



A low-voltage low-power positive feedback operational amplifier using Carbon Nanotube Field Effect Transistor

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Abstract: The operational amplifier (op amp) design in very deep submicron technology endure the barriers like exponential increase in leakage current, process variations, quantum-mechanical tunneling, and lithographic limitations. This results in low gain stages and decreased impedance thereby degrading the performance of op amp. In order to provide improvements in electrostatics over complementary metal oxide semiconductor (CMOS) and to sustain Moore's law in near future, various advanced and beyond CMOS devices are evolved over the period such as ultra-thin body single or multiple-gate field effect transistors (MG-FETs), FinFET, dynamic threshold MOSFET, silicon on insulator (SOI) FETs, strained silicon and, carbon nanotube field effect transistors (CNFET).

CNFET is one of these embryonic technologies evolved through the contemporary innovations which provides very high throughput, due to near ballistic transport of charge carriers and large mean free path. Very low leakage current and high output resistance of CNFET makes further miniaturization of transistors possible sustaining Moore's law in future. Therefore, CNFETs have been reconnoitered as the stimulating aspirant for the future generations of integrated circuit (IC) devices. The proposed CNFET based three-stage op amp is designed and simulated at 32nm technology node using HSPICE software.

Biography: VarshaBebdreis working as an Assistant Professor, PimpriChinchwad College of Engineering, Pune, India. She attended so many conference as a speaker with new technologies. she published her articles and researches in many publications. Email: varshabendre22@gmail.com

Publications :

1. GPS based soldier tracking and health indication systems Nikam, S Patil, P Powar, VS Bendre in International Journal of Advanced Research in Electrical, Electronics
2. Performance Analysis of Classical Two Stage Opamp Using CMOS and CNFET at 32nm Technology S Waykole, VS Bendre in 2018 Fourth International Conference on Computing Communication Control
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[World Congress on Carbon and Advanced Energy Materials March 16-17, 2020](#)

Abstract Citation: [VarshaBendre, Carbon materials 2020, World Congress on Carbon and Advanced Energy Materials, March 16-17, 2020, A low-voltage low-power positive feedback operational amplifier using Carbon Nanotube Field Effect Transistor.](#)