

Imroatus Sa'adah, 2020, **Dimensi Metrik Dominasi Graf Hasil Operasi Join**. Skripsi ini dibawah bimbingan Dr. Liliek Susilowati, M.Si. dan Dra. Utami Dyah Purwati, M.Si., Departemen Matematika, Fakultas Sains dan Teknologi, Universitas Airlangga, Surabaya.

ABSTRAK

Beberapa konsep dalam teori graf adalah dimensi metrik, bilangan dominasi, dan bilangan *metric location domination*. Pada penelitian ini disajikan kembali definisi bilangan *metric location domination* menjadi dimensi metrik dominasi, yang merupakan perkembangan konsep himpunan pembeda dan himpunan dominasi pada graf. Penelitian ini bertujuan untuk menentukan dimensi metrik dominasi pada graf lengkap, graf bipartit lengkap, graf bintang, graf siklus, dan graf lintasan serta graf hasil operasi joinnya. Selanjutnya, dimensi metrik dominasi dari suatu graf G dinotasikan dengan $Ddim(G)$, sedangkan dimensi metrik dominasi dari suatu graf hasil operasi join graf G dan graf H dinotasikan dengan $Ddim(G + H)$. Pada penelitian ini, dimensi metrik dominasi dari graf lengkap, graf bipartit lengkap, graf bintang, graf siklus, dan graf lintasan serta graf hasil operasi joinnya.

Kata kunci: *Metric Location Domination Number, Dimensi Metrik Dominasi, Operasi Join, Graf Bintang, Graf Siklus*

Imroatus Sa'adah, 2020, **The Dominant Metric Dimension of Joint Product Graphs**. This undergraduate thesis is supervised by Dr. Liliek Susilowati, M.Si. and Dra. Utami Dyah Purwati, M.Si., Mathematics Department, Faculty of Science and Technology, Airlangga University, Surabaya.

ABSTRACT

Some concepts in graph theory are metric dimension, domination number, and metric location domination number. In this thesis, we restate the definition of metric location domination number into the dominant mertric dimension, which is the development of the concepts of resolving set and dominating set on graph. The purpose of this research is to determine the dominant mertric dimension of complete graph, complete bipartite graph, star graph, cycle graph, and path graph as well as their joint product graphs. Then the dominant mertric dimension of a graph G is denoted by $Ddim(G)$, while the dominant mertric dimension of joint product of graph G and graph H is denoted by $Ddim(G + H)$. In this research, we also obtain the dominant mertric dimension of complete graph, complete bipartite graph, star graph, cycle graph, and path graph as well as their joint product graphs.

Keywords: *Metric Location Domination Number, Dominant Mertric Dimension, Joint Operation, Star Graph, Cycle Graph*