数学与系统科学研究院

计算数学所学术报告

报告人： 吕锡亮 副教授

（ 武汉大学数学与统计学院 ）

报告题目：

A primal dual active set algorithm for the nonconvex sparse optimization problems

邀请人： 龚伟 博士

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上午 10：00~11：00

报告地点： 科技综合楼三层 301

计算数学所小报告厅

Abstract：

In this talk, we consider the problem of recovering a sparse vector from noisy measurement data. An algorithm of primal-dual active set type for a class of nonconvex sparsity-promoting penalties is proposed. A novel necessary optimality condition for the global minimizer using the associated thresholding operator is derived. The solutions to the optimality system are coordinate-wise minimizers, and under minor conditions, they are also local minimizers. Upon introducing the dual variable, the active set can be determined from the primal and dual variables. This relation lends itself to an iterative algorithm of active set type which at each step involves updating the primal variable only on the active set and then updating the dual variable explicitly. Numerical experiments demonstrate its efficiency and accuracy.

欢迎大家参加！