

Power domination in graphs

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Abstract

Supervision of a power system may be performed by the adequate placement of phase measurement units. The minimum number of these units that need to be placed to entirely monitor a system corresponds to the power domination number of the corresponding graph, introduced by Haynes, Hedetniemi, Hedetniemi, and Henning in 2002. In contrast with other domination parameters, the power domination holds some spreading rules made possible by the use of Ohm's and Kirchhoff's laws. This parameter thus has a life-game like behavior and requires original proof techniques to be studied. In this talk, we shall define precisely the parameter, review some known results and discuss some current works on the problem.