

Properties of the Zero Forcing TAR Reconfiguration Graph

Novi H. Bong* (University of Delaware), Joshua Carlson (Drake University), Bryan Curtis (Iowa State University), Ruth Haas (University of Hawaii), and Leslie Hogben (Iowa State University)

The problem of zero forcing can be described as a coloring game on a given graph G with vertices are colored blue or white. The color changing rule is: a blue vertex u can change the color of a white vertex v to blue, if v is the only white vertex adjacent to u . In this case we say, u forces v . A zero forcing set of a graph G is a subset of vertices in G that are colored blue initially and after applying the color changing rule, this subset is able to force all white vertices in G to blue. The zero forcing number of a graph G , denoted by $Z(G)$ is the minimum cardinality of the zero forcing sets of G . The *zero forcing TAR graph* $\mathcal{Z}_k^{\text{TAR}}(G)$ of G is the graph whose vertices are the zero forcing sets of G that have order at most k with an edge between two vertices if and only if one zero forcing set can be obtained from the other by adding or removing a vertex. In this talk, I will present some properties of the zero forcing TAR reconfiguration graph.

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