國立中山大學應用數學系
學術演講

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講　題：Minimal Solution of Positive Semidefinite Quadratic Programming via Active-Set Methods

時　間：2026/10/29（Thursday）14:10 ~ 15:00

地　點：理 SC4009-0 教室

茶　會：13:30

Abstract

We study convex quadratic programming problems with positive semidefinite Hessian matrices, for which the set of optimal solutions may be nonunique. We prove that, when the optimal value is finite, there exists a unique minimal solution, defined as the minimizer with the smallest Euclidean norm, and provide a primal-dual characterization of this solution. To compute the minimal solution efficiently, we introduce a regularization framework that yields a sequence of strictly convex quadratic programs and prove that their solutions converge to the minimal solution of the original problem. Based on this analysis, we develop an active-set-based algorithm with a homotopy strategy for tracking the regularization parameter. Numerical experiments demonstrate the effectiveness and robustness of the proposed method.

敬 請 公 告！ 歡 迎 參 加！

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