1125-05-578 Mary Flagg* (flaggm@stthom.edu), Department of Mathematics, University of St. Thomas, 3800 Montrose, Houston, 77096, and Daniela Ferrero, Katherine F. Benson, Veronika Furst, Leslie Hogben and Violeta Vasilevska. Nordhaus-Gaddum problems for the power domination number of a simple graph.
Power domination is a coloring game played on a simple graph which was originally motivated by the challenge of determining where to place phase measurement units (PMUs) to efficiently monitor an electric power grid. The power domination number of a graph corresponds to the smallest number of PMUs needed to monitor the whole grid represented by that graph. As with other graph parameters, Nordhaus-Gaddum problems for power domination involve finding (sharp) lower and upper bounds for the sum or product of the power domination number of a graph and that of its complement in terms of the order of the graph. The focus of our research has been Nordhaus-Gaddum bounds for graphs in which both the graph and its complement are connected. Weakening the connected graph requirement somewhat, we will exhibit sharp lower and upper bounds for Nordhas-Gaddum sums and products for power domination for trees and for graphs in which each connected component has at least three vertices. (Received September 06, 2016)

