

Project Name: Modeling, Design and Simulation of sub-10 nm GaN-SOI-FinFET for Label Free Bio-sensing and High-performance Analog/RF Applications

Principal Investigator: Dr. Ajay Kumar

Funding Agency: Jaypee Institute of Information Technology

Scheme: Institute Research and Development Project Scheme (IRDPS)

Start-up Research Grant Approved Fund: Rs. 70,000/-

Received Fund: Nil

Lab Development: NA

Project Flow: TCAD designing of GaN-SOI-FinFET structure → Experimentally calibrated program so as to validate the simulation setup → Optimization of the device design parameters → Investigation of device reliability and robustness by incorporating the interface trap charges → Realization of the proposed device/material engineered GaN-SOI-FinFET by biosensing applications by dielectric modulation/catalytic metal approach.

Research Lab Development: NA

References:

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3. E. H. Minhaj, S. R. Esha, M. M. R. Adnan, and T. Dey, "Impact of Channel Length Reduction and Doping Variation on Multigate FinFETs," in 2018 International Conference on Advancement in Electrical and Electronic Engineering (ICAEET), 2018, pp. 1-4.
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