TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Zoom meeting

Monday, April 19 2021, 2:30 p.m.

On the multiparameter distance set problem

by Yumeng Ou

University of Pennsylvania

Abstract: In this talk, we will describe some recent progress on the Falconer distance set problem in the multiparameter setting. The original Falconer conjecture (open in all dimensions) says that a compact set E in $\mathbb{R}^d$ must have a distance set $\{|x-y| : x, y \in E\}$ with positive Lebesgue measure provided that the Hausdorff dimension of E is greater than $d/2$. What if the distance set is replaced by a multiparameter distance set? We will discuss some recent results on this question, which is also related to multiparameter projections of fractal measures. This is joint work with Xiumin Du and Ruixiang Zhang.