Temple University Mathematics Colloquium

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will speak on

Inverse boundary value problems with partial data

ABSTRACT: The talk will be devoted to the problem of determining coefficients of partial differential equations inside a domain from the knowledge of the set of the Cauchy data of solutions on the boundary of the domain. In other words, we are interested in recovering internal properties of a medium by making measurements on the boundary of the medium. Such problems have numerous applications, ranging from geophysical exploration to medical imaging. In many situations, performing measurements on the entire boundary could be either impossible or too cost consuming. One is therefore naturally led to an inverse problem with partial data, where the set of the Cauchy data is given only on a small portion of the boundary. We shall focus on some recent developments in the mathematical theory of such partial data problems, in the context of magnetic Schrödinger operators, as well as of perturbed polyharmonic operators.

Monday, February 20, 2012
Lecture at 4:00 pm
Coffee, tea, and refreshments from 3:40 pm
Room 617, Wachman Building
Department of Mathematics