

The Relationship Between the Zero Forcing Number and Independence Number of Cubic Graphs

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In this talk, the relationship between the zero forcing number and the vertex independence number of cubic and subcubic graphs is discussed and motivated by a conjecture from the automated conjecturing program TxGraffiti. TxGraffiti conjectures that for all connected cubic graphs that are not K_4 , $Z(G) \leq \alpha(G)$. We use decycling partitions of upper-embeddable graphs to show that almost all cubic graphs satisfy $Z(G) \leq \alpha(G)$, provide an infinite family of cubic graphs where $Z(G) = \alpha(G)$, and extend known bounds to subcubic graphs.

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