A Constructive Algorithm for Legalization in Standard Cell Placement

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ABSTRACT

Placement is a very importing design step in VLSI physical design. In general, placement can be divided into three steps including global placement, legalization and detailed placement. During legalization step, all cell overlaps have to be removed and a legal placement with minimum perturbation will be produced.

In this paper, a constructive algorithm will be proposed to solve the problem of legalization. The proposed algorithm has three steps including row enumeration, cell assignment and position adjustment. The problem objective is to derive a legalization solution with total displacement as few as possible.

The experimental result shows that the proposed constructive algorithm has good performance even on very large testbenchs.

Keywords : Placement、Legalization

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