数学与系统科学研究院

计算数学所学术报告

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报告题目：

Mixed Integer Non-linear Programs for Gas Network Optimization

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下午 **15:30-16:30**

报告地点： 科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Mixed integer non-linear Programs (MINLP) are a very general class of optimization problems. In those cases where instances feature a high amount of integer variables one way to solve these problems is to generalize methods from mixed-integer linear programing (MIP) to handle non-linear constraints.This approach has proven to be quite successful in recent years.We will show how to modify a MIP solver by developing suitable branching-rules, heuristics and relaxations for the non-linear non-convex case.

The reason for the high interest in MINLPs originates from the huge number of possible applications. A typical example is the modeling of gas transport networks. Here we have "network flow problems" with non-linear pressure constraints, which can be formulated as MINLPs.

In this talks we will discuss MIP based approaches to solve general MINLPs and show how to deal with a real-world application from gas network optimization.

欢迎大家参加！