A SYSTOLIC ARRAY FOR THE LINEAR-TIME SOLUTION OF TOEPLITZ SYSTEMS OF EQUATIONS

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Abstract

The solution of an $(n+1) \times (n+1)$ Toeplitz system of linear equations on a one-dimensional systolic architecture is studied. Our implementation of an algorithm of Bareiss is shown to require only $O(n)$ time and $O(n)$ storage, i.e. constant storage per systolic processor.

Comments

Only the Abstract is given here. The full paper appeared as [1] (there are some unfortunate printer's errors such as omitting parentheses in displayed matrices; the corrections should be self-evident). For related work, see [2]. The numerical stability of the Bareiss and Levinson algorithms (in the symmetric positive-definite case) is considered in [3].

References

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