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Josh Carlson* (jmsdg7@iastate.edu). *Throttling for Cops and Robbers*. Preliminary report.

The color change rule for zero forcing in graph G is that a blue vertex v can force a white vertex w blue if w is only white neighbor of v . B_0 is initial set of blue vertices and B_{i+1} is set of blue vertices after the color change rule is applied to every vertex in the set B_i . Set B_0 is a zero forcing set if there is a t such that $B_t = V(G)$. The zero forcing number of G is minimum size of a zero forcing set. The propagation time for B_0 , $pt(G, B_0)$, is smallest t such that $B_t = V(G)$. The zero forcing throttling number of G is the minimum of $|B_0| + pt(G, B_0)$ where B_0 ranges over all zero forcing sets of G . Zero forcing throttling was introduced and studied by Butler and Young in 2013. PSD zero forcing is a variant in which the color change rule is applied to each component of $G - B_i$ separately. Recently results were obtained for the PSD zero forcing throttling number th_+ . Cops and robbers is a game played on a graph in which cops and a robber alternate turns moving along the edges of the graph. Cops win if a cop moves to the vertex where the robber is. Results on throttling for cops and robbers and its connection to th_+ will be presented. Joint work with J. Breen, B. Brimkov, D. Ferrero, L. Hogben, K. Perry, C. Reinhart. (Received September 24, 2017)