
ANDRÉS ANGEL, Universidad de los Andes

Evasiveness of graph properties and graphs on $2p$ vertices.

A property of graphs on n vertices is said to be evasive if its query complexity is the maximum $n(n - 1)/2$. The evasiveness conjecture for graph properties asserts that every non-trivial monotone graph property is evasive.

Kahn, Saks and Sturtevant proved the validity of conjecture when the number of vertices n is a prime power. They also prove the 6 vertices case. It remains open in all other cases, even for $n = 10$ vertices.

For graphs on $2p$ vertices, where p is prime, we give estimations of the Euler characteristic of simplicial complexes associated to potential non-evasive monotone graph properties. Finally we test our estimations in the cases of 10 vertices.