Good pairs in digraphs

Zhenyu Taoqiu

Center for Combinatorics, Nankai University, Tianjin 300071, China

Email: tochy@mail.nankai.edu.cn

Introduction

Branchings play an important role in digraph theory and algorithms. In particular, a chapter in the monograph of Bang-Jensen and Gutin, Digraphs: Theory, Algorithms and Application, Ed. 2, 2009 is wholly devoted to branchings. The well-known Edmonds Branching Theorem provides a characterization for the existence of k arc-disjoint out-branchings rooted at the same vertex. A short proof of the theorem by Lovász (1976) leads to a polynomial-time algorithm for finding such out-branchings. A natural related problem is to characterize digraphs having an out-branching and an in-branching which are arc-disjoint. Such a pair of branchings is called a good pair. In this talk, we will mention the progress related to good pair in recent years and some results we have obtained. This is a joint work with Ran Gu, Gregory Gutin, Shasha Li and Yongtang Shi.

Contact Information

- Web: https://scmscomb.github.io/student