



Cops and robbers on certain hypergraphs



Pinkaew Siriwong

Chulalongkorn University, Thailand

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A cops and robbers game is a two-player game which is usually played on a finite connected graph. Two players may take an alternative move from a vertex to another vertex along an edge or pass their turn, beginning with a cop. Besides a finite graph, this game can be played on a finite connected hypergraph which is slightly different from playing on a graph by moving from one vertex to another vertex belonging to the same hyperedge. A hypergraph which a cop has a winning strategy is called a cop-win hypergraph and a hypergraph which a robber has a winning strategy is called a robber-win hypergraph. Recently, some authors have investigated the cop-number; that is, the minimum number of cops needed to win, in both graphs and hypergraphs. According to cops and robbers game played on hypergraphs, the cop-number of hyperpaths and hypercycles are one and two cops, respectively. In this talk, we are interested in such a game played on the product of cop-win hypergraphs and characterization of cop-win hypergraphs.

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