1163-03-646 **Leigh Evron**, **Reed Solomon*** (david.solomon@uconn.edu) and **Rachel Stahl**. *Weakly cop-win graphs and dominating orders.*

The game of cops and robbers is a vertex pursuit game in which two players take turns moving on a graph. Player 1 (the cop) wins if she eventually lands on the same vertex as Player 2. For a finite graph G, Player 1 has a winning strategy if and only if there is a dominating order on G. This connection breaks down for infinite graphs and various attempts have been made to alter the rules of the game to restore it. In 2016, Lehner proposed a notion of a weakly cop-win graph, proved that if G has a dominating order, then G is weakly cop-win, and asked whether the converse holds. We show that the converse does not hold by constructing a family of weakly cop-win graphs that do not have dominating orders, and explore some computability theoretic properties of this variant of the game of cops and robbers. (Received September 10, 2020)