Power domination in honeycomb networks

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Abstract

Electric power networks must be continuously monitored. Such monitoring can be efficiently accomplished by placing phase measurement units (PMUs) at selected network locations. Due to the high cost of the PMUs, their number must be minimized. The power domination problem consists of finding the minimum number of PMUs needed to monitor a given electric power system. The power dominating problem is NP-hard, but closed formulas for the power domination number of certain networks, such as rectangular meshes [4] have been found. In this work we extend the results for rectangular meshes to honeycomb meshes.

Keywords: honeycomb mesh, power domination.
AMS Classification: 05C