



Differential Equations and Applied Math Seminar

Dr. Jake Fillman, Texas State University

11am-12pm October 2nd, 2020

Zoom

Title: Schrodinger operators with thin spectra

Abstract: Schrodinger operators are fundamental models in solid-state physics. For periodic operators, which model crystals, the spectrum consists of a union of nondegenerate closed intervals. Starting with independent works of Moser and Avron–Simon in the early 1980s, it was understood that the gaps in the spectra of almost-periodic models could comprise a dense subset of \mathbb{R} – in other words, the spectra could be Cantor sets! We will talk about some modern refinements in terms of the measure and Hausdorff dimension of the spectrum. We will start by reviewing some general topics, including the spectral analysis of periodic operators.

Interested faculty and graduate students are encouraged to attend.