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Katherine F Benson, Daniela Ferrero, Mary Flagg, Veronica Furst, Leslie Hogben and Violeta Vasilevska* (violeta.vasilevska@uvu.edu), 800 W University Parkway, Orem, UT 84058. *Nordhaus-Gaddum problems for power domination.*

Power domination is a coloring process on a graph that consists of finding a set of vertices that can ‘observe’ (color) the entire graph by following certain rules. The power domination number of a graph is the smallest number of vertices needed to observe (color) the whole graph. The study of power domination was motivated by the placement problem in the electrical engineering that consists of finding network locations where phase measurement units (PMUs) can be placed to monitor the entire network with minimum number of PMUs possible. The Nordhaus-Gaddum problems for power domination consist of finding a (tight) lower and upper bounds for the sum or product of the power domination number of a graph and of its complement. In this talk, we first discuss the Nordhaus-Gaddum problems for power domination. Then we present results about the improved tight Nordhaus-Gaddum sum upper bound for graphs that are connected and have connected complements, as well as for graphs whose components and the components of their complements have order at least 3. (Received August 20, 2020)