

LIST OF PUBLICATIONS

A. Papers published in Journals

1. "Efficient Light Trapping in Hexagonal InP Nanostructured Solar Cells Using Plasmonic Al Nanoparticles", Manisha Rautela and Jitendra Kumar, **IEEE Journal of the Electron Devices Society**, doi: 10.1109/JEDS.2025.3536882 (2025).
2. Analysis of size and composition-induced band offset and its effect on intraband transition of holes in InGaAs/GaAs quantum dot, Satish Kumar Singh and Jitendra Kumar, **Journal of Nanophotonics** **19**, 016005 (2025).
3. "High-efficiency GaAs solar cells with ordered nano-conical frustum arrays for enhanced light trapping and photovoltaic performance", Sumit Sagar, Sagar Bhattarai, Jitendra Kumar, Amitesh Kumar, and Samrat Mukhopadhyay, **Solar Energy** **288**, 113299 (2025).
4. "Investigation of Pocket Engineering in GNR Tunnel-FET Using Analog/RF Figures of Merit", Md Akram Ahmad, Ashish Maurya and Jitendra Kumar, **IEEE Transactions on Electron Devices** **71**, 7921 (2024).
5. "Trade-off analysis between gm/ID and fT of GNR-FETs with single-gate and double-gate device structure", Md Akram Ahmad, Pankaj Kumar, Bhupen Chandra Mech & Jitendra Kumar, **Scientific Reports** **14**, 10218 (2024).
6. "Efficiency enhancement of GaAs nanowire array-based solar cell by plasmonic Al nanoparticles", Manisha Rautela and Jitendra Kumar, **Materials Today Communications** **37**, 106984 (2023).
7. "Modeling charge transport mechanism in inorganic quantum dot light-emitting devices through transport layer modification strategies", Sweta Rani and Jitendra Kumar, **Journal of Applied Physics** **133**, 104302 (2023).
8. "Polarization-dependent intervalence band absorption in quantum dots", Kiran Rathi, Saral K. Gupta, Jitendra Kumar and C.M.S. Negi, **Physica B: Condensed Matter** **658**, 414846 (2023).
9. "The understanding of the impact of efficiently optimized underlap length on analog/RF performance parameters of GNR-FETs", Md Akram Ahmad and Jitendra Kumar, **Scientific Reports** **13**, 13872 (2023).
10. "Implementation and Performance Analysis of Low Power 1 GHz 4-Bit Flash ADC Using III–V Tunnel-FET", Ashish Maurya, Pankaj Rahi, Kalyan Koley and Jitendra Kumar, **Circuits Systems and Signal Processing** **42**, 1352–1368 (2023).
11. "Analysis of thermal performance and charge balance in all-inorganic quantum dot light-emitting devices", Sweta Rani and Jitendra Kumar, **Journal of Nanophotonics** **16**, 046008 (2022).
12. "Investigation of Single-Event-Transient Effects Induced by Heavy-Ion in All-Silicon DG-TFET", Ashish Maurya, Kalyan Koley, Jitendra Kumar and Pankaj Kumar, **IEEE Access** **10**, 109357 (2022).
13. "Surface Orientated $\langle 100 \rangle$, $\langle 110 \rangle$, and $\langle 111 \rangle$ Silicon-based Double-Gate Tunnel-FET for Linearity and Analog/RF Performance Analysis", Ashish Maurya, Kalyan Koley, Pankaj Kumar and Jitendra Kumar, **Silicon** **15**, 3829 (2022).
14. "Impact analysis of vacancy defects on Analog/RF performance parameters of GNR FET", Md Akram Ahmad, Bhupen Chandra Mech and Jitendra Kumar, **Micro and Nanostructures** **171**, 207428 (2022).
15. "Investigation of Source Region's Random Doping Fluctuation Effects on Analog and RF Performance in All-Si DG-TFET," Ashish Maurya, Kalyan Koley, Bhupen C. Mech, Jitendra Kumar and Pankaj Kumar, **IEEE Transactions on Electron Devices** **69**, 5330 (2022).
16. "Impact of effective capture cross-section on device performance of InAs/GaAs quantum dot solar cell", Ahna Sharan and Jitendra Kumar, **Optical and Quantum Electronics** **54**, 543 (2022).
17. "Effect of Position-Dependent Doping on Intermediate Band Generation-Recombination Rate in InAs/GaAs Quantum Dot Solar Cell", Ahna Sharan and Jitendra Kumar, **IEEE Transactions on Nanotechnology** **21**, 151 (2022).

