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MONOTONICITY AND EXPANSION OF GLOBAL SECURE SETS

In the talk two problems will be presented, namely finding a global secure set of fixed cardinality and its expansion. For a given graph $G = (V, E)$ a global secure set $SD \subseteq V$ is a dominating set which also satisfies a condition that $|N[X] \cap SD| \geq |N[X] - SD|$ for every subset $X \subseteq SD$. Moreover we say that a global secure set $SD \subset V$ is expandable if there exists a vertex $v \in V - SD$ such that the set $SD' = SD \cup \{v\}$ is a global secure set.

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