Large-scale Nonseparable Convex Optimization

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ABSTRACT

There have been considerable researches for solving large-scale separable convex optimization. In this paper we present methods for large-scale nonseparable convex optimization problems with block-angular linear constraints. The large-scale nonseparable convex optimization problems were raised to us to find a routing control in the ATM network. For the case of smooth objective function, the solution is approximated by solving a sequence of the block-angualr structured linear program which is obtained by bundle-based decomposition method. For the case of nonsmooth objective function, we propose a primal-dual method which solves the Lagrangian dual problem by cutting plane method and solves the primal problem by bundle method. We present some computational experiences.