

Simulated Evolution Algorithm For Multiobjective VLSI Netlist Bi-Partitioning

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Summary

In this paper the Simulated Evolution algorithm (SimE) is engineered to solve the optimization problem of multi-objective VLSI netlist bi-partitioning. The multi-objective version of the problem is addressed in which, power dissipation, timing performance, as well as cut-set are optimized while Balance is taken as a constraint. Fuzzy rules are used in order to design the overall multi-objective cost function that integrates the costs of three objectives in a single overall cost value. Fuzzy goodness functions are designed for delay and power, and proved efficient. A series of experiments are performed to evaluate the efficiency of the algorithm. ISCAS-85/89 benchmark circuits are used and experimental results are reported and compared to earlier algorithms like GA and TS.

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