基于 CMGA 的 SoC 测试多目标优化研究

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摘　要： 针对传统群体智能算法在解决 SoC 测试多目标优化问题上存在的缺陷,将改进的 Tent 混沌映射引入到多目标遗传算法中.建立以测试时间和测试功耗为目标的优化模型,在测试访问机制合理划分基础上，利用算法对该数学模型进行求解.选取典型的 ITC’02 基准电路为验证对象，实验结果表明此算法的实用性和优越性.

关键词： 混沌映射；多目标遗传；测试访问机制；测试功耗

Research of SoC Test Multi-objective Optimization Based on CMGA

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Abstract： To deal with the shortcomings of traditional swarm intelligence algorithm in solving the problem of SoC test multi-objective optimization, a combination of the improved chaotic Tent map and multi-objective genetic algorithm is presented . The model for optimization of both test time and test power is established. The model is solved with the proposed algorithm on the basis of the reasonable partition of TAM bus. The experimental results on the chosen circuits of ITC’02 benchmarks show that the proposed algorithm is effective and superior to the traditional ones.

Key words： chaos map; multi-objective algorithm; TAM; test power

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