数学与系统科学研究院

计算数学所网络学术报告

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报告题目：

A primal-dual majorization-minimization method for large-scale linear programs

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报告工具： 腾讯会议

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Abstract：

We present a primal-dual majorization-minimization method for large-scale linear programs. The method is originated from a newly developed augmented Lagrangian method for nonlinear inequality constrained optimization. The majorization-minimization approach is introduced to solve the augmented Lagrangian subproblems. Distinguished from the existing simplex methods and interior-point methods for linear programs, our proposed method only depends on a factorization of the constant matrix independent of iterations and does not need any computation on step sizes, thus can be expected to be particularly appropriate for large-scale linear programs. Under mild conditions, the global convergence is analyzed. Moreover, we prove that our method can be of globally linear convergence, and the iteration complexity of our method is independent of the sizes of the linear programs.

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