

Upper bound on the domination number of graphs with minimum degree four

Csilla Bujtás

University of Pannonia, Veszprém, Hungary

In the talk, we prove that if G is a connected graph of order n and with minimum degree 4, then its domination number $\gamma(G)$ satisfies $\gamma(G) \leq \frac{71n+5}{200}$. Moreover, $\gamma(G) \leq \frac{71n}{200}$ also holds under the same conditions, if n is large enough. It improves the best known upper bound to date which was established by Sohn and Yuan [4] in 2009. We also discuss recent results from [1] and [3] on the domination number of graphs with minimum degree 5 and 6 respectively.

References

- [1] Cs. Bujtás, Domination number of graphs with minimum degree five. *Discuss. Math. Graph Theory* 2021 pp.763-777.
- [2] Cs. Bujtás, Upper bound on the domination number of graphs with minimum degree four. Manuscript, 2022.
- [3] Cs. Bujtás, M.A. Henning, On the domination number of graphs with minimum degree six. *Discrete Math.* 2021 #112449.
- [4] M.Y. Sohn, X.D. Yuan, Domination in graphs of minimum degree four. *J. Korean Math. Soc.* 2009 pp.759-773.