Department of Mathematics Seminar

Finite analogs of questions in fractal geometry

By

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Abstract: In 1999, Thomas Wolff proposed a combinatorial analog to the Kakeya conjecture, which is a problem in fractal geometry that lies at the root of certain deep questions in harmonic analysis. Wolff's question was answered by Zeev Dvir in 2009, and in subsequent years the relationship between combinatorics and fractal geometry has developed further and led to significant progress in both fields. I will give a taste of some of the results and conjectures on the combinatorial side, and mention some of my own results related to finite versions of the Kakeya conjecture and Falconer's distance conjecture. I will discuss joint work with Manik Dhar, Zeev Dvir, Debsoumya Chakraborti, Chuandong Xu, and others.

Date: February 26, Wednesday, 2025
Time: 15:00 (Turkey)
Place: ZOOM
This is an online seminar. To request the Zoom link, please send a message to turker.ozsari@bilkent.edu.tr