

The game of revolutionaries and spies in unicyclic and complete bipartite graphs

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We study a game played on a graph G by a team of r revolutionaries and a team of s spies, with parameter m . Initially, revolutionaries and then spies take positions at vertices of G . In each subsequent round, each revolution may move to an adjacent vertex or not move, after which each spy has the same option. The revolutionaries' goal is to have m revolutionaries on a single vertex with no spy present; this is called an uncovered "meeting". The spies' goal is to prevent an uncovered meeting from being formed. For each graph G fixed r and m , there is a threshold for $s_0 = s_0(r, m)$ such that if there are $s \geq s_0$ spies then they can prevent r revolutionaries from forming an uncovered meeting in the game played on the graph G . We will present some new results for this game. In particular, we consider the following graphs: complete bipartite graphs, graphs with a dominating vertex, and graphs with at most one cycle. This is joint work with Daniel Cranston, Gregory Puleo, Douglas West, and Reza Zamani.