1073-05-57 David Howard (howard@techunix.technion.ac.il) and Clifford Smyth* (cdsmyth@uncg.edu). Revolutionaries and Spies.

Revolutionaries and spies is a game, RS(G, m, r, s), played on a graph G between two teams: one team consists of r revolutionaries, the other consists of s spies. To start, each revolutionary chooses a vertex as its position; more than one revolutionary may choose the same vertex. The spies then do the same. Thereafter the revolutionaries and spies alternate moves with the revolutionaries going first. To move, each revolutionary simultaneously chooses to stay put on its vertex or to move to an adjacent vertex. The spies move in the same way. The goal of the revolutionaries is to place m of their team on some vertex v in such a way that the spies cannot place one of their spies at v in their next move; this is a win for the revolutionaries. If the spies can prevent this forever, they win. There is no hidden information: the positions of all players is known to both sides at all times.

We mention a selection of recent results on this game. We will present the result that if $RS(Z^2, 2, r, s)$ is a win for the spies then $s \ge 6\lfloor \frac{r}{8} \rfloor$. (Here allowable moves in Z^2 consist of one-step horizontal, vertical or diagonal moves.) (Received July 24, 2011)