Title: Fourier transforms of measures supported on graphs

Speaker: Jonathan Fraser

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Abstract

We study the Fourier transforms of measures of graphs of real-valued functions defined on the unit interval. In particular, we are interested in how fast these Fourier transforms converge to zero (if they do at all). This is clearly related to the concept of Fourier dimension. Our results imply that the graph of fractional Brownian motion is almost surely not a Salem set, answering in part a question of Kahane from 1993, and that the graph of a Baire typical function in $C[0,1]$ has Fourier dimension zero.

This is joint work with T. Orponen and T. Sahlsten