数学与系统科学研究院

计算数学所定期学术报告

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报告题目：

On inexact ADMM swith relative error criteria

报告时间：**2017 年 12 月 6 日（周三）**

下午 16:00-17:00

报告地点：　数学院科技综合楼

三层 311 报告厅

报告摘要：

This talk presents some works on inexact alternating direction methods of multipliers (ADMMs) for solving two-block separable linearly constrained convex optimization problems. Where the two subproblems in the classic ADMM are allowed to be

solved inexactly by certain relative error criteria, in the sense that only a few parameters are needed to control the inexactness. Moreover, in many practical computations, the numerical performance is often improved if a larger step-length is used. Hence we also consider to seek a larger step-length to update the Lagrangian multiplier to accelerate the numerical performance. Specifically, if we only allow one subproblem in the classic ADMM to be solved inexactly by a certain relative error criterion, then a larger step-length can be adopted. Global convergences of those proposed algorithms are established under the assumption that the solution set to the KKT system of the problem is not empty. Preliminary numerical experiments on solving the total variation (TV)-based image denoising problems are provided to demonstrate the effectiveness of the proposed methods and the advantage of taking a larger step-length.

欢迎大家参加！