

QP-FREE, TRUNCATED HYBRID METHODS FOR LARGE-SCALE NONLINEAR CONSTRAINED OPTIMIZATION

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摘要

关键词

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QP-FREE, TRUNCATED HYBRID METHODS FOR LARGE-SCALE NONLINEAR CONSTRAINED OPTIMIZATION

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Abstract In this paper, a truncated hybrid method is proposed and developed for solving sparse large-scale nonlinear programming problems. In the hybrid method, a symmetric system of linear equations, instead of the usual quadratic programming subproblems, is solved at iterative process. In order to ensure the global convergence, a method of multiplier is inserted in iterative process. A truncated solution is determined for the system of linear equations and the unconstrained subproblems are solved by the limited memory BFGS algorithm such that the hybrid algorithm is suitable to the large-scale problems. The local convergence of the hybrid algorithm is proved and some numerical tests for medium-sized truss problem are given.

Key words

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