Abstract

CMOS miniaturization limits have improved research on other advanced alternative technologies. Quantum Cellular Automata (QCA) is a nanometer scale technology that is one of these alternatives. Two principals have been introduced in the concept of Random Number Generator which are related to some physical occurrences or computational algorithms. In this
paper we introduce a QCA circuit which is the first true random generator.

References

- F. Cao, and S. Li. Random numbers from an integrated CMOS double-scroll. IEICE Electronics Express. 7 (2010), pp. 1382-1387.
- N. Liu, N. Pinckney, S. Hanson, D. Sylvester, D. Blaauw. A True Random Number

**Index Terms**

Computer Science  
Circuit and Systems

**Keywords**

Random Generator  
Quantum Cellular Automata

Novel Design

Nanoelectronic Circuit