

Hypo-matchings in directed graphs

GYULA PAP

Department of Operations Research, Eötvös University, Budapest

We consider a common generalization of even factors and hypo-matchings. In the even factor problem we are looking for a maximum cardinality set of arcs in a digraph which is the node-disjoint union of even dicycles and dipaths. The even factor problem can be solved for the class of so-called odd-cycle-symmetric digraphs, this class also contains the so-called path-matching problem. The hypo-matching problem is proposed with the input of an undirected graph, and a fixed family of some of its factor-critical subgraphs, which are "allowed". A hypo-matching is a family of node-disjoint family of allowed subgraphs and single edges. We are concerned with covering the maximum number of nodes by a hypo-matching.