Abstract

In this study, we present another modification of a scaled three-term conjugate gradient (CG) algorithm. The proposed method incorporates the BFGS updating scheme of the inverse Hessian approximation within the frame of a memoryless quasi-Newton approach. In this case, the inverse Hessian approximation is restarted as a multiple of identity matrix with a spectral scaling parameter at every iteration. Under standard Wolfe line search, numerical results from an implementation of the proposed method indicate that the method is promising and competitive when subjected to comparison with other state-of-the-art similar algorithms available in literature utilizing performance profiles of Dolan and More.

References

power flow and the minimization of power losses on transmission lines, Applied Mathematics and Computation, 241, 214 – 221.


Another Conjugate Gradient Algorithm based on Spectral-scaled Memoryless BFGS Update


Index Terms

Computer Science

Algorithms

Keywords

Unconstrained optimization, conjugate gradient method, spectral-scaled memoryless BFGS, numerical comparisons