Modified Conjugate Gradient Method for Unconstrained Optimization

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Abstract

Conjugate gradient method holds an important role in solving unconstrained Optimizations, especially for large scale problems. Numerous studies and modifications have been done to improve this method. In this paper, we propose a new conjugate gradient method which is computed by modifying Dai and Yuan formula. This new formula for the denominator is introduced and the numerator of Dai and Yuan for mula is retrained, but still possesses global convergence properties. Numerical results based on number of iterations and number of function evaluations by using exact line search have shown that the new formula is an efficient when we comparative it with the other conjugate gradient methods.

References

Index Terms

Computer Science
Applied Mathematics

Keywords
Conjugate gradient methods  global convergence  unconstrained optimization  exact line search