ON A MODIFIED CONJUGATE GRADIENT METHOD FOR SOLVING NONLINEAR UNCONSTRAINED OPTIMIZATION PROBLEMS

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ABSTRACT

Conjugate gradient method is an important technique for solving unconstrained optimization problems. In this paper, we modified the conjugate gradient method by introducing some parameters to the value of conjugate gradient coefficient (β_i) in the descent direction. The modified conjugate gradient algorithm was then applied to solve some nonlinear unconstrained optimization problems after establishing the convergence criteria. The results obtained compares favourably with existing results.

Keywords: Modified Conjugate Gradient Method, Unconstrained optimization problem, Descent direction, Convergence criteria, Non-linear problem.