

1154-05-2128

**Beth Bjorkman\*** (bjorkman@iastate.edu). *Infectious Power Domination for Hypergraphs.*

The power domination problem seeks to find the placement of the minimum number of sensors needed to monitor an electric power network. We generalize the power domination problem to hypergraphs using the infection rule from Bergen et al (2018): given an initial set of observed vertices,  $S_0$ , a set  $A \subseteq S_0$  may infect an edge  $e$  if  $A \subseteq e$  and for any unobserved vertex  $v$ , if  $A \cup \{v\}$  is contained in an edge, then  $v \in e$ . We combine a domination step with this infection rule to create *infectious power domination*. We compare this new parameter to the previous generalization by Chang and Roussel (2015). We provide general bounds and determine the impact of some hypergraph operations. (Received September 17, 2019)