Outer-connected Edge Domination in Graphs

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Presentation Outline

Introduction

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Working Definitions

Definition

A set $M \subseteq E(G)$ is an *edge dominating set of* G if every $u \in E(G) \backslash M$ is adjacent to some $v \in M$. The *edge domination number of* G, denoted by $\gamma_e(G)$, is the minimum cardinality of an edge dominating set of G. Any edge dominating set of G with cardinality $\gamma_e(G)$ is referred to as a γ_e*-set of* G.

Working Definitions (Cont'n)

Example

The sets $M_1 = \{a, c, f\}, M_2 = \{d, h\}$, and $M_3 = \{a, e, g, h\}$ are edge dominating sets of G in Figure 1.5. Moreover, $M_2 = \{d, h\}$ is a minimum edge dominating set of G. Thus, $\gamma_e(G) = |M_2| = 2$ [1].

Figure 1: A graph G with $\gamma_e(G) = 2$.

References

[1] S. Arumugam and S. Velammal, "Connected edge domination in graphs," *Bulletin of Allahabad Mathematical Society*, vol. 24, no. 1, pp. 43–49, 2009.

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Thank You.