The Zero Forcing Numbers of Peony Graphs and Web Graphs

Sara Anderton, Odessa, TX, Kanno Mizozoe, Trinity College, Houston Schuerger, The University of Texas Permian Basin, Andrew Schwartz*, Southeast Missouri State University

The concept of zero forcing involves a dynamic coloring process by which blue vertices cause white vertices to become blue, with the goal of forcing the entire graph blue while choosing as few as possible vertices to be initially blue. Past research in this area has focused on structural arguments, with approaches varying from graph substructures to the interplay between local and global graph structures. This paper explores the use of these structural concepts when determining the zero forcing number of complex classes of graphs, specifically two infinite classes of graphs each defined on multiple parameters.

Keywords: graph classes, zero forcing, forts, relaxed chronology, chain set