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CAPACITANCE EXTRACTION USING MONTE CARLO METHOD

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ABSTRACT

Recent trend for Designing of Integrated Circuits (ICs) used the Very Large Scale Integration (VLSI) technology. The VLSI chips designed with micro level transistors or MOFET uses interconnections according to the function of ICs. The number of parameters which effects on the performance and efficiency of the ICs like Capacitance, Inductance and Resistance between the interconnect conductors. Extraction of these parameters can improve the speed and performance of theseICs. This paperfocuses on the parasitic capacitance mainly as self and mutual capacitance produced between interconnects and ground plane and between two interconnect metals respectinely and extraction of this capacitance is main task. In thiswork the Monte Carlo based capacitance extraction method is used which followes by the random walk process. Experimentations are performed on 10 nets and extract the produced capacitance, detail of methods and results of this capacitance extraction are discussed in detail.

KEYWORDS: Monte Carlo, Random Walk, Capacitance Extraction