

Cactus Based Out Tournament Adjacency Matrix Ranks

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Much work has been done in analyzing various classes of tournaments, giving a partial characterization of tournaments with certain adjacency matrix ranks. Relatively little is known about the corresponding adjacency matrix ranks of local out tournaments, a larger family of digraphs containing the class of tournaments. Based on some structural theorems from Bang-Jensen, Huang, and Prisner, we will identify several classes of out tournament which have the desired adjacency matrix rank properties.

Keywords: Boolean rank of $\{0, 1\}$ -matrix, local out tournament, catch digraph, intersection graph