Well-Polarized Quantum-dot Cellular Automata Inverters

Abstract

In past few years many efforts have been made on Quantum-dot cellular automata (QCA) because it seems a good candidate for implementing next generation computers. Other technologies use electricity voltage or current to represent the binary values. However, in QCA it represents with charge polarization. In this paper two inverters are proposed whose polarizations are improved and their output signals are more robust. Consequently, the devices are more tolerable in noisy environment and they can perform more reliable. Finally the functionality of the models is verified by QCADesigner as a standard simulator for QCA models.

References

- J. Huang, M. Momenzadeh, and F. Lombardi, "An Overview of Nanoscale
Well-Polarized Quantum-dot Cellular Automata Inverters


Index Terms

Computer Science

Applied Sciences
Keywords

Single Electron Devices  Quantum-dot Cellular Automata  Polarization  Inverter