An Algorithm for Large-Scale Analog Block Placement with Symmetry Constraints

Student: Shing-Weng Fang Advisor: Hung-Ming Chen

Department of Electronic Engineering & institute of Electronic College of Electronic and Computer Engineering National Chiao Tung University

Abstract

In recent years, in order to handle matching in high performance analog circuits, some cells are often required placed symmetrically to the axis. For the symmetry components for the analog circuits in our full floorplan, we hope that the cells of the same symmetry groups are placed together. We propose a simple and efficient method to obtain the closest cell placement satisfying the symmetry constrains and the cell placement with symmetry constraints implemented by the linear programming with sequence pair. With the sequence pair, in order to obtain solutions effectively, we execute the simulated annealing with the positions of the symmetry and non-symmetry cells in a way of correlation. Then, we compare our experiment results to the papers with symmetry constraints recently and we will demonstrate the effectiveness of our approach by experiment result.