

Erdős unit distance problem

Haydar Göral

October 7, 2025

Abstract

The Erdős unit distance problem is a classic problem in combinatorial geometry. It asks the following:

Given n points in the plane, what is the maximum number of pairs of points that can be at unit distance apart? (Erdős, 1946)

In this talk, we will address this question using methods from extremal graph theory and mention related open problems.

MSC Number: 05C35

Keywords: Erdős unit distance problem, extremal graph theory

Address: *Department of Mathematics, Izmir Institute of Technology, Urla, Izmir, Turkey, haydargoral@iyte.edu.tr*

References

- [1] Yufei Zhao, Graph theory and additive combinatorics. Cambridge University Press (2021).