

A Parallel Algorithm for Power Matrix Computation

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Abstract—We present a parallel algorithm for power matrix A^n in $O(\log^2 n)$ time using $O(n^{2.807}/\log n)$ number of processors. It is shown that the growth rate of the proposed algorithm is the same as the parallel arithmetic complexity of matrix computations, including matrix inversion and solving systems of linear equations.

Keywords—matrix computations, parallel algorithms, computational complexity

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