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# REGULARITY AND $k$ -ADMISSABLE MATCHINGS

Nursel Erey

Gebze Technical University

## Abstract

In the algebraic study of edge ideals and their powers, some graph parameters such as (induced) matching numbers provide sharp upper bounds for regularity. In this talk, we will focus on the squarefree powers of edge ideals. We introduce the concept of  $k$ -admissable matching number which ranges between the induced matching number and the matching number of a graph as  $k$  varies. We show that such number provides an upper bound for the regularity of squarefree powers of edge ideals associated to forests. Among the interesting consequences of this bound is a complete characterization of those ideals which have linear resolutions.

**Date :** Friday, April 29, 2022

**Time:** 17:00

**Place:** Zoom & Boğaziçi University, South Campus