TRENT MARBACH, Toronto Metropolitan University
Pursuit-Evasion Games on Latin Square Graphs

Graphs based on designs have been found to be useful in the study of pursuit-evasion on graphs. We investigate various pursuit-evasion parameters on latin square graphs, including the cop number, metric dimension, and localization number. The cop number of latin square graphs is studied, and for k-MOLS(n), bounds for the cop number are given. If $n > (k+1)^2$, then the cop number is shown to be $k+2$. Lower and upper bounds are provided for the metric dimension and localization number of latin square graphs. The metric dimension of back-circulant latin squares shows that the lower bound is close to tight. Recent results on covers and partial transversals of latin squares provide the upper bound of $n + O\left(\frac{\log n}{\log \log n}\right)$ on the localization number of a latin square graph of order n.