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Analysis Seminar

On Measure and Topological Erdős Similarity Problems

Professor Chun-Kit Lai
Department of Mathematics
San Francisco State University

Abstract: A pattern is called universal in another collection of sets, when every set in the collection contains some linear and translated copy of the original pattern. Paul Erdős proposed a conjecture that no infinite set is universal in the collection of sets with positive measure.

In this talk, we explore an analogous problem in the topological setting and consider the topologically universality and generically universality. We will show that Cantor sets on \mathbb{R}^d are never topologically universal and Cantor sets with positive Newhouse thickness on \mathbb{R}^1 are not generically universal. Moreover, we also obtain a higher dimensional generalization of the generic universality problem.

Date: Friday, 28 July 2023

Time: 10:30 am – 11:30 am

Venue: Room 222, Lady Shaw Building,
The Chinese University of Hong Kong, Shatin

All are Welcome!