1126-05-90 **Michael Ferrara*** (michael.ferrara@ucdenver.edu). *Ore and Chvátal-type Degree Conditions for Fast Bootstrap Percolation.*

Bootstrap percolation is a deterministic cellular automaton in which vertices of a graph G begin in one of two states "dormant" or "active". Given a fixed integer r, a dormant vertex becomes active if at any stage is has at least r active neighbors, and remains active for the duration of the process. Given an initial set of a active vertices A, we say that G r-percolates (from A) if every vertex in G becomes active after some number of steps. Let $m(G, r)$ denote the minimum size of a set A such that G r-percolates from A.

Here, we provide degree-based density conditions than ensure $m(G, 2) = 2$. In particular, we give an Ore-type degree sum result that states if a graph G satisfies $\sigma_2(G) \geq n - 2$, then either $m(G, 2) = 2$ or G is in one of several exceptional classes. We also give a Chv'atal-type degree condition: If G is a graph with degree sequence $d_! \leq d_2 \leq \cdots \leq d_n$ such that $d_i \geq i + 1$ or $d_{n-i} \geq n - i - 1$ for all $1 \leq i < \frac{n}{2}$, then $m(G, 2) = 2$. Tthese results are inspired by, and extend [D. Freund, M. Poloczek, and D. Reichman, Contagious sets in dense graphs, to appear in *European J. Combin.*]/ Joint with Michael Dairyko, Bernard Lidicky, Ryan R. Martin, Florian Pfender and Andrew Uzzell. (Received January 05, 2017)