1145-VP-462 **Shannon Dillman*** (2sdillman@gmail.com) and **Franklin Kenter** (kenter@usna.edu).

Bounding the Cop Number in the Game of Cops and Robbers on Graphs. Preliminary report.

The game of Cops and Robbers on graphs was first introduced in the early 1980s, and one of the deepest problems in the game is finding a good upper bound for the cop number of a graph. We will describe our strategy based on a breadth-first search method used to estimate an upper bound for the cop number on any graph. For this strategy, we also discuss the algorithm and integer program used. We then explore this idea on the proven cop number of an n-dimensional cube graph. (Received September 06, 2018)