On the zero forcing number of the complement of certain graphs

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Zero forcing is an iterative graph coloring process where an initial set of blue vertices eventually color all vertices of a graph using a color change rule. The zero forcing number of a graph was first defined as a method for bounding the maximum nullity of a graph, but has since become a graph parameter of independent interest. The complement of a graph is the graph on the same vertices that has exactly the edges that are not contained in the original graph. Expanding on the known results about the zero forcing number for the complement of a tree, we consider the zero forcing number for the complement of more general graphs under some conditions. Results to be presented include bounds on the zero forcing number of the complement of graphs that do not contain complete bipartite subgraphs. We will also present a characterization of zero forcing numbers for the complements of unicyclic graphs and a partial characterization for complements of cactus graphs.

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