Abstract

A threshold voltage model for small geometry fully depleted Silicon-On-Insulator (SOI MOSFET), based on the numerical solution of three dimensional Poisson’s equation is presented in this paper. Liebmann’s iteration method was used to solve the three dimensional Poisson’s equation with necessary boundary conditions. By using the solution of the Poisson’s equation potential profile, electric field profile, mobility profile, transfer characteristics and transconductance Vs gate voltage characteristics were calculated and plotted.

References

- Guruprasad Katti, Nandita DasGupta, Amitava DasGupta, “Threshold Voltage Model for Mesa – Isolated Small Geometry Fully Depleted SOI MOSFET”


Index Terms

Computer Science

Integrated Circuits
**Keywords**

- Fully Depleted
- Silicon-on-insulator (soi) Mosfet
- Small Geometry
- Threshold Voltage