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(senglish@illinois.edu), **Jesse Geneson, Leslie Hogben, K E Perry and Carolyn  
Reinhart.** *Catching Robbers Quickly and Efficiently.*

The game of cops and robbers is a 2-player game played on a graph in which a team of cops try to catch a moving robber. The minimum number of cops necessary to catch a robber on the graph  $G$  is the *cop number*, denoted  $c(G)$ . In this talk we will discuss *cop-throttling*, in which we are concerned with catching the robber quickly. More precisely, the *capture time* with  $k$  cops, denoted  $\text{capt}_k(G)$ , is the length of the longest game of cops and robbers possible, assuming the cops play optimally. The *cop-throttling number* is given by

$$\text{th}_c(G) := \min_{c(G) \leq k \leq |V(G)|} \{k + \text{capt}_k(G)\}.$$

We will briefly give background on the game of cops and robbers, and then we will show that the cop throttling number grows sublinearly with the number of vertices of  $G$ . (Received September 05, 2019)