

Department of Mathematics and Statistics
Colloquium Lecture Series

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**Methods of Boundary Control Theory in the
Non-stationary Inverse Problem for the Wave
Equation**

This work is about inverse problems for the wave equation. In particular, two equations are considered:

1. $u_{tt} - u_{xx} + q(x)u = 0$
2. $\rho(x)u_{tt} - u_{xx} = 0.$

In both cases we are given the response operator $(R^T f)(t) = u_x^f(0, t)$ and the inverse problem consists in recovering the potential $q(x)$ and the density $\rho(x)$, respectively. Several examples are tested numerically.

The simplest case of an inverse problem on the star graph is also discussed.

Thursday, September 4, 2008
Chapman 106
1:00–2:00

Refreshments after the talk in Chapman 101A