PARALLEL IMPLEMENTATION OF EIGENVALUE ALGORITHMS ON DISTRIBUTED MEMORY MACHINES

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Abstract

This paper considers the parallel solution of large eigenvalue problems on a mesh-connected processor array with distributed memories. New parallel Jacobi algorithms are introduced for solving the problem. The algorithms require a small number of data communications between processing elements on our computing model. They have been implemented on the Fujitsu AP 1000. The paper also reports our analytical and experimental results.

Comments

Only the Abstract is given here. The full paper appeared as [1]. For background material, see [2].

References

[1] B. B. Zhou and R. P. Brent, "Parallel implementation of eigenvalue algorithms on distributed memory machines", *Proc. 16th Australian Computer Science Conference* (edited by G. Gupta, G. Mohay and R. Topor), Brisbane, 3-5 Feb. 1993, 19–25. ISSN 0157-3055. rpb137.

[2] R. P. Brent and F. T. Luk, "The solution of singular-value and symmetric eigenvalue problems on multiprocessor arrays", *SIAM J. Scientific and Statistical Computing* 6 (1985), 69–84. rpb084.

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