Analysis Seminar

The Calder\'{o}n problem for nonlocal operators

By

Tuhin Ghosh
(Universität Bielefeld)

Abstract: We study the inverse problem of determining the coefficients of the fractional power of a general second order elliptic operator given in the exterior of an open subset of the Euclidean space. We show the problem can be reduced into determining the coefficients from the boundary Cauchy data of the elliptic operator on the open set. As a corollary we establish several new results for non-local inverse problems by using the corresponding results for the local inverse problems. In particular the isotropic non-local Calder\'{o}n problem can be resolved completely, assuming some regularity assumptions on the coefficients, and the anisotropic Calder\'{o}n problem modulo an isometry which is the identity at the boundary for real-analytic anisotropic conductivities in dimension greater than two and bounded and measurable anisotropic conductivities in two dimensions.

Date: Monday, February 28, 2022
Time: 12:00-13:00, GMT+3
Place: ZOOM
To request the event link, please send a message to goncha@fen.bilkent.edu.tr