

On the Maximum Number of Pentagons in a Triangle-free Graph

Andrzej Grzesik, Jagiellonian University

Abstract

During the talk we will show that a triangle-free graph on n vertices contains at most $\binom{n}{5}$ cycles of length five. It settles in the affirmative a conjecture of Erdős. The proof is based on Razborov's semidefinite method.