

数学与系统科学研究院

计算数学所学术报告

报告人: **Wei-Kun Chen**

(*School of Mathematics and Statistics, Beijing Institute of
Technology*)

报告题目:

**Exact separation algorithm for
unsplittable capacitated network
design flow arc-set polyhedron**

邀请人: 刘亚锋 副研究员

报告时间: 2020 年 8 月 25 日 (周二)

下午 14:00-15:00

报告地点: 科技综合楼

311 报告厅

Abstract:

In this talk, we concentrate on generating cutting planes for the unsplittable capacitated network design problem. We use the unsplittable flow arc-set polyhedron of the considered problem as a substructure and generate cutting planes by solving the separation problem over it. A brute-force algorithm, called exact separation algorithm, is employed in solving the separation problem of the considered polyhedron such that the constructed inequality guarantees to be facet-defining. To relieve the computational burden, we show that, in some special cases, a closed form of the separation problem can be derived. Furthermore, a new technique is proposed to accelerate the exact separation algorithm, which significantly decreases the number of iterations in the algorithm. Finally, a comprehensive computational study on the unsplittable capacitated network design problem is presented to demonstrate the effectiveness of the proposed algorithm.

欢迎大家参加！