

Odd cycle zero forcing parameters and the minimum rank problem

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The minimum rank problem for a simple graph G and a given field F is to determine the smallest possible rank among symmetric matrices over F whose i, j -entry, $i \neq j$, is nonzero whenever i is adjacent to j , and zero otherwise; the diagonal entries can be any element in F . The zero forcing number, which is defined by a color-change game on graphs, provides a lower bound for the minimum rank. This talk will discuss variations of the zero forcing number and introduce the odd cycle zero forcing number, which improves the lower bound for the minimum rank whenever the field F is not of characteristic 2.

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