Abstract

Electronics has been the driving force behind the technical growth for the second half of twentieth century. The evolution of computational techniques and communication technologies has been result of rapidly developing silicon integrated circuit industry. Reduction of size of transistor leading to denser and faster IC's has been governed by the famous Moore's Law. The silicon is now approaching its physical limitations in terms of reduction of size and also the laws of physics governing small sizes. The trend is pushing electronics towards the realm of molecular electronics. Molecules are small in size and exhibit properties of self-assembly and self-recognition. These properties render the molecules to be highly useful for the bottom-up nanotechnology. Exact chemical equivalence of the molecules would provide similar electronic devices. Last but not the least Molecular Electronics will provide us with cooler laptops and mobile phones.

References

- N. Jonassen, Surface Voltage and Field Strength: Part I, Insulators, in Mr. Static, Compliance Engineering 18, 26, 2001.
- N. Jonassen, Abatement of Static Electricity: Part II, Insulators, in Mr. Static, Compliance Engineering 18, 26, 2001.
- Sanyasi Sitha, K. Bhanuprakash, B. M. Choudary, "Electrical Rectification through
- M. Jagadesh Kumar, "Molecular Diodes and Applications", Recent Patents on Nanotechnology, 1, 51-57, February 2007

**Index Terms**

Computer Science

Electronics

**Keywords**

Molecular Electronics  Self-assembly  Self-recognition  Bottom-up technology