

*Department of Mathematics and Statistics*  
*Colloquium Lecture Series*

*Victor Mikhaylov*  
*UAF*

**The Boundary Control Approach to  
Inverse Spectral Theory**

We consider the inverse spectral problems for the Schrodinger operator on the interval and on the half line. The goal of the talk is to demonstrate connections between four approaches to inverse spectral problems: the classical Gelfand-Levitan theory, the Simon theory, the approach proposed by Remling, and the Boundary Control method. We show that the Boundary Control approach provides simple and physically motivated proofs of the central results of other theories. We demonstrate also the connections between the dynamical and spectral data and derive the local version of the classical Gelfand–Levitan equations. The talk is based on joint work with S. Avdonin.

*Thursday, May 1, 2008*

*Chapman 106*

*1:00 – 2:00 pm*

*Refreshments after the talk in Chapman 101A*