Abstract

The Complexity and Simulation time of MOSFET equations are major problems in VLSI applications and these problems should be resolved using different methods which are capable to conquer these limitations. The method of block designing for all the MOSFET equations like current, voltage, capacitance characteristics, flat band capacitance, threshold voltage, oxide capacitance etc., can be a better solution for this problem. This methodology provides a simple procedure for handling complex VLSI circuit, because every parameter present in MOSFET has
Design and Implementation of Mosfet Model Equations on MATLAB Simulink Library

their individual equation and it may not be an easy task to memorize each equation at all time. Blocks provide an easy and simple way for many operations like scaling, reduction of multipart circuits, error free, and reduction of time. This paper determines the controllability and observability in MATLAB/Simulink, which is an easy way for handling complex MOSFET equations. The methodologies for implementation of different equations of MOSFET that are based on VLSI applications have been designed on the MATLAB Simulink.

References

- Siligaris, Alexandre, Gilles Dambrine, Dominique Schreurs, and François Danneville. "A new empirical nonlinear model for sub-250 nm channel MOSFET." Microwave

**Index Terms**

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