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ON ACCURATE DOMINATION IN GRAPHS

Joanna Cyman

Faculty of Applied Physics and Mathematics
Gdańsk University of Technology, 80–233 Gdańsk, Poland

e-mail: joanna.cyman@pg.edu.pl

Michael A. Henning

Department of Pure and Applied Mathematics
University of Johannesburg
Auckland Park 2006, South Africa

e-mail: mahenning@uj.ac.za

and

Jerzy Topp

Faculty of Mathematics, Physics and Informatics
University of Gdańsk, 80–952 Gdańsk, Poland

e-mail: jtopp@inf.ug.edu.pl

Abstract

A dominating set of a graph G is a subset $D \subseteq V_G$ such that every vertex not in D is adjacent to at least one vertex in D. The cardinality of a smallest dominating set of G, denoted by $\gamma(G)$, is the domination number of G. The accurate domination number of G, denoted by $\gamma_{\rm a}(G)$, is the cardinality of a smallest set D that is a dominating set of G and no $|D|$-element subset of $V_G \setminus D$ is a dominating set of G. We study graphs for which the accurate domination number is equal to the domination number. In particular, all trees G for which $\gamma_{\rm a}(G) = \gamma(G)$ are characterized. Furthermore, we compare the accurate domination number with the domination number of different coronas of a graph.

Keywords: domination number, accurate domination number, tree, corona.

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