18. "Effect of Absorptivity on Device Performance of Ratchet-Type Intermediate Band Solar Cells", Ahna Sharan and Jitendra Kumar, **IEEE Transactions on Electron Devices** **69**, 189 (2022).
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20. "Impact of quantum dot parameters on the performance of p-type quantum dot infrared photodetectors", Kiran Rathi, Saral K.Gupta, Jitendra Kumar, and Chandra Mohan Singh Negi, **Superlattices and Microstructures** **156**, 106950 (2021).
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22. "Suppression of Blinking and Enhancement of Optical Properties of Core-Shell Quantum Dots by Structural Formulation," Sweta Rani and Jitendra Kumar, **IEEE Transactions on Nanotechnology** **19**, 792 (2020).
23. "Ge–GaAs–Ge Heterojunction MOSFETs for Mixed-Signal Applications", Bhupen Chandra Mech, Kalyan Koley and Jitendra Kumar, **IEEE Transactions on Electron Devices** **67** 3585 (2020)
24. "Investigation of charge transfer properties in MEHPVV and rGO-AA nanocomposites for Green organic photovoltaic application", Sumit Kumar, Jitendra Kumar, and Shailesh Narayan Sharma, **Optik** **208**, 164540 (2020)
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30. "Binary and Ternary Capped In (Ga) As/GaAs Self-assembled Quantum Dots: An Annealing Study", S Saha, S Hussain, J Kumar, **Superlattices and Microstructures** **117**, 241 (2018).
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32. "Effect of high-k dielectric on the performance of Si, InAs and CNT FET", Bhupen Chandra Mech and Jitendra Kumar, **Micro & Nano Letters** **12**, 624 (2017).
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44. "Analysis of the effects of temperature and the electric field on quantum cascade laser characteristics", Sumit Saha and Jitendra Kumar, **Optical and Quantum Electronics** **47**, 3273 (2015).
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46. "Dynamic response and effect of apertures on explosion parameters of flameproof apparatus", Rajendra Kumar Vishwakarma, Vinayak Ranjan and Jitendra Kumar, **Journal of Loss Prevention in the Process Industries** **33**, 245 (2015).
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51. "Effect of shape Anisotropy and Size on Electronic Structure of CdSe/ZnSe Quantum Dots", Dharmendra Kumar, C. M. S. Negi, Saral K. Gupta, and Jitendra Kumar, **IEEE Transactions on Nanotechnology** **12**, 925 (2013).
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53. "Performance analysis of coherently detected orthogonal wavelength division multiplexing scheme", C.M.S. Negi, Irfan A. Khan, Gireesh G. Soni, Saral K. Gupta, and Jitendra Kumar, **Optik - International Journal for Light and Electron Optics** **124**, 2758 (2013)..
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57. "Multi Channel Phase Modulated Optical Communication System," Gireesh G. Soni, Nitin Jain, C.M.Negi, Varun Srivastava, Kamal Kushwaha and Jitendra Kumar, **Int. J. Electrical, Electronics and Computing Technology** 1, 64 (2011).
58. "Magneto-optical analysis of anisotropic CdZnSe quantum dots," Sheetal Kapoor, Jitendra Kumar and Pranay K. Sen , **Physica E** 42, 2380 (2010).
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B. Papers published in Conference Proceedings

1. "Enhanced Optoelectronic Performance of Hexagonal InP Nanowire Solar Cell using Plasmonic Al Nanoparticles", Manisha Rautela and Jitendra Kumar, 2024 8th IEEE Electron Devices Technology & Manufacturing Conference (EDTM), Bangalore, India, 03-06 March 2024.
2. "Effect of Mg-doped zinc oxide nanoparticles as inorganic electron transport layer in quantum dot light-emitting diodes", Sweta Rani and Jitendra Kumar, 2022 Workshop on Recent Advances in Photonics, WRAP 2022.
3. "Analysis of Quasi-Fermi Level Split in Ratchet-type Intermediate Band Solar Cells," Ahna Sharan and Jitendra Kumar, 2022 Workshop on Recent Advances in Photonics (WRAP), 2022.

4. "Effect of Poole-Frenkel emission on electroluminescence in quantum dot light emitting devices with Nickel Oxide layer", Sweta Rani and Jitendra Kumar, International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD), Turin, Italy, 123 (2022).
5. "Impact of effective capture cross section on generation-recombination rate in InAs/GaAs quantum dot solar cell", Ahna Sharan and Jitendra Kumar, 2021 International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD), 59-60, 2021.
6. "Dependence of conduction mechanism on bias and temperature in quantum-dot based electroluminescent devices September", Sweta Rani and Jitendra Kumar, 2021 International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD), 2021.
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Book Chapters

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