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Joseph Alameda* (jalameda@iastate.edu). *Comparing the domination number and the k -power domination number in hypergraphs a preliminary report.* Preliminary report.

In this presentation both the domination number and the k -power domination number are compared in hypergraphs. In particular, I explore the question "given an upper bound for the domination number, is there a related bound for the k -power domination number?" Various examples are given that suggest this question is true. Furthermore, I prove that given a hypergraph \mathcal{H} with $n \geq k + 3$ vertices and edge size at least 3, that $\gamma_p^k(\mathcal{H}) \leq \frac{n}{k+3}$. In doing so, I prove a conjecture given by Bjorkman stating $\gamma_p^1(\mathcal{H}) \leq \frac{n}{4}$ for hypergraphs on $n \geq 4$ vertices with edge size at least 3. (Received September 11, 2020)