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Faisal Min Mahfoodh, Bo Peng, Elizabeth Sprangel* (sprangel@iastate.edu) and
Michael Young. *Exponential Domination on $C_n \square P_k$ and infinite grids.*

Dominating sets for a graph is a well-studied property. We consider a variant on dominating sets called exponential domination. In this variant, each vertex sends dominating weight to all the other vertices which decreases exponentially with distance. In this poster, we discuss the exponential domination number for C_n and $C_n \square P_2$ and prove their exponential domination number. Then, we explore the exponential domination number of the infinite grid. We conjecture that there exists a exponential dominating set of minimum density such that each vertex is dominated by vertices within k for some integer k . (Received August 14, 2019)