Bounding Domination Invariants

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When faced with a parameter that is computationally infeasible to calculate, finding a computationally efficient bound on the parameter can be a helpful starting point. Caro and Pepper introduced in 2014 the degree sequence index strategy (DSI-strategy) which provides a unified framework for using the degree sequence of a graph to bound NP-hard invariants. This talk will describe a new domination invariant based on this DSI-strategy that bounds the k-domination number. The k-domination number is the minimum cardinality of a set of vertices S such that each vertex not in S is adjacent to at least k vertices in S. In addition, we will describe properties that are inherent in this new domination number.

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