ZERO FORCING IN GRAPHS

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Zero forcing is a propagation process on a graph. The propagation process may be describe by the repeated application of the following *colour change rule*: starting with an initial set of blue vertices, a blue vertex v can change the colour of a neighbouring white vertex w to blue if w is the only white neighbour of v. A *zero forcing set* of G is a subset S of vertices such that if S is the initial set of blue vertices the whole graph will eventually be coloured blue. The *zero forcing number* of a graph G, $Z(G)$, is the minimum cardinality of a zero forcing set.

We introduce the idea of *Z-irredundance*, which determines when a zero forcing set is minimal. In this talk we will discuss the relationships between zero forcing and Z-irredundance showcasing similarities and significant differences.