



Arvind Ajoy

Ph.D. Indian Institute of Technology Madras
Assistant Professor, Electrical Engineering
arvindajoy@iitpkd.ac.in, 9446933704
<https://iitpkd.ac.in/people/arvindajoy>

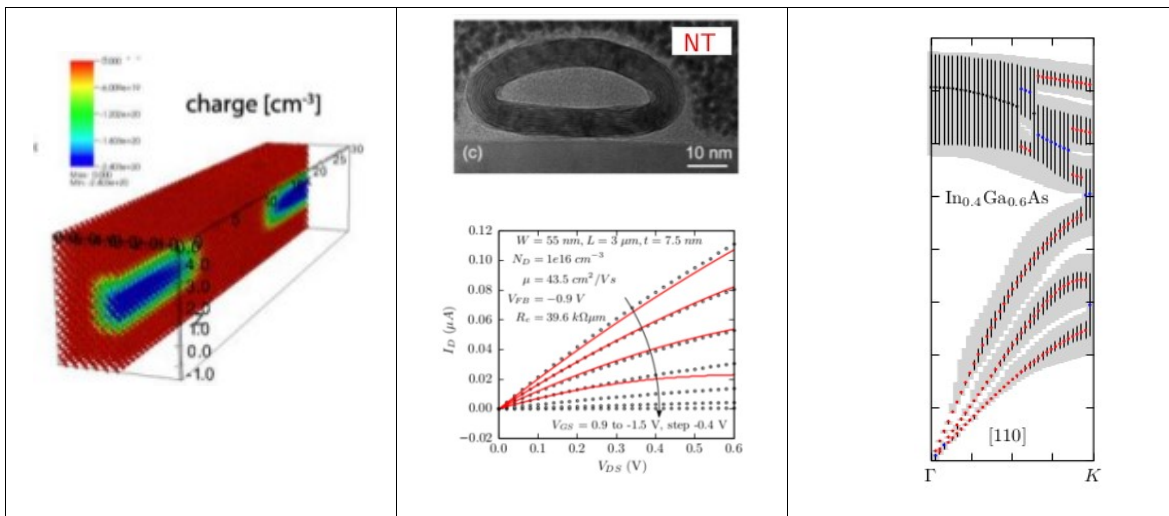


Research Interests

- Ab-initio and tight-binding atomistic computation
- GaN device and circuit design for RF and High Power applications
- Micro-electromechanical Systems (MEMS)
- Scientific Instrumentation

Brief Summary of Research

My core expertise is in writing scientific code that can run on large scale, parallel computers. I use these codes to investigate new materials, new devices and systems. Over the last few years, I have focused on studying GaN devices and the design of MEMS. I have also ventured into the design and fabrication of precision scientific instruments.



Projects

- Low Voltage actuation of MEMS using Negative Capacitance (submitted to SERB, 2019)

Recent Publications

- "Dynamic Analysis of Ferroelectric Negative Capacitance - Electrostatic MEMS Hybrid Actuator", (under review 2019; ArXiv 1904.12808) Raghuram TR, Arvind Ajoy
- "Effective bandstructures from unfolding supercells with vacancies" Timothy B Boykin, Arvind Ajoy, Physica B 531 130-138 (2018).
- "Unfolding and effective bandstructure calculations as discrete real and reciprocal space operations", Timothy B. Boykin, Arvind Ajoy, Hesameddin Ilatikhameneh, Michael Povolotskyi and Gerhard Klimeck, Physica B 491 22 (2016).