli Studi di Trieste); Ms GABURRO, Romina (University of Limerick); Ms SINCICH, Eva (University of Trieste)

Presenter: FOSCHIATTI, Sonia (Università degli Studi di Trieste)