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：

Some recent developments of ADMM for separable convex optimization

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报告时间：**2015** 年 **6** 月 **4** 日（周四）

下午 **14:00~15:00**

报告地点：　　科技综合楼三层

311 报告厅

Abstract:

Alternating directions method of multipliers (ADMM) is recognized as a powerful approach for the structured convex optimization with two separable operators. When ADMM is extended directly to a three-block separable convex minimization model, it was recently shown that the convergence is not guaranteed. This fact urges to develop e_cient algorithms that can preserve completely the numerical advantages of the direct extension of ADMM but with guaranteed convergence. This talk will answer the following questions:

_ how to construct more e_cient ADMM for the two-block problems;

_ why the direct extension of ADMM for the three-block problems is not necessarily convergent;

_ how to make a slight change of the original ADMM, such that the modi_ed methods can be applied for the multi-block problems.

The analysis for the modi_ed methods is conducted in the variational inequality context. We show the contraction property, prove the global convergence and establish the worst-case convergence rate measured by the iteration complexity. The proposed method can be extended for solving the multi-block separable convex optimization.

Keywords. Convex optimization, Alternating direction method of multipliers, Splitting methods, Contraction.

欢迎大家参加！