Dirichlet Series in Approximation Theory and Applications in Signal Analysis

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Spectral Theory of Schrodinger Operators: An Introduction

We’ll discuss properties of spectral measures of continuum and discrete Schrodinger Operators, Borel transform methods, genericity of singular continuous spectrum, rank one perturbations and an introduction to Inverse Spectral Theory.

Lecture 1: Introduction - discuss continuum and discrete Schrodinger operators, spectral measures, Borel transforms and their relation to spectral measures, some examples.

Lecture 2: Spectral measures and boundary behavior of the Borel transform

Lecture 3: Baire genericity of sc measures, results on generic ac spectrum.

Lecture 4: Rank One perturbations

Lecture 5: An Introduction to Inverse Spectral Theory It’s an ambitious schedule which I’ll do by stating a lot without proofs. I’ll emphasize the connection with moment problems.