MS2: Inverse Problems I

High and Low Energy Analysis and Levinson's Theorem for the Selfadjoint Matrix Schrödinger Operator on the Half Line

Ricardo Weder, *Universidad Nacional Autnoma de Mexico*

The matrix Schrödinger equation with selfadjoint matrix potential is considered on the half line with the general selfadjoint boundary condition. For integrable potentials, the high energy asymptotics are established for the Jost and the scattering matrices. Under the additional assumption that the potential has a first moment, it is shown that the scattering matrix is continuous at zero energy, and a explicit formula is provided for its value. Levinson's theorem is also derived.

Determining a Magnetic Schrödinger Operator from Partial Data in an Infinite Slab

Shitao Liu, *Clemson University*

In this talk we consider an inverse boundary value problem with partial data in an infinite slab for the magnetic Schrdinger operator with bounded magnetic potential and electric potential. We show that the magnetic field and the electric potential can be uniquely determined, when the Dirichlet and Neumann data are given on either different boundary hyperplanes or on the same boundary hyperplanes of the slab.

Chebyshev Polynomials on Finite Gap Sets

Maxim Zinchenko, *University of New Mexico, Albuquerque*

In this talk I will discuss recent progress on the asymptotics of Chebyshev polynomials on finite gap sets.