

A New NC Algorithm for Perfect Matching in Bipartite Cubic Graphs

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Abstract

The purpose of this paper is to introduce a new approach to the problem of computing perfect matchings in fast deterministic parallel time. In particular, this approach yields a new algorithm which finds a perfect matching in bipartite cubic graphs in time $O(\log^2 n)$ and $O(n^{\alpha(n)/\log n})$ processors in the arbitrary CRCW PRAM model.